

THE SPIRAL OF LIFE: Regeneration, Rivers and Forests in Aotearoa New Zealand

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Anne Salmond

Distinguished Professor of Anthropology and Māori Studies, The University of Auckland

Abstract

In Aotearoa New Zealand, with its 'clean green image,' rivers and forests alike are being affected by climate change and ecological collapse, with rivers no longer swimmable in many places, and many endemic species of plants and animals at risk of extinction.

In seeking regenerative responses, ancestral Māori ideas have inspired legal and political strategies that include awarding rivers and mountains legal personhood, and giving te mana o te wai (the mana of water) priority in decision-making over human uses.

At the same time, this has fuelled a heated debate among Māori as well as other New Zealanders about the limits of extractive capitalism, and the wisdom of 'privileging' ancestral ideas in these contexts.

In this paper, I explore diverse strands of ancestral and contemporary Māori and European thinking about (re-)generative relations with other life forms, and some of the complex ways in which these entangle in current debates about environmental and cultural futures in Aotearoa New Zealand.

Introduction

In Te Ao Māori (Māori ways of being), ancestral ideas about how the world works are most powerfully expressed in the cosmological chants taught in the *whare wānanga* (schools of learning). Different kin groups had their own *whare wānanga*, in which these chants and cosmological stories were taught. As Te Mātorohanga, a famed nineteenth century Ngāti Kahungunu *tohunga* (expert), said to his students in 1865:

Attention! Sirs! Listen! There was no one universal system of teaching in the Whare Wananga. For each tribe this was so; the teaching was led astray by the self-conceit of the priests which allowed of departure from their own doctrines to those of other schools of learning.

My word to you is: Hold steadfastly to our teaching; leave out of consideration that of other (tribes). Let their descendants adhere to their teaching, and you to ours, so that if you are wrong (*hē*), it was we (your relatives) who declared it to you (and you are not responsible); and if you are right (*tika*), it is we who gave you this treasured possession (*taonga*).¹

In the workings of *whakapapa*, the genealogical networks that link all forms of life, different elements come together, and new life forms are generated. A cosmological chant recorded by Te Kohuora of Rongoroa in 1854 describes this process of emergence:

<i>Nā te kune te pupuke</i>	From the source of growth the rising .conception .swelling
<i>Nā te pupuke te hihiri</i>	From rising the thought
<i>Nā te hihiri te mahara</i>	From rising thought the memory
<i>Nā te mahara te hinengaro</i>	From memory the mind-heart
<i>Nā te hinengaro te manako</i>	From the mind-heart, desire
<i>Ka hua te wānanga</i>	Knowledge became conscious .was named, became fruitful
<i>Ka noho i a rikoriko</i>	It dwelt in dim light .mated with dim light
<i>Ka puta ki waho ko te pō</i>	And Pō (darkness) emerged .was born
<i>Ko te pō i tuturi, te pō i pepeke</i>	The dark for kneeling, the dark for leaping
<i>Te pō uriuri, te pō tangotango</i>	The intense dark, to be felt
<i>Te pō wawa, te pō tē kitea</i>	The dark to be touched, unseen
<i>Te pō i oti atu ki te mate</i>	The dark that ends in death
<i>Na te kore i ai</i>	From nothingness came the first cause . begetting
<i>Te kore te whiwhia</i>	Unpossessed nothingness
<i>Te kore te rawea</i>	Unbound nothingness
<i>Ko hau tupu, ko hau ora</i>	The hau of growth, the hau of life
<i>Ka noho i te ātea</i>	Dwelt in clear space .mated with clear space
<i>Ka puta ki waho ko te rangi</i>	And the sky emerged that stands here
<i>e tū nei</i>	.was born
<i>Te rangi e teretere nei</i>	The atmosphere which floats
<i>I runga i te whenua</i>	Above the earth
<i>Ka noho te rangi nui e tū nei</i>	The great atmosphere above us
<i>Ka noho i a ata tuhi</i>	Dwelt in red light .mated with red light
<i>Ka puta ki waho te marama</i>	And the moon emerged .was born
<i>Ka noho te rangi e tū nei</i>	The atmosphere above us
<i>Ka noho i te werowero</i>	Dwelt in shooting light .mated with shooting light
<i>Ka puta ki waho ko te rā</i>	And the sun emerged .was born
<i>Kokiritia ana ki runga</i>	Flashing up
<i>Hei pukanohi mō te rangi</i>	To light the atmosphere
<i>Te ata rapa, te ata ka mahina</i>	The early dawn, the early day, the mid-day
<i>Ka mahina te ata i hikurangi!</i>	The blaze of day from the sky! ²

In this chant, life begins with *kune*, a surge of energy that initiates growth in plants, and conception in human beings. From *kune* comes *pupuke*, the rising up of plants, the welling up of water in a spring, or thoughts, memories and emotions in the mind-heart, or pregnancy in a woman.

From *pupuke* comes *hihiri*, rising thought; and from *hihiri*, *mahara*, memory or reflection. From *mahara*, the *hinengaro* or mind-heart arises; and from *hinengaro* emerges *manako*, desire. *Manako* in turn generates *wānanga*, or ancestral knowledge, the patterning of the world. From knowledge comes Te Pō, aeons of darkness, followed by Te Kore, nothingness, the 'primal power of the cosmos, the void or negation, yet containing the potentiality of all things afterwards to come.'³

From nothingness, the winds of growth (*hau tupu / tipu*) and life (*hau ora*) blow through the world and space emerges, then the sky, the earth, the moon and the sun. As a blaze of light shines across the world, the creator ancestors emerge with their offspring - the ocean, winds, plants, fish, animals and people.

It is fascinating to see the emergence of thought and memory so early in this cosmological account. In this generative, networked cosmos, activated by balanced exchanges, every life form is animated by the same fundamental forces. As Nepia Pōhuhu, another nineteenth century *tohunga*, explained: 'All things unfold their nature (*tipu*), live (*ora*), have form (*āhua*), whether trees, rocks, birds, reptiles, fish, animals or human beings.'⁴

Here, things and beings are not distinguished. In the patterns of *te reo* (the Māori language), mountains, forests, rivers and people are existentially entangled:

take

- origin, cause, reason
- root of a plant
- base of a hill
- incantation
- chief of a kin group
- ancestral source of a land-claim

pū

- origin, cause, source
- root of a tree or plant
- base of a mountain
- heart, centre
- main stock of a kin group
- a learned person

pupū

- bubble up

puna

- spring

So in te ao Māori, person identify themselves by naming themselves, their mountain, their river and their kin group, the ancestral places from which they have sprung:

tipu

- spring, issue, begin
- shoot, bud, grow
- unfold essential nature

whakatipuranga

- generation

tipuna

- ancestor, grandparent, lit. 'has grown / sprung'

In this way of being, regeneration is always possible. Space-time surges in and out from the wellspring (*puna*) or the root (*take*), from which new forms of life keep on emerging.

In the various cosmological chants, the *whakapapa* of the world is recited. In ancestral meeting-houses, this process is recorded in *whakairo* (carving) as double spirals, song lines carved in wood, each generation marked with a chevron; or in *kōwhaiwhai* (rafter paintings) as gourd plants, sprawling and spiralling across the rafters. This recursive dynamism is also manifest in whirlwinds, for instance the twister that lifted the ancestor Tāwhaki to the highest of the heavens to find the three baskets of *wānanga* (ancestral knowledge); or in whirlpools, including Te Parata, a great vortex at the heart of Te Moana-nui-ā-Kiwa (the Pacific Ocean). All living systems are activated by the spiral of life, driven by reciprocal exchanges.⁵

If the exchanges become unbalanced, the *hau* falters. This affects not only people, but families and kin groups, the land itself, rivers, forests and the ocean, even countries and the planet. Every living system may enter a state of *mate*, ill-health and misfortune, and if the imbalance that caused the *mate* is not rectified, they may perish. In Marcel Mauss's classic work *The Gift*, the *hau* is understood as a force that drives exchange among human beings. In *te ao māori*, the Maori 'world,' however, the *hau* impels exchanges among all life forms, including people, for better or for worse. It lies at the heart of ancestral Maori ideas about regeneration.

Rivers

In this cosmological account, as Ranginui, the sky and Papatūanuku, the earth, emerge, they lie locked together for dark aeons, their children crushed between them - the progenitors of wind, sea, forests, food crops, wild foods and people. After an impassioned debate, Tāne-mahuta, the ancestor of trees, lies on his back and pushing up with his feet, forces his parents apart, letting light into the world.

In the shock of their separation, Rangi weeps for his wife, his tears becoming springs, lakes and rivers, while Papa sends up mists of longing to greet him. As the streams flow into rivers, their currents tangle together. As rivers flow into the ocean, Te Moana-nui-a-Kiwa, their currents surge in and out from Te Parata, the vortex at its heart and the throat of Tangaroa, the sea ancestor, the rhythm of his breathing in and out creating the tides. In later generations, as voyaging ancestors cross Te Moana-nui-a-Kiwa from Hawaiki, the homeland, to Aotearoa, they settle beside springs and rivers in Aotearoa, their lines of ancestry or *whakapapa* entwining with the currents.

In the case of the Whanganui River, the first in the world to be granted legal identity and rights, this interlock between people and waterways is depicted as a multi-stranded rope, carved into the wall panels in local meeting-houses, and expressed in the saying, "*Ko au te awa, ko te awa ko au. Kei te mate te awa, kei te mate ahau.*" "I am the river, and the river is me. If the river is dying, so am I."

As a Whanganui elder lamented to the Waitangi Tribunal in 1998, "It was with huge sadness that we observed dead *tuna* [eels] and trout along the banks of our *awa tupua* [ancestral river]. The only thing that is in a state of growth is the algae and slime. The great river flows from the gathering of mountains to the sea. I am the river, the river is me. If I am the river and the river is me – then emphatically, I am dying".⁶

In a recent paper, Aparecida Vilaça writes about the Wari and their relationship with the Laje river in Brazil. Like the Whanganui river in New Zealand, in June 2023 the Laje was legally declared a 'living entity,' a law initiated by a Wari man, Francisco, a local councillor:

The intrinsic rights of the Laje River - Komi Memen – a living entity, are recognized, as well as those from all other bodies of water and living beings that exist naturally in it or with whom it interrelates, including human beings, insofar as they are interrelated in an interconnected, integrated and interdependent system." (Municipal law no. 2579, article one).⁷

Like the Whanganui, its headwaters dammed for hydro-electric power, its banks deforested and constrained by stop-banks, its bed mined for gravel and its waters degraded by farm effluent and other pollutants, the Laje is at risk from logging, mining, hydro-dams and a planned soya plantation that would discharge toxic chemicals into the river. When Vilaça asked Francisco why he fought to protect the river by recognising it as a legal person, he answered, “I studied at primary school, high school, college and master’s level. I see white society destroying nature and the climate.”⁸

In ancestral Wari ways of thinking, Vilaça reports, the dead live on the floor of the Laje river, and fish may be human. In ancestral Whanganui habits of mind, the river itself is an ancestral being, and fish and human beings are kinsfolk, linked by the *whakapapa* that organises the world. In both cases, however, ideas of private property and profit have been adopted through engagement with capitalist ways of living, along with the notion that ‘white society [is] destroying nature and the climate’ and that this can best be reversed by solutions that promote the regeneration and restoration of ‘the natural world.’

These become alternate framings between which people in settler societies such as Brazil and Aotearoa New Zealand, not all of them indigenous, may oscillate in confronting the converging crises of degraded waterways, biodiversity losses and climate change. As a Whanganui elder, Toni Waho, said to the Waitangi Tribunal when describing a major dam on the headwaters of his ancestral river: ‘It’s not an ownership issue ... it’s *kaitiakitanga* [guardianship], it’s *mana*. The Maori heart says let it cease. The Pakeha world says, let’s keep going, perhaps we can find a solution.’⁹

Or as Taipari Munro told the Tribunal when speaking about his ancestral spring:

I’m not saying that I own all the water of Aotearoa, but I own the water of Waipao. I have the *mana* and even speaking now back to you – what I said about the difficulty of swapping backwards and forwards between languages – I’m a bit frightened to even utter the word ‘ownership’ because I know the people over there on that side [the Crown lawyers] have the meaning of that word but our particular word is ‘*kai-tiaki*’ or ‘guardian.’

It’s a bigger thing, it’s something that doesn’t only concern us the people who are walking around on this earth, but it also concerns our ancestors and it concerns the old *atua* [creator ancestors] Māori and that’s why I can’t desert that past that had been left to us by our old people because they’re speaking with the voice of their old, old *tūpuna* [ancestors] and with the voice of those *atua*, and so we take seriously what has been left to us, to take care of by those elders.’¹⁰

Again, this is a regenerative process, listening to the voices of the *atua* and the ancient *tūpuna* or ancestors, spiralling back to the source. But at the same time, in the shifts between *te ao māori* (the Māori ‘world’) and modernity in the lives of these elders, and between different understandings about human relations with rivers, questions of ownership and property rights persistently arise, creating new and hybrid ways of thinking.

Forests

In Aotearoa, a similar equivocation occurs in the relations between people and forests. According to the cosmological accounts, after forcing earth and sky apart, Tānemahuta, the ancestor of trees, seeing his mother naked and bereft, cloaked her with forests. The *ngāhere* (forest) was a *tapu* place, with ancestral power, and if a person cut down a tree for their house or canoe or snared a bird in the forest, they had to ask Tāne’s permission.

According to the nineteenth century Tūhoe expert Tamati Ranapiri, in ancestral times the *hau* or vital force of the forest was bound into a *mauri*, a sacred talisman, with *karakia*, or incantations. When Elsdon Best, a leading ethnologist, wrote to Ranapiri, asking him to explain the difference between the *mauri* and the *hau* of the forest, Ranapiri wrote back, giving the famous account quoted in Marcel Mauss’s work *The Gift*. In the original letter, he says,

Na, ko te hau o te ngaherehere. Taua mea te hau, ehara te mea ko te hau e pupuhi nei. Kao. Maku e ata whakamarama atu ki a koe. Na, he taonga tou e homai koe moku. Na, e hoatu hoki e ahau mo tetahi atu tangata, a ka roa pea te wa, a, ka mahara tera tangata kei a ia ra taua taonga kia homai he utu ki a au, a ka homai e ia.

Na, ko taua taonga e homai nei ki a au, ko te hau tena o to taonga i homai ra ki au i mua. E kore rawa e tika kia kaiponutia e ahau moku, ahakoa taonga pai rawa, kino ranei, me tae rawa taua taonga e au ki a koe, no te mea he hau no to taonga tena taonga na. Ki te mea ka kaiponutia e ahau tena taonga moku, ka mate ahau, koina taua mea te hau, hau taonga, hau ngaherehere.

Now, I will speak to you about the *hau* of the forest. That thing the *hau*, it is not the wind that blows here. Not at all. Let me explain this carefully to you. Now, you have a *taonga* (something prized) that you give to me. Then, I give it to some one else. After a long time, perhaps, that person remembers that he has that *taonga* and he must give me *he utu* (something equivalent), and he does so.

Now, that *taonga* that is given to me is the *hau* of your *taonga* you gave me earlier. It wouldn’t be right at all for me to keep it for myself, whether its a very good *taonga*, or a bad one, I have to give that *taonga* to you, because it is the *hau* of your *taonga*. If I keep that *taonga* for myself, I will suffer *mate* (death, illness, misfortune), that’s the nature of the *hau*, the *hau* of *taonga*, the *hau* of the forest.

According to Ranapiri, if the person does not pass on this *taonga* (something prized) to the original donor, they will suffer misfortune, even death. If *ora* – health, good fortune, well-being - is to be maintained, the *hau* must be rebalanced. This applies equally to exchange among people, or exchanges with the forest. When people went fowling, he goes on to say, the first birds caught are offered to the *mauri* and to the *tohunga* or priests, to feed the *hau* (*whāngai hau*) of the forest and ensure its ongoing abundance:

Ka whakamarama ahau ki a koe mo te hau ngaherehere, ko te mauri na te tohunga i hoatu (whakanoho) ki te ngaherehere, na te mauri te manu i whakahua ki te ngaherehere, ka tikina atu i te tangata ka patua, ka riro mai i te tangata, ko enei manu he taonga no te mauri raua ki te tohunga, me te ngaherehere, ara, he utu mai no te taonga o te ngaherehere, ara o te mauri, koia i kiia ai kia whangaia te hau o te ngaherehere, ma nga tohunga e kai, na ratou hoki te mauri.

I will explain to you about the *hau* of the forest. The *tohunga* places the *mauri* in the forest, and the *mauri* makes the birds in the forest plentiful. When they are taken by a person, killed or seized by a person, these birds are a *taonga* belonging to the *mauri* and the *tohunga*, and to the forest, in other words they are *he utu* (something equivalent) belonging to the *taonga* of the forest, the *mauri*; that is to say to feed the *hau* of the forest, for the *tohunga* to eat, because the *mauri* belongs to them.¹¹

Just as people are impelled to return a *taonga* with *he utu*, something equivalent, thus ensuring their own ongoing health and vitality (*hau ora*), so they are impelled to return a gift from the forest to ensure its ongoing life. If the fish in the sea or the birds in the forest begin to dwindle, rituals were performed to *whakaoho te mauri* – wake up the *mauri*. By feeding the *hau* and waking up the *mauri*, the life force is regenerated. In much the same way, in greeting each other, people will *hongiri* or press noses, mingling their *hau ora*. The *hau* is quintessentially relational, impelling the balanced exchanges that ensure the well being of all living systems.

In his preface to *The Gift*, Mauss paid homage to his colleagues who had died during World War I; and the comparisons he made between economies based on gift exchange and those based on merchants and money had an ethical, as well as an ethnographic dimension. As he pointed out, in the European societies of his time, gift exchange and capitalism still co-exist: ‘A considerable part of our ethics and of our lives themselves still exists within this same atmosphere of the gift, of obligation and of liberty mixed together. Happily, everything is not yet classified exclusively in terms of purchase and sale. We do not only have a market ethic.’¹²

In arguing for a greater emphasis on ethics of mutual obligation, Mauss quotes a *whakatauki* (Māori proverb) to make his point:

So let us adopt as a principle of our lives that which has always been—and will always be—a principle of action: emerging from ourselves, and giving freely and obligatorily; we will not be disappointed. A fine Maori proverb goes:

*Ko Maru kai atu
Ko maru kai mai
Ka ngohe ngohe*

“Give as well as take and all will be well.”¹³

Indeed, ancestral ideas about balanced exchange and extractive capitalism continue to clash and entangle in Aotearoa New Zealand. As Mauss argued for his own time, these oscillations between divergent ways of thinking about relations among people, and between people and other life forms occur within societies, as well as between them. This is also true of *te ao Māori*, where ideas about a fundamental kinship among all forms of life, and those about human domination over other living systems also co-exist.

In the cosmological accounts, for instance, divergent strands in ancestral thought can be discerned. When earth and sky were separated, the wind ancestor Tāwhiri-matea, seeing his parents grieving for each other, attacked his brothers, unleashing hurricanes and cyclones. As storms hit land and sea, Tāne Mahuta’s offspring, the trees, snapped and fell; the fish, the offspring of Tangaroa, sea ancestor, dived into deep waters; while Haumia (fern root) and Rongo (*kūmara*, sweet potato) hid in their mother’s body.

Only Tūmatauenga, the ancestor of people, stood tall, defying the tempest. As *utu* (equivalent) for his brothers’ cowardice, he harvested their offspring, catching fish with hooks and nets; pulling fern-root and *kūmara* out of the earth by their hair; felling some of Tāne Mahuta’s offspring and snaring others in nooses. In this way he won for his descendants the right to take these other life forms for human uses, although they must make return gifts to replenish the *hau* of the ocean, root crops and the forest. The principle of *utu* or balanced exchange includes insults or harms, as well as gifts. There is *hau mate* (the wind of death, ill fortune) as well as *hau ora* (the wind of life, well being).¹⁴

In *te ao Māori*, kinship with other life forms thus sits alongside their practical uses for human survival. When Tūmatauenga’s descendants, the Pacific star navigators, arrived in Aotearoa about eight hundred years ago, this was the last significant land mass on earth to be found and settled by people. They found a land of trees with no mammals except for a few bats, with forests covering about 80% of the earth’s surface. These first settlers set about clearing the bush

for gardens, using stone tools and fire. It is estimated that by the time the first Europeans came ashore in 1769, about a third of the North Island and much of the eastern half of the South Island had been cleared of forests, and was in grassland, fernland or shrubland.¹⁵ As forest resources became depleted, however, the practice of *rāhui* emerged, in which a *tapu* was placed on a forest or a fruiting tree to allow the *hau* to regain its *ora*, health or well being.

From their early engagements with Europeans in the nineteenth century, too, Māori took part in large-scale forest clearance. Eager for muskets, iron and other European goods, entrepreneurial *rangatira* (chiefs) organised gangs of men to fell, trim and deliver hundreds of logs to ships collecting timber for ships in Britain and buildings, wharves and bridges in New South Wales.¹⁶

At first this was understood as a kind of gift exchange, but as merchants set up on shore and European settlers began to arrive in force, a cash economy was introduced, and land, timber, fish and flax became commodified. As among the Wari, formal education was a key element in this process of separation from other living systems. In mission schools, children were taught to read and write with the Bible, and learned Western disciplines about family life and work.

This included the creation story in the Bible, in which God creates Adam and Eve and tells them to 'be fruitful, and multiply, and replenish the earth, and subdue it; and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth..¹⁷ This story, along with God's act of driving Adam and Eve out of the Garden of Eden to labour for a living, served as a template for ideas of the relationship between labour and private property, as expounded by John Locke, for instance:

He that is nourished by the acorns he picked up under an oak, or the apples he gathered from the trees in the wood, has certainly appropriated them to himself. Nobody can deny but the nourishment is his... Whatsoever he removes out of the state that Nature hath provided and left it in, he hath mixed his labour with it, and joined to it something that is his own, and thereby makes it his property.¹⁸

In New Zealand, as forests, trees and land were gradually transformed into property, owned and traded in the market economy, Māori hired out their labour and worked for the settlers, clearing forests from the land for settlements, farm buildings and pasture. Nevertheless, among some but not all Māori, ancestral attitudes based on *whakapapa*, the *hau* and *utu* persisted.¹⁹

As notions of private property entangled with ancestral ideas about the uses of land, forests, rivers and the ocean for human survival, some *rangatira* became successful entrepreneurs, accumulating wealth in ways that were not possible in pre-capitalist times, when *taonga* were

highly visible and *mana* was gained through redistribution. New ideas about relations between people and other living systems engaged with old ones, shifting the shape of the world.

For some Māori and settlers, the clearance of indigenous forests was linked with Māori population decline. According to John Sheehan MP, for instance:

The same mysterious law which appears to operate when the white and brown races come into contact... by which the brown race, sooner or later, passes from the face of the earth – applies to native timber.²⁰

Other settlers, influenced by thinkers such as the German naturalist Alexander von Humboldt, valued indigenous forests for their beauty and diversity as well as their timber. In his masterwork *Kosmos* (1845-62), for instance, von Humboldt had described a ‘wonderful web of organic life’ ‘animated by one breath – from pole to pole, one life is poured on rocks, plants, animals, even into the swelling breast of man’²¹ – a description of the earth that resonates with ideas of the *hau* and *ora*, and *whakapapa* ways of thinking.

These alternating ideas about forests led to sharp oscillations in forest policies in New Zealand, from colonial times onward. Periods of wholesale clearance of indigenous forests were followed by flooding and severe erosion, which in turn led to the appointment of Chief Foresters who tried to conserve indigenous forests for sustainable supplies of timber, alongside the planting of large scale state plantations of exotic conifers to prevent soil loss and provide future timber supplies.

Finally in the 1970s, an aggressive conservation movement emerged that fought for the preservation of old-growth indigenous forests in New Zealand, and in 1987 these were handed over to a newly created Department of Conservation, and their logging was prohibited. At the same time, many exotic state plantations were sold to private investors, including those established as ‘conservation forests’ in response to widespread erosion in parts of the country, including Tairāwhiti, the East Coast of the North Island of New Zealand.²²

This binary split between indigenous forests set aside as ‘nature’ reserves and exotic plantations for industrial uses reflects a radical Nature / Culture, Indigenous / Exotic dichotomy in approaches to forestry in New Zealand. This has resulted in an overwhelming emphasis on monocultures of the fast-growing American conifer *pinus radiata*, with very little research into the practical uses of indigenous temperate rain forests for timber, erosion control, biodiversity and carbon sequestration, although these unique ecosystems produce superb timbers,

sequester large amounts of carbon, and have been co-adapting to local soils and landscapes for about 80 million years.

As a result, since the 1980s, the clear felling of pine plantations has dominated timber production in New Zealand, and the export of raw logs to markets like China and India. Māori have long been heavily involved in industrial forestry as logging gangs, logging truck drivers, and more recently as *hapū* (kin group) owners of former state exotic plantations, returned to them by the Crown as part of their Treaty of Waitangi settlements.

Not surprisingly, equivocations between different ideas about kinship with indigenous forests and extractive economics have provoked intense debates within *hapū*, especially in highly erodible parts of the country, where sediment from erosion and logs left after harvesting has caused severe damage to local communities and their ancestral rivers and coastlines.

Rivers, Forests and Te Tiriti o Waitangi

From early colonial times to the present, in response to the degradation of rivers and harbours by deforestation and pollution, elders and other kin group representatives have asserted ancestral ideas about kinship and *kai-tiakitanga* (guardianship) between people and other living systems. Since the Waitangi Tribunal was established in 1975 to investigate and seek remedies for breaches of the Treaty of Waitangi, signed by Queen Victoria and the *rangatira* (leaders) of various *hapū* (kin groups) in 1840, this trend has accelerated. In 2010, for instance, as part of a Treaty settlement, the Waikato River was recognised in an act of Parliament as an ancestral *taonga* (treasure). The Preamble to the Act begins with a statement in *te reo* (the Māori language):

Noo taatou te awa. Noo te awa taatou. E kore e taea te wehe te iwi o Waikato me te awa. He taonga tuku iho naa ngaa tuupuna. E whakaponu ana maatou ko taa maatou, he tiaki i taua taonga moo ngaa uri whakatupu.'

The river belongs to us. We belong to the river. The Waikato iwi and the river cannot be divided. It is a treasure handed down from the ancestors. We believe that it is our task to care for this taonga for the rising generations.

This is followed by a clause describing the Waikato river as 'a tupuna (ancestor) which has mana (prestige) and in turn represents the mana and mauri (life force) of the tribe.'²³

In 2014 Tūhoe's ancestral territory Te Urewera was awarded a similar status in Te Urewera Act: "Te Urewera is a place of spiritual value, with its own mana and mauri. Te Urewera has an identity in and of itself, inspiring people to commit to its care. For Tūhoe, Te Urewera is their *ewe whenua*, their place of origin and return, their homeland. There Tūhoe hold mana by *ahikāroa* [keeping fires alight on the land]; they are *tangata whenua* [lit. land people] and *kaitiaki* [guardians] of Te Urewera."²⁴

This is followed by a statement recognising the value of this former National Park to other New Zealanders: 'Te Urewera is also prized by all New Zealanders as a place of outstanding national value and intrinsic worth; it is treasured by all for the distinctive natural values of its vast and rugged primeval forest, and for the integrity of those values; for its indigenous ecological systems and biodiversity, its historical and cultural heritage, its scientific importance, and as a place for outdoor recreation and spiritual reflection.'

In 2017 Te Awa Tupua (Whanganui River Claims Settlement Act) took this further, including *kawa* (protocols) in *te reo* and English that declared,

E rere kau mai i te Awa nui mai i te Kahui Maunga ki Tangaroa: the great River flows from the mountains to the sea: Te Awa Tupua is an indivisible and living whole from the mountains to the sea, incorporating the Whanganui River and all of its physical and metaphysical elements.

*Ko au te Awa, ko te Awa ko au: I am the River and the River is me:
The iwi and hapū of the Whanganui River have an inalienable connection with, and responsibility to, Te Awa Tupua and its health and well-being.*

This is followed by the statement, 'Te Awa Tupua is a legal person and has all the rights, powers, duties, and liabilities of a legal person.'²⁵

Most recently, in 2024 Te Kāhui Tipua Act recognised Taranaki and other nearby ancestral mountains as a legal person: 'Te Kāhui Tupua is a living and indivisible whole comprising Taranaki Maunga and other tūpuna maunga, including Pouākai and Kaitake, from their peaks to, and including, all the surrounding lands, and incorporating all their physical and metaphysical elements.'

Again, this is followed by the statement, 'Te Kāhui Tupua is a legal person and has all the rights, powers, duties, responsibilities, and liabilities of a legal person.'²⁶ At the same time, part of this gathering of ancestral mountains remains a National Park.

The intent of each of these Acts of Parliament is regenerative, to heal living systems, including kin groups, harmed by breaches of the Treaty of Waitangi / Te Tiriti o Waitangi. Once again, however, oscillations between ideas of human kinship with other life forms, and property rights in capitalist economies recur, even in relation to this foundational document.

In *te reo*, the Māori language, for instance, Te Tiriti o Waitangi reads as a chiefly gift exchange. In the first *ture* (article) of Te Tiriti, the *rangatira* (chiefs) give to the Queen absolutely and forever all the *kāwanatanga* (governance) of their lands. In the second, Queen Victoria agrees with the *rangatira* and the *hapū* (kin groups) to *te tino rangatiratanga* (the absolute chieftainship) of their lands, dwelling places and ancestral treasures. In *te reo*, land itself is often referred to as a *rangatira*, so this upholds the *mana* of ancestral territories and other *taonga*, as well as of the *hapū* and their *rangatira*. In the third article, in exchange for the gift of *kāwanatanga*, the Queen promises to *tiaki* (care for) the indigenous inhabitants of New Zealand and gives to them *ngā tikanga rite tahi* (ways of doing things absolutely equivalent) to her subjects, the inhabitants of England.²⁷

The English draft of the Treaty, on the other hand, is often taken as the authoritative version of the agreement, although it was Te Tiriti, the text in *te reo* that was debated and signed in 1840. The English draft serves to authorise British understandings of the Treaty, including a cession of sovereignty by the *rangatira* in its first article (instead of a gift to the Queen of *kāwanatanga*, the right to have a governor); the recognition of property rights in the second article (instead of the Queen's recognition of *tino rangatiratanga*, the inextricable entanglement between *rangatira*, their kin groups and their ancestral territories and treasures); and in the third article, a gift by the Queen of 'all the rights and privileges of British citizenship' to 'the Maori people' (rather than her gift of *ngā tikanga rite*, equivalent but different ways of doing things for the indigenous inhabitants of New Zealand, in relation to her subjects, the inhabitants of England).²⁸

From 1975 onwards, when the Waitangi Tribunal was established in the wake of the Land March and other large-scale protests over the loss of ancestral territories, most New Zealanders accepted that the Crown had broken its Treaty promises, and supported a process of reparation. This led to formal apologies in acts of Parliament, cash payments and the return of Crown land and other assets to particular kin groups, including state forests in some cases.

Again, the intent of this reparative process is regenerative, aiming to restore the *mana* and *hau ora* of the kin groups concerned. As part of this process, however, the Crown has insisted that *hapū* join together into larger groups and form 'Post-Settlement Governance Entities' (PSGEs) to receive the cash and other assets paid in reparation for Treaty breaches. These entities are required to observe commercial disciplines, including generating profits for 'shareholders.' This has the effect of imposing capitalist values and protocols on kin groups, while disenfranchising smaller *hapū* and alienating them from their ancestral *marae*, where kin group leaders can be held to account for their actions.

For some *hapū*, the assets returned in Treaty settlements have included industrial plantations of *pinus radiata*, and this has led to struggles between the leaders of the PSGEs (sometimes wryly referred to as PTSDs (Post-Traumatic Stress Disorders)), often trained as lawyers or accountants, who are required to manage the pine plantations for profit, and elders and others leading the *hapū* who espouse values of *kai tiakitanga* (guardianship) of ancestral lands and waterways, often seen as inimical to extractive capitalism.

In Tairāwhiti, on the east coast of the North Island, these tensions came to a head in 2018, when severe storms hit Uawa (Tolaga Bay) on the East Coast, battering roads, fences, bridges and houses with tangled masses of forestry logs, and provoking a national outcry.²⁹ I grew up in Tairāwhiti, and in 2000, my husband Jeremy and I had established an indigenous forest and river restoration project on 120 hectares of former farmland at Waikereru on the Waimatā River, just north of Gisborne, my home town.³⁰ In 2012, after a major scientific conference held in Gisborne, I joined a transdisciplinary, transcultural team of colleagues in establishing an action research programme, Te Awaroa ('Long River') that aimed to restore rivers across Aotearoa. One of our case studies focused on the Waimatā, which runs from steep hill country west of Uawa through the heart of Gisborne city.

I had worked with Uawa people for many years, and our team collaborated with the Uawanui project, in which members of Te Aitanga-a-Hauiti, the local kin group, worked with Kew Gardens in London, the Allan Wilson Centre of Research Excellence and other partners to restore ancestral forests around the Uawa River.³¹ We often discussed the role of forestry companies, which are mostly based in other countries (including the US, Japan, Malaysia and Australia), but employ many Māori (among other locals) as contractors in forestry and roading gangs, as logging truck drivers, at the port and in some management roles. The companies fought hard to escape regulatory controls, and while they were forced to seek resource

consents from the local Council for their activities, including the construction of forestry roads and logging sites and managing harvests in their plantations, the conditions of these consents were often flouted.

During the 2018 storm, Te Aitanga-a-Hauiti's ancestral lands were devastated. Poorly constructed forestry roads and skid sites collapsed, sending thousands of tonnes of fallen trees, logs, other forestry debris and sediment surging down streams and rivers, destroying fences, roads, bridges, farms, crops, orchards, farm buildings and family homes. Many of the Uawanui Project's riverside plantings were lost, and local beaches and harbours were choked with logs. Dramatic images of houses almost buried in forestry waste were published online, in newspapers and on television, provoking a national debate about the forestry industry in New Zealand.

New Zealand's Emissions Trading Scheme (ETS), established by the New Zealand government to tackle climate change by offsetting carbon emissions, had been heavily weighted in favour of *pinus radiata*. In Tairāwhiti, for instance, indigenous temperate rain forests are allocated ten times less NZUs (New Zealand carbon units) per hectare than pine plantations. This has the effect of making these industrial monocultures of fast-growing, short-lived, shallow-rooting, highly flammable exotic conifers at least ten times more profitable than restoring indigenous forests, despite their rich biodiversity, long-lived trees, complex, deep root systems, underground carbon stores and self-regenerating capacities. And this at a time when, according to Statistics New Zealand, "Ninety-four percent of our [endemic] reptile species, 82 percent of bird species, 80 percent of bat species, 76 percent of freshwater fish species, and 46 percent of vascular plant species are either facing extinction or are at risk of being threatened with extinction."³²

As a result of these ETS weightings, many sheep and beef farms on highly erodible hill country in Tairāwhiti have been sold to forestry companies, hollowing out local communities and sending the profits offshore to international investors while localising the costs of forestry operations - roads damaged by logging trucks, workers killed and injured in the forests, and rivers, harbours and communities devastated by sediment and forestry debris in increasingly frequent and severe storms. While these plantations may be profitable for their owners, they are extremely costly and non-adaptive for local communities, ecosystems and landscapes.

When forestry investors began to fund ‘permanent forests’ of pine trees for carbon farming, further reducing jobs in the regions and increasing the potential for severe damage from wildfires as well as storms and flooding events, the debate intensified. Although the Gisborne District Council successfully prosecuted a number of the companies involved in the Uawa disaster, and judges issued devastating critiques of forestry practices in the region,³³ the forestry industry continued to build strong relationships with central government, helping to fund the election campaigns of Forestry ministers, lobbying hard in the press and in Parliament, and widely advertising their contributions to the national economy and employment in the regions. Recently, however, the Forestry Stewardship Council in Bonn, which certifies timber as sustainably produced, sent auditors to Tairāwhiti who removed the certification of a number of the forestry companies operating in the region, putting their access to global markets at risk.

Cyclone Gabrielle 2023

While the national debate about the forestry industry and climate change has been intense, concern about the state of waterways across New Zealand is even more acute. As environmental reporting became more rigorous, New Zealanders realised that rivers and lakes across the country are heavily degraded, with sediment, nitrates from intensive dairy farming and other pollutants, and many waterways are no longer safe to swim in.³⁴ In 2016, contaminated drinking water led to an outbreak of gastroenteritis in a small East Coast town, during which three people died and almost a third of the local people fell ill.³⁵ This became a key issue in the 2017 election, and in 2020 a new Labour-led government introduced a National Policy Statement (NPS) drawing heavily on Māori concepts, giving priority to restoring ‘*te mana o te wai*’ – the mana of fresh water: “This hierarchy means prioritising the health and well-being of water first. The second priority is the health needs of people (such as drinking water) and the third is the ability of people and communities to provide for their social, economic and cultural well-being.”³⁶

This NPS also gave a high priority to the role of *tangata whenua* (local kin groups) in relation to freshwater, with three principles focusing on *mana whakahaere*, their ability to make decisions affecting the health of freshwater; *kai tiakitanga*, their obligation to protect the health of freshwater for future generations; and *manaakitanga*, their respect and care for freshwater; and three parallel principles involving other New Zealanders, including governance, stewardship, and care for freshwater to advance the health of the nation.³⁷ In many ways, this reflected the

Indigenous / Exotic dichotomy established in relation to forests in New Zealand, with 'Māori' and 'modernist' values of environmental care split from each other and essentialised.

At the same time, ideas about 'co-governance' between *tangata whenua* and other New Zealanders were reflected in the Labour government's proposals for a radical restructure of water infrastructure across the country. In the 'Three Waters' scheme, services for drinking water, waste water and storm water, at that time delivered by 67 local bodies, were to be consolidated into four public bodies, each with a 'Regional Representative Group,' its membership split 50:50 between local council and *iwi/hapū* representatives. This group would in turn appoint each body's board, which was not 'co-governed,' but with members selected for their expertise and experience.

These proposals, however, coincided with the onset of the Covid-19 epidemic in New Zealand, when the government closed national borders and imposed regional lock-downs. It was a stressful time, and as many local communities and councils fought against the 'Three Waters' proposal, which would remove key water services and assets from their control, the 'co-governance' principle was hotly contested by Māori as well as other leaders of the opposition parties.

Critics argued that the proposed 'bi-racial' division of governance is undemocratic, since Māori make up 18% of the national population, and that it essentialises the colonial idea of 'race' while ignoring 200 years of intermarriage. When the Labour-led coalition, which included Te Pāti Māori, a political party formed to advocate for Māori interests, alongside a number of Māori Labour MPs and cabinet ministers, extended the 'co-governance' principle to the health system and discussed *He Puapua*, a report advocating parallel political structures for Māori and other New Zealanders, including parallel health systems and Parliaments, an ongoing debate over a 'split state' in New Zealand ignited among Māori as well as between Māori and other New Zealanders.

In the midst of these contestations, in early 2021, while the Covid-19 pandemic was still under way, two cyclones in quick succession hit New Zealand. The second, Cyclone Gabrielle, was the more severe, causing billions of dollars of damage in parts of Auckland, Hawkes Bay and Tairāwhiti. Once again, fallen trees, logs and waste from forestry operations surged down steep slopes and gullies into streams and rivers, creating log jams across sharp bends that burst, smashing the pipes that carried freshwater to Gisborne city, breaking cables and other

infrastructure to create a communications 'blackout', and destroying roads, bridges, fences, farm buildings, crops, vineyards, houses, livelihoods and lives across Tairāwhiti.

When the Minister of Forests, Stuart Nash, whose 2020 election campaign had been supported by forestry interests, argued that most of the 'woody waste' in Tairāwhiti rivers came from indigenous forests, local people photographed and analysed the slash piles, showing that these were 70-90% waste from pine plantations. When Mana Taiao Tairāwhiti, a group led by *hapū* members from Uawa and elsewhere in Tairāwhiti, mounted a petition for a ministerial inquiry into the disaster, it quickly attracted 10,000 signatures; although some local *iwi* leaders involved in forestry businesses supported the Minister.

By this time our rivers restoration programme, Te Awaroa, had evolved into 'Let the River Speak,' a research project involving river scientists, *mātauranga* (ancestral knowledge) experts, geomorphologists, geologists, marine scientists, ecologists, historians and social scientists, funded by the Marsden Fund administered by the Royal Society of New Zealand, and focused on the Waimatā River.³⁸ Findings from our project had helped to inspire the formation of the Waimatā River catchment group in Gisborne, which included every farmer in the catchment and aimed to restore the river to a state of *ora* (health, abundance, wellbeing). Like other rivers in the region, the Waimatā was hard hit by the cyclones; but unlike the other rivers, it runs through the heart of Gisborne city.

In our feedback to the local community, the 'Let the River Speak' research team had described the Waimatā as a 'flume' or 'chute,' tightly constrained by its terraces. During Cyclone Gabrielle, huge rafts of logs surged down the river, knocking down fences, roads, bridges and trees on the river banks and piling up against the piers of the town bridges where they created a dam, raising the height of flood waters and drowning riverside houses before bursting and landing up in the bay and on the town beaches. Shipping in the port was disrupted, and in the aftermath of the disaster, when Mana Taiao Tairāwhiti was about to present its petition to the Gisborne District Council, a small boy playing on the edge of Waikanae beach was killed by a large pine log that had floated down the river.

Unable to ignore the outcry, and despite resistance from the forestry industry (including some Māori industry leaders) and the Minister of Forests, the council voted in favour of an inquiry into the impacts of forestry waste in the region. A government inquiry was soon established, led by Hekia Parata, a former National minister from Tairāwhiti, with a very tight timeline for

submissions. The leaders of Mana Taiao Tairāwhiti, with more than 300 articles on forestry and climate change to distill in a very short time, put out an online call for help, and more than 100 volunteer researchers responded, including some from universities in the UK and elsewhere. I was invited to lead the online group working on the international literature, and together the Mana Taiao Tairāwhiti team managed to produce an impressive submission, with a series of recommendations that were later adopted by the inquiry panel.

When Mana Taiao Tairāwhiti appeared before the inquiry, Dr Wayne Ngata from Uawa, a wānanga expert from Uawa and formerly the Maori Language Commissioner, opened the proceedings by reciting a chant that invoked the powers of the ancestral atua, ending with the exhortation:

Tēnei te ara, ko te ara ki hea
Ko te ara ki uta, ko te ara ki tai
Ko te ara ki tua o taumata whakaaro
Kia puta ki te whai ao,
ki te ao mārama
Mārama te whakaaro
Mārama te whakatika
Mārama te whakakao
Mārama te hau,
He mauri ka whiti, he kawa ora!

This is the path, the path to where?
The path inland, the path to the sea,
The path to the summit of thought
That takes us to the daylight,
To the world of light
Where the idea is clear
Where the remedy is clear
Where the conclusion is clear
Where the hau is clear
And the mauri crosses over,
and ora is empowered!³⁹

At first the government's response to the inquiry report seemed promising, with indications that industrial forestry on highly erodible land would no longer be permitted. Together with Mana Taiao Tairāwhiti and other *iwi* leaders, a group of business leaders and others put forward 'Recloaking Papatūānuku', an ambitious plan to regenerate more than 2 million hectares of erodible land in indigenous forest for carbon sequestration, biodiversity and waterways restoration, and this was presented at COP 28 in Dubai.⁴⁰

Proposals for a 'split state' and resentment against Covid-19 lockdowns had galvanised a significant backlash against the former Labour-led coalition, however, and towards the end of that year, when a national election was held, a National-led coalition with two right wing parties, both led by Māori politicians, was formed.

Almost immediately, the new government began to roll back programmes supported by the previous government, including 'Three Waters,' the review of forestry and the ETS, *te mana o te wai* and the freshwater reforms, while ACT, a libertarian party led by David Seymour, who has *whakapapa* links with a Northern *hapu*, proposed a referendum on the 'principles' of the Treaty of Waitangi that would rewrite the original agreement in keeping with the English draft. At the same time, New Zealand First, a nationalist party led by Winston Peters, a long-serving Māori politician, vigorously attacked Labour's climate change and environmental policies, co-governance and any idea of a split state in New Zealand.

Shane Jones, a New Zealand First MP from Te Aupōuri who had immersed himself in *te reo* and *wānanga* before attending Harvard's Kennedy School and serving as a government official, now Minister for Oceans and Fisheries and Minister for Resources, also waded into the fray, ridiculing 'woke greenies,' the Climate Change Commission and environmental groups, and vociferously arguing for mining in conservation land, offshore oil and gas exploration and carbon farming, and fewer restraints on the fishing industry. During his first speech in Parliament, Jones declared, 'In those areas called the Department of Conservation (DOC) estate, if there is a mineral, if there is a mining opportunity and it's impeded by a blind frog, goodbye, Freddy. We are going to extract the dividend from mother Nature's legacy.'⁴¹ Here, the idea of balanced exchanges with the *hau* of the forest, rivers or the ocean to ensure their ongoing *ora* or vitality has been abandoned.

From invocations to the *hau* to 'goodbye, Freddy,' the native frog, the ideological oscillations between ancestral ideas of kinship with other life forms and human control over other living systems, on the one hand; and environmental stewardship and extractive economics, on the other, within and beyond *te ao Māori*, are getting wilder. Meanwhile in Tairāwhiti, a consortium of kin groups released a report titled *Takiri ko te Ata: A New Day*, that states, 'The unmitigated impacts of climate change and economic 'business as usual' has left us experiencing ecological degradation at an alarming rate. Historic and current land use

practices ill-suited to our region's topography have left our communities extremely vulnerable.' A chapter on the impacts of Cyclones Hale and Gabrielle in Tairāwhiti is titled 'Beyond Recovery: A Pathway to Regeneration.'

Discussion

In her paper on the Laje river in Brazil, Aparecida Vilaca writes about oscillations between 'worlds,' or between property and relationality, and interlocutors who rely on equivocal translations. She quotes Marisol de la Cadena, who in discussing indigenous protests against mining on the Asungate mountain in Cusco, observed that 'indigenous politicians are inevitably hybrid, usually shamelessly so. Relations with other-than-human beings take place along with activities such as participating in judiciary trials, organizing a worker's union, participating in environmental NGOs, even working for a capitalist organization.'⁴²

This kind of contextual equivocation, with its switches among different ancestral and modernist framings, complicates current debates about regeneration in Aotearoa New Zealand. In their draft paper on 'Agential Plasticity' for SFSPIV,⁴³ Levin and Jablonka quote Daniel Dor, who describes language as 'a technology for the instruction of imagination' in which 'the communicator provides the receiver with a code, a plan, a skeletal list of the basic coordinates of the experience—which the receiver is then expected to use as a *scaffold for experiential imagination*. Following the code, the receiver raises past experiences from memory, and then reconstructs and recombines them to produce a novel, imagined experience.'⁴⁴

What, however, happens if two or more very different languages and diverse thought worlds are involved in these exchanges, with interlocutors striving to grasp the messages of others according to their own taken-for-granted 'scaffolds for experiential imagination?' Within *te ao Maori*, for instance, or indeed across the wider community in New Zealand, it seems that a range of interpretive templates is available, some of which resonate more closely across particular linguistic and cognitive boundaries than others. God's gift of 'dominion' to Adam and Eve, for instance, or John Locke's idea about the transformative power of human labour, might find echoes in the story of Tūmatauenga's bravery gaining his descendants, human beings, the *mana* to harvest the offspring of his brothers - at least for some, at some moments. Or ideas about the world as a 'web of life,' as in Alexander von Humboldt's early formulation

or in contemporary ecology or complexity theory, for instance, might resonate with the ramifying networks of *whakapapa*, facilitating transdisciplinary, transcultural research programmes such as ‘Let the River Speak,’ or hybrid legal interventions such as the Waikato River, Urewera, Te Awa Tupua and Te Kahui Tupua Acts.

If, on the other hand, people hold fast to their own presupposed codes and co-ordinates, and insist upon them, communication may be thwarted. Mechanisms that ‘employ prior spatial and functional information and combine it with current encoding of information in a way that removes incongruity, ameliorating stress and restoring homeostasis’⁴⁵ may work for one group of interlocutors, while generating intense stress and radical incongruity for others. The process of equivocation is itself equivocal, and a site of struggle, as we see in current clashes and protests over the New Zealand Party’s environmental policies, described by some NGOs as ‘a war against Nature;’ or the ACT Party’s attempt to rewrite Te Tiriti o Waitangi in libertarian, individualist mode. In such a case, the *hau ora* of individuals, communities and ecosystems alike, even nations and the planet may falter, and the opportunity for regenerative outcomes may fail.

In a small country such as New Zealand, however, where Māori and non-Māori settlers have co-existed for ten generations, repeated exchanges between different codes and templates can result in unexpected convergences. If New Zealand was the first country in the world to award the vote to women (in 1893), this is partly due to the fact that Māori women had property rights and enjoyed leadership roles that were denied to European women; and if it is the first country in the world to recognise a river as a legal entity with its own life and rights, this is no doubt due to the persistence and recognition of ancestral Māori ideas about the existential entanglement between people and other life forms: ‘I am the river and the river is me: if the river is dying, so am I.’ Sites of struggle may also be latent spaces for adaptation, from which new codes and templates may emerge. This kind of plasticity offers the opportunity for new, regenerative responses to the formidable challenges that confront us at present.

10,000 words

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- ³⁷ <https://environment.govt.nz/publications/guidance-on-the-national-objectives-framework-of-the-nps-fm/clause-1-3/>
- ³⁸ See for instance Salmond, Anne with Gary Brierley and Dan Hikuroa, 2022. Let the Rivers Speak: Thinking about Waterways in Aotearoa New Zealand, in ed. Joy, Mike, *Policy Quarterly*, 15/3, 45-54; Anne Salmond, Gary Brierley, Dan Hikuroa, and Billie Lythberg. 2019. Tai Timu, Tai Pari, the ebb and flow of the tides: working with the Waimatā from the Mountains to the Sea. *New Zealand Journal of Marine and Freshwater Research* 56, no. 3, 430-446.
- ³⁹ Taiao Mātāmua: Mana Taiao Tairāwhiti submission to the Ministerial Inquiry on Land Use in Tairāwhiti, Tūrangānui-a-Kiwa and Te Wairoa, 2023, 3.
- ⁴⁰ <https://pureadvantage.org/recloaking-papatuanuku/>
- ⁴¹ <https://www.parliament.nz/en/pb/hansard>
debates/rhr/document/HansS_20231212_057225000/jones-shane
- ⁴² De La Cadena, Marisol, 2010. Indigenous Cosmopolitics in the Andes: Conceptual Reflections beyond Politics, *Cultural Anthropology* Vol.25 Part2, 353.
- ⁴³ Levin, M and Jablonka, E., 2024. 'Memory and Agential Plasticity: The Key to Regeneration at Many Scales.' Draft Paper, SFSPiV, Cambridge.
- ⁴⁴ Dor, D., 2015. *The Instruction of Imagination: Language as a social communication technology*. Foundations of human interaction. Oxford; New York: Oxford University Press, 24-25.
- ⁴⁵ Levin and Jablonka 2024, 5.