Modelling Mauri: Indigenous Ideas and Aotearoa New Zealand's Covid-19 Response

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In full military uniform, they scanned, swabbed, and shuttled us to our yet-unknown place of quarantine. For two weeks, we were told, they would monitor our daily 15-minute allotment of fresh air before waking us at dawn for a final test that would determine our release. I clutched my partner's silver-ferned ticket and my child's hand. We had flown from Newark through an empty LAX, leaving Princeton, New Jersey after seven months of clutching. A Princeton where a military field hospital had been planned round the corner; where a colleague, raised down the road in Trenton, had lost two members of her family.

I unclenched just one day into Aotearoa New Zealand's Managed Isolation and Quarantine system (MIQ) in September 2020—and more than I had in the preceding seven months. I had opened a package for my child containing books sprinkled with, and fully translated into, te reo Māori. Each captured an everyday enchantment of Kiwi childhood—beachcombing for fallen stars, swimming in still-alive seas, finding inclusion when feeling sad because 'kia kaha', we've got you. Accompanying these treasures were idea sheets and simple materials for indoor play—all fruits of Aotearoa New Zealand's unique bicultural early childhood curriculum designed to deepen children's connection to others, to nature, and to their own wellbeing, or more precisely, in te reo Māori, mana atua, their sacred vitality.[1]
I realised that this was not an arbitrary or extraordinary confinement, as I was still within Aotearoa New Zealand's longstanding biosecurity border. It was a familiar ritual space where visitors, fearing the Kiwi frown more than the $400 fine, check all twenty-nine pockets of the nappy bag for contraband raisins, waiting good-humouredly as half the plane has its outdoor gear inspected. I was still in the zone where Kiwis surprise outsiders by showing none of their

[1] Helen May and Margaret Carr, 'Te Whāriki: A Uniquely Woven Curriculum Shaping Policy, Pedagogy', in *The Routledge International Handbook of Philosophies and Theories of Early Childhood Education and Care*, ed. Tricia David et al., Routledge, 2015.

celebrated ‘’s all good’ cool, treating sternly and sombrely any threat not only to the industrial dairy and meat production still important to their national income, but also to the indigenous birds, bugs, and trees that are important to their national identity. MIQ was an added barricade along Aotearoa New Zealand’s rohe pūtaiao—its biosecurity frontier—shielding the naturally unselected and the ostensibly unproductive human diversity of its ecosystem.

Pandemics, like wars, are times when states and nations reveal themselves, refashion themselves, and reassert themselves. Arriving into Aotearoa New Zealand as a British partner of a New Zealander, during Covid, I was struck not only by the effectiveness of elimination, but by the way it braided compulsion and care. Having lived in and studied the US and UK, I was clear the elimination strategy was not simply the practical option any liberal, English-speaking democracy might have chosen. Other small island states, after all, did not follow the same path.[2]

What made Aotearoa New Zealand’s response distinctive? As a sociologist trained in science and technology studies and comparative public policy, I approach the question at the levels of ideas and institutions. The common categorisation in political economics of New Zealand as an ‘Anglo-Liberal’ nation-state is a double misnomer. Te reo (the Māori language) is now widely taught and interspersed with English, while te ao Māori (the Māori worldview and values system, including its ways of knowing, mātauranga Māori) is constitutionally protected within state and public institutions, including science and health, even as Māori continue to assert sovereignty against the Crown. As an outsider, I rely on two key insider accounts of the Covid-19 pandemic to understand Aotearoa New Zealand’s response: Shaun Hendy’s memoir of leading the modelling effort and briefing ministers in ‘central command’, and Kimiora Raerino’s interviews with marae leaders at the pandemic ‘home front’, alongside published academic analyses and primary scientific and policy texts. As a Pākehā person, reading from outside te ao Māori, I draw on published Māori scholarship to develop my argument, while also acknowledging my outsider status.[3]

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[2] Jennifer Summers et al., ‘Comparing the Covid-19 Response and Major Outcomes in Island Nations’, *Public Health Expert Briefing*, 23 July 2025.

[3] Taina Whakaatere Pohatu, ‘Mauri – Rethinking Human Wellbeing’, *MIA Review*, vol. 3, 2011; Denise Wilson et al., ‘Creating an Indigenous Māori-centred Model of Relational Health: A Literature Review of Māori Models of Health’,

Te ao Māori, of course, did not cause Aotearoa New Zealand to respond to Covid-19 as it did: it is not a set of portable ideas that could ever be simply adopted or applied in that way.[4] My argument is that the central government's science, policy advice, and political leadership rejected individualistic models and economistic trade-offs in favour of relational, systems-based reasoning that resonated with Māori understandings of mauri, which is broadly understood as a view of life and wellbeing as interdependent and sacred, requiring care and guardianship as a collective duty. Māori communities embodied these understandings explicitly in a practical ethics of care and collective responsibility. Their public health approaches, initially at least, ran counter to central directives but were crucial to the success of the government's strategy.

My reading is that Aotearoa New Zealand's pandemic response is best understood as a biosecurity response—one that contrasts with biopolitical models that dominated elsewhere. Biosecurity, as Aotearoa New Zealand practices it, is a forceful, nationalist, and nativist repertoire. It requires border control, collective mobilisation, exclusion, and even systematic, violent eradication.[5] It represents economic interests in agriculture, and it is a widely supported conservation project. It is simultaneously a colonial narrative of redemptive protection, and a true Māori assertion of kaitiakitanga (guardianship) over taonga—the treasured elements of the natural and cultural world.[6] This biosecurity model reflects an uneasy and uneven institutional protection of Māori sovereignty and epistemology, both within and against the Crown. The Covid response retained Māori economic and health inequities while expanding policing powers disproportionately exercised over Māori. It relied on Māori assertions of

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Journal of Clinical Nursing, vol. 30, 2021; Cleve Barlow, *Tikanga Whakaaro: Key Concepts in Maori Culture*, Oxford University Press, 1990.

[4] Ani Mikaere, 'Cultural Invasion Continued: The Ongoing Colonisation of Tikanga Māori', *Yearbook of New Zealand Jurisprudence*, vol. 8, 2005; Carl Te Hira Mika, 'Worlded Object and its Presentation: A Māori Philosophy of Language', *AlterNative: An International Journal of Indigenous Peoples*, vol. 12, 2016; Shaun Awatere, *The Price of Mauri: Exploring the Validity of Welfare Economics When Seeking to Measure Mātauranga Māori*, PhD, University of Waikato, 2008.

[5] Michael Morris, 'Predator Free New Zealand and the War on Pests: Is It a Just War?', *Journal of Agricultural and Environmental Ethics*, vol. 33, 2020; Thom van Dooren, 'Invasive Species in Penguin Worlds: An Ethical Taxonomy of Killing for Conservation', *Conservation and Society*, vol. 9, 2011; Thom van Dooren, 'Ethics from the Field', *Center for Humans & Nature*, 4 August 2015.

[6] Huia Lloyd, 'Predator Free Pathways: Whānau, Hapū and Iwi Expressing Kaitiakitanga', Conservation Blog, Department of Conservation, 12 March 2020; Tara McAllister and Cate Macinnis-Ng, 'Connecting Science to Indigenous Knowledge: Kaitiakitanga, Conservation, and Resource Management', *New Zealand Journal of Ecology*, vol. 47, 2023.

sovereignty against the state and on their doing the hard mahi on the ground with minimal recognition or resources. Yet for New Zealanders generally, the response was lived and, in many places, sincerely enacted through a public language and spirit of kindness, collectivity, and protection of the vulnerable—one with echoes in te ao Māori.

Aotearoa New Zealand's biosecurity approach to Covid-19 was—morally and conceptually—conservative rather than liberal. It was, in Peter Baldwin's historical terms, when tracing 19th- and early 20th-century state divergences in European responses to pandemics, a contagionist politics of borders, quarantine, and enforceable restraint, not a sanitationist politics that accepts disease insofar as it's consistent with economic expansion and sees it as a problem to be managed by sanitising environments and reforming individual conduct.[7] This distinction helps clarify why Aotearoa New Zealand's Covid response cut against the neoliberal biopolitical calculus, painfully visible in UK and US pandemic responses. In Aotearoa New Zealand's response to Covid, as to other ecological threats, Indigenous relational perspectives at once challenged, animated, and gave force to the state—through genuine overlap in protective practice, strategic uptake by the state, and uneasy coalition under crisis. This tension matters if we want to understand the exceptional effectiveness of the response and what alternatives to biopolitics already exist.

Māori Corps and Countermand on the Home Front

Kimiora Raerino's (Ngāti Awa, Te Arawa) *Toitū ngā Marae* is an account of community-led pandemic response, which tells the untold story of a corps of Māori organisers—largely wāhine (women) volunteers without formal credentials or funding—who were critical to the country's war against Covid-19. Pandemics, like wars, are occasions on which states and nations reveal and remake themselves, and the war register ran throughout Aotearoa New Zealand's response, from central command to the home front. As a Māori public health researcher and a marae coordinator, Raerino shares the experiences of ten marae during the pandemic through detailed interviews with their leaders. Across Tāmaki Makaurau Auckland, these marae formed a home front: shielding those most physiologically vulnerable to the virus and sustaining morale

[7] Peter Baldwin, *Contagion and the State in Europe, 1830–1930*, Cambridge University Press, 1999.

among communities enduring the city's extended lockdowns. They did so not primarily by executing central government orders, but by quietly countermanding them.

For many New Zealanders, the Covid era has become blurred with a broader period in which—whether welcomed or resented—the government's bicultural balance appeared to tilt towards Māori. Then Prime Minister Jacinda Ardern had not only symbolically sided with Māori against historical injustice (wearing a korowai when meeting the Queen, for instance) but had also incorporated principles of Māori sovereignty across multiple policy domains, including health.[8] Mātauranga Māori—Māori knowledge and epistemology—was, at least in some institutions, finally being taken seriously. Yet Māori did not wait for the state to protect their communities, nor seek permission to depart from pandemic protocols when these clashed with their values. *Toitū ngā Marae* makes clear how little Māori at the frontline felt the government recognised their expertise, experience, or efforts during the crisis. The famed 1pm briefings by Ardern and then Director-General of Health Ashley Bloomfield have been celebrated as a national, even quasi-religious, ritual in which science and medical advice were revered—a rare moment when the public seemed united in faith in 'the science'.[9] Yet one sign of official tone-deafness was that these briefings were translated into New Zealand Sign Language but not into te reo Māori.

Raerino's collection points to two pivotal moments when Māori organisers departed from national policy details to uphold the overall strategy. The first came with marae closures during the April 2020 lockdown. For Māori, whanaungatanga and manaakitanga—values emphasising familial care and relational responsibility—meant that closing a marae was not like shutting a place of worship or community hall. As Raerino explained to me, it was 'like closing the door on your own kids'.[10] Consequently, marae remained open as much as they could when other facilities closed, providing not just material necessities but awhi: emotional embrace. Many Māori found ways to remain socially close while physically distant: sharing tea and kōrero, checking on kaumātua (elders), and delivering care packages. The same spirit of aroha

[8] Michelle Duff, *Jacinda Ardern: The Full Story of an Extraordinary Leader*, Allen and Unwin, 2023.
[9] Philip Fountain, 'A Political Theology of Covid Governance', *Counterfutures* 14, 2023.
[10] Personal video call.

and manaakitanga saw them adapt or even forgo tangihanga, despite the deep ache this caused bereaved whānau, when it meant protecting them from the virus.

The second countermand came with vaccination deployment. Beginning in August 2021, several marae proved pivotal in achieving one of the fastest and broadest vaccination rollouts in the world.[11] As Raerino's interviewees recount, marae succeeded precisely by ignoring official instructions. When online bookings were required, they accepted walk-ins. When eligibility was sequenced by age, they turned no one away, recognising the intergenerational nature of Māori households. When government relied on mandates and passports to drive uptake, marae remained inclusive, creating opportunities for dialogue, trust, and informed choice. Many Māori were sceptical of the state's carrots and sticks—passports and mandates—given a long history of exclusion and punishment, and anxious about the risks of vaccination, given a history of unethical medical research on Indigenous and minority peoples.[12] Yet marae organisers drove vaccine uptake with determination and care, overcoming much hesitancy.[13] Their efforts, in their own terms, were powered by kotahitanga: unity through dialogue, mutual respect, and collective responsibility. As Mason Durie defines it, kotahitanga arises not from uniformity but from deliberation and shared obligation. The marae approach contrasts sharply with liberal appeals elsewhere either simply to 'follow the science' for one's own sake or libertarian calls to 'do your own research'.[14] Acting according to te ao Māori rather than government edict, marae exceeded national vaccination targets for their communities by more than 300 percent.[15]

These powerful countermands to central Covid policies were assertions of Māori sovereignty. The stories from urban Tāmaki Makaurau marae resonate with those from rural

[11] Samik Datta et al., 'The Impact of Covid-19 Vaccination in Aotearoa New Zealand: A Modelling Study', *Vaccine*, vol. 42, 2024.
[12] Ian Mosby and Jaris Swidrovich, 'Medical Experimentation and the Roots of COVID-19 Vaccine Hesitancy among Indigenous Peoples in Canada', *Canadian Medical Association Journal*, vol. 193, 2021; Charlotte Paul and Barbara Brookes, 'The Rationalization of Unethical Research: Revisionist Accounts of the Tuskegee Syphilis Study and the New Zealand "Unfortunate Experiment"', *American Journal of Public Health*, vol. 105, 2015; Linda Tuhiwai Smith, *Decolonizing Methodologies*, 3rd edn, Bloomsbury, 2021.
[13] Kate Prickett et al., 'COVID-19 Vaccine Hesitancy and Acceptance in a Cohort of Diverse New Zealanders', *The Lancet Regional Health – Western Pacific*, vol. 14, 2021.
[14] Mason Durie, *Whaiora: Maori Health Development*, 2nd edn, Oxford University Press, 1998.
[15] Daniel Perese, 'Māori Vaccinations Triple Government Goal after $50m Investment', *Te Ao Māori News*, 22 August 2024.

communities—Wharekahika, Maketu, Urenui, and Ngātaki—where hapū established roadside checkpoints during the 2020 lockdown. Consistent with Māori models of relational health, these communities at times took a more restrictive approach to travel and social distancing than official policy required while providing greater social and economic support.[16] While these checkpoints were coordinated with police, civil defence, and health services—and benefited all—they were, as Fitzmaurice and Bargh chronicle, proactive initiatives led by Māori asserting rangatiratanga: self-determination grounded in tikanga and collective responsibility.[17] Fitzmaurice and Bargh argue that tino rangatiratanga was the primary driver of these responses—Māori communities acted to protect themselves through their own authority, whether or not their tactics happened to support the national strategy.

Beyond visible border-making, Māori governance also appeared in less visible infrastructures of care. In Tāmaki Makaurau Auckland, amid mounting evidence from December 2021 that conventional case and contact management was failing Māori, health-system leaders accepted a Māori-led proposal to establish a Māori Regional Coordination Hub (MRCH) to run integrated Covid case management—an operational form of Māori authority that expanded, temporarily, the state's willingness to recognise Māori-led coordination when the risk of system failure became acute.[18] Vaccination followed a similar pattern: government eventually ceded control to Māori providers and leaders, resourcing them to design and deliver programmes in ways that better aligned with community realities. These were acts of rangatiratanga that also upheld, and deepened, the elimination strategy by enacting a relational public-health logic. The practical manifestation of Māori ethics and concepts of wellbeing in community health helped protect Māori and Pacific communities who faced higher risk, and it strengthened population-wide suppression.[19]

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[16] Wilson et al., 'Creating an Indigenous Māori-centred Model of Relational Health'; Sacha McMeeking et al., 'An Indigenous Self-Determination Social Movement Response to COVID-19', *AlterNative*, vol. 16, 2020; Shemana Cassim and Teorongonui Josie Keelan, 'A Review of Localised Māori Community Responses to Covid-19 Lockdowns in Aotearoa New Zealand', *AlterNative*, vol. 19, 2023.

[17] Luke Fitzmaurice and Maria Bargh, *Stepping Up: COVID-19 Checkpoints and Rangatiratanga*, HUIA, 2021.

[18] Elana Curtis et al., 'An Innovative Indigenous-Led Model for Integrated COVID-19 Case Management in Auckland, New Zealand: Lessons from Implementation', *Frontiers in Public Health*, vol. 12, 2024.

[19] Prickett et al., 'COVID-19 Vaccine Hesitancy'; Stacey Kung et al., 'New Zealand's COVID-19 Elimination Strategy and Mortality Patterns', *The Lancet*, vol. 402, 2023.

Māori Concepts in Central Command

The relational logic visible at the community level was also reflected—however imperfectly and without adequate Māori representation—in how central government framed and justified its response. This was not superficial rhetoric: the ethical vocabulary through which elimination was publicly defended, and the central acknowledgement of uncertainty that guided decision-making, had resonances with Māori relational frameworks. Shaun Hendy's *The Covid Response* supports this conclusion.[20] The book emerges from his role in leading modelling and briefing the National Crisis Management Centre, Covid-19 Ministers, and Chief Executive Boards, and he notes that Māori were not adequately heard or fully appreciated within that inner circle. At the same time—and this is my reading as Pākehā, based on close analysis of Hendy alongside other published accounts—the leadership's ethical vocabulary of relational obligation and collective responsibility has resonances with Māori relational frameworks.

Hendy was the Founding Director of Te Pūnaha Matatini, an interdisciplinary, government-funded research centre—bringing together leading scientists (including social scientists and a historian) from across the country to address complex problems that are simultaneously environmental, economic, social, and health-related. It also has an explicit mission to support diversity in science, including Māori, Pacific, and women scientists at all levels, and to build durable channels between science, policymakers, and the public. In 2019, it inaugurated a kaumātua, Professor Tom Roa, renowned for his work bringing te reo Māori into the mainstream and advancing mātauranga Māori in dialogue with Western science. The research centre therefore sits in a distinctive position: both a site where tikanga terms and relationships are institutionally present, and a node in the state's crisis-response infrastructure.

Public-health experts with the ear of the Prime Minister, including Michael Baker and Ayesha Verrall, had clinical and research backgrounds in Indigenous and infectious-disease medicine. They were well aware of Aotearoa New Zealand's shameful experience of the 1918

[20] Shaun Hendy, *The Covid Response: A Scientist's Account of New Zealand's Pandemic and What Comes Next*, BWB, 2025.

influenza pandemic, which killed Māori at eight times the rate of non-Māori.[21] This history—including its oral testimony—haunted the scientific modelling of the early pandemic, as it did public consciousness.[22] When Peter-Lucas Jones (Te Aupōuri) recalled for Te Pūnaha Matatini the devastation of the 1918 'Spanish Flu' in his iwi, Hendy immediately started a workstream to model Covid-19's potential impact on Māori, especially as Te Pūnaha Matatini began to supply the national models used by the government. Heterogeneous effects for Māori and other groups, including alternative transmission dynamics, were built into general models informing analysis of policy responses at each stage.[23]

Ardern's invocation of the 'team of five million' and her repeated exhortations to 'be kind' captured the core of this approach. These were not merely political slogans but moral coordinates for a national mission and mobilisation—rooted historically and institutionally in a New Zealand egalitarian tradition, but one that has always had uneven limits, particularly in what it could see of Māori, Pacific, and women's labour.[24] The kindness frame gave everyone meaning in what they were being asked to do, and New Zealanders, more than most, did what their government asked them to.[25] In sharp contrast to public-health appeals in the UK and US, Aotearoa New Zealand's appeals were relational, not individualistic. Whether to mask, stay home, or get vaccinated, New Zealanders were asked to act not out of self-interest or for the survival of an abstract system, but out of care for others, especially the vulnerable members of the national whānau. As Philip Fountain observes, this moral language had a religious inflection,

[21] Michael Baker et al., 'New Zealand's COVID-19 Elimination Strategy', *Medical Journal of Australia*, vol. 213, 2020, 198.
[22] Heather Battles and Bethany Sanders, 'Historical Touchstones and Imagined Futures During COVID-19 in Aotearoa/New Zealand', *Anthropological Forum*, vol. 32, 2022.
[23] Nicholas Steyn et al., 'Estimated Inequities in COVID-19 Infection Fatality Rates by Ethnicity for Aotearoa New Zealand', vol. 133, 2020; A. James et al., 'A Structured Model for COVID-19 Spread: Modelling Age and Healthcare Inequities', *Mathematical Medicine and Biology*, vol. 38, 2021; Shaun Hendy et al., 'Mathematical Modelling to Inform New Zealand's COVID-19 Response', *Journal of the Royal Society of New Zealand*, vol. 51, 2021.
[24] Erik Olseen et al., *An Accidental Utopia? Social Mobility and the Foundations of an Egalitarian Society, 1880–1940*, Otago University Press, 2009; Melanie Nolan, 'The Reality and Myth of New Zealand Egalitarianism: Explaining the Pattern of a Labour Historiography at the Edge Of Empires', *Labour History Review*, vol. 72, 2007; Tim Mulgan et al., 'Charting Just Futures for Aotearoa New Zealand: Philosophy for and beyond the Covid-19 Pandemic', *Journal of the Royal Society of New Zealand*, vol. 51, 2021.
[25] Suze Wilson, 'Three Reasons Why Jacinda Ardern's Coronavirus Response Has Been a Masterclass in Crisis Leadership', *The Conversation*, 5 April 2020.

expressing the sanctity of life and the importance of self-sacrifice.[26] It was an example of how, despite its apparent secularism, Aotearoa New Zealand politics and public life are animated by spiritual commitments and practices. Government communications never used a te reo Māori ethical vocabulary—if indeed the state had one. Nonetheless, the emphasis on kindness and team spirit echoed the notions of manaakitanga and kotahitanga that marae consciously embodied, and conveyed a clear sense of health and life as tapu.

The political and official leadership in Aotearoa New Zealand took a values-driven approach not out of naivety but as a survival strategy in an emergency that could not be fully known or mastered. The government's decisions to pursue and persist with an elimination strategy—what Ardern called a 'zero-tolerance for Covid', rather than a pursuit of zero cases—were not born of technocratic bullishness but of humility before uncertainty. While Te Pūnaha Matatini offered a particularly rich model of transmission, using social data on household living arrangements and vulnerability as well as the changing genomics of the virus, the initial models supplied by economists in Aotearoa New Zealand also distinguished themselves by explicitly recognising uncertainty, especially that the reproduction rate, like a mortality rate, was only known in retrospect.[27] Though the government would eliminate community transmission for 15 months, there was never a proclamation of having 'beaten' the virus. Elimination was ambitious, but the government was in awe of the virus: it knew its knowledge and control over it would always be limited.

This conceptual stance—humility before uncertainty, treating life as sacred and interconnected—can be read through what Māori scholarship articulates as mauri. Mauri is the vital force that animates and connects all life, giving it intrinsic value (tapu) and demanding its care and protection. Sustaining mauri in balance means recognising interdependence and vulnerability and acting as kaitiaki (guardian/custodian) to maintain the relationships on which wellbeing depends.[28] Mauri ora—being alive and in good health—thus requires enacting values

[26] Fountain, 'A Political Theology of Covid Governance'.
[27] Jaijus Pallippadan-Johny et al., 'Monitoring and Forecasting the COVID-19 Pandemic in New Zealand Including the Successful Impact of the Lockdown', *Public Health Expert Briefing*, 22 May 2020.
[28] Garth Harmsworth and Shaun Awatere, 'Indigenous Māori Knowledge and Perspectives of Ecosystems', in *Ecosystem Services in New Zealand – Conditions and Trends*, ed. J.R. Dymond, Manaaki Whenua Press, 2013; Pohatu, 'Mauri – Rethinking Human Wellbeing'; Barlow, *Tikanga Whakaaro: Key Concepts in Maori Culture*.

such as manaakitanga and kotahitanga, acting with kindness and as a team.[29] This relational understanding of vitality was legible in Te Pūnaha Matatini's modelling practice. The research centre defines itself through an explicit commitment to 'living its values', and it names several in tikanga terms—including manaaki (care, generosity), tapu (sacredness), pono (truth as openness and genuineness), and tika (rightness as fairness). It takes that commitment seriously enough that it has published in *Nature* on values, collective responsibility, and science communication.[30] These commitments show up not only in organisational rhetoric but in modelling practice: uncertainty is treated as constitutive rather than inaccuracy, and models are built to adapt to change rather than to promise control.

Standard public-health models—whether classical epidemiological models, age-stratified ones of the kind that dominated UK and US pandemic modelling, or health-equity frameworks designed to quantify disparities—treat populations as aggregates of individuals with measurable, separable risk factors (age, ethnicity, income, comorbidity) to be weighted, ranked, and summed.[31] Even health-equity models, committed to redistributive intervention, typically treat risk factors as exogenous—given properties of groups that predict outcomes, rather than features produced through the very social processes being modelled, and thus addressable at the root. This produces a politics of competing claims—which groups most need resources, which disparities most urgently warrant intervention—rather than a shared mission in which differential risk is understood as a relational feature of how lives are bound together. Cost–benefit approaches operate on a parallel logic, converting differences in health and longevity into quality-adjusted life-years (QALYs) to be traded against economic cost, or, more subtly, orienting pandemic response around the management of citizen demand and the preservation of existing institutions: health services, the labour market, and the ordinary

[29] Durie, *Whaiora*; Wilson et al., 'Creating an Indigenous Māori-centred Model of Relational Health'.
[30] Aisling Rayne et al., 'Collective Action Is Needed to Build a More Just Science System', *Nature Human Behaviour*, vol. 7, 2023.
[31] Robert Verity et al., 'Estimates of the Severity of Coronavirus Disease 2019: A Model-Based Analysis', *The Lancet: Infectious Diseases*, vol. 20, 2020.

functioning of social and political order. Lives appear in these models as inputs to system stability, rather than as what the system exists to protect.[32]

Te Pūnaha Matatini instead sought to capture the connections between factors — modelling Māori multigenerational households, the biological age-gap between Māori and Pākehā, and patterns of transmission within kin networks not as deviations from a Pākehā baseline to be adjusted for, but as the structure through which life and risk were shared. Where UK and US models took health-system capacity as a fixed constraint and asked how much infection and death could be tolerated within it, Te Pūnaha Matatini treated capacity as a resource for protecting life. The goal was not to sort lives against system limits, but to organise the system, and the economy, in service of health. The modelling group's predictions never had 'the economy' as something that could be abstracted from human health; instead, they recognised economic activity depended not just on restrictions, but on how healthy people were or thought they would be. There was never a price tag on life or health.

Across the Covid-19 pandemic in Aotearoa New Zealand, wellbeing was approached as an entangled system in which people, animals, environments, and institutions co-produce risk and response. From this viewpoint, it makes little sense to separate 'economic behaviour' from 'health behaviour', or individual action from collective dynamics; nor can the human be abstracted from the virus as an agent with its own mutating force. Te Pūnaha Matatini's physicists and mathematicians write these relations in lengthy equations. Parts of this system's rationality are legible through the concept of mauri as an interpretive lens, especially for a non-Māori reader trying to make sense of the ethical vocabulary that surrounded the science.

Three features of Te Pūnaha Matatini's modelling practice are particularly worth naming. First, the refusal to separate economic activity from health, or individual behaviour from collective dynamics, echoes mauri's insistence on interdependence as constitutive of life itself. Second, the central acknowledgement of a system inherently uncertain, dynamic, and interwoven—rather than claims of predictive dominance over a virus—parallels the ethical

[32] Robert Reiner et al., 'Modeling COVID-19 Scenarios for the United States', *Nature Medicine*, vol. 27, 2021; Neil Ferguson et al., 'Report 9: Impact of Non-Pharmaceutical Interventions (NPIs) to Reduce COVID19 Mortality and Healthcare Demand', *Imperial College COVID-19 Response Team*, 2020. Cost-per-QALY frameworks are institutionalised in health resourcing globally, including in Aotearoa New Zealand through PHARMAC; what distinguished the Covid-19 response was its explicit rejection of this logic for pandemic governance.

stance of kaitiakitanga as guardianship rather than control. Third, the integration of Māori household structure, intergenerational living, and differential biological age into the models' parameters treated Māori life as structured by specific relational patterns requiring specific protection, rather than as a deviation from a Pākehā baseline to be statistically adjusted for. None of this means the modellers were operating within te ao Māori. But mauri as a concept illuminates features of their modelling that the dominant alternatives obscure.

The Institutional Infrastructure of Biosecurity

Throughout the pandemic, Aotearoa New Zealand's Covid-19 modelling group had pitiable resources and institutional support. Hendy spent airtime with the Prime Minister begging for his PhD students' back pay, and the University of Auckland would later be ruled to have failed to protect lead modeller Siouxsie Wiles from public threats and abuse. Yet the approach the group took, and the institutional channels between science and government, had already been laid through biosecurity protocols and practices. Biosecurity in Aotearoa New Zealand attracts the scientific, industry, and popular mobilisation of resources that national security draws in other parts of the globe.[33] It is explicitly a military repertoire: an aggressive 'war on pests' built on systematic violent eradication and a cultural cultivation of killability.[34] As *The New Yorker* chronicled, Aotearoa New Zealand recruits children to trap rats and shoot feral cats, pursuing 'Predator Free by 2050'.[35] Biosecurity is absolutely an economic project, aimed primarily at protecting the agricultural industry. But it is simultaneously about restoring endemic species—a project that is both Māori assertion of kaitiakitanga and settler redemptive guardianship.[36] As the government video played on every arriving plane says, the country protects biosecurity 'as if our way of life depends on it—because it does'.

[33] Lucy Dickie and Fabien Medvecky, 'The Attitudes of Young Adults towards Mammalian Predator Control and Predator Free 2050 in Aotearoa New Zealand', *Australasian Journal of Environmental Management*, vol. 30, 2023.
[34] van Dooren, 'Invasive Species in Penguin Worlds'; Annie Potts, 'Kiwis Against Possums: A Critical Analysis of Anti-Possum Rhetoric in Aotearoa New Zealand', *Society and Animals* 17, no. 1 (2009): 1–20; Morris, 'Predator Free New Zealand?'
[35] Elizabeth Kolbert, 'The Big Kill', *The New Yorker*, 22 December 2014.
[36] Awatere, 'The Price of Mauri'; Mika, 'Worlded Object and Its Presentation'.

As early as March 2020 Deirdre McDonald, a defence and security academic based at Massey University argued in the *National Security Journal* that Covid-19 should be seen as a biosecurity issue, which was an analysis not made elsewhere in the world.[37] The New Zealand Government's actions followed this playbook. Biosecurity officers worked at Covid-19 national borders; lessons from managing Mycoplasma bovis were carried forward into the pandemic response; agricultural industry leaders, in turn, called for Covid contact tracing to be applied to Mycoplasma bovis.[38] The primary pandemic modelling and policy advice shaping the national Covid strategy also built directly on prior biosecurity work. Since 2014, for example, Te Pūnaha Matatini had modelled agricultural threats. Likewise, Wiles' first science communication was reassuring dairy farmers during Fonterra's botulism scare. The research centre had a conceptual vocabulary that understood health, economy, and environment as interconnected systems—a vocabulary government could understand.

The national effort to fulfil the Covid strategy—with its reliance on Māori values and practical action—echoed that of environmental biosecurity. Te ao Māori lends a conceptual narrative that makes the 'war' on pests more than a competitive mission but a spiritual cause: not about gaining or growing, but about restoration and conservation. Māori efforts, often pitched as exertions of sovereignty, have been recognised as fulfilling national goals. The Predator Free 2050 strategy, published just before the onset of Covid-19 in February 2020, frames Māori participation as 'expressing kaitiakitanga', noting that 'whānau, hapū and iwi regard broad-scale predator control as one way of restoring mauri, or life force, returning both land and culture to good health'.[39] When Māori exercise rangatiratanga in conservation work, biosecurity 'gains the potent force that is kaitiakitanga'.

In this context, Aotearoa New Zealand's biosecurity apparatus operates within a constitutional framework that distinguishes it from other settler states. The Treaty of Waitangi, as interpreted by the courts and the Waitangi Tribunal since the 1970s, establishes Crown obligations to recognise Māori as Treaty partners with rights to sovereignty and guardianship.

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[37] Deidre Ann McDonald, 'Reframing New Zealand's Biosecurity Conversation Post-Covid-19: An Argument for Integrating Interspecies Concerns', *National Security Journal*, vol. 3, 2020.
[38] Colin Peacock, 'The Other Disease We're Trying to Eradicate', RNZ, 30 May 2020.
[39] Department of Conservation, *Towards a Predator Free New Zealand: Predator Free 2050 Strategy/Te Anga Whakamua Kia Aotearoa Kaikonihi-Kore: Rautaki Kaikonihi-Kore 2050*, Department of Conservation, 2020.

These commitments legally protect mātauranga Māori—Māori epistemology— as legitimate frameworks in health and environmental governance. Biosecurity explicitly references Treaty obligations. Just months before the pandemic, the Waitangi Tribunal's Hauora report found Crown Treaty breaches in health and called for structural reforms. The Health and Disability System Review subsequently recommended a Māori Health Authority with decision-making power.[40] Covid-19 thus arrived at a moment of growing pressure over Māori sovereignty in health. When Māori communities asserted tino rangatiratanga through tikanga-grounded pandemic responses, the government could eventually recognise and resource Māori-led programmes rather than dismiss them as epistemologically invalid. Biosecurity was an existing model where relational approaches to protection were legible as sensible policy and a necessary means to fulfil a national mission.

Biosecurity and Biopolitics

Aotearoa New Zealand's Covid-19 response, both in central strategy and in community health practice, shows how this biosecurity episteme contrasts with the biopolitical logic that dominated other English-speaking liberal states. What these responses shared was a biopolitical logic in Foucault's sense: a governance of life that treats populations as divisible and measurable, and that seeks to steer behaviour through calculation, discipline, and incentive, rather than connection or compassion.[41] In the UK and US, pandemic policy was repeatedly framed in terms of economic cost and 'trade-offs': the idea that public-health restrictions had to be weighed against their economic damage, with some level of transmission and death treated as an acceptable price for keeping commerce flowing.

In the UK, this took the form of an early flirtation with engineered 'herd immunity', enthusiastically expounded by David Halpern, head of the Cabinet Office's Behavioural Insights Team (the 'Nudge Unit'), and echoed days later by the Chief Scientific Adviser Patrick Vallance.[42] The strategy was legitimated through a behavioural-economics vocabulary.

[40] Ministry of Health, *Wai 2575 Health Services and Outcomes Inquiry*, Ministry of Health, 2019.
[41] Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France 1978–1979*, Picador, 2008.
[42] Patrick Vallance, *BBC Radio 4*, 13 March 2020; David Halpern, interview by Mark Eastern, *BBC News*, 11 March 2020.

Infectious-disease scientists internationally were incredulous: the Harvard epidemiologist William Hanage 'thought it was satire'.[43] The logic shaded readily into explicit differential valuation of lives: at the UK Covid Inquiry, Prime Minister Boris Johnson was recorded asking in March 2020, 'why are we destroying the economy for people who will die anyway soon?', and in autumn 2020 declaring he would rather 'let the bodies pile high in their thousands' than impose another lockdown.[44]

In the US, prominent economists and officials defended the same trade-off in their own idiom. Kevin Hassett, senior economic adviser to the Trump administration, described the US workforce as 'human capital stock . . . ready to get back to work'; the *Great Barrington Declaration*, drafted in October 2020 by a health economist and two epidemiologists at the libertarian American Institute for Economic Research, offered the academic version: 'focused protection' for the elderly while allowing younger populations to be infected.[45] The logic was starkest in the US meatpacking industry, where an April 2020 executive order compelled plants to remain open despite known outbreaks. At least 269 workers at the five largest meatpacking companies died in the first year of the pandemic, most of them Black or Hispanic migrants and refugees recruited precisely because they lacked the legal standing to refuse dangerous work.[46] The border apparatus that theatrically restricted movement into the US was thus paired with an internal labour regime that treated migrant bodies as expendable infrastructure for commodity production—lives valued, as Keeanga-Yamahtta Taylor observed, as no more than the carcasses they packaged.[47]

Aotearoa New Zealand had its own advocate of the biopolitical calculus in the shape of the ACT Party's 'value-for-money' review, which divided the estimated value of lives saved (a

[43] William Hange, '"I'm an Epidemiologist. When I Heard about Britain's 'Herd Immunity' Coronavirus Plan, I Thought It Was Satire"', *The Guardian*, 15 March 2020.
[44] UK Covid-19 Inquiry, 'Module 2 Public Hearings', with Edward Lister and Imran Shafi, 2023.
[45] Jay Bhattacharya et al., 'The Great Barrington Declaration', American Institute for Economic Research, 2020; Jeanne Lenzer, 'Covid-19: Group of UK and US Experts Argues for "Focused Protection" Instead of Lockdowns', News, *BMJ*, vol. 371, 2020.
[46] US House of Representatives, Select Subcommitte on the Coronavirus Crisis, *Coronavirus Infections and Deaths Among Meatpacking Workers at Top Five Companies Were Nearly Three Times Higher than Previous Estimates*, Memorandum, Washington, D.C., 2021; Charles Taylor et al., 'Livestock Plants and COVID-19 Transmission', *Proceedings of the National Academy of Sciences of the United States of America*, vol. 117, 2020.
[47] Keeanga-Yamahtta Taylor, 'The Black Plague', *The New Yorker*, 16 April 2020.

bargain $33,000 per quality-adjusted year) by the lost economic exchange during lockdowns, and concluded that the response was not worth it. But as Hendy points out, the choice between 'your money or your life' is not only a violent heist but a false choice. The officials and political leaders that he briefed didn't need much convincing of the necessity of Covid restrictions. From an ecosystemic perspective, resonant with mauri, suppression can be the most secure route to economic recovery. An ecosystemic model recognises that economic exchange depends not only on legal permission or incentives but on health itself: people will not work, travel, or socialise if they are sick. Conversely, such a model sees how economic security shapes health behaviour, which is why wage subsidies, as Aotearoa New Zealand provided, cannot be treated as ancillary to, but part of, public health.

The problem with the biopolitical framework, in other words, is not merely moral but causal. The UK's experience illustrates this point. Prior to the vaccine, and with the Delta strain emerging, the UK Government sought to incentivise consumption through programmes such as 'Eat Out to Help Out', a policy premised on restarting consumerism and circulation while managing risk through guidance and individual discretion. Meanwhile, the New Zealand Government and its main scientific advisers dismissed the biopolitical calculus and leaned into a biosecurity repertoire of collective restraint. Then Minister of Finance Grant Robertson stated in April 2020 that 'our first response is a public-health one. It is our fundamental duty. It is also the first and best economic response'. This position was shared more widely than international audiences sometimes assume. The National Party initially petitioned Ardern to close the border and broadly supported elimination, and Reserve Bank economists treated border controls as economically preferable to recurrent domestic lockdowns. And indeed, the decisive lockdowns were short, in comparison to many international trends, precisely because they were strict; the costs of border closures were offset by the possibility of uninterrupted domestic life.

Research suggests that many New Zealanders understood Covid-19 policies in biosecurity rather than biopolitical terms—that is, as a collective response to protect the vulnerable.[48] Polling repeatedly found support for the strategy, notwithstanding persistent

[48] Chris Sibley, 'Social, Psychosocial and Employment Impacts of COVID-19 in New Zealand: Insights from the New Zealand Attitudes and Values Study 2020/2021', University of Auckland, 2021; Nicole Satherley et al., 'Political Attitude Change over Time Following COVID-19 Lockdown: Rallying Effects and Differences between Left and Right

protest against vaccine mandates and an uptick in disinformation exposure in late 2021.[49] And, of course, even after Tāmaki Makaurau Auckland briefly returned to lockdown in August 2020 following a breach of MIQ, Ardern's Labour Party won an outright parliamentary majority in the 2020 General Election, a first since the introduction of MMP (Mixed Member Proportional representation). To many, elimination simply made sense.

The Conservative Paradox

Where biopolitics translates the logic of war into an economic idiom cast at the level of individual responsibility, biosecurity frames public health as the protection of the nation as a collective project.[50] In this sense, the Aotearoa New Zealand case reanimates the distinction that Baldwin traces in the epidemic governance that helped shape European state traditions: between 'liberal' regimes that sought to preserve circulation and relocate responsibility onto individuals, and 'conservative' regimes more willing to impose enforceable restraint in the name of collective protection. The paradox, as Baldwin shows, is that liberalism does not mean the absence of coercion; it means its uneven, selective deployment, paired with a moralisation of health that can deepen inequity by treating protection as a matter of personal prudence. Freedom, in this framing, is not evenly available: those facing poverty, precarious work, crowded housing, or care obligations are asked to manage risks they cannot control, and the burdens of 'living with' disease fall predictably on the vulnerable. It is the liberal state, with its pricing of individuals' health, that is prepared to trade it off for the good of an abstract whole—the 'health system' or 'economy'. By contrast, biosecurity mobilises a collectivist grammar of protection as shared duty, even if bounded as a national 'we' against outsiders.

Conservative restraint is not always disempowering. When read through a relational ethics—including a mauri-legible logic of guardianship rather than ownership or control—collective constraint can be justified as care for the vulnerable rather than as mere state

Voters', *Frontiers in Psychology*, vol. 13, 2022; Elena Zubielevitch et al., 'Social Dominance and Authoritarianism Have Mostly Countervailing Associations with Attitudes about COVID-19 and its Management', *Group Processes & Intergroup Relations*, vol. 27, 2024.

[49] Thomas Manch, 'New Zealanders Spread Russian Anti-Vaccination Propaganda before Parliament Occupation', *Stuff*, 27 March 2023; Stephen Levine, ed., *Politics in a Pandemic*, Te Herenga Waka University Press, 2021.

[50] Michel Foucault, *Society Must Be Defended: Lectures at the Collège de France, 1975-76*, Picador, 1997.

domination. That paradox helps explain why the UK could oscillate between moralising individual responsibility and sudden surges of heavy-handed capacity, and why its 'living with the virus' posture repeatedly returned to the same distribution of risk and obligation. As a result, the UK's so-called 'Freedom Day' in July 2021—when most of the remaining Covid restrictions were lifted—could be staged as liberation while the virus was still killing around 40 people a day. For those in care or precarious work, or with clinical vulnerability, it was anything but freedom. Aotearoa New Zealand poses the inverse paradox: short, strict, and uniform restraint became a route to practical personal liberty, enabling a quicker and steadier return to social and economic life.

Biosecurity is not, however, an uncomplicated alternative. Its tone is often aggressive, even bellicose; its protection is secured through exclusion; and, as scholarship on conservation and pest eradication in Australasia shows, it can normalise violence in the name of a threatened 'ecosystem'.[51] In Aotearoa New Zealand, biosecurity's collective 'we' has also been historically braided with the dominant political economy: the restitution of Māori taonga and the protection of endemic species can be rhetorically aligned with the protection of export agriculture, tourism, and a settler national identity, often in ways that channel Māori participation through state priorities. Biosecurity's intense focus on narrowly defined border threats can also displace attention from the deeper, ongoing ecological and colonial damage done by the same industries biosecurity is organised to protect.

Biosecurity expresses a desire to protect those it counts as its own. There is, naturally, a border to that. At the height of the pandemic, MIQ was so overwhelmed by New Zealanders wanting to return that places were allocated by lottery, which refused to let money or connections jump the queue; an emergency pathway existed for exceptional cases but was narrow and strained, sometimes leaving families separated across borders for months at a time. Beyond that, a politics of 'we' never owes the same care to those outside it. Even where Aotearoa New Zealand provided significant assistance to independent Pacific nations, their access to vaccines, personnel, and resources ran downstream of New Zealanders' own needs.

[51] van Dooren, 'Invasive Species in Penguin Worlds'; Morris, 'Predator Free New Zealand'; Potts, 'Kiwis Against Possums'.

Conservative protection has costs internally too. The language of kindness, while it mobilised real practices of collective care, also unevenly distributed its burdens across society, legitimised coercive power, and sharpened the racialised edges of the national 'we'. The work of care was shouldered disproportionately by Māori and Pacific communities, and primarily by women, without commensurate authority or recognition. While iwi checkpoints and Māori-led health initiatives asserted tino rangatiratanga, the same crisis expanded state powers, including policing, that have long been unevenly exercised over Māori. Māori, who were already seven times more likely to experience police use of force than Pākehā, faced heightened risk of being positioned as threats to, rather than members of, the public requiring protection.[52] And while attitudes toward Māori and Pacific peoples did not shift across lockdowns, there was diminished warmth toward immigrants and ethnic minorities, including heightened suspicion toward Chinese New Zealanders, reflecting older patterns of boundary-making and Sinophobia.[53]

A Wartime Spirit?

Despite the mahi at the frontline, the affordances that the biosecurity model provided to central command, and the broad support for the government's Covid strategy, there was nothing inevitable about Aotearoa New Zealand's response or its success. Although Hendy's team predicted Covid-19's spread and the effects of public-health policy with great precision, he has no hubris about the capacity of science or government in Aotearoa New Zealand to respond effectively to pandemics in the future. One of his main concerns is the erosion of a common social value system, along with the institutions, academic and governmental, that uphold it. Hendy has clearly dedicated many of his waking hours since early 2020 to thinking about counterfactual Covid-19 scenarios for Aotearoa New Zealand. What resonates through his reflections, and those of others discussed in this article—whether from the Beehive or the marae—is that they could not imagine having taken a radically different, biopolitical, approach.

[52] Elizabeth Stanley and Trevor Bradley, 'Rethinking Policing in Aotearoa New Zealand: Decolonising Lessons from the Covid-19 Pandemic', *Current Issues in Criminal Justice*, vol. 33, 2021.
[53] JohnMark Kempthorne et al., 'The Anatomy of Prejudice during Pandemic Lockdowns: Evidence from a National Panel Study', *PloS One*, vol. 19, 2024.

They could no more imagine letting fellow Kiwis die on grounds of cost-benefit or personal choice than they could imagine, on any grounds, letting their namesake kiwis die off.

New Zealanders, Māori and non-Māori, suffered far less in terms of poor health or lost lives through the pandemic; and they enjoyed greater economic and psychological security than those in peer nations.[54] But perhaps the best sign of the efficacy of Aotearoa New Zealand's approach to Covid-19—and its cultural basis—is that its residents cannot fully comprehend how good a pandemic they had. In just a week out of MIQ in October 2020, we committed what would have been an act of mass homicide elsewhere: we attended my grandmother-in-law's 100th birthday celebration. The dairy-farming Pākehā patriarch, himself at very high Covid-19 risk, could cheerfully drop digs at 'Ms Ardern' into his toast to his mother. For me, I was just ten minutes out of MIQ—where I released the three-year-old onto a lively, positively lickable playground and gratefully dropped $100 into the adjacent café—when I realised that Aotearoa New Zealand's Covid-19 *cordon sanitaire* was a standout case of a national defence force truly safeguarding freedom at home.

As the war on Covid receded, borders reopened and restrictions were lifted, the spirit of kindness and collectivity that had animated the response faded. The 2023 election then brought a libertarian-conservative coalition (ACT-National) that has moved swiftly to roll back Treaty protections for Māori, alongside broader socioeconomic and environmental protections. Yet biosecurity endures, not just as a perpetual war on pests but as a policy model and public imaginary, and so do relational understandings of life and wellbeing, including mauri and kaitiakitanga. These are resources for conceiving a politics of life that doesn't accept preventable loss.

[54] Michael Baker and Nick Wilson, 'Elimination: What New Zealand's Coronavirus Response Can Teach the World', *The Guardian*, 10 April 2020; Kung et al., 'New Zealand's COVID-19 Elimination Strategy'.