CENTRING PŪRĀKAU AS A DECOLONISING FORCE IN LAND-BASED DESIGN IN THE AGE OF HE HURINGA ĀHUARANGI

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Abstract

For Māori, pūrākau are oral narratives of place passed through generations and sustained as a weaving of past, present and future connections with land. Pūrākau are a central force in Indigenous knowledges of whenua and essential to meaningful design of Aotearoa environments. Critically, 80% of marae are sited in low-lying coastal or flood-prone areas, amplifying the vulnerability of whenua Māori to the escalating impacts of changing climates. We ask what the role of architectural practice, more specifically, Māori architecture practice, might be in this complex situation of marae resilience when issues present as less about buildings and more about securing an enduring land–people relationality. Pūrākau are approached as method via expressive and analytical drawing practices developed to test their force in the path towards marae resilience. With practice-based threads, this study demonstrates how conventional architectural design techniques alone are unfit for responding to marae resilience. In an expansion of architectural methods, we explore decolonial and indigenised means to tailor a more appropriate response to he huringa āhuarangi.

Keywords

architecture, climate change, indigenisation, land-based design methodology, pūrākau, representation

Introduction

For Māori communities, marae are the heart of practices and ritual, presenting a tangible record of genealogy and spiritual sense of belonging to land. Yet critically, 80% of marae are sited in low-lying coastal or flood-prone areas, amplifying the disproportionate vulnerability of whenua Māori to the escalating impacts of he huringa āhuarangi (S. Awatere et al., 2021). Risk related to climate change for whenua Māori is further materially exacerbated by land uses and management regimes instituted through Aotearoa colonisation and emboldened by ongoing settler-colonial land practices (Rodgers et al., 2023). Property, as enclosure of the Earth, is the necessary precondition for the emergence, expansion

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and endurance of capitalism, and ensures that Māori sovereignty continues to be under threat (Thom & Grimes, 2022). With lands rendered as property, holistic and dynamic relationships between Māori settlement and living ecologies have been divided, compartmentalised and over-written, resulting in territorial dispossession and the obstruction of lands' self-regulation. Recent scholarship points out that settler-colonialism and its property regime, in which architecture participates, is an act of land appropriation and that any decolonial politic must go beyond cultural recognition to directly address Indigenous authority over land (D. Awatere, 1984; Coulthard, 2014; Dorries et al., 2022; Simpson, 2017). Given this unjust situation, there is urgency for architectural knowledges to resist the spatial limitations of the "property line" and at the same time find tika ways to renew and reinvigorate conventions with Māori knowledge.
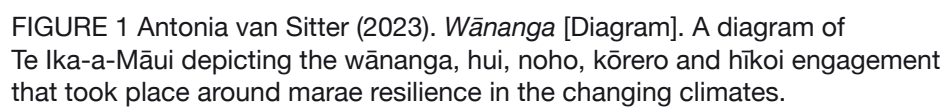
The Aotearoa 2023 Cyclone Gabrielle devastatingly highlighted these impacts of colonisation and land practice injustices confronting the resilience of marae—the sacred meeting grounds of Māori communities. In the context of he huringa āhuarangi and the intrinsic intergenerational connections between marae structures and the land with which they are enmeshed, any design strategy suggesting marae retreat or relocation draws forth multiple and compounding challenges. Some of these challenges are highlighted by Bailey-Winiata et al. (2024), such as the deep generational connection to place, funding and land availability issues, along with the need for a more nuanced whānau- and whenua-fueled approach. This article explores what the role of architectural practice, more specifically, Māori architecture practice, might be in the complexity of marae resilience when issues present as less about building itself and more about securing enduring land–people relationality. Grounded in exploration of climate-affected marae in Mitimiti, Tauranga Moana, Te Karaka and Heretaunga, this research builds on the previous engagement with iwi, hapū, whānau, Māori, tauiwi, experts and architects who navigate the space of climate resilience. Asking such a question calls attention to *how* situated Indigenous knowledge might drive design values and processes to acknowledge the reciprocity between architecture, land and Māori identity. We draw from recent allied and Indigenous scholarship to unsettle dominant disciplinary practices with decolonial, rather than inclusive, indigenisation (Gaudry & Lorenz, 2018; Hoskins & Jones, 2020).

This research experiments with ways to counter prevailing architectural methodologies that have been shown to be complicit with the erasure and marginalisation of spaces that affirm Māori ways of life or advance a mode of inclusion by way of recognition that amounts to an unchanged architectural paradigm with Indigenous "stick-ons". We argue that if the indigenisation of architecture is to be wholly transformative, design process norms need a foundational and structural shift grounded by a radically different political imaginary (Bhandar, 2018; Moreton-Robinson, 2015). Decolonial indigenisation, as distinguished from inclusive indigenisation, therefore asserts that knowledge production within land-based design practices must resist the "logics" of property and its ideologies of use and improvement. Instead, architecture must develop alliances with the ground in reciprocity with the people and other beings who inhabit it. What this transformation of architectural design practices might constitute is a matter of collective, situated, Māori-led experimentation.

Acknowledging that decolonisation multiplies relationships with land (Fortin & Blackwell, 2022), what follows contextualises and discusses an experimental occasion of the decolonial indigenisation of architectural methods. We focus the agency of pūrākau as a situated critical power and differentiator in approaching land-based reciprocity and marae resilience. Pūrākau as oral narrative, or kōrero tuku iho, is opened in this occasion to the medium of drawing. Within a Kaupapa Māori research process, pūrākau are engaged as method via expressive and analytical drawing practices developed to test their force towards designing for marae resilience. The medium of (architectural) drawing is explored across tangible and intangible realms arising from multiple sources, including engagement with people from all over the motu (see Figure 1). This study offers whānau a Māori-specific approach to resilience, particularly in challenges like relocation. It explores how Indigenous architectural methods can adapt conventional design techniques to better serve marae needs. The findings provide context-specific insights rather than universal solutions.

As a disclaimer for this kaupapa, we acknowledge the potential risks in generating common or homogeneous collectivising of Māori knowledge when it is obtained from various sources. It is not untypical of academic scholarship to conflate or generalise specific iwi- or hapū-based terms or concepts that may not align with other iwi or hapū local dialects or meanings (Mead, 2016; Smith, 2012). While exploring pūrākau,
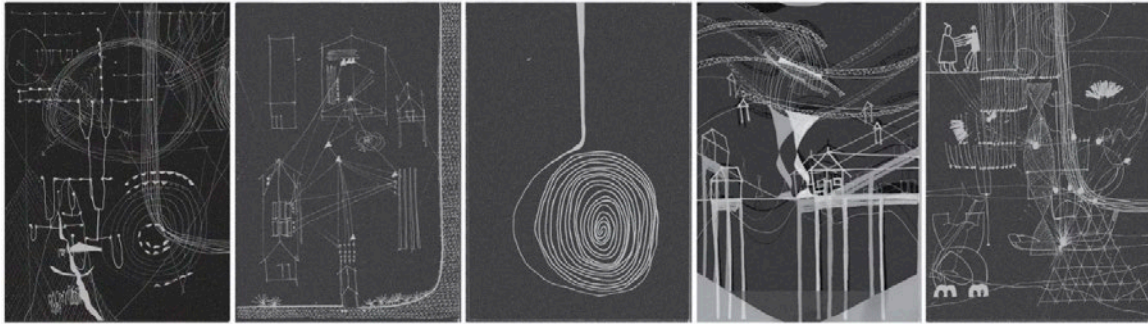
FIGURE 1 Antonia van Sitter (2023). *Wānanga* [Diagram]. A diagram of
Te Ika-a-Māui depicting the wānanga, hui, noho, kōrero and hīkoi engagement
that took place around marae resilience in the changing climates.

FIGURE 2 Antonia van Sitter (2023). *Utu* [Digitalised drawing, overlayed and inverted]. *Utu* as balance and reciprocity is a series of expressive drawings depicting the spatiality of mihi, pepeha and whakapapa, pōwhiri, karanga and wero, tapu and noa, tikanga and kawa and, lastly, whakataukī, waiata and pūrākau.

which are predominantly and historically conveyed orally, translation is not often direct or sufficient in meaning between te reo Pākehā and te reo Māori kupu. Additionally, different versions of the pūrākau discussed may exist because oral traditions and storytelling can vary across different Māori, iwi and hapū. Pūrākau are practical and usually expressed from accumulated connections, relationships and learnings of the land that we take as living—we therefore proceed with pūrākau as not fixed but open instantiations.

The marae

Māori architecture, specifically of the marae, is not about a discrete object nor about a collection of objects. Marae include the surrounding environments, weather, tūpuna, whakapapa, water, soil, and Papatūānuku and Ranginui, while also drawing in tikanga and kawa, pōwhiri, people and pūrākau. Architects can begin to draw on these elements visually to inform design (see Figure 2). Therefore, the spatial and relational elements of marae architecture extends with these environments and realms. As Brown (2018) indicates, "Architects have realised that the integrity of Māori architecture lies in the wharenui's accommodation and embodiment of cultural practices, or tikanga, not in its decorations or derivative 'bicultural' collisions of form" (p. 122). The marae in its physicality and presence can be understood as a space—or the openness before the wharenui where formal greetings and discussions occur. Coextensively, the marae means manaakitanga and kaitiakitanga. The marae is architecture unique to Aotearoa, holding principles of utu, ōhanga āmiomio and resilience.

The marae is the heart of iwi and hapū, central to everyday life as the tūrangawaewae of mana

whenua. As suggested by Matunga (2018), "The pā had been mapped out spatially with the marae and wharenui, the geographic and sociocultural epicentre of our community" (p. 305). Today, the marae is where Māori can collectively be Māori in practice and culture, yet the marae has always been extended to Aotearoa as a whole, especially during times of crises, as Cyclone Gabrielle most recently demonstrated (Yates, 2023). The marae is therefore vital to the social-spatiality of Māori and Pākehā community, and a defining factor in Aotearoa built environments. On marae, Barnett (2021) writes, "They are loci of political agency … It is truly Māori space: spiritual, mental, social, emotional. It is where the flat ontology of Māori socialism is visibly performed. And it is constructed within the practice of utu" (Design section, para. 6). Here, Barnett asserts that marae offer cues to the respatialisation of Aotearoa, away from settler-colonial spatialities that continue to encode spatial relationships foreign to these lands, and towards a "space in which people may gather with their freedoms, with their fellow humans, with the critters for whom they speak" (Design section, para. 4). Given the uniqueness and significance of marae and what they provide for the culture, people and environment, the marae can be seen as Indigenous Māori resilience itself. Therefore, it is critical for Pākehā architects and other land-based practitioners to actively uphold the significance of marae within climate change adaptation design and planning.

Indigenising of knowledge

Architecture in Aotearoa, as in other settler-colonial nations, is increasingly open to Indigenous Māori knowledges and values (McKay, 2004). While the quality of this "openness" varies, Māori

influence on public and institutional built environments is progressively moving from invisibility to somewhat visible. We acknowledge the considerable fight undertaken by Māori scholars and land-based practitioners in asserting mātauranga Māori across the many facets of built environment practice, yet also recognise that Aotearoa has a long way to go before the asymmetric power relations between Māori and Pākehā design are overturned. Thomas (2021) affirms that Indigenous knowledge is not a resource but the right and responsibility of Indigenous peoples. Therefore, *how* and *when* Indigenous knowledges are given or deployed across architectural realms are a matter for Māori themselves. Lorde's (2020) well-known statement that "the master's tools will never dismantle the master's house" is apt here in our exploration of architectural "tool-making" by way of pūrākau. As noted by Moana Jackson (as cited in Kiddle et al., 2020), colonisation is an act of replacing one house with another, and living in the colonisers' house is like losing your voice. We consider pūrākau in an architectural realm as having the occasion-based potential to reassert the "voices" of mana whenua through spatial and material expression, and by extension, deepen attendance to how the environment is impacted. Context is vital to Māori knowledge, where "knowledge is not disembodied information but part of a living matrix of encounters and relationships, past and present, natural and spiritual" (Warne, 2019, "A Spirit's Flight" section, para. 6).

Pūrākau

Pūrākau are narratives of place passed through generations with kōrero tuku iho and sustained by mana whenua as a weaving of past, present and future connections with land. Pūrākau have traditionally been practiced orally through the performance of kōrero tuku iho, waiata, haka, mōteatea, karakia, whaikōrero, mihimihi, whakataukī, pepeha and tauparapara (Black et al., 2023, p. 29). We would like to distance ourselves from the misplaced Pākehā-centric interpretation that positions pūrākau as myth and legend, insofar as pūrākau are incommensurate with such notions and instead rooted in lived practicality (Kingsbury, 2022). Pūrākau is storytelling embedded in Māori ontology and epistemology, and increasingly relevant in Māori research (Lee, 2009; Mita, 2000; Pouwahre & McNeill, 2018; Parsonson, 2001; Pouwhare, 2016; Walker, 1990, as cited by Williams & Steagall, 2023). Lee (2009) extends the idea of pūrākau as a narrative towards philosophical thought, epistemological constructs, cultural codes and world views. King et al. (2007)

FIGURE 3 Antonia van Sitter (2023). *Pūrākau Whenua* [Digitalised drawing]. Papatūānuku and Ranginui stand as the strong pou between the pūrākau whenua. Papatūānuku and Ranginui speak of the creation story in te ao Māori, the strong embrace of mother earth and sky father. The tight embrace, their children who make up the natural world, pushed them apart to create the light of day. Between Papatūānuku and Ranginui lie the pūrākau that connect to places affected by the changing climate—Mitimiti, Tauranga Moana, Te Karaka and Heretaunga—through their whakapapa, histories, landmarks and stories.
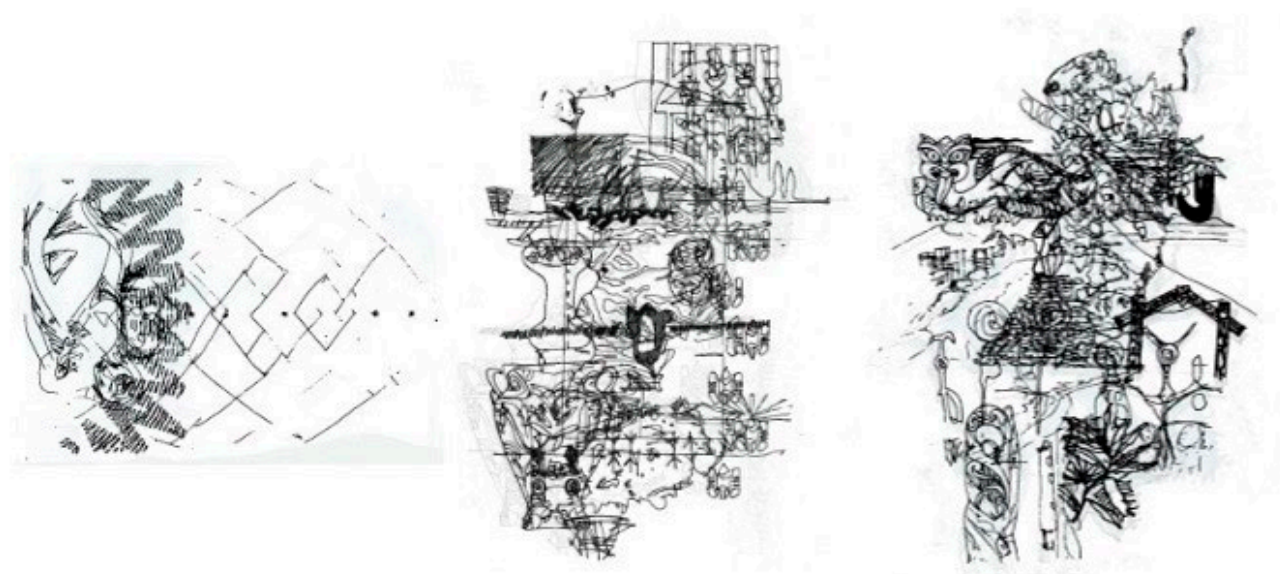
highlight the benefits of Māori oral traditions surrounding mātauranga taiao and contemporary science. Confirming that knowledge in a Māori context is holistic and interdependent, Carlson et al. (2022) maintain that

> pūrākau means to see, imagine, (re)tell truth and live our histories … Pūrākau is our breath; the original tree of life, that takes our carbon dioxide of living and turns it into oxygen, filling our lungs, hearts, and minds with energy. (p. 5)

Pūrākau breathes the mauri and spirituality of te ao Māori and asserts how one does not exist alone but with taiao between Papatūānuku and Ranginui (see Figure 3). Stuart and Thompson-Fawcett (2010) write, "Today we call on our ancestral spirits to guide us and take us into the future … In this kete are the muka, or examples, that can be held up as prototypes for a Māori sustainable future" (p. 9). In the context of this inquiry, this invitation compels a looking back to see what might be "held up" to chart a way forward for marae resilience. It is fitting to appreciate "ko ngā tahu ā ō tapuwai inanahi, hei tauira mō āpōpō" (the footsteps laid down by our ancestors create the paving stones upon which we stand today); in the Māori world view, it is our past that always lies in front of us.

Pūrākau and the changing climates

Pūrākau speak of the intrinsic connection Māori have with the environment. Hikuroa (2017) highlights that te ao Māori relationships with the atmosphere and climate trace back to the creation of the world. Attendance to changing climates therefore demands attentiveness to the embrace of Papatūānuku the earth mother and Ranginui the sky father with their children who make up the natural world. Papatūānuku, Ranginui and the Māori atua manifest the strong connection and relationship with the natural, physical and spiritual environments. Stokes (2022) accentuates this spatial dimension, noting that "pūrākau attending to space often express intimate phenomenological relationships between tangata and te taiao" (p. 202).

Pūrākau can refer to and warn of natural disasters. Kingsbury (2022) outlines, for example, the importance of taking taniwha seriously and remaining open to the knowledge about place they carry. The taniwha is both a kaitiaki and a monster particularly associated with water and can warn of tapu, mana and significance (Hikuroa, 2019). In line with the environment, taniwha and pūrākau assert specific historical events and predict periodic changes and characteristics of the environment. Hikuroa's (2019) work discusses the practicality of understanding taniwha pūrākau to reduce disaster risk by acting as warning signs. Kingsbury (2022) describes how taniwha are increasingly foregrounded in land developments, such as an opposition to building the Ngāwhā prison, Matatā and the flicking lizards' tail, and contentions with state highway developments that displace urupā. To offer a further example,
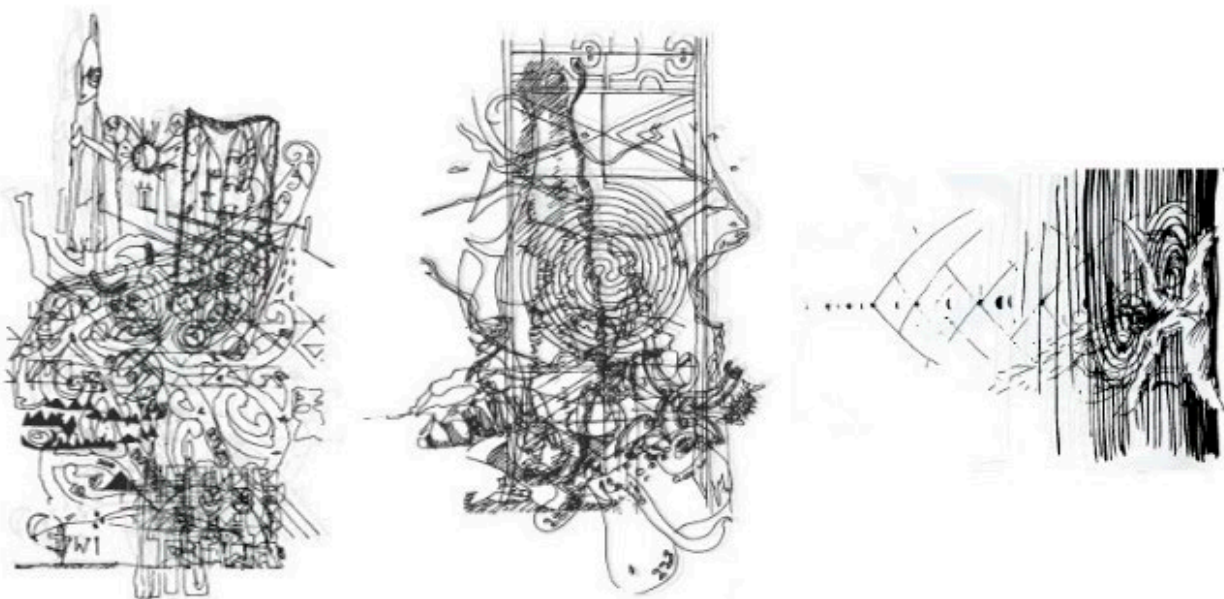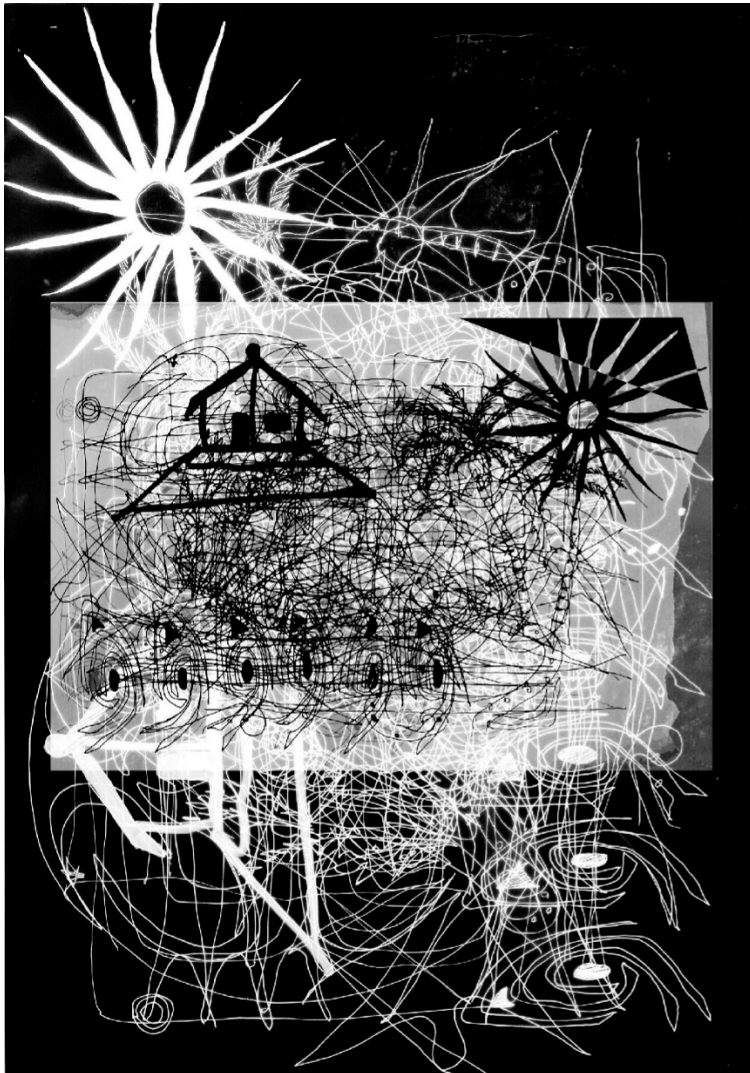
FIGURE 4 Antonia van Sitter (2023). *Marae Ātea* [Digitalised drawing, overlayed and inverted].

when the Waitepuru Stream floods through the community of Matatā, local Māori conceptualise the stream as a taniwha in the form of a lizard. The headwaters are the head, the primary drainage course is the body, tributaries form its legs, and where the river flows onto the Rangitāiki Plains is its flicking tail. Significant flood events periodically cause the lower part of the channel to overrun its banks and change course. Historically, mana whenua knew not to build infrastructure where the tail flicks (Hikuroa, 2017).

Our review of pūrākau as narratives of resilience in natural disasters took in both written and kōrero tuku iho, and indicated multiple practical pathways when designing for marae resilience. This study focused on the potential of raising up, returning to higher ground, protecting the people and the taonga, not building where the awa stretches and breathes, and the utilising of navigational skills.

Pūrākau in built environments

Matunga (2018) asserts that Indigenous architecture at its essence is a critical mechanism for expressing or articulating narrative in built form. It follows, therefore, that Māori architecture must be "constructed" from narrative, from Indigenous knowledge/s, values and processes, to be Indigenous architecture. It is critical to acknowledge how for Māori, architecture from its very inception is more than form. Linzey (1990) writes, "Māori intuition that the whare whakairo, carved house, is a living presence is richer than any mere simile. It is beyond the idea of metaphor or representation" (p. 49). Therefore, they continue, "the house is not like an ancestor, it is the ancestor" (p. 49). Such a reality challenges Western ontologies that hold realms apart with a linear sense of time, and in turn, epistemologies of measurability, upon which prevailing architectural practices rest. This ontological-epistemological discord is a critical point
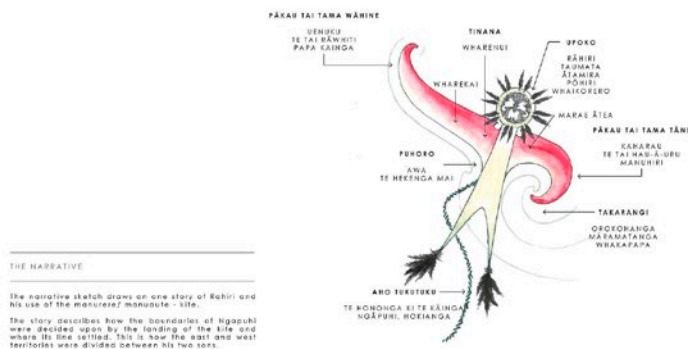
FIGURE 5 TOA Architects (2023). *Te Taumata o Kupe—The Narrative* [Diagram]. A narrative of Rahiri and his use of the manurere/manuaute to determine architectural placement on Te Māhurehure Marae as the pūrākau determined the boundaries of Ngāpuhi between his two sons. This can be used as method to determine the designing of environments.

in the decolonial indigenisation of architecture in Aotearoa; at stake here is a matter of retooling the means through which architectural expression emerges. Such a shift shakes the representational devices that underpin dominant forms of architectural communication and pursues expression that might in the first instance be unrecognisable to "architecture". The use of pūrākau is certainly not new in the designing of Māori spaces and environments and what follows introduces both traditional and contemporary examples.

Wharenui

The wharenui is one of the prime examples of traditional Māori architecture and a traditional example of how pūrākau manifests the architecture. The wharenui manifests the history and culture of Māori; the first whare built in Aotearoa were said to be upturned waka, which consequently became the earth-sunken rectangular gabled whare (Brown, 2009, p. 24). Pūrākau is present in the placement, ancestral form, carved and weaved taonga, and how kawa and tikanga were practised. Therefore, not only does pūrākau perform practicality in the shaping of the wharenui but it also designs for the intangible, subjective features of a site through the spirituality of mauri and wairua. Key features in this hapū-centred expression include the tekoteko, the hapū ancestor; maihi, barged boards as outstretched arms among upright carvings either side of the whare as the legs; tāhuhu, the centre beam as the backbone; and heke, the rafters as the ribcage.

Expanding outside of the wharenui is the marae. The *Marae Ātea* (see Figure 4) drawing depicts the interconnectedness and relationality of the surrounding environments present; weather, atua, pūrākau, tikanga, and kawa. I produced the drawing to represent tangible and intangible essences of marae, which is more than the open

FIGURE 6 TOA Architects (2023). *Te Taumata o Kupe* [Photograph].
Pūrākau in form and drawn onto stained glass.

space surrounding the wharenui. The different textures and expressions create a dynamic cartography of mauri and wairua phenomena (Stokes, 2022). These are the Indigenous Māori methods that could create Māori architecture.

Te Taumata o Kupe Nuku—TOA Architects

Te Taumata o Kupe Nuku is an award-winning Māori community hub located in Tāmaki Makaurau on Te Māhurehure Marae. Designed by TOA Architects (2022), the architecture is centred around the sharing of mātauranga. Te Māhurehure (the first author's hapū) migrated south from Wāima in the Hokianga to Tāmaki Makaurau following the end of the Second World War (TOA Architects, 2022). Te Māhurehure Marae, located in Point Chevalier, became an urban place of cultural identity for Māori. The specifics of these narratives have been embedded into the architecture through Rahiri and his use of the manurere/manuaute (see Figure 5).

This Kaupapa Māori design process included drawing and layering of these situation-specific pūrākau with the conditions of site to propose programme and spatial organisation of the designed

spaces. A fundamental feature of the whare is the stained-glass facade. Architect Matekitātahi Rawiri and celestial navigation tohunga Matua Rereata Makiha developed mahi toi and kōrero tuku iho to manifest te Hokinga ki Hawaiki (see Figure 6). This pūrākau channels the journey of Kupe, the great navigator, through the Pacific 1,000 years ago, hinting at specific locations and times throughout his voyage (Designers Institute of New Zealand, 2023).

Te Taumata o Kupe Nuku articulates Māoritanga through its indigenising of architectural methodologies *as well as* its final form to foreground the potential of pūrākau in carrying histories and traditions into contemporary architecture. Giving presence to the pūrākau through the acts of architectural drawing generates the emergence of form that ultimately becomes material architecture, while also affirming the mana of the hapū with a tika design process. Manifesting tūpuna through drawing as agent in the architectural design process has been shown to be both a powerful and a practical method for evolving distinctive, place-centric, wholly Māori architecture. Judges in the Best Design Awards commented

on how the project "harness[es] the warmth of Tamanui-te-rā, lifting all those that enter in its manaaki … myriad of skillsets to weave storytelling into every aspect and detail of the building's bones" (Designers Institute of New Zealand, 2023). Yet how might the methods generated in this highly successful whare extend beyond a single building? How might pūrākau as method drive relationships with designed landscapes?

Pūrākau and the landscape

As indicated, the technology of property and its tools of survey are entirely opposed to how Māori inhabit and spatialise territory. While Pākehā institute firm lines through the landscape marked out in wooden pegs, Māori relied on more complex social substance. As described by O'Regan (as cited in Barber, 2023), "Sometimes trees were planted or stones placed to reinforce and define a known limit … and as the genealogies were recited and *waiata* chanted, the oral pegs were hammered into the land" (para. 12).

Seeking land-based spatialisations other to the ascendency of property is crucial when pursuing decolonial design methods. Attendance to catchments can offer such a route. The catchment determines the health of the awa and therefore the health of the people (Tapsell & Dewes, 2018, p. 73). Catchments are drainage systems utterly unique to their specific environment and critical to understanding the interdependencies between people and a particular river, while showing how their landscape performs through time, especially landscapes prone to flooding and erosion. Their analysis also opens a set of land-based dynamics that transcends the confines of the "property line" to signal relational and transitional qualities. Catchments and their nested subcatchments are mappable, drawn into design processes to depict otherwise unseen multiscale land relationships (see Figure 7). Indigenous knowledge by way of ki uta ki tai, or the narrative of water's journey from the mountains to the sea, is essential to this understanding, and as Joy (2018) writes, a catchment can be understood via pepeha—the maunga, waka, awa, moana, tūpuna, iwi, hapū and marae.

The use of pūrākau is increasingly recognised as part of life in Aotearoa. Ko au te awa, Ko te awa ko au (I am the river and the river is me) is commonly cited in relation to the Whanganui River and its catchment. In 2017, the Whanganui became the first river in the world bestowed with personhood rights, recognising how Māori hold the river as tupua, an ancestor they are part of and "a living whole that stretches from the mountains to the sea, including its physical and metaphysical elements" (Te Aho, 2016). This endorsed aliveness of the river and catchment has inflected Aotearoa bearings of landscape architectural practice towards an understanding of land as vital material. While any detailed elaboration is beyond the scope of this article, it is evident pūrākau are an influential force in provoking shifts to established (Western) design methodology, most expressly in landscapes involving water.

Pūrākau and expression

As demonstrated, pūrākau as method within design practice is not rooted in new knowledge but taken up as the very core of mātauranga and te ao Māori. Further, the use of pūrākau unsettles any reliance upon established architectural representations of land knowledge. It is an increasingly common tactic in the design disciplines to consider Indigenous knowledges through "cultural mapping" of maunga, marae, urupā, and so on. Often this means "putting (publicly available) traditional knowledge and important cultural information onto a digital map", yet it frequently leaves off the intangible dimensions so critical to Māori knowledge. The reasons for omission are many and remind us of the autonomy of mātauranga as belonging to mana whenua.

What follows draws on a situated exploration of how pūrākau could be adapted further into the design process—most specifically for architecture in Aotearoa towards marae resilience in the changing climates.

An initial touch point for this exploration was seeking signs for practice in the first known maps drawn by Māori (see Figure 8) and whakapapa plotting (Stokes, 2022) as methods of drawing pūrākau (Kelly, 1999), and bringing these realms together with whakapapa plotting (see Figure 9), which, as deliberated by Stokes (2022), is shown to be an "Aotearoa-specific method of spatial communication" (p. 200). The unseen was drawn out to produce a hybrid mapping tool. Whakapapa plotting is polyvocal, with the process of layering multiple essences of voice, place, whakapapa, landmark and pūrākau, in such a way that favours spatial elementation (p. 203). Stokes (2022) points out that time experienced is given primacy in this plotting rather than the objectifying of space (p. 203), which points to how these forms of mapping open situated relationalities unable to be given presence by conventional means. Through drawing and layering, a hybrid technique was developed as an Indigenous place-based practice. This was brought together with the normative use
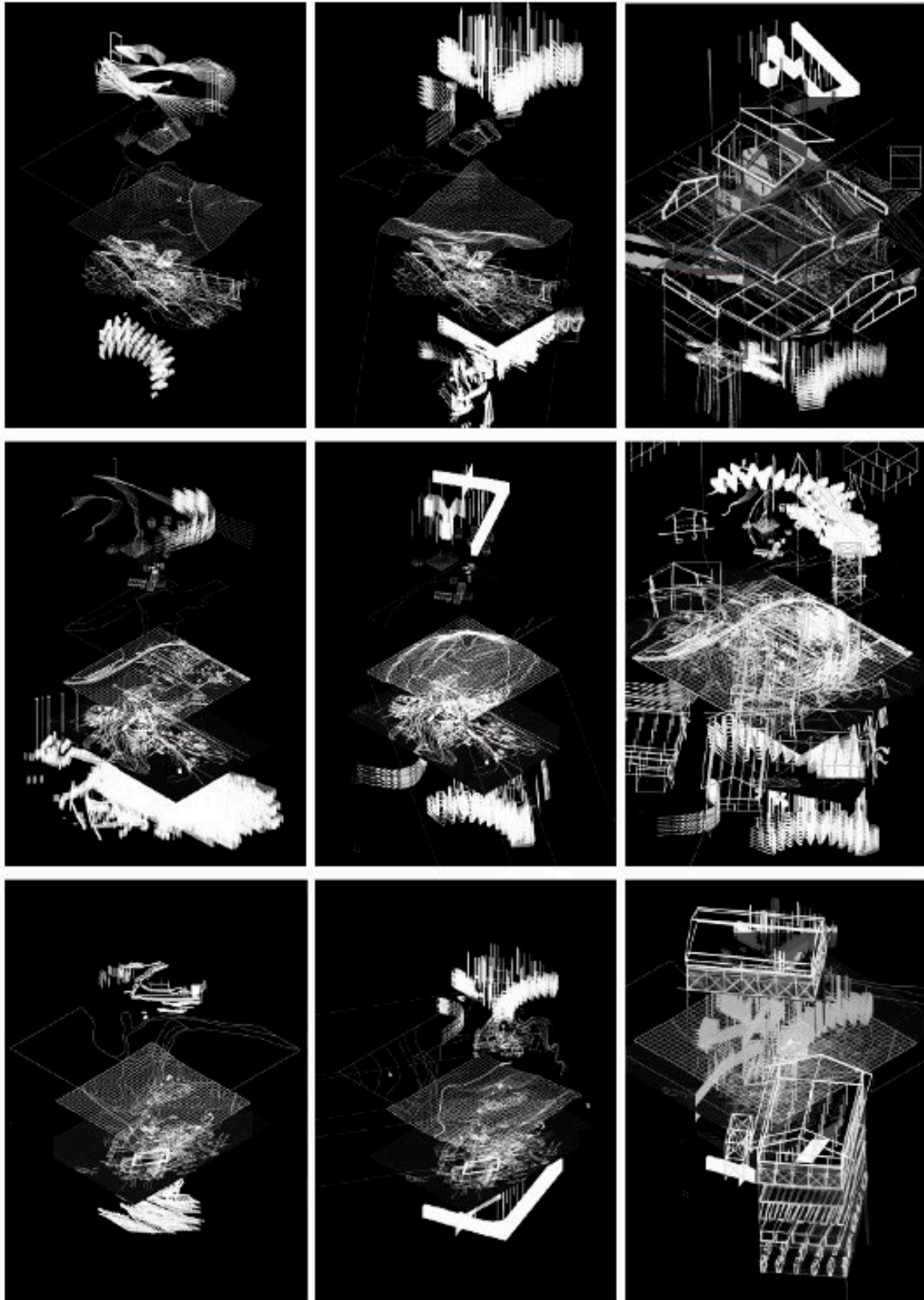
FIGURE 7 Antonia van Sitter (2023). *Whaitua Whakapapa* [Digitalised drawing, overlayed and inverted]. The series of nine tests the three marae in Mitimiti, Tauranga Moana and Te Karaka on their specific resilient design moves at the catchment scale, which resulted in a key finding that the actual building becomes less important when all the other relational factors are considered. This highlights that pūrākau mapping is critical to understanding place.
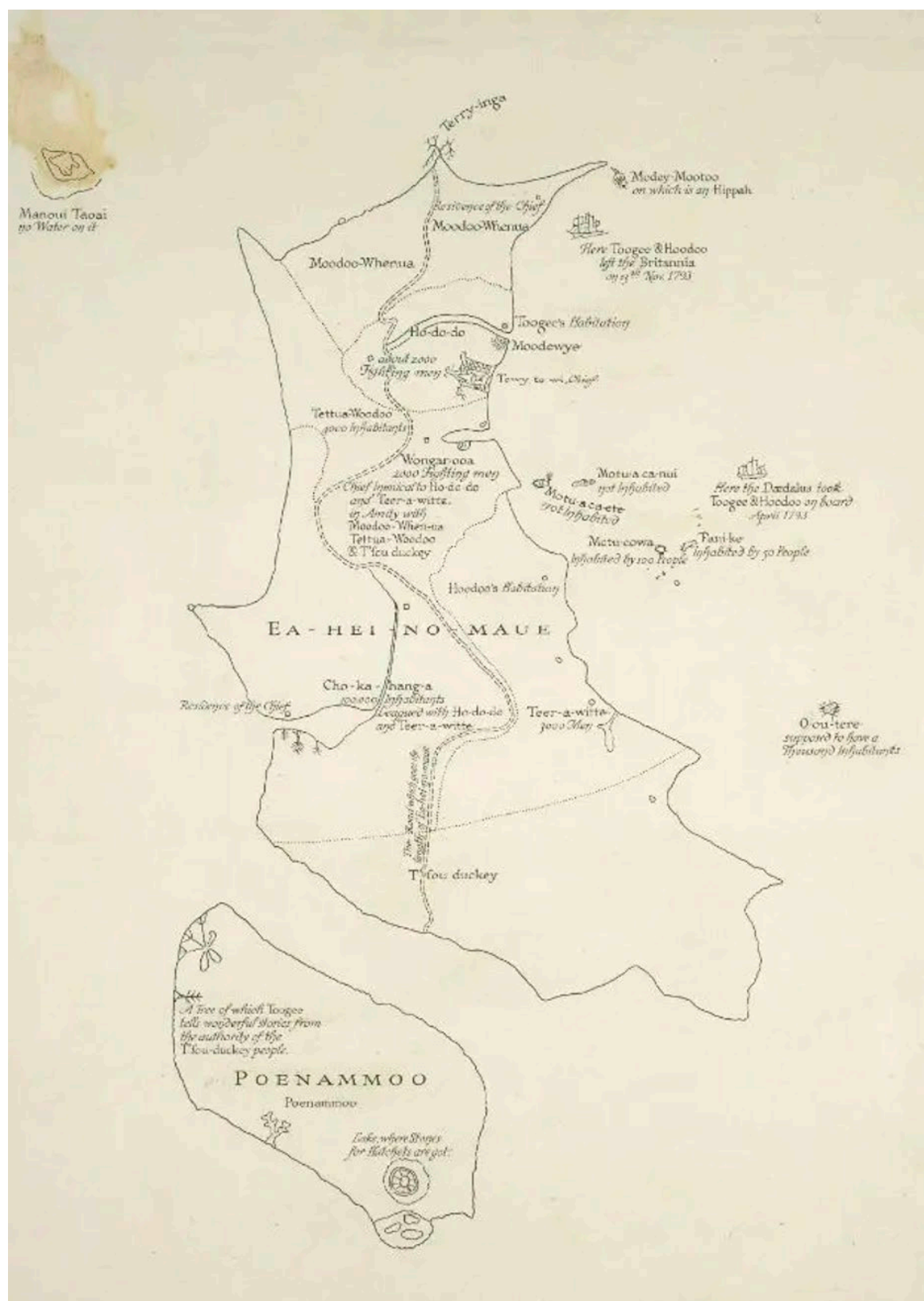
FIGURE 8 National Library of New Zealand (1791). *Map by Tukitahua of Ōruru* [Photograph of drawing]. http://www.TeAra.govt.nz/en/zoomify/10797/maori-map-of-new-zealand

FIGURE 9 Georgina Stokes (2022). *Tūrangawaewae: Whakapapa Plot 2* [Illustration].

of land-based knowledge—ArcGIS. The "indigenised" mapping process tested abilities to draw forth diverse relationality and intangible knowledges associated with the specific whenua into filiation with climate-affected marae in Mitimiti, Tauranga Moana, Te Karaka and Heretaunga.

The online tool Māori Maps offers a top-down method of ingoa wāhi o Aotearoa: Māori land blocks, Māori districts, marae and access to iwi, rūnanga, hapū, rōhe, whare, religion, battalions, community trusts and towns (Māori Maps, 2013). Combined with the ArcGIS flood map, qualities of site, topography, land cover and waterways created tangible qualities that wove the narratives of adaptability and relocation.

By layering pūrākau onto arcGIS mapping and Māori maps, knowledge of the specific tāngata and whenua of place, some coherency began to emerge, setting ground to respatialise and programme. Together these methods create a multigenerational approach, grounded by the past yet leaning towards the future. They highlight the need to augment the useful tools of topographical information

and flood modelling with the historical and present narratives when identifying potential sites of relocation to fit with hapū or iwi priorities. Here, the study encourages multiple knowledge sets to inform more whānau-centric decision making (Maxwell et al., 2020).

The *Marae Whakapapa* (see Figure 10) projected the mauri and wairua, pōwhiri, whenua and wharenui, Ranginui and Papatūānuku, and marae and whenua over three marae situated in Mitimiti, Tauranga Moana and Te Karaka. A specifically Kaupapa Māori methodology, the drawing of spiritual elements (what is absent in Western-centric architectural drawings) aids in the resilient moves of relocation, alongside the Pākehā architectural drawing techniques of plan and, in this case section, in a Māori–Pākehā engagement (Hoskins & Jones, 2020). As discussed by Kawiti et al. (2025), re-indigenising architecture needs to be more than ornamentation and facade; bringing spiritual narratives into the drawing promotes the Indigenous way of learning from the past to adapt today.
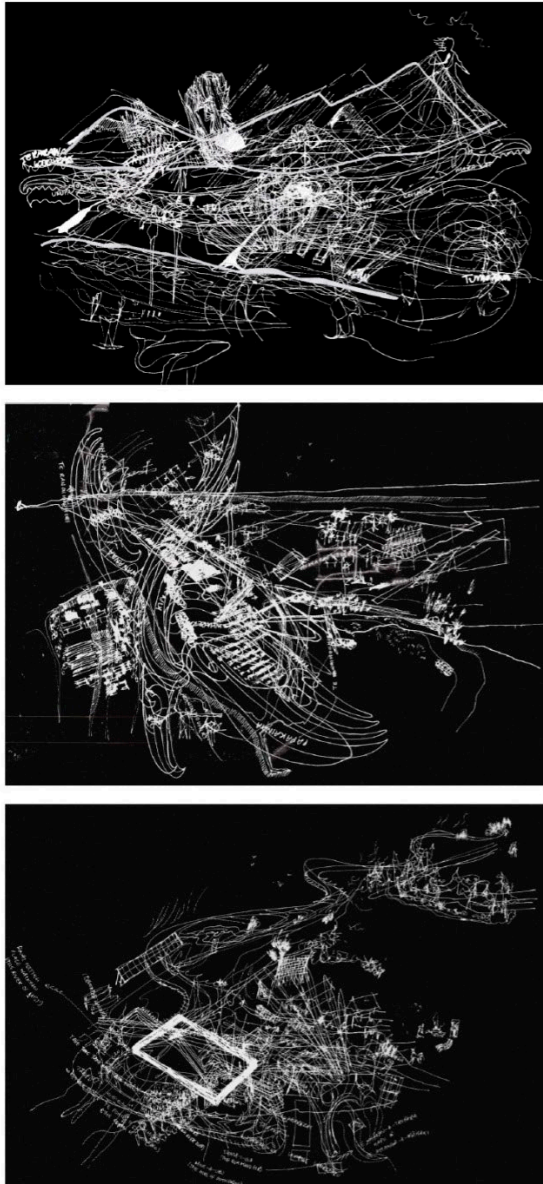
FIGURE 10 Antonia van Sitter (2023). *Marae Whakapapa* [Digitalised drawing, overlayed and inverted].

Developing architectural tactics with pūrākau

Moving from the mapping exampled above, a series of expressive drawings developed from a situated non-hierarchical array of site information and pūrākau gifted by mana whenua. Through the layering of these complex relationalities, a methodology for architectural practice was generated. The emergent drawing practice was shown to be essential in revealing connections across realms conventionally held apart in architectural drawing. Drawing pūrākau, layering each narrative and the blurred lines signify dynamism of the relational, where the imprecision and ambiguity invite

the interpreter to weave their narratives along the way. Analogue drawing paired with digital media is a hybrid means of manipulating elements. Each drawing process performs relearning the narrative to critically enter and maintain architectural modalities as dynamic and alive.

With drawing and redrawing being the mode of refinement, spatial moves were made evident. The tapu spaces, such as the wharenui, ātea, church, wānanga space and taonga storage, were drawn over the top of the pūrākau embedded in the whenua. The noa spaces, such as the wharekai, wharepaku and kohanga spaces, were drawn outside of the pūrākau. This type of spatial planning, if deliberated between whānau and practice, creates diverse dialogue, which will not only make climate resilience in relocation easier but also enhance the moves by learning from these narratives. The methodology allows decision-makers to make informed choices that honour the mauri of the whenua and whakamana whānau by actively incorporating socio-spiritual attributes aligned with whānau priorities.

Reflections

We believe that this wide-ranging experimental design has the potential to help whānau engaged in climate change adaptation to make more informed architectural choices that reflect their kinship-based ideology. Most expressly, it has contextualised and trialled how a narrative-based spatial method can give rise to a dynamic and lived drawing process that evolves from and with Indigenous values and principles (see Figure 11). Here, values and principles are not theoretically pasted upon Western architectural conventions, but rather enter and materialise through situated Māori issues, peoples and places. Pūrākau, as narratives of natural disasters, written and kōrero tuku iho, indicate practical ways of resilience for marae, demonstrating that ancestral knowledge carries embedded strategies for adaptation and survival. Pūrākau are affirmed as fundamental to mobilising this unique and non-systematic design process, bringing forward situation-specific conditions laden with meaning. Through drawing, this research found new meaning for what coherence within architectural practice might be—meanings that are open to change, interpretation and the future, nonetheless rooted in place and people. An example of this is seen in the drawings in Figures 12–14), the result of the method of drawing from pūrākau, arising from the repetitive process of layering the information, both site-specific and whānau driven, which allowed the narrative of

FIGURE 11 Antonia van Sitter (2023). *Section Te Karaka* [Digitalised drawing, inverted].

FIGURE 12 Antonia van Sitter (2023). *Plan Te Karaka* [Digitalised drawing, inverted].

survival by listening to the tohu of where to place the architecture.

By looking to the past, a speculative mode of mapping allowed the inhabitation of time as multiple, opened towards a possible future. In different ways, the drawings became the relational centre and pivot through which the research opened a space between mana whenua and architecture. Manifesting the pūrākau through phased drawing practice acknowledges and honours the presence of the atua, rangatira and tūpuna as critical to

the land and situation, and invites guidance for the wicked problem of climate change. The materialisation of tūpuna and kaitiaki in architectural processes is not to be underestimated as an essential and enduring aspect of architectural practice in Aotearoa. Additionally, this approach repositions the conversation by acknowledging that buildings themselves become less important when all the relational factors are considered.

Living with vulnerability to the changing climate is destabilising and traumatic, especially for

FIGURE 13 Antonia van Sitter (2023). *Pātaka Putanga* [Digitalised render].

FIGURE 14 Antonia van Sitter (2023). *Approaching the Proposed Resilient Marae* [Digitalised render]. A render of what Te Karaka could look like, utilising the three r's of raise, return and relocate, as testing of resilient design moves in the changing climates.

Māori whose lands, due to the multiple injustices resulting from colonisation, are disproportionately at risk. Given the threat climate change poses to the continuity of inhabitation for many hapū and whānau, and with it the probability of displacement, the architecture profession would be wise to avoid affirming such terms as "managed retreat" and "relocation", which undoubtedly chime with a governance of removal. By refraining from the vocabulary of relocation and allowing language to arise in the process of engaging climate concerns at the level of the people, any creation of outcomes will be more in tune with whānau aspirations. Here, the weaving of ancient and inspiring pūrākau and new resilient pūrākau into the design process makes for pathways unforeseen by architectural convention, and in doing so, decolonises design methods. By shifting the focus to relationships, connections and the continuity of whānau life beyond structures, a more holistic and culturally grounded pathway forward emerges.

Acknowledgements

Glossary

Aotearoa	the land of the long white cloud; now used as the Māori name for New Zealand
ātea	open area in front of the wharenui
atua	god
awa	river
haka	performance
hapū	subtribe
Hawaiki	homeland which Māori migrated from
he huranga āhuarangi	changing climate
heke	rafter
Heretaunga	Hastings, city in the North Island
hīkoi	walk
hui	meeting
ingoa	name
iwi	tribe
kaitiaki	guardian
kaitiakitanga	guardianship, stewardship
karakia	prayer
karanga	ceremonial call, welcome call
kaupapa	topic
Kaupapa Māori	Māori approach
kawa	customs of a house
kete	basket
koha	gift, token
kohanga	nursery
kōrero	discussion
kōrero tuku iho	history, stories
kupu	word, vocabulary
mahi toi	art
maihi	the facing boards on the gable of a house, the lower ends of which are often ornamented with carving
mana	pride
manaaki	support
manaakitanga	hospitalisty
mana whenua	territorial rights
manurere/manuaute	kite
Māori	Indigenous people of New Zealand
Māoritanga	Māori way
marae	the open area in front of the wharenui
Matatā	town in the North Island
mātauranga	Māori science, knowledge
mātauranga taiao	environmental knowledge
maunga	mountain
mauri	life principles, life force
mihimihi	greeting
Mitimiti	town in the North Island
moana	ocean, sea
mōteatea	a grieving chant
motu	country, land, nation
muka	prepared flax fibre
Ngāwhā	town in the North Island
noa	free, ordinary
noho	stay, remain
ōhanga āmiomio	circular economy
pā	settlement
Pākehā	non-Māori of New Zealand
Papatūānuku	earth mother
pepeha	tribal saying
pou	support, pole, pillar
pōwhiri	welcoming procedure
pūrākau	narrative
putea	money
rangatira	chief
Ranginui	sky father
rōhe	region
rūnanga	council
tāhuhu	ridge pole of a house
taiao	natural environment
Tāmaki Makaurau	Auckland
Tamanui-te-rā	son of the sun
tāngata	people
tangata Tiriti	people of the treaty
taniwha	water spirit
taonga	treasure
tapu	sacred
tauiwi	non-Māori
tauparapara	to begin a speech
Tauranga Moana	city in the North Island

te ao Māori	Māori world view
Te Karaka	town in the North Island
tekoteko	carved figure on the gable of a meeting house
te reo Māori	Māori language
te reo Pākehā	English language
tika	right, correct
tikanga	protocol
tohu	guide, instruct
tohunga	expert
tupua	supernatural
tūpuna	ancestor
tūrangawaewae	standing place
urupā	cemetery
utu	reciprocity
wāhi	location, place
waiata	song
wairua	spirit
waka	water vessel, boat
wānanga	discuss, consider
wero	challenge
whaikōrero	speech
whakairo	carving
whakamana	validate, empower
whakapapa	lineage
whakataukī	proverb with unknown orignator
whānau	family
Whanganui	town in North Island
whare	house
wharekai	dining hall
wharenui	meeting house
wharepaku	toilet
whenua	land

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