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CONTENTS

Foreword

Guest Editors - Cathe Nadal & Nappy Navarra 1-3

Research

Floating islands, moving ecologies: ocean-based
intercultural learning as an Archipelagic Heritage Model
Yujun Xu 4-20

Redefining landscapes through the lens of the East
Asian-Australasian Flyway
Benni Yu-ling Pong 21-34

Blue biophilic place and island placemaking in the
Pacific: the case of the island of 'Eua, Tonga
*Iderlina Mateo-Babiano, Adelaide Lee, Anh Nguyen
and Shiyi Zhang 35-51*

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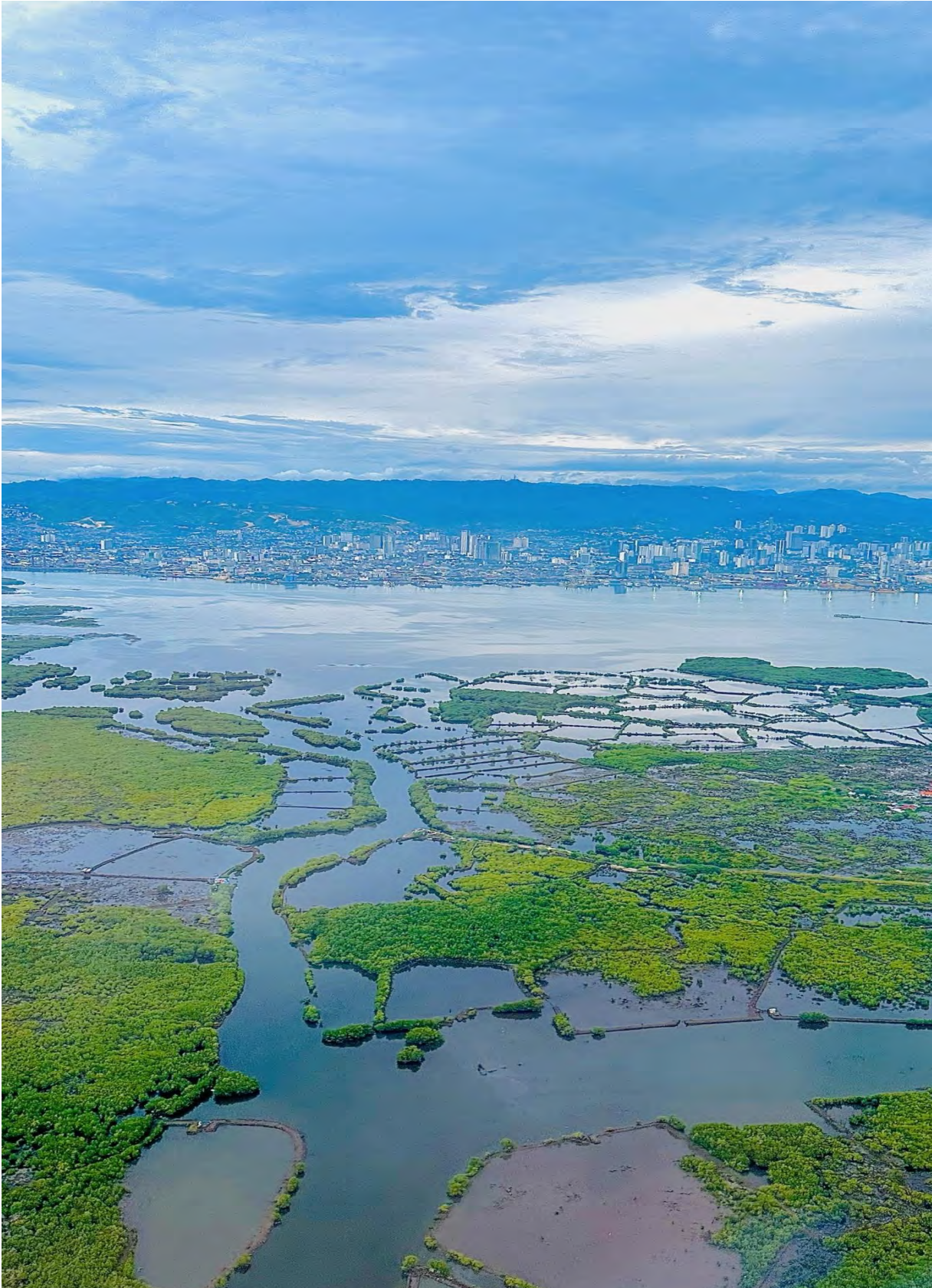
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View of Cebu City, Philippines, one of the hotspots of avian migration that stretches across the Pacific Ocean. This ecosystem is under constant pressure due to the conflicting demands of urbanisation and the need to provide for bird and mangrove habitats (image by author, August 2025).



Foreword

CATHE DESIREE S NADAL, NAPPY L NAVARRA AND GILL LAWSON

Islands have often been associated with concepts of disconnection and isolation (Baldacchino, 2004). Stemming from the physicality that defines islandness, such associations have made the development of coherent and cohesive island studies challenging. This challenge was taken up by Foley and colleagues (2023) as they explored various meanings of 'island' and 'islandness' without coming up with a single definition. Their attempt seemed both idealistic and relevant when the authors themselves were isolated by distance and geography while having conversations on common themes. Drawing on social sciences, geography and public health, they collectively allowed their concepts on physical separateness to create a thematic unity across different topics.

What makes the concept of islandness compelling is the distinct experience of being separated geographically by tangible physical elements (sea or ocean) and well-defined physical space (island). From an outsider's perspective, the sea might be construed as something that separates; however, the sea can also be seen as something that connects islands, allowing them to create regional concepts of islands or archipelagic regions with commonalities and shared identities (Hayward, 2012). Interestingly, many of the prevailing concepts on culture and identity emanate from continental regions, hinging their narratives and (power) dynamics on the physical (large mass of) land, thus creating a seemingly homogenised worldview and land-centric conceptualisation. It is not uncommon for ideas of being an island to be marginalised in various discourses, even in landscape studies.

Reflecting on the identity of an island can lead to a perception of discrete characters and meanings that separate it from what can be conceived as the 'others'. From this recognition of otherness, it is then possible to speculate and reach an understanding on what it means to be an island. With the hegemony of narratives from continental others, the island is thus given a space to ferment its own ideas about what it means to be itself and how to distinguish itself from others, while forming connections with other islands culturally, socially and ecologically (Ronström, 2021).

In the context of these emerging perspectives on islands, islandness and archipelagic studies, this issue of *Landscape Review* takes on the challenge of what it means to be an island and how systems and processes inherent in these island communities take roots in the Pacific and beyond. In Oceania, islandness has long been understood through fragmentation, sometimes as islands separated by water. Yet, as our authors remind us, the concept of connectivity is shaped by deeply relational socio-ecological systems. Communities negotiate land, water and livelihoods through practices that continually traverse and redefine boundaries. Islandness is not about separation; rather, it is about connection, explaining the ongoing process of linking people, places and ecologies across fluid terrains.

Yujun Xu, a Research Professor at Zhejiang University, China, explores ocean geographies to expand this understanding. Through sailing across the North Sea, the ocean ceases to be an empty expanse and becomes a lived, navigated space rich with meaning and movement. Knowledge is not anchored but carried through currents, winds and embodied practices of navigation. The journey shifts the perception of space from being static to kinetic. Islandness, in this sense, is constituted through motion and routes as significant determinants of the destination.

Benni Pong, a registered landscape architect and current Vice President of the Hong Kong Institute of Landscape Architects, explores the vastness of the sea through the lens of avifauna that traverse the seas. Pong's focus on movement – the flight of birds across

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islandness; archipelagic studies

the East Asian–Australasian Flyway – echoes the idea of islandness as a human construct. Avian movements cut across human-defined boundaries, tracing pathways that connect islands, continents and ecological systems. These movements challenge the idea of landscape as bounded regions, replacing it with the concept of overlapping mosaics stitched together by multi-species networks. Birds suggest that islandness is not confined to land or sea, but extends into the skies, showcasing an ever-shifting web of relations.

Iderlina Mateo-Babiano, Associate Professor at the University of Melbourne, and her master’s scholars Adelaide Lee, Anh Nguyen and Shiyi Zhang explore the potential of using placemaking as a tool in community healing after a tsunami had devastated ‘Eua, an island in the Kingdom of Tonga. Using a Placemaking Sandbox developed by the Melbourne School of Design, students and community members collaborated in analysing different resilience strategies and solutions in recovering from disaster, primarily focusing on blue urbanism as a nature-based solution. Through blue biophilic placemaking, the project gained insights into how the experiences of the community have been shaped by islandness. Resilience evolved from the community’s concepts of family, church and place, leading them to a culture of caring for place.

These works by seemingly separated authors frame islandness as an ever-expanding landscape that is relational and ephemeral, yet with a degree of permanence and beyond-humanness. The question, then, is not simply how to define it, but how to understand its dynamics and interrelationships. Islandness is not merely geographic but experiential, existing not as discrete territories, but as the fragile and dynamic connections that sustain life unified by diversities. What appear as small, isolated pockets of life reveal themselves as a relational field: porous, dynamic and entangled.

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Sunrise over the North Sea, as seen from the bow of the tall ship *Vega Gamleby* (author, August 2016).



Floating islands, moving ecologies: ocean-based intercultural learning as an Archipelagic Heritage Method

YUJUN XU

Oceans have often been treated as peripheral to learning and heritage, and framed as unstable spaces separating land-based cultures and institutions. Recent work in island studies and the blue humanities has challenged this view, yet questions remain as to how learning and heritage can be methodologically examined in mobile, oceanic environments. This paper explores this methodological challenge by examining ocean-based learning aboard international tall ships through an archipelagic lens. Drawing on ocean-based ethnography conducted during an international sail-training voyage, the study advances the Archipelagic Heritage Method to analyse learning and heritage as processes unfolding within moving ecologies. The tall ship is approached as a floating island – a bounded yet permeable environment shaped by ecological forces, embodied labour and intercultural proximity. Empirical analysis shows how storytelling, ritualised labour and embodied mapping operate as situated practices through which participants orient themselves socially, ecologically and culturally at sea. The paper argues that ocean-based learning cultivates forms of islandness grounded in movement, ecological attunement and relational dependence.

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Introduction

The ocean has long been imagined as a blank hydrological expanse separating land territories, cultures and identities. Within dominant terrestrial epistemologies, water appears as an archipelagic interval to be crossed, while learning is anchored to classrooms and institutions, heritage to monumental sites, and culture to land-based communities (Harrison, 2013; Peters et al, 2023). Oceans, by contrast, have often been treated as pedagogically marginal – fluid, unstable and difficult to organise. Yet work across the blue humanities and island studies has increasingly demonstrated that seas have always been dense social worlds, where migration, cosmology, labour and knowledge take shape through movement and encounter (DeLoughrey, 2007; Helmreich, 2023; Xu, 2022).

This rethinking has been powerfully articulated through archipelagic and island studies. Hau'ofa (1993), Glissant (1997) and DeLoughrey (2007) reconceptualise islands as relational formations within expansive oceanic networks, sustained through routes, rhythms and exchange. Across maritime worlds, learning has long been embedded in movement. Navigation, ritual practice and ecological attunement organise how knowledge is formed and transmitted. Contemporary tall ships (large, traditionally rigged sailing vessels with high masts and extensive sail plans) enter this lineage as late-modern condensations of dispersed but continuous maritime traditions, bringing together seamanship, intercultural encounter and environmental exposure within a single moving ecology.

Recent interdisciplinary research reinforces this view by foregrounding the entanglement of humans at sea with more-than-human elements such as wind, weather, living creatures and historical trajectories. In marine spatial planning, Wedding and colleagues (2024) argue that ocean governance must integrate ecological processes with lived human relationships to place. From a heritage perspective, Pérez-Álvaro and Boswell (2025) show how Indigenous ocean heritages connect cultural continuity, environmental stewardship and collective wellbeing. These strands suggest that oceans function simultaneously as ecological infrastructures, cultural landscapes and learning environments

KEY WORDS

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(Bremner, 2016; Corner, 1999). Yet their implications for how to study learning and heritage in mobile settings remain underdeveloped.

This paper argues that the international tall ship – often framed as transport, a training platform or a heritage vessel – can be productively understood as a floating island: a bounded yet permeable ecology in which environmental forces, embodied practices and cultural histories converge. Building on these insights, the paper advances the Archipelagic Heritage Method (AHM) as a framework for researching learning and heritage transmission in mobile maritime settings. It approaches the tall ship as a floating island, where human and more-than-human agencies converge and heritage is transmitted through everyday practice. This framing leads to the central research question guiding the analysis that follows: how can learning and heritage be methodologically apprehended under islanded and archipelagic conditions shaped by movement, ecological attunement and dispersed relations?

Theoretical groundings: ocean relationality and archipelagic pedagogy

Archipelagic thinking (a conceptual framework that centres islands, ocean spaces and maritime connections as core units of analysis) challenges terrestrial epistemologies that treat land as the primary ground of culture, identity and heritage. Drawing from the theoretical foundations of the AHM, archipelagic thinking is brought back through Daoist relational philosophy and processual understandings of heritage. These perspectives conceptualise the ocean as a relational and pedagogical ground – one in which learning, continuity and encounter take shape through movement, ecological co-presence and dispersed connection.

Ocean relationality and the archipelagic turn

Across island studies and the environmental humanities, the ocean has increasingly been understood as a space dense with social, ecological and cultural relations. In his influential reframing of the Pacific as a ‘sea of islands’, Hau‘ofa (1993) foregrounds voyaging, kinship and ecological intimacy as forces that bind dispersed geographies into coherent worlds. Related work in anthropology, geography and oceanic studies further develops this insight, showing how seas shape perception, mobility and social organisation through their material and affective properties (DeLoughrey, 2007; Peters et al, 2023).

Within this perspective, maritime learning emerges through embodied engagement with wind, tide and current. Ingold’s (2000, 2001) account of knowledge as something grown along paths of movement offers a way to understand how skills and understanding develop through repeated trajectories of travel, adjustment and coordination in seascapes. The instability of the marine environment requires continuous recalibration of attention, posture and cooperation, situating learning within a dynamic field of relations.

The tall ship condenses these dynamics into a moving ecology. It gathers bodies, materials and elemental forces within a bounded yet permeable environment where cooperation and responsiveness are necessary for everyday functioning. Tsing’s (2015) emphasis on friction helps illuminate how encounters with weather, equipment and other people generate situated forms of understanding through shared effort and exposure. In this sense, the ship operates as a floating island embedded within wider networks of routes, histories and ecological processes.

Integrating Daoist relationality and Shanshui aesthetics

Glissant’s (1997) *Poetics of Relation* conceptualises islands as nodes within interwoven worlds, where identity and meaning emerge through encounter, circulation and opacity. In his vision of oceanic navigation, Hau‘ofa (1993) similarly emphasises mobility as a sustaining condition of social life, while DeLoughrey (2007) develops the archipelago as both a geographical configuration and a methodological lens for tracing dispersed cultural connections. These accounts foreground relation, connection and oceanic flow as structuring principles of island worlds.

This orientation finds resonance in Chinese philosophical and aesthetic traditions that centre water, flux and relational balance. In Daoist philosophy, water (水) embodies vitality and transformation, and the cosmos appears as a field of dynamic equilibrium shaped by interdependence (Ames and Hall, 2003). Shanshui aesthetics further articulate this sensibility through their emphasis on rhythmic circulation and relational perception. Islands, headlands and seas appear as interconnected formations animated by the movement of qi (氣, vital energy), linking places through routes, stories and atmospheric resonance. This ‘mountain–sea’ cosmology offers an aesthetic parallel to archipelagic accounts of island worlds as relational constellations sustained through waterborne connection.

Life at sea involves continuous negotiation between self and other, autonomy and interdependence, vulnerability and resilience. Classical Daoist texts describe the world as a field of co-emergence, in which agency arises through attunement to changing circumstances (Yi et al, 2013). This relational sensibility is further elaborated in Shanshui (山水, mountain–water) aesthetics, which conceptualises oceans, rivers, headlands and islands as interconnected formations animated by the circulation of qi. In classical aesthetic thought, perception and dwelling arise from patterns of movement, resonance and rhythmic balance (Li, 2010; Zong, 1981). Early ‘mountain–sea’ cosmologies, most vividly expressed in texts such as the *Classic of Mountains and Seas (Shanhaijing)*, figure islands, reefs and coasts as linked nodes within a living seascape, held together by winds, currents, routes and stories. This imagery closely parallels archipelagic accounts of island worlds as relational constellations sustained through oceanic flows.

Archipelagic pedagogy: learning in motion

The idea of archipelagic pedagogy, thus, could be understood as the mode of learning that takes shape through movement, relationality and ecological co-presence across dispersed geographies, and treats knowledge as emerging from ongoing navigation between bodies, environments and others. Learning is cultivated through situated practice in conditions that are mobile, uncertain and materially demanding, such as tall-ship voyages. At sea, trajectories of travel, repetition and adjustment generate understanding through tasks such as handling sails, responding to wind shifts and maintaining balance on a rolling deck (Ingold, 2000, 2021).

Ecological attunement forms a key dimension. Wind, tide and weather act as participants in the learning process, making ocean-based settings into sites where human-centred epistemologies are unsettled by fluidity, uncertainty and more-than-human agency (Helmreich, 2023; Peters, 2015). Learners must read atmospheric cues, anticipate change and act collectively under conditions that often resist prediction, so environmental responsiveness becomes a central educational practice.

Archipelagic pedagogy also carries an inherently intercultural character. Shipboard life brings people from diverse linguistic and cultural backgrounds into compressed spaces where cooperation is necessary for safety and routine functioning. Glissant’s (1997) emphasis on relation and encounter helps describe how identities and understandings are formed in such settings through negotiation, translation and shared effort. Jackson (2013) further clarifies how risk and exposure open possibilities for mutual recognition and ethical connection in these environments.

Finally, this pedagogy reframes heritage as heritage-in-action. Heritage appears as a process that unfolds through ritualised practice, embodied transmission and collective performance. The processual approach to heritage of Harvey (2001) and Harrison (2013) provides a conceptual anchor for seeing watch systems, labour chants and navigational routines as forms of living heritage transmitted on deck.

Approach: Ocean-based ethnography and the Archipelagic Heritage Method

Building on the preceding theoretical discussion, this section formalises the Archipelagic Heritage Method as a methodological framework for researching learning and heritage in mobile maritime environments. The AHM translates ocean-based ethnographic practice

into a set of methodological orientations suited to fields characterised by movement, ecological contingency and dispersed cultural lineages.

The ethnographic research context

The ethnographic fieldwork for this study was conducted aboard the *Vega Gamleby*, a traditional Swedish tall ship specialising in sail training and international educational voyages. The voyage followed a round-trip route across the North Sea to connect Gothenburg in Sweden with Blyth in the United Kingdom, navigating the open, often turbulent waters that define Northern European and Nordic maritime routes.

The onboard group comprised a diverse, multinational cohort, with a balance of genders among both trainees and professional sea staff. Full technical details of the voyage, participant profiles and the complete itinerary have already been documented (Xu, 2021, 2022), grounding the study in empirical context that is not necessary to repeat here.

The Archipelagic Heritage Method

The AHM comprises four inter-related dimensions.

First, relational ontology establishes the researcher's analytical stance. On a tall ship, learning and coordination emerge through the interaction of bodies, rigging, wind and weather. Methodologically, this involves attending to how competencies develop through intermaterial and intersubjective coordination (Ingold, 2000). Daoist notions of qi offer a complementary vocabulary for understanding these resonant fields of interaction (Ames and Hall, 2003).

Second, moving ecologies reframe mobility as a focus of research. The ship's motion generates layered temporalities shaped by navigation, labour routines and environmental change. Ethnographic material emerges through routes, rhythms and transitions, requiring the researcher to track shifting relations (Peters et al, 2023). Observation, interviewing and note-taking are therefore embedded within movement, unfolding alongside shipboard routines.

Third, dispersed but continuous traditions across cultures address the challenge of tracing heritage across distance and time. Maritime practices circulate along routes and are carried by vessels and practitioners, instead of remaining tied to fixed locations (Clifford, 1997). Data collection focuses on how participants perform, reference and interpret such practices, treating heritage as living circulation rather than static preservation (Harrison, 2013).

Fourth, embodied storymapping provides a means of synthesising sensory, narrative and affective data. Shipboard knowledge is embedded in bodily skills, spatial orientation and emotional response, and articulated through stories of past voyages, storms and personal transformation. This dimension integrates bodily practice and narrative meaning-making, producing a multisensory record of how learning and heritage are experienced and communicated in motion (Casey, 1996; Csordas, 1993). It draws on the aesthetic principle of yi jing (意境), where meaning arises through the interplay of physical form, affective resonance and imagination (Cai, 2018).

Data collection and analysis

The empirical material derives from a sustained period of immersive sail-training fieldwork aboard the Swedish tall ship *Vega Gamleby* as it crossed the North Sea. The ship-based study took place over a fortnight in 2016, structured by round-the-clock watch systems and involving 28 sail trainees and 15 professional sea staff aged 16–25 years from Sweden, the United Kingdom, Ireland, Germany, the Netherlands, Finland, Norway and Denmark. The researcher participated as a sailing mentor, fully engaged in shipboard routines while maintaining analytical distance (Ingold, 2021; Pink, 2009).

Data were generated through participant observation, active interviews and visual documentation. Field notes recorded during watch periods, meals and shore visits documented embodied labour, spatial organisation and ritualised practices. Interviews with individuals (n = 14), pairs (n = 3) and focus groups (n = 2) explored experiences of

learning, cooperation and intercultural encounter. Photographs captured spatial configurations and embodied routines and were used as prompts in follow-up conversations (Pink, 2009). All participants gave their informed consent, and pseudonyms were used throughout to protect their identity.

Analysis combined inductive and deductive thematic coding (Azungah, 2018). Initial coding identified patterns related to movement, embodiment and cooperation across voyage stages. Subsequent analysis applied the four dimensions of the AHM to structure interpretation across field notes, transcripts and visual material, supported by NVivo.

Researcher reflexivity and interpretive positionality

As the only Asian member on board this Nordic-led, transnational voyage, I held a position as a Chinese cultural insider that shaped both the data collection and theoretical interpretation of islandness, ocean connectivity and cross-cultural maritime learning. In bridging Eastern philosophical thought and Western maritime practices, this position highlights unspoken connections between seafaring cultures, offering a distanced yet deeply engaged viewpoint.

Grounded in Daoist relationality and classical Chinese Shanshui (water–mountain) aesthetics, frameworks shaped from the lifelong cultural understanding and scholarly outlook of the researcher provide a reflective tool to uncover shared sensibilities across global maritime traditions. Daoist thought rejects rigid human–nature dualism. Instead it emphasises harmonious attunement with the natural world, a stance echoed in Nordic maritime practices of respecting the volatile North Sea, Polynesian wayfinding and Indian Ocean seafaring cosmologies. Similarly, Shanshui aesthetics centre fluidity, interconnectedness and sensory immersion in landscape, aligning with the archipelagic thinking framework that guides this research.

Framing Daoist relationality and Shanshui aesthetics as a reflexive interpretive lens allows these concepts to complement Nordic maritime traditions. It reveals a transoceanic kinship of maritime thought: across cultures, seafaring communities prioritise embodied sensory knowledge, collective care and respectful harmony with the sea. This cross-cultural dialogue elevates the study beyond a single-region analysis, emphasising the shared, universal dimensions of maritime life.

Cultural continuities across dispersed geographies

The AHM rests on the proposition that cultural continuity in maritime contexts emerges from the routes, rhythms and relational practices that circulate across dispersed geographies. To understand why the contemporary tall ship functions as a potent site of intercultural learning and living heritage, it is essential to locate it within longer genealogies of oceanic knowledge in which mobility, ecological attunement and ritualised seamanship have historically structured cultural life. The tall ship, in this sense, inherits, concentrates and re-animates these longer genealogies of oceanic knowledge and the relational practices that sustain them.

This section positions contemporary sail training within these broader yet continuous maritime traditions. It draws from Chinese, Pacific, Indian Ocean and European traditions to demonstrate how the AHM operates across divergent oceanic worlds.

Chinese maritime worlds as archipelagic corridors

The Chinese maritime sphere provides a historically comprehensive example of dispersed cultural continuity shaped by monsoon ecologies and archipelagic infrastructures. Across the southeastern seaboard, from the Zhoushan Archipelago through Fujian to Hainan, coastal and insular communities developed livelihoods and ritual systems that were inseparable from shifting winds, currents and seasonal cycles. As Levathes (1994) demonstrates, the Ming dynasty voyages of Zheng He (who lived 1371–1433 and led seven state-sponsored maritime expeditions between 1405 and 1433) exemplified this relational maritime worldview: fleets followed monsoon corridors, navigated via chains of islands,

and linked inland production centres of porcelain and silk with transoceanic ports such as Quanzhou, Melaka and Calicut.

These voyages amplified existing archipelagic corridors, where cultural exchange occurred through dispersed nodes of ritual, labour and storytelling. Mazu worship, for instance – a UNESCO-recognised form of Intangible Cultural Heritage centred on a maritime protective deity – articulates a relational cosmology embedded in coastal and island lifeworlds. Mazu worship and boat-blessing rites resonate strongly with contemporary archipelagic thought (Yao et al, 2020). The maritime rituals of fisherfolk – aligned with monsoon rhythms and tidal cycles – echo Ingold's (2021) account of knowledge as grown 'along lines', through movement and ecological attunement.

Coastal ritual practices further encode this relational worldview. Sea offerings, Mazu worship and boat-blessing ceremonies articulate ties between human communities, island landscapes and powerful marine forces. Aesthetic traditions – such as Shanshui painting and sea-themed poetry – often depict islands, headlands and open water as co-emergent forms shaped by the circulation of qi (氣). This is a vision that aligns with the emphasis of contemporary archipelagic theory on interdependence and movement. Chinese maritime culture thus offers a historically deep, indigenous articulation of oceanic relationality.

Oceanic pathways of connection: Polynesian, Arab and Indian Ocean and Nordic navigation

Across the Pacific and Indian Oceans, other maritime regions developed similarly relational ways of knowing and connecting with the sea. Polynesian wayfinding traditions – based on reading swell patterns, bird flight, star paths and the tactile sensations of wave movement – embody what Finney (2002) describes as a 'imaginal epistemology', where navigation is performed through the body's ongoing attunement to the ocean.

The vision Hau'ofa (1993) has of the Pacific as a relational sea-world is grounded in such practices, which link widely dispersed islands through voyaging routes and genealogical exchange. This relational, body-centred maritime logic is not unique to Pacific and Indian Ocean societies. Nordic seafaring cultures share a deeply rooted tradition of sensorial ocean literacy, forged by centuries of navigating the stormy, unpredictable North and Baltic seas. Nordic mariners of the past relied on reading wave rhythms, celestial cues, coastal landmarks and seasonal weather patterns to traverse vast, often treacherous waters, connecting scattered coastal settlements and island archipelagos through trade, cultural exchange and communal voyaging. Such maritime cultures framed the sea as a vital, living corridor, embedding navigational wisdom, ritual practices and communal values in seafaring life.

The Indian Ocean world presents a parallel configuration shaped by monsoon ecologies. Chaudhuri (1985) shows how seasonal winds structured circulatory networks connecting East Africa, Arabia, South Asia and Southeast Asia through repetitive sailing cycles. Ports such as Zanzibar, Aden and Calicut formed cosmopolitan archipelagos of exchange, where stories, navigational knowledge and ritual practices moved along with spices, textiles and ceramics. Ritualised seamanship, prayers for safe passage, rhythmic labour songs and offerings before departure permeated these oceanic cultures and reflected a shared understanding of the sea as agentive, unpredictable and socially binding. As Diaz (2025) notes, water in many maritime societies functions simultaneously as a material resource, cosmological force and mnemonic archive. Such sensorial navigation and monsoon ecologies exemplify the moving ecologies that underpin archipelagic learning. This shared global heritage lays vital groundwork for analysing Nordic tall-ship fieldwork as a continuation of these long-standing maritime traditions.

Tall ships as contemporary sites of transoceanic heritage

Against this background, European tall ships appear as contemporary vehicles in a much older relational matrix. Although tall ships descend from nineteenth-century merchant sail traditions, their continued use in sail training and increasingly in sustainable sail-cargo initiatives reflects the adaptability of maritime heritage as a lived, embodied and

mobile practice. Through watch systems, coordinated manoeuvres, labour chants and climbing routines, tall ships preserve what Harvey (2001) calls ‘heritage-as-process’, indicating heritage is enacted through repeated performance instead of being preserved as static artifact.

Modern sail-training organisations – such as Sail Training International, the Association of Sail Training Organisations and national tall-ship programmes – employ these practices explicitly as pedagogical tools, creating intercultural spaces where young people learn through shared physical effort, risk management and environmental attunement. These shipboard practices demonstrated how sensory attunement and bodily coordination generate collective learning. The sail-cargo movement, exemplified by vessels such as *Tres Hombres* or the *Grain de Sail* fleet, further illustrates the future-oriented potential of maritime heritage. By reintroducing wind propulsion into contemporary logistics, these projects rehabilitate historical knowledge systems in response to ecological crises, demonstrating what DeLoughrey (2007) identifies as the capacity of island and ocean imaginaries to catalyse new environmental futures. In these initiatives, heritage becomes a speculative tool, mobilising past practices to imagine low-carbon alternatives to extractive maritime infrastructures.

Through the AHM, tall ships can be understood as living laboratories where dispersed maritime traditions converge in the present. Practices shaped across Chinese, Pacific, Indian Ocean and European sailing worlds – organised around routes, rhythms, ritualised labour and sensory attunement – are condensed on board into an intensified, mobile ecology. This convergence provides the conceptual bridge between transoceanic genealogies and lived practice. The tall ship concentrates relational logics forged across different maritime histories into a bounded yet permeable environment, creating the cultural and ecological conditions through which the AHM operates.

To examine how these continuities across diverse traditions take shape in everyday life at sea, the analysis now turns to situated shipboard practices. Through storytelling, ritualised labour and embodied mapping, archipelagic heritage becomes tangible within the textures of daily experience.

Findings and discussion

The convergence of dispersed maritime traditions aboard the tall ship becomes most visible in everyday shipboard practice. A tall ship becomes an island of relational pedagogy precisely because participants engage in shared practices, weaving their own intercultural trajectories into longer histories of oceanic knowledge.

Heritage futures: storytelling as situated navigation

Storytelling has long functioned as a primary medium through which seafarers transmit ecological knowledge, risk perception and moral orientation (Mack, 2011). Aboard the contemporary tall ship, it emerged as a situated intercultural practice that enabled participants from diverse backgrounds to locate themselves within a shared oceanic world. Stories circulated through the rhythms of shipboard life and in those moments narrative was interwoven with ongoing activity, shaping how participants oriented themselves within the moving seascape.

Between approximately 22:00 and 24:00, conditions on deck were calm. The wind had eased after sunset, though a long swell continued to move beneath the vessel, producing a slow, rhythmic roll. While maintaining lookout near the bow, Mia began speaking to David about the presence of women in maritime traditions. She referred to stories she had encountered about ships being ‘watched over’ by female figures, including carved figureheads placed at the bow. She described one version in which these figures of ‘Prow Goddess’ were understood as protective presences, often associated with mothers, daughters or sea goddesses, meant to face

danger first and guide the vessel safely through uncertain waters. David responded that he had heard a different version – figureheads were sometimes offerings to the sea, intended to appease unpredictable forces. He noted that in some stories the female form symbolised both care and risk, embodying the sea’s capacity to sustain life while demanding respect and restraint from sailors. (Field note, author, 24 August 2016)

Within these conditions, storytelling served as a situated form of orientation. Such storytelling resonates with ethnographic accounts of Polynesian navigators reading swell patterns (Finney, 2002), Arab sailors interpreting monsoon winds (Chaudhuri, 1985) and Chinese fisherfolk recounting the capriciousness of typhoons. Through contrasting versions of protection and appeasement, care and risk, the conversation provided a shared interpretive frame for thinking about uncertainty at sea. In this way, storytelling functioned as a navigational resource, linking present sensory engagement and practice with dispersed maritime imaginaries and enabling collective reflection on vulnerability, responsibility and endurance as the voyage continued. Narratives of storms, injuries and near misses formed a recurring genre of ethical pedagogy. These accounts encoded environmental cues and dispositions toward uncertainty, reinforcing awareness of vulnerability and interdependence.

Intercultural dimensions of storytelling were visible on and below deck. The under-deck saloon functioned as a shared social space where bodily fatigue, emotional exposure and informal learning converged. Participants from eight different nations exchanged stories over meals, often negotiating linguistic differences through demonstration and adaptive communication (figure 1).



Figure 1. The under-deck saloon accommodating participants from eight different nations (image by author, August 2016).

Through repeated interaction in this confined space, participants developed an intuitive sense of group dynamics and mutual reliance. These daily practices illuminate how communication and learning at sea unfold through relation and movement. This dissolution of cultural borders reflects the non-hierarchical, interconnected worldview rooted in Daoist thought, which erases fixed binaries and centres mutual dependence (Yi et al, 2013).

As Ingold (2021) suggests, understanding grows along paths of movement and attention; at sea, darkness, fatigue and environmental variability reorganised perception, creating conditions in which narrative became a means of attunement to both others and the surrounding ecology. Storytelling functioned as heritage-in-action, weaving together movement, memory and intercultural relationships within the learning ecology of the floating island (Harvey, 2001).

Social futures: ritualised labour and collective timing

Ritualised labour aboard the tall ship structured learning through repetition, coordination and shared timing. From the outset of the voyage, daily routines such as sail handling, standing watch and vessel maintenance were introduced as ordinary work. These sequences were repeated under changing wind and sea conditions, embedding learning within the ship's everyday temporal rhythms and aligning participants' attention with the vessel's operational demands.



Figure 2. Coordinated sail handling as ritual practice (image by author, August 2016).

Sail handling provided a clear illustration of how collective timing emerged through practice (figure 2). Each manoeuvre depended on coordinated actions across dispersed positions on deck and aloft, so accurate timing became a shared responsibility. As Csordas (1993) suggests, such repeated bodily coordination fosters ‘somatic modes of attention’, where perception and action are organised through embodied synchrony. Over successive days, one could expect a gradual shift as participants begin to anticipate movements before commands were fully articulated, responding to the rhythm of the group and the movement of the vessel.

The watch system further structured this collective temporality. Dividing day and night into cyclical intervals, the watch synchronised human activity with wind, tide and the ship’s motion. During the 00:00–04:00 watch, for example, the routine practices included checking sail trim, maintaining lookout and entering log data. The repetition of these tasks offered orientation in conditions of uncertainty, fostering attentiveness to subtle environmental change. This aligns with Mack’s (2011) account of maritime temporality as a sensory synchronisation with the sea’s rhythms, and with Ingold’s (2000) notion of the ‘taskscape’, where time is experienced through the rhythmic coordination of movement and environment.



Figure 3. Climbing the mast as a routine daily exercise (image by author, August 2016).

Ritualisation was also evident in vertical labour such as mast climbing (figure 3). As a skill introduced early in the voyage and revisited under different weather conditions, mast climbing required participants to have trust in equipment, be attentive to wind and coordinate with others ascending and descending the rigging.

Participants reflected explicitly on this embodied shift. Fiona explained that she eventually ‘stopped thinking about each step and started moving with everyone else’. Such reflections marked a transition from conscious attention to embodied timing, where knowledge was expressed through synchronised movement.

During an early sail-handling manoeuvre on the third day of the voyage, coordination across the deck briefly broke down. The first officer commanded to set the sails, but responses were uneven: two trainees began pulling immediately, while others hesitated, scanning nearby lines before acting. Tension built asymmetrically along the halyard, causing the sail to rise unevenly and flap momentarily. A pause followed. Without further instruction, positions were adjusted – one participant shifted grip, another stepped half a pace back – and the sequence resumed. On the second attempt, movements aligned more closely, with hauling occurring in near-unison and the sail settling into place. (Field note, author, 27 August, 2016)

These practices illustrate how crew heritage was transmitted through a collective sense of repetition and performance. Sail-handling routines, watch rotations and embodied sequences carried traces of longer maritime traditions sustained through bodily transmission (Harrison, 2013). The tall ship functioned as a site of heritage-in-action, where continuity was maintained through coordinated practice embedded in everyday labour.

The sociality that emerges at sea is a reconfiguration of belonging itself. Participants often describe a newfound sensitivity to interdependence, a recognition that identity is formed through relations. The tall ship, therefore, becomes one such place: a temporary archipelago of bodies, stories and skills. Crew members carry these relational sensibilities home, forming small transnational islands of shared maritime experience that persist long after the voyage ends.

Ecological futures: embodied mapping and ecological attunement

Navigation at sea becomes a bodily, sensory and affective practice shaped by movement, weather and shifting spatial relations. On the tall ship, embodied mapping developed through sustained exposure to the vessel’s motion and the surrounding seascape. Orientation emerged gradually as participants learnt to move with the ship, attuning posture, balance and attention to wind, waves and changing conditions. Over time, the deck, rigging and horizon became familiar reference points, allowing participants to navigate confidently even when fatigued or having limited visibility.

Early in the voyage, movement across the deck was cautious and visually guided. Trainees frequently paused to locate handholds, adjusting stance only after observing others. During sudden rolls, balance was often regained through exaggerated corrective steps. As days passed, movement became smoother and less visually dependent. Participants began to anticipate the vessel’s motion, bracing before the deck tilted and shifting weight instinctively as wind pressure changed. (Field note, author, 9 September 2016)

Sensory mapping is central to this process. Participants learnt to read the environment through tactile and auditory cues: the vibration of a taut line, the flutter of a sail losing wind, the creak of rigging under strain, or the altered rhythm of the hull meeting swell. Such embodied reading resonates with maritime traditions that privilege sensory attunement, including Polynesian swell navigation (Finney, 2002), Indian Ocean monsoon seamanship (Chaudhuri, 1985) and Chinese fisherfolk practices attentive to

cloud form and water colour. Ingold's (2000) notion of the taskscape captures this process, where spatial knowledge grows through skilled activity and repeated engagement.

Ecological attunement formed a central part of this process. Changes in wind direction, swell pattern and weather conditions shaped daily routines and required constant recalibration of attention. During night watches or periods of poor visibility, participants relied on auditory cues, tactile feedback from ropes and subtle shifts in the vessel's motion to maintain orientation. Several trainees described moments when they began to 'read' the sea through their bodies, such that they sensed approaching changes before anyone announced them verbally (figure 4). This fluid, relational experience of islandness depicts the ship as a floating island and seas as interconnected nodes animated by vital energy (Li, 2010).



Figure 4. Watching the sunrise during a 4–8 am watch (image by author, August 2016).

Encounters with marine life further shaped ecological awareness. The appearance of dolphins alongside the bow or a sudden concentration of seabirds often interrupted routine labour, redirecting collective attention outward (figure 5).



(a)



(b)

Figure 5. Marine life encountered at sea: **(a)** dolphins and **(b)** seabirds (images by author, August 2016).

During one such encounter, work on deck slowed as participants gathered along the rail, tracking the movement of marine life, such as dolphins, in the water and commenting on its behaviour and proximity. In later conversation, they referenced these moments as turning points in how they perceived the sea as a living system within which the vessel moved. Periods of heightened vulnerability sharpened this awareness.

It was a really windy night, and steering felt like something you had to keep adjusting all the time. You couldn't see any land, and everything on deck felt tense. We were leaning with the ship, gripping the wheel and the ropes, just trying to stay steady. You stopped thinking ahead and just reacted to how the ship was moving, one moment at a time. (Henry, interview, 29 August 2016)

Such moments foregrounded the ocean's agency as an active participant in learning. This experiential vulnerability aligns with Daoist cosmological principles of harmonising rhythms, where effective action arises through responsive adjustment to changing conditions (Ames and Hall, 2003). Over time, participants developed an intuitive sense of where to stand during manoeuvres, who anticipated environmental shifts and who offered calm during moments of instability.

These relational geographies organised trust and responsibility across the vessel. Viewed through the lens of archipelagic pedagogy, embodied mapping cultivated an orientation to space grounded in relation and process. Spatial knowledge emerged through movement, encounter and collective activity across a dynamic environment (DeLoughrey, 2007). These practices also staged maritime heritage in an ecological register, sustaining traditions of environmental reading and bodily navigation through repetition and adaptation.

Implications and conclusions

This paper has shown how ocean-based learning aboard a tall ship generates forms of knowledge, heritage and intercultural relation through movement, ecological attunement and shared vulnerability. By examining storytelling, ritualised labour and embodied mapping as everyday practices, the analysis demonstrates how learning unfolds within a moving ecology. The tall ship emerges as a floating island, concentrating dispersed maritime traditions, environmental forces and social relationships into an intensified space of encounter.

Through tracing dispersed maritime genealogies, ranging from Chinese monsoon corridors to Pacific and Indian Ocean voyaging traditions, and reading them alongside contemporary sail-training cultures, this paper has shown how the tall ship functions as a floating island: a mobile ecology that concentrates older oceanic ways of knowing into an intensified, lived environment. On this basis, it has advanced the AHM as a framework for researching intercultural learning and heritage transmission in mobile maritime settings. Centred on the tall ship, the AHM integrates archipelagic thought, Daoist relational philosophy and processual heritage approaches through four inter-related dimensions: relational ontology, moving ecologies, dispersed traditions and embodied storymapping. These dimensions translate ocean-based ethnography into a methodological orientation for analysing how learning and heritage take shape within more-than-human assemblages of wind, weather, living creatures and historical trajectories.

The findings carry important implications for how learning is conceptualised in archipelagic and islanded contexts. Storytelling at sea functioned as a mode of situated navigation, orienting participants in uncertain contexts by linking present experience to dispersed maritime histories. Ritualised labour cultivated collective timing and coordination, transmitting heritage through embodied repetition and shared rhythm. Embodied mapping fostered ecological awareness by grounding spatial understanding in bodily responsiveness to wind, tide and movement. These insights suggest a reorientation of heritage thinking toward heritage-in-motion. Maritime heritage was enacted through

everyday practices such as handling sails and standing watch and by sharing stories, in ways that sustained continuity through adaptation and repetition. Such processual heritage aligns with both archipelagic perspectives and Daoist relational thought, which understand continuity as emerging through dynamic balance and responsiveness to change.

The implications extend beyond maritime settings. As climatic volatility and ecological uncertainty reshape educational and cultural imaginaries, the capacities cultivated aboard the tall ship – attunement, coordination, relational responsibility – point toward forms of learning suited to archipelagic futures. These futures privilege connection over isolation, responsiveness over control and process over permanence. Ocean-based learning thus offers more than experiential enrichment; it provides a methodological and ethical orientation for engaging with environments characterised by movement, interdependence and uncertainty.

In summary, the AHM contributes to debates in environmental humanities, heritage studies and intercultural education by redirecting attention from fixed sites to heritage-in-motion. It foregrounds routes, practices and situated traces of everyday labour as key sites of cultural continuity, and aligns with emerging work that treats mobile and transient practices as generative spaces of ecological and social imagination. It also invites scholars and practitioners to take moving environments seriously as sites of knowledge-making, and to recognise how cultural continuity is sustained through routes, rhythms and everyday practice. In doing so, it positions archipelagic thinking not only as an analytic lens but as a practical orientation for navigating the intertwined challenges of ecology, culture and education in a changing world.

About the author



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Shenzhen Bay Park is adjacent to two Ramsar sites, the Futian Mangrove Nature Reserve and Mai Po Nature Reserve (image by author, 2025).



Redefining landscapes through the lens of the East Asian–Australasian Flyway

BENNI YU-LING PONG

Climate change and biodiversity loss have heightened global awareness of environmental design, unfolding paradigms of ecological design in landscape architecture. Concepts such as Nature-based Solutions, urban nature, biophilic design and sponge city have emerged and are increasingly being incorporated in landscape design projects. Yet many of the current landscape projects remain inherently fixed, bounded and site-based, limiting their capacity to address the escalating challenges of global ecology questions. Meanwhile, conservationists have embraced a transboundary perspective. The East Asian–Australasian Flyway Partnership, for instance, demonstrates how regional conservation efforts, by perceiving wetlands and habitats across the region as interconnected entities, can achieve significant outcomes to conserve migratory birds. Understanding the Asia Pacific region through the lens of migratory birds therefore involves blurring the boundaries of nations. It follows that, rather than being seen in isolated fragments, an archipelago is more constructively perceived as a vast, integrated ecosystem network crucial to global environmental issues. Against this background and with reflection on mainstream landscape architectural practice on ecological design in Australasia-Pacific, this paper contends that prevailing ecological frameworks in design have to be redefined epistemologically to advance a multi-scale ecology and adopt an ecological network approach.

Introduction

In 2006, the documentary *An Inconvenient Truth* marked a pivotal moment in the trajectory of environmental conservation. The film vividly illustrated that climate change and biodiversity loss were global threats that one could no longer deny. Environmental awareness was subsequently mainstreamed, gaining significant public and media attention. That same year, the 8th Meeting of the Conference of the Parties to the Convention on Biological Diversity was held in Curitiba, Brazil, where a landmark decision was made to adopt a programme of work on island biodiversity. This programme not only recognised islands as ‘self-contained ecosystems with well-defined geographical limits’ but also emphasised the need to holistically address their ‘close connectivity and vulnerability’ and the influence of both ‘upstream activities and downstream ecosystems’, positioning islands as interconnected systems at the interface of marine and terrestrial ecology (Convention on Biological Diversity, 2006).

For many avifauna specialists, 2006 was also memorable for the establishment of the East Asian–Australasian Flyway Partnership (EAAFP), founded under the mission that ‘migratory waterbirds and their habitats in East Asian–Australasian Flyway are recognised and conserved for the benefit of people and biodiversity’. The EAAFP conceptualises wetlands and habitats within a ‘flyway-wide framework’ – an ecological network that also operates as a platform for sharing research, information and data, while fostering collaboration among diverse stakeholders. These stakeholders range from governments and intergovernmental organisations to non-governmental organisations, academic institutions, private sector organisations and community groups (EAAFP, 2025a). Today, the EAAFP includes 42 partners across 22 countries and regions, including 18 national governments (EAAFP, no date). It further frames the flyway as an integrated socio-ecological system, foregrounding interdependencies among habitats, species and multi-scalar governance, with researchers and conservationists acting as key facilitators of transboundary knowledge exchanges.

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Meanwhile, over the past two decades, landscape architecture has undergone a paradigm shift, shaped by heightened global awareness of environmental and ecological concerns to confront climate change and biodiversity loss. Concepts such as biophilic design (Kellert, 2018) and sponge city (Yu, Gies and Wood, 2025) have emerged and are increasingly incorporated into professional practices of landscape architects, architects, engineers and planners. Recent discussions have also turned towards integrating the standards and frameworks of the International Union for Conservation of Nature (IUCN) on Nature-based Solutions (IUCN, 2025) and Urban Nature Indexes (IUCN, 2023) into design and planning.

Yet, in contrast to the transboundary perspective embraced by ecologists, many current landscape projects remain inherently fixed, bounded and site-based, reflecting the limited scope and boundaries of individual projects. One manifestation of this perspective is projects that narrowly interpret ecological concepts and oversimplify ecological complexity. For example, the holistic definition of Nature-based Solutions – encompassing protection, management and restoration of ecosystems and criteria to address multiple societal challenges – is often reduced to tree planting or a native-versus-exotic species binary.

These limitations in the current perspective raise critical questions. How might landscape design refine its ecological understanding and expand its capacity to respond to escalating global ecological crises? What lessons can be drawn from the EAAFP, which conceives wetlands and habitats across the region as interconnected entities and has achieved significant outcomes in the conservation of migratory birds?

The East Asian–Australasian Flyway

Stretching from the Russian Far East and Alaska through East Asia and Southeast Asia to Australia and New Zealand, the East Asian–Australasian Flyway (EAAF) supports 28 to 68 million migratory waterbirds from over 250 different populations, including 36 globally threatened species and 19 Near Threatened species (EAAFP, no date). EAAF is recognised as one of the most imperilled flyways out of the nine major flyways in the world, primarily due to the rapid development across the region (figure 1).

International collaborations on the conservation of migratory waterbirds can be traced back to 1996, when the Asia Pacific Migratory Waterbird Conservation Strategy was initiated by Wetlands International Asia and the International Waterfowl and Wetlands Research Bureau – Japan Committee. Implemented from 1996 to 2000, this strategy aimed to establish a preliminary framework for waterbird conservation (Wetlands International – Asia Pacific, 1996). It was subsequently renewed and further developed for 2001–2005 by the Asia-Pacific Migratory Waterbird Conservation Committee (Asia-Pacific Migratory Waterbird Conservation Committee, 2001). Building on these achievements, the East Asian–Australasian Flyway Partnership was launched in 2006, with its inaugural meeting in Bogor, Indonesia, hosted by the Directorate General of Forest Protection and Nature Conservation of the Ministry of Forestry, Government of Indonesia (EAAFP, 2006). Since then, its Implementation Strategy has been iteratively updated across successive periods of 2007–2011, 2012–2016 and 2019–2028 and translated into 15 languages.



Figure 1. The East Asian–Australasian Flyway (redrawn by the author with data permission from BirdLife DataZone, 2026).

As of November 2025, the Flyway Site Network comprised 159 internationally important sites for migratory birds, forming a transnational ecological network. Within this framework, governments and partners across the region have agreed on common objectives, indicators and working plans, all grounded in a ‘flyway-wide approach’ to strengthen and promote conservation efforts. Despite the positive nature of these initiatives, however, it is important to avoid romanticising them and to acknowledge the challenges inherent in their implementation. Conscious of this concern, at the recent EAAFP meeting in Cebu, Philippines, participants undertook an integrated analysis of progress, challenges and opportunities to inform future implementation plans (EAAFP, 2025b). Nevertheless, the flyway-wide approach provides valuable insight into how transboundary collaborations can shape regional landscapes and advance ecological resilience.

Migratory bird conservation is also integrated into broader forms of regional collaboration. In 2021, the Asian Development Bank, in partnership with BirdLife International and EAAFP, launched the Regional Flyway Initiative as a model of nature-positive investment grounded in Nature-based Solutions (Asian Development Bank, 2021). These high-level engagements within the political and economic frameworks of the region are premised on the recognition that ecology and conservation cannot operate in silos. Instead, they require cross-disciplinary and strategic approaches to inform decision-makers and strengthen conservation interventions.

Two contrasting stories

The stories of two bird species that migrate across the EAAF illustrate the critical role of multi-scale ecological approaches in guiding landscape design and planning for regional conservation initiatives.

Black-faced Spoonbill

Decades of international conservation efforts have successfully downlisted the Black-faced Spoonbill (*Platalea minor*) from Endangered status to Vulnerable status on the IUCN Red List (figure 2). The population of this species has shown a remarkable recovery, increasing

from approximately 400 individuals in 1995 to 7,081 in 2025. Historically, the species was assessed as Threatened in 1988, reclassified as Critically Endangered between 1994 and 1996, and listed as Endangered from 2000 onward (IUCN, no date).

Extending beyond making an ecological statement, conservation efforts are embedded within political, socioeconomic and cultural perspectives. According to the IUCN Red List, the Black-faced Spoonbill has a geographic range spanning North and South Korea, the Russian Far East, parts of China, Taiwan, Hong Kong, Macau, the Philippines, Thailand and Vietnam. The species breeds at only 11 sites, including the Demilitarized Zone (DMZ) between the two Koreas – an accidentally ‘pristine’ ecological refuge, undisturbed by the human activities that threaten many natural environments.

As a migratory species, the Black-faced Spoonbill depends on multiple stopovers along its flyway. Yu Yat-tung, Director of the Hong Kong Bird Watching Society and Coordinator of the EAAFP’s Black-faced Spoonbill Working Group, emphasised that each stopover is critical and likened bird migration to ‘a battle for survival’ (Hong Kong Bird Watching Society, 2025). For this bird species, various landscapes and habitats across the flyway serve distinct functions – for breeding, non-breeding passage, roosting or feeding. The precision that birds use to locate suitable stopover sites is vital to conserving energy. Failure to locate them can be fatal.

In this regard, any deterioration in the size or quality of conservation areas, or limitations on the expansion of new habitats, could act as a population check or create a ‘bottleneck for growth’. Indeed, despite the overall increase in Black-faced Spoonbill numbers regionally, the population in Deep Bay, Hong Kong has remained stable, with an average peak of 433 individuals between 2018 to 2023 and no decline in numbers above 20 per cent in any given year.

The lack of a noticeable increase raises uncertainty as to whether carrying capacity has been reached in this particular site (Agriculture, Fisheries & Conservation Department, 2023). While minimising further disturbance from development and enhancing the wetland habitat restoration programme would certainly help the protected species, a holistic study of the Black-faced Spoonbill’s current patterns of habitat selection in the region is needed to understand today’s dynamics in the ecological network. In September 2025, EAAFP, the Economic and Social Commission for Asia and the Pacific and the North-East Asian Subregional Programme for Environmental Cooperation together organised a technical review meeting on the revision of the International Single Species Action Plan for the Black-faced Spoonbill, which was launched in 1995. The meeting re-examined the plan in relation to the period of 2026 to 2036, with the aim of providing further guidance for individual ecological nodes in formulating conservation and management strategies.

The story of the Black-faced Spoonbill may be one of the few successful examples of reversing the decline of a threatened species, though it remains under close monitoring. It followed the application of the IUCN Species Survival Commission’s Species Conservation Cycle (SCC) – Assess, Plan, Act, Network and Communicate – and demonstrates a structured framework to guide conservation planning and action (Cano-Alonso et al, 2023). More importantly, this case illustrates that single-site approaches to design and planning are insufficient to address the ecological complexity of species conservation. Instead, what is required is long-term habitat management across multiple sites with distinctive cultural and environmental characteristics, based on a broader perspective of landscapes and habitats as interconnected networks.



Figure 2. Black-faced Spoonbills at Gei Wai in Mai Po Nature Reserve, Hong Kong (with permission from sakerpal, 2011).

Far Eastern Curlew

The story of the Far Eastern Curlew (*Numenius madagascariensis*) (figure 3) contrasts starkly with that of the Black-faced Spoonbill. The Far Eastern Curlew, the largest shorebird in the world, undertakes a remarkable migration for long-distance breeding in the northern hemisphere. Its migratory path extends from Siberia, Alaska and China to Southeast Asia and Australia (Minton et al, 2011) (figure 4).



Figure 3. Far Eastern Curlew at mudflats in Mai Po Nature Reserve, Hong Kong (with permission from Henry Lui, 2023).



Figure 4. Flyway of the Far Eastern Curlew (redrawn by the author with data permission from BirdLife DataZone, 2026).

Until 2009, the IUCN Red List assessed the status of this species as Least Concern. Yet, following a rapid population decline, its status was progressively downgraded and became Endangered in 2015. In the same year, the Far Eastern Curlew Task Force was formed within EAAFP, following a proposal by Australia at the Eighth Meeting of Partners in Kushiro, Hokkaido, Japan. According to the Victoria Wader Study Group Far Eastern Curlew Project, the endangered species is one of the ‘most acute declines of any Australian shorebird species’. Its worldwide population may fall to 10 per cent of its 1993 level by 2035 if this trend continues (Wader Quest, no date).

The Far Eastern Curlew is one of the 22 bird species listed as priority species under the Australian government’s *Threatened Species Action Plan 2022–2023* (Department of Climate Change, Energy, the Environment and Water, 2022). The Threatened Species Recovery Fund also supports research on habitat restoration and strategic planning for the protection of this curlew (Lileyman et al, 2021). Yet site-based conservation for migratory birds in Oceania alone may not be sufficient to save the species given that the primary threat it faces is the ongoing destruction of tidal mudflats along its migratory routes, particularly in the Yellow Sea bordered by China, the Republic of Korea and the Democratic People’s Republic of Korea (EAAFP, 2017). The rapid economic growth in the region over this time prioritised development, often at the expense of the environment and natural resources. Giglio, Rillo and Stroebel (2025) argue that biodiversity loss and economic activities have a close relationship in the Asia Pacific region, particularly in Southeast Asia.

The extensive migration patterns and wide range of breeding grounds, stopover sites and non-breeding habitats present significant challenges for conserving the Far Eastern Curlew. For migratory birds, the availability of suitable habitats for feeding and roosting along their routes is essential to completing these long journeys. The critical question, therefore, is how conservation can effectively safeguard such diverse landscapes across nations and regions that differ in their socioeconomic and cultural contexts.

Although the EAAFP has formulated a Single Species Action Plan to conserve the Far Eastern Curlew, and the species was included in China’s List of State Key Protected Wild Animals in 2021, the conservation task remains complex and daunting. Moreover, it has

been argued that species-specific conservation approaches may not always be the most cost-effective use of resources, particularly given they are directed toward a single species (Lloyd et al, 2023). This raises broader considerations about how conservation strategies might balance targeted interventions with ecosystem-wide approaches that address the interconnectedness of habitats and species.

Ecological network approach

Due to substantial landscape changes along the EAAF in recent years, bird distributions have been significantly affected by the gains, losses and fragmentation of habitats. These trends raise the risk of network collapse, as the loss of certain individual sites may undermine the integrity of the entire flyway and even lead to the collapse of the network (Xu et al, 2020). Beyond these visible changes, less apparent shifts may also impact the ecological network. For instance, increasing contact between migratory birds and poultry or livestock driven by land-use change and habitat loss may heighten the risk that the avian influenza virus may be transmitted and evolve (Yin et al, 2025). Site-based approaches or individual projects are no way to address such risks; in these circumstances, a broader, integrated ecological network approach is essential.

The term 'ecological network' was first developed in the 1970s in the European context and in 1996 was recognised in the IUCN World Conservation Congress (IUCN, 1996). Bennett and Wit (2001) define an ecological network as:

A coherent system of natural and/or semi-natural landscape elements that is configured and managed with the objective of maintaining or restoring ecological functions as a means to conserve biodiversity while also providing appropriate opportunities for the sustainable use of natural resources.

This concept is core to avoiding habitat fragmentation and establishing connectivity. Extending beyond individual structural components such as patches, buffers and corridors, an ecological network encompasses the dynamic interactions and functional connectivity inherent in the system as a whole (Jongman, Kùlvik and Kristiansen, 2004). It is also a concept that extends beyond land. To migratory birds, islands are not isolated fragments but part of a vast, integrated ecosystem network. In a comprehensive scientific study identifying priority wetland sites across the EAAF, Crosby and colleagues (2025) recognise the necessity of a flyway-wide perspective, emphasising that conservation strategies must account for ecological connectivity, transboundary collaboration and the cumulative pressures facing migratory species.

Further, Xu and colleagues (2022) propose a three-step scientific and quantitative approach to inform and prioritise the conservation of networks along flyways.

1. Construct a bird movement network.
2. Measure the connectivity of the movement network.
3. Determine the importance of nodes and their contribution to the connectivity of the movement network.

With its focus on identifying key sites and prioritising conservation resources, this strategy is particularly suitable to birds with long-distance migratory paths. It also aligns with the United Nations Environment Programme's Convention on Migratory Species, which recognises the importance of designing and implementing ecological networks and area-based connectivity in migratory birds conservation (United Nations Environment Programme, 2020).

Through the lens of migratory birds

When we conceive of landscape through the lens of migratory birds, we may gain a different understanding of the role of design. A waterfowl, after all, does not recognise

administrative boundaries. Conservation discourse often assumes the existence of a ‘pristine’ nature, idealised as intact and untouched by human influence. Even setting aside the controversy over whether ‘nature’ or ‘first nature’ still exists, it is important to acknowledge that many remnants of nature depend on cultural practices and human management to sustain ecosystems.

For instance, the Mai Po Ramsar site in Hong Kong continues to maintain the traditional Gei Wai practice, an intertidal shrimp pond operation technique from South China (Cha, Young and Wong, 1997) (figure 5). Shrimp farming was once economically profitable in Hong Kong and this practice also provided essential food sources for migratory birds.

Similarly, the coastal wetlands of Balanga, a critical site along the EAAF, are integral not only to migratory birds but also to the fisheries, tourism and economic sectors of Bataan Province in the Philippines. The nature–culture relationship is intertwined with ecological, economic and social aspects.

As such interconnections suggest, while human activities often contribute to environmental degradation, they can also play a constructive role in sustaining and enhancing ecological value. Indeed, left unmanaged, many habitats can experience ecological decline over time, or be developed and converted into brownfields.



Figure 5. Mai Po Nature Reserve in Hong Kong (image by author, 2024).

In this regard, the design and management of these cultural landscapes are inseparable from habitat conservation yet they remain overlooked. As Nassauer (1995) argues:

Equating design with deceit leaves no room to acknowledge how design is necessary to represent and maintain ecological functions. Finally, we might assume that people know how to see ecological function, that ecosystems speak for themselves. Consequently, we might live in the landscape without knowledge of critical but invisible ecological function. In fact, invisible ecological function must be actively represented for human experience if human beings are to maintain ecological quality.

The migratory paths of waterfowl, such as the Far Eastern Curlew, span nearly the entire Asia Pacific region, extending far beyond the perceived scale and scope of most individual landscape projects. To understand the region from the perspective of migratory birds, it is necessary to blur the boundaries of nations. Far from being a series of isolated pockets, the archipelago is unveiled as a massive ecosystem. This transboundary viewpoint is crucial to addressing global environmental issues.

In searching for a definition of the Asian landscape, Rahmann and Walliss (2021) state:

Within this framework, a region is defined as a social construction, which is constantly remade through social, economic, political, cultural interactions and interdependence, while regionalism is viewed as the 'deliberate act of forging a common platform, such as intergovernmental and transnational objectives to deal with common issues and advance a common identity' ... Instead of adopting landscape as a loan word, is it not possible to develop a landscape 'inclination' that comes from Asian perspectives of nature, space and time?

From landscape ecology to multi-scale ecology

Landscape ecology emerged in the design field during the 1980s, with Forman's classical illustrations providing a structured spatial analysis to understand landscape dynamics and integrate ecological principles into design practice (Forman and Godron, 1986). The later discourse of landscape urbanism is intended to proclaim a new understanding that 'landscape has become both the lens through which the contemporary city is represented and the medium through which it is constructed' (Waldheim, 2006). Particularly significant is its emphasis on conceiving landscape and ecosystems as processes rather than static forms (Belanger, 2009).

These concepts have since been incorporated into mainstream design pedagogy and practice. Despite acknowledging the need to challenge boundaries and engage with regional scales, the paradigm of ecological design has increasingly gravitated toward city-based frameworks. *The Endless City* articulated global challenges as fundamentally urban questions (Burdett and Sudjic, 2010). The position taken in this paper is not to underestimate the importance of the urban age issues centred on cities, but rather to contend that focusing exclusively on the scale of the city risks obscuring a more effective understanding of ecology at the regional scale.

In the context of planetary environmental crises, ecology is no longer confined to designated conservation areas. Rather, it is increasingly understood as a global concern that permeates all parts of the world. International, transboundary scientific collaborations and cross-border conservation programmes such as avifauna studies have revealed the global constellation of ecological interconnections. Avifauna ecologists demonstrate that while conservation remains largely site-based, adopting a regional perspective enables ecological advocacy to be realised on a global scale.

Spatial scale and pattern constitute fundamental quests in landscape ecology. Establishing theoretical foundations and appropriate quantitative modelling methodologies to evaluate ecological interactions and landscape effects has long posed a challenge (Levin, 1992; Miguet et al, 2016; Newman et al, 2019; Peterman, 2026). Recent developments in landscape ecology have advanced beyond single-scale approaches toward multi-level frameworks in ecological networks, linking conservation across scales and emphasising a

holistic understanding of ecosystem interactions (DeLuca et al, 2023; Moracho, Normand and Ordonez, 2025). In a study of avifauna in particular, Xing, Qian and Ma (2025) introduced scale response models and habitat selection models to examine the decision-making processes of the Oriental Stork (*Ciconia boyciana*) across multiple scales.

These findings suggest that at broader scales, habitat connectivity and landscape quality are prioritised under a ‘benefit-tendency’ strategy, whereas at finer scales, a ‘risk-avoidance’ strategy dominates to mitigate disturbance and other environmental pressures affecting survival. Such research is crucial in bridging theory and practice, informing applications that range from regional landscape planning to site-specific project implementation.

In landscape architecture, there is increasing recognition of the need to integrate ecological principles and frameworks into design and planning (Hersperger et al, 2021; Steiner, 2012). Nevertheless, traditional professional approaches often rely heavily on established standards and readily available knowledge, revealing a persistent gap between disciplines (Ahern, Cilliers and Niemelä, 2014). Ecological design in landscape projects is frequently limited to analysing proximate ecological baselines and enhancing landscape quality within defined boundaries, thereby neglecting the broader vision of landscapes as interconnected systems. A multi-scale ecological perspective underscores the necessity of transcending site-based approaches and adopting a new paradigm of ecological design – one that connects and amplifies the contributions of numerous smaller projects to create transboundary and scalable interventions. Landscape designers must therefore cultivate a heightened awareness of the ecological implications of their work within larger spatial and systemic contexts.

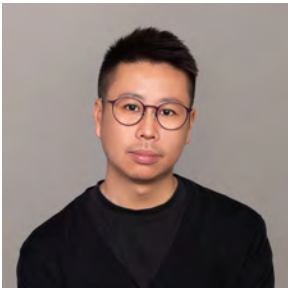
Conclusions

If ecological design and planning are emerging as a paradigm shift in landscape architecture, then a new understanding must be articulated. The successful experience of the East Asian–Australasian Flyway Partnership, despite its ongoing challenges, demonstrates how having an ecological agenda amid substantial landscape change requires clear strategies, actionable priorities and achievable goals (Mundkur, 2006).

Viewing archipelagos and regions as interconnected networks rather than isolated sites is an idea often acknowledged, yet rarely practised in daily design work. Admittedly, planetary frameworks can appear highly theoretical and detached from practical intervention: a growing dialogue suggests that design pedagogy and practice should focus on scales perceived as more ‘manageable’. Yet while gardens, parks and urban greenery represent the majority of commissions landscape architects receive from clients, it is equally important to embed a larger-scale ecological understanding from an epistemological perspective. Designers must recognise that their actions influence not only the character of landscapes within their site boundary but also the functioning of bigger ecosystems. The ecological contribution of any site depends not only on its intrinsic quality but also on its connectivity and its role within the broader network.

If the call to landscape architects of this generation is to restore landscapes as functional ecosystems in harmony with human development, then answering that call requires a fundamental shift in mindset. Ecological design cannot be simplified or constrained by prevailing frameworks that remain bound to site-based or single-scale approaches that are defined by fixed project boundaries. While valuable, in the face of global challenges these approaches are insufficient to address the complexity of ecological systems such as those of flyways. To envision a future of landscape ecology, we need to redefine design from an epistemological perspective, advancing a multi-scale landscape ecology that transcends local boundaries and embraces interconnectedness.

About the author



Benni Pong is Vice President of the Hong Kong Institute of Landscape Architects. He is a landscape architect involved in a number of award-winning projects, as well as projects that have featured in various expositions and biennale. His research focuses on spontaneous landscapes, urban ecology, perception of space, cultural landscapes and design anthropology and explores the dynamics of design practice and pedagogy.

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The ovava tree plays a significant social, cultural and environmental role within the Ohonua community, contributing to the shaping of a blue biophilic place in ‘Eua (image by Zhang, February 2026).



Blue biophilic place and island placemaking in the Pacific: the case of the island of ‘Eua, Tonga

IDERLINA MATEO-BABIANO, ADELAIDE LEE, ANH NGUYEN AND SHIYI ZHANG

This paper presents a critical auto-ethnographic reflection on blue biophilic placemaking and islandness, framed through a post-disaster context in ‘Eua, an island in the Kingdom of Tonga. The Hunga Tonga–Hunga Ha‘apai volcano erupted in 2022, triggering a deadly tsunami and causing widespread disaster. Coastal communities in small Pacific Island countries were seriously affected, including Ohonua on ‘Eua. Ohonua faced the additional burden of intensifying weather and sea-level rise due to climate change, which exacerbated its vulnerability during disaster recovery. Through a Placemaking Sandbox delivered in July 2024, students explored reconnection and healing, sense of place and belonging, blue nature and biophilic urbanism with the community. Examining the social-ecological-cultural islandscape of ‘Eua, we highlight a nature-based placemaking project where islandness is expressed through fostering collective community leadership and stewardship in building connection through creating spaces for play and caring for nature. This helps to amplify often muted voices of nature and children, recognise residents as place experts, and listen to intergenerational resilience stories that share knowledge and practices. This encounter offered fresh insights and place-based learnings on the role of island placemaking and blue urbanism in shaping being and belonging as the community gradually recovered after the disaster.

Introduction

With one in four countries being an island nation, about 730 million people around the world live on an island (World Population Review, 2026; WorldAtlas, 2026). Yet island nations are disproportionately affected by natural disasters such as cyclones, typhoons and floods, which have a catastrophic impact on already at-risk coastal communities and exacerbate their vulnerability. Therefore, it is imperative to both examine social vulnerabilities of island communities and find pathways to enhancing their disaster preparedness. Identifying place-based opportunities for communities to heal during recovery will help futureproof these communities, whose culture and livelihoods are closely tied to their land and water.

In 2022, the Hunga Tonga–Hunga Ha‘apai volcano erupted in the Pacific Ocean. This triggered a deadly tsunami, which affected several Pacific communities, including Ohonua on the island of ‘Eua, Kingdom of Tonga (Pulu and Pamatatau, 2023). Responding to the call for a design-to-heal post-disaster project, our team delivered a Placemaking Sandbox to the community in July 2024. The Placemaking Sandbox is an experiential education platform where participants collaborate and co-design with a community to enable social transformation. The Tonga Placemaking Sandbox travelling studio was a collaboration between the Ohonua community, the Tupou Tertiary Institute and the University of Melbourne. Guided by their studio leaders, four student teams worked with the Ohonua community to explore how placemaking can support healing through expressions of islandness that build community reconnection and place attachment, in turn strengthening resilience in an uncertain climate future. This paper presents the critical auto-ethnographic reflection of one studio leader and the Niu student team.

First, we propose a conceptual framework, which suggests that islandness is an expression of community resilience and places particular emphasis on blue nature.

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KEY WORDS

island placemaking; islandness; blue-green places

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Second, we introduce the case study, justifying its choice in narrating resilient imaginaries, particularly in a post-disaster setting. Third, through an auto-ethnographic lens, we use the framework to critically reflect on our experience of islandness and blue biophilic nature-based placemaking. Finally, we share relevant insights on how placemaking helps in reconnecting land to water, highlighting the role of blue biophilic urbanism in adaptation to the Anthropocene, with implications for education, professional leadership and practice, and academic research.

Conceptual framework

Islandness defined

Islandness remains a contested concept with multiple meanings (Foley et al, 2023). While islands are often defined as small land masses bounded by water bodies (Baldacchino, 2006), Hau'ofa (1994) challenges this perspective by declaring that islandness is in fact the cultural connectedness of land masses via a 'sea of islands'. This perspective shifts our understanding of the role of islands in fostering marine innovation and collective climate action (Kelman, Burns and des Johansson, 2015).

Despite assumptions that island communities are insignificant when it comes to planning and designing (Ronström, 2021), they cover a vast portion of the world, varying in size, territorial area, and cultural-social-ecological characteristics and systems (Adams, 2001; Nel et al, 2021), with unique ocean governance structures (Hau'ofa, 2000) and ocean-based economies (Govan and Katafono, 2017). Also framed as blue urbanism (Beatley, 2014), islandness reflects relationships between people, a place and its four dimensions – *self, space, community* and *nature* (Hes, Mateo-Babiano and Lee, 2019). When positive relationships are achieved in (coastal) communities, islandness becomes an expression of resilience, demonstrated in the relational outcomes of sense of place, sense of belonging, blue biophilic urbanism and blue ecological health. These concepts are visualised in figure 1 and explained in the following discussion.

Blue biophilic nature-based placemaking

Placemaking shapes spaces to foster meaningful lived experiences and enhance community connection and quality of life through participatory community interactions (Hes et al, 2020). It recognises residents of place as experts with knowledge and skills that can positively transform spaces for deeper connections (Schneekloth and Shibley, 1993). In so doing, it will support place care and custodianship, enhance nature stewardship and improve ecological health (Bush, Hernandez-Santin and Hes, 2019). Strengthening the relationship between community members builds social relationships that will cultivate their sense of belonging to blue places.

A critique of placemaking is that it traditionally forges emotional connections between people and space. Yet by embedding ecological thinking, we contend that people and place are part of (and not apart from) nature. In island settings, placemaking based in blue nature expands the approach beyond a human-centred focus and flips the perspective towards integrating marine (or blue) nature in island geographies. This shift impacts development by creating healthier, more sustainable blue environments for positive societal futures (Bush et al, 2019).

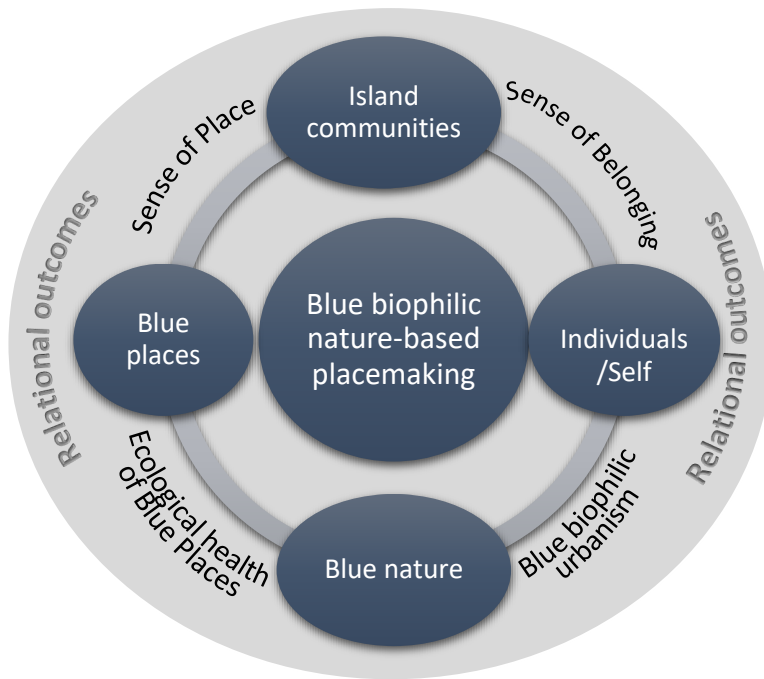


Figure 1. Blue biophilic nature-based placemaking framework (image by Mateo-Babiano, March 2026).

Blue biophilic urbanism

In *Blue Urbanism*, Beatley (2014) argues that planning often overlooks the connection between cities and the sea, despite its social and ecological importance. He frames blue urbanism as a form of *biophilic* urbanism, emphasising how the human affinity with marine nature brings out our biophilia – or our desire to reconnect with nature. This perspective repositions oceans and islands to be not boundaries but connectors across cultures and communities (Adams, 2001; Hau’ofa, 1994, 2000; Wardle et al, 1997). It calls for cultivating blue biophilic environments that support wellbeing, strengthen stewardship and respond to climate challenges such as sea-level rise (Beatley, 2014, 2017).

Blue nature as blue biophilic infrastructure

Nature-based strategies include green and blue spaces (parks, forests, coasts, lakes, ponds and pond systems, water courses). Building on this, our discussion extends beyond land to focus on marine nature, advocating a shift towards understanding blue and green spaces as integrated infrastructure. From this perspective, nature becomes a natural asset (Pinto et al, 2022), providing essential ecosystem services ranging from mangrove forests that minimise the impacts of storm surge to healthy forest systems that mitigate drought, flooding and landslides. When the environment is considered as a natural asset, people, in return, care for it and become stewards on its behalf (Bush et al, 2019).

For this reason, island communities, through nature-based placemaking, emerge as active agents of change in prioritising blue biophilic infrastructure (Sutton-Grier et al, 2018). It follows that placemaking, while acknowledging the physical and geographical makeup of ocean communities, recognises that islandness goes beyond the physical place boundaries, acknowledging island living or blue urbanism as embedded local knowledges of blue nature in lived experiences of and cultural relationships with the sea .

The case study

An overview of the Ohonua community

The Ohonua community comprises eight blocks, including six directly bordering the ocean and block 7 at a higher elevation east of these six blocks, as shown in figure 2. Blocks define the spatial distribution of the township according to streets and natural topography, running mostly in parallel, from the southeast (highest point) to the northwest (lowest point), which has access to the beach. These streets also serve as boundaries for the blocks, ending at the foreshore area.

As the lowest point on the island, the foreshore area's elevation ranges between 13 and 26 metres above sea level. The increasing elevation on moving inland means that the eastern portion of these roads offers breathtaking scenic views of the beach and other ocean attractions. However, during heavy rainfall the west (foreshore area) becomes a rainwater catchment, subjecting the foreshore to erosion and flooding.

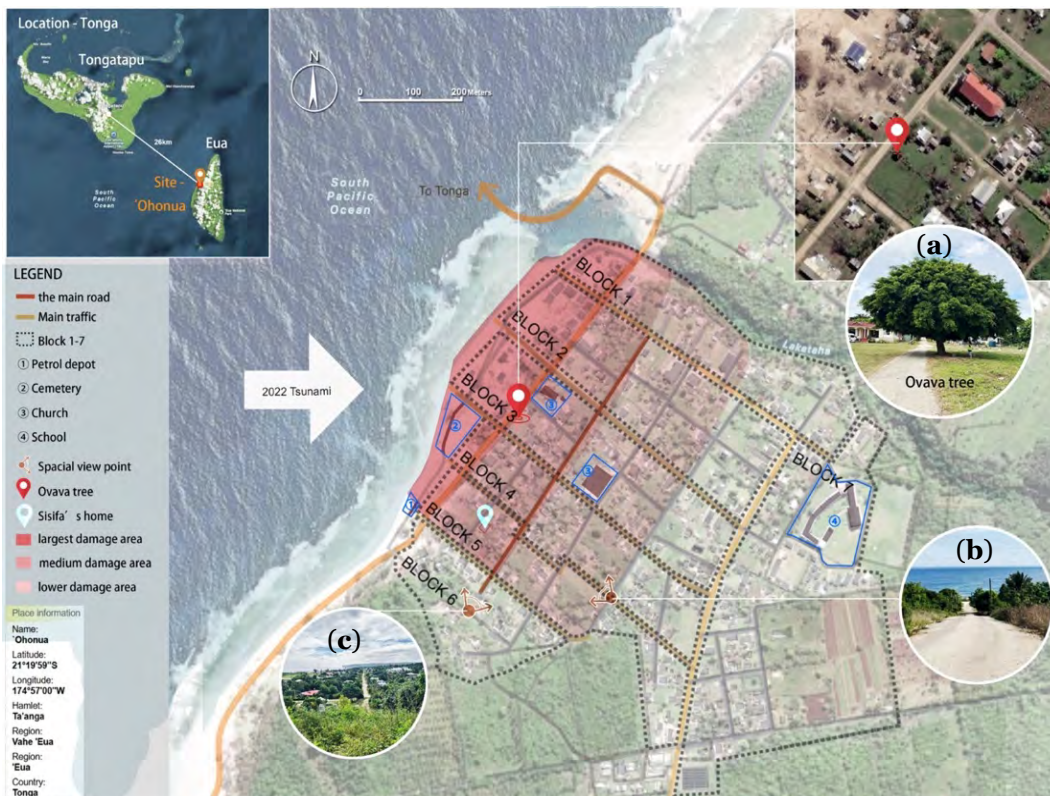


Figure 2. Ohonua community, 'Eua, showing (a) the sole ovava tree left standing; (b) a view towards the ocean from the higher point of a road; and (c) a panoramic view of the community (collage by authors, June 2024).

Traumatic spaces, opportunities for healing

During our visit, we observed the heavy impacts of the tsunami on the foreshore area (Faisal, Ayuningtyas and Maulida, 2023). Along the shoreline, around 139 buildings were damaged and abandoned. All public structures were required to relocate to higher ground. Residential development was also banned in the same area and affected residents, although hesitant, agreed to move to block 8, which is south of block 7.

At the same time, use of the now-abandoned area became a challenge. This once vibrant, blue biophilic coastline serving as the heartbeat of the community now became a stretch of unused and desolate territory. Figure 3 shows the extent of the devastation. Yet this abandoned space also presented untapped potential for the community and became the empirical context for the Placemaking Sandbox.



Figure 3. Images of the tsunami devastation along the coast (clockwise from top): **(a)** collapsed bank with an abandoned government building in the background; **(b)** main road with a view of the church; **(c)** perspective towards the ocean of abandoned buildings; **(d)** view of block 3; and **(e)** ignored foreshore spaces (photos by authors, June 2024).

Approach

Researcher positionality, auto-ethnography and data needs

The authors were all participants in this project: Iderlina was one of the studio leaders, while Adelaide, Anh and Shiyi formed the Niu student team. Together, they used an auto-ethnographic lens with an outsider position to explore islandness and nature-based resilience. Working with the Ohonua community, they made conscious efforts to clarify roles in ways that would amplify voices often not heard such as the voices of children and of nature.

During the learning about concepts and approaches in reducing social vulnerability through nature-based resilient placemaking, we intentionally did not impose ideas on the community. Similarly, we did not make assumptions about how members of the community would re-imagine a healthier, more resilient 'Eua. Instead, we sourced critical reflections from our own observations and daily field notes, which captured our first-hand experience of living in 'Eua, and focused on co-designing with the Ohonua community. Further interpretations of these ideas were made against the broader goals of strengthening relationships with place through sense of place and place belonging,

ecosystem services, ecological health and biophilic urbanism – all of which are strategies to enhance disaster resilience to future shocks.

This approach helped reinforce the role of researchers as research instruments and the role of the Ohonua community as research partners. Yet one of the authors observed that differentiating private and professional identities is challenging. As Ellis, Adams and Bochner (2010) note, when adopting an auto-ethnographic process, we need to follow a systematic self-critique of how we experience a phenomenon, always aware of our own biases, particularly if we are also participant observers. This process is two-fold, involving critical self-reflection (*auto- + -graphy*) to increase one's understanding of a cultural phenomenon (*ethnos-*).

Placemaking Sandbox: an islandness living lab

The Tonga travelling studio is a subject offered in the Melbourne School of Design. It is part of the Master of Urban Planning programme at the University of Melbourne, which is accredited by the Planning Institute of Australia. It is a collaboration between the Ohonua community, the Tupou Tertiary Institute and the University of Melbourne to respond to the call for a design-to-heal, post-disaster project, which was delivered in July 2024.

The Placemaking Sandbox, which is part of the studio work, takes on a participatory action research-led pedagogical approach to support transformative learning. Transformative education encourages both students and studio leaders to go beyond acquiring knowledge and skills to understand place and community values.

In the context of a changing climate, islands are crucial sites for observing the impacts of planetary challenges, but also for testing opportunities for resilience. As a placemaking living lab, they offer opportunities for testing resilient strategies and solutions that can respond to global challenges and contribute to global sustainability goals (Horgan, Kerst and Koens, 2024). This process first and foremost prioritises respect for the natural environment, local contexts and situated knowledges, which enables collective action and community leadership in co-creating a more just and sustainable future (Rabie, 2013).

Data collection: exploring islandness via blue biophilic nature-based placemaking

Twelve students from the Faculty of Architecture, Building and Planning, University of Melbourne, formed four transdisciplinary placemaking teams. Students came from diverse built environment disciplines of architecture, landscape architecture and urban planning and one Tupou Tertiary Institute student joined each team.

Each team, including the Niu team, was assigned to work with two neighbourhood blocks. Adopting convenience sampling, student teams engaged in Talanga conversations with the community to explore how placemaking can support community healing through expressions of islandness across 10 days. Talanga is a community-centred research process: 'Ta' refers to initiating a talk or conversation while 'langa' is about responding to a talk or conversation, so the term as a whole means 'interactive talking with a purpose' (Ofanoa et al, 2015, p 335).

Talanga as a process recognises that island residents are place experts that share specific local actions and grassroots initiatives relevant to their island way of life or blue urbanism (Baldacchino, 2006). Through Talanga, social and biocultural relations are cultivated and trust with the community is built. This develops insights into how people shape their places and expands understanding of local resilience-building.

Both studio leaders and team members were tasked with writing their observations and taking field notes on their daily experiences and learnings in their journal. In our field notes, we used the relational outcomes of placemaking to guide the content while drawing on the 4Fs (facts, feelings, findings and future actions) to structure the auto-ethnographic critical reflection. Specifically, we:

- picked one event, documented an objective account of that event and wrote what we learned from it (facts)
- wrote about our subjective account of or reaction to the activity or learning (feelings)

- reflected on our key takeaways from the activity, connecting this learning to islandness and the broader environmental, cultural, political, and social island contexts (findings)
- ended by describing how this learning can inform our future actions, research and/or professional practice (Greenaway, 2002).

Data analysis: island transformation, learning and nature-based resilience

Through our journal entries, we analysed our own experience of the Placemaking Sandbox travelling studio as we embarked on a co-design journey with the Ohonua community. With the intention of understanding the impacts of the disaster, the community healing process and expressions of islandness, we analysed the entries against broader situated experiences, knowledges and practices of islandness in the cultural and institutional setting of 'Eua.

We were interested to investigate how islands can serve as evolving spaces for cultural production, exchange and human-nature transformation, fundamentally leading to an understanding of the centrality of islandness in the process of making meaning of place. We also wanted to understand how the placemaking process presents opportunities for transformative learning for the students, the studio leader and the Ohonua community.

Results and findings

In this section, we describe expressions of islandness through the lens of blue biophilic nature-based placemaking.

Team naming

Inspired by the nature endemic to island settings, each of the four teams navigating the complex biocultural settings of the Ohonua community adopted a name drawn from local flora and fauna. Group 1 picked Mohokoi, the local name for the ylang-ylang flower; group 2 chose Kava, which is a popular ceremonial drink in the South Pacific; group 3 picked Niu, which is the local name for the endemic coconut; and group 4 chose Koki, which refers to the native parrot found only on 'Eua.

The naming signalled the start of our learning journey of deepening our ecological knowledge of the island's social-ecological system. This learning journey is the central tenet of our Placemaking Sandbox.

Walking on 'Eua – our approach

On the day that we arrived on 'Eua, we were introduced to the community and received a very warm welcome. We were brought to our accommodation at the sole local agricultural college on the island. Each team was assigned two of the community's blocks. The Mohokoi team focused on blocks 1 and 2, the Niu team on blocks 5 and 6, the Kava team on blocks 3 and 4 and the Koki team on blocks 7 and 8.

Our first activity was to visit households in our assigned blocks. The Niu team was accompanied by two local youths, who served as our translators as we went door-knocking. At each household, we introduced our team, discussed the purpose of our visit and engaged in Talanga conversations. The intent was to deepen our understanding of place, including its blue natural environment. Our encounter with each household helped us gather initial insights and, more importantly, engage in an honest and transparent conversation and express our intentions with the community. This helped build trust.

Subsequently focus group meetings and discussions with various community groups (ie, women's council, children, commercial owners) were held. While some of these were pre-arranged, most of the deeper conversations happened organically. We also went on a walking observation with community members, particularly with youth and children. These activities helped capture both the natural and sensorial experiences of the place – a process that helped the student teams to work with community members, learn about the various ways of working with people and their connection to marine nature, and identify

biophilic, nature-based strategies. The daily community interactions also helped students to build their creative, critical and intercultural thinking competencies.

Social vulnerability and community resilience

We witnessed the physical damage brought by the tsunami as we went around the community. Yet we were also pleasantly surprised to see that, despite the significant environmental devastation, many native plants (eg, *Cyathea* and the ovava tree (Indian almond)) were thriving and vibrant in the area. The landscape demonstrated the area's ecological diversity: the many types of vegetation included coconut trees, which are a staple in tropical regions, as well as seaweed and moss flourishing near the coastline. The vista was also breathtaking. Roads led directly to the sea, offering impressive views that enhanced the area's natural environment.

We realised how the geographical and ecological richness of the island is crucial in shaping community lifestyles and traditions, which also served as a reminder to us that care and stewardship are fundamental to the preservation of such an invaluable biocultural heritage. We thought that as long as sustainable practices were embedded in the community, their biocultural heritage will remain intact and will be sustained for future generations to enjoy.

An important goal for placemaking is to build the resilience and agency of the community. Agency refers to the feeling of being emotionally connected to place and the ability to act for, with and in place. In the case of 'Eua, Tongans' traditional attachment to place is underpinned by their cultural obligations to their *fānili* (family), *kolo* (village), *siasi* (church) and *fonua* (place) (Ongolea and Houkamau, 2024), which together comprise *anga faka-Tonga* or the Tongan way of life. Resilience stories of nature and the children's planting group (discussed below) are examples of how it is possible to build the agency of Tongans related to their social and ecological systems, which leads to caring for their place. Once they care for their place, they look after it. Yet when we began our project, such agency was under threat because of the adverse impacts of human activities compounded by the changing climate, which increased the social vulnerability of the community.

From foreshore trauma to fostering belonging to place and nature stewardship

Even after the trauma they had experienced, we noticed that Ohonua residents continued to express a profound physical and emotional connection to their natural blue and green surroundings. By living alongside the Ohonua community and surrounded by bodies of water, we felt a renewed sense of place unique to an *aquapelago* where the community was insulated from outside influence.

As days went by, we started to feel a strong sense of connection with the people in the community, which grew through our daily communal interactions. Sharing meals, joining gatherings and listening to stories allowed us to co-create a design that was inspired by the everyday lived experience of the community, and one that resonated with local culture and place.

What made this experience unique was that it brought out collective leadership especially among the children. They welcomed us, joined us in our walks, willingly answered our questions and had a few themselves. Their inquisitive minds reminded us of who and how we were when we were younger. Some of the children had knowledge of plants endemic to the area. Later, we learnt that most of them were part of a planting group, an informal gathering of children that was organised a few months after the tsunami. One of their projects was to plant *telie*, tropical almond trees that are endemic to coastal areas, along the shoreline. The idea was that each tree would be taken care of by one child, who would grow with the trees. Senior members of the community shared that now the children knew more about the trees than them.

This experience highlights the major role that children can play in building back better and with greater resilience through community leadership and nature stewardship – roles that are often invisible as generally their perspectives are not sought. This experience also

highlighted the importance of seeking children's input, amplifying both their voice and nature's voice in the process.

Islandness – converting waste into a resource in aquapelagic settings

Infrastructure-related challenges persist in island settings. The first 'Eua visit led to the discovery of a burgeoning waste dumpsite. A published report by MORDI Tonga (2014) described wild dumping happening in areas outside of the official dumpsite, on farmland or along the coast. Also observed were waste materials such as plastic bottles, cans and food packaging indiscriminately scattered on roads, in common areas and public spaces, including the beach. Waste derived from construction, including plastic pipes, wooden panels and timber logs, was abandoned in various areas and mixed with other types of waste materials.

Without proper management, these areas attracted scavenging dogs, pigs and rats, which potentially could become vectors for diseases (MORDI Tonga, 2014). In addition to the immediate health hazard that these scavengers present, a significant concern is that they could damage the ecosystem, affecting local wildlife on land and marine life beyond that.

The need to explore innovative waste management interventions for 'Eua inspired us to brainstorm possible ideas with the community. Through the Placemaking Sandbox, we were able to build collective leadership within the community, particularly among youth and children – leadership that we observed helped to strengthen collective stewardship of nature along with community resilience.

Islandness and Tongans' traditional attachment to place

Tongans' place attachment is influenced by their cultural obligations to their kolo (village) and siasi (church) (Ongolea and Houkamau, 2024). As Liava'a (2024) extensively documented and as confirmed by our first-hand experience of Sunday worship with a host family, religious practice of Lotu (Christianity) permeates all aspects of the Tongan household and daily life (Havea, 2011; Havea et al, 2017). These sources also highlighted the centrality of Felupe (sense of community) in Tongan society (Liava'a, 2024).

The preparation for Sunday worship commenced each Saturday when families headed to grocery stores for food. They then spent all of Sunday with a host family, which included church attendance. All participated in after-church social activities, with the nature of the activities depending on the local family's religious denomination. For some, it was joining kava hili e malanga (or kava after the church service). Kava-drinking was practised mainly by the men in the community, while the women gathered with the children in the church hall.

These gatherings provided a platform for the community to come together, bolster connections and show solidarity. Indeed, siasi was not only an important place of worship but also served as a venue for community gathering and social support, and as a platform for 'holding things together' or Felupe, strengthening place attachment and sense of belonging in island communities (Liava'a, 2024). Lotu became embedded in familial life following its introduction by two missionaries, J Thomas and J Hutchinson, in 1826. At that time, King Tupou I supported the integration of Lotu into communities.

Since then, Lotu has become an important social and cultural foundation, shaping the Tongan national identity and its cultural, political and community spirit (Faisal et al, 2023; Tafea, 1999). As a result, it is impossible to disentangle the Tongan way of life from the practice of Lotu. While Liava'a (2024) contends that addressing the climate crisis will be more effective when conceived through the lens of Lotu, many coastal communities still live in incessant fragility as the global polycrisis persists, intensifying local challenges such as water scarcity and climate impacts.

Interpreting islandness through biocultural heritage and connection, intergenerational resilient stories

The story of the sole surviving ovava tree left a lasting impression. After the 2022 tsunami brought great damage to the community, this single ovava tree was the only mature plant

standing in the middle of an almost barren foreshore area. It became a symbol of the 'Eua community's cultural identity and resilience to challenges.

The community shared that the ovava was more than a tree, in that it compelled them to face challenges head-on. Talanga conversations particularly with a community elder revealed deep memories of the ovava tree as the community's original gathering place in the 1950s while they waited for the ferry from Nuku'alofa to arrive in 'Eua. Community members, particularly the women, stayed under its breezy shade while telling stories to children.

Today, it remains a space for play, learning and intergenerational exchange. It is a resilience story of how native plants function as ecological, cultural and social anchors for the community – resulting in a deeper sense of place and belonging in island settings. As we continued to listen to many more stories the Ohonua community members shared during our daily encounters with them, these stories became 'moments of inspiration', serving as our jump-off point to extend the spirit of the ovava tree into the broader community through placemaking.

The ovava tree became the basis for the development of the placemaking project, supporting socio-ecological resilience and placemaking in island settings. The group was guided by this provocation: how can placemaking foster islandness through the cultivation of a space that, like the tree itself, will bring people together, reawaken abandoned land and remind everyone of the strength that grows from green–blue nature, culture and care?

Islandness through nature-based placemaking: Ovava Playground collaboration

In building the vision for the Ovava Playground for Resilience, what began as a learning journey became the heart of a project that would support the Ohonua community in rebuilding their bond with the land and water, as well as strengthening their resilience to future challenges, particularly climate change.

The Ovava Playground for Resilience was crafted as a place-based tactical placemaking intervention. Tactical placemaking is a temporary, co-created approach to place development. In this instance, the process was earmarked to co-create a playground with the community, with the aim of transforming a tsunami-affected shoreline from a place of trauma into a space of joy, community connection and local cultures. The project was not about delivering a community playground as the studio's final *product*; rather the emphasis was on the *process* of building resilience. By shifting the purpose of the playground co-design towards building connection and prioritising relationships, the placemaking process became a platform for cultural renewal, environmental education and intergenerational collaboration. The intent was that through a small-scale, place-based intervention we could show how resilience can grow from modest initiatives to shape meaningful and more impactful actions.

From individual to collective stewardship: children's role in island community healing

Early in our implementation of the Ovava Playground, we went around the neighbourhood to gather 'waste' that we could reuse in the playground, such as some old car tyres, wooden materials and plastic bottles. With the help of our host and some local residents, we brought all those materials to the site late one morning to start working on the tactical placemaking.

When we started setting out our materials, we could see several children from a distance looking at us. They were curious. We started waving at them, inviting them to join us. A few minutes later, we saw one child cautiously walking towards us. Their slow steps signalled to us their uncertainty. After the first two or three children joined, more came to help make the playground while playing.

Given the freedom to come up with and implement their own ideas, the children co-designed and built the play elements, the elders shared their cultural knowledge and ecological wisdom, while craftspeople taught us to work with endemic materials (ie, coconut and palm leaves) and recycled materials. This cycle of sharing went on for more than three hours as we collaborated on building the playground.

Through this experience of co-creation, we learnt that by enabling the community, they can lead the transformation of trauma into joy and restore pride and stewardship.

They felt confident to share their knowledge and learnings. This helped both the community and the team deepen our understanding about community resilience, which emerges from trust, relationships and shared actions (figure 4).

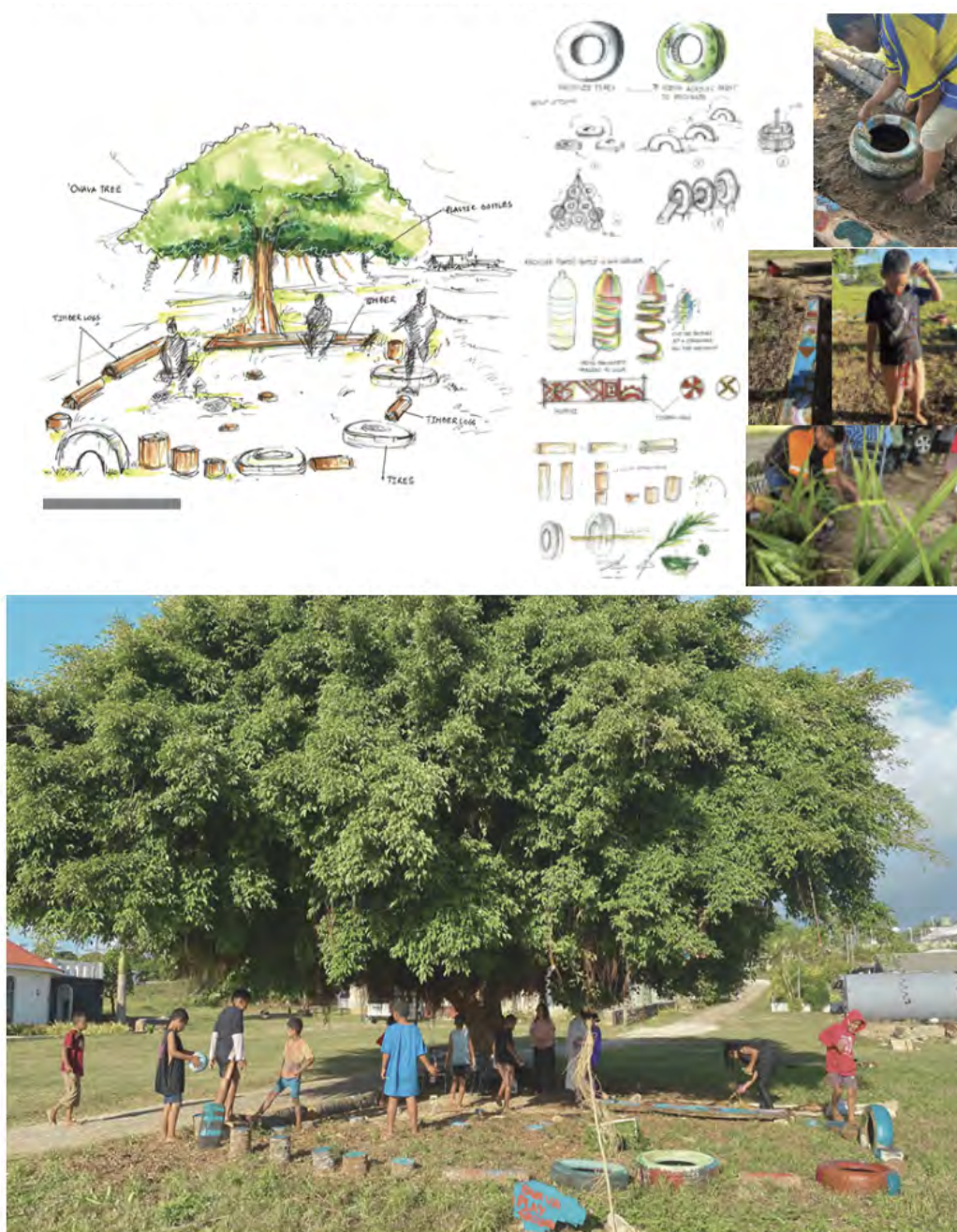


Figure 4. Waste-to-resource play elements and the Ovava Playground (collage by authors, June 2024).

This experience further highlights that in placemaking, the process is more important than the product. It also taught us that the community are the true experts of their island. This is invaluable learning to present and future built environment professionals like us. At the same time, the placemaking process reminded the community of their rich blue islandscape heritage around the ovava tree in the foreshore area. It encouraged the community to reconnect with their land and water, to bring back their stories to share with one another. This small, seemingly insignificant process helped bring life back to the abandoned zone, which contributed to the community’s ongoing process of healing and resilience.

In summary: The Ovava Playground and islandness resilience

The purpose of the Ohonua visit was to listen, learn and walk alongside the community. The many stories of resilience reinforced the ovava tree's quiet strength against cyclones, making it an enduring symbol of resilience, while enhancing intergenerational connections. The ovava tree was not only an important shelter and community gathering place; it was also important biocultural heritage and an ecological anchor for the Ohonua community.

The design for the playground embraced biophilic and social connection principles. It became a platform for blue biophilic urbanism, which reconnected people to nature. It became a tool for socialisation and communication to achieve a shared purpose and an important environmental resilience outcome. Serving as a central feature of the proposed playground, it became its living heart where children play and hear Talanoa 'a e mātu'a (or stories of the elders), and families reclaim the shoreline.

Placemaking in a sea of islands – implications for education, practice and research

We conclude by sharing our critical reflections on islandness as expressed through the following principles: transformative learning; collaborative community leadership and blue nature stewardship; and environmental sustainability and its biocultural connection. These reflections also lead us to consider their implications for education, professional practice, leadership and future research.

Islandness supported the transformative learning process

Place-based education centres on contemporary environments as the basic unit of teaching and learning. Initially, we viewed the Placemaking Sandbox as a traditional classroom where concepts and ideas that can be applied elsewhere are learnt. However, we now understand that it goes beyond that to become real-world experiential learning, which Mezirow (2008) calls a socially transformative pedagogical education.

For us, the different blocks and the no-build foreshore area are the pedagogical landscape, challenging fundamental assumptions contained in classroom definitions. We realised that in place-based learning, it is important to go beyond the four figurative walls of any teaching space to support knowledge creation, skills development and applications in real settings. We found the experience transformative as well as key to *anga faka-Tonga* (the Tongan way of life) (Ongolea and Houkamau, 2024). Self-reflection, socio-cultural awareness and self-transformation are valuable and important to our future professional practice. We now understand that in placemaking, designing and planning with the Ohonua community, we are not experts but rather are collaborators who build trust, actively listen and acknowledge the expertise of the community in leading and supporting co-creation that respects socio-ecological islandness.

Leadership, collaboration and blue nature stewardship

This project was a learning journey shared with the Ohonua community. An invaluable lesson we learnt was that islandness is central to the community's resilience stories. Expressions of islandness are woven into each experience of laughter, each story and the shared experience of creation.

Our understanding of the expressions of islandness in placemaking also evolved. The concept of islandness highlighted that placemaking is not about individual leadership, but about the potential role of individuals working intergenerationally and leading together. Elders, youth and neighbours each have their own blue nature stewardship but collectively led and contributed to the co-creation of the Ovava Playground. The tactical placemaking exercise became the vessel for cultural connection, community leadership and nature stewardship. It became evident that small, culturally grounded actions can turn trauma into a process of renewal, restoration of land, identity and hope.

Moreover, the intentional involvement of children – whose voices are often excluded in disaster recovery conversations – demonstrated how, as leaders, co-designers, co-

creators and teachers, they have place expertise, which they shared in waste-to-resource activities and play. Ultimately, their involvement strengthened participation and representation in an island landscape project that prioritised relationship building and empowerment of local voices. The voices of children and nature are key to strengthening participation and representation in island settings. Indeed, our adoption of blue biophilic, nature-based placemaking provided a crucial lens through which to comprehend islandness and resilience. The participatory nature of the process was useful in engaging with community and building community trust. Both of these are important aspects when researchers are outsiders building a bridge into the community, which proved to be an invaluable lesson we learnt in the process of delivering the Placemaking Sandbox.

Biocultural connections and environmental sustainability

In the Anthropocene, islands face heightened risks from disasters, biodiversity loss and climate change. After the 2022 tsunami, the lack of disaster preparedness and an early warning system on 'Eua intensified community vulnerabilities. In response, our Placemaking Sandbox provided deeper understanding of islandness and blue biophilic place.

Reconnecting the community to their land and waters strengthened the foundation of community resilience. Blue biophilic nature-based placemaking interventions that student teams co-created became an important anchor in bringing the community together. With the intent of preparing the community for future climate challenges, this strategy complemented what Liava'a (2024) refers to as Felupe, a sociotheological approach to facing an uncertain climate future. While it acknowledges the crucial role of Lotu (Christianity) in this process, this approach also helped us to learn important lessons on sustainability. In adopting the waste-to-treasure approach, the Niu team recognised the value of repurposing car tyres, bottles and coconut leaves to become playground equipment and seating, which shifted the narrative from scarcity to creativity and innovation. The sharing of place-based knowledge and skills as well as resilience stories empowered the community in co-designing spaces for healing.

Research themes on islandness, cultural connection, health and wellbeing

While its focus was on education, the travelling studio also presented opportunities for future research. Methodologically, the benefit of using auto-ethnographic practice as a research method appeared weak: exploring islandness challenged its robustness. Yet as the team listened to the community, the voices of children and nature became clearer. Reflective insights emerged and confirmed key concepts on islandness while debunking others. For example, we were able to expound our analysis of islandness beyond the perception of isolation, vulnerability and remoteness. This also deepened our understanding of islandness as being connected through rivers, seas and oceans, which encompasses what Hau'ofa (1994) referred to as the sea of islands.

This re-imagination of islandness must go beyond the physical attributes of land to highlight the interconnection of people and nature, the socio-ecological landscape and culture. Resilience in place occurs through connections that have been built through cultural, ecological and technological interactions, which can blur the boundaries between land and sea (Foley et al, 2023; Vannini and Taggart, 2013). Yet it also offers fresh insights and place-based learnings on the role of island placemaking and blue biophilic urbanism in shaping being and belonging, which was evident as the Ohonua community picked up the pieces after a truly life-changing disaster.

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Declaration on the use of generative AI

In preparing this work, the authors used Grammarly to check spelling errors and noun and verb agreement. After the use of this tool, the authors conducted a comprehensive review of the content. The authors take full responsibility for the content of this publication.

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