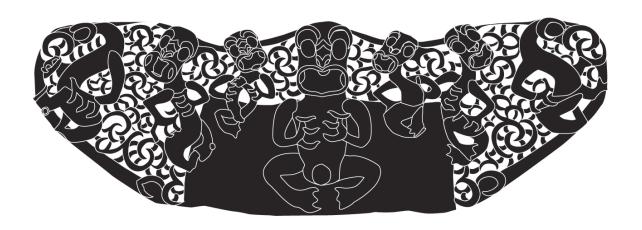
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Tardl Karpen Tol

Articulating a Māori Design Language



Te Hononga Toi Māori Part 3

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Te Hononga Toi Māori (Part 3) was developed by the author as a reference for Māori terms, the Māori design elements and principles, and customary Māori surface pattern. When used in tandem with Toi Runga (Part 1) and Toi Raro (Part 2), Te Hononga Toi Māori (Part 3) acts as quick reference to understanding Māori terms and relevant design terminology. Māori terms are introduced using a convention of Māori term followed by the English translation in brackets and thereafter only the Māori term is used.

The Elements and Principles of Māori design

In the previous chapters this research sought to explicate the visual language of Māori design through an examination of eighteenth and nineteenth century Māori carved pare (door lintels). Articulating this Māori design language was critical to answering the research question; how can the visual language and tikanga of customary Māori carving be used to inform contemporary Māori design practice? The aim of this thesis is to develop tikanga, or practicing guidelines for contemporary Māori designers. The whakatauki (proverb) kia whakatōmuri te haere ki mua, which can be translated as to walk into the future, our eyes must be fixed on the past underlines the importance of looking at the customary arts, and particular, whakairo, as an exemplar or model for the development of contemporary Māori design. Māori designers play an important role, in that they are charged with bringing Māori visual culture from the marae (the cultural heart of Māoritanga), into the lives and homes of Māori today. Considering this, it is imperative that Māori designers consider how their work reflects Māori notions about the world and how these ideas resonate with Māori. There will be instances where tikanga and ideas from the marae clash with the reality of urban Māori living. While this offers exciting opportunities to reinterpret Māori visual culture, Māori designers must ensure that their work is grounded in tikanga Māori.

Within this section, the Māori design conventions that appeared consistently throughout the *pare* analyses have been organised into the elements and principles of Māori design. While Western design terminology has relevance in helping to articulate the aesthetics within carving, the linear *pare* analysis reveals the need to reconceptualise Māori design in a different way. It shows that the description of Māori art and design through Euro-centric terms undermines the significance of historical Māori visual culture. Secondly, it explains how the processes inherent within customary Māori arts are uniquely Māori. In Māori objects that feature design, there is an inexorable relationship between utilitarian and mediatory function (Jahnke, 2010). For Māori the concept of art was not as explicit as in the Western world because almost every *functional* object had designs applied to it. Adding this, Jahnke states:

The point is that Māori carvers, weavers and painters invested their design process with mediatory functionality through the visual enhancement of objects with figurative form and pattern, and ritualised intercession with deity through all the stages; from conception, to material collection to fabrication and public presentation (Jahnke, 2010, p.6).

While Māori design is concerned with aesthetics and visual perception, 'ritualised intercession with deity' inherent to Māori design practices needs to be considered critically. An important question for Māori design today is: does this ritualised intercession with deity have relevance within the realities of contemporary design, and if so, how might Māori designers incorporate cultural ideas into their work? In order for Māori design practices to have relevance within Māori-dom, Māori designers must have an understanding of *mātauranga Māori*, and an awareness of how their works will reflect and transmit Māori ideas. As Paama-Pengelly points out, "Art was the way that Māori communicated knowledge, ideas and values, rather than by written language, and together the arts constituted a vital communication system" (Paama-Pengelly, 2010, p.9). Like customary Māori carving, contemporary design expresses Māori ideas about the world. Therefore, it must be informed by *mātauranga Māori*.

This section builds on the research of numerous authors including Archey (1936, p.p.49-62; 1960), Barrows (1956, p.305-331, 1969), Mead (1986), McEwen (1966), Simmons (1985) and Paama-Pengelly (2010). All of these authors made significant attempts to outline the elements and principles of Māori design. Archey's *Māori Carving Patterns* (1936, p.49-62) is one of the better early attempts to provide a concise and cohesive account of the fundamentals of Māori carving. In his study, Archey proposed that the *manaia*, *marakihau* and *pekapeka* are based on the human forms, and that the *manaia* face is a stylised version of the human face in profile. In terms of the goals of this thesis, Archey's work is also significant because he often used graphic examples to supplement his propositions about design. McEwen's (1966) seminal *Māori Art*, is also commendable in that it provides a general and easily accessible description of the design elements and of some carving patterns. Barrows (1956) importantly pointed out that different *iwi* have differing accounts for the origin of carving, while Mead (1986) helped create a finer distinction for stylistic attribution by examining carving within the cultural dynamics of *iwi* relationships.

The Elements of Māori design

The elements of Māori design are the tools used to create visual information. While Western design elements, such as line, plane, shape, and texture, can be found in Māori carving, they are not really the building blocks for Māori carving compositions. A consistent number of design conventions appear in

Māori carving which provide a blueprint for creating Māori design. In customary carving, fundamental elements for creating visual information were the *tiki, manaia, tauira* (pattern), *ata* (light) and *atakau* (shadow), the human and non-human spiritual form, and pattern (a spiral is a pattern first and foremost but can exist as a form in *tauihu*, *taurapa* and *pare* and *paepae pātaka*).

The Elements of Māori design: Te Tinana (the human body)

The human body, more than anything else, constitutes the critical element for Māori carving practice. Until European contact, the figurative vocabulary within pre-contact Māori carving remained limited to the tiki, manaia, mokomoko or ngārara (lizard) and pakake (whale). While instances of manu (bird), ika (fish), marakihau, and kuri (dog) can also be found, these are much rarer. The key design element within Māori design is the human body, and its constituent parts. As Archey (1960, p.17) has written, "The human figure is never absent, except that a very rare reptile may stand alone, not as part of a design or composition". Additionally, some parts of the human anatomy were clearly given more prominence than others. The most significant areas in carving were the head, genitalia, and hands. The mouth, eyes and tongue were also seen as important elements. These parts of the human body are the building blocks of all customary carving compositions. Changes to customary modes of carving practice - which were due to the introduction of European ideas about representation and European objects - have seen the visual vocabulary within the whare whakairo extended. This includes the more wide spread use of naturalism, introduced animals and objects, and text in both painting and carving. Te mana-o-Tūranga, a late nineteenth century whare whakairo carved by Rongowhakaata carvers including Raharuhi Rukupo, features a number of these carving innovations. Despite these changes, though, the tiki and manaia remained central to carving practice after European contact.

McEwen's (1966) categorisation of the human forms in carving centred on the head forms, which he described as naturalistic and grotesque. Where McEwen used the term grotesque, he was referring to the figuratively carved *wheku* and *kōruru* head forms. *Tiki* with naturalistic heads, such as *poutokomanawa* figures, usually featured intricately carved *tā moko* (on the face and buttocks) and were often carved in three-dimensions (though there are examples also found in relief carving). Figures with figuratively carved head forms were also carved in the round and in relief carving, and appeared in a number of distinct regional and tribal styles (McEwen, 1966). The bodies of carved *tiki* were often squat and shortened, and featured exaggerated use of scale on elements of significance such as the head, hands, and genitalia. Commenting on the poses of figuratively carved *tiki*, McEwen added, "It is usual, but not invariable, for grotesque figures to be carved in the posture of the *haka*, with the knees bent, the body crouched, and the tongue protruding" (1966). In contrast to this, *tiki* with naturalistically

carved faces are often in less dynamic poses and usually do not feature the *whātero* (protruding tongue element) associated with *haka*. Discussing the much-debated use of the three-fingered hand convention in Māori carving, McEwen (1966) pointed out, "It should be remembered that the Maori was not so obsessed with the three-fingered hand as the European student has been". In addition to this, he noted that the five fingered hand convention appears in some carving traditions, while the four fingered convention (three fingers and a thumb) appears to be the most common design convention for rendering the hands (McEwen, 1966).

The Elements of Māori design: Te Manaia (the profile figure)

Manaia feature prominently throughout Māori carving, often as subsidiary figures supporting the *tiki*. A notable exception to this rule, however, is the Rongowhakaata method for carving and painting maihi. In these instances, the manaia (*Te Pitau-a-manaia*) may feature as the main motif. Manaia have been interpreted as the profile of a human form, a reptile, bird and spiritual or psychic entity (Jahnke, 2010). Hiroa (1949) and McEwen (1966) support Archey's (1933) contention that the manaia is probably based on the human form. Like the human figure, manaia are one of the most malleable design elements within Māori design. Commenting on the many ways in which manaia are used within carving McEwen (1966) has written:

...it can be distorted or mutilated, almost at will, to fit any space which needs to be filled. It may simply be any eye and a mouth, with or without a nose, tongue, or teeth; it may be a head and one arm, with or without hand; it may have two arms and no body, one arm, one leg, and a body, or the full complement of body and extremities. *Manaia* may be used to form the hands or fingers of large figures, or sometimes even the arms or feet. In most carving compositions the background between the high-relief figures is filled in with *manaia* engaged in the most amazing contortions. It is common for a part of one *manaia* to form part of another one; for instance, the curved arm of one may also be the mouth of an adjacent *manaia* (McEwen, 1966).

McEwen's description demonstrates the varied ways in which *manaia* are used within Māori carving. While there has been much debate about the significance of *manaia*, the proximal relationship this figure has to *tiki* on *pare* and *paepae pātaka* denotes a guardianship-like role. The consistent convention of *manaia* biting at the head of *tiki* figures also denotes a spiritual significance as the head was seen as the gateway between *tangata* and *atua*.

The Elements of Māori design: Te Takarangi (the spiral)

The spiral is a pattern (and a form) that was used extensively in Māori carving. It appears as a perforated form carved in three dimensions known as takarangi. Takarangi spirals are commonly found on waka (tauihu, taurapa), paepae pātaka, and on parts of the whare whakairo such as the pare and raparapa. Spirals also feature prominently as carved patterns. Some examples of these include the rauru, Māui and ponahi spirals. The significance of these patterns is highlighted by their use across the bodies of carved figurative imagery. Large spirals are often applied to the shoulders and knees of tiki, while smaller spirals can be seen across the hands, and upon the cheek of *tiki*. Within these contexts spirals are located at the points of potential movement including the joints of limbs, the facial areas of mobility (cheeks and brow) and often on the crown element that characterizes Ngāti Porou, Rongowhakaata, and Te Whānau-ā-Apanui facial forms as well the ears. In the latter tribal areas an especially important motif can be discovered as an indicator of the ear. Jahnke (2006) named this detail taringa aute, as opposed to the alternative ear forms, which may be carved with a spiral pattern (taringa rauru) or left plain (taringa Māori). Jahnke (2012, pers comm) says this 'ear lug' motif represents the rolled beaten bark of the aute (paper mulberry tree) first sighted by Cook in the ears of some of the people at *Uawa* (Tolaga Bay) on the East Coast of the North Island. The spiral form is a prominent pattern in tā moko (tattooing), on both the face and buttocks. While numerous variations of the spiral have been created, importantly, the structure remains the same.

The Elements of Māori design: Te Tauira (pattern)

Tauira (pattern) is another critical element in Māori carving practice. While there are tribal variations in the way pattern was applied to carvings, pattern appears consistently in all traditions on the limbs of carved ancestors, on *manaia*, and on the interconnecting elements and planes. Patterning might be applied all over as in the *Iwirākau* tradition, or used only to delineate significant areas of the body or areas of potential movement, such as on the head, hands, shoulders and genitals. It is important to note that the majority of spiral forms such as *piko-o-rauru*, *raperape*, *Māui and ponahi* are patterns rendered in relief. An exemption to this rule is the *takarangi* (*pitau*) spiral, which may be rendered in both relief (relief is three-dimensional) and in mass and void.

The Elements of Māori design: Te Ata (light) and Te Atakau (shadow)

Ata (light) and *atakau* (shadow) are natural consequences of working in three dimensions. Unlike two-dimensional images, the appearance of carvings is affected by the changing light of day. *Ata* and *atakau* bring forms to life, and give movement to lines. Two sides of a carving will never appear the same

unless under direct light because the shadows of carved form are not reflected. Coincidentally, this might be viewed as another way of breaking the symmetry of the form. The Māori carver capitalised on light and shadow by varying the depth of relief and by undercutting a form. This latter technique is evident in Te Hau-ki-Tūranga, where some of the weapons held by *tīpuna* are undercut - creating a heightened sense of three-dimensionality. The use of mass and void was the most dramatic technique for capitalizing on the effect of light and shadow, particularly within the context of *waka tauihu*, *taurapa*, *paepae pātaka*, *pare*, *raparapa* and *waka kōiwi*. It is also evident that a number of the early *poupou* forms utilized this technique, especially those from Te Tairāwhiti and the Bay of Plenty region.

The Principles of Māori design

The review of literature, and linear diagrammatical analysis of *pare* demonstrated that there were a number of consistent design principles within Māori carving between the late eighteenth to mid nineteenth century. These design principles have been organised here into the Māori principles of design. Like their Western counterparts, the Māori principles of design are concepts used to help organise visual information. However, the linear aesthetic analysis revealed that the Māori principles of design differ, in that they are also concerned with expressing important cultural values such as *kotahitanga* (unity), *whakapapa* (genealogy) and *whanaungatanga* (family interconnectedness). The articulation of these Māori principles of design is critical to answering the research question; how can the visual language and *tikanga* of customary Māori carving be used to inform contemporary Māori design practice? The newly-articulated principles are trialled through the practical component of this research.

The principle of tātai rahinga (arrangement by scale).

The principle of *tātai rahinga* (arrangement by scale), is one of the most prominent design principles in Māori carving. With this design convention carvers used scale to expresses hierarchy between the important figures and to highlight the significant parts of the body. In terms of design, the deliberate use of scale contrasts, or exaggerated scale, facilitated a quicker reading of content within *pare* by making the important elements more explicit. In single-figure *pare* this principle was used to demonstrate the importance of the central *tiki* and terminal *manaia*. On the *pātaka*, the scale of the central *tiki* above the *kūwaha* signified the importance of this element and the entrance to the *pātaka*. Meanwhile, the exaggerated *manaia* heads at the terminal point of the maihi *pātaka* highlight the importance of *pakake* (whales). In terms of the human body, exaggerated scale was used to quickly establish the significant parts of the human body - the head, the hands, the genitals. On carved *poupou*

figures within the *whare whakairo*, the importance of the head is seen in its scale to body ratio. The head generally constitutes between a third and a half of the total height of a figure. Commenting on the exaggerated scale of the head in customary Māori Jahnke has written, "...the head to body ratio connotes the sacrosanct nature of the head and its conceptualisation with tribal culture as a vehicle for communication with deity and its efficacy (*mana atua*) as a pathway for inter-dimensional communication" (2006, p.100).

The principle of tātai mokowā (spatial interconnectedness)

The principle of *tātai mokowā* is the design convention whereby carvers used overlapping to express unity between the different design elements and levels of relief. In *pare*, this can be seen in many examples where the hands, feet and heads of *tiki* and *manaia* overlap with other design elements. This principle is seen within the *whare whakairo*, especially in those from Tairāwhiti carving region, whereby subsidiary *tiki* often overlap with larger *poupou* figures (Te Hau-ki-Tūranga *poupou* are exemplars of this convention). The principle of *tātai mokowā* is also seen in a number of *maihi pātaka*, including the Te Tairuku Pōtaka (1770-80), the Te Oha (1825), and Puawai o te Arawa *pātaka* (1868), where *tiki* and *manaia* figures overlap with the *pakake* and other background levels of relief. By connecting apparently discreet layers, the principle of *tātai mokowā* alludes to the inseparability of the material and spiritual realms. In terms of visual perception, the overlapping of design elements also creates figure-ground relationships. These figure-ground relationships demonstrate the Māori carver's sophisticated understanding of spatial depth and pictorial illusion.

The principle of tātai hikuwaru (disrupted symmetry)

Another key Māori design principle revealed in the review of literature and linear *pare* analysis was that of *tātai hikuwaru* (disrupted symmetry). A key characteristic of Māori carving was the use of design elements which break or disrupt apparent symmetrical forms. Hanson (1983) was one of the first to articulate this feature of Māori carving, which he referred to as ambivalent tension. Importantly, he pointed out that broken symmetry appears not only in carving, but also consistently in *kōwhaiwhai* and *tā moko*. Here, *te kakano*, or a seed, is seen as a metaphor for this 'disruptive' element within the larger symmetrical structure of Māori art because it is associated with ideas about disruption and growth. While it is not known exactly why Māori carvers used design elements to disrupt the symmetry of bi-lateral structures, the consistent use of this design principle demonstrates that it was significant. While Hanson (1983) believed disrupted symmetry in Māori art reflected tension from the

real world, Jackson (1972) proposed that symmetry more importantly was used to express resolution and unity.

The principle of *tātai hangarite* (arrange symmetrically)

Prior to European contact the application of carving to structures or objects such as waka, pātaka, whare puni and whare whakairo, centred on bi-lateral reflection. For example, when looking at the pātaka or whare whakairo from the front, the figures and designs tend be reflected either side of the structure. Hanson referred to this type of symmetry as correspondence symmetry. Here, the term tātai hangarite is used to denote this symmetrical arrangement of design elements. As was shown through the pare analysis the principle of tātai hangarite (arrange symmetrically) informs the larger structure of all pare. Other exceptional examples of correspondence symmetry can be seen in Māori weapons (wahaika and tewhatewha) and instruments (kōauau, nguru). In contrast to this, the actual carvings tended to be asymmetrical. While the consistent use of the human body in frontal perspective imposed a symmetrical base in compositions, dynamic gestural poses - many of which echo those seen in haka - break this symmetry. For example, the tongue extended to the side of the mouth, the placement of a weapon in one hand, or the shifting of hands are all design conventions common in carved tiki forms.

The principle of tātai whakapapa (proximal tiki arrangement)

The consistent use of subsidiary *tiki* between the legs of large central *tiki* on *pare*, *poupou* and *kūwaha pātaka* (particularly in the Tairāwhiti carving region) highlights another important design principle, the principle of *tātai whakapapa*. Using this principle, carvers demonstrated the significance of *whakapapa*, or genealogical connections, through the proximal placement of *tiki* forms with one another. Often the exaggerated scale, such as the use of smaller *tiki* between the legs of larger *tiki*, was used to demonstrate direct lineage from parent to child. However, the principle of *tātai whakapapa* was also expressed in some cases by the union between husband and wife (in instances where the smaller *tiki* is shown in the position of coition). This latter design convention is found in *pātaka* and *waharoa* in particular. The arrangement of figures one above the other was another way of denoting *whakapapa* relationships. Jahnke (2006), saw the notion of *whakapapa* as an inherent part of nineteenth century Māori carving, pointing out that a critical aspect of carving was the grounding of works in *whakapapa* and narrative. Within Jahnke's (2006) research, this idea was supported by the words of master carver John Taiapa, who stated, "Before you carve a house the tribe usually come together. You have to know the genealogy of the ancestors so that you can depict them as pillars of the

meeting-house. You have to know the history of the people" (Hakiwai, 2003). Thus, *whakapapa* as a design principle not only expresses genealogical connections but also relates the story of that tribe.

Where contemporary Māori design is concerned, the principle of *tātai whakapapa* asserts that Māori design must have *whakapapa*, and be grounded in *Te Ao Māori* to resonate with and to be relevant for Māori. In Māori carving, *whakapapa* is denoted literally through the representation of ancestors. However, the principle of *whakapapa* may be interpreted in a number of ways. For example, the naming of *whare* after a revered ancestor is a metaphorical way of connecting a place and structure to individuals. For Māori design the expression of *whakapapa* may be achieved in a number of ways. For example, materials such as paper and wood can be connected to both Tāne (deity of the forests and life within it) and Papatūānuku (deity associated with the earth). Sustainable design practices can also reflect Māori ideologies of *kaitiakitanga*, or environmental stewardship.

The principle of mana wahine (the female element)

In eighteenth and nineteenth century Māori carving the significant spiritual role of women was expressed in carving through the consistent use of the female form. In pare, this notion is supported by Jahnke's survey of over 200 pare where only one example of male manaia was discovered (2006, p.113). In contrast to Jackson (1972) and Simmons (1985, 2001), Jahnke contended that the female genitalia denotes 'generative and degenerative power' and is symbolically associated with Māori notions about the different states of human existence (2006, p.113). Additionally, he noted the significant role women also play on the marae as kaikaranga, the first voice which calls manuhiri (guests) onto the marae (2006). That the female form appears on the doorway to the structure in which manuhiri may stay resonates with this welcoming role of women. As was shown in the linear analysis of pare, the female element in pare is so strong that the vagina is used on what appears to be male tiki, who have their bodies and mouths in haka gestures. Jackson (1972), who wrote extensively on sexual symbolism in Māori carving, importantly pointed out that for eighteenth and early nineteenth century Māori the female form had dual connotations of both life and death; while life is associated with the process of birth, death was connected to the narrative of Māui and Hine-nui-te-Pō. The spiritual power of women was also emphasized on pātaka through the consistent use of the taratara-a-kae pattern. In the narrative associated with the taratara-a-kae pattern, it is women who do a provocative haka about their throbbing vaginas that finally reveals the protagonist Kae and his crooked teeth.

The principle of tātai manawa (heart pulse)

The principle of *tātai manawa* is the design convention where an implied pathway guides the viewer in a continuous movement through the entire structure of a carving. In single figure *pare*, the heart pulse generally flowed from the central *tiki* and out through the *pare* in a cyclical manner, to return to the centre. The principle of *tātai manawa* (heart pulse) is created through the extensive use of overlapping and joining of design elements.

Patterns and Spirals in Māori carving

This section introduces the types of pattern and spiral forms found in Māori carving. The terms presented here are important because they help articulate the design language of Māori carving. An understanding of the terms is also critical in the reading of this thesis, as they are used extensively throughout the analysis of pare. While pattern and spiral forms in Māori carving have been described by numerous authors (Archey, 1933, p.171-190; Barrow, 1956, p 305-331; McEwen, 1966, p.412-141; Mead, 1986; Paama-Pengelly, 2010, p.20-21), the ambiguous ascription of some terms makes clarification necessary. For example, Mead (1986, p.37) ascribed the term pākura to the Northern kirikiore pattern simply because he had not been aware of the existence of kirikiore as a Northern term for the pattern His ascription of the term matakupenga to carvings from outside the Taranaki region is also problematic because the term is regionally specific to Taranaki and Whanganui (Mead, 1986, p.235). McEwen (1966) placed two similar, though different types of pattern, unaunahi (pūwerewere) and ritorito, under the term unaunahi. Clarification of patterns and spirals in Māori art is also necessary because of regionally specific naming conventions. For example unaunahi (Whanganui and Rongowhakaata) and pūwerewere (Taranaki) are terms for the same type of pattern. The pare analysis also revealed a need to extend the design vocabulary of Māori carving. This is because a number of patterns examined in the analysis do not fit with the commonly recorded nomenclature. For example, in the pare examples from Hauraki there is a unique pākura type pattern that combines elements of both pākura and unaunahi. Another example is the Tairāwhiti-centric pattern that combines ponahi, with free form spirals. Jahnke (2012) has suggested these types of pattern respectively be named Ngā pākura-o-Hauraki and Ngā ponahi-o-Te Tairāwhiti.

The section is arranged into three parts, notching and ridged lines in Māori carving, surface and perforated patterns, and spiral patterns. The spiral can be a pattern as in *piko-o-rauru*, *raperape*, *Māui*, *ponahi* but also a form exemplified in the *takarangi* in particular where mass and void are critical elements in the consideration of the overall design. Here, the names of each element are supplemented with a description and a visual example. In the descriptions of the elements, discussion is given as to the regional use and application of each element to different parts of carving. An important resource here was a paper by Phillipps called *Maori Spirals* (1941). Some of his spiral examples, carved by Kingi Paani Porete (Ngai Tahu) are used in the table below describing Māori spirals. Importantly, this section provides a short-hand description for examining pattern in the analysis of *pare*.

Table 11. Notching and ridged lines in Māori carving.

Name	Table 11. Notching and ridged lines in Māori Description	Visual example
Haehae	Haehae is the name used to describe the rows of carved ridges found in most carving traditions. The name haehae comes from the verb hae which has a number of meanings including; to scratch, draw, cut up, lacerate, tear, slit, slash, split (Te Aka Māori English dictionary, 2012). The 'v' channel section or valley of a haehae groove is known as raumoa (a type of flax), while the ridge section is called patapata (to drip, to drop).	
Pākati (niho- taniwha)	A type of notch that is triangular in form, and appears in rows as overlapping triangle between rows of <i>haehae</i> . Williams (1957) refers to <i>pākati</i> as fine dog's-tooth pattern in carving often running between parallel grooves. <i>Pākati</i> is also known as <i>niho taniwha</i> (<i>taniwha</i> teeth). As a verb, <i>pākati</i> (<i>tia</i>), also means to incise a pattern.	
Tuarā-kuri	A type of notch that appears as a diamond shape. Extensively used in Taranaki, particularly on paepae pātaka. The zig-zag effect created by the diamonds denotes coincidental relationship to the pattern taratara-a-kae. The term tuarā-kuri literally translates as dogs (kuri) backbone (tuarā).	
Pūwerewere, Pūngāwerewere (Taranaki) Ritorito (Whanganui and Rongowhakaata)	A group of curvilinear ridges that fan out from a single point of origin as in a fleur de lis. This pattern may traverse a single valley of <i>raumoa</i> , but in Te Tai Hauāuru region it can traverse two or more valleys of <i>raumoa</i> . It is used extensively in Taranaki carving on the hands, lips and eyebrows of <i>tiki</i> . The term <i>pūwerewere</i> , <i>pūngāwerewere</i> means spider, and its use refers to the semblance between the pattern and a spider web. <i>Ritorito</i> comes from <i>rito</i> , which means centre shoot, undeveloped leaves of the <i>harakeke</i> plant (JPS, 1990, p.55).	
Waewae Pākura	A 'v' shaped <i>pākura</i> pattern. Instead of crescent inflections of founded central spiral interlock, the interlock is angled and pointed generating foot like shapes.	

Unaunahi (unahi)	A group of curvilinear ridges or crescents, numbering anywhere from three to seven, stacked one above the other. This pattern, like the <i>ritorito/pūwerewere</i> traverses a valley of raumoa that links two ridges of a <i>haehae</i> . It was extensively used by Te Tai Tokerau carvers but is also found as a secondary pattern in other areas like the Bay of Plenty. The word ' <i>unaunahi</i> ' literally translates as fish scale (Te Aka Māori English dictionary, 2012). The practice of using fish to describe Māori patterns relates to the story of Rua and the association of carving with the deity Tangaroa (Auckland University, 1988, p.20-21). However, it must be noted that the Rua-te-pupuke narrative is Ngāti Porou-centric.	
Ngau pae	Type of edge notching prominent in the earlier carving traditions and particularly evident in Hauraki <i>pare</i> and Taranaki <i>paepae pātaka</i> . The word <i>ngau</i> means to bite, gnaw, chew or hurt. (Te Aka Māori-English dictionary, 2012). The <i>ngau pae</i> notch is also prominent on carved spiral forms from the Te Tairāwhiti region (see Te Hau ki Tūranga for examples).	

Table 12. Surface and perforated patterns

Name	Description	Visual Example
Rauponga	A pattern consisting of straight (or curved) rows of haehae alternating with rows of pākati (usually niho taniwha, tuarā kuri or hikuaua or some other tribal name). While found in most carving regions, rauponga was used extensively by Ngāti Porou, particularly Waiapu, and Whanganui carvers as a pattern on the body of ancestors (see whare whakairo Ruatepupuke II, 1880; Te Pohoo-Hiraina, 1885; Porourangi 1888). Rauponga is also commonly used on papahou and wakahuia. The term rauponga refers to the pattern seen on the leaves of the ponga tree (Cyathea dealbata).	

Rauponga whakarare	A pattern composed of rows of <i>haehae</i> and alternating rows of <i>pākati</i> (usually <i>niho taniwha</i>). The <i>haehae</i> traverse the <i>pākati</i> to form continuous hooks. Used extensively by Ngāti Porou carvers on body of ancestors. Also commonly used on <i>papahou</i> and <i>wakahuia</i> . The term <i>whakarare</i> means 'to distort', or confuse (Williams, 1957). <i>Whakarare</i> is also a term used in connection with the <i>tapu</i> name given to the child of a chief (The University of Auckland, 1988, p.20).	
Taratara-a-kae (Taowaru)	A line pattern which appears as a zig-zag shape. The ziz-zag form is created as a physical line in positive space, or as an empty line seen in the negative space. <i>Taowaru</i> is another name for this pattern (Mead, 1976, p.43; The University of Auckland 1988, p.21). The <i>taratara-a-kae</i> pattern was extensively used on the <i>pātaka</i> structure, and can be found in other carvings throughout the Tairāwhiti region. The name <i>taratara-a-kae</i> is associated with the narrative of Kae, Tinirau and the killing of Tinirau's pet whale Tutunui by Kae. It is know as 'Kopere Pātaka' by some Waikato carvers (The University of Auckland, 1988, p.21).	
Pākura	A pattern composed of a spiral and a diminishing arc of crescents. It is usually organised into a continuous frieze. <i>Pākura</i> often appears as a secondary pattern and is particularly prominent on <i>waka taua</i> . <i>Pākura</i> is another term for the <i>pūkeko</i> (Porphyrio porphyria), the purple swamp hen indigenous to Aotearoa New Zealand. Some tribal groups use the term <i>pākura</i> to describe the <i>fleur de lis</i> pattern known as <i>unaunahi</i> or <i>pūwerewere</i> .	
Ngā Pākura-o- Hauraki	Ngā Pākura-o-Hauraki, a type of pākura unique to the Hauraki carving region combines elements of both pākura and unaunahi. Similar to kirikiore; however in ngā pākura-o-Hauraki the pākura is interwoven sporadically.	

Ngā ponahi-o-Te Tairāwhiti	A pattern, which follows the design principal of pākura but the crescent rhythms that normally echo the spiral are free-form. Another key difference between Ngā ponahi-o-Te Tairāwhiti and pākura is that pākura has plain piko-o-rauru spirals. Ngā ponahi-o-te Tairāwhiti has ponahi spirals.	
Kirikiore	An expansive pattern that interweaves in on itself to create a rolling configuration of spirals with enfolding crescents that echo the spiral rhythms. The term <i>kirikiore</i> combines two words, ' <i>kiri</i> ' and ' <i>kiore</i> '. <i>Kiri</i> is a noun meaning skin, bark or rind (TWM 20/2/1868:5), while <i>kiore</i> refers to the rat (Rattus exulans). Thus, <i>kiri kiore</i> refers to the skin of the <i>kiore</i> rat (Haami, 2012).	
Matakupenga	Matakupenga is a Taranaki type of perforated pattern which consists of curvilinear shapes consistently arranged to create a matrix. These shapes are enhanced with surface patterning comprised of pūwerewere which crosses over parallel lines of haehae. In general, Matakupenga appears on the lowest level of relief on pare and paepae. In Māori the term matakupenga refers to the mesh of a fish net (McEwen, 1966).	
Piko-o-Hauraki	A Hauraki type of perforated pattern consisting of interlocking crescent shapes arranged sporadically to create a matrix. It features surface pattern similar to that on <i>matakupenga</i> , however <i>unaunahi</i> is used rather than <i>pūwerewere</i> , and the <i>unaunahi</i> motif only crosses a single valley of <i>raumoa</i> . <i>Piko-o-Hauraki</i> appears as the lowest level of relief in <i>pare</i> and <i>paepae</i> .	

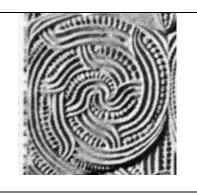
Table 13. Common spiral forms in carving

Spiral name	Description	Visual Example
Whakaironui Whare- pūngawerewere (House of the spider).	As double spiral comprised of the <i>taratara-a-kae</i> line, <i>whakaironui</i> is associated with the narrative of Tinirau and Kae. The prominent use of this pattern on <i>pātaka</i> , which often feature <i>pakake</i> as a figurative form, further reinforces the connection to this important narrative. <i>Whakaironui</i> was used extensively by Whānau-ā-Apanui, Ngāti Porou, Rongowhakaata, Te Arawa and Tuhoe carvers.	

	The name is comprised of two words, whakairo (a generic term meaning to carve) and nui (big, or large). However, the term whakairo, also literally means the moving maggot or iro (worm, maggot). Visually, the whakaironui spiral has coincidental relationship to the path of an iro through wood.	
Rauru	A double spiral composed of <i>rauponga</i> (parallel rows of <i>haehae</i> and <i>pākati</i>). At the centre the rows of <i>haehae</i> and <i>pākati</i> converge into an 'S' like form. According to Mead (1986, p.198) the name <i>rauru</i> is derived from the eponymous ancestor of Nga Rauru (the son of Toi) with the same name. Rauru was apparently a famous carver known throughout Te Tairāwhiti, from Tauranga to Wairoa.	Thum I have been a second to the second to t
Rauru whakarare	A spiral composed of <i>haehae</i> which enclose <i>pākati</i> to form continuous hooks. <i>Whakarare</i> refers to the transition by <i>haehae</i> across the <i>pākati</i> .	
Piko-o-Rauru, Raperape	Piko-o-Rauru, is a plain single or double spiral composed of haehae only. The name is associated with the carver Rauru from the Te Tairāwhiti region. It was used on the shoulders and cheeks of figures, and also appears as a motif on the forehead/head of figures such as those in Te Hau ki Tūranga. Where the plain spiral is used in patterns such as pākura or kirikiore the term raperape has also been used (The University of Auckland, 1988).	

Māui	A double spiral of the <i>piko-o-rauru</i> type where the centre of the spiral interlocks like two hooks interlocked. Where this type of pattern is expanded to form continuous interlocking hooks the term Māui is still used. The name refers to the great tupuna of Polynesia, Māui, while the hook is a symbol of a priest of the <i>wānanga</i> (The University of Auckland, 1988. p.20).	
Piko o Iwirākau	A single spiral composed of <i>pākati</i> and <i>haehae</i> which unique to Ngāti Porou. Part of the Tairāwhiti carving style. Examples of this can be found on <i>poupou</i> figures in Porourangi (1888).	
Ponahi (East Coast) Pūngāwerewere (Taranaki)	A spiral composed of <i>haehae</i> and <i>unaunahi</i> , <i>pūwerewere</i> or <i>unaunahi</i> . The oldest versions of <i>ponahi</i> are those from the Te Tai Tokerau region in which the spiral form is often elliptical. Apparently, "The Tūranga carvers of the Rukupo school enclose the ritorito pattern with the rounded spirals calling this combination ponahi also" (The University of Auckland, 1988, p.20).	Ponahi (unaunahi, pūwerewere)
		Ponahi (unaunahi)
Takarangi (pitau)	A spiral composed of row(s) of <i>haehae</i> and <i>pākati</i> (usually <i>niho taniwha</i>). Normally the <i>haehae</i> spiral interlocks on itself at the centre. The rows of <i>pākati</i> are arranged into groups, ranging from 3-7 notches. The groups of <i>pākati</i> are evenly distributed and may be carved in either relief or with voids between the mass of <i>pākati</i> . <i>Pitau</i> is often used to describe the takarangi spiral, which appears on the <i>tauihu</i> or <i>taurapa</i> of <i>waka taua</i> .	

Hikuaua	A spiral composed of <i>haehae</i> , which enclose <i>pākati</i>
	to form continuous hooks. Similar to whakarare,
	to form continuous hooks. Similar to whakarare, however in hikuaua the transition by haehae across
	the <i>pākati</i> is anti-cyclical and the hooks move
	outwards away from the centre. This example is
	from the whare whakairo Rangitihi carved around
	1871.



Paama-Pengelly's Māori Design Conventions

In *Māori Art and Design* (2010), Paama-Pengelly organised a number of design concepts into the following table. Concepts such as bilateral symmetry, aspective representation, and simultaneity are salient in the reading of Māori imagery. Like the element and principles of design, the key design conventions are referred to throughout the aesthetic analysis of *pare*.

Table 14. Key design conventions, Paama-Pengelly (2010).

	Definition	Application to Māori Art
Symmetry	Two halves as mirror images of each other.	Apparent symmetry in Māori art is broken by asymmetrical elements.
Bilateral Symmetry	Corresponding in size, form, and arrangement of parts on both sides of an axis of symmetry.	Common in whakairo, tā moko and kōwhaiwhai.
Translation Symmetry	An object that looks the same after a shift along a longitudinal or latitudinal axis.	Applied to the translation of kōwhaiwhai designs.
Slide reflection	A unit of design is reflected after a shift along a longitudinal or latitudinal axis.	Transformation of <i>kōwhaiwhai</i> units.
Slide rotation	A unit of design is rotated after a shift along a longitudinal or latitudinal axis.	A transformation process of kōwhaiwhai units.
Perspective	Appearance of objects allowing for the effect of distance from the observer.	Spatial device used in <i>whakairo</i> after European contact.
Aspective	Strict frontal or profile presentation or a combination of the two,	Convention used in <i>whakairo</i> to create a conceptual view of anatomy
Simultaneity	Where profile and frontal aspects feature together on the same figure, i.e. occurring simultaneously.	Device used in <i>whakairo</i> to show multiple viewpoints.
Cyclical patterns	All main structures of pattern are moving in a circular (clockwise) direction. ('Anti—cyclical' refers to the situation where substructure patterns oppose the cyclic rhythm of the main pattern structure).	Describes natural kõwhaiwhai and tā moko design units.
Curvilinear patterns	Curved or having curved parts as opposed to straight lines. (Rectilinear or 'geometric' shapes consist of or are bounded by straight lines).	Used to describe the dominant style of carving or composition in carving.
Figurative representational	Form that references the real or man-made world. Non-figurative is essentially the opposite of figurative. However non-figurative patterns in Māori art can reference	Figurative and non-figurative forms have their expression in the arts of the Māori.

	ideas or concepts that allude to form in the real world.	
Representation	Signs that are used as a substitute for something else. That is, the sign can resemble in a mimetic sense or allude to in the symbolic sense.	Māori art is representational both in the mimetic and symbolic sense.
Realistic, naturalistic	Lifelike representation of people and the World.	Rare in Māori art but part of figurative painting traditions.
Symbolism, iconography	To represent something abstract with something concrete.	Māori art uses predominantly symbolic language.
Mnemonic	A visual aid which allows the viewer to read the image.	Carving has a mnemonic function in recalling ancestral devices.
Perpendicular	Upright or at right angles.	Used in the geometric weaving and plaiting arts.
Split representation notional ambiguity	Split at the mid-line between two sides, or bilaterally Represented by overlapping parts.	Presentation of split views of two face halves.

Glossary

Māori terms in italics

āhua form, appearance

amo upright supports of lower ends of maihi
 ariki aristocrat, first-born in a high ranking family
 ata form, shape, semblance, reflected image

ateliver, seat of emotionsatuagod, supernatural being, deityepaposts at interior ends of a whare

hae lacerate, gleam, ideal colour combination

haka customary performance,

hanga make, build

hapū pregnant, section of a large tribe

haraviolate tapu, an offencehaubreath, wind, vital essencehekerafters in meeting house, descendheketipirafter against front/ rear wall

heru comb hoe paddle

hongi press noses in meeting, greet physically

hui gathering, meeting

ihi split, power/authority, essential force

ira atua essence of *atua ira tangata* essence of *tangata*

ira essence

iro maggot, thread wormiwi nation/people, tribe, bone

kaho batten, vertical rod forming rear of tukutuku panel board crossing top of tukutuku panel between poupou

kahuwoven cloakkahu kurīdog skin cloakkākahucloak, clothingkākahu huruhurufeathered cloak

kanohi face

kape eyebrow, rafter pattern, tattooing below the eyebrows

karakiaincantationkarangacall, summonkauae rarolower jawkauae rungaupper jawkohagift

kōkōwaired ochre pigmentkorewithout, potentialkōrerotalk, of all kinds

koru bulbed motif in kōwhaiwhai, carving and tattoo

kōruru carved head at apex of meeting house

kōwhaiwhai painted scroll pattern

kupenga fish net

kura red ochre pigment

kūwahaentrance / doorway of pātakamahauporch, of a meeting housemaihifacing boards on gable of wharemaihi pātakafacing boards on gable of pātaka

mana authority, control

mana whenua under the authority of the land

manaia beaked figure commonly used in carving

mangōpare kōwhaiwhai pattern, hammerhead shark-based

manuhiri visitor, guests

marae enclosed space in front of a meeting-house, whole complex of courtyard

marae ātea ritual space in front of meeting-house

māramalightmataamuaeldest childmātaurangaknowledgematedeathmaungamountainmaurilife forcemoanasea, ocean

moko facial and body tattoo

mokomoko lizard mua in front

muri behind, to the rear

niho taniwha teeth of the taniwha, triangular motif in tukutuku, tāniko

niho triangular design element in weaving practises

noa denoting absence of limitations/conditions relating to tapu

ora alive, well

pā palisaded settlement

pae horizon, transverse beam, transition point

paekura liminal zone lie across, threshold

pākati fine, dogs tooth pattern in carving, incise a pattern

Pākehā term for European migrants to Aotearoa

pākura Taranaki name for carving motif otherwise known as *ritorito*; purple swamp hen.

papaka board across lower section of the tukutuku panel

parecarved slab over door of a wharepātakastore house on raised postspitoumbilical cord, belly buttonpitauperforated spiral found on waka

poi light ball on a string of which is swung rhythmically to sung accompaniment

pōtiki youngest child pou post, pole, fix, teacher

poutāhuhu post supporting tāhuhu, on front wall of meeting house

poupou upright slabs forming the solid framework of the walls of a whare

poutāhu post supporting front of tāhuhu inside a house

poutama stepped pattern (in tukutuku.)

poutokomanawa first freestanding post inside the meeting house, supporting the tāhuhu ridge pole

post supporting tāhuhu, on back wall of meeting house

pōwhiricall, summonpukustomachpūngawerewerespider's webrākauwood, branchrangatirachief

rangatiratanga chieftainship

raparapa the carved ends of the maihi of a meeting house

raranga to weave, weaving rauru spiral pattern in carving

ringa arm, hand

rito central, new shoot of harakeke bush

ritorito curvilinear ridges that fan out from a single point of origin as in a fleur de lis

takarangi a spiral composed of row(s) of haehae and pākati (usually niho taniwha)

tāhuhu ridge pole of meeting house

tāne male, man

tangata whenua people of the land, local people

tāngata people

tangihanga mourning process taniwha water being

taonga anything highly prized

taonga tuku iho treasures handed down through generations tapu under religious or superstitious restriction

tara vagina, genitalia, vulva *tātai* arrange, set in order

tatau door

tauihu nose of waka tauira pattern, student

tekotekocarved figure on gable of meeting-houseTe Koreenergy, potential, the void, nothingness

Te Pō form, the dark, the night

Te Ao Mārama emergence, light and reality, dwelling place of humans

tikanga rule, plan, custom, customary understandings governing behaviour

tiki carved figure, neck ornament usually made of greenstone and carved in an abstract

form of a human.

tikitikitop knottipugrowtipunaancestortoawarriortohorāwhaletohusign, mark

tohunga expert, in some discipline

toi origin, art, knowledge, used for art in contemporary times

tukutuku ornamental lattice-work between upright slabs of walls of a native house

tūpāpakucorpse, dead bodytūrangawaewaeplace to standunaunahi (unahi)fish scalesupokoheadurepenis

waewae pākura footprints of the swamp hen, a pattern of *tukutuku* lattice work waenganui the middle, among, midst, amid, between, the intervening space

waharua small (single stitch) diamond motifs

waharua kopito small, repeating diamond motif in tukutuku

waiatasongs, of many sortswairuaspiritual essencewaitaradistract, abstractionwahinewoman, female

waka canoe

waka kōiwi bone chest, vessel for holding bones

waka taua war canoe

wānanga learning purpose, lore of the tohunga

wehi awe

wero ritual challenge

whaikōrero oratory, formal exchange of talk whakairo rākau carving, fashioning wood

whakanoa to remove tapu

whakapapa genealogy, to place in layers

whakataukīcustomary saying, proverbwhānaube born, family group

whanaunga relations

wharecustomary housewhare kaidining roomwhare punisleeping wharewhare wānangalearning schoolswhare nuilarge whare

whare whakairo carved meeting-house

whare puni guest house

whātero to protrude, poke out the tongue, shoot out

whenua land, placenta

Bibliography

Adsett, S., Whiting, C., & Ihimaera, W. (Eds.). (1996). *Mataora: The Living Face.* Auckland, New Zealand. David Bateman.

Archey, G. (1933). Evolution of Certain Maori Carving Patterns. *Journal of the Polynesian Society, XXXII*, 171-190.

Archey, G. (1936). Maori Carving Patterns. Journal of the Polynesian Society, XXXXV(178), 49-62.

Archey, G. (1960). Pare (Door Lintels) of Human Figure Composition, Records of the Auckland Institute and Museum, vol 5, No 4, p.203-214, p.36-44.

Archey, G. (1960). Sculpture and Design: An Outline of Maori Art, 2nd ed, handbook of the Auckland War Memorial Museum.

Archey, G. (1962). Spiral Dominated Composition in Pare (Door Lintels), Records of the Auckland Institute and Museum, vol 5, No 5&6, p.271-281, pls 51-60.

Archey, G. (1977). Whaowhia: Maori Art and its Artists. Auckland, New Zealand: William Collins.

Arnheim, R. (1975). Art and Visual Perception (expanded and revised edition). USA: University of California Press.

Barrow, T. (1969). Maori Wood Sculpture of New Zealand. Wellington, New Zealand: Reed.

Barrow, T. (1984). An illustrated guide to Maori art. Auckland, N.Z.: Heinemann Reed.

Best, E. (1915). Maori and Maruiwi: Notes on the Original Inhabitants of New Zealand and their Culture; on the Question of how that Culture affected the Later-coming Maori; and on the Existence in these Isles of Customs, Arts, and Artifacts not traceable to Polynesia. In *Transactions and Proceedings of the Royal Society of New Zealand 1868-1961* (II ed., Vol. 48, pp. 435-447). New Zealand: Royal Society New Zealand.

Best, E (1924). The Maoris. Two Volumes. Wellington: Polynesian Society Memoirs. Vol. 5.

Brown, D. (1996). Te Hau ki Tūranga. *Journal of the Polynesian Society, Polynesian Society, Auckland, 105(1), 7-26.*

Binney, J. (1967). The Heritage of Isaiah: Thomas Kendall and Maori Religion, *The New Zealand Journal of History, Volume 1*(1), pp 124-185.

Brown, D. (1997). Moorehu architecture: a thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Architecture, University of Auckland.

Brown, D. (1999). The Architecture of the School of Maori Arts and Crafts. *Journal of the Polynesian Society, Polynesian Society, Auckland, 108*(3), 241-76.

Brown, D. (2001). Adventures in Museumland - The Maori Researcher as Cultural Tourist. ICOM/CECA Conference 2000.

Brown, D. (2003). *Tai Tokerau Whakairo Rakau : Northland Maori Wood Carving*, Raupo Publishing, New Zealand.

Brown, D. (2005). Maori Arts of the Gods. Auckland: Reed Publishing.

Brown, D., & Ellis, N. (Eds.). (2007). *Te Puna: Māori art from Te Tai Tokerau Northland.* Auckland, New Zealand: Reed.

Brown, D (2009). Maori Architecture: From Fale to Wharenui and Beyond, New Zealand. Raupo Publishing

Brown, J. M. (1907). Maori and Polynesian. *Man, XII*, 137-138.

Butler, J., Holder, K., Lidwell, W. (2010). *Universal Principles of Design, Revised and Updated:* 125 Ways to Enhance Usability, Influence Perception, Increase Appeal, Make Better Design Decisions. Rockport Publishers

Colenso, R. (1865). The Maori Races of New Zealand. *Transactions and Proceedings of the New Zealand Institute*, 385.

Coote, J. (2010, November Tuesday). http://www.discoveranthropology.org.uk. Retrieved November 9th, 2010, from Royal Anthropological Institute: http://www.discoveranthropology.org.uk/about-anthropology/specialist-areas/anthropology-of-art.html?lang=

Coote, J., & Shelton, A. (1992). Anthropology, art, and aesthetics. New York: Oxford.

Cowan, J. (1910). The Maoris of New Zealand, Wellington, Whitcombe and Tombes.

Day, K. (2001). Māori wood carving of the Taranaki region. Auckland, New Zealand.: Reed.

Firth, R (1979) [1936] Art and Life in New Guinea. New York. AMS Press.

Gardner, T (2008). Kaupapa Māori [visual communication] design Investigating 'visual communication design by Māori, for Māori', through practice, process and theory. Masters thesis, University of Otago.

Gathercole, P. (1979). Changing Attitudes to the Study of Maori Carving, in H. M.

Gathercole, P. (1989). Reviewed work(s): Whakairo: Maori Tribal Art. by D. R. Simmons. Man, XXIV(1), 189-190.

Gell, A. (1992). The Technology of Enchantment and the Enchantment of Technology. In e. J. Coote and A. Shelton, *Anthropology, Art and Aesthetics* (pp. 40-66). Oxford: Clarendon.

Grey, G. (1899) Art. XXXIV. — Maori Origins. Transactions and Proceedings of the Royal Society of New Zealand Volume 32, 1899, p.294-295.

Hakaraia, L., & Urlich, C. W. (Eds.). (2008). *Te kāhui o Matariki: contemporary Māori art for Matariki*. North Shore City, Auckland, New Zealand: Raupo.

Hakiwai, A (2003). 'Te Toi Whakairo o Ngati Kahungungu: The Carving Traditions of Ngati Kahungungu'. Unpublished master's thesis, Victoria University, Wellington, New Zealand.

Hamilton, A. (1896-1900). *The Art Workmanship of the Maori Race in New Zealand.* Dunedin: fergusson & mitchell.

Hanson, A. &. (1990). The Eye of the Beholder: A Short History of the Study of Maori Art. In *Art and Identity in Oceania* (pp. 184-195). Honolulu, Hawaii: University of Hawaii Press.

Hanson, A. (1990). Art and Identity in Oceania. Honolulu: University Hawaiian Press.

Hanson, F. A., & Hanson, L. (n.d.). Art of Oceania: a bibliography. 1984. G.K Hall.

Hanson, F. A., & Hanson, L. (1983). Counterpoint in Maori culture. London; Boston: Routledge & K. Paul.

Hanson, F.A (1983). When the map is the territory: art in Māori culture, in Structure and Cognition in Art, Dorothy K. Washburn, ed. Cambridge University Press.

Haami, B (2012). 'Kiore – Pacific rats - Traditions', Te Ara - the Encyclopaedia of New Zealand, updated 22-Sep-12: http://www.TeAra.govt.nz/en/kiore-pacific-rats/page-2

Harsant, W, (1987) *The Beauty of Taonga*, Arts of the Maori in *From the Beginning: The Archaeology of the Maori* pp.125-129 1987.

Higgins, R, Meredith, (2012). 'Ngā tamariki – Māori childhoods - Māori childhood changes', Te Ara - the Encyclopaedia of New Zealand, updated 13-Jul-12: http://www.TeAra.govt.nz/en/nga-tamariki-maori-childhoods/page-4

Hiroa, T. R. (1950). Material culture of Kapingamarangi. Bernice P. Bishop Museum bulletin, 291.

Hiroa, T. R. (1950). *The Coming of the Maori* (2nd Edition ed.). Wellington, New Zealand: Māori Purposes Fund Board; Whitcombe & Tombs.

Ihimaera, W., & Ellis, N. (Eds.). (2002). Te ata: Māori art from the East Coast. Auckland, New Zealand.

Jackson, M. (1972). Aspects of symbolism and composition in Maori Art. *Bijdragen tot de Taal-, Land- en Volkenkunde*(128), 33-80.

Jahnke, R. (2010, October 5). Personal Communication.

Jahnke, R (2006). He Tataitanga Ahua Toi: the house that Riwai built/a continuum of Māori art: a thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Māori Studies, Massey University, Palmerston North.

Jennings, N., Jahnke, R., Thomas, N., & White, A.-M. (2010). *Tirohanga Omua: Looking Back.* Palmerston North: Te Putahi a Toi.

Kahukiwa, R. (2005). The art of Robyn Kahukiwa. Auckland, New Zealand.: Reed Publishing.

King, M. (2003). The Penguin History of New Zealand. Auckland, New Zealand: Penguin Group

Layton, R. (1981). The anthropology of art. London: Granada.

Long, H., & Chakov, K. (2009). *Anthropological Theories: A Guide prepared by students for students*. Retrieved November 19, 2010, from The University of Alabama: Department of Anthropology: http://www.as.ua.edu/ant/cultures/cultures.php

Lupton, E., & Phillips, J. (2011). Graphic Design: The New Basics, Princeton Architectural Press. Marshall, G. &. (2010, May). "Positivism". *A Dictionary of Sociology*(3rd). Oxford University Press 2009. McEwen, J. (1966). Maori Art, in A.H McLintoch (Ed), An Encyclopaedia of New Zealand. P.412-414.

Mead, H. M. (1970). Review of Maori Wood Sculpture of New Zealand by Terence Barrows. The Journal of the Polynesian Society, 79(4), 437-452.

Mead, S. (ed). (1984) Te Māori: Māori Art from New Zealand Collections. Auckland: Heinemann.

Mead, S. (1986). Te Toi Whakairo: The Art of Māori Carving. Auckland: Reed. Methuen.

Mead, H. M. (1997). *Māori Art on the World Scene*. Wellington: Ahua Design & Illustration Ltd. Melcher, D. & Cavanagh, P. (2011) Pictorial cues in art and in visual perception. In Francesca Bacci and David Melcher (Eds.), *Art and the senses*. Oxford, UK: Oxford University Press, pp. 359-394.

Neich, R. (1983). The Veil of Orthodoxy: Rotorua Ngati Tarawhai Woodcarving in a Changing Context. In S. Mead and B. Kernot (Ed.), *Art and Artists of Oceania* (pp. 245-265). Palmerston North, New Zealand: Dunmore Press.

Neich, R. (1993). Painted Histories. Auckland: Auckland University Press.

Neich, R. (2001). *Carved histories: Rotorua Ngāti Tarawhai woodcarving.* Auckland, N.Z: Auckland University Press.

Ngata, A. (1958). The Origin of Maori Carving. Te Ao Hou, Maori Affairs Department. Vol 6, no.2

Paama-Pengelly, J. (2010). *Māori Art and Design: Weaving, painting, carving and architecture.* Auckland, New Zealand: New Holland Publishers.

Pendergrast, M. (1984). Feathers and Fibre: A survey of Traditional and Contemporary Maori Craft, Auckland, New Zealand: Penguin books.

Pendergrast, M. (1984). Raranga Whakairo, Auckland, New Zealand: Reed Books.

Plattner, S. (2003). The Anthropology of Art. (R. Towse, Ed.) The Handbook of Cultural Economics, 15-19.

Phillips, W. (1940, December). Maori Art: Te hau ki Tūranga Maori House. Art in New Zealand.

Phillipps, W. J. (1955). Maori Carving Illustrated. Wellington, New Zealand: Reed.

Phillips, W.J. (1955). Carved Maori Houses of Western and Northern Areas of New Zealand. Dominion Museum, Wellington.

Puketapu-Hetet, E (1989) Maori Weaving, Auckland: Pitman.

Poulin, R. (2011). The Language of Graphic Design: An illustrated handbook for Understanding Fundamental Design Principles, Rockport Publishers.

Riria, K. T., & Simmons, D. (1989). Maori Tattoo. Auckland, N.Z.: Bush Press.

Rowe, P. W. (1935). Some unorthodox reflections on the spiral in Maori ornament. Journal of the Polynesian Society, XLIV(171), 112-123.

Salamond, A (2001). Notes on *pare* Z 6347 in Cambridge Museum of Archaeology and Anthrpology, Retrieved May 10, 2011, from http://maa.cam.ac.uk/home/index.php?general=6347&page_no=1

Simmons, D. R. (1976). The Great New Zealand Myth: A Study of the Discovery and Origin Traditions of the Maori. Wellington: Reed.

Simmons, D. R. (1985). Whakairo: Maori tribal art. Auckland, N.Z.: Oxford University Press.

Simmons, D. R. (2001). The carved pare: a Māori mirror of the universe. Wellington, N.Z.: Huia Publishers.

Simmons, D. R. (2006). *Meeting-houses of Ngāti Porou o Te Tai Rāwhiti*: an illustrated guide. Auckland, New Zealand: Reed.

Simpson, J. (1997). Io as Supreme Being: Intellectual Colonization of the Māori? *History of Religions, Vol. 37*, *No. 1 (Aug., 1997), pp. 50-85*. The University of Chicago Press.

Skinner, H. D. (1916). Evolution in Maori Art - II. Pendants. . Royal Anthropological Institute of Great Britain and Ireland, 46, 316.

Skinner, H. D. (1924). *The origin and relationships of Maori material culture and decorative art.* http://www.jps.auckland.ac.nz/document/?wid=1265

Skinner, H. D. (1930). Maori Amulets in Stone, Bone and Shell, Journal of the Polynesian Society. Number 42.

Skinner, D. (2008). The carver and the artist: Māori art in the twentieth century. Auckland, N.Z: Auckland University Press.

Skinner, D. (2007) Ihenga: te haerenga hou: the evolution of Maori carving in the twentieth century. Auckland [N.Z.]: Reed, c2007

Smith, H., & Solomon, O. (Eds.). (2002). *Taiāwhio : conversations with contemporary Māori artists*. Wellington, New Zealand., Te Papa Press.

Smith, H., Solomon, O., Tamarapa, A., & Tamati-Quennell, M. (2007). *Taiāwhio II: Contemporary Māori artists: 18 new conversations.* Wellington, New Zealand: Te Papa Press.

Smith, S. Percy (1910). History and Traditions of the Maoris of the West Coast, North Island, New Zealand. New Plymouth, NZ: Polynesian Society Memoirs, Vol. 1.

Smith, S. P. (1913). *The Lore of the Whare-wananga* (Vol. I): Te Kauwae-runga. New Plymouth, NZ: Thomas Avery.

Smith, S. P. (1915). *The Lore of the Whare-wananga* (Vol. II): Te Kauwae-runga. New Plymouth, NZ: Thomas Avery.

Starzecka, D. C. (ed). (1996). Māori Art and Culture. Auckland: David Bateman Limited.

Taylor, R (1855). Te Ika a Maui, or, New Zealand and its Inhabitants.

Toia, R., & Couper, T. (2006). Kahui whetu: contemporary Maori art: a carvers perspective. Auckland, New Zealand: Reed.

Thomas, N. eds. (2009). Rauru: Tene Waitere, Maori carving, colonial history. Dunedin, N.Z.: University of Otago Press.

Te Awekotuku, N (2007). Mau moko: the world of Maōri tattoo. Auckland, N.Z.: Viking, 2007

Tregar, E ((1885). *The Aryan Maori* (pp. 7-17, 81-96). Wellington, New Zealand: George Didsbury, Government Printer.

University of Auckland. (1988). Tane-nui-a-Rangi. Auckland; University of Auckland.

Walker, R. (2008). *Tohunga whakairo : Paki Harrison : the story of a master carver.* North Shore, Auckland: Penguin.