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to greet the whales at the cusp; the space our home-worlds meet

Essay by Emily Parr

I am manuhiri in Ōtautahi. I have no obvious connections here—at least I didn't think I did. In the lead up to a research trip, I woke at five in the morning with a thought: "The whales connect you, duh!"

I am going to meet the humpback whales, paikea, on their journey back to their birthing waters. As this part of the world settles into winter, they migrate north from Antarctica, along the coastline of Te Wai Pounamu, crossing Te Moananui-a-Kiwa for the warmer waters of Vava'u, Tonga. The whales I hold a growing affinity with have been making this journey since time beyond memory. I do have another ancient connection with Te Wai Pounamu—it's people, Ngāi Tahu, and I descend from Paikea.

In a few days time I will travel to Kaikōura: a feeding ground for the whales made abundant by a canyon holding nutrients from the deep sea, just offshore. The sun is descending as I fly over Kā Tiritiri-o-te-moana, the Alps, but I face the east—towards Tauranga Moana, towards the islands of Sāmoa and Tonga. I face my own ancestral waters, too.

Before heading to Kaikōura, I need to come to know Ōtautahi. I gravitate to where I would in any unfamiliar place: its waters. The awa Ōtākaro flows through the city's parks, under its bridges, becoming swampy again on its way to the coast. This river was once full of pātiki, tuna, and other kai for Ngāi Tahu to gather seasonally; it was part of a network of trails that provided Māori with a safe access route through the swampy marshlands of Ōtautahi. I decide I will meet the Ōtākaro by following its path on hīkoi.

The hīkoi begins with my fingertips in the river and ends with my feet in the sea. A dip below the surface, the mirror of coming up for air.

~

My first hīkoi is on one of those crisp blue and orange days, and pīwakawaka follow me along the route. I start at the intersection of Cambridge Terrace and Hereford Street, where the old public library and police station were. I read that they were built on the urupā for Puari Pā. As I walk, upstream, I pause at all of the plaques to see what they are commemorating. The river seems to have become a place for remembrance. Perhaps this is unsurprising for a city that has seen so much death in the past decade.

I read plaques about captains, the Christchurch Beautifying Association, a flour mill, European towns I've never heard of, influenza, sergeants, military services, the end of wars (some I know of, others I don't). One plaque explains that a kōhatu pounamu gifted by Te Rūnanga o Makaawhio was placed here, at an important threshold, and that touching the greenstone connects you back to the land and all those who have been before. The kōhatu pounamu throws rainbows in the mist rising from it. I read notes left by loved ones at Oi Manawa, the Canterbury Earthquake National Memorial. Once I'm in the botanic gardens I read a plaque about a brown trout hatchery and check my direction against signposts. At this point I take a break—a lot can be said about a city that has to plant a "New Zealand garden".

I enter the museum in search of a bathroom, but clearly I look lost so a guide hands me a map. She talks me through all the current exhibitions, pointing me to Edmund Hillary's boots and Kate Shephard's dress. I ask about galleries one and two; the ones she didn't mention. "Oh, the Māori exhibitions." I head there first, only to find I already know these galleries from *Treasures Left by Our Ancestors* (2016) by Ana Iti (Te Rarawa). I read the signs in the museum, too, about whalers and how Christchurch "was seen as the most English of all New Zealand cities". This was after the swamps were drained for a city to be built. I don't last long in the museum.

I follow the Ōtākaro all the way to its source. Past Waipapa, a place set aside by the Crown for Māori to meet and rest while travelling through Ōtautahi, such as in 1868 when 150 tangata whenua camped while making (ultimately unsuccessful) claims in the Native Land Court.[1] I read all the plaques, the information boards about colonial architecture—but I am interested in what these waters remember, too.

While spending several days following the Ōtākaro through the city on foot, I think about how to make art in places where you're manuhiri.

As well as the many plaques, I come across Ngā Whāriki Manaaki, the woven mats of welcome alongside the river. The thirteen whāriki are stone pavers arranged into weaving patterns by Morehu Flutey-Henare (Ngāi Tahu, Rangitāne, Ngāti Kahungunu, Ngāti Ruanui, Ngāpuhi Nui Tonu, Tainui, Ngāti Porou) and Reihana Tau Keith Parata (Ngāi Tahu, Ngāti Māmoe, Waitaha, Scottish). The signs read: "in sequence, they reference the whakamanuhiri process of welcome for all peoples visiting Christchurch and support the guiding principle of the rebuild for Ngāi Tahu, 'Kia atawhai ki te iwi', Care for your people." Unaware of the Whāriki Manaaki when I started my hīkoi along the river, I did not follow them sequentially. On my last day in Ōtautahi I return to the first whāriki to begin the process properly, as it had been set out for manuhiri.

My final hīkoi along the Ōtākaro is deep purples, greens, and auburn. The cloud will not lift today. Only thirteen potential photographs remain on my roll of film: one for each whāriki. At each of these woven-with-stone mats, I read the sign to understand which part of the whakamanuhiri process is being acknowledged and which patterns are used; I stay by the river awhile and I make one photograph.

To traverse whenua that holds as many layers as these islands do means I am constantly apprehensive about a 'misplaced foot'.[2] The more I learn the stories of my own whenua (and what I can of the places I visit), the more apprehensive I become. A misplaced foot is inevitable in a settler-colony that builds over bones and drains stories from the land in the hopes that we all forget their wrongdoings here.

It is with gratitude that I follow Ngā Whāriki Manaaki, the pathway laid out by Ngāi Tahu.

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1 'Hagley Park', Christchurch City Libraries website, 2021: https://my.christchurchcitylibraries.com/hagley-park/

2 A term recently used by my PhD supervisor, Layne Waerea. I use it in the context of stepping where one shouldn't, not with an intentional disregard for wāhi tapu or tikanga, but through being unaware.

~

The first time I saw a whale was off the coast of Nova Scotia, lands of the Mi'kmaq overlaid with names carried from Scotland. I had travelled 28 hours on a train to reach the ocean from my temporary home of Toronto. I was awestruck by these unfamiliar cliffs, trees, and creatures, but beneath the delight remained a well of sadness. This wasn't *my* ocean. As we looked out to a sea so expansive the horizon curved, something in the great stillness caught my partner's eye. Maybe it's incorrect to say I saw a whale, rather, I heard it. There was no spectacle, no majestic breach—just a few whales coming up for air, like stones skipping with vast intervals.

I wonder now if they had come to collect me. My return home was imminent, but around this time I became ready to *really* return home: to finally begin the journey to understand who I am and where I come from; to acknowledge and honour my ancestors of the moana. You see, it is not just the whales who, for generations upon generations, have followed these ancient oceanic pathways and formed webs of relations between fixed points. These are my ancestral legacies, too.

~

Kaikōura is a long way from Nova Scotia. I travel by aeroplane and rental car this time. I was especially hoping I might get to meet a humpback on their way to Vava'u, their birthplace and that of my great-grandparents. It isn't long after setting out on *Te Ao Mārama*, a whale watching vessel owned by Ngāti Kurī, that we are sailing towards the first sperm whale, or parāoa. His name is Tiaki. We also meet Lazarus, Tiaki again, and Manu. They have all known these waters for at least as long as I've been alive. My fellow whale watchers and I are told you can tell who the whale is by the trailing edge of their tail: it starts off nearly straight, but acquires notches over the years. Tiaki, Lazarus, and Manu had been feeding on deep sea creatures in the Kaikōura canyon. They remain in the depths for around forty-five minutes at a time before surfacing to breathe. Most of their bodies stay beneath the swells as they inhale, exhale, inhale again for ten or so minutes. Then, more slowly than I expected, their tails lift. Water pours off the trailing edge, it flicks upwards, and they are gone.

Most people turn away from the railing now. But if you wait, you will see a smooth circle of water appear on the surface—a trace the parāoa left behind. I wish I could leap into the water, where I feel most at home, and follow them down the portal; I wish we could be eye to eye.

We didn't see any humpbacks that day, but that doesn't mean they weren't there—and it's not just the paikea I am interested in anyway. I hadn't seen a parāoa before, a great living and breathing body diving a thousand metres undersea, but I do know their bones. My great-great-grandfather, a Jewish man who eloped with my Sāmoan great-great-grandmother, collected several hundred taonga and measina across forty years while trading general goods around the South Pacific and Aotearoa. For a time, many of these taonga and measina adorned the walls of their family home, 'Oli Ula—big enough for ten children and visitors from the islands—in downtown Auckland. Shortly before my great-great-grandmother's death, most of the collection was gifted to the Dominion Museum. Some of the taonga and measina remained with the family or were returned to the Māori queen, Te Arikinui Dame Te Atairangikaahu, at Ngāruawāhia. My great-

grandfather, Samuel, was attempting to honour the spirit in which many of the taonga were gifted to his father by rangatira.

One of the taonga now held by Te Papa Tongarewa is a hoe parāoa, a paddle carved from the jawbone of a sperm whale. My family's story about the hoe is long and uncomfortable. This is not the place for that story, but part of my interest in whales emerges from a desire (or responsibility) to reconnect the taonga with its people. The legacies I have inherited through descending from settler-indigenous relationships are full of such responsibilities. I suspect this might be my life's work: feeling for tears in the fabric of historical relationships and finding ways to mend them.

Before I leave Kaikōura I drive out to the site of a former whaling station, Waiopuka. I had been told of a house built from whales. The pink house atop a hill is not what I had imagined: you wouldn't know its foundations were bone. Fyffe House is closed today, but I still look past the fence to scattered fragments of skeletons. I don't stay here very long either. After the wonder of seeing the parāoa that morning, I don't want to think of their oil lighting up Europe, or their vertebrae put together wrong and wearing the wrong flesh—the house of a Scotsman.

~

I return to Ōtautahi, and to the Ōtākaro. I have already walked along the banks to where the awa rises—this time I drive out to where it becomes marshland once more. If you frame your eyes so that no buildings or cars peek through the grasses and trees, you can imagine Ōtautahi in the Before.

In truth, I am not all that familiar or comfortable with rivers. All of *my* rivers are on the other side of the world, and I am yet to meet them. But at some point the freshwater of the Ōtākaro merges with salt. It is when the pathway turns to sand, winding between tī kōuka and harakeke, and the smell of the ocean reaches me, that I know how to orient myself again.

The hīkoi begins with my fingertips in the river and ends with my feet in the sea.

Emily Parr (Ngāi Te Rangi, Moana, Pākehā) is an artist living in Tāmaki Makaurau. Her practice explores relationships between people, political frameworks, whenua, and moana. Her recent Master's research, on settler-indigenous relationships of Te Moananui-a-Kiwa, travels oceans and centuries, seeking stories in archives and waters on haerenga to three of her ancestral homelands, Tauranga Moana, Sāmoa, and Tonga. Emily works mostly in moving image. Alongside of this she has been making film photographs over the past seven years. Emily was the recipient of the 2019 Iris Fisher Scholarship and 2016 Tāmaki Estuary Art Award. She holds a Bachelor of Fine Arts (Hons) from Elam School of Fine Arts, a Master of Visual Arts, and is currently working towards a PhD, both through Auckland University of Technology.

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Article

Climates of Change: A Tuatara's-Eye View

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Abstract: The tuatara or New Zealand "spiny-backed lizard" (*Sphenodon punctatus*) is the sole surviving member of an order of reptiles that pre-dates the dinosaurs. Among its characteristics and peculiarities, the tuatara is renowned for being slow-breathing and long-lived; it possesses a third eye on the top of its skull for sensing ultraviolet light; and the sex of its progeny is determined by soil temperatures. This article unravels a tuatara's-eye view of climate change, considering this creature's survival across geological epochs, its indigenous lineage and its sensitivities to the fast-shifting conditions of the Anthropocene. This article examines the tuatara's evolving role as an icon of biodiversity-under-threat and the evolving role of zoos and sanctuaries as explicators of climate change, forestallers of extinction, and implementers of the reproductive interventions that are increasingly required to secure the future of climate-vulnerable species. It is also interested in the tuatara as a witness to the rapid and ongoing human-wrought climate change which has secured the lifeworld reconstruction that is foundational to the settler colonial enterprise in Aotearoa/New Zealand. Linking this to the Waitangi Tribunal's Wai 262 report (*Ko Aotearoa Tēnei*, 2011), the article considers what the tuatara teaches about kaitiakitanga (guardianship) and climates of change.

Keywords: climate crisis; biodiversity; extinction; settler colonialism; tuatara; zoo; Wai 262; kaitiakitanga; lifeworld; animate topography

1. Introduction

On 12 January 2020, the New Zealand Ministers for Education and Climate Change announced that climate crisis would begin to be taught in New Zealand schools during the forthcoming academic year. This news made waves across the globe, with *The Guardian*, for instance, pronouncing that the proposed changes to the school curriculum "will put the country at the forefront of climate crisis education worldwide" (Graham-McLay 2020).

In one sense, it is distinctly unremarkable for Aotearoa/New Zealand to be heralded as a global leader in respect of environmental matters. The mythology—partly homespun, partly imported—of the nation as an enlightened South Seas eco-wonderland gained widespread public currency in respect of its nuclear-free stance in the 1980s and has subsequently been bolstered through long-running national tourism campaigns with the branding "100% Pure New Zealand". More recently, the mythology of the country's environmental progressiveness has found expression in radical measures implemented on a national level to secure the country's remaining endemic biodiversity. When the New Zealand government unveiled its "Predator Free 2050" campaign in 2016, for instance, it trumpeted this as an ambitious global first (see, for example, Kirk 2016).

In this context, given the national zeal for what might be understood as *the performance* of biodiversity salvation, what *is* perhaps remarkable is that Aotearoa/New Zealand has lagged in developing understandings about links between climate crisis and threats to biodiversity (see Green and Clarkson 2005, pp. 42–43; McGlone and Walker 2011, p. 6; Keey 2016, p. 13). As a phenomenon, biodiversity presents distinct descriptive difficulties because of the complexity and scope of its variables—encompassing the multiplicity, abundance and interactions of organisms and their ecosystems (McGlone and Walker 2011, p. 11), or the "profusion of life" (Gibbs 2008, p. 6). Clear links

between climate crisis and biodiversity have nevertheless become well recognised around the globe, with scientific observations, extrapolations and modelling in respect of projected disruptions to ecosystems that support life-in-place, and in respect of looming mass extinctions (see Lovejoy and Hannah 2005; Hannah 2012; Kolbert 2014). In the opening paragraphs of *Mediating Climate Change*, Julie Doyle proposes that the plight of climate-vulnerable creatures offers the most resonant and compelling angle for focalising communication about the dangers of climate crisis, describing the task of educating the public about impacts on animals and biodiversity as "the easy part" of an otherwise difficult mission (Doyle 2011, p. 1). Yet, despite the undeniable charisma of the country's fauna, the patterns observable in Aotearoa/New Zealand challenge Doyle's suggestion.

The New Zealand government's recent announcement about the new climate change curriculum begins to expose likely reasons. Even as the world applauded, responses in the local media have been tepid, centring on whether the proposal amounts to "state-organised bullying of kids" and whether the suggestion that New Zealanders might consider consuming less meat and dairy amounts to unpatriotic "dietary dogma" (see, for example, Small 2020). These surface ripples bely deeper difficulties. In recent decades, discussion of environmental matters in the public domain in Aotearoa/New Zealand has become increasingly blunt and uncompromising. At the same time, in practice, conservation efforts have become ever more ritualised, focused on targeting so-called invasive pests, developing new technologies for their eradication, and celebrating their demise. Such efforts deal in dramatic frontier escapades, pioneering innovations and military-style campaigns. By contrast, climate crisis appears nebulous and vague. It lacks a singular identifiable enemy. It offers little scope for the caricature-driven transferential displacements that enable New Zealanders to identify with endemic nature and its experience of being under threat (see Boswell 2018a). And, moreover, it begins to surface bedrock problems—such as vast-scale deforestation; fragmentation and destruction of native habitats; entrenched reliance on agricultural industries; and ever-worsening impacts on endemic biodiversity caused by the deliberate introduction of exotic fauna—which threaten the foundations of the modern nation and its ongoing premises (and businesses). In a place where transferential displacements are habitual and normalised, to approach climate crisis through the prism of biodiversity is to invite full-scale identity crisis.

As noted above, the notion that Aotearoa/New Zealand is "exceptional" finds many of its most ordinary expressions in respect of the environment. Moreover, it is apparent that exceptionalist logics and self-exceptionalising stories are unexceptional in settler colonial places (see Fairburn 2006; Boswell 2017). Yet, Aotearoa/New Zealand *is* a special place in which to consider the workings and impacts of climate change, particularly in respect of biodiversity. As an indigenous territory made over for settler colonial purposes within a recent and tightly compressed timeframe, it offers lessons with regard to climate crisis that are formidable, delicate and damning. A vast and diverse array of contenders for resonant case studies emerges from the "naturewreck" in Aotearoa/New Zealand (Pöschl 2016). The kea (*Nestor notabilis*), for instance, which is the planet's sole alpine parrot and one of its very oldest living forms of parrot, is a former climate refugee whose subsequent subjection to a campaign of willed extermination by settler culture—as a perceived threat to the success of high country sheep farming—has been near complete (see Lockley 1980; Carter 2006). Meanwhile, a recent drought in the northernmost region of the country triggered sightings of malnourished kiwi (*Apteryx mantelli*) staggering around during the daytime in a state of severe dehydration. News reports noted "that the ground had become so dry that kiwi couldn't poke their beaks into [it] to feed and people made serious suggestions of putting out bowls of milk, water and even pet food on back doorsteps to keep our national icon alive" (Baigent-Mercer 2016, p. 28). As this poignant example suggests, there are "dots to be joined between collapsing native forests, possum density, thinning leaf litter, topsoil loss, dehydrated kiwi, and what this means in the context of the [global] climate emergency" (Ibid.).

The chosen focus of this article, however, is the tuatara (*Sphenodon punctatus*)—commonly referred to as the "spiny-backed lizard", but more properly understood as the sole surviving representative of an order of reptiles that pre-dates the dinosaurs. Mounting and interwoven reasons for my selection will, I hope, become apparent as the article's own spiny ridge—of ideas, logics and concerns—becomes exposed to view. By way of preface, however, I would note that the tuatara is of

immense global and local significance and its story is pre-eminently one of deep timescales, of life-in-place, of adaptability and precarity, of traditional ecological knowledges and of climate crisis mediation. As a species, the tuatara is understood by Māori to have access to realms of environmental wisdom beyond those able to be apprehended by humans and it is "exceptional" for its place in the Waitangi Tribunal's report on the so-called "Wai 262" or flora and fauna claim (Waitangi Tribunal 2011), which itself offers an exceptional blueprint for sustaining life and reimagining relationships in a world irreversibly reshaped by settler colonial histories and their environmental legacies. The Wai 262 report addresses issues raised by Māori about ongoing and imminent threats to the survival of taonga (treasured) species and to the ability of iwi (tribal groups) to exercise due care for their taonga. Among those species discussed in the Wai 262 report, tuatara are identified as being of paramount concern.

In what follows, I consider what climate crisis might look like from the perspective of the tuatara, and what the tuatara appears to embody or "know" about the modalities, intensities and durations of climate change. I also consider what this species reveals about the stakes and obligations of exceptionalism. Ultimately, I suggest, the story of the tuatara teaches that the term "biodiversity"—with its "normative loading" and underlying anthropocentrism (see Mathews 2016; Rose 2013)—fails to describe an indigenous world and is thus inadequate as a category of thought and criterion for action in preparing for what lies ahead. Before turning to these tasks, however, I excavate and flesh out some contextual matters that pertain to Aotearoa/New Zealand specifically—and the settler south more generally—as a locus for advance and advanced consideration of climate crisis.

2. Negative Exceptionalism

Epithets abound for the unique and ancient biodiversity found in Aotearoa/New Zealand. Prized as "Ghosts of Gondwana" (Gibbs 2008), or as denizens of "Moa's Ark" (Bellamy et al. 1990) or "The Southern Ark" (Andrews 1986), the country's faunal species invoke fascination and inspire strong language, with the country itself conceived as a paradise, haven, refuge or sanctuary for their conservation and care. As the New Zealand government's *Biodiversity Strategy* states, "New Zealand's high level of endemic biodiversity makes a unique contribution to global biodiversity and places on us an obligation to ensure its continued existence" (New Zealand Government 2000, n. p.). Ecologists, geographers, historians and anthropologists have made bold pronouncements about this precious inheritance. Aotearoa/New Zealand has been proclaimed "a completely different experiment in evolution to the rest of the world", showing what the earth might have looked like "if mammals as well as dinosaurs had become extinct 65 million years ago" (Flannery 1994, p. 55; see also Hutton and Drummond 1923, p. 21), while the country's landmass is said to have served as the stage for the evolution of plants and animals so distinct that it is the closest scientists will get to studying life on another planet (Diamond 1990, pp. 3–8).

This latter statement is quoted with pride in the government's *Biodiversity Strategy* (New Zealand Government 2000, p. 1). Yet, the same *Strategy* goes on to make a related and startling claim to global pre-eminence which doubles as a troubling admission—as well as serving to remind that exceptionalism does not always have positive valence. Aotearoa/New Zealand was one of the last places on earth to be settled by humans, the *Strategy* notes, but has "one of the worst records of biodiversity loss" (Ibid., p. 4). "Nothing since the extinction of the dinosaurs (65 million years ago) compares with the loss of biodiversity in New Zealand in the last 100 years," it goes on to explain. Consideration of the timeframes at stake serves to put this statement in context. In rounded terms, it is 800 years or so since Māori first established tribal homelands in Aotearoa/New Zealand; just 250 years since James Cook made landfall; just 200 years since the founding of the handful of Church Missionary Society settlements that instigated agricultural transformation of the land; and just 160 years since the launch of the planned immigration schemes that seeded almost all of the major New Zealand centres of urban population. What is striking about these timeframes in respect of European settlement, too, is that they map directly onto the inauguration of the industrial age, and onto the inauguration of climate science as a field of scientific study (see Christianson 1999; Weart 2003; Kolbert 2006). In other words, the dawn of the global era of anthropogenic climate crisis coincided

with the arrival of Europeans in Aotearoa/New Zealand, and the unfolding of this era has corresponded to the country's lifespan-to-date as a modern nation state. Indeed, despite its clean, green branding, Aotearoa/New Zealand can more properly be understood as a test bed or "Ground Zero" for the rest of the planet in respect of industrial-powered and industrial-scale climate change; this is its deeper and more disturbing claim to exceptionalism.

If climate science and its understandings about the potential dangers of rising atmospheric carbon dioxide concentrations were still in the future when Europeans arrived in Aotearoa/New Zealand, what the newcomers did experience and comment on with relief was that the country had a temperate (that is, oceanic and variable) climate. Aotearoa/New Zealand is the southernmost and coolest of the Polynesian islands and it possesses a topographically complex landmass. It was found by European newcomers to be free from the soaring heat and stifling humidity characteristic of the tropics. Yet, to return proper historical context to the notion that Aotearoa/New Zealand is the closest scientists will get to studying life on another planet, these European newcomers *did* conceive of themselves as having landed in a profoundly alien place. In particular, they were disconcerted by the biota they found, which appeared to them to be impoverished and/or degenerate: the country was seen to "lack" terrestrial mammals; many of its birds were flightless and/or songless; its bats crawled through leaf-litter; its penguins inhabited forests; its parrots were mountain-dwellers; its frogs laid eggs that hatched miniature frogs rather than tadpoles; its invertebrates fulfilled scavenging roles elsewhere undertaken by rodents, and so on.

Despite having met a reassuringly temperate climate, too, the newcomers nevertheless sought to make adjustments to that climate, and it was clear to them that profits beckoned. Surveying the towering lowland forests from the deck of *HMS Endeavour* in 1769, and perceiving scope for expansion of the fenland drainage schemes being undertaken at that time in England and across swathes of Europe, Joseph Banks reported on "swamps which might doubtless Easily be drained" (quoted in Park 2013, p. 174). Almost a century later, in *New Zealand or Zealandia, the Britain of the South*, the immigrant-farmer Charles Hursthouse offered a fuller explication of this ethos:

> The cultivation of a new country materially improves its climate. Damp and dripping forests, exhaling pestilent vapours from rank and rotten vegetation, fall before the axe; and light and air get in, and sunshine ripening goodly plants. Fen and march and swamp, the bittern's dank domain, fertile only in miasma, are drained; and the plough converts them into wholesome plains of fruit, and grain, and grass. (Hursthouse 1857, p. 69.)

Confident in the rightness and value of their actions, settlers duly set about felling the ancient forests of Aotearoa/New Zealand, draining the country's swamps, diverting its waterways, carving up its newly dried-out surface into alienable parcels of farmland, and sowing swathes of pasture in a place which hitherto had none. They also began importing and acclimatising a vast array of exotic (predominantly northern-world) species—some for their perceived utility, and some for their familiarity and comfort—in order to create what might be termed a "pastiche lifeworld".[1] Through these means, they constructed the seemingly ordinary agronomic patchwork of Aotearoa/New Zealand's productive, workaday landscapes, and they laid over the remaining terrain (that is, terrain unsuitable for farming) a topographic imaginary of sublime mountain peaks and glacierscapes that have come to star in the country's tourism campaigns and film industry.

The extent and speed of the environmental transformation that has been achieved in Aotearoa/New Zealand is globally unprecedented (see, for instance, Lockley 1980, p. 110; New Zealand Government 2000; Park 2013). On one view, as Hursthouse makes plain, this is a story of pioneering zeal, resourcefulness, progress and advancement, an unfolding source of national pride and identity. European settlers undertook this work on the explicit understanding that they were founding a "new world" by grafting a better climate onto the place where they had arrived (see Boswell 2017). Yet, on another view, this settler activity sets about sowing death, degrading resources and reservoirs of knowledge, and "unmaking" a world (Rose 2013, p. 208)—that is, a place already inhabited by an indigenous population, and already understood in radically different terms: covered

[1] I borrow the term "pastiche" from (Fairburn 2006, p. 146).

in boggy swamps and tangled forests, teeming with its own creatures, and woven through with regulatory practices and with understandings about the genealogical interrelationship of all elements within the lifeworld. As Hursthouse makes plain, too, this settler activity actively sets about *changing the climate in that place*. Acclimatisation works to import new species that are expected to adapt to living in a place where they have never before lived. In the process, however, the place itself is made to adapt through this action, such that its climate is forcibly altered. This is effected through and/or accompanied by drastic deforestation, alteration of the water table and the flow of waterways, displacement and decline of endemic species, re-organisation of predation chains and pollination sequences and so on, with the result that the entire biogeography of the place is destabilised. What is acclimatised, too, are foreign ways of life and modes of thinking, and the institutions—such as legal and educational systems, economic systems, universities, libraries, museums, zoos and so on—that have historically supported and embedded the very practices, conditions and worldviews that have fuelled anthropogenic climate change.

In a very real sense, the current-and-looming planet-wide climate crisis is a matter of air and soil and water temperatures, humidity, rainfall, greenhouse gas emissions and so on, and I do not seek to diminish or deny the relevant specialist observations and projections. Scientists report that mean annual temperatures in Aotearoa/New Zealand have risen by almost 1 °C since the year 1900 and they predict that nearly every aspect of the country's terrestrial and marine-dependent ecosystems and biota stands to be affected by global climate change and increasing concentrations of atmospheric carbon dioxide (see Green and Clarkson 2005, pp. 42–43; McGlone and Walker 2011, pp. 5–6, 8). As a 2005 commissioned review of the New Zealand government's *Biodiversity Strategy* explains,

> The possible consequences of climate change for indigenous and valued introduced biodiversity are profound. This applies to all levels of biodiversity—genes, species and ecosystems—and to productive landscapes as well as indigenous ecosystems. (Green and Clarkson 2005, p. 43).

Yet it is also apparent from the history outlined above that climate crisis has imaginative or ambient dimensions: it is to do with environments or atmospheres that enable certain kinds of things to upwell and flourish while preventing other kinds of things from upwelling and flourishing. In this sense, settler colonial places such as Aotearoa/New Zealand may be understood as global forerunners for the arrival of "an era in which human action has become a planetary force" (Rose 2013, p. 208). Anthropogenic environmental changes have already been visited in advanced and accelerated form in such places, which have been subject to deluge or flood in the form of European modes of life and knowledge systems that have swamped and attempted to sweep away those which already pertained in place.

This history of negative exceptionalism explains Aotearoa/New Zealand's reticence in respect of linking biodiversity loss with climate crisis. First, the deliberate and vast-scale land use changes which have converted the country's wetland forests into farmlands dedicated to industrialised agriculture have, quite uncomfortably, occurred at the same time as climate science has begun to identify problems with attendant deforestation, carbon dioxide release, greenhouse gas emissions and methane production. In this sense, Aotearoa/New Zealand is distinctly behind-the-curve, a latecomer to understanding the environmental peril for which its inaugurating activities and defining industries stand. And, second, because Aotearoa/New Zealand was founded in and through climate crisis, the consequences for biodiversity of what is yet-to-come might be expected to differ here. Across the globe, climate scientists have begun modelling a range of forecast impacts. These encompass large-scale habitat disturbance, degradation, fragmentation and loss; changes to seasonal patterns of flowering, breeding, growth and migration; abundance, distribution and range reductions and shifts experienced by endemic fauna; the rise and spread of exotic organisms; increasing reliance on small, isolated reserves that are vulnerable to extreme weather events, fires, floods, high winds and outbreaks of disease; and, ultimately, disruptions to evolutionary trajectories which are set to produce cascading extinctions. What is striking is that this range of impacts *is already exceptionally well-established* in Aotearoa/New Zealand, where endemic biodiversity continues to reel from the disequilibrium caused by the settler colonial enterprise. Climate crisis is not a disastrous event

waiting to happen in the future in this part of the world; rather, it has been with us for two centuries already (see Rose 2013, p. 214). As Geoff Keey has observed, "[a]n underlying problem for New Zealand's nature is that the resilience provided by landscape-scale ecosystems has been undermined by the dramatic changes people have made to the landscape" (Keey 2016, p. 13). Keey notes that Aotearoa/New Zealand is not presently well-placed to protect its endemic biodiversity from projected forthcoming global climate disruption, which may well "be the tipping point between survival and oblivion for many of our vulnerable species" (Ibid.).

Moreover, it is apparent that the types of climate change mitigation measures being implemented in other parts of the globe are unlikely to benefit—and may in fact wreak further damage within—a lifeworld in Aotearoa/New Zealand which is already under colossal strain. As the authors of a recent report commissioned by the New Zealand Department of Conservation have noted,

> While during the next 50 years climate change itself is a significant risk to [the country's endemic] biodiversity, in the short term the risks associated with combating climate change (through carbon sequestration, carbon-neutral energy development, irrigation and land use intensification) are greater. Exotic forestry for carbon capture, and more hydroelectric installations and water abstraction, carry the greatest potential risk to biodiversity. (McGlone and Walker 2011, p. 5.)

As these combined factors suggest, the extent of Aotearoa/New Zealand's "exceptionalism" in respect of biodiversity–climate linkages is exceptional indeed, and there is little remaining tolerance for human-wrought error. The Aotearoa/New Zealand example cautions, too, that thinking-as-usual and action-as-usual in respect of climate crisis may need to be suspended. Environmental knowledges and practices that have arisen within the place—as distinct from those out-sourced or pastiched from elsewhere—are what seem to be most urgently required here. Indeed, to re-purpose Hursthouse's observations, to turn towards place-based knowledges at this particular historical juncture might be to "un-swamp" in an imaginative or ambient sense (see Boswell 2015; Collinson and Boswell 2017) and to return to the swamps—and the fertility of their miasma—in a practical one.

3. Climates of Knowledge

Among the peculiar endemic fauna for which Aotearoa/New Zealand has become famed, none is more ancient or unique than the tuatara. In tangible ways the crest formed by the twinned themes of absence and exceptionalism—outlined above—has shaped this creature's niche in the western imagination. As one of the very oldest species on earth, tuatara have come to be recognised by western science as an evolutionary and biodiversity treasure, a breathing remnant "of remote periods of our earth" (Sharell 1966, p. 15). In *The Animals of New Zealand* (1923), F. W. Hutton and James Drummond declare that "if ancient lineage, combined with unchanged habits, mark the aristocrat, [the tuatara] is the most aristocratic animal in the world" (Hutton and Drummond 1923, p. 22). At the time when the tuatara was first encountered by Europeans and when it entered the written scientific record, however, the force of its exceptionalism was not immediately apparent.

From the time of James Cook's arrival in Aotearoa/New Zealand in 1769, reports and rumoured sightings began to materialise in respect of a fearsome lizard which was said to inhabit the country. As a reptile that "had been struggling to free itself from the myths that surrounded it" (Andrews 1986, p. 104), the tuatara officially entered the European record in 1831 amid ongoing confusion. Upon receiving the first skull to be shipped to England, the zoologist John E. Gray, of the British Museum, named it Sphænodon, meaning "wedge-toothed", in reference to the appearance of its jaw. Despite its distinctive anatomy, the species was considered at this time to be "just another large lizard" (see Lockley 1980, p. 93), and further specimens were erroneously re-classified by Gray eleven years later—such that the tuatara was known under two names and two descriptions for the next quarter century. The slow uptake of interest in the tuatara may also be attributable in part to western-world attitudes to reptiles—creatures that have tended to elicit "alarm and revulsion", to be underestimated for the ecological roles they fulfil and the evolutionary histories they bespeak, to be

reviled as "creeping things of the earth" and/or to be considered valuable primarily for their "afterlives" as collectors' trophies or as leather-goods-in-the-making (see Durrell 1966, p. 5; Sharell 1966, pp. 11, 15–21; Hutton and Drummond 1923, p. 22; Alberti 2011).

Yet, the tuatara sloughed off any such destined ignominy when it proved to be the only remaining species of its order. In 1867, Gray's successor, Albert Günther, re-examined the tuatara and pronounced that it was not a lizard at all. As Richard Sharell has explained in his landmark study *The Tuatara, Lizards and Frogs of New Zealand*, Günther's further research "resulted in the sensational finding that the tuatara's skeleton differs from those of all other living reptiles, but is similar to those ancient reptiles, whose fossil remains were found in layers of rocks two hundred million years old" (Sharell 1966, p. 25). Re-deploying a descriptor earlier bestowed by Richard Owen in 1842, Günther placed the tuatara and its long-dead relatives in a new order, Rhynchocephalia (meaning "beak-headed"), igniting a frenzy of scientific interest worldwide. Specifically, the tuatara was seen to afford opportunities for "astonished witnessing" (see Sharell 1966, p. 42); that is, for "the excitement of having the chance to see, to study, to observe a true saurian of Mesozoic times in the flesh, still living, but only on this tiny speck of the earth, New Zealand, while all its ancestors, once spread over many parts of the world, died about one hundred and thirty-five million years ago" (Ibid., p. 25).

As this history makes plain, the special status of the tuatara within the schemas of western science—and, specifically, its renown as a so-called "living fossil" (see Sharell 1966, p. 25; Lockley 1980, p. 93; Andrews 1986, p. 104; British Broadcasting Corporation 2016)—has been excavated only recently. And, moreover, this renown hinges on what western scientific traditions have perceived as the absence of this creature's living genetic relatives, whose fossil remains have been unearthed in Europe, Africa, Madagascar, India, China and North and South America. Tuatara have, however, long held special status as a taonga or treasured species in Māori epistemologies, featuring in a range of creation stories where their ancestral descent lines are described by different climates and archaeologies of knowledge. In one tribal tradition, the first tuatara is said to have hatched from a clay egg created by a god who was the son of the earth mother and the sky father (see Haami 2007). In other traditions, tuatara are descended from Punga or from Peketua, the sons of Tangaroa who is the god of the sea (see Waitangi Tribunal 2011, p. 134). In another tradition, recounted by Karanga te Kere, the origin of reptiles (including tuatara) is given as follows:

> Lizards were in former times water animals and lived in the sea. They lived there together with the fishes, and the shark was the chief. They were together until a meeting took place at which it was decided which of the tribes should go on land, which at this time was not settled by animals […] The lizards were told that if they went they would be thrown into the fire by man. But the lizards replied that they would frighten man by rearing up, staring and laughing at him; besides they could return to the sea whenever they wished. They told the sharks that they would also be caught by man, hung up, dried and pounded and placed on the fire. (Quoted in Sharell 1966, p. 58; see also Haami 2007).

As these traditions suggest, tuatara are recognised by Māori as ancient beings and as sources of erudition in respect of humans and their interactions with the lifeworld. It is clear that Māori have long been aware of the so-called "third eye" or pineal organ located on top of the tuatara's skull, just under the skin, which has excited immense scientific interest and which is understood to have evolved as a climate-sensing and thermo-regulatory gland. This vestigial eye—which enables the tuatara to monitor the degree of solar warmth and thus informs its activities, including sun-bathing—is not regarded by Māori as a quaint quirk of physiology. Rather, as the Waitangi Tribunal has noted, "[i]t is said by all of the tribes that the tuatara is a seer, able to see into the spiritual realm through a 'third eye' granted to it by Tangaroa" (Waitangi Tribunal 2011, p. 134).

While tuatara are not believed to have been a major human food source, surviving tribal legends—as well as midden deposits—indicate that they were eaten in occasional and ritualised ways: for ceremonial purposes, to demonstrate courage, and/or for the enhancement or gaining of knowledge (see Sharell 1966, pp. 58–59; Lockley 1980, p. 93; Andrews 1986, p. 34). Indeed, in line with their own highly tuned sensory skills and ability to accumulate knowledge from the environment, and, in line with Māori beliefs about the sacred nature of lizards more generally, tuatara have

traditionally been revered and somewhat feared in Māori culture. Sharell notes that "[t]he tapu of a burial place, a *kumara* plot, a special tree or bird snares was often marked by a post on which a lizard was carved as a guardian" (Sharell 1966, p. 57). Tuatara also feature in carvings on poles and posts supporting the gables of meeting houses, as well as on doors and cross-beams, and on the "thwarts" of war canoes above the place reserved for the tohunga or priest (Ibid.). The safeguarding provided by tuatara was not merely symbolic, however. Because they are understood to possess access to spiritual realms, because they are relatively sedentary, because of their longevity, and because they are somewhat tame-able (that is, they recognise people readily and are sensitive to the presence of strangers), living tuatara have traditionally been stationed by Māori in the landscape. Such tuatara have been charged with protecting sacred places—such as urupā (burial grounds) and battle sites—as well as guarding food stores and the identified talismans that secure the health and vitality of forests, waterways and cultivations (see Hutton and Drummond 1923, p. 382; Haami 2007; Waitangi Tribunal 2011, p. 134).

As suggested by their role as kaitiaki (guardians) of environmental knowledges and keepers of difficult places, tuatara have played a key role in systems of social regulation. Surviving tribal traditions indicate that tuatara were deliberately transported within and across tribal territories in order to keep watch over activities such as harvesting and/or for the duty of guarding sacred sites (see Waitangi Tribunal 2011, p. 134). It is possible that they may have been transported dead as well as alive. For these reasons, it remains difficult to reconstruct the tuatara's patterns of range and population density decline since the first Polynesian voyagers established tribal territories in Aotearoa/New Zealand. What *is* clear from the archaeological record is that tuatara were formerly abundant and widespread, with their bones unearthed in former swamplands, limestone caves, middens and sand dunes from Foveaux Strait to North Cape, and in inland sites far from their few remaining habitats.

While young hatchlings may occasionally be taken by hawks and are also vulnerable to predation by adults of their species, tuatara had no terrestrial predators prior to human arrival in Aotearoa/New Zealand. As early as 1843, Ernst Dieffenbach speculated in *Travels in New Zealand* about the declining population densities of tuatara, and about emergent forces of extinction that might have begun to strand this species on off-shore islands (see Dieffenbach 1843, p. 406). According to Sharell (1966, p. 30), European intervention in Aoteaora/New Zealand was the catalyst: "it is most probable that the disappearance of the tuatara on the mainland was due to men, and especially to his introduction of cats and dogs, weasels and pigs", he proposes. Ronald M. Lockley, however, suggests that tuatara had been exterminated by three principal predators—"the Māori, his dog and the kiore rat"—in all mainland haunts by the time the first European settlers arrived at the beginning of the nineteenth century, adding that "[a]ny lingering individuals there would have been wiped out subsequently by feral dogs, cats, pigs, ferrets, stoats and weasels released by the Pakeha [i.e., European newcomers] or escaped from his ships" (Lockley 1980, p. 93).[2] The haze surrounding this timeline is amplified by the environmental "keeper" role bestowed upon tuatara by Māori—which may have coincided with or resulted from the observed dwindling of their populations and/or the emergence of new practices of kaitiakitanga or ecological guardianship arising from other significant pre-European extinction events in mainland Aotearoa/New Zealand (most notably that of the flightless giant moa). Indeed, it is possible that tuatara were deliberately translocated to off-shore islands by Māori for safekeeping and/or that they were stationed there to serve as the islands' own keepers—or as keepers of other precious fauna sequestered there.

Drastic destruction of former tuatara habitat under the settler colonial regime from the early nineteenth century onwards has precluded any possibility that tuatara might re-establish habitations outside of captivity on the mainland. While unconfirmed sightings in the Wellington district were reported in the nineteenth century, tuatara currently survive only in actively managed—that is, monitored and pest-controlled—areas on scattered offshore islands, as well as in mainland zoo and

[2] While there is broad consensus that tuatara cannot survive in areas where European rats are present, commentators have disagreed as to whether tuatara can co-exist with kiore. See, for example, (Lockley 1980, p. 93; Gibbs 2008, p. 156).

sanctuary populations. As this confinement suggests, tuatara are functionally "extinct" in almost all of their former wild ranges. While tuatara are currently protected by the *New Zealand Wildlife Act 1953*, the known decline of the tuatara population and emergent understandings of this creature's global significance prompted urgent calls for its protection as early as the 1890s. Notably, the conservation concerns voiced at this time and those governing the tuatara's current protection pre-date emergent understandings of the global climate crisis and its looming threats to tuatara and to the remote island sanctuaries on which they depend. These threats foretell new horizons of astonished witnessing, and they raise the prospect that the spectre of tuatara being "thrown into the fire by man" and/or being exiled to return to the sea may yet come to pass.

4. Through the Third Eye

The Māori name bestowed upon tuatara—which may be translated as "peaks on the back"—fuses this species with the larger world of life, instantiating the workings of both an animate topography and what I have elsewhere termed an "anamorphic ecology" (see Boswell 2018b). To encounter a tuatara in the flesh is to encounter a miniature mountain-range as well as to encounter a creature who ranges and keeps watch over mountainous terrains (not to mention hillsides, valleys, swamps, waterways, plains, rocky outcrops and so on). As conduits or mediums for place-based ecological knowledges, tuatara may be understood to focalise enigmatic timescales, to call forth diffracted modes of vision, and to have access—via their third eye—to realms of climate that are beyond human sensory perception. Tuatara are known, too, to be creatures of contrast and contradiction: while they are typically characterised as slow moving and sluggish, for instance, they can be astonishingly lively and brisk. Such conduits, contrasts, doublings and diffractions map onto larger patterns of life seen and described by tuatara. To consider temporality from the perspective of the tuatara, for instance, is to glimpse evolutionary timescales that are unimaginably drawn-out, yet also breathlessly and "frighteningly" fast (see Rose et al. 2017, p. 9). Tuatara may, for example, be understood to exceed those startling claims made by the New Zealand government in its *Biodiversity Strategy*. The time of the tuatara begins far in advance of the 65-million-year period since the extinction of the dinosaurs, and it contracts inside the counterpointed century of human-wrought environmental destruction in Aotearoa/New Zealand—which is shorter than the average life expectancy of a single tuatara.

The tuatara has deservedly earned a reputation as a "venerable survivor" (Cree 2014), a "deep-time" climate-stayer and "battler" (Gibbs 2008, pp. 155–57), and it is the planet's oldest living witness to how life-in-place has unfolded to date. Because it has prevailed over millennia and across climatic epochs, the mournfulness and reproachfulness associated with the speed of its decline are acute. The tuatara has been both observer and casualty of the drastic settler colonial lifeworld reconstruction that has produced climatic upheavals viewable—from the tuatara's perspective—as an accelerated form of "slow violence" (Nixon 2011). Because tuatara are very long lived—between 100 and 200 years by most estimates (see, for example, Lockley 1980; Sharell 1966; Cree 2014)—the founding of Aotearoa/New Zealand as a modern nation and the unfolding of settler-wrought changes to its environment have transpired over the course of the lives of perhaps just two tuatara (metaphorically, one might say, in the blink of a tuatara's eye). In this sense, the tuatara testifies to the compressed yet devastating timespan of European settlement and the conditions of embattlement imposed on endemic biodiversity as a result. In the remaining areas of Aotearoa/New Zealand where this species does now live (enisled and in an enforced state of captivity), tuatara may in some cases be the oldest living inhabitants. Yet, because tuatara have largely been displaced and are now living in conditions radically unlike anything they have seen before, their deep knowledge of place is vulnerable to loss and threat; if the tuatara is a creature of long memory, this memory is at risk of elimination or erasure. Or, to put it another way, long and deep streams of place-based knowledge for which tuatara stand—and for which they stand guard (see Waitangi Tribunal 2011, p. 303)—have been dis-articulated by these catastrophic environmental changes and are at risk of evaporation.

If tuatara expose acute difficulties in respect of the human-wrought climate change that has occurred in Aotearoa/New Zealand since the advent of European settlement, they also expose

sensitivities in respect of the larger planet-wide anthropogenic climate crisis that is known to be underway. As ectotherms whose body temperature fluctuates in accordance with the environmental temperature and is heated by the sun, reptiles stand to be profoundly affected by global warming; climate is coming to be understood as a "potent" ecological factor for this class of creatures (McGlone and Walker 2011, p. 23). For tuatara, however, the risks are compounded. As well as being dependent on—and sensitive to—ambient temperatures, tuatara are particularly vulnerable in respect of their breeding and reproductive patterns. As observed in research conducted on Takapourewa/Stephens Island, tuatara possess extremely low breeding rates; they take 15 years or more to reach sexual maturity and females lay eggs on average only once every four years (see Gibbs 2008, p. 157). Soft-shelled tuatara eggs are laid in clutches of between one and 19 in a depression scooped in the ground, covered in a layer of soil, and left to develop over a period that can take anywhere from 12 to 15 months. The sex of the offspring is determined by the temperature at which the eggs are incubated: scientific studies have revealed that 21 °C is the pivotal point, with the ratio skewed towards males at soil temperatures above this level (see Nelson et al. 2002; Huey and Janzen 2008; Mitchell et al. 2008; Gibbs 2008, p. 157). As McGlone and Walker observe, "[r]esults of mechanistic modelling suggest that these particular sex ratios will increasingly tilt towards males due to rising temperatures until, with a mean temperature rise of 4 °C, all will be born male" (McGlone and Walker 2011, p. 23). In other words, the atmospheric changes that are occurring as an integral aspect of global climate crisis have the direct potential to extinguish this most-ancient of faunal species. On its present course, with anything less than "rapid, aggressive action to reduce [greenhouse] emissions", the planet is forecast to reach 4 °C warming or more by the end of the present century (see Field 2010, p. 6)—or again, to put this in perspective, within the lifespan of a single tuatara.

Larger questions concerning the tuatara's previous adaptability—and the extent of its propensity for further adaptation—arise here. Due to its characterisation as a so-called "living fossil", the tuatara has widely come to be perceived as an immobile relic: a static trace or embedded impression of former life. Scientific descriptions of tuatara have tended to hold that this creature is "conservative" and "primitive", possessing an anatomical form that "has not changed much structurally since the Triassic Period of 200 million years ago" and standing as "a striking example of evolutionary stagnation" (Sharell 1966, pp. 21, 70; Lockley 1980, pp. 93–94). As recently as 2008, it has been suggested that the tuatara has "scarcely changed" during its long existence, and that this is a creature "for whom time seems to have stood still" (see Gibbs 2008, pp. 59, 157). Yet, as the descendants of amphibians, reptiles as a class are known to have excelled in adaptation to life on land, and to have coped well as the swamps and forests of deep evolutionary time disappeared (see Sharell 1966, p. 17). As suggested by Karanga te Kere, this understanding is longstanding in Māori culture. In western scientific traditions, however, dawning recognition of the tuatara's capacity for change has only been floated since the 1960s; Sharell conceded at this time that findings arising from the study of the tuatara's anatomy and way of life cannot directly be applied to the other Rhynchocephalians because "our reptile may have gone through many adaptations to the change of climate, environment and food habits during those millions of years of its survival" (Sharell 1966, p. 22).

Two key reasons have been proposed for the tuatara's endurance of the conditions that ultimately claimed the other species of its order. First, as Gibbs explains, the tuatara "probably owes its survival to the fact that its ancestors were isolated in New Zealand, away from the impacts of that burgeoning group of warm-blooded hunters, the mammals, which outcompeted or eliminated tuatara relatives elsewhere" (Gibbs 2008, p. 157; see also Lockley 1980, p. 94). And second, tuatara have demonstrated a high degree of success in specialising—that is, managing to adjust to a sufficient degree as successive glacial ages have seen the planet alternately warm and cool, and as the landmass that would eventually become the Aotearoa/New Zealand archipelago acquired its emergent topographies and its climatic and biotic contours. Tuatara are unusual amongst the world's reptiles in that they are nocturnal and cold-adapted; they have evolved to tolerate cool, damp and dark conditions. In so doing, they have developed a very low metabolic rate, making them the coldest blooded of all present-day reptiles. The tuatara has an especially low rate of heart-beat and body

temperature and its growth is very slow; embryos take longer to develop "in-shell" than any other known vertebrate, and individual tuatara only increase in size, on average, by a few millimetres each year, with eggs, hatchlings and adults alike entering periods of hibernation or virtual hibernation during the New Zealand winter (see Sharell 1966, p. 33; Lockley 1980, p. 94; Cree 2014).

Over time, too, tuatara have shown demonstrable capacity for adaptation to new environments and new climates. On Takapourewa/Stephens Island, for instance, tuatara have come to live in close association—as burrow-mates—with a large population of petrels on whom they are partly predatory and with whom they are partly commensal. As Lockley explains,

> Centuries of burrowing by these petrels […] have enriched the soil with nitrogen and phosphate but bared much of the ground of low plant cover […] and encouraged an abundant invertebrate fauna of scavenging insects, including wetas, crickets, beetles, worms, etc., as well as lizards. The Tuatara, living conveniently in or near the same burrow system, feeds on all these animals, but in addition takes the occasional petrel and young shearwater. (Lockley 1980, p. 93; see also Sharell 1966, p. 30.)

On one view, it is possible that the tuatara has withstood periods of climatic upheaval and is presently clinging to life as a limit case for resilience—that is, as a "stoic" organism (Gibbs 2008, p. 156) already pushed to the extreme edges of its ambient tolerance and its capacity to specialise (or perhaps specialised in ways that will preclude ongoing change). On another view, in the wake of the initial shock of realisation about the climate-crisis-induced risk to tuatara, doubt has emerged about whether this threat "is real or not" (McGlone and Walker 2011, p. 23). It is undoubtedly the case that the tuatara lineage has survived warmer temperatures; until recently, as McGlone and Walker note, "tuatara thrived in Northland where mean summer temperatures are about 6 °C warmer than [on] the southern tuatara islands" (McGlone and Walker 2011, 23). As Gibbs has observed, too, tuatara have been flexible in the face of climate change in past epochs, coping, for instance, during the Pleistocene, "when climate change was the order of the day and many warm-adapted plants became extinct," and when "the ratio of females to males in the tuatara world must have been under some pressure" (Gibbs 2008, p. 157). For now, too, the planet's total tuatara population still numbers in the tens of thousands. Yet, as Caroline Wood has explained,

> A major problem for our wildlife […] is that they have so few options. Before humans arrived in New Zealand, nature had plenty of room to adapt to change. Tuatara populations, for instance, could move if temperatures were too warm or too cold in one place. Now they are restricted to a few small, pest-free locations because of predators and development. (Wood 2016, p. 15.)

Moreover, the remote island locations in which remnant tuatara populations reside are themselves vulnerable to the effects of climate crisis: atmospheric and soil warming, dehydration, fire, inundation, cyclones, storm surges, the uncontrollable spread of pests and/or disease.

Amid ongoing uncertainty about the tuatara's future, one particular detail stands out. As an expression of its slowed metabolic rate, the tuatara has developed the ability to reduce its respiration to one breath per hour—an active breathing rate considerably lower than in any other vertebrate. To hold breath in the face of the unfolding climate crisis being experienced by tuatara, by their ancestral lifeworld and by the planet more largely is one kind of response: to wait and see; to hope; to conserve energy and "go slow" (Lockley 1980, 94); to "take each day as it comes" (Gibbs 2008, p. 157). In another sense, however, to reduce carbon dioxide output, as the tuatara has learned over millennia to do, is to know something in advance about the kinds of adaptations that will turn out to have been required, and to have acted on this knowledge.

5. Beyond Biodiversity

For the interwoven reasons detailed above, tuatara themselves may be understood as new arrivals on an alien planet. While they are recognised as time-travellers, tuatara are not typically characterised as rovers or itinerants; under their own steam, they have been observed to range no

more than twenty metres or so from their burrows. Yet, tuatara are increasingly detached from their former homelands, with enlarged carbon footprints attached to their movements and lives. From the early period of European settlement in Aotearoa/New Zealand, tuatara began being shipped to the northern hemisphere in order to flesh out (and, quite literally, give flesh to) the collections of museums and zoos.[3] From that time, too, tuatara became marooned in refuges within and around Aotearoa/New Zealand, and they began to be translocated to participate in breeding programmes, to establish insurance populations, to enhance the public profile of their species, as visitor draw cards, and so on.

To consider the strange institutional terrains where the tuatara now finds itself detained is to encounter a "border" (Chrulew 2017, p. 50) or threshold of developments in respect of climate change—and in respect of changing climates of knowledge. These may be sketched as follows:

i. Whereas tuatara have conventionally served as environmental keepers and climate mediators, they are themselves now kept and mediated. Because of their necessary confinement, they are encountered by the public exclusively through the work of zoos and wildlife sanctuaries. Indeed, tuatara are especially useful ambassadors in respect of the current efforts of zoos and sanctuaries to explicate global climate crisis and forestall extinctions; the tuatara's ancient provenance and emergent precarity yoke these aims in incomparable ways.
ii. Because of their unusual capacity to focalise timescales, tuatara expose and complicate the workings of zoos and sanctuaries as machineries of public memory. Typically, such institutions are conceived as spaces of "real-time" encounter: visitors expect to connect with living, breathing animals on display. Yet, the timescales of the zoo and sanctuary exceed such fleeting, shared moments. They encompass daily or quotidian routines of visiting, feeding and sleeping; the time of individual animals' reproductive and life cycles; the span of empires and nation states, as well as their associated geopolitical, zoological and bio-geographical histories and attendant environmental ideologies and management paradigms; and overarching timescales of evolution and extinction. As a slow mover and slow breather, an ancient-yet-threatened climate change survivor, a living embodiment of landscape, and a latter-day zoological "discovery" and zoo draftee, the tuatara can be seen to keep watch over this range of temporalities.
iii. What is presently known about tuatara patterns of life has been gleaned from the study of captive individuals and populations—that is, from observations of tuatara adapting to conditions that may be far from unexceptional in respect of the lifespan of their species to date. Tuatara have recently come to know new things: their dietary, burrowing and nesting preferences must have changed in the last two centuries, for instance, as a result of introduced predators, habitat destruction, the encroachment of human settlements and agricultural land use, the decline and/or extinction of traditional food sources, the arrival and spread of new invertebrates, and so on. More recently, tuatara have had to adjust to new pressures associated with increasing population density; by 1980, for instance, numbers on Takapourewa/Stephens Island had reached 500 tuatara per hectare (see Lockley 1980, p. 93). It remains unclear that tuatara have ever before lived in these kinds of concentrations—or, indeed, whether the tuatara's present habit of sharing burrows with petrels is a longstanding pattern of life. As noted above, too, tuatara have been subject to nationwide and trans-hemispheric relocations: they have learned to live on ships and in terrariums; they are frequent flyers on aeroplanes; they have adjusted to new environments, new diets, and reversed diurnal and seasonal patterns. Within the confines of their present institutional environments, tuatara have also become subject to newly imposed restrictions on their activities. Because Takapourewa/Stephens Island also serves as the home of the world's only remnant population of critically endangered Hamilton's frogs (*Leiopelma hamiltoni*), for instance, an inner enclosure has been established on the island to prevent frog predation by tuatara.

[3] Such actions coincided with—and no doubt contributed in part to—the decline in remaining tuatara populations in Aotearoa/New Zealand.

iv. The history of keeping tuatara in zoos has been fraught, both within and outside of Aotearoa/New Zealand. Mortality rates have been high, with tuatara life expectancy drastically reduced in conditions of captivity. Emergent understandings suggest that tuatara have tended to be kept too warm and to be over-fed on an imbalanced diet and/or to be susceptible to disease and accidents. In 2019, for instance, a sanctuary in Nelson discovered that its tuatara had been inadvertently poisoned through ingesting cockroaches which had consumed rat bait (see Newman and Gooch 2019; Bohny 2019). Moreover, tuatara held in zoos tend to be subject to artificially stable climatic conditions which can forcibly induce growth and maturation; it is unclear that it is good for the health or the lifespan of tuatara to forego periods of torpor and hibernation each winter, for instance. In the long term, tuatara may be at risk of "immured naivety" under these circumstances (see Chrulew 2017, p. 50), becoming disconnected from their knowledges about days, seasons, chilly periods and sunny spells—climatic attunements that guide what to do, and when.

v. Tuatara will now only be born in captivity, where they will be required to surrender agency in respect of their reproductive futures. Because of their status as a climate-vulnerable species, tuatara are becoming subject to what Thom van Dooren terms "the violent-care of captive life" (Van Dooren 2014, pp. 87–122): husbandry decisions designed to regulate genetic variability and optimise resilience; incubation protocols including the use of plantings, shade cloth, refrigeration and/or heat lamps to control temperatures inside enclosures; population management measures such as the permanent quarantining of young hatchlings to prevent predation by adults, and the temporary evacuation of entire populations from island sanctuaries to permit pest-control measures and bring tuatara back into breeding condition (see McGlone and Walker 2011, p. 23; Gibbs 2008, pp. 157–58, Cree 2014). It is of especial concern that tuatara reproduction is—or has become—sporadic in captivity, and that tuatara have proven extremely difficult to breed in zoo environments. Despite valiant efforts by other zoos (see Durrell 1966, pp. 5–6; Sharell 1966, pp. 32, 34–35; Lockley 1980, p. 94), Chester Zoo in England is the only institution to have successfully bred, hatched and raised tuatara progeny outside of Aotearoa/New Zealand—and this only occurred for the first time in 2015, after 38 years of painstaking labour by specialist keepers (see Connor 2016; British Broadcasting Corporation 2016).

vi. As captive subjects, tuatara are vulnerable to scientific exploitation and to the emergent frontiers of bio-prospecting. Representatives from Ngāti Koata, for instance, have raised concerns about inappropriate uses of tuatara DNA in light of their discovery that a proposal to take blood samples from tuatara on Takapourewa/Stephens Island for the purposes of gene-mapping research had been approved by Aotearoa/New Zealand's Environmental Risk Management Authority without due consultation (see Waitangi Tribunal 2011, p. 135).

This fast-forming institutional swamp poses a range of risks, not least of which is that intense protection of tuatara in zoos and sanctuaries may distance tuatara from Māori and accelerate the loss of remaining traditional ecological knowledges. In practice, however, very different shifts have been on the wind.

The role presently fulfilled by tuatara in communicating links between climate change and biodiversity decline has a remarkable point of origin, which reveals the pivotal role played by this species in the global history of the zoo. In 1868, in the immediate wake of his scientific discovery of the tuatara's global exceptionalism, Günther deposited a live tuatara in London Zoo, the world's pre-eminent zoological garden (see Zoological Society of London 1871, p. 26). The archives of the Zoological Society of London reveal that more than a hundred live tuatara were subsequently acquisitioned by London Zoo during the late nineteenth century, and that the tuatara has the distinction of marking the transition of the zoo from imperial institution to the bastion of conservation during this period of sojourn; the first explicit mention of any conservation activity to be championed by London Zoo occurred in 1893 and was articulated in relation to the tuatara (see Zoological Society of London 1893, pp. 5–6). Endorsing a world-leading proposal to set aside island sanctuaries for the general protection of Aotearoa/New Zealand's avifauna, the Society's council ventured "to suggest

that, besides the native birds to be protected in these reserves, shelter should also be afforded to the remarkable Saurian, the Tuatera Lizard (*Sphenodon punctatus*), which is at present restricted to some small islands on the north coast of New Zealand" (Ibid., p. 6). Notably, the relevant discussions in the Society's records register stress applied to tuatara populations by human-wrought environmental changes in Aotearoa/New Zealand. In other words, this institutional watershed was prompted by the recognition of climate crisis in the settler south and its observed impacts on the world's most longstanding climate survivor.

On an ongoing basis, too, the tuatara is changing the landscape and climate of the zoo as an institution. These developments are articulated in and follow from *Ko Aotearoa Tēnei* (2011), the report published by the Waitangi Tribunal following its deliberations on the path-finding pan-tribal Wai 262 claim (commonly referred to as the "flora and fauna" claim). In dealing with the unfolding environmental and cultural legacies of settler colonialism in Aotearoa/New Zealand, the report features tuatara as a leading example of a taonga or treasured species whose captive management will require the ongoing development of new protocols (kaupapa). These include dedicated areas to be set aside for tuatara in zoos and sanctuaries; arrangements for kaumātua (elders) to accompany tuatara when they are translocated; pōwhiri (ceremonial welcome and blessing) for tuatara on arrival in new institutional homes; the provision of regular updates to the relevant tribal authorities about the welfare of tuatara in a zoo or sanctuary's care, and so on (see Waitangi Tribunal 2011, p. 135). Tuatara are no longer able to be privately owned by zoos or sanctuaries. Rather, they are exchanged between iwi (tribal groups) in order to secure their ongoing connection to tribal territories, and in order to be eligible to host tuatara, institutions must establish working relationships with their local iwi. And, because tuatara are only ever on loan, "ex situ" individuals may be re-called at any time if a significant population within Aotearoa/New Zealand is threatened or lost (Ibid.). Moreover, research conducted on tuatara in captivity is to be approved, overseen and regulated by tribal authorities. As the report explains, "[i]t is clear that the claimants' spiritual relationship with the species, combined with the tuatara's rarity, and a high level of scientific interest in its unique physiology, creates an exceptional situation" (Ibid.).

In this sense, the management of tuatara increasingly requires cultural institutions to recognise the mana (authority and power) of tribal territories and indigenous knowledges and worldviews, and to reconsider what caring for "living heritage" might properly entail. Such changes are akin to the ground-breaking global developments in museum practice precipitated by the landmark *Te Māori* exhibition in the 1980s (see Clifford 1988; Karp and Lavine 1991), which insisted on acknowledgement of the "live-ness" and genealogical animacy of artefacts held in collections. In the terms of a Māori worldview, tuatara are ancestors, kin and kaitiaki (guardians), whose care calls forth a complexly woven landscape of social and environmental practices and institutions. These include whakapapa (genealogical connectedness of all living and non-living things), whanaungatanga (relationship, kinship, familial ties), kaitiakitanga (guardianship or stewardship), taonga (treasured possessions), mana (power, authority, prestige), tapu (understood both as sacredness and as taboo or restriction), mauri (life force) and wairua (spirit). The ridgeline of braided strands and peaks formed by such practices and institutions is not reducible to the western scientific concept of biodiversity, not least because it requires and regulates responsible human interaction with the world of life, and because it insists on expanded conceptions of vitality within this world—and who or what is "vital". In striking ways, the upwelling that is apparent here evokes the tribal tradition recounted by Karenga te Kere: it is possible to see reptiles ("lizards") making good on their suggestion that they might "frighten man by rearing up, staring and laughing at him" if they found themselves at risk of being thrown into the fire. At the same time as it "unmakes" the western scientific contention that it possesses no living relatives, the tuatara refuses the transferential displacements that typify New Zealanders' engagements with the endemic fauna of their country—pointing up the reductive and self-serving anthropocentrism of such identifications, and the extremity of the environmental campaigns in whose defence they are waged.

It remains unclear whether the tuatara-as-species will find a place as a case study in the climate crisis curriculum proposed for New Zealand schools. Yet, the tuatara offers a local story with

profound and provident teachings, not least of which is the limited usefulness of "biodiversity" as a means of focalising understandings of and responses to climate crisis. As a term, biodiversity is a distancing one which seals "us" (humans) from "them" (everything else) (see Mathews 2016). It thus fails to perceive a lifeworld woven through with the workings of whakapapa (genealogical connections), whanaungatanga (familial relations), care, collectivity and reciprocal obligations—as well as the knowledges that are held or kept by other-than-human species and that may turn out to matter most. As Deborah Bird Rose has explained, the "we" of the Anthropocene includes nonhuman animals as well as human beings, and it includes plants, soils, oceans and atmosphere (Rose 2013, p. 207). Viewing climate crisis beyond the lens of biodiversity and focusing attention on time and place, knowledge and action, the tuatara asks us to think anew about kaitiakitanga (guardianship)—who or what will protect the lifeworld and its talismans of health—breath by breath, day by day, epoch by epoch. The tuatara emerges, too, as a keeper of newly difficult knowledges and places. Zoos and sanctuaries are the burial sites or battlegrounds or cultivations that it now protects; climate crisis is the tricky terrain over which it now stands guard.

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NEW HISTORIES OF PACIFIC WHALING

Ryan Tucker Jones
Angela Wanhalla

Transformations in Environment and Society

2019 / 5

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Introduction

Over two days in June 2018, a group of 16 scholars met in Honolulu to share their research on the history of whales and whaling in the Pacific Ocean. These scholars came from all corners of the great Pacific—British Columbia, Aotearoa New Zealand, Japan, Australia, and Oregon among others—and the histories they related inhabited an even greater portion of that ocean. This, in fact, was the aim of the seminar "Across Species and Cultures: New Histories of Pacific Whaling," funded generously by the Rachel Carson Center, the University of Otago's Centre for Research on Colonial Culture, and the University of Oregon. The seminar brought together a great diversity of viewpoints, methodologies, academic traditions, and areas of research, all looking inward towards the ocean, all looking at the relationship between humans and whales. The collection of essays that follows is the result of that seminar. Together, they delve into the depths of Pacific history and human–animal relations, they investigate and test the Pacific world concept, and they probe the limits of humans' abilities to know other species.

Whaling has long enjoyed a central place in narratives of Pacific history. Long before Europeans came to that ocean, many Pacific peoples traced their ancestries and in some cases built their societies on the backs of whales. As ancestors, whales occupy a privileged place in Pacific societies and histories. As a number of the contributors to this collection highlight, whales regularly feature in accounts of voyaging traditions, often as protectors, and their significance remembered in songs and carvings. In fact, what we might see as "new" histories are actually old, often couched as "stories" by cultural outsiders. Remarking on the Māori relationship with whales, Billie Lythberg and Wayne Ngata argue for a temporal conceptualization situated within Indigenous histories that "span deep ancestral time to the present," in which "the commercial whaling era is a mere 'blip' in this longue durée." Looking below the ocean surface, to animal lifecycles, also forces a reimagining of scale and time in ways that disrupt the predominance of cross-cultural histories and modern whaling as frames of analysis. Contributors to this volume explore what whale and whaling histories look like from the ocean, as well as from islands, shorelines, ships, or stations.

In the nineteenth century, the whaling industry touched nearly every latitude and longitude of the Pacific Ocean. The industry forged new paths of mobility for Pacific Islanders, Indigenous North Americans, Euroamericans, and Asians alike, while tracing and disrupting the paths of whales. Honolulu claimed its spot as the central hub of the Pacific in large part thanks to the whaling industry, and many colonial histories around the ocean turned on how, when, and by whom whales were killed and their products distributed. But historians have pondered too little how women, African-Americans, Indigenous Pacific peoples, and whales themselves helped shape these histories. The authors in this volume go some way towards filling out these histories, reinforcing the coercive role whaling often played in Pacific colonialism and its importance to imperial expansion, while also revealing its potential for creating richly heterogeneous local societies.

While less celebrated—and less researched—than the age of sail whaling, the twentieth century saw the rise of an industrial whaling industry that sometimes built on earlier whaling cultures, but wrought environmental destruction unprecedented in its thoroughness and ruthlessness. Degradation of ocean worlds placed Pacific traditions, practices, economies, and communities under pressure. Yet, out of these forces, and from within local Pacific communities—both human and cetacean—new whale cultures have arisen. This volume's authors chronicle those developments in new and revealing detail: environmentalists desperate to save the last of the Pacific's whales stumbled upon resilient Indigenous worlds; whales took center stage in some Pacific peoples' post-colonial legal and political claims; and whales themselves—perhaps—also responded to this new Pacific world. While Alaska's Iñupiat, Australia's Ngarrinderjeri, Aotearoa's Māori, and Honshu's Buddhist priests all claimed that whales made meaningful choices, often to aid human societies, most Euro-Americans denied the animals were capable of any such thing. But as Western scientists increasingly see whales changing their behavior, resuming lost migration routes, even becoming friendlier to the humans who once slaughtered them, this opposition is falling apart. This new Pacific world calls for historians who, like its inhabitants, can cross those increasingly blurry boundaries that separate cultures and species.

So what follows are 14 short essays that heed this call. Arranged in three main sections—North Pacific, South Pacific, and post-colonial whale worlds—some use Indigenous frameworks of relationality in which humans and animals occupy shared worlds; others call for more Indigenous sources to be used in constructing historical narra-

tives; others rely on the insights of Western science to reveal lost stories of humans and whales. While no single story emerges, no one way of bringing whales to the ocean's surface, together they speak to the historical importance and continued resilience of whale and human communities all around the Pacific.

Kate Stevens and Angela Wanhalla

Māori Women in Southern New Zealand's Shore-Whaling World

From the 1790s to the 1840s, a range of newcomers arrived in New Zealand, drawn to the southern shores by seals, whales, and trade opportunities with Māori communities. In southern New Zealand, it was the presence of southern right whales (kewa, or tohorā) in the bays between April and October that attracted shore whalers to the region, who established whaling stations on Kāi Tahu tribal territory (see map). Southern New Zealand hosted shore-whaling stations from 1829 until the industry declined from the 1850s onwards due to over-exploitation.

An important site of cross-cultural encounter, the shore-whaling station was a vanguard of colonialism and capitalism in the Pacific. Intermarriage was a vital component of the shore-whaling world: it operated to fold new members into Kāi Tahu relational economies and networks and fostered the development of long-standing, cross-cultural settlements. Such relationships cemented the rights of whalers to establish stations on Kāi Tahu land, guaranteeing their protection but also a "right to use the small areas on which they dwelt."[1]

Māori women and men played crucial roles in the development and success of the industry. Recent scholarly work, for instance, has identified shore whaling as a key site of interracial marriage, and of expanding global capital in which Māori made significant contributions as employees.[2] As such, stations were a liminal space, both between and connecting different communities. Yet, as Jonathan West has highlighted, the whaling station was also a site of environmental encounter, straddling the marine and terrestrial, and human and nonhuman.[3]

1 Atholl Anderson, *Race Against Time: The Early Maori-Pakeha Families and the Development of the Mixed-Race Population in Southern New Zealand* (Dunedin: Hocken Library, 1991), 28.

2 On interracial marriage, see Kate Stevens and Angela Wanhalla, "Intimate Relations: Kinship and the Economics of Shore Whaling in Southern New Zealand," *The Journal of Pacific History* 52, no. 2 (2017): 1–21. On links between shore whaling, capital, and the "imperial global economy," see Tony Ballantyne, *Webs of Empire: Locating New Zealand's Colonial Past* (Wellington: Bridget Williams Books, 2012), 124–36.

3 See Jonathan West, *The Face of Nature: An Environmental History of the Otago Peninsula* (Dunedin: University of Otago Press, 2017), which dedicates a chapter to the Ōtākou shore-whaling station and its fisheries.

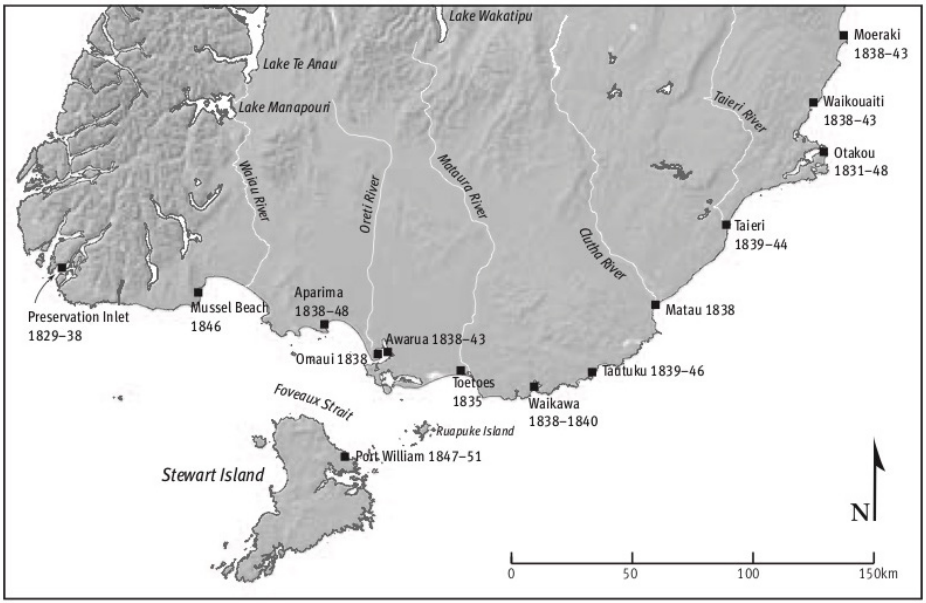

Figure 1: Map of Foveaux Strait and Rakiura/Stewart Island, showing locations of key whaling stations and settlements in the area. Note that Kāi Tahu rohe (tribal territory) extended further north to encompass other shore whaling areas in present-day Otago and Canterbury. Image from Wanhalla, *In/visible Sight.*

Kāi Tahu women made an important contribution to the whaling station—as both wives and workers. Here, we move beyond these roles to examine women's knowledge work, focusing on their role as intermediaries between humans and the marine world. We argue that indigenous understandings of the ocean, which have gendered dimensions, are a critical and under-examined element of the shore-whaling industry. Different sets of knowledge and values were embedded in these environments and shaped the operation of the whaling community and its activities. Whalers brought their skills in chasing whales and transforming these leviathans into tradeable oil. Aside from access to land, however, they also relied on Kāi Tahu knowledge about the land and ocean. The interplay of these environmental knowledges underpinned the emerging industry.

Kāi Tahu Women and the Ocean

The European division between nature and culture was blurred from a Kāi Tahu worldview. As such, understanding the whaling economy requires an examination of the interconnections between peoples, species, and environments operating within this resource industry, which relied upon local knowledge and ways of managing relations.

Whakapapa (genealogy) is a key framework for ordering the Māori world. It is "a way of being based on complex networks that encompass all forms of life, interlinked and co-emergent," that Anne Salmond argues "might assist in exploring relational ways of understanding the interactions between people and the land, other life forms, waterways, and the ocean."[4]

Centering Māori relational models that encompass all forms of life brings to the fore relationships and knowledge that can easily be obscured when whaling is examined solely on economic terms. It also situates the whaling station within a broader environmental context. Though these mammals were at the heart of the industry, shore whaling relied also on significant engagement with, and knowledge of, the wider environment as a source of sustenance, trade, and identity.

One reason why Kāi Tahu women's contributions to shore whaling have been read in limited ways is that their link to the sea and the maritime environment is little recognized. It is acknowledged that Māori women held important economic roles and were political leaders, but they also played significant roles in voyaging traditions as navigators and helped create marine life. Some traditions depict the sea as female, as Hine-moana, who with her husband Kiwa, are the progenitors of certain kinds of fish, shellfish, and seaweed.[5] In some accounts the ocean's protectors or guardians are female.[6] Women feature as archetypal figures associated with the ocean in accounts found across Polynesia, which were applied to particular local circumstances to help explain the world and its creation, including its natural features and the creatures that populate it. Traditions relating to Hina, who is said to have given fish their special characteristics, are found throughout Polynesia, where she is known variously as Sina, Hine, or Ina.[7] In a southern New Zealand version, collected by the ethnographer James Herries Beattie, Hina is known as Hine-te-iwaiwa, who stomped the sole, trampled the sandfish, and scratched the paikea (southern humpback whale), creating the distinctive markings on its front.[8]

4 Anne Salmond, *Tears of Rangi: Experiments Across Worlds* (Auckland: Auckland University Press, 2017), 3.
5 Margaret Orbell, *The Encyclopaedia of Maori Myth and Tradition* (Christchurch: Canterbury University Press, 1995), 86 and 129.
6 Angela Wanhalla, "Maori Women in Waka Traditions," in *Shifting Centres: Women and Migration in New Zealand History*, ed. Lyndon Fraser and Katie Pickles (Dunedin: University of Otago Press, 2002), 21.
7 Christine Tremewan, *Traditional Stories from Southern New Zealand = He kōrero nō Te Waipounamu* (Christchurch: Macmillan Brown Centre for Pacific Studies, University of Canterbury, 2002), 121.
8 Tremewan, *Traditional Stories*, 151.

Given their strong relationship with the oceanic environment, it might be expected that women feature in historical treatments of shore whaling. Associations between Māori women and the sea, however, are rarely noted in most accounts of the nineteenth-century shore-whaling industry, where the dominant narrative remains focused on stations as masculine spaces and the ocean as men's work.

Oceanic Relationships in the Whaling Era

Women's role as guardians continued into the whaling world of the nineteenth century. An account recorded by ethnologist James Herries Beattie in the early twentieth century demonstrates the role of Kāi Tahu women and their knowledge of and relationship with the environment during the shore-whaling era:

> Woman's Island for the tītī (muttonbirds) of Rakiura belonged to Tuhawaiki-Parapara, who conveyed it to Puna, the wife of Chaseland or Tame Titireni, and she became the boss of the island. Her husband and she went to Chatham Islands and were wrecked. They built a boat and put sufficient food on it and came back here. She was a great tohunga [expert] and pulled one of her hairs, said a karakia [prayer] and put it in the sea, so they had a safe voyage and landed at Moeraki.[9]

The marriage between Puna and Australian Aboriginal whaler Tommy Chaseland was a partnership in which both were active participants. In particular, this narrative demonstrates Puna's status and knowledge through her ability to bring the pair to safety, while also highlighting the continued importance of Māori knowledge and traditions in interracial relationships formed around sealing as well as whaling stations. The arrival of whaling as a commercial activity did not displace these enduring forms of engagement with the natural world.

Puna's actions, though, also recalled the role of women in traditions in which human beings triumph over external forces by calling on the spiritual world through karakia.[10]

9 Ellison, quoted in a notebook entitled, "Casual allusions to the whalers made by Maoris in interviews given to Herries Beattie between 1900–1950," 2, James Herries Beattie Papers, MS-582/G/9, Hocken Collections, Dunedin.

10 Tremewan, *Traditional Stories*, 16.

Puna may have been thinking of Pūpū-mai-nono, who features in southern traditions. She ritually protected her siblings on their quest to avenge the death of a brother through a karakia, used to calm the stormy seas, so that they could cross the ocean safely.[11] An account collected by Beattie from Kāi Tahu leader Magda Wallscott in 1910 relates to Puna's role in protecting a crew, including her husband Tommy Chaseland, on a journey to New Zealand from the Chatham Islands. Magda told of how Puna "sat in the bow of the boat from Chatham Island karakia-ing to keep the storm down."[12]

Given their spiritual significance, accounts also show whales as kaitiaki (or guardians), as well as tūpuna (ancestors) (see Lythberg and Ngata in this volume). The continued role of whales as kaitiaki appears in Beattie's ethnological project that he conducted for Otago Museum in 1920, in which he interviewed elders across the southern region about all aspects of Kāi Tahu life. Beattie recorded:

> A well-informed old man referred to the traditional lore that in storms at sea an efficient tohuka (or tohunga) could call up a great fish to protect the canoe. […] Any whale, or shark, or big fish, or taniwha, or monster of the deep thus called up was called a takaroa, or tangaroa, and all were "paid with a hair from the human head".[13]

The account has clear parallels to the protective actions taken by Puna. More generally, karakia and related rites were used to ensure good fishing with the acquiescence of Tangaroa.

Whales are also a tohu (sign) that represent positive omens. George Robert, the first child of Kohikohi and her whaler husband John Howell, was born on a whaleship in 1838 as the family returned from visiting relations on Centre Island in the Foveaux Strait. Betsy, an old Māori woman, and Kohikohi's young servant were also on the boat. After the birth, which was aided by Betsy, they spotted a whale:

> Betsy was very superstitious, and thought this was a good omen. Better still, if the Captain could get it. Father thought this would be impossible, but egged on by the

11 Tremewan, *Traditional Stories*, 185.
12 Cited in Lynette Russell, *Roving Mariners: Australian Aboriginal Whalers and Sealers in the Southern Oceans, 1790–1870* (New York: SUNY, 2012), 58.
13 J. H. Beattie, *Traditional Lifeways of the Southern Maori*, ed. Atholl Anderson (Dunedin: University of Otago Press/Otago Museum, 1994), 154.

> women made the attempt, and with the help of the women was successful. There was great jubilation, when he returned from his visit with a whale—and a son.[14]

The account suggests that the women were adept at sea, and maintained knowledge and beliefs that informed the practices of the whaling communities. The affective aspects of the shore-whaling economy thus went beyond cross-cultural relationships to include cross-species ones. Maintaining such knowledge and connection with the wider environment helped ensure the success of the industry.

Māori Women: Intermediaries of the Sea

Māori accounts of the natural world and its formation highlight the importance of looking beyond a solely economic framework for interpreting Kāi Tahu engagement in the shore-whaling world. These accounts reveal patterns of kinship that encompassed animals and the landscape, and how people related to them. The cross-cultural worlds of maritime communities drew upon personal connections forged through marriage and kinship as well as enduring connections to the whenua (land) and moana (sea). Indeed, the shore-whaling station was not simply an economic resource, but a cross-cultural and environmental space where land, sea, and people met and related to each other.

Māori women often took roles as intermediaries between humans and the environment in this maritime world. Kāi Tahu relationships to the sea set the foundation for their economic and political roles in the southern whaling world. While many Kāi Tahu women provided formal and informal labor on the whaling station, their interactions with the maritime world were more than economic or affective. Their connections to the ocean built upon traditional accounts of female ancestors, who provided models for women's roles and activities in the shore-whaling world. Yet their knowledge and engagement with the natural world are largely invisible if whaling is framed as a quintessential masculine and colonial economic activity.

14 Eva Wilson, *Hakoro ki te iwi: The Story of Captain Howell and his Family* (Orepuki: E. Wilson, 1976), 16.

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Adam Paterson and Chris Wilson

Ngarrindjeri Whaling Narratives and Reconciliation at Encounter Bay, South Australia

Sealers and whalers were amongst the first newcomers to interact with Aboriginal South Australians. Beginning from around 1803, crews made up of primarily European and American men visited the southern coastline of South Australia and occasionally stayed for several years, establishing permanent settlements on the uninhabited offshore islands. Company records, ledgers, ship logs, and occasionally personal journals and letters provide tantalizing glimpses of the lives of Aboriginal people living in proximity to these seasonal settlements. Little was made of these records until the publication of Rebe Taylor's book *Unearthed*, which documents the abduction of Aboriginal women by sealers and whalers, and their confinement on the islands along Australia's southern coastline. Most of the women whose lives were unearthed by Taylor had come from Tasmania, although some were Ngarrindjeri, a people who lived along the southern Fleurieu Peninsula, Coorong, Lower Murray River, and Lakes region of Southern Australia.

Our work seeks to document Ngarrindjeri contributions to the whaling industry and reflect on colonization in South Australia and its legacy, for Ngarrindjeri and other Australians. We frame our work within the context of reconciliation, a movement aiming to promote and facilitate respect, trust, and positive relationships between the wider Australian community and Aboriginal and Torres Strait Islander peoples. We recognize that writing and disseminating Aboriginal histories has potential to facilitate understanding between Aboriginal and other Australians, contributing symbolically to reconciliation. We also see our work as reconciliation in practice, where Indigenous (Wilson) and non-Indigenous (Paterson) approach the research from different cultural and disciplinary perspectives. Wilson is a descendant of Sustie Wilson, a Ngarrindjeri whaler, and brings Ngarrindjeri perspectives to the work, while Paterson has previously researched aspects of South Australian colonial whaling and brings a knowledge of the industry and its archive. This paper is the first report of our collaboration and we hope to further explore this unique and culturally significant component of our shared history through archaeological investigations with the Ngarrindjeri community.

Many Ngarrindjeri continue to live in and around their traditional lands, while others live further afield and return to *ruwe* (country) and family periodically. Ngarrindjeri people often trace their family histories through European and Ngarrindjeri ancestors. The first unions between Ngarrindjeri and newcomers occurred near the sealing and whaling grounds in the early 1800s. At that time, Ngarrindjeri named the newcomers *Kringkari,* the Ngarrindjeri word for a pink layer of skin revealed by burial practices—an appropriate name for pink-skinned men arriving from Karta (Kangaroo Island), the largest offshore island and a resting place for the souls of the deceased before passing to the spirit world. The newcomers did not behave with appropriate custom—as ancestors might—and unrest and mistrust grew.

When the explorer Captain Charles Sturt traveled in 1829 charting the Murray River, Australia's only major inland river, he noted that the Ngarrindjeri were wary and rarely seen, despite the many signal fires visible in the area. Learning from earlier interactions with *Kringkari*, and perhaps suffering from cultural and social upheaval after decimation by smallpox, they avoided Sturt and his party. Whalers and sealers continued to visit the mainland coast, sometimes establishing seasonal bay-whaling camps and sometimes more permanent settlements. The largest of these was made up of around 20 sealers and whalers on Kangaroo Island. Though the histories of the Kangaroo Islanders have been researched and discussed at some length, the relationships between whalers and Ngarrindjeri at the mainland stations at Encounter Bay are less well known.

Initial Meetings at Encounter Bay

Many of the men and women who formed these relationships remain nameless, and are mentioned in passing by missionaries or doctors who described the overall setting and note the prevalence of white whalers living with Ngarrindjeri women during the whaling season. An exception to these largely anonymous accounts was the relationship between John Driscoll, a whaler, and Popalbe, a Ngarrindjeri woman. Popalbe is named in colonial records because she was questioned in relation to Driscoll's death, allegedly at the hands of her Ngarrindjeri husband, Reppindjeri. According to Popalbe the two men had reached an agreement permitting Driscoll to have intimate relationships with herself and another of Reppindjeri's wives. However, at some point while traveling overland, Driscoll—who was extremely drunk after consuming most of a bottle of rum—overstepped the agreed

terms. Angered by the transgression, Reppindjeri struck him across the face. Driscoll retaliated, swinging the empty rum bottle, though he was overpowered by Reppindjeri who killed him with a blow to the head. Reppindjeri was held in chains on the bark *South Australian* anchored in Encounter Bay, and his condition was recorded in entries in the log by the first mate for several months.

He was never tried, despite the case receiving considerable attention. Reppindjeri's wives were key witnesses and William Wyatt, Protector of Aborigines, was at pains to point out that a trial would be unfair if their testimony was inadmissible. A stumbling block for the colonial authorities was the requirement under British law for witnesses to believe in a Christian God and be sworn in. Reppindjeri, however, relieved them of the burden of reconciling the two worldviews by escaping while being brought overland to Adelaide.

H. E. Mayer, a Lutheran missionary living at Encounter Bay, was deeply concerned by the relationships between Ngarrindjeri women and the whalers. Morally, they did not fit with his Christian values, which he was charged with imparting to the Ngarrindjeri. In addition, he could see the physical harm the whalers were causing the women, as venereal disease ran rife. The colonial surgeon Dr. Wark was also distressed by the spread of disease and in 1840 reported that more than half of the Ngarrindjeri women at Encounter Bay were suffering from syphilis and miscarriage had become commonplace.

While these new relationships and the diseases they brought to the Ngarrindjeri were devastating, the newcomers also brought with them goods of interest to Ngarrindjeri. Whaling stations in South Australia were well supplied with rum, which managers could purchase duty-free and supply as part of the whalers, rations. However, alcohol was not the only prospect that appealed to Ngarrindjeri; some sought employment at the whaling stations where they could earn more than with the missionaries. Mayer believed that the whaler Tammuruwe Nunkauere preferred whaling because he could purchase clothes and dress as the Europeans did. Ngarrindjeri whalers were reported to be among the best whalers in the early years of the colony, and in some years a whole boat's crew was gathered from Ngarrindjeri.

There were several hundred Ngarrindjeri at Encounter Bay during the whaling season, though only a few found employment at the station regularly. Many others harvested the meat from the discarded whale carcasses. Ngarrindjeri had gathered to harvest the bodies

of stranded whales before *Kringkari* arrived in their lands. Runners would be sent inland telling others of the arrival of *Kondoli* (Whale), a powerful *Ngatji* (totem), which was a time for ceremony and trade. The relationship between Ngarrindjeri and their *Ngatji* is very strong, described as being of the same flesh, or closer than the bond between husband and wife. According to Ngarrindjeri creation stories, *Kondoli* was a large and strong man who had the ability to make fire; jealous men speared him in the back of his neck and flames leaped out. *Kondoli* fled to the nearby water to quench his burning wound and became the whale. His wound can still be seen in the spout from the whale's blowhole.

European accounts of Ngarrindjeri eating whale meat were generally critical. They described Ngarrindjeri as ants swarming over the carcass and the meat itself as being "food for blacks, sharks, dogs, and pigs."[1] Their accounts demonstrate ignorance about Ngarrindjeri custom, which required that ceremonies be performed before whale meat was eaten. The fat was used to bind pigment, the ribs to form shelters, and ear bones to carry water. Ngarrindjeri probably viewed the European practice of discarding 30 or more whale carcasses each year as wasteful, disrespectful, and if the proper ceremonies were not conducted, potentially dangerous. It is not known if Ngarrindjeri tried to continue their ceremonies and practices around the consumption of the whale meat, though if they did not, those whose *Ngatji* was *Kondoli* would have been especially aggrieved.

Ngarrindjeri were adaptable and often sought to find the benefit in the changes brought by the newcomers and their hunts. A man, named Charlie Warner by the whalers and described in a newspaper article as a "Whale Enchanter," chose to live near the station where he received rations for working as a "watcher" or lookout. According to the reporter, a Ngarrindjeri whaler named Susti Wilson had explained that Warner had special powers and could sing or chant whales to shore. While the reporter may have recorded the conversations with Sustie faithfully, it is likely that without detailed knowledge of Ngarrindjeri culture and customs, something was lost in translation. To Ngarrindjeri, the "singing" or "chanting" of whales represents knowledge of whale behavior learned through song and held by special people, often elders. From this point of view, Warner was most likely especially knowledgeable about seasonal patterns and local conditions—such as tides and other environmental conditions—as well as whale behavior. It is because of this knowledge that Warner had an uncanny knack of predicting when whales would come

1 *South Australian Register*, 6 September 1879.

into the bays and recognizing when they were agitated and likely to dive or strand, making him an exceptionally talented lookout.

Rewriting the Ngarrindjeri History of Whaling

In developing our narratives of Ngarrindjeri whalers, we actively sought to center Ngarrindjeri in our accounts to identify as many Ngarrindjeri whalers as we could, and to promote their stories and the role that they played in the industry—a role that was obscured by discursive practices that changed as the mode of colonization changed. Europeans, who brought their own cultural biases to their observations, wrote the accounts of whaling and Ngarrindjeri reactions to it. The political and social will to incorporate Aboriginal people into the new colonial society was greatest in the first few decades of the colony, and it was anticipated that this would be achieved through religious instruction and employment. In these early years, newspapers reported enthusiastically on the skill of the Ngarrindjeri whalers. By the 1860s, however, their work was rarely reported. Most histories of South Australian whaling suggest that the industry had ceased at this time and the stations do not appear in the newspapers; however, the letter-books of the "Protector of Aborigines" record around 20 men working at the Encounter Bay station in 1860. It is likely that a marginal industry existed employing Aboriginal men, who had been disenfranchised through the alienation of their land and dissuaded from working in more mainstream industries through lack of payment or other unfair conditions that disadvantaged them over newcomers.

The discursive construction of the work done by the Ngarrindjeri whalers in the later stages of the industry—where it was only noted in Protectors' records—reflected official attitudes toward Aboriginal Australians, which had changed from optimistic assimilation to, at best, paternalistic care in the 1860s. Another example of the achievements of Ngarrindjeri whalers being overlooked was the white whaler James Long's omission of the Aboriginal whalers from his 1890s recollections of the industry at Encounter Bay. Long did remember Ngarrindjeri in other ways, for the eating of the meat—for which they were derided—and for camping nearby. Given the clarity of his recollections of almost all aspects of the industry, it is easy to construe Long's amnesia as racially motivated, an act that was perhaps made easier by the confinement of most Aboriginal people to missions by the 1890s. Long's recollections contrast with the memories of Sustie Wilson, the

only Ngarrindjeri whaler whose testimony is recorded in the historical archive through a newspaper article. Sustie was interviewed in 1930 when he was reported to be about one hundred years old. Sustie told of the skill of Ngarrindjeri harpooners, of the "power" of Charlie Warner, and described rowing twelve miles (19 kilometers) back to shore after being towed to sea by a whale.

Reconciliation through Meaningful Histories

Recognizing the ways in which narratives of Ngarrindjeri whalers have been variously constructed, and indeed forgotten, are important aspects of this history and need to be shared widely in Australia, a country still coming to terms with the injustices of colonialism. For Ngarrindjeri—as for many Aboriginal peoples from the so-called settled south of Australia—disruption caused by colonization was particularly harsh. Histories such as these provide a bridge to the present and a useful contextual lens for understanding current practices. It also provides opportunities to highlight the strength, creativity, and perseverance of Ngarrindjeri in the past and the present. It is important to recognize that the stories that are told today about Ngarrindjeri and their role in the development of South Australia can easily be colored by past bias. Meaningful engagement with Ngarrindjeri histories and promotion of Ngarrindjeri points of view about shared histories are crucial to improving relationships between Ngarrindjeri and other Australians today.

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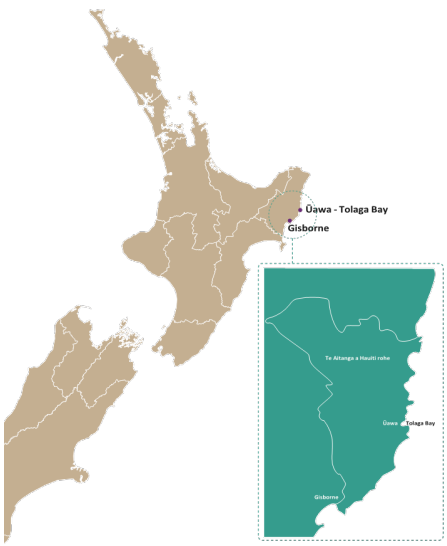
Billie Lythberg and Wayne Ngata (Te Aitanga a Hauiti)

Te Aitanga a Hauiti and Paikea: Whale People in the Modern Whaling Era

In Aotearoa New Zealand, whales are revered by Māori in *whakapapa* (ties of kinship and affinity) and through carvings, songs, and oratory. Māori relationships with whales span deep ancestral time to the present, and the commercial whaling era is a mere blip in this longue durée. Here, we introduce a whale-riding ancestor called Paikea and his instantiation as a late nineteenth-century *tekoteko* (gable figure) now in the collection of the American Museum of Natural History in New York. We describe the relationship between Paikea and a gift made to him by his descendants from the tribal group Te Aitanga a Hauiti, of Ūawa on the east coast of the North Island, as an example of what it means to be whale people in the "modern whaling" period.



Ūawa and Te Aitanga a Hauiti rohe (tribal area), North Island, Aotearoa– New Zealand. Courtesy of Kaaterina Kerekere, KEdesign © 2019.

Paikea is an ancestor of many *iwi* (tribal groups) of the eastern seaboard of Aotearoa New Zealand. The Paikea story is known in other parts of the Pacific and provides an explanation for how this particular ancestor reached Aotearoa from the ancestral and spiritual homeland of Hawaiki. There are several versions of the story, but it is commonly accepted that he was the sole survivor of a marine disaster and through his endeavors reached shore at a place called Ahuahu. This was achieved through the mobilization of his marine ancestors, his family of whales, who helped him reach Aotearoa. Paikea is described as riding on the back of a whale, or transforming into a whale, and is referred to accordingly as *he tahito, he tipua, he taniwha, he tohorā, he tangata, he tekoteko*—an ancient being, an extraordinary being, a denizen of the deep, a whale, a man, a sentinel for his people. *Paikea* is also the Māori name for southern humpback whales.

The Paikea narrative underpins a certain type of relationship with whales, one of *kaitiakitanga*—care or stewardship. This is conceptualized in *whakapapa* terms, whereby whales are identified as ancestors and kin. The *kaitiaki* relationship underpins voyaging knowledge contained in oral histories. Whales guide *waka* (canoes/vessels) to land, through dangerous seas and channels, and are called upon to smooth rough waters for safe passage. Ocean-going *waka hourua* are double-hulled to replicate the physical qualities of a pair of whales cresting waves in tandem. *Tere tohorā, tere tangata*—where whales journey, people follow—is a *whakataukī* (proverb) that encapsulates the essence of this synergy.

Yet Māori also had a visceral relationship with whales, not only harvesting drift whales but also forcing the beaching of individuals or pods when it was possible to do so. Whales were a gift from Tangaroa, the guardian of the sea and progenitor of fish. They offered many important resources, all identified in Te Reo Rangatira (the Māori language), and examined and understood by Mātauranga Māori (Māori knowledge systems). These included meat (*kiko*), which could be eaten fresh or dried for future use; milk (*waiū*), if the whale happened to be a mother still suckling her calf; oils (*hinu*) for polish, scent and *rongoā* (healing); baleen (*hihi*), sinews (*uaua*), and blubber (*ngako*). Whale bones (*parāoa*), with their characteristic grain, were harvested for weaponry and adornment, and the creamy, slightly translucent ivory of their teeth (*rei*) was reserved for high-status *taonga* (treasure).

During the commercial whaling period that interrupted centuries of Indigenous whale harvesting practices, many Māori embraced both new ways of whaling and the whalers who brought them to Aotearoa. They boarded whaling ships and traveled the world, created *whakapapa* bonds with whalers through marriage and bloodlines, and joined European and American crews in the flensing of whales in such quantities that, for example, by 1840, right whales had been practically eliminated from the waters of the Southern Hemisphere. They also hosted onshore whaling stations from 1820, including one at Māhia, south of Ūawa—a *tapu* (sacred) site associated with whales and whale beachings. In 1837, Māhia became the principal whaling station in the mid-eastern section of the North Island, conflating *whakapapa* and more viscerally-based whaling traditions for local Māori, and committing Māhia and its people to the commercial whaling period after generations of Indigenous relationships with, and harvesting of, whales.

The timing of the death of the last whale in Aotearoa New Zealand for commercial purposes, at 4:00 p.m. on 21 December 1964, is noted with specificity on government websites, drawing a bold line under such practices. For a short time thereafter, the flesh of beached whales continued to be harvested by locals. One of this paper's authors, Wayne Ngata, recalls his father traveling to Gisborne following a stranding there in 1969 and bringing home whale meat, which he enjoyed as a delicacy (though the younger members of his family did not). Hunting whales in New Zealand waters was finally made illegal in 1978.

Paikea the *Tekoteko* in Ūawa and New York

In the late nineteenth century, a carved meetinghouse was erected in Ūawa. At this time, sporadic whaling was still taking place south of Ūawa in Māhia and Tūranga (Gisborne) as a seasonal activity. To the north of Ūawa, shore whaling remained an important occupation for the people of Te Whānau ā Apanui until the mid-1920s.

The *whare whakairo* (carved ancestral house) was named after a charismatic leader of Te Aitanga a Hauiti, Te Kani a Takirau (ca. 1790s–1856), a descendant of Paikea. He is said to have carried a whalebone *mere* (a striking weapon and oratory aid), and the whalebone *heru* (standing comb) he wore in his hair is now in the collection of the British Museum. Paikea stood at the apex of the Te Kani a Takirau *whare*: a naturalistic carving of a man atop a figurative face, or *koruru*. Carved from a single piece of wood, he stands 164 cm tall. Paikea is well proportioned, facing forwards, his hands—each with five fingers—clasped across his lower abdomen. His legs are foreshortened; he was made to be looked up to. At the top of his head, a projection suggests a topknot of hair. His face is carved and painted with a distinctive *moko* (facial tattoo), and his name is written across his chest in elegant script, leaving no doubt about his identity.

Atop the *whare* of Te Kani a Takirau, Paikea commanded a view across the windswept and driftwood-strewn beaches of Ūawa, past the bay's spectacular cliffs and out to sea, to the great ocean he had traversed from Hawaiki. He looked out at this view for about 20 years before he was taken from Te Kani a Takirau to join the collection of Major General Robley in the United Kingdom, a man known for his interest in Māori *moko* and his collection of not only artefacts but also preserved Māori heads.

Robley was a regular petitioner of the American Museum of Natural History (AMNH), who purchased Paikea from him in 1908, along with a whalebone *patu*, several cloaks, canoe prows, and other fine examples of Māori carving. Records associated with this acquisition are scant, and we do not know the circumstances that led to the dismantling of Te Kani a Takirau and the removal of Paikea by Robley. We do know that at some point before 1907, Paikea was shipped to England, before being sold and shipped to New York where he has remained ever since.

Visits and Gifts

In April 2013, Paikea the *tekoteko* was visited by a group of his Te Aitanga a Hauiti descendants, delegates of the tribe's arts management group, Toi Hauiti, who were eager to reconnect with the ancestor who had once graced Te Kani a Takirau. To instantiate their reconnection after an absence of more than one hundred years, Toi Hauiti presented a *taonga* to Paikea: a *rei puta* pendant carved from a sperm whale's tooth. The tooth itself had come from Māhia, the sacred site temporarily dedicated to shore whaling.

Whakakau, a named *rei puta* (whale tooth pendant) carved by Lance Ngata (2012). Photo courtesy of Lance Ngata.

Since commercial whaling activities ceased in 1964, Aotearoa New Zealand has been a staunch advocate of whale conservation. The Marine Mammals Protection Act 1978 regulates cultural access to and use of whales that continue to beach; Māori are now usually allowed only their teeth and bones, precluding their respectful use of the entirety of this precious resource. Meanwhile, international conventions restrict the movement of *taonga* made from whalebone and teeth across borders, circumventing the gifting of prestigious items within and beyond kin groups.

This was the case with Paikea's pendant. It was rejected by the Museum due to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), an international treaty drawn up in 1973 to ensure that international trade

in specimens of vulnerable wild animals and plants, such as whale bones and teeth, does not threaten their survival.[1] In addition to not being able to stay with Paikea, it could not stay in the United States. It was instead delivered into the hands of another of Paikea's descendants, who was visiting New York for talks concerning the United Nations Declaration of the Rights of Indigenous People, and carried home to Ūawa.

It is a testament to the goodwill of Toi Hauiti, and their genuine interest in long-term relationships with the museums caring for their *taonga* and ancestors such as Paikea, that this incident was handled with sensitivity and grace. However, to begin to frame this event and the intention of a future return, Wayne Ngata offered the following *whakataukī* (proverbial saying/teaching): *He taonga tuku noa tē hoki mai ai*—A gift given freely, not to be returned.

We might infer from this not only that the refusal of the whale tooth pendant was a slight, but also that the circumstances that lead to Paikea's acquisition by the American Museum of Natural History in 1908 did not tally with such a sentiment.

Some 14,000 kilometers, two flights, a full day and night of travel, and thousands of dollars per person separate Ūawa and the AMNH. The logistics required to return the *taonga* would include multiple airfares in order to bring an adequate group to New York to make good the gift (both for Paikea as the recipient and for Toi Hauiti as donors), not to mention time away from jobs, school, and family. The return would also require considerable research, paperwork, and fees in order to identify and satisfy the requirements of not only CITES, but several other acts and conventions enacted to constrain precisely the procurement and movement of an item made from whale tooth.

In 2015, an opportunity arose to revisit New York as part of a documentary series being made for the Māori TV broadcaster in Aotearoa. A storyline was developed that featured the return of the *taonga* for an episode of ARTEFACT focused on Māori ancestors and blue water navigation.[2] Resources became available for both the research required to secure permissions for the *taonga* to travel and for Toi Hauiti to travel with it.

1 "What is CITES?," Convention on International Trade in Endangered Species of Wild Fauna and Flora, accessed 4 February 2019, https://www.cites.org/eng/disc/what.php.
2 "Star Travel," ARTEFACT, Māori Television, accessed 4 February 2019, https://www.maoritelevision.com/shows/artefact/star-travel.

To determine which acts would apply to the *taonga*, we needed to ascertain with absolute certainty the history of the tooth itself and its association with Māhia. Toi Hauiti member Lance Ngata told us that he had carved the *taonga* in 2012 from a whale tooth given to him by his tutor, master carver Clive Fugill. The whale was a mature *parāoa* that beached on the Māhia Peninsula in the late 1960s. This allowed us to trace the tooth back to a sole sperm whale bull that had beached on Māhia on 1 May 1967. Its records were surprisingly detailed; the whale was 55 feet long, it is number 385 in the NZ Whale Stranding Database, and the coordinates of its stranding were S 39°5'2", E 177°52'19".

Thereafter, the paperwork amassed to travel with Paikea's pendant included: a "Permit to Export" from the Management Authority of the Department of Conservation, New Zealand, to satisfy the Trade in Endangered Species Act 1989 and CITES; an email from the U.S. Fisheries and Wildlife Service advising the inspection process required at the U.S. border and other required documentation; a "Declaration for Importation or Exportation of Fish or Wildlife" from the U.S. Fisheries and Wildlife Service; a "Marine Mammals Protection Act 1978 Permit to Hold, Import and Export" from the New Zealand Department of Conservation, granting the right to export the tooth and including a photograph of the pendant so no substitution could be made; a letter from the United States Department of Commerce National Oceanic and Atmospheric Administration, acknowledging receipt of an affidavit and supporting documentation from Wayne Ngata to establish that the whale had died and the tooth had been procured before the effective date of the U.S. Marine Mammals Protection Act (21 December 1972), and that the tooth had been held in a secure environment since 1967 and had not been involved in commerce. As a condition of this import permit, the tooth was not allowed to enter into commerce in the United States; therefore, it must never be sold. Finally, a cover letter from the Senior Museum Registrar of the AMNH outlined the importation process and associated inspection at the U.S. border, listed the permits attached, and confirmed that the pendant would be accepted by the AMNH into its collection as a gift to Paikea.

After months of paperwork and international collaboration, the *taonga* was finally able to return to Paikea in July 2017. In New York, flanked by members of his extended family—all of them descendants of Paikea—Wayne Ngata addressed their ancestor, collapsing the distance of four years since their last reunion, and introducing him to other members of his kin. The pendant was once again placed around his neck, but this time with the certainty that it would never be taken off.

Whale People Today

Descendant Mikaia Leach with Paikea, 2017. Photo courtesy of Greenstone TV.

Being whale people in the modern whaling era requires the maintenance of relationships with whales that exceed and transcend the short-term aberration that was economic whaling and the skillful navigation of national and international laws introduced to address their subsequent economic extinction. The many Fijian *tabua* (smoked whale tooth valuables) confiscated each year by NZ Customs are further examples of the impact CITES is having on the movement of the ancestral valuables of Indigenous peoples. More than 90 percent of specimens seized at New Zealand's border under CITES are destroyed, but after a request from Fiji authorities in the early 1990s, *tabua* have been collected and stored by the Department of Conservation. On 29 May 2017, just two months before the pendant was returned to Paikea, 146 *tabua* were returned to Fiji by NZ Customs in the first repatriation of its kind.

For Toi Hauiti, their relationship with Paikea the *tekoteko* in New York and the people that care for him there has been strengthened by the return of the whale tooth pendant. The *rei puta* is a materialization of the living relationship between Paikea and his kin. It is a demonstration of Toi Hauiti's curatorial approach to their *taonga* in museums far from home and a prompt for further conversations about Paikea's rights, as an ancestor and a living face of Te Aitanga a Hauiti, to receive guests and retain gifts that are his due, even if these are not easily accommodated by international treaties.

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Joshua L. Reid

Whale Peoples and Pacific Worlds

Earlier histories of Pacific whaling appeared as romanticized, straightforward narratives. Manly white hunters nobly opened up vast swaths of the Pacific Ocean and the lands and islands washed by these waters to the Western world as they pursued dangerous prey that they transformed into lucrative commodities. Recently, the history of Pacific whaling has undergone a renaissance as scholars have applied new avenues of analysis and brought it into conversation with a broader array of historical fields. Historians critically note the role of whaling in the expansion of European and US empires—and global capital—in the Pacific. Additionally, they examine the consequences that whalers and whaling brought to Pacific lands, waters, peoples, and species. Diseases decimated Indigenous populations across the ocean, drawing survivors into increasingly more exploitative relationships that further pressured local resources. And sea mammal populations, particularly whales, experienced succeeding collapses as one fishery became overhunted and hunters moved on to the next. But in many ways, historical examinations of Pacific whaling have remained one-dimensional. Active European and Euro-American whalers and polities—the usual historical agents—executed their wills on the passive Pacific, whose peoples and species could do little more than play the role of victims.

The articles in this volume explore a different narrative, charting new histories of Pacific whaling. They reveal that a broader array of sources, such as local newspapers, old collections of whale recipes, oral histories, and culturally specific material items can uncover a more inclusive history of who whaled, where, and why. They demonstrate a more diverse set of whaling economies that did far more than simply transform whales into oil and baleen. Instead, they reveal that many nations and peoples beyond the usual historical actors used whaling to claim and control marine and terrestrial spaces, to establish and enforce boundaries, and to exercise power. All the articles push back against the notion of a passive Pacific, specifically when it comes to the peoples of this ocean and its marine environment. Together, these articles illustrate that whaling was much broader than the killing and commodification of whales. Excitingly, they help substantiate the emerging field of Pacific worlds.

In broadening whaling narratives beyond the straightforward but challenging task of transforming whales into commodities, these new whaling histories demonstrate that Pacific peoples "lived with whales," to adapt a conceptually useful phrase from Nancy Shoemaker.[1] Demuth's examination of a moment of cross-cultural encounter in the Arctic of 1852 (in this volume) poses two questions that help us consider how hunters "live" with whales: *what is a whale, and what is its value*? Together, these invoke a third, related question: *why whale*?

Answers to these questions are, of course, historically rooted in specific places and times and reflect the worldviews of particular societies. For Indigenous peoples, there were often many reasons to whale. The mid-nineteenth-century Fijian chief Cokanauto whaled in order to get closer to *tabua*, sperm whale teeth that were markers of prestige. This mirrors whalers' symbolic use and valuing of whale teeth, a different kind of consumption than that of other marine commodities. Ngarrindjeri whalers sought access to cash and goods that would have increased their status in Aboriginal societies, while simultaneously laboring at nearby whaling stations so they could maintain ancestral connections to *Kondoli* (whales) in a changing settler-colonial world of nineteenth-century Australia. Indigenous Arctic peoples invested cetaceans with agency, seeing whales as giving themselves to their communities for subsistence purposes and to make them wealthy and powerful as whale commodities proliferated throughout local, regional, and global exchange networks. These Indigenous peoples recognized that this only occurred when harpooners had practiced the right ritual preparations that demonstrated that they respected the gift of whales. According to Maori authorities and some Coast Salish leaders, the reciprocal respect they gained from whales meant that they could call leviathans ashore. Among their own societies, Indigenous whalers distributed meat, blubber, and bone throughout villages, thereby affirming and augmenting their status as respected authority figures.

Because whaling meant something more than the killing and commodification of whales, Indigenous whaling peoples such as the Iñupiat, Ngarrindjeri, and Kai Tahu—along with the Makahs of the most northwestern point of the contiguous United States—can be more accurately described as "whale people."[2] Seeking to define what

1 Nancy Shoemaker, *Living with Whales: Documents and Oral Histories of Native New England Whaling History* (Amherst: University of Massachusetts Press, 2014).

2 Information about the Makahs of Washington State is from Joshua L. Reid, *The Sea Is My Country: The Maritime World of the Makahs* (New Haven: Yale University Press, 2015).

this means, several of the authors here interrogate this classification and together map out three related commonalities of whale peoples. The first commonality is that they are in *relations* with whales. Many Indigenous peoples recognize varying degrees of relations that others define as kin-based or political, definitions which often overlap from an Indigenous perspective. Elsewhere, Athabascan Dian Million engages with Indigenous relationality, explaining that "the meaning of Indigenous as it is defined by all those cultures who identify themselves as such has always been in their relationship to a 'land,' that place they were in relationship to without anthropocentric bias, relationships that disciplined action and cohered *Indigenous* persons and societies."[3] For whale peoples, these relations included marine waters and whales themselves and were expressed in various ways, demonstrating that what was relevant for one people was not as critical for others. Paikea, the whale-riding ancestor from Hawaiki, the original Māori homeland, reflects relationality literally through whakapapa (genealogy) that connects the past to the present and the future.

Other whale peoples illustrate that relationality with whales included both men and women. For example, the work of Māori women was central to the success of nineteenth-century shore-whaling stations in New Zealand. Similarly, Iñupiat, Chukchi, and Yupik wives supported effective umiak captains by calling the whale and sending off the crew with their prayers. The Makah wife of a whaler often helped in the ritual preparations of harpooners, and remained solitary and still during a hunt because it was believed that a whale would mimic her actions. In these Indigenous societies, whaling helped to bind together families, as each gender assumed responsibility over various aspects of the hunt, welcoming the whale ashore, and dividing the catch. Nearly all Indigenous whaling societies see whales as another people. This endows leviathans with agency, just like any other people, and explains why many Indigenous whalers speak of whales as giving themselves to harpooners. Even some non-Natives—particularly those observing a gray whale calf in captivity and others gray whales in the lagoons of Baja California in the late twentieth century—also think of whales as individuals endowed with agency.

Because whale peoples are in relations with whales, they have a host of ritual practices, beliefs, and ceremonies related to whaling. These mark a second key character-

3 Dian Million, *Therapeutic Nations: Healing in an Age of Indigenous Human Rights* (Tucson: The University of Arizona Press, 2013), 116.

istic of whale peoples. Often done to honor the whale, these practices reflect values of stewardship and responsibility for these beings in which they are in relation. For instance, before the 1999 hunt, the Makah crew engaged in over 1,000 hours of ritual preparation, which was in addition to a similar amount of time spent on physical preparation. Additionally, ceremonies highlight the importance that this relationship plays in the social life of whale people. In the mid-nineteenth century, Makah harpooners performed mock whale hunts as part of the engagement ceremony when they sought a marriage partner. A ritual like this demonstrated the whaling prowess of the potential groom and his ability to care for his family and people. But it also illustrated just one of the ways that whaling infused many aspects of their lives. Ngarrindjeri and Native Hawaiians, among others, also observed ceremonial practices respecting whales.

The relations that whale peoples have with whales stretch long into the past and remain relevant today and into the future, representing a third characteristic shared by whale peoples. Archaeology often affirms these historical roots. The finds at Ozette, a Makah village just south of Cape Flattery, reveal that this tribal nation has been whaling for more than 2,000 years. This is why whales figure prominently in the creation stories of whale peoples. After a great flood brought people to Cape Flattery, they transformed this into their homeland and became the Qʷidiččaʔa·tx̌ (“kwi-dihch-chuh-aht”)—the People of the Cape—by establishing villages where they could harvest whales. Swooping down from his nest high in the mountains and casting lightning snakes to stun whales, Thunderbird taught them how to whale, a practice that defined their identity and made the waters around Cape Flattery into Makah marine space. For Kai Tahu, whales appear in voyaging traditions and in stories about the creation of Aotearoa’s southern landscape. Similarly, Tikigaq villagers at Point Hope, Alaska, tell about a whale that died and created the headland where their community is located.

Indigenous knowledge pertaining to these sea mammals and whaling reflects the substantial length of time that a community has been a whale people. Makahs studied and learned the behaviors of several types of whales that they regularly hunted. This included whale anatomy—they had to know where and when to strike so that harpoons and lances would work best—and navigation of marine waters so they could safely hunt and return home. The only way Makahs and other whale peoples could accumulate this knowledge was through generations of being in relations with whales. Because this relationship is historical, it has changed over time, as whale peoples embraced new technologies and opportunities to hunt whales or maintain their rela-

tions with whales. For instance, when iron became increasingly available to Makahs in the early nineteenth century, whalers began making harpoon heads and lances from this metal. In 1855, the People of the Cape used the treaty-making process in order to reserve for themselves and their descendants the right to hunt whales. By the 1860s, they tried using firearms to hunt whales, but found that they were not as effective as traditional gear. By 1905, they were regularly hiring steam-powered tugboats to help them tow their catch back to villages. None of these innovations diluted the customary practice of whaling or made the hunters any less Makah—instead, these adaptations helped them maintain their distinct identity as the People of the Cape amid the changing settler-colonial world. Many of the articles in this edition attest to similar historical strategies pursued by Native Hawaiians, Taukei of Fiji, Ngarrindjeri of present-day South Australia, Kāi Tahu of Aotearoa, Ainu peoples of Japan, and Arctic communities.

The new whaling histories in this volume also help us better understand the plurality of Pacific worlds, an emerging field in history. These whaling histories underscore that the meaning of a "Pacific world" varied, from the shores of Indigenous Australia, Aotearoa, the South Pacific, the Salish Sea, northern Japan, and the Arctic, to the Europeans and Euro-Americans who sought to exercise some measure of control over the Pacific. Furthermore, they illustrate how a Pacific-worlds analysis uncovers the connections between the local and the global, as this ocean basin is better understood historically as a complex assemblage of different regions. This should come as no surprise when we remember the difference in scale that a Pacific-centered analysis offers. Despite the staggering scale of this ocean, however, this lens of analysis appears useful, particularly when we choose to focus on the threads or networks—such as whaling or whales—that knit together the various Pacific worlds.

These histories also highlight the centrality of the Pacific. Older whaling histories take a traditional (world-systems) approach, framing the Pacific as the periphery to particular centers of capital and power. If we think about whaling from the perspective of the local peoples and powers in the Pacific, many different sites in this ocean resemble central hubs for various networks of peoples, valued items of exchange and commerce, ideas and technologies, and diseases, to name a few. Moreover, these new histories emphasize the importance of and opportunities presented by mobility across and among various Pacific worlds. Whaling gave numerous individuals, including Indigenous peoples, the opportunity to explore the larger world for myriad purposes.

Finally, many of these new histories on Pacific whaling confirm that Pacific worlds were first and foremost Indigenous spaces—and they remain so today in many places. This is evident in the way that Paterson and Wilson (in this volume) approach their examination of Ngarrindjeri whalers through the frame of reconciliation rooted in Indigenous perspectives and epistemologies, not those of the settler colonial nation-state. Similarly, by visiting their ancestor at New York's American Museum of Natural History, Māori efforts to "heed the call of Paikea" also illustrate this. Makahs articulated the persistence of Indigenous Pacific worlds most dramatically by harpooning a gray whale in 1999.

By taking a broader and more inclusive view, these new histories of whaling in the Pacific illustrate the potential for what some scholars might have once written off as a specialized and antiquated corner of historiography. New methodologies, theoretical approaches, and analytical perspectives instead point to many of the rich possibilities that Pacific whaling histories have to offer.

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Whales offer investigative bridgeheads into the cultural histories of nonhuman species, the hidden histories of energy economies, and the complicated histories of cross-cultural contact. This volume brings together contributions from all corners of the Pacific Ocean, offering perspectives from Aotearoa New Zealand, Australia, Japan, Fiji, Hawai'i, Siberia, Alaska, and the Pacific Northwest. Particular emphasis is placed on the experiences of Indigenous peoples and women as active agents in the whaling trade. Utilizing new forms of evidence and new tools of interpretation, this collection of essays delves into the depths of Pacific history in order to investigate and test the Pacific world concept and probe the limits of human abilities to know other species.

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