LOTO, TU'A, MOE FALE: INSIDE, OUTSIDE, AND HOUSE¹

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We focus in this critical essay on the Tongan fale house in terms of both its loto internality and tuʻa externality, in which the parts and the whole are combined by means of process and outcome, with a multiplicity of faiva performance, tufunga material, and nimameaʻa fine arts. The house and house-building are categorized as a material artwork and material art, respectively, and are associated with the material arts of: tufunga lalava kafa-sennit-lashing which is a form of interior design, tufunga tōʻakau kakala sweet-smelling-flower-planting, tufunga tōʻakaufaitoʻo medicinal-plant-planting, and tufunga tōʻakaukai eating-plant-planting as types of tuʻa exterior design. Although these fine and material arts making up interior and exterior design are themselves forms of arts, they are in this context associated with decoration as a form of both beautification and consumption, i.e., artwork and art use.

Tukupā Dedication

The dispute between ontology i.e., "ways of being" and epistemology i.e., "ways of knowing" is one over "reality as it is" and "reality as we know it." The issue is therefore not "how you know what you know" nor "when you know what you know" nor "why you know what you know" but rather "what you really know."

Paradoxically, it is thought that, in both Tonga and Moana Oceania, people walk forward into the kuongamuʻa lit. "age-in-the-front" past and, concurrently, walk backward into the kuongamui lit. "age-in-the-back" future, both in the kuongaloto lit. "age-in-the-middle present," where the elusive, already-taken-place past and illusive, yet-to-take-place future are, in the social process, constantly mediated in the ever-changing, conflicting present.

Historically, it logically follows that the kuohili lit. "that-which-has-passed" past, which has stood the test of tā-vā time-space, is placed in muʻa front as guidance and the unknown kahaʻu lit. "that-which-is-yet-to-come" future is located in the mui back, both in the lotolotonga lit. "that-which-is-now" present in the loto center, informed by refined knowledge and skills and past experiences, with the illusive past and elusive future permanently negotiated in the ever-changing, shifting present.

—Tā-Vā Time-Space Philosophy of Reality

Talakamata Introduction

This brief joint original essay is our humble tribute to Epeli Hauʻofa, a renowned Tongan (and Moanan Oceanian) anthropologist and artist, who has passed on from life to legend. Central to his fine and most influential scholarly, artistic, and literary works was the forceful and insightful manner in which he persistently and consistently critiqued his subject matters of investigation (see Hauʻofa 1983, 1995). This is especially important in view of Western economic and political ideologies of imperialism and colonialism imposed on Moanan Oceanian cultures when they have intersected (that is, separated and connected) since contact with Europe, resulting in relations of asymmetry and disharmony. A way out of such an oppressive situation is to undergo a total transformation from a condition of imposition to a state of mediation in all contexts and on all levels across nature, mind, and society or, in Hauʻofa's own terms, a shift in

thinking about Moana Oceania as islands in the far seas to our sea of islands. With a sense of both realism and empiricism, he argued a case that cultures can only be understood in terms of difference because of the historical fact that each possesses its own characteristics, rather than as a matter of status, with some considered higher or lower than others. By establishing a Moanan Oceanian identity, he urged that we must also free ourselves from the existing, externally imposed definitions of our past, present, and future (see Hau'ofa 1975, 1993).

In this light, we draw on an aspect of our past in the present for our future by critically examining both the tafa'akifā four-sided tempospatiality of the Tongan fale house (Anderson 1983; Helu 1999; Kaloni 2005; also see Brown 2009; Rykwert 1981) and the tapa'akifā four-sided dimensionality of reality or tā-vā time-space, both of which are formally and substantially (and functionally) connected with Tongan fale house (Anderson 2007; Giedion 1967; Harvey 1990; Māhina 2005, 2010, 2017a). Although greater attention has been paid to the notions of loto interiority and tu'a exteriority in the existing theory and practice of tufunga langafale architecture, the ensuing critical examination focuses on all four tafa'aki sides of the fale house, namely, loto inside, tu'a outside, funga topside,² and lalo downside (Potauaine 2010), in the broader context of the four tapa'aki dimensions of reality, namely, fuo form, mā'olunga height, loloa length, and maokupu width.³ The general subject matter of investigation will be made at the specific interface of Tongan ethnography and the tā-vā timespace theory of reality, with bearings on mālie/faka'ofo'ofa beauty/quality and 'aonga/ngāue utility/functionality. The former is considered to be the internal/ intrinsic qualities, i.e., "process," of art, and the latter is considered to be the external/extrinsic qualities, i.e., "outcome," of art.

Tā-Vā Time-Space Philosophy of Reality

The Tā-Vā Time-Space Philosophy (formerly theory) of Reality is based on the Tongan concepts and practices "time" and "space" (Kaʻili 2017a; Māhina 2002, 2004, 2005; Māhina, Dudding, and Māhina-Tuai 2010; Māhina and Potauaine 2010; Māhina-Tuai 2010; Potauaine 2010). Among several of its general and specific ontological and epistemological tenets are the following:

- Tā time and vā space as ontological entities are the common vaka medium, vessel, vehicle in which all things exist in reality.
- Tā time and vā space as epistemological entities are socially organized in different ways across cultures.
- Tā time and vā space are the abstract dimensions of fuo form and uho content, which are, in turn, the concrete manifestations of tā time and vā space.

- Tā time and fuo form are verbs (or action led) and definers (or markers) of vā space and uho content, which are, in turn, nouns (or object based) and composers of tā time and fuo form.
- Knowledge is knowledge of tā time and vā space, of fuo form and uho content, and of reality.
- Errors in thinking and feeling are a problem of mind and heart, not of reality, i.e., of tā time and vā space.
- Tā time and vā space, like fuo form and uho content, are inseparable yet indispensable as hoa pairs of equal/same/similar and opposite/different/dissimilar binaries in reality.
- Reality (i.e., temporality-spatiality or four-sided dimensionality), or tā-vā time-space and fuo-uho form-content, is four-dimensional rather than three-dimensional.
- All things in reality, tā-vā time-space, stand in eternal relations of exchange, giving rise to felekeu/fepaki conflict and maau/fenāpasi order.
- As a corollary, everywhere in reality is fakafelavai intersection, and there is nothing above fakamāvae separation and fakahoko connection.
- · As a corollary, everywhere in reality is mata-ava eye-hole, and there is nothing beyond mata eye and/or ava hole.
- As a corollary, everywhere in reality is indivisible but unavoidable hoa pairs/binaries, and there is nothing beyond hoatatau/hoamālie equal/ same/similar and hoakehekehe/hoatamaki opposite/different/dissimilar identifies/entities/tendencies.⁴
- Felekeu/fepaki conflict⁵ and maau/fenāpasi order⁶ are of the same logical status, in which order is a form of conflict. Equal and opposite energies or forces meet at a common point, mata-ava eye-hole, defined by a state of noa 0 or zero point.

The tā-vā time-space philosophy of reality is so general that it enters all types of disciplines and forms of social activity, with house-building/architecture as a disciplinary practice, on the one hand, and a human activity, on the other hand, as no exception, linking nature, mind, and society⁷ (Māhina 2004; Potauaine 2010; also see Hawking 1988; Harvey 1990).

Kelekele, Fa'e, Fā'ele, moe Fale: Earth, Mother, Birth, and House

From a Tongan ethnographical but philosophical perspective, Tavakefai'ana, Sēmisi Fetokai Potauaine, in his Master of Architecture thesis titled "Tectonic of the Fale: Four-Dimensional, Three-Divisional" (2010), made an original

observation that the fale house may be symbolically considered to be a fefine woman. Potauaine arrived at this conclusion from a linguistic point of view, reflecting on the closer formal, substantial, and functional affinity of kelekele soil, fa'ē mother, fa'ele birth, and fale house, all of which are associated with fefine women. More specifically, fa'ē mother, fa'ele birth, and fale house are all syntactically and semantically linked to kelekele earth by way of form, content, and function. This is the case for langa, a word that means physical labor pain, that is, langā; emotional hurt involving mother–child bonding, and langa house construction. There are also structural and functional resemblances between a fale house and a fefine feitama pregnant woman (Māhina 1986, 1992; Potauaine 2010).

This unique view of Tongan fale house is grounded in the Tongan ecology-centered, historicocultural concept and practice of fonua. Besides its Tongan equivalent, it exists throughout Moana Oceania as honua, hanua, vanua, fanua, enua, fenua, and whenua. As a philosophy of life, fonua espouses a dialectically mutual, symbiotic human–environment movement from fā'ele birth through mo'ui life to mate death, marking the temporal–spatial, formal–substantial, and practical–functional relationships between person and place. The continuity (or cultural ordering) and discontinuity (or historical altering) between them over tā time and vā space are permanently negotiated in the name of unity (Māhina 1992; Potauaine 2010).

The actual movement from fā'ele birth through mo'ui life to mate death is symbolized by a circular movement from the first fonua through the second fonua to the third fonua, all symbolically connected with fefine women. Likewise, the third fonua is considered a fale house for the dead (Moa 2011; Potauaine 2010), in the same way that the first fonua and the second fonua are considered a fale house for the valevale foeti or unborn and the living. In both connected and interconnected historical and symbolic ways, the movement from the first fonua through the second fonua to the third fonua is movement from the first fale house, through the second fale house, to the third fale house and, by extension, movement from the first fefine woman, through the second fefine woman, to the third fefine woman (see Māhina 1992; Potauaine 2010; Fig. 1).

Ontologically and metaphysically, tā time and vā space on the abstract level are extended to the fuo form and uho content of things⁹ on the concrete level. In correspondence, these are epistemologically and symbolically projected to kula red and 'uli black, tangata men and fefine women, la'ā sun and māhina moon, 'aho day and pō night, maama light and po'uli darkness, and mo'ui life and mate death, amid many others, across the physical, psychological, and social realms.¹⁰ In this context, tā time and fuo form are symbolically associated with such objects as kula red, tangata men, la'ā sun, 'aho day, maama light, and mo'ui

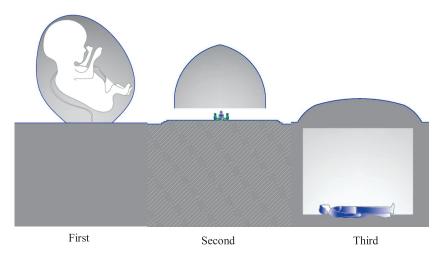


FIGURE 1. First Fonua, First Fale, First Fefine; Second Fonua, Second Fale, Second Fefine; and Third Fonua, Third Fale, Third Fefine. Sketch by S. F. Potauaine (2007).

life. Vā space and uho content are symbolically associated with such things as 'uli black, fefine women, māhina moon, pō night, po'uli darkness, and mate death (Potauaine and Māhina 2011).

Fale, Vaka, moe Kava: House, Boat, and Kava

Following the groundbreaking work of Tavakefai'ana, Potauaine (2010), we can link the fale house to both vaka boat and kava in view of their close ethnographical yet philosophical, as well as temporal–spatial, formal–substantial, and practical–functional, affinities. According to oral history, when the original settlers arrived in Tonga, they turned their vaka boat downside-up, making it their fale house, where they prepared and drank kava in thanksgiving to the gods of the winds and sea, 11 Lulu and Lātū, in celebration of their divine protection and intervention. This goes to show that like the fale house, both the vaka boat and the kava are, by extension, symbolically associated with the fefine woman. The tragic story of the origin of the kava and tō sugarcane plants intimately revolved around the sacrifice of Kava, the one and only daughter of Fevanga and Fefafa, thereby yielding to a lasting social institution of immense aesthetic, cultural, economic, and political significance.

It can be said that the kava was created at the intersection of the vaka boat and the fale house that is conducted as an artform at their connection and separation as an inseparable hoa pair/binary, contemporaneously onside the vaka boat and inside the fale house. Herein, the vaka boat can be considered a fale fakafoʻohake upside-down house; by extension, the fale house can be considered a vaka fakafoʻohifo downside-up boat. All three, viz., fale house, vaka boat, and kava, are squarely underpinned by temporal–spatial, formal–substantial, and practical–functional tendencies of some aerodynamic, hydrodynamic, and sociodynamic significance. Both the vaka boat and the fale house protect people from the elements, as in the protection of both the sea/ocean and the land dwellers from the wind, water, sun, and rain as travelers constantly on the move forward into the deep past and backward into the distant future, both in the everchanging present. Given their proximity, the kava, fale house, and vaka boat are, by extension, symbolically associated with the fefine woman (see Potauaine 2010; also see Potauaine and Māhina 2011).

It is in the collective medium, vessel, or vehicle of kava as a social institution that such topics as a text of great relevance are the wide-ranging subject matters of tālanoa 'uhinga "critical-yet-harmonious talks." These tālanoa talks are collectively done across the spectrum of reality, informed by ako education and 'aati arts in both their diversity and unity in terms of mālie/faka ofo ofa beauty/quality and 'aonga/ngāue utility/functionality and in the wider context of the refined moral of the tragic kava story. With both sensibility and creativity, the more beautiful, the more useful and, conversely, the more useful, the more beautiful (see essays 1–3 and 5–7). The famous ancient master tufunga fonua social architect/engineer Loʻau based the tragic story of kava on the natural qualities of the kava and tō sugarcane plants, viz., kona bitterness and melie sweetness. That is, all best and permanent human endeavors of lasting value must go through kona bitterness, followed by melie sweetness, in that logical order of precedence (see Māhina 1986, 1992, 2019).

Fuo, Māʻolunga/Loloto, Lōloa, moe Maokupu/Fālahi Form: Height/Depth, Length, and Breadth/Width

In Tongan thought, reality of tā-vā time-space is tapaʿakifā¹² four dimensional, i.e., four-sided dimensionality. The abstract entities tā time and vā space are expressed as concrete entities by means of fuo form and uho content of things. Both tā time and vā space and fuo form and uho content are indivisible in reality as in nature, mind, and society, conveniently divided as divisions of reality. In reality, both mind and society are in nature. The temporal entity of fuo form is the concrete manifestation of the abstract entity of tā time, and the substantial entities of māʻolunga/loloto height/depth, lōloa length, and maokupu breadth/ width concretely defining uho content are the spatial variations of the abstract



FIGURE 2. Tongan Fale House: Fuo Form, Mā'olunga Height, Lōloa Length, and Maokupu Width. Sketch by S. F. Potauaine (2007).

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entity of vā space, linking nature, mind, and society (Potauaine 2010; also see Kaʻili 2017b; Potauaine and Māhina 2011).

The tafa'akifā four-sided tempospatiality of the fale house—that is, loto inside, tu'a outside, funga topside, and lalo downside—is tu'a external to the fale house. However, the tapa'akifā four-sided dimensionality of reality—that is, fuo form, mā'olunga/loloto height/depth, lōloa length, and maokupu/fālahi breadth/width—is taken to be loto internal to the fale house (Potauaine 2010; Potauaine and Māhina 2011). That is, the tafa'akifā four-sided tempospatiality of the fale house is relatively "contextual," whereas the tapa'akifā four-sided dimensionality of reality is strictly "textual." By "textual," reference is made to the fale house as a work of art, whereas "contextual" refers to the conditions in which the fale house as an artwork is produced in the creative process (Anderson 2007; Helu 1999). To say that things in reality as in nature, mind, and society are three-dimensional is to regard them to be both ta'etā timeless and ta'efuo formless, which involves the privileging of vā space and uho content over tā time and fuo form (Fig. 2).

Loto, Tu'a, 'Olunga, moe Lalo: Inside, Outside, Topside, and Downside

As pointed out earlier, the tafa'akifā four-sided tempospatiality of the fale house—namely, loto inside, tu'a outside, funga/'olunga topside, and lalo down-side—is tu'a external to the fale house (Potauaine 2010; also see Anderson 2007; Helu 1999). These four tafa'aki sides are considered contextual or relative to the fale house, which functions merely as a point of reference. Everything that is tu'a outside, loto inside, funga/'olunga topside, and lalo downside is regarded as tu'a external or contextual to the fale house. This is in opposition to the four tapa'aki dimensions—namely, fuo form, mā'olunga height, lōloa length, and maokupu width—that are loto internal or textual to the fale house. Mats, trees, birds, and stones, as well as a host of other objects, placed loto inside, tu'a outside, funga topside, and lalo downside, respectively, of the fale house are considered to be tu'a external or contextual to the fale house ('Ilaiū 2007; Gerstle and Raitt 1974; Fig. 3).

Along the distinction among loto inside, tu'a outside, funga/'olunga topside, and lalo downside, which are tu'a external or contextual to the fale house, there is a further distinction between mata eye and tu'a back with reference to the fale house, as in matafale frontside of the fale house and its tu'afale backside (Potauaine 2010; Refiti 2008). Although the mata frontside represents maau/ fenāpasi order, its tu'a backside signifies felekeu/fepaki chaos. Such a distinction is also considered tu'a external or contextual to the fale house (Māhina 2005; also see Anderson 2007; Helu 1999). In parallel ways, we see the same distinction between mu'a frontside and mui backside with reference to a chief, with mu'a frontside considered 'eiki chiefly and tu'a backside considered earthly in terms of status (Māhina 1992; Ka'ili 2017b). In these instances, both mata frontside and tu'a backside, on the one hand, and mu'a frontside and mui backside, on the other hand, are often interchanged. Whereas mata eye and mu'a front are considered 'eiki chiefly and maau/fenāpasi orderly, tu'a outside and mui backside are deemed earthly and disorderly (Potauaine 2010; Potauaine and Māhina 2011).

Loto, Tu'a, moe Fale: Inside, Outside, and House

Three senses of the Tongan words loto inside and tuʻa outside are connected with Tongan fale house (Potauaine 2010; see essay 5 in this volume). The first sense of loto inside and tuʻa outside refers to the four tafaʻaki sides or tafaʻakifā four-sided design—namely, loto inside, tuʻa outside, funga/ʻolunga topside, and lalo down-side—all of which are taken as tuʻa external (or contextual) to the fale house (Refiti 2008). The second sense points to the four tapaʻaki dimensions or tapaʻakifā four-sided dimensionality—that is, fuo form, māʻolunga/loloto height/depth, lōloa length, and maokupu/fālahi breadth/width—considered loto internal (or textual)

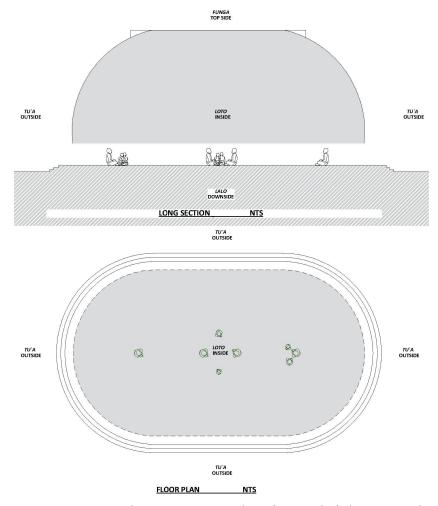


FIGURE 3. Tongan Fale House: Loto Inside, Tu'a Outside, 'Olunga Topside, and Lalo Downside. Sketch by S. F. Potauaine (2007).

to the fale house (Potauaine and Māhina 2011).¹³ The third sense involves a circular transformation of the fale house from tā time and vā space in the form of a kupesi pattern/design for the fale house, on the abstract level, to the fuo form and uho content of the actual fale house, on the concrete level, considered a temporal-spatial, formal–substantial, and practical–functional movement from loto inside to tuʻa outside¹⁴ (Māhina 2002; Moa 2011; Potauaine 2010).

As far as tafaʻakifā four-sided dimensionality goes, the distinction between loto inside and tuʻa outside does not apply to the fale house. In addition, there is no allusion to loto inside, and there is no mention of tuʻa outside. Herein, the fale house is strictly "self-referential," specifically in terms of either its totality or its individuality (Potauaine 2010). By means of its totality, the collection of materials required for building the whole fale house is collectively called alangafale, literally meaning "that upon which the fale house is built." In terms of its individuality, the entire fale house is defined by its respective parts, namely, the obvious ones of faliki floor, holisi walls, ¹⁵ 'ato roof, and pou posts (Anderson 1983; Helu 1999; Kaloni 2005; Tuita 1988).

The third sense of loto inside and tu'a outside engages a circular transformation of the fale house from tā time vā space, on the abstract level, to fuo form uho content, on the concrete level, that is, a temporal–spatial, formal–substantial, and practical–functional movement from loto inside to tu'a outside (Moa 2011; Potauaine 2010; Potauaine and Māhina 2011). Such a movement from the abstract to the concrete is continuous in nature rather than dichotomous in character. As a form of abstraction, the kupesi pattern/design of a fale house, that is, the loto inside of the fale house, is made up of intersecting kohi lines and vā spaces, where kohi lines are merely tempo markers of tā time (Māhina 2002; Potauaine 2010). However, the fuo form and uho content of the actual fale house—that is, its tu'a outside, made up of wood, stone, steel, brick, and glass—are the concrete manifestations of tā time and vā space. These point to the actual continuity between tempospatiality on the abstract level and formality–substantiality on the concrete level.

Tufunga Langafale, Tufunga Lotofale, moe Tufunga Tuʻafale: Housebuilding, Interior Designing, and Exterior Designing

The concepts and practices of loto inside and tu'a outside are contextualized in three distinct but related tufunga material arts: namely, tufunga langafale house-building, tufunga lotofale interior designing, and tufunga tu'afale exterior designing (Māhina 2002; Potauaine 2005, 2010). Tufunga lotofale interior designing is associated with tufunga lalava kafa-sennit lashing, which functions not only to teuteu decorate the loto interior of the fale house but also to hold together its parts, especially its loto internal structures. In one way, tufunga lalava kafa-sennit lashing is loto internal and at the same time tu'a external to the fale house (Māhina 2002). The internal structures also serve as a form of teuteu loto interior decoration. Tufunga tu'afale exterior designing is directly linked to the three tufunga material arts of tufunga tō'akaufua fruit-bearing tree planting, tufunga tō'akaukakala sweet-smelling tree planting, and tufunga tō'akaufaito'o medicinal-healing tree planting. As forms of tufunga tu'afale

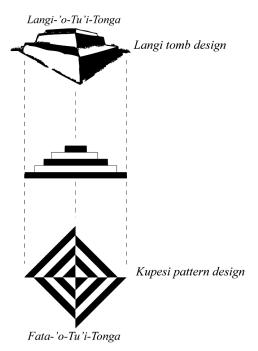


FIGURE 4. Kupesi Fata-'o-Tu'i-Tonga Royal Tu'i Tonga Pall-bearer and Langi-'o-Tu'i-Tonga Royal Tu'i Tonga Tomb Depicting a Spatiotemporal, Substantial-Formal, and Practical-Functional Movement from Loto Inside to Tu'a Outside, That Is, from the Abstract to the Concrete (see Moa 2011). Sketch by B. Moa (2010).

exterior designing, these three tufunga material arts are tuʻa external to the fale house (Fig. 4).¹⁸

Faiva, Tufunga, moe Nimamea'a: Performance, Material, and Fine Arts

Similarly, the subject matter of this essay, Tongan fale house, can be investigated in the broader context of Tongan art. Tongan art can be divided into three genres, faiva performance arts, tufunga material arts, and nimamea'a fine arts, across the gamut of reality, that is, nature, mind, and society (see Ka'ili 2019; Moa 2011; Potauaine 2010; Māhina and Potauaine 2010). Belonging in the faiva performance arts genre are faiva ta'anga poetry, faiva hiva music, and faiva haka dance. In the genre of tufunga material arts, we have tufunga langafale house-building, tufunga fo'uvaka boat-building, and tufunga lalava kafa-sennit

lashing. In the nimamea'a fine arts genre are nimamea'a lālanga mat-weaving, nimamea'a koka'anga bark-cloth making, and nimamea'a tuikakala flower-designing¹⁹ (Māhina 2002, 2004, 2005).

All three divisions of Tongan art constitute both tā time and vā space on the abstract level and fuo form uho content on the concrete level. Faiva ta'anga poetry, faiva hiva music, and faiva haka dance are spatiotemporally connected with vaa'i'uhinga intersecting human meanings, vaa'itā intersecting tones, and vaa'ihaka intersecting bodily movements,20 respectively, on the abstract level and with lea language, ongo sound, and sino body, respectively, on the concrete level (Potauaine 2010; also see Helu 1999). The same applies to tufunga langafale house-building, tufunga fo'uvaka boat-building, and tufunga lalava kafa-sennit lashing, which involve intersecting kohi lines and vā spaces, respectively, on the abstract level and 'akau wood and kafa-sennit cords, respectively, on the concrete level. In tufunga lalava kafa-sennit lashing, the intersecting kohi lines and vā spaces are concretely expressed by way of the intersecting kafa kula red-kafa-sennit and kafa 'uli black-kafa-sennit cords (Potauaine 2010; Potauaine and Māhina 2011). By means of abstraction, nimamea'a lālanga mat-weaving, nimamea'a koka'anga bark-cloth making, and nimamea'a tuikakala flower-designing are concerned with intersecting kohi lines and vā spaces, and concretely they appear in terms of intersecting dried lou'akau pandanus leaves, intersecting beaten hiapo mulberry tree bark, and intersecting matala'i'akau flowers (Māhina 2002).

Several artistic and literary devices are employed for the mediation of intersecting kohi lines and vā spaces, on the abstract level, and intersecting fuo forms and uho contents, on the concrete level, of various subject matters under the creative process across nature, mind, and society. In faiva taʻanga poetry, faiva hiva music, and faiva haka dance, their respective intersecting vaaʻiʻuhinga human meanings, vaaʻitā intersecting tones, and vaaʻihaka intersecting bodily movements are mediated by the artistic and literary devices of heliaki, tuʻakautā musical, and hola escape/dance.²¹ In the same way, the intersecting kohi lines and vā spaces in tufunga langafale house-building, tufunga foʻuvaka boat-building, and tufunga lalava kafa-sennit lashing (see Māhina 2002), on the one hand, and nimameaʻa lālanga mat-weaving, nimameaʻa kokaʻanga bark-cloth making, and nimameaʻa tuikakala flower-designing, on the other hand, are commonly mediated by the artistic device of mata eye or its tatau mirror ava hole (Māhina 2005; Māhina, Dudding, and Māhina-Tuai 2010; Māhina and Potauaine 2010; Māhina-Tuai 2010; Potauaine 2010; Potauaine and Māhina 2011).

By heliaki, tu'akautā musical device, and hola escape/dance, reference is made to the point of intersection, where one meaning is a pointer to the other in faiva ta'anga poetry, the insertion of an extra beat within an interval in faiva hiva music, and an additional movement between two bodily movements



FIGURE 5. Photograph of a Mata'i Toki Eye of the Adze (from Hūfanga Dr. 'Okusitino Māhina's Collection). Photograph by S. F. Potauaine (2011).

in faiva haka dance. In tufunga langafale house-building, tufunga foʻuvaka boat-building, and tufunga lalava kafa-sennit lashing, the use of mata eye or ava hole²² for the mediation of intersecting kohi lines and vā spaces is done by means of mataʻitoki eye of the adze or, for that matter, avaʻitoki hole of the adze (Frampton 1995; Potauaine 2010). For the same purpose, nimameaʻa lālanga mat-weaving and nimameaʻa kokaʻanga bark-cloth making use mataʻikapa eye of the metal or avaʻikapa hole of the metal and mataʻifā eye of pandanus fruit or avaʻifā hole of pandanus fruit, respectively.²³ Similarly, nimameaʻa tuikakala flower-designing uses mataʻihui eye of the needle or avaʻihui hole of the needle (see Māhina 2017b; Potauaine 2010; Potauaine and Māhina 2011; Fig. 5).

The use of the artistic device mata eye or ava hole involves the production of tatau symmetry, potupotutatau harmony, and mālie beauty/quality in faiva performance arts or faka'ofo'ofa beauty/quality in tufunga material arts and nimamea'a fine arts. In this context, mālie and faka'ofo'ofa beauty/quality are a function of both tatau symmetry and potupotutatau harmony. However, the aesthetic qualities tatau symmetry, potupotutatau harmony, and mālie/ faka'ofo'ofa beauty/quality are "internal" to works of arts—as opposed to the emotional feelings of māfana warmth, vela fieriness, and tauēlangi climaxed elation, which are considered "external" to them (i.e., 'aonga/ngāue utility/functionality) (see Māhina 2008). From a tāvāist perspective, then, art can be defined as a transformation of tā time and vā space, on the abstract level, and fuo form and uho content, on the concrete level, of subject matters in the productive process from a condition of felekeu/fepaki chaos to a state of maau/fenāpasi order through sustained tatau symmetry, potupotutatau harmony, and mālie/ faka'ofo'ofa beauty/quality. Herein, mālie/faka'ofo'ofa beauty/quality is taken to be a state of noa zero point, in which noa is a form of conflict (Potauaine 2010; Potauaine and Māhina 2011).

Talangata Conclusion

The temporal-spatial, formal-substantial, and practical-functional relationships of loto inside, tu'a outside, and fale house have been investigated at the ontological, metaphysical-epistemological, and metaphorical interface of the theory/philosophy of tāvāism and Tongan ethnography. This is within and across the broader contexts of tafa'akifā four-sided tempospatiality of the fale house (namely, loto inside, tu'a outside, funga/olunga topside, and lalo downside) and tapa'akifā four-sided dimensionality of reality (that is, fuo form, mā'olunga/loloto height/depth, lōloa length, and maokupu/fālahi breadth/ width). The tafa'akifā four-sided tempospatiality is found to be tu'a external to the fale house, and the four-sided dimensionality is found to be loto internal to it. In addition, loto internal to the fale house are the tā-vā time-space, fuo-uho form-content, and function-practice relationships between the kupesi pattern/design of a fale house, on the 'ata-ki-loto abstract level, and the actual fale house, on the 'ata-ki-tu'a concrete level. Such temporal-spatial, formalsubstantial, and practical-functional relationships between the kupesi pattern/ design of the fale house and its actual manifestation mark a movement from loto inside to tu'a outside, i.e., a movement from 'ata-ki-loto abstraction to 'ataki-tu'a representation.

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NOTES

- 1. Aspects of this short joint essay were presented at the Interstices Under Construction Symposium: Unsettled Containers: Aspects of Interiority Conference, School of Architecture, University of Auckland, Auckland, Aotearoa New Zealand, 2010 (see Potauaine and Māhina 2011).
- 2. The other terms for funga, literally meaning "space above," are 'olunga top, as in the word mā'olunga higher side, and lalo down, as in mā'olalo lower side. In addition, the word funga means "surface," "place," or "space," as in the elongated terms tufunga/tafunga and tafungo-funga/tafungafunga, meaning "tempo marking of surface, place, or space" and "elevated surface, place, or space," respectively. The word tufunga is used for material arts, such as tufunga langafale house-building, tufunga lalava kafa-sennit lashing, and tufunga foʻuvaka boat-building.
- 3. The words ma'olunga height and maokupu width are often interchanged with the terms loloto depth and fālahi width, respectively.
- 4. See essay 2 in this volume.
- 5. Or fakamāvae separation, ava hole, and hoakehekehe/hoatamaki opposite/different/dissimilar pairing/binary.
- 6. Or fakahoko connection, mata eye, and hoatatau/hoamālie equal/same/similar pairing/binary.
- 7. On the epistemological level, however, tā time and vā space as ontological entities are socially organized in different ways in Tonga and in the West. In Tonga, tā time and vā space are organized in plural, cultural, collectivistic, holistic, and circular ways. By contrast, their organization in the West occurs in singular, technoteleological, individualistic, analytical, and linear modes.

- 8. The first fonua is made up of the valevale unborn child or fetus and mother's placenta, the second fonua is made up of people and the land, and the third fonua is made up of the dead and their burial places, all defined by mutually symbiotic relationships between person and place, that is, sociology and ecology (see Māhina 1992).
- 9. This is linked to a tenet of the philosophy of tāvāism that tā time and vā space on the abstract level, like fuo form and uho content on the concrete level, are, as ontological entities, the common medium of existence.
- 10. Likewise, this is associated with another tenet of tāvāism, which states that the ontological (or metaphysical) entities of tā time and vā space, like fuo form and uho content, are epistemologically (or symbolically) arranged in different ways across cultures.
- 11. Or faiva touitaivaka navigation and faiva faifolau voyaging.
- 12. Tapa'akifā and tafa'akifā are synonymous, both meaning "four-sided," i.e., four-dimensional.
- 13. This means that reality, that is, tā time and vā space, is four-dimensional and not three-dimensional, as in the existing literature on art and especially architecture. Herein, tā time, like fuo form, is strictly downplayed in both art and architecture, with an emphasis on vā space or uho content as having only three dimensions.
- 14. This circular movement from abstraction to representation is a movement from tā time and vā space, on the abstract level, to fuo form and uho content, on the concrete level. It is also a spatiotemporal, substantial–formal, and practical–functional movement from loto inside to tu'a outside, that is, from the kupesi pattern/design of a fale house to the actual fale house.
- 15. The other term for holisi is puipui, both of which mean "walls," forms of demarcator or isolator.
- 16. In his Master of Architecture thesis, titled "Langi Royal Tombs: The Beginning of Tuʻi Tonga Architecture" (2011), Bruce Sione Toʻa Moa discussed the temporal–spatial, formal–substantial, and practical–functional relationships between the kupesi pattern/design named fata-ʻo-Tuʻi-Tonga pall-bearer of Tuʻi-Tonga on the abstract level and the actual langi royal tombs on the concrete level. The fata-ʻo-Tuʻi-Tonga pall-bearer-of-Tu'i -Tonga, defined by intersecting kohi lines and vā spaces, is a kupesi pattern/design for the actual langi royal tombs. The building of langi royal tombs was associated with tufunga tāmaka material art of stone-cutting.
- 17. This is a form of landscape art.
- 18. A. Refiti, pers. comm., 2011; B. Moa, pers. comm., 2011.
- 19. From a Tongan perspective, faiva performance arts are tefito-he-loto-sino body-centered, that is, "inside-of-the-body," and both tufunga material arts and nimamea'a fine arts are tefito-he-tu'a-sino non-body-centered, that is, "outside of the body." Both faiva performance arts and tufunga material arts are tefito-he-tangata male led, whereas nimamea'a fine arts are tefito-he-fefine female led.

- 20. By way of abstraction, and as forms of spatiotemporal, substantial–formal, and practical–functional intersections, vaa'i'uhinga intersecting human meanings, vaa'itā intersecting tones, and vaa'ihaka intersecting bodily movements are concrete expressions of tā time and vā space.
- 21. In addition to hola escape/dance device, there are two other terms used for the same thing, namely, kaiha'asi steal and haka-funga-haka one move upon another. All three terms refer to the symmetrical insertion of an additional move within two defined moves, thereby increasing the rhythmic effect manifold, with some electrifying emotional or aesthetically pleasing feelings of māfana warmth, vela fieriness, and tauēlangi climaxed elation. The same applies to ta'anga poetry and hiva music with the use of artistic devices heliaki and tu'akautā musical, as is the use of the artistic device mata eyes in both tufunga material arts and nimamea'a fine arts.
- 22. In Tongan ethnography, mata eyes or ava holes, that is, points, are produced by two or more intersecting kohi lines, which are a form of tempo marker. Kohi lines are a summation of a series of mata eyes or ava holes, and a collection of kohi lines forms vā space. By this, mata eyes or ava holes are therefore temporal–spatial, formal–substantial, and practical–functional.
- 23. The mata ifa eye of pandanus fruit or ava ifa hole of pandanus fruit is sharp pointed, or brushlike, with the brushstrokes functioning as a mata eye or ava hole for the mediation of intersecting kohi lines and va spaces.

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KOLOSALIO GLOSSARY

'Aati art

Ako education

Alangafale house parts; see alangavaka boat parts
Alangavaka boat parts; see alangafale house parts

Alangavakā worn-out boat as in the sea by waves and wind

'Aonga use; see ngāue utility/functionality

'Ata image, picture, mirror, reflection, symmetry

'Ata-ki-loto abstract level; see abstraction 'Ata-ki-tu'a concrete level; see representation

'Ato roof

Ava hole, point; see mata eye, i.e., point; and mata-

ava eye-hole, i.e., point

Ava'ifā hole of the pandanus fruit

Avaʻihui hole of the needle Avaʻikapa eye of the metal plate

Fa'ē mother

Fā'elebirth, fā'ele birth-givingFaifolau, faivavoyaging, performance art ofFaka'ofo'ofabeauty; see mālie beauty

Faiva performance art

Fālahi width/breadth; see maokupu width/breadth

Fale house

Fale fakafo'ohake boat, i.e., downside-up house

Faliki floor; see floor mat

Fanua "person" and "place" (i.e., "time" and "space");

see fenua, fonua, hanua, honua, vanua or

whenua

Fata-o-Tu'i-Tonga name of kupesi, i.e., an abstraction of pall-

bearer of Tu'i-Tonga, the concrete form (or

representation)

Fefine woman

Hoamālie

Felekeu chaos; see fepaki conflict Fenāpasi order; see maau order

Fonua "person" and "place" (i.e., "time" and "space");

see fanua, fenua, hanua, honua, vanua, or

whenua

Foʻuvaka, tufunga boat-building, material art of Funga surface; see vā space/place/surface

Fuo form; see fuo shape Fuo-uho form-content

Haka, faiva dance, performance art of

Hakafungahaka one-move-upon-another; dance device; see

hola and kaiha'asi

Hanua "person" and "place" (i.e., "time" and "space");

see fanua, fenua, fonua, honua, vanua, or

whenua

Heliaki metaphorically saying one thing but meaning

another

Hiapo mulberry plant

Hiva, faiva music, performance art of

Hoa pair/binary; pairs/binaries; pairing; see Samoan

soa, pair/binary; pairs/binaries; pairing

Hoakehekehe pair/binary [or pairs/binaries] of opposite/dif-

ferent/dissimilar entities/identities/tendencies

pair/binary [or pairs/binaries] of equal/same/ similar entities/identities/tendencies

Hoatamaki pair/binary [or pairs/binaries] of opposite/dif-

ferent/dissimilar entities/identities/tendencies

Hoatatau pair/binary [or pais/binaries] of equal/same/

similar entities/identities/tendencies

Hola escape; dance device; see kaiha'asi and

hakafungahaka

Holisi wall; see puipiui, curtain

Honua "person" and "place" (i.e., "time" and "space");

see fanua, fenua, fonua, hanua, vanua, or

whenua

Kaiha'asi to steal; dance device; see hakafungahaka and

hola

Kafa kula red kafa sennit Kafa ʻuli black kafa sennit

Kava kava plant; see kona bitterness

Kelekele earth; soil kelekele

Kohi line; see laini line

Koka'anga, nimamea'a bark-cloth making, fine art of

Kula red Laʿā sun

Lālanga, nimamea'a mat-weaving, fine art of

Langa build

Langā labor pain, as in birth-giving
Langafale, tufunga house-building, material art of

Langi tomb; see langi sky

Lalava, tufunga house-lashing, material art of down; see lalo downside

Lātū god of the wind, god of navigation/voyaging

Lea language; see tala language/word

Lōloa length

Loloto depth; see ma'olunga height
Loto inside, internal, center, middle
Lotofale, tufunga interior design, material art of

Lulu god of the sea, god of navigation/voyaging

Maau order; see fenāpasi order

Māfana warmth

Mālie beauty; see faka'ofo'ofa beauty Maokupu breadth, width; see fālahi width

Ma'olalo low; see down

Ma'olunga height, high, up; see loloto depth

Mata eye, point; see mata-ava eye-hole, i.e., point

Mata-ava eye-hole, point

Matala'i'akau flower, literally "eye of the flower"

Mata'ifā eye of the pandanus fruit

Mata'ihui eye of the needle Mata'ikapa eye of the metal plate

Matapā door
Mate death
Maʻungatala reference
Moana ocean
Moʻui life

Muʻa front; see tāmuʻa Mui back; see tāmui

Ngāue practice, utility/functionality/practicality

Nimamea'a fine art

'Olunga top, topside; see up-above 'olunga

Ongo sound, feeling or hearing

'Otu langi royal tombs

Pō night; see poʻuli night

Pou house post

Poʻuli night, dark, darkness Puipui curtain; see holisi wall

Sino body

Tātime, beat, hit, strikeTa'anga, faivapoetry, performance art ofTafa'akiside; see tapa'aki side

Tafa'akifā four-dimensional, four-sided dimensionality;

see tapa'akifā

Tapa'aki side; see tafa'aki side

Tapa'akifā four-dimensional, four-sided dimensionality;

see tafa'akifā

Tāmu'afront-end/frontside of the houseTāmuiback-end/backside of the house

Tafunga hilly; see tafungafunga and tafungofunga
Tafungafunga hilly; see tafungofunga as a variation
Tafungofunga hilly; see tafunga and tafungafunga

Tahi sea

Tala language; see lea Talakamata introduction

Taa'ivā times/beats between spaces

Tā-vā time-space Tafaʿaki side

Tafa'akifā four-sided, four-sided dimensionality

Tauēlangi climatic elation, "divine" feeling of excitement

Tefito-he-fefine female-centered/centric
Tefito-he-loto-sino body-centered/centric
Tefito-he-tangata male-centered/centric
Tefito-he-tu'a-sino non-body-centered/centric

To sugarcane plant; see melie sweetness Toutaivaka, faiva navigation, performance art of

Tu'a outside, external

Tu'afale, tufunga exterior design, material art of

Tuʻakautā musical device

Tuikakala, nimamea'a flower-designing, fine art of

Tōʻakaufua, tufunga fruit-bearing tree planting, material art of medicinal tree planting, material art of medicinal tree planting, material art of sweet-smelling tree planting, material art of

Tuʻa outside, external, back, as in tuʻafale (i.e.,

avafale house-hole) houseback; see matafale

housefront

Tufunga material art; literally "beating/hitting/timing

the surface"

'Uli black Vā space

Vaa'ihaka motion between two bodily movements Vaa'itā time/beat, between two times/beats Vaa'i'uhinga meaning between two human meanings

Vaka boat, vessel, medium, or vehicle Vaka fakafoʻohifo house, i.e., upside-down boat

Valevale fetus, child

Vanua "person" and "place" (i.e., "time" and "space");

see fanua, fenua, fonua, hanua, honua, or

whenua

Vela fieriness