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My Responsibility in the face of Mass Extinction

A thesis
submitted in fulfilment
of the requirements for the degree of
Doctor of Philosophy
at
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by
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Abstract

Extinction is the “irreversible condition of a species or other group of organisms having no living representatives in the wild, which follows the death of the last surviving individual of that species or group” (Hine and Martin 2015g, para. 1). Mass extinctions are extinctions of the greatest magnitude, occurring “when many diverse groups of organisms become extinct over short periods of time” (Condie 2011, 250). These “are not step-events but rather a step into a prolonged alternative global ecosystem state” (Hull 2015, R941). Five mass extinctions have previously been recorded. A sixth has begun. Humans are the cause of the latest episode.

This thesis develops an Indigenous, non-agential conception of responsibility for considering an ethical problem of wide consequence. Founded in mātauranga Māori and recalling the work of Emmanuel Levinas, it applies Kaupapa Māori autoethnography, narrative, and conceptual analyses alongside exegeses and a replication study. Investigations of responsibility across various positions are encountered: those found in place and polity, those made as visitor and the commanded, those gifted as inherited erudition and in the suffering-with. Now facing the last structural violence, what is my responsibility?

KEYWORDS: autoethnography; biodiversity; mass extinction; Indigenous; Levinas; Māori; responsibility; structural violence

Te Waharoa: Preface

Aue te aroha i a ahau
Aue e te iwi e
E te hungaruarua[1] puritia kia mau
Ūtaina ki runga i te waka o te ora
Ka hoe ai ki te tauranga

Ko te kupu a te Kaiwhakaora
A Hehu tino aroha
Wetewetekia atu ngā ururua
E te hunga e mamae ana
Ka aru mai ai i a ahau

E te iwi whakarongo ake ra
Ki te reo e karanga mai nei
Whaia kia mau te kotahitanga
He mea paihere nā te rangimarie
Kia mau ai te rongopai.

Before university, I lived at Kuratahi, a marae of the Māramatanga movement (Gray-Sharp 2013; Sinclair 2002). My father is the eldest child and his father the only issue of a dead line. We are alone on these lands, and I have been the senior, living female for over a decade. I am a ringawera (worker) and a kaikaranga (first voice) for our house, a building named after a female entity. Her human shape, first cousin to my Koro (grandfather), died very young. In our kōrero (narrative/s), she returned to us in spiritual form. It is for this form that our house is named Te Karere.

Our paternal Nanny was of Te Arawa and Tainui (amongst others). She trained us girls to clean, make beds, order a kitchen, work a dining room. After my father's only sister died, Nanny had me karanga (short-form oratory; speak first) while she mourned. Later, my teina (junior sibling/cousin) joined me. Our maternal Nanny was of Tainui and matekite (seen by the Dead). She taught us to give, to laugh, to cry; to

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[1] In the process of becoming a 'national anthem', this line was changed to "E te iwi Māori".

‘do as the Romans do’ and not to opo (become sick with nostalgia). Hers was a position of acceptance and release that blends well with the lessons of the Māramatanga.

‘Aue te Aroha’ is a waiata (song) from the 1940s, the early years of the movement. It was composed and given by Te Karere to the Māramatanga through her human mother. I was taught that kaikaranga are the walking embodiments of our houses. My teina, daughter, and I are, therefore, Te Karere come to life. This means ‘Aue te Aroha’ is a guide I must follow. The waiata dictates my ethical position and its principles.

First, my work is propelled through great aroha (a focused breath of love) for the people. Second, I implore the people to life, to move towards safety. Third, I offer my self – anything but a saviour – in the struggle to release pain and find compassion. Fourth, I acknowledge plurality and counsel unity, a togetherness made in peace, so that harmony may resound.

Although not the best at most things, I am competent. Both my Nannies taught me how to manaaki manuhiri (encourage visitors’ wellbeing). My teina and I know how to make places where people can talk, so that is what I want to do. I want to make a place where people can talk.

Te Waharoa: Acknowledgements

This work is dedicated to my husband, Giles Hamilton Sharp (1973–2013).

Determined to embrace myself – the stories, those who made me, the duties I will fulfil – a home for this work was sought with supervisors whose ideas sparked the imagination. Prof. Brendan Hokowhitu (2016, 84) tendered a "monstrous" one, highlighting "the peril unintelligible knowledge poses to the universalization project of the Western academy". After our first meeting, I penned purple font into book margins:

- 'Speak only to those worthy of your words';
- 'Resistance allows totality';
- 'I want to be a **monster**'.

Inspired, a writing style grew that walks with the unintelligible. Whilst fulfilling academic requirements, it envisions something around the corner, a whisper in an empty room, understanding just beyond the grasp. I thank Prof. Hokowhitu for the provocation.

Like many, I have admired my second supervisor for decades. Due to high levels of self-doubt, I did not feel worthy of her attention. I should not have worried so. Prof. Linda Smith is supportive and generous and kind. She knows how to encourage you when you are unsure. She knows how to detail a practical answer to your troubles (of which there will be numerous). I think everybody should have a Prof. Smith in their lives. I am very glad she has been in mine.

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My thinking has benefited from those scholars who have taken this path before me, especially Aunty/Prof. Karen Sinclair (Eastern Michigan University, retired). I would not have been able to begin this research without Associate Prof. Margaret Forster (Massey University), Dr. Tina Makereti (Victoria University of Wellington), Dr. Cat

Pausé (Massey University), and Prof. Leonie Pihama (UNITEC). Your support has been very much appreciated. This project has been strengthened by the opportunity to teach. To that end, I wish to thank Dr. Olivia Barnett-Naghshineh (Goldsmiths, University of London), Dr. Elisa Loncon Antileo (Universidad de Santiago de Chile), and Dr. Nicky Stanley-Clark (Massey University) for opening their classrooms to me.

I extend my gratitude to the following for their ongoing encouragement, patience, and sensible advice:

- The Hungaruarua (particularly Koro and Uncle Manu);
- Uncle Hau;
- Everyone who read my Facebook ~~novels~~ posts.

To Mā and Pā, Marc and Mathew, Tamarongo, Raukāhu, and Te Huiatahi: you are the reason I keep breathing.

E te Hunga Wairua, kua whakautua te reo pōhiri.

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He Māhau: An Opening

1. He Māhau[2]

Amongst Whanganui, we have the role of keka, a man who acts as mediator between the hau kāinga (winds of Home; home people) and manuhiri (visitors). For large events, he will meet manuhiri before they enter the marae (village complex) to provide information about the procedure and garner group size. We kaikaranga act similarly, mediating between the People and our environs. Together, we build sonically the place for whaikōrero (long-form oratory), weaving wairua[3] with function to denote boundaries. Both roles are akin to the māhau. Open-fronted porches, māhau provide shelter before and after entering wharepuni (meeting house; "guest-house, principal house of a **kainga**" [Williams 1957, 310]), giving space to remove and replace footwear. Where possible, controlled transition is offered.

In order to facilitate understanding of responsibility in the face of mass extinction, I construct a māhau. This māhau models a process for transitioning from well-intentioned thought through fear-ridden comprehension to informed acceptance. Though aimed at the academic reader, space is purposefully made for those to whom this wisdom belongs. Following the ancestral fashion, ideas are layered in acknowledgement of the hau kāinga. Here, "knowledge that is unintelligible to the Western academy" (Hokowhitu 2016, 84) structures quotations cited Chicago-style. Manuhiri are welcome to respect local rules.

Like my reo pōhiri (short-form oratory) that binds the living and the dead, the thesis as māhau is a remembering. It elucidates this remembering through extended description, its memory as much what is forgotten (or only partially recollected) as what is clearly recalled. Rather than offering the wharepuni's surety or the freedom of the marae ātea (courtyard), the objective is to mediate, to provide means for interpreting the context before any response is made. Moreover, it is a place to sit and talk, to learn new things and enjoy the breeze. A warm blanket is recommended.

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[2] This is spelt in some dictionaries without macrons. However, I apply my paternal grandmother's pronunciation (from whom I learnt the word) by extending the first vowel.

[3] Wairua is here defined as the "potential of the unseen" (Gray-Sharp 2013, 128).

2. Introducing the Thesis

This thesis develops an Indigenous, non-agential conception of responsibility for considering an ethical problem of wide consequence. As research on my responsibility in the face of mass extinction, the work offers a methodological inquiry. From whakapapa – the process of connecting all of existence and beyond, the Seen and Unseen – the work gains a core idea: that which is tika grows from something that was here before.

The structure of the thesis follows a specific ceremony of welcoming (pōhiri): that which includes a post-burial mourning rite, the kawe mate. The preface states my positionality, the place from which I am calling. I invite you to enter my māhau here in this opening. At Chapter One, there is a formal introduction outlining places of importance, a biodiversity crisis, and two related concepts: tika and responsibility. An analysis of methodological matters in Chapter Two begins with a suggestion: that all are constituted in a relation of longing and being longed for.

Chapter Three considers ethnography, the role of the manuhiri (visitor), and the responsibility of the tonotono (one who is to be commanded). A scientific perspective on mass extinction appears in the fourth chapter. In the fifth, exegesis of *Ripiripia* provides direction to analyse anthropogenic mass extinction as structural violence. Chapter Six builds a different conception of responsibility. The final chapter is the thesis' waiata, providing an exposition on the topic and direction for applying non-agential responsibility in mass extinction studies. In the epilogue, we are released.

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Chapter One: He Māhau

He aituā, te aituā
Te kaitangata o Whaitiri
Ko te hema ki te uru, ko te hema ki te tonga
o Tāwhaki
Piki ake, hāpai ake
Rapua te mea ngā rō
Hauraki ki te rangi, Māpuna ki te rangi
Pūhao mai rangi ki ahau e i

1. Acknowledging Place: Waikato-Tainui

1.1 Taki Whakapapa I

According to Williams (1852, 154), the noun ‘taki’ is “*a speech*”. The verb form means “*to challenge*” (Tregear 1891, 454; Williams 1852, 154) to which Williams (1957, 371) adds “*lead*, *bring along*” and “*entice*”. Tregear (1891, 454) offers the opposite, “to follow”, historicising the action and identifying obligations. The double form, takitaki, presents multiple meanings, including “to chant or recite a song … to trace out, to search … to rise … [and] to dawn” (Tregear 1891, 454; see also Williams 1957, 371). However, when I was young, the common translation would have been to “*recite*” (Williams 1957, 371), the content being specifically those genealogies that linked a speaker to a certain location and audience.

The related term, whakapapa, is frequently translated to mean genealogy (Smith 1999, 181; Te Aho 2007, 10; Walling, Small-Rodriguez, and Kukutai 2009). It derives from the causative prefix ‘whaka-‘ (Williams 1957, 486) and ‘papa’, “anything broad, flat, and hard” such as an “*Earth floor*” or the Earth itself (259). Thus, whakapapa can mean “*to place upon one upon another, as a stack of boards*” (Williams 1852, 212), to “*lie flat*” or “*place in layers*” (Williams 1957, 259). As Mikaere (2010, para. 24) notes, “the word ‘whakapapa’ literally means to build one layer upon another”.

Like taki, whakapapa also means "*to speak of past events*" (Williams 1852, 212), and to "*recite in proper order* genealogies, legends, etc" (Williams 1957, 259). It is relational, "inherently non-hierarchical in structure and purpose, serving to link all facets of creation in a complex web that extends in all directions and into infinity" (Mikaere 2010, para. 24). Epistemologically, whakapapa can be seen as "a way of thinking, a way of learning, a way of storing knowledge and a way of debating knowledge" (Mead 1996, 210). As such, it is "an analytical tool that …. is both vehicle and expression of mātauranga Māori" (Pihama 2015, 8).

Where the preface offers a personal whakapapa of sorts, this chapter offers a whakapapa to the thesis as a whole. It links the thesis to some guiding concepts, including place, mass extinction, and responsibility. In-between, the chapter interrogates the very idea of a 'concept', thereby introducing the conceptual analysis approach pervasive across the work.

1.2 He Aitua, Tainui, and I

This chapter began with a taki whakapapa, a recitation that grounds knowledge in relationships. The taki whakapapa is *He Aituā*, a pātere (chant) I composed about the Tainui tales of Tāwhaki. In these, the first words of the introductory chapter, I acknowledge the doctoral research's conduct under the auspices of the University of Waikato. Moreover, I follow the lands upon which the institution is situated and the stories of those who are charged with its care. Specifically, I recognise Waikato-Tainui's authority and the wānanga (houses of learning) of Old.

I descend from Tainui on both sides with strongest links to Te Heke Mai-i-raro (the southern migration of Tainui). My maternal Koro is buried at Rongopai, an urupā (cemetery) of Kauwhata at Awahuri. My maternal Nanny is at Raumatangi, the urupā of Pareraukawa at Hokio. I was trained to karanga on the two marae of Kauwhata near Feilding, am a trustee for Pareraukawa lands at Hokio, and am comfortable labouring as a ringawera pretty much anywhere. Like the laying of bones, these are practices of te ahi kā (longstanding occupation), a representation of "conscious human life" (Gray-Sharp 2011, 192) and the maintenance of "presence on ones land" (Emery 2008, 278).

In the north, I am on the Waikato-Tainui register via my maternal Koro's Māhanga side, and the Raukawa register via my paternal Nanny's line at Pikitū. These registrations, however, lack kiko (flesh). I do not participate in the day-to-day life, because other places claimed me first. I have lived close to Te Heke Mai-i-raro for over 20 years. Further, my dialect and politics are still that of my Ngāti Rangi father and kāinga (Home/Family [Gray-Sharp 2011]).

Raised amongst Whanganui, I was gifted time with matakite, matekite, and waka tinana (mediums), tohunga (experts of signs) and ringarehe (experts of history). Family bookshelves included inheritances from Koro's Uncle. There was *The Maori King* (Gorst 1864) and *Tainui* (Kelly 1949)[4] alongside *The Adventures of Kimble Bent* (Cowan [1911] 1975) and *Old Whanganui* (Downes 1915). Amongst *Tainui*'s front matter, a paper lists names from Hoturoa to my maternal great-great grandmother. On the first few pages of *Old Whanganui*, names link the book's first owner, Pumipi, to Turi of Aotea. My family likes genealogies and books. It is why the opening taki whakapapa recalls the writing of genealogist Pei Te Hurinui (Jones 2010; see Jones 1958)[5] so strongly.

Pei Te Hurinui (1898-1976) of Ngāti Maniapoto was an historian and interpreter raised by and buried next to his maternal great-uncle, Te Hurinui Te Wano, at the marae of Te Tokanganui-a-Noho (Te Kuiti). The marae's eponymous wharenui was built in 1872 as a post-War refuge for the prophet Te Kooti Arikirangi and his Hāhi Ringatū followers. Pei Te Hurinui was born a "*tamati moe tohutohu*", a child who dreamed signs; his gift was removed in a traditional manner (Jones and Biggs 1995, 3). Later, he would work for the Native Department in Whanganui, manage a Māori incorporation, stand as candidate for election to Parliament, and advise "one of New Zealand's most enduring political institutions, the Kīngitanga (Māori King movement)" (Papa and Meredith 2012, para. 1).

---

[4] The author of this volume, Leslie Kelly, owes much to Pei Te Hurinui from whom he plagiarised (Biggs 1998a).

[5] The work's covers, title page, and one section of the copyright page list the author as 'Pei Te Hurinui'. Indeed, the author identifies himself as "Pei Te Hurinui" in the preface (Jones 2010, x). However, accurate citation for retrieval purposes requires use of the National Library of New Zealand's Cataloguing in Publication data. This system (and thus another part of the copyright page) lists the author as "Jones, Pei Te Hurinui, 1898–1976" (National Library of New Zealand, n.d.). It is for this reason that the surname 'Jones' is used in text and reference citations of works by this author.

Whilst his formal education was short, Te Hurinui was a productive writer of literary and academic texts in English and te reo[6]. He translated *The Merchant of Venice* and *Othello*, and published articles in *Te Ao Hou* and the *Journal of the Polynesian Society*. The work was not wholly perfect. For example, his defence of a fleet of "Migration canoes – Tainui, Te Arawa, Matatua, Kurahaupo, Tokomaru, Takitimu, and Aotea – arriv[ing] in Aotearoa (New Zealand) at the same time" (Jones 1958, 162) has not stood the test of time[7]. Nonetheless, a Tainui scholar described Pei Te Hurinui to me as the penultimate source on matters of Tainui language. It is no wonder that in 1968 he was awarded the University of Waikato's second-ever honorary doctorate.

The taki whakapapa begins with Aituā, child of Tūmatauenga and Hineahuone, "so called because of the unhappy married life of his parents" (Jones 2010, 245). The repetition in the first line plays on his name, commonly translated as "misfortune" (Jones 2010, 224) and frequently referencing death. As the opening words, the inference is that life begins with death.

Following Jones' (2010, 254–256) iteration, lines two and three speak of Aituā's descendants: Kaitangata, Whaitiri, and Hema. Line two names Kaitangata, "The Consumer of Man" (in a carnal sense), and his daughter, Whaitiri, "The Goddess of Thunder" (Jones 2010, 255). Line three speaks of Hema, Whaitiri's son, and his wife, Urutonga (Jones 2010, 255). To 'hema' is to create a sloping surface, but the term also means "left hand" and "pudenda" (Williams 1957, 45). The line indicates that the 'hema' moves to the west (uru) and the south (tonga).

Whanganui, like Waikato, share the stories of Tāwhaki[8]. The fourth and fifth lines discuss this son of Hema and Urutonga. It is his task to ascend (piki ake) towards his wife, Hāpai (otherwise known as Tangotango).

---

[6] 'The language'; a collective noun for the Indigenous languages of New Zealand.

[7] The names of these vessels are identical (and the order similar) to what I learnt as a child doing poi (dances performed with balls on a string).

[8] Tales of the feats of Tāne, "God of the Forests", are widely known, including his collection of knowledge baskets (Mead, n.d.; see Best [1924] 1976, 397; Heaton 2016, 4; Taonui 2006). This thesis, however, reflects its writer's whakapapa to Whanganui and Tainui. Amongst these Peoples, Tāwhaki is emphasised.

The sixth line connects many moments in time. First, the line commemorates words of the second Māori King, Tāwhiao, to prophets Te Whiti o Rongomai and Tohu Kākahi (Williams 2008, 5). The citation, thus, recalls the connections between various prophetic movements, including the Kīngitanga and the Māramatanga. Second, to 'rapu' (here in its passive form) is to seek. Hence, the line recalls Tāwhaki's collection of the baskets of knowledge (University of Waikato, n.d.; Williams 2016).[9] Third, as taki are primarily spoken texts, the words 'te mea ngā rō' may be heard as 'te mea ngaro', or the lost (ngaro) one (mea). Tāwhaki ascends to find his lost daughter and estranged wife. The written text is, however, purposeful. The audience (and author) is advised to seek the cause (mea) in the multiple withins (ngā rō).

The seventh and eighth lines return to the genealogical tables. Hauraki-ki-te-rangi is parent to Māpuna-ki-te-rangi. In the embrace of her lover, Pū-hao-rangi, Māpuna-ki-te-rangi becomes Te Kuraimonoa. Both my mother and father descend from their child, Ohomairangi. Thus, in the refrain 'ki ahau e i', I acknowledge my place.

It is where thoughts are weaved as written text. I draw links between the narratives of my Peoples, the stories of Pei Te Hurinui, the Kīngitanga, and Te Kooti. I long for Beloveds and comprehension, recall my position and obligations. In locating the taki whakapapa in a particular space, I mark it. This work you are reading, this doctoral research project, is that place.

2. Acknowledging Place: Māori and Indigenous Studies

In 2016, the University of Waikato's School of Māori and Pacific Development was renamed the Faculty of Māori and Indigenous Studies (University of Waikato 2016a). The changes likely reflect the internationalisation project prevalent throughout higher education (Carlson 2015; Gray-Sharp 2013). Furthermore, they herald a political transition in an intellectual community. This research, located in that community, manifests those shifts, exploring the relation between local, regional, and global concerns. In doing so, the individual histories are acknowledged.

---

[9] According to Jones (2010, 245), it is an earlier Tāwhaki, son of Rā, who collects the baskets of knowledge brought from Tikitiki o rangi.

Māori studies is “an academic subject in which scholars research and teach the language, values, knowledges, and practices belonging to the indigenous people of New Zealand” (Reilly 2011, 340). Historically, the taught programmes have been of two forms: “those which focus on language (*te reo*) and those which deal broadly with culture … (*nga tikanga, nga mātauranga Māori i tua atu o te reo*)” (Mead 1983, 333). The research programme has been, comparatively, much broader. Proponents apply the subject’s strength to research in areas across the Academy.

This “distinctive strength lies in the richness and uniqueness of Māori modes of expression: styles of thinking, speaking, relating, recalling, researching, recording and within a developing intellectual framework that rests on Māori philosophies” (Durie 1996, 31). The subject’s forté has facilitated the development of dedicated academic units without limiting plurality. Practitioners can be found in both Māori Studies departments and elsewhere in the university.

The development of Māori studies is subsequent to significant socio-political change and the efforts of generations of academics (Mead 1983; Walker 2014). It has faced opposition from both inside and outside the academy. According to Royal (in Waitangi Tribunal 1999a, 21), “as Maori Studies is located within a western university, it is subject to the western paradigm of knowledge which has severely hindered its growth.” The struggle has left an imprint; “Māori studies differs from other academic subjects in that it stresses praxis – both the theory and practice of indigenous knowledge – as part of its mandate” (Reilly 2011, 347). There are also opportunities. As a theoretical field, “Māori Studies belongs to the international group of studies variously called Native Studies, Black Studies, Indigenous Studies or Aboriginal Studies” (Mead 1990, 25).

Amongst the multiple renderings of Indigenous studies, there is a common thread: each “has, in many respects, erupted out of a landscape of injustice” (Lomawaima 2016, 156). That landscape is the structure of settler colonialism and its Unsettler society being those who unsettle the People of the Land (Gray-Sharp 2017b). The academics of Indigenous studies may be seen as part of their lands’ response to this invasion. Indeed, Moreton-Robinson (2016a, 7) notes how initial “debates over what constitutes Indigenous studies were informed by and connected to Indigenous self-determination and sovereignty political movements.”

A focus on knowledge produced within Indigenous communities followed. For example, Russell Thornton defined Native (American) Studies as “the endogenous consideration of American Indians, that is, the study of American Indians *originating from inside Indian cultures*, not the exogenous one” (1978, quoted in Valandra 2016, 50). Likewise, Durie (1996) notes how Māori scholars rejected the methods of anthropology in favour of a more “Māori centred approach” (23) that brought “disciplines together…. to transcend narrow (and often recent) disciplinary constraints” (24). Here again we find Indigenous studies as “a moral imperative as well as an intellectual intervention” founded in the “stories and relationships of specific peoples to place” (Justice 2016, 27).

3. Introducing the Research

This research follows a similar line. It emphasises written texts (for certainly, this thesis is one) as a reflection on its conduct in the ‘western’ (or Unsettler) Academy. It remembers stories of particular academic iterations: the university on Waikato-Tainui land and the rise of Māori and Indigenous studies.

Following those stories, the research does not limit itself to one pool of knowledge. It records taki and waiata, recollects other disciplines – including conservation biology, Continental philosophy, Earth Sciences, politics – and recalls personal narratives, those related to me and my milieu. Like catching ngaore (smelt), it is necessary to establish “a special current … the water at a certain speed” (Matiu Mareikura in Waitangi Tribunal 1999b, 66), so that connections between multiple, seemingly disparate pools may be productive. The research’s ethical impetus is that current.

This research considers my responsibility in the face of mass extinction. The primary justification for the research is the lack of information on how to respond to mass extinction. A secondary justification is the need for an ethically-driven response. There is one primary research question and three sub-questions.

What is my responsibility in the face of mass extinction?

1. What is tika in this context?
2. What do I have to offer?
3. How do I contribute?

To assist in the answering of these questions, the following sections introduce mass extinction as a biodiversity crisis. Further, I apply erudition, criticality, and interpretation (Ferrater Mora 2003) to develop conceptions of tika and responsibility. We begin with a question: what is a concept?

4. What is a Concept?

I was told that, like food for infants, it is best to chew ideas before feeding others. Concepts are useful in this task. As Audra Simpson notes (quoted in Lomawaima 2016, 150), “concepts have teeth, and teeth that bite through time”.

This section explores the concept of a concept. It provides definitions and examples. It explains my method of conceptual analysis and how it was learnt. In doing so, it provides autoethnographic data, empirical information detailing my life experiences.

4.1 Concepts and Terms

The noun ‘concept’ is related to the Proto Indo-European **kap-* meaning “to cop, grab, grasp” (Linguistics Research Centre 2020j). While a conception is “the perception of an idea or concept within a given context” (Gray-Sharp 2011, 207), Cook (2009) describes a concept as “either an abstract object or a mental entity (often called an ‘idea’) which is, or corresponds to, the meaning of a predicate”. Blackburn (2016a) defines it as “that which is understood by a term, particularly a predicate”. Jary and Jary (2006) classify a concept as “the idea or meaning conveyed by a term”.

A ‘term’ is a token-reflexive, “a word or expression of which it is necessary to know who is speaking or writing it, or when or where, in order to know what particulars [sic] references is being made” (Flew 2002). A term may be singular or general. In the singular, it is “any expression that refers to an object” and may include “names, indexicals, and definition descriptions” (Blackburn 2016g). Comparatively, a predicate is a general term: “any expression that is capable of connecting with one or more singular terms to make a sentence” (Blackburn 2016e).

In the sentence ‘Forrest runs’, the singular term (Forrest) is followed by the predicate (runs). The concept ‘Forrest’ is neither the term nor the person, but the idea of that person. This may cause confusion. For someone aware of a particular 1994 film, the concept ‘Forrest’ is a character played by Tom Hanks that ‘runs’. For someone who is not aware, the concept ‘Forrest’ will be solely determined by the predicate: ‘Forrest’ is someone (or something) that ‘runs’.

Concepts are not neutral. Indeed, Gallie (quoted in Collier, Hidalgo, and Maciuceanu 2006, 237–240) offers criteria for defining an essentially contested concept. For example, it has “a variety of possible components or features” (Collier, Hidalgo, and Maciuceanu 2006, 217), and “its worth is attributed to it as a whole” (Gallie, quoted in Collier, Hidalgo, and Maciuceanu 2006, 217). Further, initial diversity in “describability” (Collier, Hidalgo, and Maciuceanu 2006, 217) allows the relative changes in emphasis over time and context to avoid the label of “absurd or contradictory” (Gallie, quoted in Collier, Hidalgo and Maciuceanu 2006, 217). Hence, concepts can continue to be contested and contestable.

4.2 Concepts in Place

4.2.1 Concepts and the Disciplines

A concept may be understood from within its academic field. Indeed, “the construction of descriptive or explanatory concepts has a central role within a discipline” (Jary and Jary 2006). This is true whether philosophy (see Cook 2009; Blackburn 2016a; Flew 2002), sociology (see Jary and Jary 2006), or politics.

In the latter, Heywood (2000, 4) defines a concept as “a general idea about something, usually expressed in a single word or a short phrase”. Such concepts may be descriptive or normative. Descriptive concepts signify “’facts’ which supposedly have an objective and demonstrable existence” (Heywood 2000, 5). Heywood (2000, 5) identifies “‘power’, ‘authority’, ‘order’ and ‘law’” as specimens. In comparison, normative concepts are values that “advance or prescribe certain forms of conduct” (Heywood 2000, 5). Autonomy, justice, property, and responsibility are examples.

Examples of concepts in the discipline of Māori studies help define its academic boundaries. Indeed, Mead (1996, 203) translates “***Maori*** concepts” as “***tikanga***”, the customs and practices by which we and the world may know one another. *For* example, Mead (1983, 338) offered some general terms for the concept of "*mātauranga Māori*"[10]. First, Mead (1983, 338) identified mātauranga Māori as "a body of knowledge which contrasts with Pakeha or Western knowledge". Specifically, it "constitut[es] the knowledge base which Maori people must have if they are to be comfortable with their Maoritanga and competent in their dealings with other people" (Mead 1983, 338). By this Mead (1983, 338) meant that it "represents the heritage of the Maori". As such, the concept is essential for the unification of a people that (at that point) did "not exist as an entity or clearly identifiable enclave within New Zealand society" (Mead 1983, 336). For a young discipline, the concept of mātauranga Māori has function; it "helps us to understand the nature of our subject and hence provide some guidance as to what our responsibilities are to the Maori people" (Mead 1983, 338).

As the discipline has grown, more concepts have been described. These have included mana whenua, mana tangata (Mason Durie 1994; Marsden 1992), te reo (Karetu 1993; Nepia 1993) me ōna tikanga (Henare 1988), tapu, and noa (Barlow 1991; Shirres 1997). To this list may be added whānau (for a review of definitions, see Gray 2006) and the essentially contested concept of tino Rangatiratanga (Gray-Sharp 2011). In addition, concepts in the English language have been investigated that contribute to understandings of Indigenous studies (and her relatives) more broadly.

Moreton-Robinson (2016a, 7) identified some concepts that were initial "key drivers in developing the discipline: indigeneity encompassing culture, place, and philosophy, as well as sovereignty, history, and law". On the first point, O'Sullivan (2017, 1) defines indigeneity as "a politics of potential that transcends neo-colonial victimhood…. [through] relationships with discourses of reconciliation, self-determination and sovereignty". More generally, "indigeneity refers to the state of being indigenous" (Fleras and Maaka 2010, 22). The adjective, "Indigenous", can be seen as "a statement of identification in the world", a declaration that unites but does not fix (Hokowhitu 2001a, 2). However, the terminology is also recognised as "problematic in that it appears to collectivise many distinct populations … [and] experiences" (Smith 1999, 6). Somerville (2010, 680) suggests that "it is difficult to clearly articulate a definition of 'Indigeneity' because we risk either demanding a refusal of real difference or paying attention to differences that might be a barrier to meaningful (or indeed any) engagement."

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[10] Mead (1983) uses macrons for italicised terms only.

Sovereignty is similarly contested. Leanne Simpson (2015, 22) considers it "an intimate, lived concept". Thus, "Indigenous ideas of sovereignty align themselves with balance, harmony, peace, and the continuous regeneration of new life. Sovereignty means the ability to live up to our responsibilities to our families, to our clans, to our nation, and to the land" (Simpson 2015, 21–22). But Warrior (2008) offers the competing perspectives of two scholars, whilst Durie (1996, 8) proposes "aboriginal autonomy" as an alternate. These unbroken concepts refuse to be fixed. Perhaps they are not meant to be, to a definition or a discipline.

This may be why the concepts have never been claimed for Indigenous studies (or Māori studies) alone. One of the subjects' strengths is the capacity to operate between, across, and beyond disciplinary boundaries. Moreover, there are risks in reproducing the silos of those ivory towers. The process of conceptual analysis can be both "an act of imperialism and an act of resistance" (Somerville 2010, 672). Working outside the "'rule governed system of inquiry' [that] disciplines produce and govern" (Andersen and O'Brien 2017, 1) may help shift the balance. When it does not, learning beckons. Though we recite the names of our ancestors and appreciate their feats, our writing does not need heroic (Somerville 2010) Great Men (Reber, Allen, and Reber 2009) where complex people lie.

4.2.2 Concepts and I

I analyse concepts in order to understand them better. As indicated by this section, I frequently begin my analyses with the etymology of a term. Etymology is defined as "the study of the historical relation between a word and the earlier form or forms from which it has, or has hypothetically, developed" (Matthews 2014a). Synchronic studies determine a fixed status of a language and are, in linguistics, often applied before diachronic (or historical) analyses (Crystal 2008b). However, as indicated in the opening of this chapter, whakapapa and the histories of ideas are of greater importance to me.

In matters linguistic, I follow a pattern handed down by Rangitihi Tahuparae (or John Tahu) and reinforced whilst a student of Ngā Muka o te Reo o Whanganui, a local language revitalisation initiative. Uncle Tahu was a reporter on Television New Zealand's *Te Karere*, part of the Waitangi Tribunal (1999c), the first Kaumātua of

Parliament (*Otago Daily Times* 2008), and a Member of the New Zealand Order of Merit (Department of the Prime Minister and Cabinet 2001). He had many flaws and foibles; “the bloke was no saint and he never pretended to be” (*Stuff* 2009, para. 18). Though a tohunga, Uncle was more comfortable with Pā (and men generally) than Mā; the mōhiotanga (directly inherited knowledge; not learnt) of her mother’s line challenged his almost modernist stance. I personally learnt more from his sister and female cousins, but can still appreciate his approach to deconstruction.

In the social sciences and humanities, deconstruction is commonly aligned with Jacques Derrida. Derrida’s method involves “a double gesture – the first move consists in reversing the hierarchy of a particular philosophical opposition, while the second move amounts to a displacement of the very system in which the hierarchy operates” (Buchanan 2018b). The example is his approach to the sign, which must be perceived simultaneously as something other than itself and something different from that which it represents.

Uncle Tahu’s deconstruction differs from Derrida’s in that the initial focus of the analysis is the analyst. This is culturally responsive. When we mihi, we will introduce ourselves (where we are from, who our People are), before engaging with a topic. Similarly, Uncle Tahu recommended “tahuri whakataumaha, huri whakamāmā” (“to look within is to gain clarity”) (Che Wilson 2010, 43). This approach and its emphasis on the small is evident in his approach to kupu as historically constructed morphemes, each part providing a meaning for further analysis.

Uncle Tahu deconstructed kupu (“word, sentence, message” [Tregear 1891, 184]), because, like people, words have whakapapa. For example, Uncle translated ‘nga’ into ‘oxygen’[11]. Hence, ‘ngahere’ (or forest) is oxygen (nga) bound (-here). Similarly, the suffix ‘-nga’ animates derived nouns, pushing verbs on an outward breath from the generalised (tika, whānau) to the specific (tika-nga, whānau-nga). Although I would extend treatment to the plural article ‘ngā’, it is not to suggest expansion. Rather, nga/ngā provides conditions for change.

I also use examples of a concept’s use to determine meaning. Those meanings are assessed against a framework (for example, the ethics outlined in the Preface) and applied to interpret other concepts. The process is never complete and is, therefore, open to criticism. The practice is, however, consistent, because it is informed by both home and school.

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[11] Ngā is also translated as “breathe, take breath” (Williams 1957, 225).

At home, I was taught to find the pūtake (root) of the thing. Nanny Kawa would whack me when I asked questions, but still answered them sometimes. To the 40-odd children with no reo, Aunty Joan would tell the meaning of the words we were to sing. Uncles Mat and Tahu held wānanga on how to conduct ourselves on the marae, how we are related to one another, and why this all matters (Nanny Kawa did the same thing, but in a different place). There were the teachers in the kitchen and the chapel who taught by example. Both my Nannies, Pi and Piko, liked things a certain way. In order to meet the standard, I learnt to find out why.

At school, I was rewarded with marks and qualifications, funding and publications, for doing what I was taught at home. If something is to be understood, it is best to think about it, for a time, until those thoughts settle in the stomach. I like to consider habit and ecosystem, what feeds it and what it feeds. It is how I get to the root of things.

5. Anthropogenic Mass Extinction: A Biodiversity Crisis

Extinction is the “permanent disappearance of a species throughout its entire range, caused by the failure to reproduce and the death of all remaining members” (Park and Allaby 2017f).[12] Mass extinctions are extinctions of the greatest magnitude, “characterized by elevated extinction rates relative to background” (Hull 2015, R945).

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[12] ‘Species’ is a Linnaean taxonomic rank between genus and sub-species. It is also a contested concept. While “a fundamental unit in biology”, it “continues to be the subject of much debate” with “no well-defined universal criteria by which species may be delimited or identified” (Balakrishnan 2005, 689). Park and Allaby (2017a), for example, list five different species concepts.

While ‘species’ is an imprecise term and inherently hierarchical when compared to whakapapa (see section 1.1 in this Chapter), its use in this thesis can be justified in three ways. First, the employment of the concept reflects an awareness of readership. In English-speaking countries, ‘species’ is more widely understood than alternative classifications due to Linnaean taxonomy’s long presence in compulsory education. Second, the application allows past and current scholars’ work to inform the thesis. Linnaean taxonomy is predominant in the Earth Sciences’ study of past mass extinctions and the Life Sciences’ study of current extinction rates (see Chapter Four). Third, the practice does not exclude nor limit other ways of expressing relation. The ethical position and principles of the thesis, alongside its focus on responsibility, ensure relation is explored in many ways.

According to Ripple et al. (2017, 1), humans "have unleashed a mass extinction event, the sixth in roughly 540 million years". An "accelerating" phenomenon, it "may be the most serious environmental threat to the persistence of civilization, because it is irreversible" (Ceballos, Ehrlich, and Raven 2020, 13596).

With an estimated "30% extermination of all species by the mid 21st century" (Novacek and Cleland 2001, 5466), the anthropogenic mass extinction has been described as a "biodiversity crisis" (Benton 2013, para. 15). This section outlines both drivers and causes of the crisis. As a performative speech act – iterable, a survivor witnessing my absence (Derrida 1988) – it continues to define and explicate language.

Biodiversity (biological diversity) is "the number and variety of living organisms, from individual parts of communities to ecosystems, regions, and the entire biosphere" (Mayhew 2015a). Although introduced by Walter G. Rosen in 1986 and subsequently present in the Life Sciences (Wilson 1988, vi), biodiversity's representation to a broader audience was through the Convention on Biological Diversity and international organisations like the United Nations Environment Programme (UNEP). Its patterns are a product of extinction and speciation[13], and it is an important factor in ecosystem stability (Hine and Martin 2015b). As "a measure of the variety of genes, species and ecosystems in an area or globally" (Whyte 2013), the concept can facilitate comparative analyses across multiple sites and timeframes in a knowledge environment that is only lightly populated (see Pimm et al. 2014). Although biodiversity operates at all scales, measurement at the species level is the most common (Meadows 2016, para. 1).

A 'crisis' is a turning point whose outcome may be safe resolution or catastrophe. In terms of biodiversity, the "current rate of species extinction was (and remains) extremely high compared to the natural average rate" (Rosendal 2009, 219). The accepted background rate is between 0.1 and one extinction per million species-years (0.1-1 E/MSY) (Ceballos et al. 2015a; Lamkin and Miller 2016). My replication study of Ceballos et al. (2015a, 2015b) using 2018 data shows a conservative current rate for all taxonomic groups of 8.99 E/MSY (see Chapter Four). At the lowest end, this is almost nine times greater than 'the natural average rate'. The evidence supports the assertion that there is a biodiversity crisis. The drivers of this crisis are anthropogenic.

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[13] Speciation is "the development of one or more species from an existing species" (Hine and Martin 2015l).

Ladle and Malhado (2013, para. 2) describe a three-level, constitutive hierarchy of anthropogenic extinction processes. ‘Anthropogenic’ is an adjective with a 20th century semantic shift. Originally referencing the study of human origins (anthropogeny), the term is now “applied to substances, processes, etc. of human origin, or that result from human activity” (Allaby 2013a). The highest level of Ladle and Malhado’s hierarchy describes drivers of biodiversity loss. These final factors include consumption, overexploitation, human over-population, and economic growth.

As a society consumes, it negates resources and makes values at the same time. Consumption, under this view, is “the process of appropriating, using, and creating meaning about an object or service” (Vivanco 2018a). In economics, it is the “final use of goods and services by economic agents to satisfy their needs, as opposed to providing for future production” (Black, Hashimzade, and Myles 2017a). In capitalist societies, consumption is linked to production, but also offers a form of agency for resistance and transgression (Barker 2004a). This may explain the difficulty of reducing consumption in these spaces.

Exploitation is the use of a resource for immoral purpose.[14] Thus, overexploitation (or overharvesting) in biology is “the exploitation of . . . a natural population at a rate greater than the population is able to match with its own recruitment” (Thain and Hickman 2004). The European Union’s Common Fisheries Policy (and its likely breach) illustrates legitimate overexploitation (Oceana 2019). Hence, as outcomes of an increased “demand for energy and resources” (Ladle and Malhado 2013, para. 3), both consumption and overexploitation may be understood as a consequence of growth.

Growth is both the process of, and the (usually positive) change in, size, value, or output. Human population growth is “the rate of increase of the world’s population” (Mayhew 2015d). Last century, the human population grew three times faster than before, increasing by 4.6 billion members (Roser and Ortiz-Ospina 2017). However, population growth has been decreasing annually since 1963 where it peaked at 2.2 per cent. Having “fallen to almost half, a long historical period of accelerated growth has thus come to an end” (Roser and Ortiz-Ospina 2017, para. 3).

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[14] Hence, oppression is “any situation in which ‘A’ objectively exploits ‘B’ or hinders his and her pursuit of self-affirmation as a responsible person” (Freire 2005, 55).

Although the population rate has become more sustainable in terms of resource use, the population size is still too large. World population in 2016 was 7.4 billion (United Nations Population Fund 2016), but the sustainable range (subject to individual consumption levels) is under 5 billion and closer to 2 billion (Crist, Mora, and Engelman 2017, 262). The greater our numbers, the more we consume.

Economic growth is a term whose definition is disciplined. In human geography, it is “a sustained increase in the production of goods and services, usually measured at the national level as the change in the Gross Domestic Product (GDP) of a country’s economy” (Peck 2009, 181; see Bannock, Baxter, and Davis 2003). In economics, it may be defined as the “persistent increase in per capita aggregate output and in the aggregate physical capital per worker in an economy” (Black, Hashimzade, and Myles 2017b).

“Characterized by structural transformation”, economic growth can be seen in changes like “urbanization, the shift from home work to employee status, an increasing role of formal education, an increased role for foreign trade . . . and the growing importance of government” (Black, Hashimzade, and Myles 2017b). It can also be seen in the overexploitation of environments as production and consumption become unsustainable. While augmented affluence improves human wellbeing, it requires increased mass consumption and thus further environmental damage (Williams 2005). Mitigation strategies may require negative economic growth amongst populations where living standards are sufficient.

The secondary level of Ladle and Malhado’s (2013) hierarchy ensues from the primary factors. Direct causes of both population (Ceballos and Ehrlich 2002) and species (Ceballos et al. 2015a) loss may include “habitat destruction and fragmentation, pollution, climate change, and the introduction of exotic organisms” (Ladle and Malhado 2013, para. 2). Novacek and Cleland’s (2001, 5467) list differs slightly, including “environmental shifts (climate change, disruption of biogeochemical cycles, etc.)”. Edward O. Wilson (2010, para. 5) has summarised the processes of the secondary level in “the acronym HIPPO: Habitat destruction, Invasive species, Pollution, human over-Population, [and] Overharvesting". Thus, depending on source, there are points where primary and secondary factors overlap.

The tertiary level houses the "unavoidable negative consequences of small population size" (Ladle and Malhado 2013, para. 2). These include reduced fitness as a result of inbreeding. Genetic diversity is the variety of genes in a population and "generally underpins [its] resilience and persistence" (Furlan et al. 2012). A reduction in genetic diversity occurs in a loss of variety amongst individual carriers (Neimark and Mott 2017) reducing the population's "ability to adapt to environmental change" (Furlan et al. 2012). Along with demographic factors (for example, age structure, sex ratio), inbreeding and low genetic diversity increases the "importance of chance events" (Ladle and Malhado 2013, para. 2). Such was the problem for 800 *Powelliphanta augusta* snails when a temperature probe in their chiller failed (Charlie Mitchell 2018; Wright 2011). They died.

6. What is Tika?

6.1 The Concept of Tika

Williams (1852, 171) translates 'tika' to mean "straight; correct; righteous; lawful; just". Similarly, Tregear (1891, 509) identifies "straight, direct" and "keeping a direct course" alongside "equitable; right, just, fair". Williams (1957, 416) follows a parallel path, rendering tika to mean "straight, direct", "keeping a direct course", "just, fair", and "right, correct".

This section undertakes conceptual analysis towards an alternative conception of tika. This conception will guide the research towards a contextually-relevant response to the primary research question. Articulation of the concept's initial appearance in written texts leads to comparison with more contemporary usage. An analysis based on 'tī' links language and environment, a reminder that humans are not alone. The section closes with the autoethnographic.

6.2 Tika in Early Colonial Writings

The earliest recorded use of the word tika in writing is likely Lee and Kendall (1820), where it was glossed as "right" (54) and "*correctly*" (55).[15] William Yate (1830, ii) followed some ten years later in a reo-only publication of the third catechism, *Ko te Katekihama III*. Five years later, William Colenso printed two William Williams' translations: Paul's Epistles to the Philippians and Ephesians, and *Ko te Rongo Pai i Tuhituhia e Ruka* (1835) (see Otago University Research Heritage, n.d.). The next prominent example is in the third article of *He Wakaputanga o te Rangatiratanga o Nu Tireni*, the declaration of 1835.

He Wakaputanga proclaimed the sovereignty of Te Wakaminenga o nga Hapu o Nu Tireni (The United Nations[16] of New Zealand) and was accepted by the British Crown (Ministry for Culture and Heritage 2017). The document is a reo translation by Henry Williams of James Busby's English language text (Ministry for Culture and Heritage 2017). A codicil was added that allowed others beyond the first 35 to sign. The Tainui man who would later became Pōtatau Te Wherowhero was one of these later signatories (Keane 2012).

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[15] The word possibly appears in *A Korao no New Zealand* (1815), but access to this text is limited as only one of the original 200 copies exists. The work is not included in the reference list, because the text has not been sighted.

[16] Although the social collective of hapu (or hapū) is translated as "tribe" (Williams 1852, 16) and a sub-section thereof (Tregear 1891, 49; Williams 1957, 36), there appears to be no evidence to support this designation. 'Tribe' is a reflex of the Proto Indo-European (PIE) etymon **trei* meaning "**three**, **trio**" (Linguistics Research Centre 2020x), and in the Latin *tribus* references "a third part of the Roman people" (Lewis and Short [1879] 1891, 1897). A *tribe* is a taxon between genus and family (Allaby 2015c). When of *Homo sapiens*, it has been identified as a "pre-civilized stage of human society" (Scott 2015h), "*the commonality, the mass, mob, poor people . . . without rank or position*" (Lewis and Short [1879] 1891, 1897).

Comparatively, 'nation' is a reflex of the PIE etymon **ĝen-* ("to bear, produce, **generate**") in the semantic fields "to Bear (of Mother), to Do, Make" (Linguistics Research Centre 2020h). From the Latin *nātĭo* ("*being born*, *birth*" [Lewis and Short [1879] 1891, 1189]), nations are "cultural and political communities" "bound together by a shared history, culture, religion, and/or homeland" (Castree, Kitchin, and Rogers 2013a; see Heywood 2000, 251–52). A primary translation of hapū is "pregnant" (Williams 1852, 16; Williams 1957, 36) with relation to "*ha*, breath; *pu*, to come forth" (Tregear 1891, 49). On the basis of this etymology, I replace Busby's original term and Henare's translation of 'tribe' with 'nation'.

He Wakaputanga's third article uses tika in two ways. Per Williams (1852), the article first requires judgement of a correct nature undertaken with regularity: “kia tika ai te wakawakanga” (quoted in Ministry for Culture and Heritage 2017, para. 7). Henry Williams fairly accurately translates Busby's intention towards “dispensation of justice” (quoted in Ministry for Culture and Heritage 2017, para. 19). Second, it requires a similar nature in matters of exchange (“kia tika te hokohoko”[17]), so approaches but does not meet the intent for “regulation of trade” (quoted in Ministry for Culture and Heritage 2017, para. 19). Thus, Manuka Henare's translation from reo to English reads “so that … trade (hokohoko) be fair” (quoted in Ministry for Culture and Heritage 2017, para. 13). Although the use of tika is erudite in this case, there is other evidence of translational problems .

Tika appears in the preamble of New Zealand's most notable document, Te Tiriti o Waitangi. Te Tiriti o Waitangi was a treaty signed in 1840 between representatives of the sovereign polity of New Zealand and the British Crown. Nine sheets were signed over seven months. 505 signatures were collected from rangatira (leader) on eight Māori-language sheets at locations across the country. 39 rangatira signed an English-language translation known as the Waikato-Manukau Sheet (Archives New Zealand, n.d.). In contemporary times, the Waikato-Manukau Sheet has been identified as the ‘English version’, been integrated into legislation, and influenced Crown-Māori relations.

The relevant phrase of the eight reo Sheets appears in the Preamble and reads: “kua wakaaro ia he mea tika kia tukua mai tetahi Rangatira” (Waitangi Tribunal, n.d.c; see Archives New Zealand 2017). The same section in the Waikato-Manukau Sheet reads: Victoria “has deemed it necessary . . . to constitute and appoint a functionary properly authorized” (Waitangi Tribunal, n.d.a; see Archives New Zealand 2017). The justification for the action (indicated by the ellipses) is not present in the reo text, but the intent appears similar. Kawharu's (1989) translation, Victoria “considers it just to appoint an administrator”, supports a resonance.

The use of tika in the Waikato-Manukau Sheet as ‘necessary’ compares with Kawharu's translation of ‘just’. Necessity is associated with inevitability and the inability to evade (Harper 2020f). Comparatively, justice is a derivate of the Latin *iūs*, “*that which is binding, right, justice, duty*” (Lewis 1891, 451), and “in the broadest sense … embraces the whole of law" (Berger 1953, 525). Whilst the former is descriptive the latter is normative. Further consideration is required.

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[17] Quoted in Ministry for Culture and Heritage (2017, para. 7).

6.3 Tika and Māori Studies: He Tika Me Maumahara

Māori studies is a discipline of teaching and research that occurs within Unsettler institutions and utilises modes of expression unique to the Indigenous Peoples of New Zealand. Over 80 years, practitioners have developed a corpus of written texts that reflect these modes and its context (Walker 2014). Each addition mirrors its author, methodology, and particular moment in time. However, certain concepts retain prevalence. Even when dictionaries, grammars, and reo-only texts are excluded, tika is still found within this corpus.

Mākereti (Maggie) Papakura (1873–1930)[18] was an Oxford University student from 1926 until her death in 1930. Papakura was the first Māori to be (if posthumously) published as an ethnologist (Walker 2014). The book of her thesis, *The Old-Time Maori* (1938), mixes emic and etic features to tell her life story and that of the people who raised her. In a chapter on dwellings, Papakura (1938, 290) translates a rite, in this case, "to pacify nga atua [gods] before … cutting and killing one of the children of Tane with human hands". At the point in the rite that recognises Maru[19], the listener is commanded: "kia tu tangatanga ua tika … stand up, straighten back!" (Papakura 1938, 292). The use of tika in this context reinforces the interconnectedness of descriptive (straight) and normative (correct). In order to obey the command (and thus be correct), the listener must be straight.

Peter Henry Buck (Te Rangi Hīroa) (1877–1951) was a medical doctor who went on to become a visiting anthropology professor at Yale (Walker 2014). Buck worked as a medical officer from 1905, a Member of Parliament, and became a member of the Polynesian Society in 1907 (Sorrenson 2002). An article from 1921 in the *Proceedings and Transactions of the New Zealand Institute* (later that of the Royal Society) discusses history and practices in the Rotorua area. Buck (1921, 434) includes a Ngāti Kea[20] song of mourning and the line "Tika mai i kona e …. 'Come hither from there.'" The use of tika to mean 'come' suggests a straight route per Best's (1919, 90; see Moorefield 2018) line, "ka tika ke mai taua taua ki Hataitai" (that party travelled straight to Hataitai). The interpretation could thus be considered descriptive.

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[18] Papakura was a Whakarewarewa guide of renown and managed an international tour before emigrating to marry in 1912 (Northcroft-Grant 1996).

[19] "An atua" (god) (Fletcher 1925).

[20] I am of Ngāti Kea-Ngāti Tuara via my paternal grandmother's mother.

Bruce Biggs (1921–2000) was trained as a teacher and made his first publications subsequent to years posted as a sergeant in Fiji. In 1951, he was appointed as the country's first lecturer of Māori language as part of Auckland University College's Anthropology programme. After failing to gain support for a stage two language unit, Biggs and colleagues "changed the name of the subject to 'Maori Studies'" (Pawley 2001, 3). The name stuck. Later, he would co-found the Linguistic Society of New Zealand, hold a personal chair in Māori Studies and Linguistics, and head Auckland's Department of Anthropology. In a 1961 article for *Linguistics Anthropology*, Biggs translated "e tika ana taatou" to read "we are right" (30) and "kaa tika tonu mai" as "continue straight hither" (42). Yet again the descriptive and normative are recognised. The first translation adheres closely to the ideal of correctness, whilst the second utilises both the idea of movement in a given direction and straightness.

Ian Hugh Kawharu (1927–2006) completed his masterate at Cambridge and doctorate at Oxford (Walker 2006). In 1966, after a period in government and research positions, Kawharu became an academic in Auckland's Department of Anthropology. Five years later, he accepted a personal chair in anthropology at Massey University. In 1985, Kawharu was appointed to the Māori Studies chair at the University of Auckland before separating from Anthropology to establish an independent department in 1991. From 1993 to 2005, he was president of the Polynesian Society. As indicated previously, Kawharu equated tika with justice and therefore offered a normative position.

Hirini (Sidney) Moko Mead (1927–) was trained as a teacher and anthropologist. After some years as a head teacher, Mead accepted appointments in Auckland's anthropology unit. He completed his doctoral research on hafted adzes at the University of Southern Illinois in 1968, and was a visiting scholar to Canada in 1971 and 1972. Mead was appointed to Victoria University of Wellington's inaugural chair of Māori Studies in 1975 (Walker 2014). Under his leadership, an independent department was established in 1978. Mead (2003b, 2) identifies tika normatively, as something that is "'right' or 'correct'". He goes on to state that like pono ("'true' or ‘genuine’”), “the concept of tika, or being correct, is a base principle that applies to all tikanga” (Mead 2003, 25).

Joan Metge (1930–) was first appointed as a Geography Junior Lecturer in 1952. She conducted her doctoral study with Māori migrating to Auckland city, graduating in 1958 from the London School of Economics. In 1961, she accepted work as a “Suburban Tutor-Organiser in Adult Education” where she met future colleagues Wiremu (Bill) Parker and Te Kapunga (Koro) Dewes (Metge 2013, 8). In 1964, Metge began working as a senior lecturer teaching Māori studies at Victoria University of Wellington’s Department of Anthropology. She was appointed Polynesian Society president in 2005. Metge’s (2015, 285) translations of the adjective tika mix descriptive and normative interpretations: “1. straight, direct; 2. just, fair; 3. right, correct.”

Ranginui Walker (1932–2016) was trained as an anthropologist and a teacher, working at the Auckland College of Education before accepting an appointment to teach Māori studies in 1967 (Walker 1993). After completing his doctoral research on Māori experiences of urbanisation in 1970, he became a public intellectual and a founding member of the World Council of Indigenous Peoples. Only two uses of the word ‘tika’ were found in Walker’s work: one in a reprint of Te Tiriti o Waitangi (1990, 290) and one as a proper name in his dissertation (1970, 412). Nevertheless, Walker (1990, 298) did translate the derivative ‘tikanga’ to “custom, rules”, suggesting a descriptive interpretation.

Other Māori studies scholars have made contributions to the understanding of tika. Edward Taihakurei Durie (1994, 3) defined tika in a normative sense as “that which is right or just”, “customary or correct”. Linda Smith defined it in similar fashion (Mead 1996, 215). Most interestingly, Anne Salmond (2012, 32) noted how, in contrast to the normal objective ontological style, there was evidence that Unsettler “relational assumptions … perceived resonances between justice and *tika*”. The practice of privileging Māori modes of expression has value.

Unsettler society reproduces a dialectic that assumes sublation of the Other by the Same. In simple terms, the structures (both mental and social) require equality of identity (A=A) and inequality of status (A≠A). The dominated Other are to be negated and preserved, so that the dominant Same may undergo continuous renewal. In maintaining an alternative mode of expression and a “relational ontological style”

(Salmond 2012, 137), Māori studies ensures inequality of identity in a space that produces knowledge to foster Sameness. It is tika (by any interpretation of the term) that this is the case.

Tika is used both descriptively and normatively in Māori studies. The frequent conflation of 'correct' and 'straight', such that the latter becomes a requirement, is an old habit inherited from the Unsettler tradition. Tregear (1891, 509), for example, lists multiple 'Polynesian' translations aligning tika and cognates with "straight", "correct", and/or "just". Safford (1903a, 302) similarly translates the Chamorro *tunas* to mean "just (man)" and "straight" (1903b, 514). This does not mean that the terms are unaffiliated. Instead, I suggest that translators have sought words (terms) that ally with their own known values (predicates) and have developed the concepts accordingly.

Their translations like mine follow the maxim, *traduttore traditore* (translator traitor). The act is imprecise and, with the possibility of betrayal, difficult to trust. Although the encounter is visible, perhaps even valued, it is undertaken by a history-laden subject. Although the objective is not to obfuscate but to create connection, mystery remains.

I seek to foreground polysemy and the subjective nature of translation, to express the interpreter as much as the text. In learning the author, the intent is to inspire the trust lost in translation. Hence, a classical approach is undertaken whereby meaning is emphasised sometimes over (but often with) the literal word (see Laugier et al. 2014). Regardless, the continued exploration of tika beckons.

6.4 Tika and Tī: Speaking Parts

At a conference in 2016, I spoke of tika as, 'Ka tī, ka kā.' When talking, I have a tendency to gesticulate. The attending gesture, in this case, was a vertical movement that burst, revealing tika as "straight" (Dieffenbach [1843] 1974, 387) and (its constituent part) 'kā' as vital or "vigorous" (364). It is the intentional act of casting (tī) and setting alight (kā). The latter continues previous work, wherein kāinga as Home/Family was analysed (Gray-Sharp 2011). Here, tika may be seen in the ceremonies of "human occupation and progeniture" (Gray-Sharp 2011, 194), the duty of Indigenous to land. Further analysis of tika reveals additional possibilities via *tī*.

6.4.1 Tika and Tī: A Beginning

Tī (or ti) is ubiquitous, appearing in many common words. Titiro means to “look” (Williams 1957, 424), differing from ‘kite’ (“*perceive*”, “*recognise*” [120]) and ‘mātaki’ (“*inspect*, *watch*” [188]). Titiro uses the visual system, so may be understood as ‘titi’ (“*to shine*” [Williams 1852, 175]) and ‘rō’ (“*within*” [144]).

Tipu, comparatively, translates “to grow” (Tregear 1891, 516). As “*pu* [means] to come forth” (Tregear 1891, 49), tipu may reference an uncommon interpretation of tī: “to resemble; to appear to be” (506). Though seeming more likely than Dieffenbach’s ([1843] 1974, 387) “the sweet loot of the dragon-tree”, there is an obvious link between the verb ‘tipu’ and an organism that actions it. Moreover, Dieffenbach’s description suggests a family member of the *Dracaena draco*: the ‘sweet loot’ *Cordyline*. It is here that a journey connecting our language and environment begins.

6.4.2 Tika and Tī: A Tree

The most common translation of tī is as “the name of a tree”, specifically the tī kōuka (*Cordyline australis*) (Williams 1852, 170). Tī is also “the name of trees generally known as Cabbage-trees” (Treager 1891, 506). As such, it is a name common to the South Pacific for “*Cordyline of several species*” (Williams 1957, 413).

For example, Hinkle (2004) notes the prevalence of a green form of the tī pore (*Cordyline fruticosa* – synonym *C. terminalis*) in ten Pacific locations. Five (Cook Islands, New Zealand, Rapa Iti, Samoa, and Tahiti) use the name ‘ti’, though “all varieties … are known generally by the name of *ti*, *si*, *ki* or *tsi* in Polynesia” (Hinkle 2004, 263). Members of the genus are diverse and spread widely; there are 24 accepted names distributed between Mascarenes in the west and South America in the east (Board of Trustees of the Royal Botanic Gardens, n.d.). This maybe due to their ability to “to thrive and survive”; tī “are known to propagate readily, with little or no care” (Hinkle 2004, 274).

The genus is “incredibly hardy”, individual tī kōuka “commonly persist[ing for] over 100 years, in some cases up to 1000” (Hinkle 2004, 274). This is partly due to the rhizomes, which grow “vertically downwards … anchor[ing] the tree solidly in the soil” (Simpson 1997, 16). The result is an “almost indestructible” monocot (flowering plant) – the rhizomes “survive if the trunk is broken or burnt, and their buds regenerate the tree” (Simpson 1997, 16). The wood is fibrous and, with “the turgid packing tissue”, ensures “the mechanical strength” that “prevents collapse during storms” (Simpson 1997, 15). Hence, the whakataukī (proverb), “ka whati te tī, ka wana te tī, ka rito te tī” (Mead 2003, 199), that describes the regenerative capacity of the tī and its lesson of resilience.

The tī prefers fertile soil and its natural habitat is open. However, strong adaptive capacities allow it to grow in a wide range of environments, from coastal to mountainous, from subtropical to subantarctic. Simpson (1997, 17) states that, “because they were long-lived, reliable and useful, tī kōuka were often planted at urupā (burial grounds), and sometimes they were iho-whenua (places where the placenta was buried).” They were also a food crop and so the whakataukī, “ki te kore he mara tī o te tangata, he tangata mate tēnā” (Mead 2003, 224) – a person without a tī garden is a dead one.

The tī ecosystem is complex. Its cambium structure is capable of fracture, providing homes for epiphytes and fauna. The linoleic acid in tī fruits are linked to avian egg production, which may support its relationship with the birds that disperse its seeds. It is exogamic and highly fertile; “extrapolating from a sample … a hectare of trees produces 400 million seeds” (Simpson 1997, 16). Its fecundity was evident to Taharākau of Ngāti Maru who linked the plant and sex: “he ahi kouka ki te awatea, he ai wahine ki te pō” (Hera 1971, 6).

The genus is very old. The earliest macrofossils were found in a diatomite deposit at Foulden Maar, a 23 million year old part of the Miocene Waipiata Volcanic Field in Central Otago (Lee et al. 2016). But there are threats. Thousands of tī kōuka were subject to *Phytoplasma australiense* in the 1990s, and died of sudden decline (Scheele, n.d.). Its continued existence allows tī to offer a source for understanding the characteristics of tika.

First, tī is diverse; it has multiple forms that adapt to different ecological niches. Second, it is a survivor, resilient and capable of regeneration. Third, the tī’s strength is shown in its ability to fracture, such that it can provide shelter for others. Fourth, it is fecund, a proficient producer. Fifth, it is a tūpuna rākau, a sometimes fragile vessel for the stories of old. A conception of tika that is informed by the tī would find not just a tree, but a commentary on how to live.

Following this analysis, to the corpus of translations of tika (Dieffenbach [1843] 1974; Tregear 1891; Williams 1852; Williams 1957) I would add the gloss ‘life-sustaining’. In offering this gloss, I acknowledge the word’s limits. As *iūs* cannot describe that which opposes law, tika – and a living, breathing tikanga (Rangitihi Tahuparae, personal communication, November 9, 2007; see also Tregear 1891, 273) – cannot describe that which opposes survival. Like the tī, tika and its praxis, tikanga affirm life. Analyses of my responsibility in the face of mass extinction will be undertaken within the parameters of these general terms, tika and tikanga.

6.4.3 Tika and Responsibility

Across time, tika has been subject to some interesting translations. For example, the 21st century translation of tika to ‘rights’ is subsequent to restructuring of the Human Rights Commission (Te Komihana Tikanga Tangata) in 2001. The resulting entity gained a new name: Te Kāhui Tika Tangata, the cloak of “human rights and responsibilities” (Human Rights Commission 2008, “Our korowai and logo”). Whilst there is correspondence with right as ‘correct’, the organisation shifted tika’s meaning to “an entitlement to act or be treated a particular way” (Heywood 2000, 147). Broad entitlements like human rights are founded on the existence of a legitimating authority, namely the nation-state. Perhaps it would have been better had the previous translation of ‘tikanga’ been retained, identifying the right-ness of a specific process in a well-identified context.

Due to the Commission’s English name, the ‘responsibilities’ part of the translation was lost. As tika is a moral imperative that limits choice (something is tika or it is not), it is possible to find resonance with a specific conception of responsibility. The next section begins the work of finding that conception.

7. What is Responsibility?

This section explores the concept of responsibility by way of introduction to the extended conceptual analysis of Chapter Six. As in previous sections, articulations across a number of disciplines are described. An introduction to Levinasian responsibility links the autoethnographic.

7.1 The Concept of Responsibility

Responsibility is related etymologically to the Proto Indo-European *_spend_- meaning to make a liquid offering (Linguistics Research Center 2020v) and to execute a ceremonial act (Harper 2020l). Other reflexes (like 'spouse') emphasise promise-making, specifically those undertaken through betrothal and marriage. The sacrifice is an ancient task giving recognition to the Seen and Unseen in falling fluid.

The *Oxford Dictionary of English* defines responsibility in three ways (Stevenson 2015d). First, it is as a duty or obligation for something. Second, responsibility is "the state or fact of being accountable or to blame for something" (Stevenson 2015d). Third, it is a characteristic of agency, an "opportunity or ability to act independently" (Stevenson 2015d).

7.2 Responsibility and the Disciplines

Responsibility can inform systems that establish and distribute duties and obligations, and determine accountability (Cane 2009). Thus, in law, responsibility allows determination by degrees, with agency emphasised in criminal and consequences stressed in civil forms. Further, responsibility is distinguished from liability (and resulting sanctions) in that the former is neither necessary nor always sufficient for imposition of the latter. Although common understandings of responsibility assign it individually, legal systems founded on the Roman principle of *repraesentatio* provide for liability to be held by non-human, legal personalities (such as corporations and nation-states) and representatives (see Holland 2010; Skinner 1999).

Since last century, responsibility has been conceived philosophically as a moral question with a particular focus on the problem of free will. Williams (2009) identifies those who find free will (and moral responsibility) to be compatible with causal determinism as compatibilists. Those who do not are termed incompatibilists. Following Aristotle, Eshleman (2014) offers reactions to behaviours of moral agents using the merit-based versus consequentialist views. Where a merit-based view offers "praise or blame" according to whether or not it is deserved, a consequentialist position reacts to induce change in the moral agent (Eshleman 2014, para. 7). In addition to these philosophical positions on responsibility, politics offers interpretations of the term.

With some similarities to Stevenson (2015d), Heywood (2000) offers three meanings. First, responsibility that is related to authority implies duty "for something or someone" (Heywood 2000, 145). Second, responsibility that is related to "accountability or answerability" suggests duty "to someone" (Heywood 2000, 145). The third meaning associates responsibility with actions of a "sensible, reasonable or morally correct fashion" undertaken in the face of opposition (Heywood 2000, 146). As Heywood (2000, 146) indicates, responsibility "has different implications depending upon what citizens are deemed to be responsible for, and to whom".

In the fields of Māori and Indigenous studies, the English language concept of responsibility has not drawn explicit attention like others (for example, sovereignty). This does not indicate an absence. Duty and answerability are central to the disciplines as place-based enterprises. While our academic Natives are intermediaries between worlds, the quotidian call of home (metaphoric and literal) recalls the primary obligation. Home is what establishes and distributes duties and obligations, what determines accountability. The responsibility of Māori and Indigenous scholars is founded at home.

Subsequent writing reflects this duty. Deloria (2003), for instance, explores four types of sacred places and our moral duties to them. Durie (1999) discusses responsibility, obligation, and reciprocity amongst kaumātua (elderly Māori). Bell et al. (2005, 72) analyses the "issue of sacrifice, responsibility and intergenerational transmission" at Trent University (Ontario, Canada). Simpson (2015) identifies responsibility as one of sovereignty's general terms. How it comes to be understood in our Native tongues is another matter.

7.3 Responsibility in Te Reo

Despite its growing usage post-World War I (Google 2013), the term 'responsibility' was not formally translated into te reo until the 21st century. In 2000, the meaning of 'takohanga' was expanded from a specific pledge or token (Williams 1957, 373) – a 'contribution' of sorts (see Robinson and Wattie 1998, quoted in Maori Purposes Fund Board, n.d.) – to include "responsibility" (Young 2000; see Tamati et al. 2008, 26). In 2009, 'haepapa' (Ministry of Education 2009, 7) undertook a similar semantic shift from "straight; correct" (Williams 1957, 30).

The decision to use these terms – takohanga and haepapa – express particular conceptions of ‘responsibility’. In the first case, the translator is taking the source text (a quote on criminal conduct) and aligning it with legal conceptions. We see takohanga in responsibility as contributory. In the second case, we note the translator’s context (early educational assessment guidelines) and an emphasis on procedure. In haepapa, responsibility accentuates an obligation to be ‘straight ‘and ‘reliable’. In both cases, there is a sense of accountability and an agent who produces specific outcomes.

Comparatively, tika finds an equivalence with ‘responsible’ that lacks the stress on agency. Like tika, the ‘responsible’ act (or person) is correct, fair, and just. Similarly, ‘responsibility’ may be seen as an expression of the noun form, ‘tikanga’, that which determines custom, meaning, authority, and obligation (see Williams 1957, 417). More common than either takohanga or haepapa, tika asserts an ethical course.

Reflecting on the previous section, responsibility as actions undertaken in a “sensible, reasonable or morally correct fashion” (Heywood 2000, 146) would easily be described as ‘tika’. Similarly, the duties of home – intergenerational transmission and the role of elders, for example – are tikanga. It is perhaps in the ceremonial, in our care for sacred places and our nonhuman relations, where the etymological sense of responsibility and tika meet.

7.4 Responsibility, Levinas, and I

I first began working with the concept of responsibility in 2011 through the work of Emmanuel Levinas (1989) via the reader edited by Seán Hand. On the bus home from work each day, I would struggle through a sentence or two. At the beginning, it took me three months to read one paragraph, and I am still reading. There were nights I would cry over a new revelation into my husband’s shoulder. I felt the other’s suffering and my responsibility, and grieved for a world newly seen. In conjunction with a growing conception of somatic knowledge and the distributed self, Levinas explained the world in a new way to my husband, Giles, and I.

Levinas’ reflections on Husserl (and phenomenology more generally), his periods of horror during both Wars, and his study of the Talmud and other Jewish sources (like Martin Buber) can be seen together as experiences that inform his thinking. In contrast to others, Levinas renegotiates the position of ontology to make ethics first philosophy.

In his interpretation, I am born with responsibility, unequal, and in persecution. Levinas' work speaks of an unassumed answerability, an I-Thou relationship, which pre-exists consciousness. Prior to any intentionality, I have responsibility for the other. This responsibility differs from other interpretations in that it is not a concept, because it is "ungraspable" (Levinas 1986, 354; 1989, 41). A later chapter will investigate responsibility with this in mind.

8. Taki Whakapapa II

There is another whakataukī, "ehara i te tī e wana ake" (Mead 2003, 23; see Ihaka 1956). The proverb compares the semi-immortal tī to the human and finds us wanting; unlike the tree, we will not rise again. There is an "inevitability" to death (Mead 2003, 177), indeed a correctness to it. When we die, it is to be with the knowledge that there will be someone to mourn.

In addition to outlining genealogies, both biological and narrative, the taki whakapapa that opened this chapter speaks of a moment that occurred during its development. While considering my links to Waikato-Tainui, I experienced an unbearable longing. It is the longing of Hāpai watching her child alone. It is the longing of Te Kuraimonoa to be. There is an insurmountable distance that cannot be crossed. The composition retells a whakapapa from Aituā to Māpunakiterangi. It recalls how the latter was transformed in Pūhaorangi's arms. It lays side-by-side the search for knowledge and love's "caress" (Levinas 1989, 51). It reflects upon a time when I, a widow, longed to be touched.

In applying the traditional format, *He Aituā* introduces a research methodology founded in Kaupapa Māori. However, when considered with its personal motivations, *He Aituā* is also an example of autoethnography in its poetic form (Furman 2006; Spry 2001). Together, the taki offers an introduction to the methodological matters explored in Chapter Two.

Moreover, this new perspective on the taki signals a significant emphasis in the research. The intention is to connect the large and the small, the purapurawhetū (multitudes) through the personal. Like Mead's (1983, 342) recommendation that teachers of Māori studies "ought to have something to say to our students about our experiences", I plan to make a place for "the bitter, the poignant, the tragic, the triumphant and the happy". There is a whakapapa to be recited to connect the concepts, disciplines, and philosophies. I am but another layer.

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Chapter Two: He Reo Pōhiri

I was trained to be a first voice during the ceremonies of welcome (pōhiri; pōwhiri) by elder women of my mother and father's lines. While initially instructed in my mother's language, my dialect is that of my paternal grandather, a Whanganui speaker. A decade or so ago, Whanganui added a new word for our form of oratory: reo pōhiri. The term references the language we speak as we open and bind. In a world where Māori women's voices are diminished, it is a reminder of those spaces where our speech is the only necessary component.

Reo pōhiri are invitations and acknowledgements, calls into the darkness sometimes with only an echo as reply. When undertaken from the māhau, reo pōhiri also dictate conduct. It is the Home kaikaranga's task to direct proceedings, to indicate when and where people are to move, stand, and sit. In this methodological section, I outline the assumptions that inform my research approach. I give the directions I took to researching responsibility and anthropogenic mass extinction.

1. Constituting Me: An Introduction

To constitute is to belong to a whole. Like hono ("to splice, join") – a practice present in languages across the Pacific (Tregear 1891, 80) – constitute unites to invoke a feeling of belonging. It opposes an atomic approach, suggesting a relation into which all are woven. In this whakapapa, we long and are longed for, we present (tāpae) ourselves and are represented. Instead of a fixed label conditioning behaviour, identity of the constituted is a responsibility for another. It is a connection between the Seen and Unseen, the human and more-than-human. It is a means for considering anthropogenic mass extinction.

This chapter utilises 'constitute' in a number of ways. First, it presents me as constituted by and a constituent of Raketapauma, a marae south-southwest of Waiōuru. Such reflects a pattern in Māori and Indigenous studies in its acknowledgement of place and of Home. Moreover, it reminds me of associated duties to Earth, Sky, and nonhuman kin.

Second, this chapter utilises ‘constitute’ to identify Ngāti Rangi as a reconstituted entity. It challenges the idea that Indigenous peoples are constructed in a fixed manner, that there is only one way to be Indigenous. Ngāti Rangi shows how concepts and narratives can outlast terms.

Third, I utilise ‘constitute’ to describe how two texts – two “group[s] of practices signalling meaning(s)” (Mayhew 2015e) – were developed. The first text is the Ngāti Rangi Deed of Settlement. The multi-decade research necessary for its production was the initial training ground for the second text: this thesis. The focus is methodological, its intent to articulate and critique my research approach.

The hono of constitute affirms a whakapapa construction of identity. In the acknowledgement of our position in a web of connections rebuilt daily, we act as responsible subjects. Across a broad range of situations, identity is a means for fulfilling our obligations to those with whom we share the world.

2. Constituting Home

2.1 The 27th of July

The Māramatanga is a spiritual gathering “grounded in a specific historical context, characterised by particular beliefs and rituals, and linked in very characteristic ways to the prophetic movements that preceded it” (Sinclair 2002, 1). We maintain the task of tāpae, “to clear new paths” (Sinclair 2002, 152) and “make the world safe and liveable” (46). This task was given by the prophet Mere Rikiriki (1866[21]–1926) of Parewanui (west of Bulls) to the movement’s founder, Hori Enoka Mareikura (1877–1946).

The Māramatanga is based in the New Testament. It was established with the support of landholding women, like Mareikura’s wife, Te Huinga (Maungārongo marae, Ōhākune), Weuweu (Kawiu marae, Levin), and Merehapi (Raketapauma and

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[21] Though some sources recall a birth on or near 1855 (Puketapu 2010), Sinclair (2002, 39) references Young (1991) as a source for this later date.

Kuratahi marae, Taihape). There are gatherings throughout the year called Rā, held on days of remembrance for specific events. Mere Rikiriki's Rā is held on 27 July. Since 1926, this Rā has been held at the marae on which I was raised, Kuratahi.

One July at Kuratahi, a man came to teach those the Māramatanga had gathered. He was Rangimotuhia Kātene of Ngā Rauru, the last tohunga of Upokotauaki, a whare wānanga (advanced school of learning) of Whanganui. It is likely he had been in the area before – his sister, Tauaki, was married to Merehapi's first cousin and lived 600 metres from Kuratahi by road (closer by paddock). Yet this was his first and last visit to a 27th. Rangimotuhia told of many things, but the most enduring was personal. When our Koro asked where we were from, he said, 'Nō konei.' We were already home.

2.2 Raketapauma

Though Kuratahi is the first home of my father, brothers and I, it will not be the last. Our family's whenua (placenta) and Dead are buried at Raketapauma. It is where my grandmother, aunt, and husband lie.

Generations of us have lived here, building bodies from foods grown nearby. When others escaped the Mountain cold for winter sojourns at the River, our tūpuna (ancestor) Te Huiatahi stayed and maintained the fires. When others sold land to clothe their families, her granddaughter Merehapi dressed in sacks (Sinclair 2002, 53). The land block on which the marae stands, Raketapauma 1G1, was established as a reservation by our Koro in 1965. He continues to be the largest shareholder. My line holds land for the People, because we were constituted by it to do so.

Our Koro, the only living grandchild, was raised at Raketapauma in a weatherboard house called Poupoukuia. At the time, Poupoukuia housed many: his maternal grandparents; mother Kataraina; maternal uncle Ruka Pēpene and wife Moe (daughter of Mareikura); their child Lena (the girl who in 1935 would become Te Karere); and a number of whāngai (foster children). The house was later joined to the north by a wharepuni.

Riripeti was the child of Keru (son of Mareikura) and Ellen (Koro's paternal first cousin). At times, she lived at Raketapauma in the care of Ruka and Moe. When she died in 1945 aged 12, she became Te Whetū. The wharepuni to the north of Poupoukuia is named in her honour.

Before Koro was born, other buildings were found to the southeast of Poupoukuia, just downhill from the urupā and our little chapel of Hato Ruka. My father (Pā) has a photo (circa 1900) of people in front of one such building, Naumai. The pictured include Koro's grandparents (Merehapi and Ruka Te Puhaki), great-uncle Te Whango, and Kataraina's older siblings (Herena and Ngatoka). It is like (but not) one of a number that Koro reclaimed through conflict with the Whanganui Regional Museum (Gray 1992). The photo is unusual in two ways. First, though some photographers had reached the Whanganui River, few had made it to the mountain. Second, Māori in the 1900s lived with a high incidence of digestive, miasmatic, and respiratory disease likely due to long-term impoverishment (Gray 2007). The subjects' European dress and visible health indicate the family's comparative wealth.

Raketapauma is a place by and for which I am tasked with writing this work. In foregrounding this place, I recall my line's privilege. I exist, because it exists. Such privilege lacks purpose if benefits remain undistributed. I am required by Raketapauma to account for my existence, to do more than consume. Mine is to be the voice of a special current, an ethical impetus that calls the human parts of the land to order. I seek recognition of our role as teina (junior sibling/cousin) to the plurality of lifeforms. It is tika that we protect them.

One day, I will be a constituent of this place. I will enter the urupā, be buried shallow. When viewed from the outside, my responsibilities will be complete. Yet, even in death, I am charged. The ngeri (chant), *Ripiripia*, describes what will happen next. Blood and bones will be nourishment for the detritivores and decomposers. I will prompt my Beloveds to feel, to suffer with one another and with others. They will leave circles of kawakawa (*Macropiper excelsum*) before walking away. If someone looks for me, they will see only soil. I will be re-presented to the viewer as Raketapauma.

2.3 Settlement Day

On 10 March 2018, descendants gathered at Raketapauma for the signing of the Ngāti Rangi Deed of Settlement. In Naumai's place stands a large wharepuni named for the eldest of Taiwiri and Uenukumāhoenui's children. As first-born, Rangituhia is tuakana (senior sibling/cousin) and holds seniority. Rangiteauria is teina to Rangituhia and tungāne (male sibling/cousin of a female) to Uenukumanawawiri. Uenukumanawawiri is teina to Rangituhia, and tuāhine (female sibling/cousin of a male) to Rangiteauria. For the purpose of settlement, Ngāti Rangi are identified by our descent from Taiwiri's ancestor, Paerangi (New Zealand Government 2018a, cl 1.3). We are te aitanga (the progeny), nga ai (or ngāi, the reproduced), nga ati (or ngāti, the offspring)[22].

The wharepuni's construction was a family affair. Pā's tuakana Peter Reo Te Kooro, an uri (descendant) of Te Whango, led the committee. Pā managed the operations. The husband of Mā's cousin built the house. One Saturday, Uncle Tahu (uri of Rangiteauria and grandson of Mareikura) oversaw the building's opening. There was dawn's light, bare feet, and the puhi, a prepubescent female of the tuakana line.

Like all the marae buildings, Rangituhia faces northeast. It comprises of a māhau and carpeted assembly hall. The main double doors are centred in the front wall. A single exit is to the northwest in the rear of the building. There are few windows: one casement to the right of the main entrance, and four awnings in the rear. The interior is white with chipboard accents and built-in seating. I am unsure how many we can sleep, but there is likely a legal limit. The whare (building) is very, very big.

The unusually high-pitched gable is somewhat functional. In winter, snow slides down the red iron roof to land in piles away from the sides. In summer, the interior is shaded, cooled further by air circulated through open doors. The main difficulty is cleaning and maintenance. An aerial work platform (otherwise known as a cherry picker) must be sourced to change light fixtures. This is a less than feasible solution for more mundane matters. Our Nan hated spiderwebs and the māhau is a constant reminder of our failure to remove them.

Whare whakairo (carved houses) are uncommon in the central North Island, partially as consequence to the burning that accompanied the Main Trunk's development.

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[22] Williams (1957) uses the macron for the plural definite article (ngā) in some cases, but not in all (nga). Neither Ngata (1993, 479) nor Ryan (1994, 46; 200) use a macron. Comparatively, Te Taura Whiri i te Reo Māori (2012) always uses a macron. The difference may be related to dialect (different communities speak differently) or a matter of language shift. The example of nouns 'ai' and 'ati', however, is settled by those who apply the (non-official) double vowel orthography. Hence, 'nga ai' (or ngāi) and 'nga ati' (or ngāti) (Williams 1957, 19).

Rangituhia, however, is a carved house, its modern style the work of one uri, an artist trained at Te Whakarewarewa (Rotorua). The carved post at the front is of Te Huiatahi, grandmother of Te Whango and Merehapi. She is cast as “the revered Ngāti Rangi ruahine” (New Zealand Government 2018b, 2), an older woman of some renown. But she stands in place, because she was feared and powerful. She could call the weather and make land fallow. Dogs were her only company through snowy winters. She foretold the colonisation to come. She protects us.

Her hair is styled into a tumuaki, a plaited crown behind which backbone ascends to the roof. When facing the house, the left amo (bargeboard support) is of Rangiteauria. Following our tikanga, the teina carries the art of weaponry. It is why the kaikaranga speak by his side. The right amo is of Rangituhia. The tuakana’s role includes negotiation, hence the pae whaikōrero (seat of debate) is to the right. The pare (door lintel) is of Uenukumanawawiri. At the roof’s peak sits Paerangi. It was correct that Settlement Day was held within his purview.

About five metres to the west is the wharekai (kitchen/dining room), Naumai Te Aroha. Named for Naumai and another long-gone building (Te Aroha), it has three rooms (southwest to northeast): a cooks’ area with gas rings and boiler; a kitchen with a stove, commercial oven, pantry, and double sink; and a dining room that sits 100. A covered porch off the cooks’ area offers additional preparation space and dining, connecting the wharekai to the ablution block. The floor is concrete, the water pumped from tanks. Naumai Te Aroha is a serviceable space.

For Settlement Day, a large marquee was set-up with mattresses southwest of Hato Ruka. Army tents provided cover around the marae in case of rain and extended from the dining room to provide additional eating areas. Another was placed between the dining room and Poupoukuia for washing dishes. After, men in fatigues would arrive to pack and remove the tents.

We arrived in time for the first haka pōhiri (welcoming chant). An aunt who teaches did the karanga in the Whanganui style, each call comprising of a single breath and purpose. The manuhiri were a mix from near and far. During the speeches, I held Daughter in my lap below a line where 10 flags flew. The Ngāti Rangi colour has white letters on navy. Our smaller, Rangituhia one has a rainbow on light blue. ‘E Te Iwi Kia Ora’ is the Māramatanga flag, a gift from the prophet-king Tāwhiao to Mere Rikiriki. The others were new to this place, a reminder of the stories the Settlement amplified and those it condensed. Beneath clear sky, Koro Ruapehu shone brightly in the distance. My back ached a little from the ground's gradient. It was good to stand and sing for our last speaker.

After, there was a reset for the Crown. We wandered up to the urupā to say hellos and thank yous, arriving back to the marae after the karanga began. A different aunt was calling, the most senior kaikaranga of the iwi (confederation). Aunty is from Raketapauma and has a method unique in Ngāti Rangi: function, biography, and wairua blended into long, multi-breath phrases. It was an approach that worked well with her correspondent, the kaikaranga working together to build the whaikōrero space sonically. Although trained predominantly in the common Whanganui style, I enjoy listening to the different ways women speak from the pae (seat of authority). It was particularly good to hear variation from an official narrative in the first voice of the Settlement process.

I didn't stay to hear the whaikōrero, but pulled off my skirt on the way to the wharekai. When rolled, it fits in my pocket. The cook's area and extension were busy, full of faces of whom I knew but few. In the kitchen, I found the sinks free, so set to work. Within half an hour, the first problem arose. Wastewater was coming up through the floor outlet. As instructed, I did a hot water and bleach flush, mopped the floor, and placed cardboard over the wet area to reduce risk. In the process, I found places that needed scrubbing and ordering, so set-up the teaboys' area. That finished, an uncle popped his head through the window to say there was a problem with the drain. The cousin in charge of the Day's maintenance called the plumber. He didn't completely solve the issue, so the Army brought in their white van of fluorescent-wearing experts. In the meantime, water was not to be drained out of the sinks.

The cooks were using the kitchen's southeast wall for insulated food containers. A large food display cabinet filled part of the wall, so a cousin and I rehomed it in the cooks' area. We moved a table to make a kitchen line. Now the wall only held two tables, a similar-sized freezer, and the insulated containers. Two food preppers immediately occupied the tables and freezer. The room was more functional.

After service began, I provided support to the wait staff and teaboys, ordered, and moved uneaten food from servingware to storage containers (down-plating). Misplaced things required homes. Boxes of dirty servingware needed carting to the dishwashing tent. One of the uncles said I had the frame of a boxer.

Throughout my time in the kitchen, I saw perhaps three who might appear at a Raketapauma working bee. As the mobile aspect of the land, the Home people were needed out front. Most of the workers doing service and dishes were aged under 25. Some of the 30-plus group had never been to our marae before. The kitchen provided them all a way to contribute to an event that was 28 (or 35 for me) years in the making. Everything and everyone had a place.

After much trial and error in our place-making, we have become cogniscant of what it means to be tangata whenua. In practising our tikanga – the rites of welcome, the rituals of mourning, the ceremonies of commemoration – we meet our responsibilities to those who were here before. In recognising ourselves, we accept the speaking rights of and duty to them. Home is never terra nullis, but terra aliquis (another's land). Whether birds or (other) ancestors, the Unseen is remembered.

3. Constituting a Text

3.1 Naming

Raketapauma is the name of both the marae and the landblock. Many years ago, I had a conversation with one of Ngatoka's whāngai about that name. Puffed up on my newfound reo skills, I made a suggestion. Koro Peehi smiled and shook his head. With hands swaying like trees in the wind, he told me Raketapauma combines one English (racket) and one Māori word (pāpāuma). The latter is *Griselinia littoralis*, an apparently noisy plant that grew nearby in the times of the Old People. I think spaces become places on naming. In giving Raketapauma its name, the Old People made a place.

Like the story of Raketapauma's naming, this research combines English and Māori. The perspective is very much grounded in the latter, requiring me to constantly identify layers, to consider different connections. However, the language of transmission is English for two reasons.

The first reason for writing this research in English is rhetorical. I wish to make the work accessible to as many people as possible. In 2015, the three languages with the most speakers were Mandarin (874,000,000), Hindi (366,000,000), and English (341,000,000) (National Geographic 2015). Of these three, I am only fluent in the third. The second reason for writing in English is personal. I am one of only two people in my family who can read proficiently in a language other than English. The number of speakers of te reo is growing, but still small. My family and hapū (both at and beyond Raketapauma) gifted time and support during the project's development. I will not exclude them.

The decision to write in English affects how I must treat subject and agency. A 'subject' may be simply grammatical in that they are the "performer of an action" (Chandler and Munday 2016, para. 4). They may be distinguished from the known, passive object as the knowing (Cartesian), active self. The subject could be viewed as a poststructuralist rejection of the Enlightened, autonomous individual, in favour of "the product of the conjunction of history and the unconscious" (Buchanan 2018d). Alternatively (or additionally), they might be under the jurisdiction of a nation-state.

Agency is "the degree to which a subject is able to determine the course of their own actions" (Buchanan 2018a). Agency is posed conceptually in opposition to structures that may affect that degree, such as the institutions of democracy, heterosexuality, and paid employment. Similarly, language may condition a subject's action.

Language patterns affect what a subject can say and think. For example, English speakers tend to use more agentive language ('dropped it' versus 'it dropped'; 'killed' versus 'died') than speakers of other languages, like Japanese and Spanish (Fausey et al. 2010). Agentive descriptions influence the attribution of blame and punishment (Fausey and Boroditsky 2010) (and presumably reward). Further, those exposed to such agentive frames pay more attention to and have a better memory of individual subjects when events are accidental (Fausey and Boroditsky 2011). As a function of language, English speakers may require agency to be explicated before we can fully comprehend danger. To ensure a wide audience, our narratives need heroes and villains.

In electing to write in English about a controversial topic, I will explicitly identify an agent for others to blame and punish. This is to prevent the construction of an external villain in this narration of the current ecological disaster. In English, 'I' is the singular first-person nominative pronoun. 'Me' is the accusative. What I have to say may be uncomfortable at times, but it is not intended as a judgement of others' behaviour or opinions. If there is a judge, it shall not be me, for that is who is named the accused.

3.2 English

As a second-language learner, I seek accuracy about the small things in language whilst sometimes failing grammatically. Moreover, my history as a marae-raised person compels me to find the whakapapa of English and the words it collects. I accept that the genealogy of English names Proto-Indo European (PIE) as tūpuna. PIE is a proto-language, “an unattested language, spoken at some time in the past, from which a family of known languages is taken to be historically derived” (Matthews 2014c, para. 1). PIE was reconstructed in the 19th century by comparative philologists who studied “regular correspondences among sets of sounds … to reconstruct genetic relationships and the shifts responsible for the present differentiation of languages and dialects” (McArthur 2003c, para. 2). It is “posited as a source for all the Indo-European languages” (Matthews 2014c, para. 1) of which there are several hundred.

English is a western member of the Indo-European Germanic branch. It has had three primary phases[23] influenced by various acts of imperialism. English has collected many words and phrases from the resulting interactions with other languages. The chronicle of English words can be considered from their proto-language to their current usage through etymology.

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[23] The first linguistic period is known as ‘Old English’. The Old English (or Anglo-Saxon) language arrived in Britain from northern Germany in early 400 CE (McArthur 2003b), and was influenced by the spread of Christianity. Subsequent to the Anglo-Saxon conversion, the Latin alphabet largely replaced its written runic form. Although now a dead language, the Old English first-person, plural pronoun ‘wē’ became the ‘we’ we use today. During the Norman Conquest, Duke William II of Normandy (a region in the north of 21st century France) defeated the last Anglo-Saxon king, Harold II, at the Battle of Hastings in 1066. This signalled both a linguistic and cultural shift.

Following the Battle of Hastings, the 400-year linguistic period of ‘Middle English’ began. Changes included a weakening of duality. Where Old English had dual pronouns like “wit” (first-person dual, *māua* or “we two”) (Linguistics Research Centre 2020y) and “git” (second-person dual, *kōrua* or “you two”), Middle English had only single and plural (Linguistics Research Centre 2020i). More significantly, there were “borrowings, mostly from French, that transformed English from an almost wholly Germanic Language to a language of mixed Germanic-Romance composition” (McArthur 2003b, para. 6). The resulting tongue consisted of four primary dialects, but lacked the prestige of Latin and French. Thus, Middle English was “the language of a conquered people, [having] scant literary and official appearance in documents during the two centuries after the Conquest” (McArthur 2003d, para. 3).

Etymological studies, like all academic works, are culturally-informed. My statements of English word origin and history, for example, draw on Uncle Tahu's pattern and the discipline of linguistics. In the latter case, I am learning to follow conventions, such as the use of an asterisk to indicate hypothetical forms (McArthur 2003a). Furthermore, I am conscious of terminology. Thus, an individual PIE component (or lexical entry) is called an etymon. Etyma are categorised into semantic fields, or groups of related meaning. Words that derive from an etymon are called its reflexes.

To illustrate, **stā*- or **stə*- is the PIE etymon meaning "to stand" (Linguistics Research Centre 2020w). The etymon belongs to the semantic field of spatial relations under the subcategory "to stand". An Old English reflex is 'under-standan' (to understand). Two Middle English examples are 'destitute' and 'distant'. 'Constitute' is a Modern English reflex.

4. Constituting a Settlement

4.1 A Quiet Conversation

A few years after Rangimotuhia's revelation, Paul (son of Māreikura) spoke to my father about Te Wai ā-Moe. Koro Paul knew Pā had been researching whakapapa and a landblock near Ruapehu's crater lake, so had a quiet conversation. The Olds rarely give commands – our tikanga allows the most senior to be silent if they choose – but simply lay ideas for consideration.

The third linguistic period, 'Modern English', has two parts. Early Modern English (mid-15th to late-17th century) spread with the English Renaissance, the printing press, and an "increase of national pride" (McArthur 2003b, para. 7). Examples include Shakespeare's works, the King James Bible, and Hobbes' *Leviathan*. By the 1700s, the English language was a globalised, imperial tool, shipping words like their objects home from the colonies. This (Late) Modern English has collected and composed new words "by analogy (*carbon monoxide*) … acronym (*AIDS*) … or by classical borrowing (*rabies*, Latin for rage)" (McArthur 2003b, para. 9).

Pā had been farming for some time at Kuratahi, so we had an almost middle-class stability. I always had shoes on my feet (and newspaper at the toes), food in the school lunchbox (with Weetbix for bread), and a roof overhead. We had resources at a time when others struggled. Koro Paul's conversation inspired a new purpose. We were to be reconstituted.

4.2 Deeds of Settlement

A deed is a legal instrument that "must be in writing, executed, and delivered" (Property Law Act 2007, s 9). A deed includes recitals (purpose of transaction), an operative part (for example, land transfer), the premises (description of parties and transaction), and testimonium (Law 2018b). Interestingly, "constructive delivery [of a deed] involved (in strict theory) touching the seal with the finger, and saying words such as 'I deliver this as my act and deed'" (Law 2018b). Promises within a deed are called covenants. The use of a deed over another type of instrument (for example, a contract) for settling historical grievances in New Zealand can be seen as symbolically referencing the primary document, "te kawenata o Waitangi – the covenant of Waitangi" (Orange 1980, 71).

Te Tiriti o Waitangi (the Treaty of Waitangi) is "a founding document of government in New Zealand" (Keith [1990] 2017, para. 2). It exists as a consequence of a number of other texts, including He Wakaputanga. Initially signed in 1840, Te Tiriti reaffirmed existing hapū rights and allowed the British Crown "te Kawanatanga katoa o o ratou wenua" (Waitangi Tribunal, n.d.c) or "complete government over [the] land" (Kawharu 1989). Almost immediately, Crown breaches of the covenant began. Consequential to activism and cultural shifts, Parliament passed the Treaty of Waitangi Act 1975, which established the Waitangi Tribunal "to make recommendations on claims relating to the practical application of the Treaty and to determine whether certain matters are inconsistent with [its] Principles" (Long Title).

Claims are allegations of breaches by the Crown of Te Tiriti received by the Waitangi Tribunal. 'Historical claims' are breaches that occurred before 21 September 1992 and submitted before 1 September 2008 (Waitangi Tribunal, n.d.b). Claims filed after this date are defined as 'contemporary claims'. To register a claim, applicants must meet certain criteria (for example, be Māori). Registered claims are allocated Wai numbers and grouped together with others related by issue or inquiry district.

For example, Wai 151 is the “Ngāti Rangi Comprehensive claim” (New Zealand Government 2018a, sub-cl 13.2.2[a]). It was registered in July 1990 by my Pā, Koro, and two others on behalf of the descendants of Rangituhia, Rangiteauria, and Uenukumanawawiri. The claim concerns land taken under public works legislation for defence and state forest purposes. Wai 151 is included in the Taihape district inquiry (Wai 2180) and appears in reports on Waiōuru defence lands (Heinz 2009). Likewise, it was referenced in the Tribunal report on Te Kāhui Maunga (Waitangi Tribunal 2013, 8). It is also one of nine historical claims that were settled by the Ngāti Rangi Deed of Settlement.

Deeds of Settlement are instruments for resolving historical claims for breaches of Te Tiriti o Waitangi “by providing some redress to claimant groups” (Office of Treaty Settlements 2018). They are the bases for statutes that bind the settlements (and thus its parties) legally. One of the “key settlement policies” is the Crown’s preference “to negotiate claims with large natural groupings rather than individual whānau or hapū” (Office of Treaty Settlements 2015, 27). This means claimant groups must address one another’s “overlapping claims or interests … to the satisfaction of the Crown” before settlement negotiations may begin (Office of Treaty Settlements 2015, 27). When claimant groups meet the Crown’s conditions, they may become settling groups.

Up until 2008, settling groups entered into Deeds with “Her Majesty the Queen in right of New Zealand” (for example, New Zealand Government 1995; 1997). In 2008 and 2009, Deeds were signed with the “Sovereign in right of New Zealand” with reference to “the Crown” (for example, New Zealand Government 2008, cl 12.6). Since 2010, settling groups have signed with ‘the Crown’.

The Crown is identified in the Ngāti Rangi Deed of Settlement’s first schedule (New Zealand Government 2018c, cl 6.1) as per the Public Finance Act 1989 (s 2[1]) and, thus, “means the Sovereign in right of New Zealand; and includes all Ministers of the Crown and all departments”. As defined by the Constitution Act 1986 (s 2[1]), “the Sovereign in right of New Zealand is the head of State of New Zealand”, Elizabeth the Second. Deeds of Settlement require recognition of the Crown as sovereign and, therefore, can be understood as restatements of claims to sovereignty.

In form, Deeds of Settlement contain a negotiated account of the historical breaches and an acknowledgement of wrongdoing (recitals). Specific means of redress are recorded (operative part). Further, settling groups are defined (premises).

Ngāti Rangi, for example, is defined as “the collective group *composed* of individuals who descend from one or more of Ngāti Rangi’s ancestors; and every whānau, hapū, or group to the extent that it is composed of [those] individuals … and every [one of those] individual[s]” (New Zealand Government 2018a, cl 13.6; emphasis added). The wording is likely standard as Ngāti Porou is similarly described: “the collective *composed* of individuals who descend from one or more Ngati Porou tipuna; and every whanau or hapu to the extent that it is *composed* of [those] individuals” (New Zealand Government 2010, sub-cl 8.6.1; emphasis added).

Comparatively, Waikato-Tainui is defined as “the Waikato descendants of the Tainui Waka who suffered or were affected by the confiscation of their lands … being the following [list of] hapuu” (New Zealand Government 1995, cl 34). This differs from other raupatu (confiscation) settlements. For example, the definitions of Tūhoe (New Zealand Government 2013, cl 8.4) and Te Ātiawa (New Zealand Government 2014a, cl 8.6) follow the standard format. The Ngāi Tahu Deed appears to be a transition towards that construction, identifying the iwi as “the collective of individuals who descend from the primary hapū of Ngāi Tahu, Ngāti Mamoe and Waitaha” (New Zealand Government 1997, cl 1.1).

The primary difference between the Waikato-Tainui, Ngāi Tahu, and standard definitions is the emphasis on the individual. In the Waikato-Tainui case, the iwi is defined as a collective of collectives. In the Ngāi Tahu case, the individual is a descendant of a collective. In the standard definition, the iwi is a collective of individuals and the individual a descendant of one or more individuals. Further, the individual is identified in its own sub-clause (New Zealand Government 2010, sub-cl 8.6.2; 2013, sub-cl 8.4.3; 2014, sub-cl 8.6.3; 2018a, sub-cl 13.6.3).

Politics is “the activity through which people make, preserve and amend the general rules under which they live” (Heywood 2000, 33). Settlements are a political act. At its broadest level, a polity is a “political organization” (Linguistics Research Centre 2020p) or “politically organized society” (Calhoun 2002b). In the more specific sense, it is “the set of political institutions within a society” (Abercrombie, Hill and Turner 2006), “a complex of decision-making roles that relate a society to the goals of its individual members through collective decisions" (Darvill 2009). The common exemplar for a polity is government.

A constitution "constitutes a polity" and asserts its existence (Hemberger 2004, para. 5). It marks that existence through a claim to "its own sphere of authority" and development of a "vocabulary"; "both the identities one can claim and the claims one can make in the political sphere, are, at least, in part, constitutionally constructed" (Hemberger 2004, para. 5–7). More conventionally, a constitution is "the rules and practices that determine the composition and functions of the organs of central and local government in a state and *regulate the relationship between the individual and the state*" (Law 2018a; emphasis added). It provides the rules that control how rules are made (Heywood 2000, 196).

New Zealand's constitution is found in multiple sources, including the Constitution Act 1986, unwritten conventions, and Te Tiriti (McSoriley [2000] 2005). Like another constitutional source, the Electoral Act 1993, Deeds of Settlement that employ the standard definition regulate the state's relationship with targeted individuals. As such, Deeds of Settlement become constitutional in New Zealand when they are enacted. Further, the shift to an individual emphasis in Deeds of Settlement reinforces a state-informed definition of the self over an Indigenous one.

A secondary difference between the Waikato-Tainui, Ngāi Tahu, and standard definitions are the verbs used to acknowledge (or deny) the subject's agency. The Waikato-Tainui definition suggests a restriction on agency. It identifies people who have 'suffered or were affected by' confiscation. To 'suffer' is to "undergo, endure; tolerate, allow" (Hoad 2003h). Although the last two synonyms ('tolerate, allow') favour a more active stance, the addition of 'affected by' in the Waikato-Tainui definition indicates a more passive role.

Similarly, the Ngāi Tahu definition recognises those who 'descend from the primary hapū'. From the Latin *descendo* (meaning "to climb down, come down … fall, sink") ("Descendo," n.d.), the verb in this context is passive. Although a subject's agency is present in acknowledging descent, none is required in being born.

Likewise, the standard definition's 'composed of' is less agential and more descriptive. Related to the PIE etymon **paus*- (meaning "to free, let loose") (Linguistics Research Centre 2020n), compose means "put together, make up"

(Hoad 2003a). Like constitute, compose is “concerned with parts making up a whole”, however, it “is usually used in the passive and *constitute* in the active” (Manser 2011). Where the passive ‘compose’ is non-intentional and neutral in temporal terms, the active ‘constitute’ indicates an intentional act.

4.3 A Different Definition

In scrutinising the Deeds of Settlement, I “bear in mind the purpose of the settlement processes in the first place: reparations for Crown breaches of its promises in the Treaty of Waitangi and, more broadly, socio-political reconciliation between Crown and Maori [sic]” (Hill 2014, 7). Reconciliation is a summoning, the related PIE etymon **kel*- meaning “to call, cry” (Linguistics Research Centre 2020k). Like our Aunty’s karanga that brought the kaikōrero (long-form orators) to Raketapauma on Settlement Day, the Deeds should call parties to respectfully engage.

Instead, the Deeds of Settlement (and resulting statutes) offer a questionable construct of settling groups. They promote state-induced identities over those made in hapū. Though settling groups may be viewed as subjects – grammatically, in Cartesian and structuralist terms, and as state-legitimated entities – the Deeds’ wording suggest they lack agency. Given the language of engagement, the non-agentive construction appears odd. Moreover, as deeds can only be undertaken between parties with the ability to act, agency is actually required. A Ngāti Rangi definition with a stronger sense of agency (and without the individual emphasis) might read: ‘Ngāti Rangi is constituted by the polity who descend from one or more of the settling group’s ancestors’.

This definition makes four suggestions. First, Ngāti Rangi is intentionally constituted. As the Waitangi Tribunal (2013, 65) notes, there was a period when “Ngāti Rangi’s identity was subsumed under the Whanganui River connection. When the Whanganui River Trust Board was established, [we] affiliated more with [our] central river tūpuna, Tamaūpoko, and referred to [our]selves as Ngāti Tamaūpoko rather than [our] mountain identified Ngāti Rangi”. After many years of research, we came to know ourselves again as “a distinctive group that stand[s] strong as a separate entity” (Waitangi Tribunal 2013, 65). To constitute something is to make something stand. Our ‘standing strong’ is a reconstitution, the intentional making of something to stand again.

Second, the definition suggests that those ‘who descend from one or more of the settling group’s ancestors’ are a polity. The form is that of a ‘nation’, its term rooted in the Latin *natio* and its “verb ‘*nascor*,’ I am born” (Hroch and Malečková 2001, 203). Reflecting the etymology, early usage of the term “has the connotation of a political community shaped by common descent, at the minimum by a common language, culture, and history” (Habermas 1998, 399). Contemporaneously, nation refers to a group (or groups) of people who occupy a given territory (Johnson 2000, 204) and “possess the consciousness of a common identity, giving them a distinctiveness from other peoples” (Bealey 1999, 219).

Hence, the polity that constitutes Ngāti Rangi is organised by whakapapa – the descent ‘from one or more settling group’s ancestors’ – tikanga, and ahi kā. Traditional decision-making roles that form our institutions include ringawera, rangatakapū (“middle age group of leaders” [Che Wilson 2010, 21]), and pāhake (elders). Chairperson of the Ngāti Rangi Trust (the body that managed claims and received mandate to negotiate settlement) and trustee of Te Tōtarahoe o Paerangi (Ngāti Rangi’s post-settlement governance entity) are two newer roles.

Third, in constituting Ngāti Rangi, the polity is asserting its authority, claiming an independent domain, and developing a political lexicon. The physical boundaries of the domain are articulated in a number of ways, such as ruruku (incantations), waiata, pēpeha (“tribal maxims” [Che Wilson 2010, v]), and (most recently) Statements of Association (New Zealand Government 2018b, 4–13). Hence, the domain has been acknowledged by the New Zealand state in the Deeds of Settlement (see New Zealand Government 2018a, cl 4.21) and Recognition (New Zealand Government 2018b, 15–56; also see 2–3). The political lexicon incorporates identities that are defined by “Ngāti Rangi and its three subsections Ngāti Rangiteauria, Ngāti Rangituhia and Ngāti Uenukumanawawiri” (Waitangi Tribunal 2013, 33). In response to the ‘large natural grouping’ required by Office of Treaty Settlements’ policy, other identities have been embraced, including Ngāti Patutokotoko (New Zealand Government 2018a, sub-cl 13.6.2[l]).

Fourth, the definition submits that the polity has engaged representation. A constituent, “having the power to frame a constitution”, is “one who appoints a representative” (Hoad 2003b). The nation-polity is the “constituent hapū” (New Zealand Government 2018a, cl 1.8) who have appointed a ‘large natural grouping’, Ngāti Rangi, to represent us to the Crown. The intention of this appointment is to complete settlement of historical claims. In the process, we have reconstituted an entity.

In Roman law, to constitute (*constituere*) is to “create a legal situation, relation or an obligatory binding” (Berger 1953, 409). The Ngāti Rangi Deed of Settlement constitutes a legal situation between a settling group and the New Zealand settler-state, but it has the ability to do more. The Deed implicitly recognises the constitution of a polity. It acknowledges that hapū are constituents, that the authority to negotiate with the Crown is a representative one. However, the Deed could further explicate its acknowledgement, thereby accepting the specific purpose of Ngāti Rangi in the everyday life of the People.

4.4 Identity & Responsibility

We are Ngāti Rangi, “descendants of Paerangi the God of the Milky Way …. [a] metaphysical connection [that] comes from the beginning of time” (New Zealand Government 2018a, cl 1.3). We have been here – nō konei – at the knee of Koro Ruapehu “since time immemorial” (New Zealand Government 2018a, cl 1.5). We continue to monitor the world from his peak, to offer assistance in this time of ecological devastation. These narratives are true markers of our identity. The name we use is more fluid.

When referencing our responsibilities to the Whanganui River, we are the offspring of a River tūpuna (such as Tamaūpoko). In reconstituting Ngāti Rangi, we are emphasising a different aspect of our whakapapa to meet our responsibilities to Koro Ruapehu and his surrounds. This action is not unusual.

For example, Ngāti Patutokotoko is a hapū of Ngāti Rangi for settlement purposes (New Zealand Government 2018a, sub-cl 13.6.2[l]). It is “included as a shared hapu to the extent that members of Ngati Patutokotoko descend from Ngati Rangi ancestors [sic]” (Office of Treaty Settlements 2014, para. 9). Historically, it was a flexible entity established by a diplomat capable of uniting “iwi and hapū for strategic purposes” (New Zealand Government 2018a, cl 2.41). “Its pan-tribal membership” allowed “Ngāti Rangi leaders such as Nika Waiata and Rāpera Waiata” of Raketapauma to adopt a Ngāti Patutokotoko identity in times of war (New Zealand Government 2018a, cl 2.41).

In applying a fluid approach to identity, to the narratives that we appoint to represent us, we make visible to ourselves the riverbeds on which they flow, the lights off which they reflect. The "mana motuhake of Ngāti Rangi … emanates from Ruapehu (Matua te Mana) and this responsibility has been carried from our origins as a people through to the present" (New Zealand Government 2018a, cl 1.4). We are not limited by another's claim to sovereignty, by their need for recognition. We remember our responsibilities as a People constituted by land.

For good and bad, the reclamation of "Ngāti Rangitanga (Ngāti Rangi nationhood)" (New Zealand Government 2018a, sub-cl 1.28.4) shows our trust in the words of Rangimotuhia and Koro Paul. It has meant a list of names marked 'deceased' next to Wai numbers: Matiu Mareikura (Wai 151, 277), James Richard Akapita (Wai 151), Joan Akapita (Wai 221), Noel Akapita (Wai 467), Colin Richards (Wai 554), Peter Reo Te Kooro (Wai 569), Rangitihi Tahuparae (Wai 2275) (Ngāti Rangi 2014). It has required a sacrifice of time and resources towards a common goal. It has shaped and continues to shape families, mine included. We have been remade.

5. Constituting Research

5.1 Methodologies and Methods

Constitute means to "set up, establish" (Hoad 2003c, para. 1). Our family spent years collecting prayers for my tuakana (Gray-Sharp 2013, 124). After, Koro Paul's talk established a new direction for us. Most of the time, we sat in the car while Pā attended a Land Court hearing, interviewed an informant, or met with someone who wore a suit everyday. I started taking minutes for Pā's meetings whilst in primary school. From age 14, there were holidays in Wellington at the National Archives researching land blocks. I knew how to find records in the Appendix to the Journals of the House of Representatives (the 'AtoJs'), but did not know how to drive[24]. In my adulthood, some of the documents marked 'Ngāti Rangi' became resources for assignments whilst others were used at my first job teaching in the post-compulsory sector. The Deed of Settlement is the latest in 31 years of texts I have critiqued about and for the descendants of Paerangi.

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[24] There are those who may argue that this is still the case.

Critique is "a process of looking carefully at the assumptions made about any form of knowledge …. The fundamental questions are: 'what is an authority?' and 'who shall have authority?' which means that critique is a political project" (Mayhew 2015c). In my critique of the Ngāti Rangi Deed of Settlement, I used close reading and comparative analysis to find significant patterns. Close reading and comparative analysis were the primary research methods, the techniques I used to gather evidence. The selection of method was affected by theoretical concerns. For example, methods should be valid, meaning they collect evidence that accurately represents its reality. There were practical factors in their selection, including my level of experience with the methods and the time I had to apply them. How these problems were resolved was determined by my methodology.

Methodology articulates the researcher's underlying philosophies, suppositions, and principles about research. Where methods are evidence-gathering techniques, the methodology establishes and evaluates the intended research process (Harding 1987, 2–3). The methods of close reading and comparative analysis drew on this doctoral project's methodology, particularly in its focus on a Māori worldview. The following subsections explain this methodology and its blend of Kaupapa Māori, mana motuhake, autoethnography, and narratives.

5.2 Kaupapa Māori

Amongst Ngāti Rangi, we use the term "kaupapa tangata" ("people") in the way others might use 'iwi' or 'tangata whenua' (people of the land) (New Zealand Government 2018a, cl 1.2)[25]. Kaupapa is often taken as "theme" (Ryan 1994, 26), but can also mean, "*layer*", "*raft*", or "*medium for intercourse with **an atua** or **wairua***" (Williams 1957, 107). 'Kaupapa tangata', therefore, might be considered as those layers of the land that act as vessels for and intermediaries with (kaupapa) humans (tangata).

In this research, 'Māori' and 'tangata whenua' are taken as synonyms for 'kaupapa tangata', whose bodies evidence the land's benevolence. A kaupapa tangata perspective is foregrounded in sections one and three of this chapter. These sections form part of the methodology, offering further definition to the term 'Māori' in this research's Kaupapa Māori approach.

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[25] 'Kaupapa tangata' appears as a term in other research that draws on the Kaupapa Māori methodology. According to Samu and Pihama (2007, 20), one definition of 'Māori' as "tangata, born into a geophysical cultural milieu" means "Kaupapa Māori becomes kaupapa tangata".

Kaupapa Māori is an epistemological position (Nepe, quoted in Mead 1996), which inherently privileges the aesthetics, ethics, logic, and metaphysics of tangata whenua. It responds to colonial modes of oppression by founding knowledge practices in a Māori worldview. As a research methodology, Kaupapa Māori is:

> (i) related to 'being ***Maori***',
> (ii) connected to ***Maori*** philosophy and principles,
> (iii) takes for granted the validity and legitimacy of ***Maori***, the importance of ***Maori*** language and culture, and
> (iv) is concerned with 'the struggle or autonomy over our own cultural well being'. (Smith, quoted in Mead 1996, 200)

Mead (1996) offers five relationship-based principles for Kaupapa Māori research. The first, 'whakapapa', is based on embedded and established knowledge. 'Te reo' and its struggle for survival provide a second principle. Ensuring practices impart a "sense of correctness" is the focus of the third principle, 'tikanga Māori' (Mead 1996, 215). The 'rangātiratanga' principle is related to Te Tiriti o Waitangi discourse, "community control, ethical practices and research reflexivity" (Mead 1996, 217). The final 'whānau' principle is organisational, recognising difference within whānau (extended family) and the need for collaborative, supervised efforts. Together, these principles allow Kaupapa Māori research to know (mōhiotanga), learn (wānanga), understand (māramatanga) and internalise (mātauranga) the various pathways of knowledge (Stirling in Salmond 1980).

Kaupapa Māori can be understood to be concerned with "sites of struggle" chosen on the basis of their "crisis" status and "strategic importance for ***Maori***" (Mead 1996, 208). Like settlements, the current mass extinction is such a site. It is a crisis fed by a human-centred worldview, a turning point whose outcome may be safe resolution or catastrophe. As later chapters will show, the crisis is evident in an extinction rate so high that the plurality of life is at risk. As a People whose responsibility is life-affirming, there is a threat to our ability to uphold tikanga, to exist as Māori, and to exist at all. This research presumes a Māori perspective is essential to its study, that our stories counterbalance the anthropocentricism that feeds the problem. It utilises my own experience as foundation.

The research primarily employs my experience in its conception of the world. I define my worldview as founded on a marae-based, semi-migratory upbringing (Gray-Sharp 2013). It is why our marae and Old People feature so strongly in this chapter. From my Nannies and Koros, Mā and Pā, I learnt manaakitanga ("standards and hospitality"), whakapapa (location and relationship), aroha ("connection and giving"), and wairua (Gray-Sharp 2013, 128). I am a Māmā, ringawera, kaikaranga and pouaru (widow), positions indicating responsibilities for the living, dead, and everything in between. As a person who has found steadiness in whānau when most needed, I feel a sense of home in being Māori. It is this sense, which allows me to seek what is tika whether manuhiri or tangata whenua, Other or Self.

In expanding on Mead's (1996) third principle, I define tika-nga as those rules, which demarcate what is correct to a specific context. For example, on Ma's paternal marae of Kai Iwi and Aorangi (Ngāti Kauwhata institutions near Feilding), tikanga outlines the correct procedure to be undertaken in the dining room: what is served, how tables are set, who makes the cups of tea. Whereas the rules around pōwhiri generally follow te kawa o Tainui (the protocols of Tainui), those of manaakitanga are strongly influenced by the leadership. Amongst Ngāti Rangi, the gatherers and cooks occupy their own pae, ruling over their own domains. The situation at Kai Iwi and Aorangi is similar: who is in charge of the pantry and ovens influences the tikanga of the dining room.

The responsiveness of tikanga to context conditions those sufficiently exposed to its variability. Learning and applying tikanga appropriately requires traits similar to those of our tūpuna adapting to new environments. Whether arriving at a new place, meeting new people, or setting a table, mental agility and a willingness to be subject to another's rules (whether human or otherwise) is essential. It is this willingness, which blends with my previous scholarship on Emmanuel Levinas (Gray-Sharp 2014a, 2015, 2016, 2017a, 2017b, 2017c, 2018, 2019b). Thus, the concept of "heteronomy" (Levinas 1989, 206) is considered.

Heteronomy – the rule (nomos) of other (hetero-) – contrasts with autonomy – the rule of self (auto-). It is a subjection of will to, and the "saying" (Hand in Levinas 1989, 6) of, our responsibility for one another. Heteronomy "is Desire which the approach of the Desirable exacerbates and whets, and where the approach of the Desirable withdraws in the process" (Levinas 1989, 156). Where Kant ([1785] 2015, 21) perceives a "burden", Levinas (1986) hears "goodness": "in desire the ego is borne unto another in such a way as to compromise the sovereign identification of the I with itself" (350). Heteronomy and autonomy are more extensively analysed in Chapter Six.

As a tikanga, heteronomy is not an acceptance of the oppression from which the current circumstances have evolved, but of the necessity to seek what is tika within it. It becomes the expression of obligations that come from being tangata whenua, from being of the senior line. It is a position, which works with versus against circumstances. More importantly, it is a means by which I may uphold mana motuhake.

5.3 Mana Motuhake

As Pihama (2015, 6) notes, "the development of Kaupapa Māori as a foundation for theory and research has grown from Māori struggles for tino rangātiratanga and mana motuhake". Adding to the many different interpretations (Maaka and Fleras 2000), I have described tino rangātiratanga in multiple ways: chieftainship, sovereignty, autonomy (Gray-Sharp 2011, 195–200). However, this section is based on my contribution to the second struggle, the one for mana motuhake. Here, I will describe it in relation to responsibility and mass extinction.

5.3.1 The Kīngitanga

Historically, mana motuhake appears in two moments of particular interest to me. The first, Te Paki o Matariki, concerns the second leader of the Kīngitanga, Tūkāroto Matutaera Pōtatau Te Wherowhero Tāwhiao (R. Papa in University of Waikato 2016b, 1:09:38). Like the Māramatanga, the Kīngitanga offers shelter from the forces of colonisation. Indeed, the two prophetic movements are bonded by Tāwhiao's gift, a history spoken in the wind of Mere Rikiriki's flag (see Preface). This is perhaps why the Māramatanga prophet, Mareikura, spent five months with the Fourth King in 1933 (Sinclair 2002, 82). However, where the Māramatanga is purposefully small in its sphere, the Kīngitanga's reach is extensive.

In 1858, the “Kiingitanga was established, under Pootatau Te Wherowhero, to unite and strengthen iwi” (Waikato-Tainui 2018, para. 6)[26]. Pōtatau was an accomplished military commander involved in the expulsion of Te Rauparaha (Ngāti Toa) from Kāwhia. Thus began Te Heke Mai-i-Raro, the southern expansion of Tainui. As King, Pōtatau was to “preserve [iwi] rangatiranga and their economic and cultural integrity … in the face of increasing settler challenges” (Waikato Raupatu Claims Settlement Act 1995, Preamble [b]). This task was continued by his son, Tāwhiao.

In 1870, a coat of arms was presented to the prophet and Waikato visionary Tāwhiao by two tohunga, Tīwai Parāone and Te Aokatoa (R. Papa in University of Waikato 2016b, 1:09:38). The heraldic design, Te Paki o Matariki, is a representation of sacrosanct symbols. The basis of Te Paki o Matariki is formed by the words that appear at the bottom of the ensign: “Ko te Mana Motuhake” (R. Papa in University of Waikato 2016b, 1:09:28). The symbols that sail above may be summarised (if not contained) by those words.

The symbols include the stars of Matariki (Pleiades), plants (signifying shelter, food, and clothing), a heart, and double spiral. Of greatest interest are the two figures that stand either side of the double spiral. Pei Te Hurinui identifies the left as a symbol of “misfortune” (“Aituā”) and the right as of “spirituality” (“Te Atuatanga”) (Jones 2010, 224). Child of Tūmatauenga and Hineahuone, Aituā is “so called because of the unhappy married life of his parents” (Jones 2010, 245). Furthermore, Aituā is forefather to multitudes from Tāwhaki to Te Kuraimonoa (Jones 2010, 255–256) to Tāwhiao himself. His narrative evokes the generative nature of calamity.

Te Atuatanga’s narrative is more murky. However, the two figures have been described in oppositional terms, “the good and the bad”, the “honourable and wicked” (R. Papa in University of Waikato 2016b, 44:54). Thus, Te Atuatanga may be seen as giving balance in difficult times, the immanent and the transcendent as partners in the human experience. More importantly, both are required in the manifestation of mana motuhake.

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[26] In this quote, the writer uses the Tainui orthography, that is the double-vowel is used to indicate a long vowel. In general, this thesis uses the orthography of Te Taura Whiri i te Reo Māori (2012), that is a macron is used to indicate a long vowel.

Mana motuhake can be defined per the intent of Tīwai Parāone, Te Aokatoa, and other tohunga:

> the meaning the high priests – among them King Tāwhiao – intended was: *mana*, spiritual prestige; and *motuhake*, set apart, and hence 'spiritual prestige set apart.' That is the Māori Kingship was set apart as the symbol of the spiritual and cultural life of the Māori. (Jones 2010, 224)

Issue of Aituā, Tāwhiao can be seen as generations of struggle incarnated. Here is the embodiment of misfortune and spirituality. Here is the spiritual prestige, which is born set apart. Even with only tears to sustain him, Tāwhiao had guidance to give to Te Whiti o Rongomai and Tohu Kākahi:

> maku ano e hanga i toku whare. Ko tona tahuhu he hinau, ko ona pou he mahoe, he patate. Me whakatupu ki te hua o te rengarenga, me whakapakari ki te hua o te kawariki.
> *I will build my own house. Its ridgepole and support posts will be of humble soft-woods. Those who live within it will be raised on the thin gruel of the rengarenga and strengthened on the sour fruit of the kawariki.* (Williams 2008, 5–6)

His words remind us that, whatever our station, mana motuhake gifts a place, a house we can still build, a people we can still care for. It teaches us acceptance in the face of misfortune and providence; "mauri tū, mauri ora" (Tom Roa, personal communication, March 5, 2017).

5.3.2 Te Kooti Arikirangi & Ngāi Tūhoe

The history of mana motuhake offers a second moment amongst the mist of Te Urewera. The chant *Kāore Te Pō Nei Mōrikarika Noa* (henceforth referred to as *Kāore Te Pō Nei*) encloses Te Kooti Arikirangi Te Turuki's instructions to Tūhoe. At Tawhana on 20 March 1869, Te Kooti and Tūhoe committed to one another. *Kāore Te Pō Nei* is one marker of that relationship.

Te Kooti (Ngāti Maru) was a "messenger", a brilliant military leader, and the founder of the Ringatū church (Binney 1988, 171). In 1866, he was imprisoned and sent to the Chatham Islands. After receiving and sharing visions, he escaped on 4 July 1868 with 298 others. There followed five years of warfare against Crown and Indigenous forces ending in September 1873 when he “ceased strife … [in] the presence of Tawhiao” (Binney 1990, para. 28). A quieter time began amongst Ngāti Maniapoto focused on establishing the tenets of the church and proselytising. For example, in July 1890, he opened a house at Karioi, Te Pou-o-te-Tikanga (New Zealand Government 2018a, cl 3.20). Te Kooti died on 17 April 1893 having predicted a successor, of which there have been numerous claimants.

Originally recited at the opening of Eripītana (Te Murumurunga), *Kāore Te Pō Nei* is described as a “*waiata whakaari* forecasting the future of Tūhoe in respect to their land” (Higgins 2004, 220). According to Black (2011, 10), “the waiata is about ‘telling one’s life story’; of sounds and voices of injustice; of colonisation and land alienation suffered by Māori, sanctioned in laws passed by the settler government, the effects of which echo in present day”.

The chant’s first lines show Te Kooti considering a dream from which three types of mana are referred (Higgins 2004, 221). Te Tiriti o Waitangi is the first and te Kooti Whenua (the Māori Land Court) the second. Mana motuhake is the third. As Higgins (2004, 221) states, “ultimately these will determine the boundaries of Tūhoe”.

Mana motuhake is “a political stance” (Higgins 2019, 135) that has become part of Tūhoe’s mission:

> the acceptance of obligations, duty and responsibility to the full, in order to be deserving of all the rights, entitlements and privileges that ensue . . . Mana motuhake is the politics of being Tūhoe. The integrity of Tūhoetanga relies upon the dedication of Tūhoe people to be self-governing . . . not beholden to others, and not enslaved by another ideology. (Tūhoe Establishment Trust 2011, 12)

Some 120 years after Eripītana’s opening, mana motuhake was invoked again at Te Murumurunga. In 2004, Tamati Kruger (in Waitangi Tribunal 2017, 84) spoke of mana motuhake’s creation during the parting of the primordial parents: “ka puta te tangata ki te Whai Ao ki te Ao Marama. Koina te whakapapa o te Mana Motuhake”. Accordingly, mana motuhake can be seen as that which issues from the movement out of darkness and into light.

5.3.3 Mana Motuhake: A Summary of Moments

The two moments of mana motuhake share a term that produces collective identity. The Kīngitanga was established as a "spiritual prestige . . . set apart" (Jones 2010, 224). This foundational nature is made visible in the text at the base of their coat of arms. For those of Te Urewera, mana motuhake has become "the politics of being Tūhoe" (Tūhoe Establishment Trust 2011, 12). Whether near or far from their kāinga and the forested lands that feed them, mana motuhake centres Tūhoe.

The conception of mana motuhake, informed by these moments related across time, evidences strategies for affirming life. While resistance is not required (for such assumes engagement rather than separation), there is a narrative "that creates a sense of presence over absence, nihility and victimry" (Vizenor 2010, 41). As a methodological approach, mana motuhake is a radical authority defining a common identity and emphasising continuity through "visions, words, and actions" (Vizenor 2005, 237). The resulting research reflects interdependence as the expression of a collective will founded on responsibility for place and people.

In this duty of care, I am called to protect and preserve the kāinga. The first call is of Home/Family, the human and nonhuman kin of Kuratahi, Raketapauma, Awahuri, and Hokio. The second is of the barely understood, "the space that exists between Ranginui (as Universe) and Papatūānuku (as Earth), enclosing and encapsulating the whole of existence" (Gray-Sharp 2011, 194). As whakapapa links us across space and time, my research envisions a world that affirms Life. Mana motuhake helps me undertake the task of revelation, to tell the stories that make the crisis visible to all.

5.4 Autoethnography and Narratives

There is a Whanganui tale of two tohunga, leaders of their own whare wānanga. Intelligent men, both travelled the River road by horse to attend the other's school. As they passed one another on the way there and back, they tipped their hats. Each recognised the value of the other's work and how it reflected a specific whakapapa. They understood knowledge as a cultural reflection, tika in its own context. With this in mind, we can consider the self and society. Investigations of the self can be seen as studies of society and the values in which the self has been enculturated (Boufoy-Bastick 2004).

According to Ellis, Adams, and Bochner (2011), "autoethnography is an approach to research and writing that seeks to describe and systematically analyse (*graphy*) personal experience (*auto*) in order to understand cultural experience (*ethno*)" (para. 1). Roth (2008) notes how *auto* is both technique and outcome, offering means for the Self to create whilst leaving its marks ubiquitously. Returning to the Greek, he sees *ethnography* as a method of writing of and into being a nation. In combining the two writings, he differentiates autoethnography from autobiography by assigning a protagonist[27] to the latter alone (Roth 2008, para. 8). In autoethnography, the Self is not "subject to compositional principles of the text and its genre(s)" (Roth 2008, para. 8). Instead, the Self is subject-object to life itself.

Like other forms, this expression of the lived experience requires presentation of details: events, emotions, meaning-making. In autoethnography, presentation by a vulnerable Self can facilitate storymaking, context, and polyvocality. Regarding the latter, multiple voices may be represented in the form of external sources (for example, bibliographic citation; inclusion of data from intimate others). Alternatively, or alongside, the ethnographer can represent multiple versions of themselves (for example, through literary device).

Autoethnography meets Kaupapa Māori with varied results. Whitinui (2014, 477), for example, poses "indigenous autoethnography as a resistance-based discourse" with four attributes: protection, healing, access, and problem-solving (479). If read as praxis – "reflection and action on the world in order to transform it" (Freire 2005, 51) – the four attributes may contribute a framing method. However, there appears little justification for their selection. Further, it is difficult to understand how autoethnography and Kaupapa Māori may be applied either separately or together following this model.

Stewart, Tamatea, and Mika (2015), comparatively, appear more successful in melding the approaches of autoethnography and Kaupapa Māori. In an investigation of pōwhiri in non-Māori settings, the authors employ vignettes, Derrida, and Levinas to reveal the themes of temporality and textual layering. My background finds such temporality and layering productive in narratives.

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[27] Protagonist is from *protos* ('first') and *agon* ("assembly"; "contest" [Kennedy 2010]). A protagonist is the cause of action and "the first to speak" (Hartnoll and Found 2003). They are "the chief person in a drama, story" (Deverson and Kennedy 2005b).

For example, our female line is of Huia and Pareraukawa, Tainui People who settled west of Punahau (Lake Horowhenua). The marae and its house, both named Ngātokowaru, are beside the Hōkio, a stream that connects lake to sea. The initial village was the result of negotiations with Te Rauparaha and ensured he did not enter Punahau to eliminate Muaūpoko, the Kurahaupō People who lived nearby. This story is represented in the wharepuni by the “carved effigy” of Te Whatanui (Kernot 1981, 163), who “offer[ed] to be the rata tree that sheltered” the “100 or so Muaupoko … survivors of clashes with Ngati Toa” (Ballara 1990, para. 9). Other images are less traditional. One pou (carved post) is of the missionary Octavius Hadfield. A mural depicts “modern industrial man struggling to free his spirit” (Kernot 1981, 159). Temporality is marked in Ngātokowaru through narratives that explicitly extend from Hawaiki into the 20th century and, implicitly, beyond.

Textual layering in autoethnography is “an uncertain, vertiginous telling” through the development of stories from fragments (Rath 2012, 442). When text is understood as “a group of practices signalling meaning(s)” (Mayhew 2015e), the wharepuni’s artwork can be seen as the beliefs of its master carver, Rev. Hapai Winiata, in carved form. Koro Hapai sought to “embrace our Western culture” (in Kernot 1981, 167), layering unconventional imagery and a traditional context. The artworks are visible examples of this layering, but there are others.

Te Whatanui commanded a troop that massacred tūpuna of Ngāti Rangi at Ngā Roto-o-Rangataua (Ōhākune Lakes Scenic Reserve) (New Zealand Government 2018b, 9). The house Koro Hapai carved replaces another from 1900. In response to local government pollution, the Muaupoko-Pareraukawa Action Committee to Preserve Lake Horowhenua and the Hokio Stream was established at Ngātokowaru on 15 June 1980 (Hamer 2015, 239). The puhi who stepped first into the wharepuni of Ngātokowaru in 1978 married the man who built Rangituhia.

These are texts invisible to the casual viewer, but build meaning for me as an uri. My textual layering, like the development of all human stories, is unstable and context-specific. Nevertheless, it acknowledges the height to which our tūpuna lift me; the combined depth of their narratives are vertigo-inducing. It is this emphasis on narratives that marks this chapter and, perhaps, the research as a whole. It is this emphasis on narratives that provides the strongest link between the two approaches of autoethnography and Kaupapa Māori.

According to Moen (2006), “a narrative is a story that tells a sequence of events that is significant for the narrator or her or his audience” (60). As stories, narratives “have drama, plot, explanation, and selective appropriation” (Somers and Gibson, quoted in Maynes, Pierce, and Laslett 2008, 43). In their telling amongst autochthonous communities, narratives are a space-time of social cohesion, offering the “individual story” whilst “contribut[ing] to a collective story in which every indigenous person has a place” (Smith 1999, 144).

That telling also has epistemological impact, providing “one of the key ways knowledge [is] sustained and protected” (Lee 2015, 96). For instance, in whare wānanga of Whanganui, layering in the Pīhanga (Matua te Hine) myth provides landmarks to children, ethical guidance to adolescents, and reaffirmation of relationships to adults. The declarative knowledge may eventually lead to a procedural knowledge, the process of layering itself being the last form revealed.

As relational vehicles, narratives offer a means of expressing Mead’s (1996) whakapapa principle and the oral tradition (Deloria 1995; Royal 1992). The first section’s chronicle of Raketapauma is one built on these two aspects. As creative nonfiction, narratives can examine the personal life in order to create meaning. My Settlement Day shows a People at work making a home, an alternate tale to that made by media (see McLean 2018; Staff Reporter 2018; Stowell 2018). Because my ethics are outward-facing, seeking engagement with a wide number of publics, narratives also offer a method of communicating, which may help increase accessibility. The short stories – like those of Koro Peehi, my research journey, and Ngātokowaru – respond to audiences with little interest in academic text. Narratives provide a useful link between the autoethnographic and Māori approaches.

5.5 Mana Motuhake and Autoethnography

Autoethnography and its narratives offer a means for applying mana motuhake as a research principle within the context of mass extinction. The problem’s magnitude is such that participant investigations risk blame. Research methodologies, like traditional ethnography and the case study[28], create an external object for me to accuse. In identifying the dilemma, I become a monster set apart (Hokowhitu 2016). In continuing the mahi (work) as both subject and object (Ngunjiri, Hernandez, and Chang 2010, 2), I subordinate myself to the task and those who rely upon its completion.

Following Levinas (1989, 106), this is a “substitution” of the Self for the Other. I am no autonomous, rational humanist nor man-as-matter antihumanist (Zarka 2011). Instead, here is a subjectivity “starting from the other”, revealing a “figure … in the shape of [my] responsibility for” them (Zarka 2011, 118). This subjectivity is an obligation undertaken without choice: “it constitutes *me* even before *I* begin to choose” (Zarka 2011, 118). My mahi is Saying, a subjection of will to te hunga ora (the Living), te hunga mate (the Dead), and te hunga wairua (the Inbetween). Lacking liberation, I stand obsessed, liable to answer for the deaths to come, for which I am now accused in my skin. The mastery that is my will is thus subjected.

Autoethnography helps shift the accusative[29] from ‘you’ to ‘me’. Though it may not be possible to dismantle the Master’s house with his tools (Lorde [1979] 2000), those tools may be used to build a new one. Like Tūtakamoana (son of Maniapoto) and Rangipare (daughter of Kinohaku), who built their love-nest of hīnau, I too may build a house with one of Tāwhiao’s soft-woods. Autoethnography is a tool in this task, a brace that lifts the burden from the Other allowing peace an opportunity to appear.

In saying to the whole of life, in accepting my responsibility as Te Karere’s embodiment, I emerge into the world incarnate, fleshy and vulnerable. Incarnation recurs in birth and living-after-death, in the incantations of waiata, revealed rhythms flowing in space. Here life is ‘divine’, related “to shine … sun … [and] deity” (Linguistics Research Centre 2020f). Complementary to the mystery of death, life is orā, shining in the sun.

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[28] Hoskins (2010), for example, is theoretically based in Levinas’ work and uses a case study methodology. She argues: “case study does not define a method of inquiry/analysis but suggests an interest in an individual case, and is, therefore, a choice taken in relation to what is to be studied, rather than any methodological or theoretical orientation. What differentiates the case study then from other qualitative strategies is an interest in an individual case and its context” (Hoskins 2010, 95–96).

[29] The accusative, in this situation, evokes both a claim of wrongdoing and a grammatical case. It is an example of the layering used in this section.

My acceptance of the wehi (awe) stimulated in ihi's[30] aura, a temporality for the divine, is a matter of divergence from Levinas who denies a sacred numinosity (Valevičius 1987). In remembering the stories of Tāwhiao and Te Kooti, in accepting my role as Te Karere's envoy, I take God in Man to indicate that this life, that these bodies, are amazing and as worthy of protection as the soul.

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[30] Ihi is translated in may ways, but 'separate' and 'sunbeam' seem most pertinent to this discussion.

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Chapter Three: He Manuhiri

It was a hot summer day on the Awa. Curves led us along the River Road, sometimes casting dust to blue sky. The on-road kōrero had been preparatory: our assessments were waiata analyses and I had elected *Kikō*. I maintained (and still do) that this particular mōteatea (chanted poetry) is like all speech acts in the reo: it offers more than a single interpretation. But now – after a quick stop at the BP Anzac Parade for koha[31] – Cousin and I were cruising. We arrived well in time to pull on black skirts.

Large trees stood at the marae edge, several providing breaks to the west between the wharepuni and grey papa cliffs above. Birdsong hung in the northeast corner, irregularly sweeping across a red roof to branches behind. Flashes of dark and light, iridescent green and blue, accompanied the announcement. The local tūī (*Prosthemadera novaeseelandiae*) were congregating.

Below, women and a single male stretched out of cars. Students of Ngā Muka are actively encouraged to practice our skills, so some of us would be speaking today. Despite years of it, I was feeling a little insecure. Fortunately, other cousins were more confident. When the first call was made, numerous voices responded.

"A loud and complicated mix of tuneful notes interspersed with coughs, grunts and wheezes" (New Zealand Birds Online 2013, para. 4) remained unrecognised as reo pōhiri. Territorial beasts, particularly in nesting season, the tūī were unhappy. They dived low in warning, brushing the sky with black until just before the first man stood. When it was our turn to sing, the cantor selected a standard piece. That choice was to receive commentary.

Kikō, at its first (some would say, sole) level, is a waltz of birds. The tīwaiwaka, huia, and tūī gather with others. Descriptions of variety in appearance, voice, and habit populate each line. It is an old waiata of the Māramatanga later taught and amended at some of the Māori boarding schools[32]. Given our avian companions during the pōhiri, the tutors nominated it the logical choice. We were to consider context before speaking.

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[31] Koha is a contribution and "gift" made by visitors in "respect" to and "regard" for hosts (Williams 1957, 123).

The words proved a long-lived lesson. Whether ceremonial or academic, we are invited to acknowledge current circumstances in public speech. It is why my reo pōhiri changed when I became a widow. It is also why this thesis is shaped so strongly by experiences that occurred during its writing.

Beyond the words lay another lesson. Whereas a manu is a 'bird', hiri (or hihiri) means 'laborious' and 'longed for'. Though some could name a tūpuna on a wharepuni wall, we were all manuhiri during that pōhiri, uninvited guests on tūī homelands. Every day we are offered the opportunity to consider where we are, who we are with, and how our relationships are constituted.

1. He Manuhiri: An Introduction

This chapter reflects my time as a manuhiri in Santiago attending a conference on ethnography during my second year of doctoral enrolment. The manuhiri role can be difficult; travel is work, the destination a distant desire. The role is also duty-bound: to enter another's māhau is to submit to their tikanga. In that submission, we are expected to recall what we learn, to feed others with our hosts' stories in order that they may be widely known.

I chronicle here my time as a manuhiri in four parts. Firstly, the core of an article published in the journal of the conference expresses my responsibility as guest of the Mapuche to tell their tales (Gray-Sharp 2019). Within I offer a different form of autoethnography, one that begins with the tangata whenua and the effects of Chile's settler colonial history. Secondly, I interrogate ethnography and my academic community, personal narratives blending with citations. Thirdly, I introduce non-agential responsibility through a description of a specific event. In conclusion, I recognise my method's whakapapa as offspring of an imperial tool.

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[32] For a version by Queen Victoria Māori Girls' School, see Delma Rae (2012).

2. Kia Tae Pākoro

2.1 Introduction

The International Contemporary Ethnography Across the Disciplines Association (ACEAD) is a New Zealand-administered network of academics. The incorporated society is "dedicated to ethnography: its inquiry, scholarship, performance, and knowledge-making" (International Contemporary Ethnography Across the Disciplines Association 2014b, cl 3.0). Established in 2008, it holds biannual conferences in the Southern Hemisphere known as 'CEAD hui'. The 2018 event was held from 21–23 November at Santiago, Chile.

This section stories the environment within which the CEAD hui 2018 was held. It discusses the history of settler colonialism in Chile, the problems of Via Chileña and the suffering of La Araucanía. It reflects my time as a manuhiri in Santiago. It recognises my autoethnographic method's whakapapa as offspring to a tool of colonisation. Hence, it offers a different form of autoethnography, one that begins with the tangata whenua, the people of the earth.

2.2 Remembering Camilo: Part one

When Camilo Catrillanca (24) died, he had one son and a pregnant wife. He was Mapuche (People of the Earth), one of the Indigenous nations of Chile. A ceremonial dancer and speaker of his ancestors' tongue, Mapudungun, Camilo lived in La Araucanía, a region almost 900 kilometres south from the capital of Santiago.

I never met Camilo nor visited La Araucanía, but felt them call months, perhaps years, before my arrival. At a conference in 2016, I met a woman of Wurundjeri. She told me that, up until the 1980s, Māori new to Melbourne would find her people to make acknowledgements and receive a Welcome to Country. Then it stopped. Patterns of movement change, but the tikanga still seems ethical and sensible to me.

On 9 August 2018, I posted to the CEAD hui Facebook page:

> Good day Colleagues,
>
> I am seeking your advice. I will be arriving early into Santiago and wish to acknowledge the indigenous peoples of the area (or, at least, avoid places that they would prefer I did not visit). The Santiago Metropolitan Government provides official information on communities and sites that the state recognises. As is the case with most things government, the information has its limitations, but it has helped me understand some basic things. For example, I now know my accommodation is near an area marked as comunidades indígenas of the Aymara.
>
> I have no verbal Spanish and do not wish to interfere with our colleagues who are busy organising the conference. However, is it appropriate to visit their office and give my first acknowledgements? Or is it better to make acknowledgements at the comunidades near where I will stay?
>
> Many thanks in advance for your communal knowledge.

At the bottom, I left a link to the Santiago Metropolitan Government's indigenous peoples' webpage. Less than an hour later, after some Internet trawling with the aid of Google Translate, I added a comment:

> I was intending to visit the ruka at Parque O'Higgins on 14 November, but that currently appears impossible (https://radiojgm.uchile.cl/machi-jorge-quilaqueo-estamos.../). If other attendees are arriving early and would like to join me, or simply would like to share a coffee, please feel free to leave a comment.

The word 'ruka' was my first connection to the Mapuche. My paternal grandfather is the last of a genealogical line called 'Ruka'. I was raised upon and still hold responsibility for those lands. In Mapudungun, a ruka is "a traditional Mapuche hut made from wood and mud" (Coles 2001, para. 5). But when the word first found me, I did not know it referenced a structure of Chile's largest indigenous nation. I just thought I had to find the ruka because it said 'home' to me.

A day later, one of the conference organisers replied to my post and recommended a contact. I began an email conversation with and was welcomed by that contact, a

Mapuche sister (lamgen). She later taught me and brought me into Santiago's Indigenous community. It is an act I will one day reciprocate not as researcher, but as lamgen. As such, I recognise and share in her mourning.

That sharing is why I am able to offer a different form of autoethnography. In arriving laden with and aware of our own sorrow (tae pākor*o*), we can see it in others. It is the grieving for a beloved. It is the longing for home. It is the willingness to see, hear and do. As manuhiri and lamgen, I acknowledge my responsibility to the Mapuche as kaupapa tangata, as those who tae pākoro. In thanks for their generosity, this writing is a contribution towards the "development of global indigenous strategic alliances" (Smith 1999, 108). Moreover, it is tika.

2.3 An Unsettling

Chile, like New Zealand, collects Indigenous data based on self-identification. In 2017, Chile's population was 17,574,003 of which 2,185,792 (12.4 percent) identify as Indigenous (Instituto Nacional de Estadisticas 2018b). They are the Peoples ("pueblo indígenas u originarios") who descend from pre-Columbian collectives, maintain a distinctive philosophy, and for whom the land is foundational to their existence and culture ("para quienes la tierra es el fundamento principal de su existencia y cultura") (Instituto Nacional de Estadisticas 2018b, 16). Nine Peoples are recognised by statute and in the Census: Aymara, Colla, Diaguita, Kawésqar, Lican Anai, Mapuche, Quechua, Rapa Nui, and Yagán o Yámana. Additionally, 28,115 belong to Peoples that are categorised as 'other' (for example, the peoples of Karukinka) and 67,874 state no name. The Mapuche is by far the largest people at 1,745,147.

Like the narratives of my own Peoples, the Mapuche have stories marked by settler colonialism. The 1641 Treaty of Quillen (amongst others) confirmed Spanish recognition of Mapuche territorial authority and created a border between the two sovereign nations at the Bío Bío River. However, the late 1700s saw a shift in policy. There was the rise of scientific racism and the Spanish American wars of independence (Overfield 2011). The Chilean settler state's 1818 Declaration of Independence was recognised by Spain in 1844, and neighbouring Argentina became constitutionally independent in 1853. The resulting border artificially split the Mapuche nation in two (Minority Rights Group International 2018). Worse, Mapuche territories were invaded and annexed through force by the Chilean and Argentinian settler states from 1862 to 1885 (United Nations General Assembly 2017).

The campaign for the Pacification of the Araucanía Region ran from 1861 to 1883. Its intent was “to conquer usable land and was driven by an ideology that sought to eliminate indigenous groups by ‘civilizing’ them” (Museo Chileno de Arte Precolombino 2012, para. 1). The Pacification was successful in the dispossession of native lands from nonhumans and humans alike. Largely rural, the most populous city of La Araucanía is Temuco. The city is named for a swamp myrtle (*Blepharocalyx cruckshanksii*) — ‘temu’ in Mapundungun — and its water (‘co’). However, “swathes of Mapuche territory have been converted into large-scale commercial pine and eucalyptus plantations owned by forest and timber companies” (Moloney 2010, 449). Indeed, “in the last 50 years, monoculture pine and eucalyptus plantations have replaced the biodiversity of the original forests” (Youkee 2018, para. 6). Consequential to agriculture and logging, the temu is registered with the International Union for Conservation of Nature and Natural Resources (IUCN) as near-threatened (González 1998).

The temu’s Mapuche caretakers were confined to approximately 3,000 reducciones (reservations) (Minority Rights Group International 2018; Rodriguez and Carruthers 2008). Those reservations were progressively expropriated until the people occupied around “five percent of their original territory” (Rodriguez and Carruthers 2008, 4). Such acts did not destroy them. Patricio Guzmán Campos’ (2012, 75–91) photography from 1967 evidences a Mapuche community at Capitán Pastene (La Araucanía) alive and well. By 2010, approximately 60 percent of Mapuche were urbanised (Moloney 2010), most in Temuco, Santiago, and Concepción (east of the Bío Bío estuary) (Minority Rights Group International 2018). Despite the physical distance, the Mapuche maintain their obligations to the land and nonhuman kin.

Like my own Peoples, the Mapuche recognise and give respect to the interrelationship between all life forms. Armand Marileo Lefío is Ngenpin (“Ancestral Spiritual Authority”) for a community near Lake Budi in La Araucanía (Lefío, n.d.a, para. 1). The Ngenpin states that “the mapuche culture is intrinsically inimical to competition and power. It is premised on solidarity and reciprocity, and guided by a communal project of ‘preserving the earth and nature for all time’” (Lefío, n.d.b, para. 31). Hence, “the occupation and commercial exploitation of their land, with the adverse environmental consequences that go with intensive commercial land usage, is … viewed by sections of the Mapuche as an attack on their essential values and even on their very right to exist” (United Nations General Assembly 2014). From the early 1970s, Mapuche responses to this attack have included “land seizures, strikes, and protests” (Rodriguez and Carruthers 2008, 4). Unfortunately, the attack on Mapuche values would become just one of many made by agents of state organisations from 1973.

2.4 Wednesday 14 November

I had arrived in Santiago on 13 November a wee bit under-prepared. For example, I am not a cell phone person. My lack of cell awareness means I had no roaming (nor charging) plan. Hence, the walk to town relied on long-lost map-reading skills. I did not get too lost, but there was an unplanned stop outside Museo Chileno de Arte Precolombino, an institution for collecting artefacts from Chile’s Indigenous Peoples. At the Auckland Museum, as at Te Papa, some of the taonga (treasures) mumble. I moved along in case a tūpuna had left something for me to hear in Chile.

I was heading for Museo Nacional de Bellas Artes (the National Museum of Fine Arts). At 3pm, there was to be a walking tour that would teach me how to use the Metro, Santiago’s subterranean rail system. In the meantime, I wandered through an exhibition dedicated to the surrealist Roberto Matta. Born and raised in Chile, Matta emigrated from Paris to the United States in 1939 (then back to Europe in 1948). He denied (and was denied by) his homeland after the rise of a military regime (Kimmelman 2002). Nevertheless, the exhibition attempted to pin Matta to Chilean history (Museo Nacional Bellas Artes 2018). This hunger for national pride was on display throughout my weeks in Chile.

2.5 Via Chileña: Dictatorship and democracy

On 11 September 1973, General Augusto Pinochet commanded a coup d’etat that resulted in 17 years of authoritarian rule by a military junta. The Government Junta comprised of the heads of four-armed forces (air force, army, navy and police) who formed the dictatorship’s legislature and (until December 1974) executive. The ‘lucky’ (if such a thing exists) escaped. Political refugees found exile abroad, returning for the General’s 1988 plebiscite defeat and the establishment of a post-dictatorship administration (Wright and Zúñiga 2007). The unlucky did not. In all, 40,018 people are recognised as victims of the regime, suffering kidnapping, detention, torture, attempted assassination, forced disappearance and execution (*BBC News* 2011). At least 3,065 did not survive. One hundred and sixty-two Mapuche casualties are commemorated by Meli Che Mamüll, a memorial in the Temuco park of Isla Cautín (Ñuke Mapu 2018). Some of the dictatorship's victims died (or 'disappeared') at the hands of the Chilean police (Human Rights Watch 2003; Inter-American Commission on Human Rights 1986).

Since 1927, Chile has operated a police force with military status, the Carabineros. The Carabineros is led by a General Director, one of the Junta four. The force exists to give effectiveness to the law, to guarantee public order and internal public security ("existen para dar eficacia al derecho, garantizar el orden público y la seguridad pública interior") (La Constitucion Politica de la Republica de Chile[33], art. 101). They are expected to be essentially obedient, non-deliberative, hierarchically-organised and disciplined professionals ("son esencialmente obedientes y no deliberantes … profesionales, jerarquizadas y disciplinadas") (La Constitucion Politica de la Republica de Chile, art .101). They are organised so that they have "a presence in virtually every town, village, and hamlet of Chile" (Central Intelligence Agency 1987, 7).

The Carabineros' power is pervasive. For example, the National Security Council was established under Chile's Constitution of 1980. As consultative board to the President, the Council is arguably the country's most powerful body. The four offices of the Junta are all voting members, alongside the President, Presidents of the Senate and Supreme Court, and Comptroller General. Like the other members, the Carabineros' General Director has influence over the President in the exercise of his or her[34] functions (La Constitucion Politica de la Republica de Chile, art. 106). The Council and this power continued subsequent to the return of democracy.

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[33] An online version of La Constitucion Politica de la Republica de Chile (last modified: 2017) is available at https://www.leychile.cl/Navegar?idNorma=242302&idVersion=2017-05-04. A Portable Document Format (PDF) version is available at http://www.dt.gob.cl/legislacion/1624/articles-81837_recurso_1.pdf.

[34] Although there is awareness in Chile of nonbinary genders, two genders and traditional gender roles are normative. For example, all the symbols for women (mujeres) in Census 2017 have skirts (Instituto Nacional de Estadisticas 2018a). Given the norm, the use of binary possessives for the President reflects the oppression of nonbinary persons. No presidential candidate would consider their pronouns

In 1989, Chile held its first elections for representative government since the Chilean presidential event of 1970. Patricio Aylwin became president on 11 March 1990. However, "considerable space [in the Constitution] is devoted to the doctrine of national security, controlled and interpreted by the armed forces, as the permanent guiding principle of national political life" (Central Intelligence Agency 1988, 9). Thus, the new Chilean democracy was a compromise led by the regime between opposition parties (Foxcroft 2017). Constitutional changes were required prior to the regime change.

These "pacted negotiations" for a smooth transition from the dictatorship (Foxcroft 2017, 73) were part of a "conspiracy of consensus" (87). When seen alongside a history of oligarchies (Motyl 2000) and "inequality … a social ill stemming from colonialism" (Diaz 2010, para. 2), the conspiracy's intentions become clear. They continue a longstanding tradition of *Via Chileña*, "the cycle of impunity, memory and governability employed by the political elites to ensure stability" (Foxcroft 2017, 58). It continues today. To illustrate: Andrés Chadwick was "a vocal supporter of Augusto Pinochet" whose regime "named him president of the Catholic University Students Federation" (Kozak 2018, para. 2). Chadwick and Hernán Larraín defended Colonia Dignidad, an enclave "established by the fugitive Nazi officer and paedophile Paul Shäfer" and later used "to torture and murder opponents of the regime" (Kozak 2018, para. 3). In 2018, Chadwick became the interior minister and Larraín the justice minister in President Sebastian Piñera's second government. The powerful in Chile retain power[35].

The latest manifestation founds itself on the dictatorship's laissez-faire economic liberalism. Indeed, the Constitution "emphasize[s] the pre-eminence of the economic philosophy of [the] Pinochet regime, making clear that the state should play only a limited role in the economy" (Central Intelligence Agency 1988, 10). Sergio de Castro, a Pinochet finance minister and "the main architect of the neo-liberal revolution", was one of the first Chileans to study under Milton Friedman at the Chicago School of Economics in 1956 (Silva 1996, 519). Consequently, the regime-initiated transfers to the private sector of economic rents through privatisation of state assets, sale of "high-yield copper reserves to transnational corporations without regard to underlying asset value", and "virtual tax-free" grants to private sector mining (Cypher 2004, 529; see Silva 1996; Sigmund 2009). In opposition to public opinion (Cypher 2004), social spending (education, health and social security) slowed considerably for decades. This has had an effect on the Chilean population.

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[35] Pinochet ceased to be the country's political leader in 1990, but remained military commander-in-chief until 1998 and subsequently received immunity from prosecution (Cviic 2000). Although final authority of a murderous regime, he died in 2006 (aged 91) having never been convicted of any criminal act.

There is high income inequality. The gap is "more than 65% wider than the OECD average, with one of the highest ratios between the average income of the wealthiest 10% of its population and that of the poorest 10%" (Organisation for Economic Co-operation and Development [OECD] 2018b, para. 6). A rise in average per capita income of 105.3 percent between 1970 and 1998 can be noted (Cypher 2004). However, this did not filter to wages, which were only 29.5 percent greater. Some improvements have occurred subsequent. Between 2001 and 2017, the minimum annual salary rose from USD[36]4,449.80 (~NZD[37]6,562) to USD7,086.20 (~NZD10,450) (OECD, n.d.). Nonetheless, in 2006, many households were still sensitive to poverty line adjustments; "an increase of 25% in the poverty line cause[d] an increase of about 50% in the incidence of poverty" (Larrañga 2009, 10).

The common remedy is education, but there are barriers. In 2017, the average years of schooling for people aged five or older was 10.02 years (Instituto Nacional de Estadisticas 2018b). Only the wealthy receive quality (Goldman 2012). In a 2015 four-level reading assessment for upper secondary students, almost all of the richest students achieved Level 2 (94 percent) (United Nations Educational, Scientific and Cultural Organization [UNESCO] 2015). In contrast, just over half of the poorest learners achieved the same level (55 percent). Transition to higher education is wealth dependent. For example, 65 percent of the richest students (age 18–22) attended higher education in 2015. Comparatively, only 35 percent of the poorest did the same.

Lacking effective distribution of high-quality schooling, assertions of education's transformative capacities become conjecture. In Chile, there is no evidence of education's effect on movement within "a hierarchy of privilege" (social mobility) (Scott 2015d, para. 1). Indeed, any Chilean social mobility appears "inconsequential, because it takes place among classes that share similar positions in the social hierarchy of resources and rewards" (Torche 2005, 422; see OECD 2018a).

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[36] United States dollars.

[37] New Zealand dollars.

Nevertheless, the OECD (2018a, 2) proposes Chilean education reform “to ensure upward job mobility opportunities”. While half of the Chilean adult population have “low literacy skills” (OECD 2018b, para. 6) and equity policies continue to be “subject to state income as a share of GDP” (OECD 2018c, 63), any reform is unlikely “to alleviate the burden of unfavourable starting conditions in life” (OECD 2018a, 2).

2.6 Friday 16 November

On Friday afternoon, I followed my feet to the Museo de la Memoria y los Derechos Humanos (Museum of Memory and Human Rights). The Museum is dedicated to publicising the “systematic human rights violations by the Chilean state between 1973 and 1990” for the purpose of “ethical reflection”, so that it may happen “Never Again” (Museo de la Memoria y los Derechos Humanos, n.d., para. 1). The grounds are large, occupying half a block. On foot, the entrance is from the southwest corner. The south courtyard is a tiled slope of light grey. On a long wall, the Spanish text of the Universal Declaration of Human Rights is formed in brass. The four floors of the main building are to the west and an auditorium to the east. A grey block (most likely offices) joins them, floating above the north courtyard. There, a large structure breaks the concrete with unvarnished wood. It is a ruka not yet ready for visitors. I stopped for a cup of tea at the café before heading into the main building.

The displays are frequently bilingual (Spanish and English), the foyer an introduction to genocides around the world. The first floor focuses on 11 September 1973. The second floor discusses the rise of democracy. The top floor hosts a temporary exhibit on the United Nations Declaration on the Rights of Indigenous Peoples. In the basement, there is an exhibit of one torture camp. A scale model centres the room while interviews with survivors play on the walls.

Alongside my grief, I felt empty edges to the narrative. What came before 11 September 1973? What happened between the coup d’etat and the 1988 plebiscite? International perspectives are limited to media and Central Intelligence Agency reports describing the regime and its democratic transition. Missing are the stories of the “silent diplomacy” that maintained the military dictatorship; the Reagan administration “went so far as to refine the US’ official diplomatic rhetoric, refusing to refer to the Pinochet regime as ‘totalitarian’ and instead dubbing it an ‘authoritarian’ regime” (Ortega 2010, 31).

There are many heroes in the tale and only one villain. But prevention of oppression requires social change not simply the absence of an individual personality. I think, for healing, it would be good to hear the voices of the military personnel and the ordinary people, those never imprisoned but constantly aware of the possibility. This was a situation that brought out the worst in some and suppressed the best in others.

Subsequent truth commissions, like the bodies that produced the 1991 Rettig and 2003 Valech Reports, did not allow wrongdoers and their witnesses an opportunity for change. Indeed, the Rettig Report provided a platform for the Chilean military to "vehemently reject" any recommendations (United States Institute of Peace 2003, para. 15). A similar argument could be made for our own Waitangi Tribunal where the Crown rejects sovereignty claims, attacks decades of hapū research, and ignores uncomfortable recommendations that are nonbinding anyway. There has to be an alternative.

2.7 La Araucanía

Outside the Via Chileña boardrooms, other negotiations were underway. Pressured by the Mapuche and seeking constituent support, Aylwin's 1989 New Imperial Pact promised Indigenous Peoples constitutional recognition and protection (Pereyra-Uhrle 2006; United Nations General Assembly 2017). Neither eventuated.

Instead, Law 19.253 was passed, a 1993 statute to promote Indigenous Peoples' development. Its passage undoubtedly provided a framework for Chile's later support of the United Nations General Assembly's (2007) Declaration on the Rights of Indigenous Peoples and the International Labour Organization's (2017) Indigenous and Tribal Peoples Convention (C169). However, Law 19.253 "imposes a series of limitations on indigenous people's property rights" (Pereyra-Uhrle 2006, 142). Moreover, matters of development, property, and "title cannot be treated in isolation from other issues such as poverty" (Pereyra-Uhrle 2006, 142).

La Araucanía is "home to the majority of the country's Mapuche [and the region] is the poorest in the country, with nearly a quarter of its residents living below the poverty line" (Pullella and Charme 2018, para. 16). In 2017, the region's population was 957,224 of which 34.3 percent identified as Indigenous or Native (Instituto Nacional de Estadisticas 2018b). The proportion of Indigenous people living in poverty or extreme poverty in La Araucanía was almost 41 percent in 1996. As lonko (leader) Juana Calfuano Pailleff describes, the situation had not improved by 2001:

> We live in extreme poverty. We've got no electricity or running water. We have to draw water from the nearest river and we've been requesting electricity for the past 12 years, to no avail.
>
> I live in a ruka … with only the earth for the floor. We live in rukas partly because that's what we're used to, but mainly because we haven't got the money to build proper houses. (Coles 2001, para. 4–5)
>
> In 2011, the proportion of Mapuche living in poverty or extreme poverty was still over 24 percent (Valenzuela, Toro, and Rojo-Mendoza 2016, 533).

This poverty is an example of how settler colonialism is "violently enacted through institutions' structures, discourses, ideologies, and practices" (Kauanui 2017, para. 3). It is violence as "the cause of the difference between the potential and the actual, between what could have been and what is" (Galtung 1969, 168). Subject-less, it is "built into the structure and shows up as unequal power and consequently as unequal life chances" (Galtung 1969, 171).

Structural violence in La Araucanía is positive in that "elimination is an organising principal … rather than a one-off (and superseded) occurrence" (Wolfe 2006, 388). As J. Kēhaulani Kauanui (2016, para. 4) states, "the logic of elimination of the native is about the elimination of the native as native." Relationships between land and its communities (such as native forest ecologies) are being destroyed and replaced (with, for example, monoculture plantations). Where Indigenous communities have not been summarily liquidated, Unsettler society has attempted to replace connections to land with "biocultural assimilations" (Wolfe 2006, 388).

Thus, regional disparities in both relative income and multidimensional poverties are observed. Alongside income, La Araucanía is a region with the highest "deprivations in education, health, jobs and social security, housing, and network and social cohesion" (OECD 2018b, 29). Indigenous Araucanían are "certainly poorer" (Valenzuela, Toro, and Rojo-Mendoza 2016, 533) and, "while education helps indigenous sectors to increase their incomes, the evidence shows that these are not comparable with those earned by the non-indigenous group" (536). This structural violence is intended to maintain existing hierarchies (not support movement) and ensure the "power to decide over the distribution of resources is unevenly distributed" (Galtung 1969, 171). As Edward Said (1989, 207) notes, the result of assimilation does not mean there are less categories to fill: "to be one of the colonized is potentially to be a great many different, but inferior, things."

Structural violence operates in conjunction with personal, physical methods. Whilst Via Chileña contributes to the structuring of stable government and impoverishment, the Carabineros provide the "personal somatic violence" (Galtung 1969, 174) necessary to maintain social control. Carabineros violence has not been limited to Indigenous people; "political opponents" (Central Intelligence Agency 1987, 11) and student movements (Goldman 2012) have also been targets. However, the Mapuche are victimised frequently enough to be an identifiable group.

La Araucanía has been a site of the police's Grupo de Operaciones Policiales Especiales (GOPE) (*TeleSUR* 2018c, para. 2), a "small elite antiterrorist unit" established under the dictatorship (Central Intelligence Agency 1987, 11). Its effect has been lethal. Jamie Mendoza Collío died from being shot in the back by a GOPE officer in August 2009 (*Cooperativa.cl* 2010; *El Mercurio Online* 2009). He is one of the 16 Mapuche "murdered at the hands of state security forces since the return to democracy in 1990" (*TeleSUR* 2018f, para. 7). In June 2018, President Piñera announced "a special Carabineros force to fight more effectively the rural violence in the area of the so-called Mapuche conflict" (*Santiago Times* 2018c, para. 1). Nicknamed "Jungle Command" (*TeleSUR* 2018f, para. 1), the presence of this special section of the GOPE drew dissent. The "police unit … constitutes a permanent threat, violating [the Mapuche] right to live in peace, violating the rights of … [Mapuche] children, women and the elderly" (*TeleSUR* 2018b, para. 3).

Past experiences inform present realities. A 2004 report suggests that Mapuche "women, children, and old people often bear the brunt of the distress caused by the incursions of the police" (Human Rights Watch 2004, 43). In 2010, the UN heard specific examples of Mapuche children in La Araucanía being shot, and unarmed prisoners being beaten, by the Carabineros (United Nations General Assembly 2010). Following the December 2016 police shooting of a prostrate Brandon Hernández Huentecol (age 17), the UN received a request that the "Chilean State desist forthwith with all acts of torture and all cruel, inhuman or degrading treatment such as firing lead shot at members of the Mapuche communities" (United Nations General Assembly 2017, 4). Most horrifyingly, "documented cases of police brutality against Mapuches abound" (Witte-Lebhar 2012, 2).

When anatomical targeting (such as "*piercing*" with bullets) fails or is unavailable, physiological strategies (such as "*denial of movement*" via detention) can be applied (Galtung 1969, 174). The Prevention of Terrorism Act (Law 18.314) was introduced by the dictatorship in 1984 "with the clear purpose of severely penalizing any rebellion against the regime" (United Nations General Assembly 2014, 9). The statute grants procedural advantages to police investigators and prosecutors (for example, extended detention of suspects, correspondence intercepts, anonymous witnesses) and is "invariably used as an adjunct to a substantive criminal offence which can be prosecuted under ordinary criminal law" (United Nations General Assembly 2014, 13). Although Law 18.314 clearly "contradict[s] the principle of legality" (Inter-American Commission on Human Rights in United Nations General Assembly 2014, 11), it is still in use today (*Diario Constitucional* 2018).

The statute is disproportionality applied against Mapuche activists. For example, "the Frei government [1994–2000] arrested 12 Mapuche activists and imprisoned them under the anti-terrorism law" (Rodrigues and Carruthers 2008, 10). The law is applied alongside others of internal security. Thus, the Lagos government (2000–2006) "processed hundreds of Mapuche activists under the provisions, and several Mapuche leaders remained in prison charged with terrorist activities" at term's end (Rodrigues and Carruthers 2008, 15). Despite claims to a different direction (Rodrigues and Carruthers 2008), the second Bachelet administration (2014–2018) arrested four Mapuche in June 2016 and remanded them "on pre-trial detention orders issued under the anti-terrorism law" (United Nations Office of the High Commissioner for Human Rights 2017, para. 2). They were still detained awaiting trial when an appeal by two Special Rapporteurs was made against the law's use in October 2017.

As Ministers of State continue to publicly identify Mapuche as "terrorists" (*TeleSUR* 2018e), it should not be surprising that execution of Law 18.314 includes "undue and excessive use of force against members of the Mapuche … [that] could have negative and discriminatory impacts on Indigenous peoples that go beyond their impacts on the individuals suspected of having committed an offence" (United Nations General Assembly 2014, 16). This is settler colonialism. This is Chile.

2.8 Remembering Camilo: Part two

Camilo was a weichafe (warrior) of the autonomous Temucuicui community in the municipality of Ercilla (Mapuexpress, n.d.). His grandfather was the lonko and his father a leader. In 2011, at the age of 15, Camilo was spokesman for 30 students that occupied a local council building for two weeks. He denounced the racism and discrimination that affects adolescents in educational establishments, the police control that prevents them from moving freely in their communities, and the impossibility of appealing to a State that represses them ("el racismo y la discriminación que afecta a los y las adolescentes en los establecimientos educacionales, el control policial que les impide moverse libremente en sus comunidades y la imposibilidad de apelar a un Estado que los reprime") (Mapuexpress, n.d., para. 2). In Santiago, a young Chilean woman spoke of the Mapuche as Those Who Have Never Been Defeated. A father of one with another on the way, Camilo continued that tradition.

On 14 November 2018, Camilo Catrillanca was assassinated, shot in the back of the head by the GOPE. He was no threat driving his tractor away with his 15-year-old nephew. After, the police violently assaulted Camilo's nephew and posed the two in the media as outlaws. Politicians suggested Camilo was shot in self-defence (*TeleSUR* 2018a). Weeks of civil unrest ensued.

International media picked up the story. Police initially denied that body cameras were present but later admitted that a memory card and its evidence had been destroyed. Other videos of the incident were released (*TeleSUR* 2018g) and multiple resignations accepted: the Governor of La Araucanía, a police general and colonel. Piñera replaced the General Director of the Carabineros (Merco Press 2018). There were water cannons on university campuses and tear gas on the streets of Temuco and Santiago.

In late November, four officers were charged with homicide. Investigations began (*TeleSUR* 2018d) after reports that a police solicitor and officer-in-command ordered the officers to give false testimony (*Santiago Times* 2018b). More positively, the lower house of Chile's bicameral legislature announced a special joint session to discuss "violence in La Araucanía and the murder of Camilo Catrillanca" (*Santiago Times* 2018a, para. 1).

On 8 December, Piñera ordered the withdrawal of the GOPE from La Araucanía. However, they are to be replaced with the Carabineros Special Forces unit. Piñera has “come to the conclusion that by strengthening and reinforcing the Special Forces of the area … [the Chilean state] can obtain better results in terms of security and give greater guarantees that the procedures used will always be the right ones” (*TeleSUR* 2018c, para. 8). Camilo is not the first Mapuche to die at the hands of the Chilean state. Evidence shows that he is not the last (*Santiago Times* 2019).

3. Wednesday 21 November

There were little green flags pointing the way. Santiago has a population of over seven million. The city is big. The food is big. The clothes and shoes? Not so much. Universidad de Santiago de Chile (USACH) is more like the food and less like the shoes, so some of the organisers had cleverly devised a means to guide the conference participants to the correct venue. After introducing ourselves downstairs, we headed up.

The Salón de Honor is a small lecture theatre that feels like the venue for a meeting of nations. A multi-foot long Matta painting is centred above the table. Comfortable orange seats are ordered in rows of six around the room. The carpet is beige and the chandeliers modern. It is a place where we stand for the university song.

The 2018 CEAD hui opened with an exchange between Māori and Mapuche. I had been told that the Mapuche were going to sing for our speaker. As a result, I was a little slow to move when *Te Aroha* began and did not sing my best. Nobody left the platform at the end, so I did the typical Whanganui thing and went to the floor. My dress was appropriate in colour (black), but at (not below) the knee, so kneeling was the only modest option. Following my previous experiences in academic and pan-Māori situations, everyone else remained standing.

Photographs record the receipt of the first ‘rau’, wood hand-carved in Waikato as offerings for the hosts (Mar Jós 2018). The carver has short white hair and a matching beard. His shirt is a very light shade of pink. The trouser is a drill cargo in khaki. Dark brown shoes break the mass of beige carpet. He holds his arms behind his back and stands at least half a head taller than the woman to his right.

She is of dark hair in grey hat, black tunic and white shirt. The hat is brimless, its back decorated in red and yellow. The tunic is belted by red and white, and a matching bow holds the shoulder strap in place. Her shirt is embroidered. Most prominent are the wide chains of silver jewellery that vertically stripe her chest. Mouth partly open, rau raised in two hands, she sings to the gift and its givers.

At the ceremony's end, normal conference procedure initiated. There were welcomes in Spanish (and a quick stop out the door to find a receiver for the simultaneous translation). There were welcomes in English (and the question of whether a second song was required). At the plenary's end, we were given directions to another building. (I still needed the little green flags.)

4. CEAD Hui 2018 (Wednesday 21 to Friday 23 November)

The International Contemporary Ethnography Across the Disciplines Association (ACEAD) is an academic network coordinated from New Zealand. Following its name, ACEAD is "dedicated to ethnography: its inquiry, scholarship, performance, and knowledge-making" (ACEAD 2014b, cl 3.0). Biannual conferences, known as 'CEAD hui', provide a Southern Hemisphere equivalent to Denzin's Qualitative Inquiry Congress.

After CEAD Hui 2018 had concluded, I saw the divide between my Chilean experience and that of other attendees. To help cross it, while meeting my manuhiri obligations to make tangata whenua stories known, I wrote a journal article. Yet to find out why the divide existed at all, I had to do something else. This was an academic event, so I followed an academic procedure: I collected and analysed data.

5. CEAD 2018: An Analysis

My data came from a variety of sources. There were my notes from the 21 presentations I had attended. Though short, the Tweets included hyperlinks to some cited papers. There was the CEAD 2018 book of abstracts (ACEAD 2018). Excluding workshops and keynotes, the book of abstracts lists 118 presentations in different formats: art exhibitions, cultural presentations, round tables, oral presentations, panels, performances, posters, and "performatic exhibitions" (ACEAD 2018, 43). Of the 108 abstracts, English (57) slightly outnumbered Spanish (51). There was the ACEAD website. It includes the constitution (ACEAD 2014b), but is primarily focused on the organisation's conferences, so helpfully contains handbooks of the two previous CEAD hui (ACEAD 2014a; 2016). Content then thematic analyses were applied inductively. The results suggest two problems.

First: there is an uneven commitment to decolonial practice. Decolonisation is "a process which engages with imperialism and colonialism at multiple levels" (Smith 1999, 20). In Latin America, it is "resistance from the conquest, on the one hand, and a long history of (re)construction projects on the other" (Handelsman 2008, para. 1). Hence, it is understood as "a long-term process involving the bureaucratic, cultural, linguistic and psychological divesting of colonial power" (Smith 1999, 98). In order to see the consequences of settler colonialism, to witness the country's violence and comprehend its cause, CEAD 2018 would have benefitted from a stronger decolonial lens.

ACEAD is not abject; it acknowledges otherness and indigeneity in different ways. For example, both CEAD 2016 and 2018 included Indigenous streams "in an effort to co-learn from oral and written traditions whose voices have long been repressed by violence in colonialist agendas" (ACEAD 2016, 10). More formally, the organisation maintains a foundation in the Global South and aims "to foster and facilitate … recognition of social theory from societies outside the dominant European and North" (ACEAD 2014b, s3.1[a][3]). To that end, ACEAD (2016, 10) asserts that "since its inception as an organisation based in Aotearoa/New Zealand . . . [the CEAD hui] has advocated for a Kaupapa Māori philosophy".

Those hui have a whakatauākī (authored proverb), Pōtatau's 'Kotahi te kōhao o te ngira e kuhuna ai te miro mā, te miro pango, me te miro whero.' The whakatauākī is a footer on nearly every page of ACEAD's website. However, at time of writing (January 2019), it was misquoted and had been so for at least four years (ACEAD 2014a, 8). I made notice to the organising committee on 10 December 2018 through their Facebook page. It was not rectified before the site for the 2018 hui was disestablished.

The book of abstracts indicate that 22 of the 118 presentations referenced colonialism (post-, de-, or otherwise) (ACEAD 2018). 12 English and six Spanish presentations had abstracts. I copied the Spanish to Google Translate for readability. The final 18 ranged from descriptions of practice to interrogations of method. Some retained distance through avoidance of indigeneity. No People were discernible in nine of the 22 abstracts (five English, four Spanish). An additional English-language abstract cited an Indigenous academic, but otherwise contained no reference.

In one of the nine, Aguayo Vidal, Blanco Vargas, and Villarroel Sánchez (2018) proposed situated ethnography as an impelled response to colonial matrices and a means for social justice. The authors recognised the symbiotic relations that the inhabitants sustain with territory (land and marine): "reconocimiento de la relación simbiótica que los habitantes sostienen con el territorio/maritorio" (Aguayo Vidal, Blanco Vargas, and Villarroel Sánchez 2018). They recommended a form of place-based ethnography, so gave the land its due. But place is space after People. As with CEAD 2018 generally, I felt excitement and hope for more.

Second: there was the "authoritative, explorative, elegant, learned voice, [that] speaks and analyzes, amasses evidence, theorizes, speculates about everything – except itself" (Said 1989, 212). An alternate is the reflexive voice, the sound of critical self-reflection that locates the speaker and gives them confidence to engage ethically with others. It makes the ears open to hear stories like those of Camilo and the Mapuche. But this voice was inaudible even when the self was the object of enquiry.

Nine CEAD 2018 abstracts reference autoethnography (ACEAD 2018). I presented one (Paper Five) and attended six others as an audience member. Paper Two was withdrawn and Papers Seven and Eight clashed. Without the appropriate training, I give no commentary on Paper Nine's performatic exhibition.

Papers One (Ferrada and Bravo 2018) and Three (Espinoza Lobos 2018) were presented in Spanish in the Salón. Thanks to the venue, simultaneous translation was available via FM receivers. The result: my notes were not only quoteless, but also interpretations of a translator's interpretations. Nevertheless, the presenters and translator provided enough information to show both papers deconstructed the self in context.

Ignacio Ferrada researches haemodialysis whilst receiving dialysis three times per week (Ferrada and Bravo 2018). Originally devised as an ethnographic project focusing on kidney patients, the researcher's experience could not be ignored. Hence, Ferrada used his own life and body as an example within the framework of the psychology of health and the concepts of stress and daily life.

Michelle Espinoza Lobos (2018) explored supervising English language practicums. Referencing Ellis (2009), Espinoza Lobos views autoethnography as a highly personalised process for expanding sociological understanding. Moving from a prepared to an impromptu style, she described the return to her alma mater as a teacher to find her students had been broken by the system, by her colleagues. Espinoza Lobos does not seek to change or improve the discipline, but to try and change herself, to provide an opportunity for the students to be heard. Still, it hurts. I heard the translator in my ear, but looked up from the iPad to face the speaker and share her sorrow. We both wiped tears. Espinoza Lobos' panel presentation proved evocative in ways many keynotes are not.

Other papers were less successful. Paper Four used an autoethnographic excerpt to describe the researcher's privilege with videos that were entirely ethnographic (Dannhauser 2018). Lacking translators, Paper Six's Spanish speakers opted to present in the audience's primary language. This may be why analysis of the personal was limited and method accentuated (Zapata-Sepúlveda and Choque Cáceres 2018). The unquestionably interesting title of Paper Eight referenced 'autoethnography' and 'blackness', but the presentation focused on neither. In emphasising the cultural and theoretical, and offering little personal experience, Brown (2018) retained an authoritative distance. On a spectrum, Espinoza Lobos (2018) falls further from and Brown (2018) falls closer to more traditional forms of ethnography.

The autoethnographers were not alone in their silencing of self-reflection. I attended 12 ethnographic presentations. Although most gave fascinating talks, I can only tell what drew six of them to their selected subject. Worse, after two workshops and a keynote on autoethnography, what I know about Arthur Bochner the person is (1) he struggled with writing as a postgraduate student, and (2) he is Carolyn Ellis' partner. Where reflexivity is invisible, a misunderstanding of method might be assumed.

My own abstract was autoethnographic, one of the seven in English that interrogated settler colonialism. The paper was bilingual; partly poetic autoethnography, partly evocative, completely Indigenous. Like some of my colleagues, I acknowledged the land and her Peoples. Carrying my load, I acknowledged their mourning. That ACEAD's commitment to decolonial practice is uneven, that CEAD 2018 could have done with more critical self-reflection, is disappointing. But it is not unsurprising. To ensure sustainability, decolonising the Academy (as elsewhere) must be a matter of repetition, habit, ritual, and praxis. It just means there is more to do.

6. Thursday 22 November

To tono is to 'ask', if 'ask' means "bid, command … send … [or] demand" (Williams 1957, 436). When duplicated, the verb gains emphasis and (as is common in the reo) can be applied as a noun. My teina and I were raised as tonotono to our grandmothers, people they could ask to do things, who felt honour in being asked/commanded.

The rewards were plentiful. Nanny Pī taught me to be timely, ordered, and well-presented. She gave direction on being company to honoured guests, so I enjoy listening to stories. Despite one-on-one lessons, I still cannot make frybread, but can do her custard at catering levels (50 plates or more). Nanny Piko taught me to use words to understand something and to live after someone who made you has died. She was a terrible cook, fastidious about cleaning, and had a heart the size of a mountain. Together, these women shaped my habit of being a tonotono. It meant I was the natural choice for the job.

Tío (Spanish for 'uncle') needed assistance travelling to another part of Santiago. He had a walking stick and limited experience with the city. I had used the Metro before and had (finally) figured out how to use (Google Maps and Google Translate on) my cellphone. Though well after 6pm when we left the Museum, it was still bright outside.

After exiting the Metro across the road at Santa Lucía, we found an avenue full of women walking southwest. It was a march commemorating the International Day for the Elimination of Violence Against Women. Photos in the media focus on individuals (Bernetti 2018; *NBC News* 2018) and so miss the mass. This rally was large. Thousands of women filled the streets with colour and dancing and noise, mostly music with a background hum of people talking/shouting. But we were on a mission.

A gentleman with a Chilean flag at the lapel pointed northwest.[38] The path was around the protest. We watched the last of the rally pass followed five minutes later by shotgun-laden carabineros leading lanes of armoured vehicles. Feria Artesanal (corner of Carmen and Libertador Bernardo O'Higgins) closed about half an hour before we got there. The path had proved too long.

We were on our way back to the Metro, heading home. I thought the multitudes running towards us were just exuberant. Most were smiling, young women, long legs leaping, bright hues breaking the settling dark. There was joy and pride, then a strange sting in the nose.

White pours out of the vehicle,
the opaque smoke of
a wet-wood fire yet to reach a steady blaze.
It fills the sidewalk,
chasing limbs and colours.
I know what it is and yell him to run.

The media made a report. Some of those who had marched began to rebuke the Carabineros for Camilo Catrillanca's death, and the police responded with water truck cannons and tear gas (*TotalNews* 2018, para. 6). Although an 'innocent bystander', I understand what occurred next was intentional. The 'innocent bystander' is created by violence, in this case by the state. The state uses the 'innocent bystander' to terrorise the non-activist. Non-activists fear becoming one, so may avoid situations (like rallies) that empower them. It is an effective silencing strategy.

I lost Tío in the tear gas at Santa Lucía. We got separated when moving around a van – he went left and I right. Hotel Plaza San Francisco shut the entrance with a grate, but left a doorway for people escaping the gas. I ran around the vehicle trying to find Tío to take him to safety. It was dark and smoky and there was no sign of him. I looked back over my shoulder to the Hotel.

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[38] Weirdly, I saw the same gentleman the next day outside the conference.

Two male staff members, both in white shirts, were guarding the entrance. A young woman in cut-off shorts lifted her leg and stepped through the doorway. The men lifted a second, red grate towards the opening. There was time to go through. I looked towards the street, glanced behind at the grate, and then walked back into the dark.

Tear gas (sometimes called mace) is a chemical weapon that irritates mucous membranes. Like other "asphyxiating, poisonous or other gases", it was "justly condemned by the general opinion of the civilized world" under the 1925 Geneva Protocol. However, this condemnation refers only to theatres of war. The same prohibitions do not apply to domestic situations. One of the presenters spoke on the use of tear gas in private residences in Manila (Ishioka 2018). There is no international ban on their use in the forced relocation of vulnerable people like the elderly or children. In the Philippines, social movements form barricades with the most vulnerable at the front. It reduces the use of batons and gives a "sense of place" (Ishioka 2018). However, the police use tear gas instead. There is no injunction to prevent their employment as a response to perceived civil unrest.

Mace smolders cold; the head feels immersed in a bucket of mild acid. Uncovered hands are heavy and piercing. Moving seems to be a bad idea (but I did it anyway). Worst are the exposed orifices. Crying eyes have a reason to. The nose runs and burns. You rub and wipe, rub and wipe, but the damned spot will not leave. It is in everything.

I pulled a scarf from the backpack and ran northeast calling his name. Images of face-covered protestors played in my head, so I tried tying the scarf around my face. Fingers fumbling, I shouted and searched, until I forgot it was even there. The fabric hung uselessly from my hand, waving. I was so scared. All I could do was run in the dark and call out his name.

Like those of Ngā Muka, Levinas' wānanga offers a lesson. He was a linguist and a Talmudic scholar, and understood the world in signs. Signs are forms that we can interpret; the examples of letters, terms, and theses substitute for something else, one thing for another. That substitution ("the-one-for-the-other") is purpose (Levinas 1989, 90). It is what makes a sign a sign, what makes interpretation (indeed language) possible. For Levinas (1989, 90), "the one-for-the-other is the very signifyingness of signification!"

The sense that overtook me was an "obsession . . . irreducible to consciousness" (Levinas 1989, 91): "in responsibility for the other for life and death, the adjectives unconditional, undeclinable, absolute take on meaning" (113). That meaning was not one that I could rationally derive. I only had one word, his name, and no other to ration. That word drove me forward in the dark. It substituted for me, the tonotono whose purpose is to be commanded. I gave form to it, seen in moving arms and legs, heard in longitudinal waves decreasing into a whimper. In the-one-for-the-other, "my responsibility for the other is the *for*" (90).

Around the corner in Calle Londres, a large group of tall, young women stopped me. They spoke Spanish and pushed a lemon into my face. I felt wet mush in my nose and mouth, and froze in puzzlement. They talked and rubbed my back, but we shared no grammar. The phone had Google Translate. I needed to find Tío. I called him 'mi abuelo' (my grandfather) and said he had a 'bastón' (walking stick), so they would understand why he needed to be found.

We ran as a group back around the front of Hotel Plaza and towards the gas. A van moved up the road and I spotted him inside. A taxi driver had seen Tío when the tear gas came and motioned him into the vehicle. I hugged the women and got in the van. After, Tío cared for me. We were safe.

7. An Ethnographic Whakapapa

'Ethnography' is a noun that denotes the product of a group of different methods. Data is collected in many different ways, including participant observation, interviews and archival analysis. Data can be analysed quantitatively, although a qualitative element is often present given the social emphasis.

A singular definition proves unavailable; like other words, 'ethnography' "vacillate[s] before various possibilities of meaning" (Said 1989, 212). Ensuing from Ellis, Adams, and Bochner's (2011) conception of autoethnography, ethnography might be said to be the description and systematic analysis (graphy) of cultural experience (ethno). Applying the "reductively pragmatic response" (Said 1989, 211), ethnography could also be described as "the detailed study and analytical description of a defined social setting" (Elliot, et al. 2016; see also Brewer 2003a). Following a more "aesthetic" definition (Said 1989, 211), ethnography might be seen as "a product of the interaction between the ethnographer and a social world … crafted through an ethnographic imagination" (Atkinson 2006, 402). In any case, ethnography is a method born of and honed in anthropology.

My first degree (1994–1997) included a major in the discipline. Mid-1990s New Zealand undergraduate anthropology offered little theory, but I still read about the crisis of representation, the writing of (Clifford and Marcus 1996) and against (Abu-Lughod 1991) culture. Before embarking on the doctoral project, I completed an additional postgraduate qualification to hone my autoethnographic practice. However, by 2015 the early debates (including those with a decolonial agenda [Escobar 1993]) had become passé. In order to maintain the right to represent the other, anthropology in New Zealand had dialectically developed a fieldwork focus with thick ethnographic description. The nails dug deep into relativism; there was little space for any ontological turns. Disciplining began early. We students were actively encouraged to describe ourselves as anthropologists, to look warily upon ethnographers untrained in 'our' discipline. Although I considered a doctoral enrolment and continue to engage with (and have friends who are) anthropologists, I never identified myself as a member. Maybe there was just too much (Unsettler colonial) history between us.

Anthropology was "historically constituted and constructed in its point of origin during an ethnographic encounter between a sovereign European observer and non-European native occupying … a lesser status and a distant place" (Said 1989, 211–12). Hence, physical anthropology founder Blumenbach's typology for "European colonists" (Peregrine 2013, para. 3; see Richards 2003, para. 3). In Chile, there were the Peoples of Karukinka (Tierra del Fuego) and Darwin's "imperial suggestion in *Descent* [*of Man*] that indigenous peoples are only slightly more discerning creatures than dogs" (Day 2008, 64). Dispersal into other disciplines has not divorced ethnography from its role as a tool of empire. The Master never laid it down.

ACEAD and I are similar, maintaining an oblique connection to anthropology. However, during the hui, I began to suspect the polite distance meant ACEAD's claim to ethnography avoided the ethical implications of the method's representation debate and colonial history. At the closing plenary, I implored the international participants to take home what they had learnt as visitors to Chile. I sung to them (and mucked up the middle verse), so felt confident enough to make my request. If they could not advocate, I asked that they at least talk about what they had seen.

Later, in conversation with fellow New Zealanders, I realised that what I had seen and heard, several had not. Lacking any Spanish, the conference attendees may have missed the media; I watched no television through my whole time in Chile for that reason. But the civil unrest, the police brutality, the inequality was everywhere. Still, somehow, it all had passed them by. I needed a way of talking about what I had experienced as a manuhiri, so that my fellow participants might comprehend what I had asked of them at the closing plenary. That need was the impetus for an article (Gray-Sharp 2019) and this chapter. It helped me begin my path towards a new conception of responsibility.

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Chapter Four: He Pū Taiao

1. Introduction

A pū is an “origin” and a “foundation”, a “heap” and the “heart” of it (Williams 1957, 300). Taiao is the world (or a significant part). In developing ‘pūtaiao’ as the translation for ‘science’, linguists described a community defined by its search for a primary source.

This chapter considers scientific perspectives of anthropogenic mass extinction. It aims to (1) evidence the existence of mass extinction as a phenomenon, and (2) provide some of the background knowledge necessary to comprehend mass extinction literature. My sources tend to be very conservative (dictionaries, encyclopaedias, textbooks, highly-ranked journals, and well-known publishers) to minimise marginal opinions. As the evidence is founded in the natural sciences, that perspective is scrutinised.

Scientific hierarchies provide structure for the assessment. Since extinction is of living beings, biological classification is analysed. A basis of table 1, the International Chronostratigraphic Chart, is described. Details of previous extinction episodes offer evidence of the phenomenon in history. As mass extinctions are defined by extinction rate, calculations are explained in application and formula. The results support the scientific consensus of a sixth mass extinction (Ripple et al. 2017).

Table 1 Phanerozoic mass extinctions in the geologic timescale

Eon	Era	Period	Epoch	Age	Numerical Age (Ma)	Mass Extinctions
Phanerozoic	Cenozoic	Quaternary	Holocene	Meghalaya	0.0042	
				Northgrippian	0.00833	
				Greenlandian	0.0117	
			Pleistocene	*Upper*	0.126	
				Middle	0.781	
				Calabrian	1.8	
				Gelasian	2.58	18
		Neogene	Pliocene	Piacenzian	3.6	
				Zanclean	5.333	
			Miocene	Messinian	7.246	
				Tortonian	11.63	
				Serravallia	13.82	
				Langhian	15.97	
				Burdigalian	20.44	
				Aquitanian	23.03	
		Paleogene	Oligocene	Chattian	27.82	
				Rupelian	33.9	
			Eocene	Priabonian	37.8	17
				Bartonian	41.2	
				Lutetian	47.8	
				Ypresian	56	
			Paleocene	Thanetian	59.2	
				Selandian	61.6	
				Danian	66	
	Mesozoic	Cretaceous	Upper	Maastrichtian	72.1±	**16**
				Campanian	83.6±	
				Santonian	86.3±	
				Coniacian	89.8	
				Turonian	93.9	
				Cenomania	100.5	15
			Lower	Albian	~113.0	
				Aptian	~125.0	
				Barremian	~129.4	
				Hauterivian	~132.9	
				Valanginian	~139.8	
				Berriasian	~145.0	
Phanerozoic	Mesozoic	Jurassic	Upper	Tithonian	152.1±	14
				Kimmeridgian	157.3±	
				Oxfordian	163.5±	
			Middle	Callovian	166.1±	
				Bathonian	168.3±	
				Bajocian	170.3±	
				Aalenian	174.1±	
			Lower	Toarcian	182.7±	13
				Pliensbachian	190.8±	
				Sinemurian	199.3±	**12**
				Hettangian	201.3±	
		Triassic	Upper	Rhaetian	~208.5	
				Norian	~227	
				Carnian	~237	
			Middle	Ladinian	~242	
				Anisian	247.2	
			Lower	Olenekian	251.2	
				Induan	251.902±	
	Paleozoic	Permian	Lopingian	Changhsingian	254.14±	**11**
				Wuchiapingian	259.1±	
			Guadalupian	Capitanian	265.1±	10
				Wordian	268.8±	
				Roadian	272.95±	
			Cisuralian	Kungurian	283.5±	
				Artinskian	290.1±	
				Sakmarian	295.0±	
				Asselian	298.9±	
		Carboniferous	Pennsylvanian Upper	Gzhelian	303.7±	
				Kasimovian	307.0±	
			Middle	Moscovian	315.2±	
			Lower	Bashkirian	323.2±	
			Mississippian Upper	Serpukhovian	330.9±	9
			Middle	Visean	346.7±	
			Lower	Tournaisian	358.9±	
Phanerozoic	Paleozoic	Devonian	Upper	Famennian	372.2±	8
				Frasnian	382.7±	**7**
			Middle	Givetian	387.7±	6
				Eifelian	393.3±	
			Lower	Emsian	407.6±	
				Pragian	410.8±	
				Lochkovian	419.2±	
		Silurian	Pridoli		423.0±	
			Ludlow	Ludfordian	425.6±	
				Gorstian	427.4±	
			Wenlock	Homerian	430.5±	
				Sheinwoodian	433.4±	
			Llandovery	Telychian	438.5±	
				Aeronian	440.8±	
				Rhuddanian	443.8±	
		Ordovician	Upper	Hirnantian	445.2±	**5**
				Katian	453.0±	
				Sandbian	458.4±	
			Middle	Darriwilian	467.3±	
				Dapingian	470.0±	
			Lower	Floian	477.7±	
				Tremadocian	485.4±	
		Cambrian	Furongian	*Stage 10*	~489.5	4
				Jiangshanian	~494	3
				Paibian	~497	
			Miaolingian	Guzhangian	~500.5	2
				Drumian	~504.5	
				Wuliuan	~509	1
			Series 2	*Stage 4*	~514	
				Stage 3	~521	
			Terreneuvian	*Stage 2*	~529	
				Fortunian	541.0±	

2. Remembering: An Abstract

Extinct is that which “has burned” or “died out” (Hoad 2003d). Its Latin source, *exstinctus*, is past participle to *exstinguo*: “*to put out* what is burning . . . *to deprive of life* or *strength* . . . *to abolish, destroy, annihilate, annul*” (Lewis and Short [1879] 1891, 704). The reference of extinct to families without issue, or hereditary titles without heir, is from the 1580s (Harper 2020b). The reference of extinct to “species of animals that have died out” is from the 1600s (Cresswell 2010).

Extinction is the “irreversible condition of a species or other group of organisms having no living representatives in the wild, which follows the death of the last surviving individual of that species or group” (Hine and Martin 2015g, para. 1). The concept was debated from the mid-1600s into the 1800s as it “conflicted with a well-established philosophical idea that proclaimed the plenitude of nature and with the religious notion of the perfection of Creation” (Pancaldi 2003b, para. 1). Although an acknowledged evolutionary component since Darwin’s (1859) *Origin of the Species*, “for some reason or reasons not entirely clear, extinction largely dropped out of the consciousness of evolutionary biologists and paleobiologists” (Raup 1995, 111) amongst others for over a century.

Mass extinctions are extinctions of the greatest magnitude, occurring “when many diverse groups of organisms become extinct over short periods of time” (Condie 2011, 250). Events are “characterized by elevated extinction rates relative to background” (Hull 2015, R945). An episode is more likely when certain conditions are met: (1) “accelerated climate changes”, (2) “alterations of atmosphere composition”, and (3) “ecological stresses with abnormal intensity” (Pievani 2014, 91). The result is “an unusual decline in biodiversity that is substantial in size and global in extent, and affecting a broad range of taxonomic groups over a relatively short period of time” (Myers 1990, 176), generally below two million years (Barnosky et al. 2011), but can be as short as a few thousand (Pievani 2014).

Table 1 depicts Phanerozoic mass extinctions in relation to the International Chronostratigraphic Chart (Cohen et al. 2013; Cohen et al. 2018). The purpose of the table is to identify the approximate geochronological ages of Phanerozoic mass extinctions, hence the Precambrian is excluded. Cell, row, and column height are not indicative of geochronological unit duration, nor extinction magnitude.

The geological time data are from Cohen et al. (2013) and Cohen et al. (2018). As mass extinction research primarily measures geochronologically (versus chronostratigraphically), the sub-columns describe time in geochronological units. As only Global Boundary Stratotype Section and Points (GSSPs) define units, numerical ages are provisional. Approximate numerical ages are marked (~). Specific constraints for numerical ages marked (±) are available at Cohen et al. (2018).

Three columns are visible separated by two thick, black, vertical lines. Each column comprises of seven sub-columns. The columns describe linear time from right to left. The oldest period is to the bottom-right and the youngest to the top-left.

The first level (left sub-column) is the eon (or, in the chronostratigraphic, eonothem). The era (erathem) is the second level and to the right of the eon. The third is the period (system) and the fourth the epoch (series). The fifth is the age (stage). The sixth sub-column denotes numerical age, and the seventh indicates mass extinctions in relation to geochronological age.

Table 1 extinction data is based on Bambach (2006). Bambach (2006) is a detailed and “authoritative” (Hull 2015, R943) source that has benefited from analyses of Anthony Hallam, David Raup, and John ‘Jack’ Sepkoski amongst others. Bambach (2006, 133) detects extinction episodes at the substage level (intervals subordinate to ages) by applying multiple tabulation methods to “the Sepkoski compendium of stratigraphic ranges of marine genera”. Intervals shared by the methods are noted, “because they represent signals in the database that are so strong they appear using a variety of tabulating schemes” (Bambach 2006, 133). Of the 40 “commonalities” detected, “eighteen intervals of peak extinction magnitude and rate (the only representation of mass extinction that can be recorded in a global data base) are [identified as] the best candidates for mass extinction in the genus data” (Bambach 2006, 134).

Table 1 presents all 18 extinction episodes in the ‘Mass Extinctions’ sub-columns, but focuses on a targeted few. These episodes are traditionally recognised in the fossil record as “sharp drops in standing diversity …. clearly defined in the familial data” (Raup and Sepkoski 1982, 1502). Numbered per Bambach’s system, they are known as the “Big Five” (Bambach 2006, 130; Barnosky et al. 2011, 51; Condie 2011, 257;

Hull 2015, R942; Raup 1995, 114; see Alvarez et al. 1980, 1107). Highly supported by the literature, it is these five that are emphasised in this chapter.

Bambach (2006, 134) identifies the first of the Big Five as that of the Late Ordovician in the “mid and late Ashgillian together” or within the Katian-Hirnantian Ages[39] (table 1, number 5). The second occurred at the end of the Frasnian Age during the Late Devonian (table 1, number 7). The third is the Changhsingian (or end-Permian), “proportionally the most severe of the entire Phanerozoic” (table 1, number 11) (Bambach 2006, 137). The fourth is “the late Norian/Rhaetian” (or end-Triassic) (Bambach 2006, 138). Recent studies mark the end-Triassic extinctions insignificant (Kocsis, Kiessling, and Pálfy 2014). Furthermore, updates to the International Chronostratigraphic Chart place Bambach’s numerical ages within the Rhaetian, Hettangian, and Sinemurian Ages. Thusly the fourth episode appears (table 1, number 12). The fifth is the Cretaceous-Paleogene (or K-Pg extinction) of the late Maastrichtian (table 1, number 16) and is linked to a bolide impact, specifically that of the Chicxulub asteroid (Schulte et al. 2010).

A sixth episode remains unmarked in table 1. As extinction rates are “higher than the highest empirically derived background rates”, the evidentiary requirements have been met for its inclusion (Ceballos et al. 2015a, 1). However, the “Anthropocene” epoch to which a significant proportion of this extinction belongs has yet to be formalised (Zalasiewicz et al. 2017, 58). Preliminary findings and recommendations have been presented to the appropriate body and a decision-making route mapped with likely completion early next decade. Nonetheless, evidence of this sixth episode will be considered in this chapter.

3. Hierarchies

The story of Raketapauma’s name – bound in the sound of a windswept tree (see Chapter Two) – was given to me after I approached three people. The first was my Pā. Pā is not a reo speaker. Moreover, I am always asking him questions, so it is probable that habit factored into his response. He told me to ask my Koro. I went and found Koro. Koro has fielded less questions from me, so usually answers in surprisingly informative ways. (I have added a lot of words to my reo dictionary from our conversations). In this case though, Koro simply nodded and said it would be a good idea if I spoke to Koro Peehi. The next time I saw Koro Peehi, he told me his tale. The answer is falsifiable (19th century surveyors received the name before English speakers settled in the district), but the process was legitimate. I followed the hierarchy.

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[39] Ashgillian was a regional age of the Ordovician (449.5–443.7 Ma) (Alroy, n.d.a). Mid-Ashgillian overlaps with the late Katian. Late Ashgillian overlaps with late Katian and share its top (late age) with the Hirnantian.

A hierarchy is “a partially ordered set …. a collection of parts with ordered asymmetric relationships inside a whole” (Allen, n.d., para. 3). In contrast with alternative structures, it consists of “elements which on the basis of certain factors are subordinate to others and may be ranked” (Crumley 1978, quoted in Crumley 1995, 2). Crumley (1995) defines two forms of hierarchy: scalar and control. Whereas scalar hierarchies allow lower ranked levels to affect higher (and vice versa), control hierarchies operate in only one direction: from top down. Recognition of hierarchies can grant “legitimacy … to investigations of specific levels of analysis despite incomplete understanding of all of the levels of the system” (Valentine and May 1996, 25).

In seeking the meaning behind Raketapauma’s name, I followed recommendations from lower rank to higher rank (hierarchical referral) through a control hierarchy, a “chain of command” (Scruton 2007a) based on expertise in hapū narratives. Pā saw Koro as more knowledgeable, and Koro saw Koro Peehi as more still. However, “the relative importance of … power bases changes in response to the context” (Crumley 1995, 3). For example, levels of actual and perceived expertise can change over time. Had the information request been made to Pā now, it is unlikely any referral would have occurred. Further, a chain of command with another grounding would rank differently. If the inquiry required expertise in business, no referral would have been made.

Hierarchies are not the only (nor, it could be argued, even the most prevalent) form of structured relation. A heterarchy, for example, is “the relation of elements to one another when they are unranked or when they possess the potential for being ranked in a number of different ways” (Crumley 1995, 3). “Both a structure and a condition”, flexibility allows heterarchical relations between elements at one time, scale, or dimension to be hierarchical at another (Crumley 1995, 4). For example, the heterarchy of whakapapa (where multiple genealogical lines are available for emphasis in different contexts "to link all facets of creation in a complex web" [Mikaere 2010, para. 24]) can become a hierarchy of whakapapa (a specific line) in its articulation.

Hierarchical analyses can make visible power relations by simplifying complexity. However, by "reducing apparently diverse phenomena to some primary or basic explanatory principle" (Scott 2015f), "emergent properties" of the whole system may be overlooked (Lauden 2003, para. 4). Worse, the privileging of hierarchy over other forms of order can reinforce unconscious biases. For example, Crumley (1995, 3) notes how "societies not as pervasively ranked (not as *complex*) then appear 'closer to nature,' fostering elitism and rationalizing political and cultural hegemony". Nevertheless, the concept can be important when researching in contexts "where hierarchy is not simply one of many patterns in which elements might be ordered but a pervasive structural metaphor and a definition for order itself" (Crumley 1995, 2). The Academy is one of those contexts.

3.1 Hierarchy and the Academy

The Academy is a social institution (Scott 2015b), an emerging entity that offers hierarchical procedures for certifying membership. Admission is available to those able "to invent the university by mimicking its language while finding some idiosyncrasy, a personal history . . . and the requirements of convention, the history of discipline" (Bartholomae 1985, 135).

Successful acculturation in the Scholastic hierarchy provides a warmth symbolised in clothing: "the higher the rank of the wearer or the greater the formality of the occasion, the more layers worn" (Kerr 2005, 57). In claiming an Ancient Greek heritage whilst ignoring medieval schools and *scriptoria* (Gasparri 2005), normative behaviours recentre control into the human domain and reinvigorate social relations based on productive authorship. Scholars are readers and writers, and our histories are a collation of texts by the resourced and literate.

History is from the Latin *historia* indicating an "official" account told by an in-story narrator, and in opposition to "*istories* – the people's histories, the plurality of stories" (Lechte 2003, 105). History, thus, occupies a privileged position in the hierarchies of truth, its legitimacy reinforced through comparison with the fictional or mythical. From Ancient cyclical through Christian linear perceptions of time, historical explorations provided an initial method of medieval academic inquiry (Heullant-Donat 2005). History presented accurate “descriptions of things as they are”, “true facts” that had explanatory force upon understandings of the present (Lechte 2003, 105). When combined with the thermodynamics and atomism of the Enlightenment, academic works became a means for transporting the reader through time, making the past appear in the here-and-now. It was a modern act: the scholar “in his works [became] like God in the universe, present everywhere and visible nowhere” (Flaubert 1852, quoted in Lewis 2007, para. 2).

But expansionism eschewed a return to the past, and the search for origins (Lechte 2003) became a search for manifest destiny (Chua 2016). Funded members of the academic hierarchies – traditionally contained in institutions – left home as explorers, ready to describe, collect, and categorise. Some, like Carl Linnaeus, rode horses and carriages into Indigenous lands (Petrusson 2004). Others, like Alexander von Humboldt, Charles Darwin, and John Reinhold Forster, boarded ships to collect, claim, and distribute *Observations Made During a Voyage Around the World* (Forster 1778; see Meihana 2015; Thomas 2009). These men were experts in natural history, in areas (such as botany and zoology) that would be now classed as part of the natural sciences.

3.2 Hierarchy and the Natural Sciences

The natural sciences are academic disciplines that explore the physical world through application of the scientific method. Disciplines include biology, chemistry, geology, and physics. The scientific method uses “observation, experiment, and measurement” systematically (Kent 2007a). It is “associated with testing hypotheses based on data and thus on sense impressions” (Elliot et al. 2016). Outcomes should be independent of the subject (objective), replicable (and thus reliable), able to be generalised (externally valid), and control variables (internally valid). The knowledge produced is often empirical “acting on observation or experiment, not on theory” (Deverson and Kennedy 2005a, para. 1). However, the requirements of classification, scientific convention, and mathematics (including in laws of science) ensure rational knowledge is foundational.

The philosophy of contemporary science occupies a liminal position: “not about Truth, but Doubt; not Knowledge, but Ignorance; not Certainty, but Uncertainty” (Gee 2013, xiii). This position is not inherent. The natural sciences are historically progressive (directionalist) in agenda, maintaining continuity in a hierarchy of being that ranks from zero to infinity, from simple to complex (Browne 2003; Richards 2005; Tattersall and Schwartz 2000; see Mahoney 1987; Wilson 1987). Hence, the established "hierarchy of scientific concepts" that advances explanatory power from phenomena, classifications, and models, through to laws and theories (Scerri 2018, para. 2). New knowledge is privileged in practice; publication is "the primary means by which scientists advance" (Allis 2017, 5322). However, the intent is to contribute to the hierarchy, not undermine it.

According to Valentine and May (1996, 23), "most hierarchies in the natural sciences … involve the nesting of lower-level entities within those of higher levels". Two hierarchical divisions are constitutive (nested) and aggregative (non-nested). Constitutive hierarchies are inclusive; individual entities at a given level are "physical parts of the collectives at the next higher level" (Valentine and May 1996, 25). Comparatively, aggregative hierarchies can be viewed as "physically independent" entities collectively arranged into superordinate ones (Valentine and May 1996, 25–27). Both types of hierarchy are visible in the systems for legitimating fundamental knowledge in the natural sciences.

For example, the formalisation of the Anthropocene began in 2008 with a decision by majority vote of The Geological Society of London's Stratigraphy Commission (Zalasiewicz et al. 2017). The Commission works closely with the International Commission on Stratigraphy (ICS), a constituent body of the International Union of Geological Sciences (IUGS) (The Geological Society of London 2012). Both commissions are constituted sub-entities of larger bodies, so the hierarchies are constitutive.

Subsequent to the vote, the Working Group on the 'Anthropocene' (AWG) was established by invitation of ICS' Subcommission of Quaternary Stratigraphy. The International Geological Congress is IUGS' scientific forum. At the 2016 Congress, the AWG submitted its report and a process toward completion of a formal proposal. The formal proposal (including correlation of boundary level) will follow standard procedure requiring ratification by vote of: (1) AWG membership, (2) the Subcommission, (3) ICS' full membership, and (4) IUGS Executive Committee (Remane et al. 1996). The AWG, Subcommission, and IUGS form a constitutive hierarchy. As the Executive Committee is not constituted by the ICS, the ratification process represents an aggregative hierarchy.

4. Classification

Classification is a “hierarchical arrangement” (Hine and Martin 2015c) pervasive in the natural sciences. It can be described as a “system of classes, ordered according to a predetermined set of principles and used to organize a set of entities” (Jacob 2004, 522). It is a means for creating order from diversity through construction of and “assignment to predesignated classes on the basis of perceived common characteristics” (Porta 2016; see Porta and Last 2018). At its basic level, classification is a triadic structure of superordinate, focal, and subordinate entities (Valentine and May 1996). Fixed boundaries between “mutually-exclusive and non-overlapping classes” ensure membership is “rigorous” (Jacob 2004, 528). Entities may be singular (such as the Sun in the class of ‘stars’) or plural (such as the Milky Way in the class of ‘celestial objects’).

In science, there is a preference for natural classification where “classes correspond to the nature of the thing being classified” (Porta 2016). An example of natural classification is the collection of wooden posts by size, or food by source (animal, vegetable). However, an artificial classification can be “based on one or a few characters simply for ease of identification or for a specific purpose” (Hine and Martin 2015c). Examples of artificial classification include chemical elements by number of protons per Mendeleev’s periodic table (Browne 2003). However, the most recognisable examples of both natural and artificial classification in the natural sciences are likely biological taxonomic systems.

4.1 Biological Classification

Evolution is the “gradual process by which the present diversity of plant and animal life arose from the earliest and most primitive organisms” (Hine and Martin 2015f, para. 1). The initial model by British naturalist Charles Darwin (1859, 489–90) consists of five components (“Laws”) and two outcomes: “Reproduction, Inheritance … Variability … a Struggle for Life, and as a consequence … Natural Selection, entailing Divergence of Character and the Extinction of less-improved forms.” To this was later added the inheritance laws of segregation and independent assortment by Austrian monk Gregor Mendel (Allaby 2013f).

The result was the 20th-century "modern synthesis (neo-Darwinism)" (Allaby 2013g) led by British biologist Julian Huxley, German biologist Ernst Mayr, and United States palaeontologist George Gaylord Simpson amongst others. More recently, research on the structural similarities of organisms at the molecular level (genetic homologies) have provided new evidence against the "narrative of progressive destiny" (Gray-Sharp 2014b, para. 4) that continues to haunt the natural sciences (Rigato and Minelli 2013). As a scientific revolution (Humphreys 2005), the modern synthesis' impact is visible across the hierarchy of scientific concepts, most notably at the ranks of theory and classification.

Biological classification is "the arrangement of organisms into a series of groups based on physiological, biochemical, anatomical, or other relationships" (Hine and Martin 2015c). Taxonomy is "the classification of complex organisms" (Garnett and Christidis 2017, 25) both "living and extinct" (Hine and Martin 2015m) into entities called taxa (singular: taxon). Two types of taxonomy dominate: phylogenetic systematics and Linnaean.

Phylogenetic systematics is "the study of biological organisms, and their grouping for purposes of classification, based on their evolutionary descent" (Allaby 2013c). It is a type of taxonomy that emphasises evolutionary history, studying relationships among taxa through phylogeny (evolutionary trees) and tracing patterns of common ancestry. For example, a clade is a nested group of an ancestor taxon and all descendant taxa. Tree roots in a phylogeny symbolise shared ancestor taxa and branch tips are descendants, so a clade will appear as a "pruned branch" (University of California Museum of Paleontology 2018b, para. 1). Hence, the phylogeny is not a hierarchy but a "positional structure" comprising of "a founding entity and subsequent entities … positioned … in branches" and without ranks (Valentine and May 1996, 29).

In comparison, Linnaean (sometimes spelled 'Linnean') taxonomy is an aggregative hierarchy concerned with naming and ranking. Carolius Linnaeus (or Karl von Linné) was an 18th century Swedish botanist whose early expeditions included travels in Sami territories. Developed in iterations, the highest rank of his taxonomic system consisted of three 'kingdoms': animal, vegetable, and mineral. The animal kingdom was divided into six 'classes' in accordance with internal structure and reproductive process: mammals, birds, amphibians, fish, insects, and worms (Linné [1758] 1894c, 11). The first class, mammals, had two-chambered hearts (“cor biloculare”), two ears (“biauritum”), and were viviparous (Linné [1758] 1894c, 11). Classes were split into ‘orders’ defined primarily by teeth: primates, bruta, feræ, bestiæ, glires, pecora, bellæ, and cete (Linné [1758] 1894b, 16). The first order, primates, have the best teeth (Linné [1758] 1894b, 16). Orders were separated into ‘genera’. The first genus of the primates order is *Homo*, of which two ‘species’ are noted: *sapiens* and *troglodytes*. The *H. sapiens* species is divided into a number of ‘varieties’ identified by geography.

Subsequent to the rise of evolutionary theory, Linnaeus’ taxonomic system has undergone amendment. The current taxonomy that bears his name now consists of (at least) seven taxa: kingdom, phylum (or division), class, order, family, genus, and species (Calow 1998b; Turland et al. 2018). Further divisions have been made, such that some organisms are allocated to taxa that are super- and subordinate to the listed ranks (for example, subphylum, superorder, and subspecies).

To taxonomy, Linnaeus also contributed a binomial nomenclature system. It provides species with two Latin terms (a binomen), the first general (genus) and the second specific (species). Three terms (a trinomen) are used for the taxon ranked below species (subspecies) and one term (a uninominal name) for those above. Naming conventions have been institutionalised with different codes controlling different groups of organisms. For example, the International Commission on Zoological Nomenclature (n.d., para. 1; founded 1895) “provides and regulates a uniform system of zoological nomenclature ensuring that every animal has a unique and universally accepted scientific name”.

Taxonomic classification is useful in understanding mass extinction with the two forms offering different explanatory strengths. For example, taxonomic selectivity is the disproportionate extinction of certain taxonomic groups during an episode of mass extinction (Raup 1995). A Linnaean analysis would note the late Maastrichtian extinction of “all 22 dinosaur genera” (Raup 1995, 118). Comparatively, a phylogenetic analysis founded in largely post-1990 description (Chiappe 1997) presents Aves (birds) as a branch with Theropoda dinosaurs as the root (University of California Museum 2018a). Although all genera of dinosaur were extinguished, birds are their survivors, extant members of the clade.

More generally, mass extinctions are established using information from the higher Linnaean taxonomic ranks. As Raup and Sepkoski (1982, 1501) note, “comprehensive and accurate data on extinct species have always been unobtainable”. Fossil rarity is a reality. The majority of organisms are predated, decompose, or otherwise die somewhere dry (fossilisation generally occurs in water) (Gray-Sharp 2014b). This requires research to focus at the higher ranks, usually family. Understanding these ranks makes the scale of the data clearer.

To illustrate, Bambach (2006) uses the Sepkoski compendium with a focal taxon of genus. He reports proportion of genus extinction at each episode and identifies taxonomic selectivity with groups below the genus rank. For example, during the end-Permian event, “genus extinction using all genera interpolated to substage level” was 55.7 per cent (Bambach 2006, 137–138) (table 1, number 11). There were groups that suffered much more than 56 per cent, such as the corals order Rugosa. Groups at or near the average included those of the Gastropoda class. Spumellaria (an order of radiolarians) and “deep-burrowing” molluscs of the Bivalvia class (bivalves) were amongst those below (Bambach 2006, 138).

General knowledge of biological classification and nomenclature provides new paths of inquiry. For example, as orders are subordinate to classes, understanding Linnaean taxonomy makes intra-taxon comparisons possible (such as between orders of the Radiolaria class). Moreover, comfort in both areas enhances overall comprehension of mass extinction research. A grasp of the “hierarchy of formal … geochronological unit terms” (International Subcommission on Stratigraphic Classification of IUGS, and International Commission on Stratigraphy 1999a, 266) is similarly important. Confident use of geochronological units significantly improves recollection for comparison between sources of evidence. The geochronological hierarchy is based on the hierarchy of the International Chronostratigraphic Chart.

4.2 The International Chronostratigraphic Chart

In addition to classifying biological organisms, the natural sciences also classify time. In physics, time is “a dimension that enables two otherwise identical events that occur at the same point in space to be distinguished …. [with] the interval between … form[ing] the basis of time measurement” (Rennie and Law 2019, para. 1). Hence, time can be classified in clock and calendar units. The Earth sciences (including astronomy, cartography, geology, paleontology, and physical geography) measure abstract time using techniques such as isotopic dating (Nisbet and Rose 2003). Historically, however, geological time has been measured relatively through classification and sequencing of rock strata. These measurements are shared worldwide as the International Chronostratigraphic Chart (the Chart).

The Chart is an iterative document first published as the *Global Stratigraphic Chart* in 1989 at the 28th International Geological Congress (Gradstein et al. 2012b). Subsequent revisions in 2000 (31st Congress), 2004 (32nd Congress), and 2008 (33rd Congress) of the now "*International Stratigraphic Chart* summarized the current international standardization, and included abbreviations and colors of the chronostratigraphic units [entities] as adopted by the CGMW" (Commission for the Geological Map of the World) (Gradstein et al. 2012b, 31). The CGMW codes dictate percentages of cyan-magenta-yellow-black (CMYK) or red-green-blue (RGB) for each unit (Gradstein et al. 2012a). The resulting Chart is important in determining the language available to discuss time in a number of fields, including those of the Earth sciences and biology. Its hierarchies, including the institutions that control its development and distribution, contribute to uniformity and thus ease communication across the disparate fields.

The top-ranked of the Chart's decision-making hierarchy is the IUGS. Established in 1961, IUGS continues the work begun by the Paris meeting of the International Congress of Geologists in 1878. IUGS "has a global membership of about a million earth scientists … represented through Adhering Organizations" and is "one of the world's largest scientific organizations" (IUGS Secretariat 2019, 1). It "promotes development of the earth sciences by supporting broad-based scientific activities" (IUGS Secretariat 2019, 1). The organisation operates various programmes, task groups, and scientific commissions.

The ICS is one of these scientific commissions, and "the largest and oldest constituent body" of the IUGS (ICS 2016). Stratigraphy is the branch of geology that studies "the development and succession of stratified horizons in rocks" (Moore 1998, para. 1). It involves classification of rock strata in accordance with physical and chemical characteristics (lithostratigraphy), and fossil (biostratigraphy) and time (chronostratigraphy) sequence. The different analyses produce stratigraphic classifications that are not required to correspond. It may be for this reason that the ICS is "a body of expert stratigraphers founded for the purpose of promoting and coordinating long-term international cooperation and establishing and maintaining standards in stratigraphy" (ICS 2017, s 2).

The ICS is responsible for determining the "global standard … of time correlative units (Systems, Series and Stages) for stratigraphic successions worldwide" (Cohen et al. 2013, 199). Hence, the Commission sets "global standards for the fundamental scale for expressing the history of the Earth" (ICS 2016). The Commission communicates these standards per its first principal objective: "the establishment, publication and revision of the ICS International Chronostratigraphic Chart" (ICS 2017, ss 2[a]).

The Chart is an aggregative hierarchy of ranked units. A chronostratigraphic ("time-rock") unit is "the sequence of rocks formed during a discrete and specified interval of geologic time …. ranked, according to the length of time they record" (Allaby 2020a). A geochronologic ("geologic-time") unit is "a subdivision of geologic time, based on the rock record" of the relevant time-rock unit (Allaby 2020c). The Chart represents a "hierarchy" of the time-rock units (for example, eonothem, erathem, and system) on which geologic-time units (for example, eon, era, and period) are founded (Cohen et al. 2013, 199). Geologic-time units usually bear the same name as their time-rock counterparts, though regional variations (like those of the New Zealand Geological Timescale [GNS Science 2015]) are known. As mass extinction research describes time in geologic-time units (for example, Newell 1963; Bambach 2006), I reference the chronostratigraphic but emphasise the geochronological.

While the Chart has been updated fourteen times between 2008 and March 2020 (ICS 2020b), it remains similar to table 1. The Chart has four columns (Cohen et al. 2013; Cohen et al. 2018; 2019; 2020) moving from oldest (bottom-right) to youngest (top-left). Columns comprise of sub-columns indicating different levels of the hierarchy from the first (on the left) to the fifth (on the right). The first level (left sub-column) is the eon. The second level is the era and is to the right of the eon. The third is the period and the fourth the epoch. Ages are listed in the fifth sub-column. Numerical age is marked to the right of each column.

From August 2012 to May 2019, the right-hand column was dedicated to an eon, the Precambrian. The Precambrian was presented as comprising of three other eon: the Hadean (~4600 to 4000 Ma), Archean (4000 to 2500 Ma), and Proterozoic (2500 to ~541.0 Ma). Like the Mississippian and Pennsylvanian divisions into sub-periods of the Carboniferous, the decision to assign the Precambrian a level undermined the strict nested hierarchy. Hence, “after discussion in Precambrian subcommission, ICS and ICS executive”, the Chart was modified in 2019 “to remove unclarity” (ICS 2020a). The Precambrian is no longer presented with a designated level and returns to being italicised as “a name . . . used only informally” (Allaby 2020e). Nonetheless, other issues remain. The Hadean’s three-unit classification (eon, era, and period) lacks explanation. The remaining Precambrian eons are divided into eras and periods. The Archean’s periods are unnamed. Neither epochs nor ages are listed.

The remaining three columns are dedicated to the current eon, the Phanerozoic. Its name is from the Greek for ‘evident’ (phanerós) and ‘life’ (zōé) (Lucas 1999). The Phanerozoic comprises of three eras being the Paleozoic (‘ancient life’), Mesozoic (‘middle life’), and Cenozoic (‘recent life’).

There are 12 periods in the Phanerozoic. Most are named for characteristics of strata, such as the 20 called ‘Upper’, ‘Middle’, or ‘Lower’. Following this style of naming is the Triassic, seventh period of the Phanerozoic and first of the Mesozoic Era. Identified in 1834 by Fredrich von Alberti, it was named for “the sequence of three [‘Tri’] divisions of strata that he studied in central Germany – Bunter, Muschelkalk, and Keuper” (Hine and Martin 2015n). The Triassic was a period where reptiles, dinosaurs, and molluscs dominated. It closed with the end-Triassic mass extinction (table 1, number 12).

The Triassic Period also followed a mass extinction episode, that of the Lopingian Epoch (table 1, number 11). The Lopingian is the 23rd of the Phanerozoic’s 38 epochs and the last of the Paleozoic. In comparison to the naming of periods, nomenclature at the epoch and age levels is frequently associated with the geographic location of strata. Hence, the United States geologist Amadeus Grabau named the Lopingian Epoch in 1931 after the nearby Leping, an area of the Jiangxi province (in the then Republic of China) (Zhang 2009, 681).

The Phanerozoic comprises of 102 ages: 48 of the Paleozoic, 30 of the Mesozoic, and the remaining 24 of the Cenozoic (Cohen et al. 2018). Four ages were officially incorporated into the Chart in July 2018. The Wuliuan Age is the fifth of the Paleozoic Era and the earliest of the newly-named Miaolingian Epoch (Cohen et al. 2018). The other new ages belong to the current Holocene Epoch: the Greenlandian, Northgrippian, and Meghalayan (Cohen et al. 2018). Named for a state in northeast

India, this is the Meghalayan Age until (or if) the Anthropocene is officially acknowledged.

The Chart (and thus table 1) marks abstract time in a sub-column called ‘numerical age (Ma)’. This sub-column indicates the lower boundary (oldest point) of each unit, the ‘Ma’ meaning mega-annum or million years old (International Subcommission on Stratigraphic Classification of IUGS, and ICS 1999b). For example, the Famennian Age belongs to the Devonian Epoch. “Immediately above a major horizon of extinction” (Klapper et al. 1993), the Famennian follows the Late Devonian episode (table 1, number 7). It has a numerical age of 372.2 ± 1.6 Ma (ICS 2020c). This means it is 372.2 million years old with a statistical margin of error of 1.6 million years. Numerical ages such as these are established through a variety of techniques and affirmed by ICS subcommissions (Cohen et al. 2013, 202). However, numerical ages do not determine the boundary between units, Global Boundary Stratotype Section and Points (GSSPs) do.

A GSSP is “a physical reference level for a particular, and optimally correlatable, geological time boundary” (Waters et al. 2018, 380). Hence, the current Cenozoic Era has a numerical age of 66.0 Ma marked by the lower boundary of the Danian Age. This numerical age is determined by a GSSP of “reddish layer at the base of the 50cm thick, dark boundary clay” at Oued Djerfane (Tunisia) (36.1537°N 8.6486°E) correlated by iridium anomaly (bolide impact) and associated with the Cretaceous-Paleogene mass extinction (ICS 2020c, GSSP Table: row 35; see table 1, number 16). Similarly, the lower boundary of the Greenlandian Age is determined by a GSSP being a sample from the North Greenland Ice Core Project in central Greenland (75.1000°N 42.3200°W). It was correlated by abrupt climate change (end of Younger Dryas, from near-glacial to interglacial) and a “shift in deuterium excess values” (ICS 2020c, GSSP Table: row 6).

The ICS International Chronostratigraphic Chart is functional without the addition of numerical ages. However, when “calibrated numerical ages for unit boundaries” are added, the Chart “serves as the International Geological Timescale” (Cohen et al. 2013, 199). A geological time scale is “a two-fold scale that subdivides all the time since the Earth first came into being into named units of abstract time, and subdivides all the rocks formed since the Earth came into being into the successions of rock formed during each particular interval” (Allaby 2020b). In the rock, “a relative time scale of time intervals [is] arranged hierarchically (shorter time intervals are grouped into longer ones)” (Lucas 1999, para. 1). Hence, a geological time scale (as exampled in table 1) provides a “template for ordering and correlating all events in Earth history” (Lucas 1999, para. 13).

4.3 A Note on Classification in the Natural Sciences

Despite its name, classification in natural sciences is neither neutral nor ‘natural’ (Scerri 2018, para. 20). It is based on a perspective that believes that ‘observation, experiment, and measurement’ are foundational to knowledge, and that an objective reality exists. This perspective has political consequences, like the invention and hierarchical classification of races.

Race denotes “physical or genetic differences amongst humankind that supposedly distinguish one group from another on biological grounds” (Heywood 2000, 226). Boundaries between classes create controllable divisions; groups are classified according to physical characteristics. The resulting hierarchies fix groups’ intellectual and behavioural abilities to justify oppression, “conquest and exploration, since they made it both logical and necessary to control the ‘uncivilized’ and ‘unintelligent’ races” (Peregrine 2013, para. 1). The natural sciences were central to racial classification, verifying categories and subsequent control of domestic populations. As Hokowhitu (2001a, 14) notes, “science validated arbitrary differences between the European and the Other, that is, science provided objective evidence that races were real”.

In 1758, Linnaeus’ taxonomic system made six varieties of *Homo sapiens*: Wild (‘quadruped, speechless, hairy’[40]), American (‘red, choleric, righteous’[41]), European (‘white, sanguine, muscular’[42]), Asian (‘sallow, melancholic, severe’[43]), African (‘black, phlegmatic, relaxed’[44]), and Monstrous[45] (Linné [1758] 1894a). In 1795, “to help classify the variety of humans that were being encountered by European colonists at the time”, German naturalist Johann Blumenbach found five: “Caucasian, Mongolian, Malayan, Ethiopian, and American” (Peregrine 2013, para. 3; see Richards 2003, para. 3). Although “a hierarchy of behaviour is implicit . . . neither scholar focused on behaviour” (Peregrine 2013, para. 4).

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[40] Translated by me from the Latinised Greek and Latin: “tetrapus, mutus, hirsutus” (Linné [1758] 1894a, 20).

[41] Translated by me from the Latin: “rufus, cholericus, rectus” (Linné [1758] 1894a, 20).

[42] Translated by me from the Latin: “albus, sanguineus, torosus” (Linné [1758] 1894a, 21).

[43] Translated by me from the Latin: “luridus, melancholicus, rigidus” (Linné [1758] 1894a, 21).

[44] Translated by me from the Latin: “niger, phlegmaticus, laxus” (Linné [1758] 1894a, 22).

[45] This division is summarised as “a non-geographical grab-bag category” (Marks 2007, 28).

Other contributors were more explicit. French geologist Georges Cuvier, for example, “held that the Ethiopian brain resembled the ape’s and displayed comparable intellectual ability” (Richards 2003, para. 4). Subtler, Darwin (1859, 485) described natural history sans mechanics “as a savage looks at a ship, as at something wholly beyond his comprehension”. All would go onto make radical contributions to the natural sciences, most in some way to the field of mass extinction research.

5. Mass Extinction

An extirpation is a localised “disappearance of a population or species” (Park and Allaby 2017g). Comparatively, extinction is the “permanent disappearance of a species throughout its entire range, caused by the failure to reproduce and the death of all remaining members” (Park and Allaby 2017f). Whereas an extirpation affects a geographically-defined sample of a species, an extinction affects a species wherever it may exist. Extirpations and extinctions affect overall biodiversity as “a measure of the variety of genes, species and ecosystems” (Whyte 2013).

Darwin (1859, 490) identified “the Extinction of less-improved forms” as a result of competition, of “biological not physical” causes (Raup 1995, 110). In contrast, neo-Darwinist Simpson (1944, quoted in Raup 1995, 112) believed that extinction and replacement did “not, as a rule, result from direct competition …. The usual sequence is for one dominant group to die out, leaving the zone empty, before the other group becomes abundant”. Whatever the cause, extinction is recognised as a routine evolutionary process.

Mass extinction is not a normal part of evolution. It is an event marked by species’ annihilation beyond the background rate and on a wide scale. Sepkoski (1986) states that a mass extinction is “any substantial increase in the amount of extinction (i.e., lineage termination) suffered by more than one geographically wide-spread higher taxon during a relatively short interval of geologic time, resulting in an at least temporary decline in their standing diversity" (quoted in Bambach 2006, 128). Its duration is considered in relation to the numerical age of the Earth. Thus, most mass extinctions are measured in the order of millions of years. It is signified by "substantial biodiversity losses that are global in extent, taxonomically broad and rapid relative to the average persistence times of species in the taxa involved" (Calow 1998a, para. 1).

5.1 Mass Extinctions of the Phanerozoic: The Past

Although not normal phenomena, mass extinctions have occurred a number of times across the history of life. For example, the Precambrian describes 88 per cent of Earth's existence from the period of planet and Moon formation to the early onset of metazoan life (multicellular organisms). The Proterozoic is within the Precambrian. When chemoautotrophs of the Proterozoic Eon are considered, the Great Oxygenation Event (2486–2309 Ma) may be compared to later mass extinctions (Chamary 2015). However, there is little in the literature that equates Precambrian extinctions with those of the Phanerozoic likely due to insufficient evidence in the fossil record.

More evidenced are the Phanerozoic mass extinctions commonly known as the 'Big Five'. Table 1 displays these events using the numerical ages of Bambach (2006) primarily. Bambach (2006) reports analyses of data from Jack Sepkoski's compendium[46]. Though Sepkoski's work has identifiable weaknesses as a result of its attempt to be "as exhaustive as possible", it is an (if not the) acknowledged "encyclopedic database" (Newman 2001, 5955). Similarly, Bambach (2006) continues to be a cited resource for determining the number of episodes (see Knoll and Nowak 2017, 4).

Of the Big Five, the Late Ordovician is the first (447.23–443.7 mya) (million years ago) (table 1, number 5). It was "severe in terms of taxa lost, but less severe in terms of ecological consequences" (Condie 2011, 254). Bambach (2006) reports a 57 per cent extinction (134) of two pulses: a 40 per cent genera loss during the "middle Ashgillian" and 31 per cent for the late (136). The extrapolated level of species extinction is not insubstantial at 85 per cent (Raup 1995, 114). "Elevated extinction" versus attrition due to low origination ("the first appearance of a new species" [Allaby

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[46] Open access database available at http://strata.geology.wisc.edu/jack/.

2020d]) is the exclusive cause (Bambach 2006, 135). Disproportionately affected were the Strophomenida and Rhychonellida orders of brachiopods. Unlike later events, “there was relatively little evolutionary innovation during recovery …. [and] newly developing communities were drawn largely from surviving taxa that had previously lived in similar ecological settings” (Condie 2011, 254).

The second episode, the Late Devonian (378.1–374.5 mya), occurred during the Frasnian Age (table 1, number 7)[47]. An inferred species extinction level of 82 per cent (Raup 1995, 114) and a 34.7 per cent loss of genera are substantially related to reduced origination (Bambach 3006, 136). A number of taxa are reported with losses greater than 65 per cent, including the Hexactinellida class of sponges and Rugosa order of corals. The associated “collapse of reef ecosystems” (Bambach 2006, 136) is constrained by “372 ± 1.7-Ma ash beds just below the [correlated] Upper Kellwasser Horizon” (Knoll and Nowak 2017, 3). Like the Late-Ordovician, this mass extinction was related to glaciation (Condie 2011; Hull 2015). However, in contrast to its predecessor, its status as a mass extinction is questioned (Barnosky et al. 2011; Hull 2015).

The third is the end-Permian event, undoubtedly “the greatest mass extinction of the last half billion years” (Hull 2015, R942) (table 1, number 11). Ensuing between 251.941 ± 0.037 and 251.880 ± 0.031 Ma, the “synchroneity of volcanism and extinction” has been established by geochronology (Knoll and Nowak 2017, 4). It was a very short event lasting, by one estimate, less than eight thousand years (Rampino 2000, quoted in Bambach 2006).

Although the end-Permian genera extinction rate of 55.7 per cent (Bambach 2006, 137) is lower than that of the Late Ordovician, the deduced species extinction level was considerably more significant at 96 per cent (Raup 1995, 114). Subsequent adaptive radiations – evolutionary irruptions “with rapid divergence from a single ancestral form, that results from the exploitation of an array of habitats” (Allaby 2014a, para. 1) – included the transmutation of reptiles “from sprawled into upright predators on land” and conquerors of the sea (Hull 2015, R941). Like the global turmoil in the earth system more generally, such occurrences are further evidence that “mass extinctions are not step-events but rather a step into a prolonged alternative global ecosystem state” (Hull 2015, R941).

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[47] Some sources reference the episode as “F/F” (Hull 2015, R943) to indicate a Frasnian-Famennian border event.

With a timeframe between 207.9 and 199.6 mya, the end-Triassic was the fourth episode (table 1, number 12). Bambach (2006, 139) states a genera extinction of 47 per cent within which low origination and raised extinction rates compete as source of diversity loss. Raup (1995, 114) reports species extinctions extrapolated to 76 per cent. Sponges (in this case of class Calcarea) and corals (Scleractina order) again had significantly higher extinction levels at more than 67 per cent. Like the end-Permian, the end-Triassic is related to volcanism (Hull 2015; Knoll and Nowack 2017). Like the Late Devonian, it is labelled less an extinction and more a depletion (Barnosky et al. 2011; see Kocsis, Kiessling, and Pálfy 2014).

The last of the Big Five is the Cretaceous-Paleogene[48] mass extinction (table 1 number 16). Dated between 68.05 and 65.5 mya, this Maastrichtian Age event caused a 40 per cent extinction of all genera (Bambach 2006, 140) and a deduced species extinction level of 76 per cent (Raup 1995, 114). It marked the end of mosasaurs (dominant marine predator), the long-lived ammonites (Devonian to end-Cretaceous) and the previously mentioned non-avian dinosaurs (Hull 2015). The event appears to have been selective for size as “no terrestrial vertebrate heavier than about 25 kg is known to have survived” (Russell 1976, quoted in Alvarez et al. 1980, 1106). The Cretaceous-Paleogene coincided with “Deccan flood basalt volcanism in India” and is the only extinction event to be closely linked to impact by bolide[49] (Schulte et al. 2010, 1214; see Alvarez et al. 1980).

Although five are acknowledged, the actual number of mass extinctions differs between sources (for example, Bambach’s [2006] 18). Newell (1963, 79), for example, notes the ubiquity of the phenomenon with “hundreds of minor episodes of extinction occur[ing] … throughout geologic time, but … restrict[s] our attention to a few of the more outstanding mass extinctions”. Thus, six are named (Newell 1963, 79), but five examined, including end-Pliocene (81) and Pleistocene (81–83). Newell’s discussion of the appearance of *Homo sapiens* in the Pleistocene Epoch appears rhetorical: he seeks to link extinctions and anatomically modern human activity.

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[48] The Paleogene and Neogene were previously known collectively as the ‘Tertiary Period’. Thus, some literature refers to the Cretaceous-Paleogene (K/Pg) event as the ‘Cretaceous-Tertiary’ or ‘K/T’ (see Condie 2011, 251)

[49] A bolide is a “meteoric fireball or asteroid” (Mayhew 2015b).

Other sources are similarly fluid around the number. Although Condie (2011) cites Bambach (2006), his emphasis on causation (how) versus description (what) may explain why eight mass extinctions are identified. Barnosky et al. (2011, 51) identifies five extinctions of note, but defines three as mass extinctions and two "mass depletions". Indeed, Bambach (2006, 142) accepts the uniqueness of "the three largest events, the end-Ordovician, end-Permian, and end-Cretaceous … [as] a statistically distinct separate class of mass extinction events based on magnitude alone". The other two of the Big Five, the Late Devonian and end-Triassic, are included due to "dramatic loss of global diversity" (Bambach 2006, 142). These differences in position reflect the continued negotiation that occurs in the production of mass extinction as an idea.

Research into previous mass extinction episodes has methodological difficulties. In addition to fossil rarity, identification of past phenomena is reliant on "extrapolated species-level losses …. [that are] best estimates, rather than precisely known quantities" (Hull 2015, R943). Episodes are "typically determined using the record of abundant shelly marine metazoans" (Hull 2015, R943). However, any "gaps in the record obscure timing, not the reality, of extinctions" (Bambach 2006, 142). Differences in position do not indicate a retraction. There is certainty (even if conditional) that these mass extinctions are "events that trim once-dominant branches in the tree of life from view and coincide with widespread evidence for prolonged ecological upheaval" (Hull 2015, R943).

5.2 Mass Extinctions of the Phanerozoic: The Current

> We have unleashed a mass extinction event, the sixth in roughly 540 million years, wherein many current life forms could be annihilated or at least committed to extinction by the end of this century. (Ripple et al. 2017, 1)

In November 2017, 15,372 scientists declared a consensus (Ripple et al. 2017). Mass extinction has occurred five times in the past. A sixth mass extinction has begun. Humans are the cause of the latest episode. However, "the oft-repeated claim that Earth's biota is entering a sixth 'mass extinction' depends on clearly demonstrating current extinction rates are far above the 'background' rates" (Ceballos et al. 2015a, 1)[50].

Past calculations of extinction rates were based on the number of named species mixed with extrapolation. This is due to instability in the record. Plants are estimated to number upwards of 350,669 (accepted names of all plants) (*The Plant List* 2013), and animals between approximately 1.9 million (described only) and 12.9 million (Pimm et al. 2014, 1). Combining such breadth and different methods, extinction estimates have (rather expectedly) varied.

Analyses have stabilised subsequent to the 'species-years' innovation. The metric produces results "based on *documented* extinctions versus predicted extinctions", and facilitates comparison between current extinctions and those of previous geological ages (Lamkin and Miller 2016, 787). There is an accepted background rate of between 0.1 and one extinction per million species-years (0.1–1 E/MSY) (Ceballos et al. 2015a; Lamkin and Miller 2016). This means that at the higher rate, if there were one million species, one species would become extinct each year as a normal part of the evolutionary process. The rate can be expressed in different ways.

For example, Ceballos et al. (2015b) expresses the number of extinctions by a proportion of 10,000 species per century allowing calculations over shorter timeframes. However, the authors also use the higher, mammalian background extinction rate rounded upward (from 1.8 E/MSY) to 2 E/MSY (or "2 extinctions per 100 years per 10,000 species") (Ceballos et al. 2015a, 2). They apply that rate to calculate the current extinction rate using data from the International Union for Conservation of Nature and Natural Resources (IUCN).

The IUCN provides "objective, scientifically-based information on the current status of globally threatened biodiversity" (IUCN 2018b, para. 1). The IUCN (2018b, para. 2) Red List "provides taxonomic, conservation status and distribution information on plants, fungi and animals that have been globally evaluated using the IUCN Red List Categories and Criteria". Data contains information from 1500 forward, and is updated regularly. Once added, taxa are re-evaluated at least once per decade "(or sooner if the situation for the taxon is rapidly changing) though this is dependent upon funding” (IUCN 2018a).

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[50] Biota are "all of the living organisms (including animals, plants, fungi, and micro-organisms) that are found in a particular area", in this case Earth (Park and Allaby 2017c).

Ceballos et al. (2015b) applies IUCN 2014 data to describe the development of extinction rates for five vertebrate classes: mammals, birds, reptiles, amphibians, and fishes (the plural for multiple fish species). The animal group data is based on the evaluated species in IUCN Red List version 2014.3. It is analysed across two time periods: 1500 to 2014 and 1900 to 2014.

Two rates are presented. The “highly conservative rate” only includes species that have been categorised by IUCN (2015c) as “Extinct (EX)” (Ceballos et al. 2015a, 2). The “conservative rate” includes species that have been declared extinct and those that are “‘Extinct in the Wild’ (EW)” (Ceballos et al. 2015a, 2). Also included are the “Possibly Extinct (PE)” (Ceballos et al. 2015a, 2), a “subcategory of Critically Endangered, CR” (Ceballos et al. 2015b, 1). The categorised vertebrates list was collected from the IUCN website. The PE dataset was sourced prior to official integration and subsequently correlated with the website. For transparency, Ceballos et al. (2015b) provide all species’ names with IUCN assessment categories and a clear description of their calculation method.

5.3 Comparing Background and Recent Extinction Rates

5.3.1 Method

Table 2 is a comparison of recent and background extinction rates. Using the 2 E/MSY background rate, it calculates recent rates for two periods: 1500 to 2014 (‘2014’) and 1500 to 2018 (‘2018’). For the 2014 period, I replicated the ‘1500 to 2014’ analysis conducted by Ceballos et al. (2015a, 2015b) on the raw data (species list) found in their supplementary materials.

For the 2018 period, I collected data for the same taxonomic groups (mammals, birds, reptiles, amphibians, and fishes) for all publication years available in 2018 (including 2015, 2016, 2017, and 2018) from the IUCN website. The data was for three IUCN assessment categories: EX, EW, and two new CR sub-categories: “Critically Endangered (Possibly Extinct)” or CR(PE), and “Critically Endangered (Possibly Extinct in the Wild)” or CR(PEW). I also collected the IUCN data for all taxonomic groups (for example, invertebrates and plants) assessed into the EX, EW, CR(PE), and CR(PEW) categories.

I analysed all data following the method outlined in Ceballos et al. (2015b). It can be expressed as an equation:

$$\textit{current rate} = \frac{\textit{observed extinctions}}{\left(\frac{\textit{no. of evaluated species}}{10{,}000}\right) \times \left(\textit{background rate} \times \textit{no. of centuries}\right)}$$

First, the number of IUCN evaluated species for each taxonomic group [*x*] were divided by 10,000 to achieve the required E/MSY ratio (table 2, [A]). Second, the 2 E/MSY background rate [B] is multiplied by the number of 100-year periods [C] to sum expected background extinctions [D]. The result is multiplied by the species ratio to produce a figure for the expected extinctions in the given timeframe [E]. Finally, the number of IUCN observed extinctions [F] is divided by the expected number to achieve the current extinction rate [G]. A simplified version of the equation might be expressed as:

$$G = F \Big/ \left(\frac{x}{10{,}000}\, BC\right)$$

There are differences between my approach and that of Ceballos et al. (2015b). The figure format has three changes. First, I have replaced ‘conservative’ and ‘highly conservative’ with IUCN assessment abbreviations reflecting the two new CR sub-categories. The change in rate names allows clarity of source. Second, I have summarised the vertebrates’ data at the base (versus the top) of the figure. Third, I have included analysis of data for all taxonomic groups for the 2018 period. This is to give an overall view and acknowledge non-animal life-forms.

Table 2 Comparing background and current extinction rates (2014 and 2018)

	Taxonomic Group	**[x]** Number of IUCN Evaluated Species	**[A]** Species/10,000	**[B]** Background Extinction of 2 E/MSY	**[C]** Centuries since 1500	**[D]** Expected Background Extinctions (BxC)	**[E]** Expected Extinctions since 1500 (AxD)	**[F]** Observed extinctions	**[G]** Extinction Rates relative to Expected (F/E)
1500–2014: EX Rates	Mammals	5513	0.55	2.00	5.14	10.28	5.67	77	13.59
	Birds	10425	1.04	2.00	5.14	10.28	10.72	140	13.06
	Reptiles	4414	0.44	2.00	5.14	10.28	4.54	21	4.63
	Amphibians	6414	0.64	2.00	5.14	10.28	6.59	34	5.16
	Fishes	12457	1.25	2.00	5.14	10.28	12.81	66	5.15
	Vertebrates	**39223**	**3.92**	**2.00**	**5.14**	**10.28**	**40.32**	**338**	**8.38**
1500–2018: EX Rates	Mammals	5677	0.57	2.00	5.18	10.36	5.88	81	13.77
	Birds	11122	1.11	2.00	5.18	10.36	11.52	156	13.54
	Reptiles	6669	0.67	2.00	5.18	10.36	6.91	28	4.05
	Amphibians	6682	0.67	2.00	5.18	10.36	6.92	32	4.62
	Fishes	16406	1.64	2.00	5.18	10.36	17.00	64	3.77
	Vertebrates	**46556**	**4.66**	**2.00**	5.18	**10.36**	**48.23**	**361**	**7.48**
	All Taxonomic Groups	93577	9.36	2.00	5.18	10.36	96.95	872	8.99
1500–2014: EX, EW, and PE Rates	Mammals	5513	0.55	2.00	5.14	10.28	5.67	107	18.88
	Birds	10425	1.04	2.00	5.14	10.28	10.72	158	14.74
	Reptiles	4414	0.44	2.00	5.14	10.28	4.54	36	7.93
	Amphibians	6414	0.64	2.00	5.14	10.28	6.59	146	22.14
	Fishes	12457	1.25	2.00	5.14	10.28	12.81	152	11.87
	Vertebrates	**39223**	**3.9223**	**2.00**	**5.14**	**10.28**	**40.32**	**599**	**14.86**
1500–2018: EX, EW, CR(PE), and CR(PEW) Rates	Mammals	5677	0.57	2.00	5.18	10.36	5.88	109	18.53
	Birds	11122	1.11	2.00	5.18	10.36	11.52	183	15.88
	Reptiles	6669	0.67	2.00	5.18	10.36	6.91	72	10.42
	Amphibians	6682	0.67	2.00	5.18	10.36	6.92	162	23.40
	Fishes	16406	1.64	2.00	5.18	10.36	17.00	159	9.35
	Vertebrates	**46556**	**4.66**	**2.00**	5.18	**10.36**	**48.23**	**685**	**14.20**
	All Taxonomic Groups	93577	9.36	2.00	5.18	10.36	96.95	1709	17.63

5.3.2 Results

The results confirm the sixth mass extinction's continuation. My analysis of the 2014 data finds an 8.38 vertebrate extinction rate for EX-only, and 14.86 for the combination of categories (EX, EW, CR[PE] and CR[PEW]). The 2018 data suggests a drop in both: 7.48 for the EX-only rate and 14.20 for the combined. However, once adjusted for the rise in species' evaluations overall, the improvement depressingly disappears.

The report does not lighten when classes are considered. As the most highly-studied animal groups, mammals and birds continue to lose ground in the EX-only rates. The improvement in fishes' extinction rate is likely due to an increase of almost 4,000 in evaluated species. Although their EX-only assessments are lower, amphibians appear the most at risk. The combined category extinction rate for amphibians was 22.14 in 2014. Now it is 23.40. All results across all groups remain higher than 2 E/MSY.

There were differences between my results and those of Ceballos et al. (2015b). My analysis produces a lower number of observed extinctions in the EW and PE categories of the provided data for 2014. I found 18 less vertebrate species: four mammal, five bird, one reptile, two amphibian, and six fish. This means my 2014 calculated rate of current extinction in the combined categories for mammals is 18.88 versus the original 19.59. Appendix 2 provides further information.

5.3.3 Discussion

The current rate is accepted in the literature as a range between 100 and 1000 times greater than the background rate (Lamkin and Miller 2016; Pimm et al. 2014). That range is based on a much lower background extinction rate than table 2. Nonetheless, "an exceptionally rapid loss of biodiversity" is revealed, "indicating that a sixth mass extinction is already under way" (Ceballos et al. 2015a, 1).

In comparison to the Big Five, "the current biodiversity crisis can be said to scale with those events of the past, at least in terms of the rate of species loss in the past 500 years, and so it can be termed the 'sixth mass extinction'" (Benton 2013, para. 15). This "biodiversity extinction event" is the "current massive degradation of habitat and extinction of species … taking place on a catastrophically short timescale" (Novacek and Cleland 2001, 5466). Novacek and Cleland (2001, 5466) estimate "30%

extermination of all species by the mid 21st century”. Like others, they acknowledge it as “an event comparable to some of the catastrophic mass extinction events of the past” (Novacek and Cleland 2001, 5466). Unlike many of the previous episodes, the cause of this episode is clear: it is anthropogenic (human-induced). This is perhaps why some claim it as the “hallmark of our era” (Monbiot 2015, para. 5).

Mass extinction is a phenomenon with odd selectivity. Survivors “do not appear to be automatically those most adapted to previous conditions” (Pievani 2014, 89). The human animal’s specialised habits, diet, and body size, combined with “less displacement capacities and adaptive plasticity”, increase our vulnerability (Pievani 2014, 92). Moreover, it will take approximately 10 million years for biodiversity to rebound to pre-extinction levels (Kirchner and Weil 2000). As Kirchner and Weil (2000, 179) state, “today’s anthropogenic extinctions are likely to have long-lasting effects …. Even if *Homo sapiens* survives several millions more years, it is unlikely that any of our species will see biodiversity recover from today’s extinctions”.

5.3.4 Supplementary Materials

In order to foster further calculations of current extinction rates, this replication study’s supplementary materials are publicly available through the Open Science Framework (Gray-Sharp 2020). The supplementary materials can be downloaded as a single Excel workbook. The workbook comprises of eight sheets. Support information is available on-site.

6. A Question of Legitimacy

The possible consequences of mass extinction can be quantified – measured and expressed in order of multitude and magnitude – through reconstruction of past and observation of current events. For this purpose, the natural sciences – including conservation biology and those of the Earth – are essential (Buffetaut 1990). However, in order that those consequences prompt response, they must be qualified. The reality of the present episode must not only be understood within its limits (a largely quantifiable property), human communities must also legitimate that understanding.

Whereas power is the “ability to achieve a desired outcome” (Heywood 2000, 35), legitimation is the means “by which power is not only institutionalized but more importantly given moral grounding” (Scott 2015c, para. 1). To give an understanding, an institution, or a person legitimacy is to mark it rightful, to found it in “notions such as duty, obligation, and principles of conduct” (Blackburn 2016d). If it already has power (for example, a monopoly over the use of violence), legitimacy renders that power into authority. Authority is a form of property right, “an established and enforceable claim” (Heywood 2000, 141), that may be a creation of the state (Hobbesian and Humean property) or labour (Lockean property) (Gray-Sharp 2017c).

The authority of the natural sciences lies in its making of knowledge. The primary power is objectivity, the ability to claim separation from both personal and social values whilst avoiding assertions of “infallibility” (Linton 1926, 173). Scientists reproduce this claim when following the principles of conduct dictated by the scientific method, including strict declaration of limits and outcomes (successful or not). Commitment to those principles can be recognized by other authorities (such as the state or publishers) and reinforced through comparison with “those who frame their beliefs in accordance with some traditional authority” (Linton 1926, 172). The authority of natural sciences can thus be seen as a labour-created property, as legitimacy gained in the dutiful behaviour of independently constructing truth.

My legitimacy in the natural sciences is similarly rendered though somewhat less developed. I have the power to complete a piece of writing to a high academic standard. Other members of the academic community have legitimated that power by marking me as rightfully displaying the appropriate conduct. Hence, I have state-achieved authority via certification, and labour-achieved authority via assessment, peer review, and publication. However, that authority is limited to specific fields.

For example, I have minimal authority in the sciences. For state-sourced authority (certification), my last qualification in the formal sciences was in 1993: (New Zealand) University Entrance in Mathematics with Statistics. My first and last qualification in the natural sciences was in 1991: (New Zealand) School Certificate in Science where I achieved an ‘A’. (Despite the grade, I did not believe in my ability, so avoided the subject consequently.) My authority is, thus, derived primarily from my labour as evidenced in two pieces of writing: a sexual health thesis in 2006 and an evolution-focused book review in 2014. The limits to my authority in the natural sciences are tight.

Thus, in this chapter, I submit myself to the rules of the scientific fraternity. I complete my review of scientific evidence following procedures established by certified members. I meet my obligations in regard to the scientific method. However, I claim my legitimacy not on the basis of objective power, but its subjective relation. My writing and, more importantly, its impetus are formed in the call of responsibility. I seek those who will find mana motuhake – a house to build and people to care for – through movement into the light. I support those who will enact tikanga through the affirmation of life. Some of those people are to be found on marae. Some are to be found in the hallows of science.

Through careful work, the natural sciences have solidified mass extinction into a teachable idea. However, its import has yet to be grasped. I believe this is partly because we consumers, citizens of capitalist states, "have a desire to feel good by preventing emotionally-difficult experiences (which most ethical issues present)" (Reczek 2018, para. 8). Furthermore, "the possibility of mass extinction has been recognised by the New Zealand state, but no actions to prevent its occurrence are evident" (Gray-Sharp 2017c, 90). This recognition of mass extinction cannot be widely legitimated without moral grounding.

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Chapter Five: Ripiripia

Ripiripia! Haehae!
Ripiripia! Haehae!
Tuakina!
Paranitia te ūpoko o te ngārara kaitangata!

Ue hā

He aha te tohu o te ringaringa?
He kawakawa
Tuku ki raro ki a hope rā
He korokio
Ko te whakatau o te mate

Ue hā
Ue hā.

1. Introduction

A tool for thinking improves cognition. An organon, it allows users to acquire, analyse, and create knowledge about an issue. As Butler (2003, 22) notes, it can also offer "a critical opening up of the questions, What is real? Whose lives are real? How might reality be remade?" Chapter Three is one such tool. It was developed to provide those new to the topic of mass extinction with the language and hierarchies of its scientific discourse.

According to Tallbear (2013, 11–12), "science and 'society' are mutually constitutive". Analyses based on this idea of "coproduction . . . problematizes a realist approach to understanding the object" (Tallbear 2013, 12). Hence, the current biodiversity crisis is no longer "simply 'naturally' determined; it becomes manifest as scientists observe" (Tallbear 2013, 12). In describing the phenomenon of anthropogenic mass extinction within a mātauranga Māori paradigm, I may "become more attuned to the particular histories of privilege and denial out of which the concept . . . has emerged" (Tallbear 2013, 25).

This chapter will provide new audiences with a structure for comprehending the biodiversity crisis. However, it is written as a 'tuning', so presents a different tone. Although Chapter Four includes a replication study and associated empirical method, the primary approach for its development (bibliographic research) is only visible to the reader through citation. Hence, Section Two's exegesis models a method and describes a tool founded in mātauranga Māori. Section Three summarises the exegetical description before it is applied in subsequent subsections.

1.1 The Burden: A Mother's Tale

A month before I was to submit the draft of this chapter, 50 people were killed and 50 injured in two mass shootings at Christchurch. The final death toll would be 51. Pouri is a black (uri) night (pō), a deep grief, a "darkness of mind" (Tregear 1891, 360). In the aftermath, pouri was not just in me, but everywhere. I felt it like water, calling me to witness the sorrow, to acknowledge the mourning that I saw.

On Friday 15 March 2019, a mother, Salwa Mustafa, was on the phone with her son, Hamza.

- He said, "Mum, there's someone come into the mosque and he's shooting us".
- After that I heard shooting and he screamed and after that I didn't hear him.
- I called, "Hamza, Hamza," and I can hear his little voice and after that it was quiet.

I edited the story she told to journalist Sam Sherwood (2019). Twitter's (2019) curators circulated my Tweet in *World News*. Readers the world over would know what it feels like when time stops.

2. *Ripiripia*: He Wānanga

In this section, I offer an exegesis of the ngeri *Ripiripia*. A ngeri is a specific form of waiata, a "*rhythmic chant with actions*" (Williams 1957, 233). Electing a waiata over other mātauranga Māori sources reflects the methodology of this thesis. Like all waiata, *Ripiripia* embodies the creative source of all mana ("te toi o ngā mana") that is mana motuhake (Black 2000, 289). It is a river (wai) reflected (ata) by a light (māramatanga) that cannot be contained.

Ripiripia is analysed over others as a text that directly addresses the issue of living through death. As indicated by etymology, the rituals of bereavement are a first responsibility. In this mode, duty operates without agency – one moment you are standing, the next on the floor. By selecting a text that articulates that obligation, I assert mourning's role in comprehending my responsibility in the face of mass extinction.

The intention of the exegesis is to describe a "tool for thinking" (Mead 2003, 306). The exegesis is undertaken with caution. As Tuck and Yang (2014, 224–25) note, "there are some forms of knowledge that the academy doesn't deserve", so I must "place limits on conquest and the colonization of knowledge by marking what is off limits, what is not up for grabs or discussion, what is sacred, and what can't be known". Thus, this exegesis will not subject the text to analysis that risks exposing more than would be considered necessary by Uncle Tahu and other kaiponu – those who withhold to preserve (Haami 2017; Che Wilson 2010).

Like other waiata (such as the chanted poetry of *Kikō*), *Ripiripia* names multiple life forms. The practice in the thesis of recognising the nonhuman follows from this tradition. Though different to kaupapa tangata, our kin are similarly descended from the primordial parents. Hence, each belongs to a People. Sea creatures are 'ngā uri a Tangaroa' (descendants of the sea god) (Royal 2007a). Miller (1952, 2) identifies a wide selection of invertebrates as "*Te Aitanga Pepeke*, or *Te Aitanga a Punga*". Some names correspond with stories of Tāne's descendants: the "tātaka, the larva of the huhu beetle (*Prionoplus reticularis*), and pepe (a butterfly)" (Haami 2007, para. 7). Others, like the kūmara (Adds 2008), are identified separately. Here is whakapapa and the web of life.

The exegesis acknowledges the ngeri's performance in a specific context. Although I have heard it used in long-form oratory, it is most commonly undertaken during mass movement on a marae, particularly funeral rites. As a written work, this analysis will reference enactment, but emphasise lyrics over other aspects (for example, scale). This supports the duty of song "to pierce the ārai" (Melinda Webber in Fitzpatrick et al. 2018), to breach the veil that separates the living and the dead, without destroying it.

Widely known, the ngeri is performed by a variety of the Peoples to whom I belong. In the autoethnographic, *Ripiripia* signals loss, pregnancy, and rebirth. It is the farewell soundtrack that walked me, heavy with child, from Ngātokowaru to bury my Nanny Piko. It is the welcome song as I walked onto Kuratahi with my husband in a box. In response to shoulders lifted in a shrug, I offer shoulders lowered, ready to carry pain. It is music with which to tae pākoro (arrive laden with sorrow).

2.1 *Istories*

Ripiripia is a ngeri of two verses and a refrain. The First Verse uses a series of commands. The Second Verse mixes sentence structures: questions, commands, and statements. It may be performed alone or with a cantor-led group. Amongst Whanganui, the cantor is always male.

There are a number of variations. Pei Te Hurinui (Jones 2010, 270) recalls the version performed in 1860 on the day of Pōtatau Te Wherowhero's burial. A truncated form from 1946 supported Kanapa Haerehuka (of Te Wainui-ā-Rua, an old name for the Whanganui River) as he welcomed home the 28th Māori Battalion in Wellington (Haerehuka and Parker 1946, at 3:13). Hōri Manuirirangi (2012) of Ngā Ruahine offers one in his farewell to Nātana Takurua. An amended variant of Ngā Muka o te Reo o Whanganui (2010, 13) opens this chapter.

The written texts differ in four primary areas. First, wording differs between the variations. Te Hurinui (and the Haerehuka recording), for example, presents only one verse. Where my variant begins 'Tuakina', Te Hurinui (Jones 2010, 270) has, "Tukitukia te upoko o Aituā! O te Ngārara kai tangata!" There are divergences in (secondly) orthography and (thirdly) punctuation. The first line appears as "Ripi, ripia" (followed by an exclamation mark) in Te Hurinui (Jones 2010, 270) and "Ripiripia" (followed by a comma) in Manuirirangi (2012, 6). Fourthly, typography is italicised in these versions, but Ngā Muka o te Reo o Whanganui (2010) mixes bold and roman. This chapter's opening reflects my comparative analysis in its orthography (for consistency), punctuation (emphasising performance), and typography (for aesthetics). Its wording remains that of Ngā Muka (2010), because that is the version I was raised to sing.

2.2 First Verse

Ripiripia! Haehae!
Ripiripia! Haehae!
Tuakina!
Paranitia te ūpoko o te ngārara kaitangata!

The First Verse is 12 words followed by a refrain. The sentences are imperatives, commanding an action. In performance, the first four words may be conducted as a call and response: a cantor cries 'ripiripia' and the chorus reply 'haehae'. The lines describe cutting open ('ripiripia') repeatedly ('haehae') (see Tregear 1891, 40). The final lines are performed en masse, urging evisceration ('tuakina'). A post-1918 loan from English (Moorfield 2019b) brands ('paranitia') the head ('te upoko') with an identity mark.

The object of the commands is a 'ngārara'. Its term encompasses a large number of beings, including "a reptile; an insect . . . . a demon, a reptile-god, a god of evil . . . . [and] a sickness" (Tregear 1891, 278; see Williams 1957, 229). Te Hurinui translates the word to "Dragon" (Jones 2010, 270). Described as a 'kaitangata', it is a human-eater, breaker of both life and the customs of peace. When imagined as a characterisation of death, the First Verse signals the anger, frustration, and helplessness called forth in the ngārara's presence. If power is the "ability to do" (Heywood 2000, 35), that power is gone. However, the primary context of death is "as a corollary to life" (Rose 2011, 82). Hence, this creature could be found to be one of those who will live by eating me: a decomposer.

Decomposers are organisms that help "break down dead or decaying organic material" (Watts 2016, para. 1). They return "the constituents of the organic matter to the environment in inorganic form so that they can again be assimilated by plants" (Hine and Martin 2015d). The two primary types of decomposer are detritivores and saprotrophs. Detritivores obtain nutrients by feeding on detritus, "particles of organic material derived from dead and decomposing organisms" (Hine and Martin 2015e). Two snail families, Charopidae and Punctidae, "constitute a major component of the detritivore guild in New Zealand forests" (Manaaki Whenua – Landcare Research 2019b, para. 1). Comparatively, saprotrophs secrete enzymes to externally digest dead organic matter before absorption. Most are bacteria and fungi (Hine and Martin 2015k). The harore (*Armillaria novaezelandiae*, bootlace mushroom) is a local example of an endemic (native and with restricted range) saprotroph (Buchanan 2007).

In human decomposition, decomposers range in size from small to microscopic. In the small category, two blowflies (adults and larvae) appear at local scenes: the *Calliphora stygia* and *C. hilli* (Eberhardt and Elliot 2008). In the microscopic, there is *Clostridium spp.* (Javan et al. 2017), an anaerobic bacterial genus (Wickham Laboratories 2017). "The gut microbiota, which includes *Clostridium spp.*" (Lopetuso et al. 2013, para. 6), are symbionts of the holobiont, the "human individual plus the microorganisms contained within the gut or living on the skin surface" (Hine and Martin 2015i). These decomposers are not only a necessary component of the life cycle, they are a necessary part of me.

The First Verse uses imperatives to describe the hunt for an unintelligible foe. In my analysis, I suggest the ngārara as decomposers. In doing so, I draw a frame that accepts death and life as coexistents. When viewed through this lens, the ngeri's narrative shows how the impetus to destroy is futile and ultimately suicidal. Following a different frame, I may have identified the ngārara (more generally) as death or (more specifically) the Unsettler state. I may have even named myself.

Soon after I submitted the third draft chapter, we went on holiday. I left the children at the house unpacking the car and walked to the beach. Above the water, the sun lay low behind some clouds. I sat on the sand, wiggled my toes, and thought how easy it would be to walk into the ocean. Soon after dawn, the beach was grey and empty. Calmness settled again on my mind. I removed my shoes and folded my jacket, swam and returned home. Sometimes, when facing mortality, we need a villain.

2.3 Second Verse

He aha te tohu o te ringaringa?
He kawakawa

Tuku ki raro ki a hope rā
He korokio
Ko te whakatau o te mate

The Second Verse is 24 words followed by the refrain. There are interrogative (questions), declarative (statements), and imperative sentences. In performance, the cantor (if any) calls the first line. Dialogue (between performers) and hypophora[51] (between audience and recitalists) transition the focus. The hunt's energy dissipates as attention is drawn towards the familiar.

'He aha te tohu o te ringaringa?' What is the sign of the hand? Unique to primates, the prehensile, five-digit organ may be short (poto) (Sinclair 2002, 238) and strong (kaha) (Mead 2003, 366). Frequently representative of whole persons (as in 'te ringa kaha o aituā'), such body parts are actors for command in the reo (Biggs 1998b, 66–67). As even nonhuman actors may have subjectivity – Koro Ruapehu, for example, is an 'I' (Latin: *ego*) as is our family cat – hands can justifiably substitute (Levinas 1989). But the *Ripiripia* hand also has a 'tohu' of its own.

The tohu is a "sign", "a token of remembrance", and the act of "protecting, watching over" (Tregear 1891, 524). In its presence we find not a singular metaphor, but a "series of metonymies" (Derrida 1998, 21). Metonymy "replaces the name of one thing with the name of something else closely associated with it, e.g. *the bottle* for alcoholic drink, *the press* for journalism" (Baldick 2015). The tohu represents the hand that substitutes the person.

The sign of the hand is 'kawakawa' (*Macropiper excelsum*), a plant used to treat different ailments. Metaphorically, the herb denotes the beginning and ending of life; different parts of the plant can be used as an aphrodisiac, "to ensure conception", and "as a symbol of grief" (Gray 2012, 2). It is a presence during mourning; "the greenery or pare kawakawa worn around the head as a wreath during tangihanga has become a symbol of the tangi for many people" (Higgins 2011, para. 3). Here, in metonymy, the hand is displaced (Colman 2015) to lend its meaning to the leaf it holds in contiguity. Thus substituted, the subjectivity of the hand (indeed, the whole person) may be found in kawakawa's caress: desire, joy, and sorrow.

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[51] Hypophora is a rhetorical device where a questioner answers their own question.

‘Tuku ki raro ki a hope rā.’ “An incantation used at a time of parturition”, Verse Two’s ‘tuku’ may also be its sole command: “to let go” (Tregear 1891, 549; see Williams 1957, 451). The direction is “down, below” (‘raro’) (Tregear 1891, 398), and the indirect object that of the “the loins, the waist” (81; see Williams 1957, 59). One reading would note that thence come children. It may allude to a subjectivity that begins as a surrender to our children, those born and those yet to be. Another reading would recall performance. Rows of mourners chant the ngeri, each fist bearing a branchlet. Hands rise and fall in unison, from shoulder height to thighs where the last organism is found.

Though ‘korokio’ is a name shared by two kingdoms, (Williams 1957, 144; see BirdLife International 2016a, 2016b), it appears most frequently amongst the Plantae. For example, the genus Corokia is korokio with a latinised name (Cunningham 1839). One species, *Corokia cotoneaster*, is Ngāi Tahu’s korokio, a “tough evergreen shrub” used to “lift the tapu from foods” and as a tea for tummy troubles (Tipa 2016, 51).

Ngāti Rangi’s korokio is mountain hard fern (Che Wilson, Facebook comment to author, March 9, 2019). *Blechnum vulcanicum* was first described in Java by the 19th-century botanist Carl Ludwig Blume (Allan 2004). It is frond dimorphic – sterile and fertile fronds have different forms – and “found in subalpine forest on the North Island down to sea level on the South Island” (Jensen and Gardner, n.d.). At select tangihanga of our People, korokio is worn as a sash that falls from the shoulder and encircles the waist. Following a descriptive reading, the kawakawa moves from the upper torso to the belt of korokio at the hips. An alternate may recall the use of ferns to line graves.

The Second Verse begins with transition. Hands and kawakawa are together, the latter a substitute for the former. Depending on interpretation, the metonym may descend to korokio or be let go for our progeny. If the latter, the korokio addresses *Ripiripia*’s purpose. ‘Whakatau’ is an “address in formal speech” (Williams 1957, 396) “to cause to alight; to make rest” (Treager 1891, 484). The song aims to settle the dead and their survivors.

2.4 Ue Hā

A refrain is a structurally significant “repetend separated by at least one line of nonrepeating material” (Burt 2012, para. 1). It offers “regularity (even when the promise is violated or fulfilled in some nonliteral way)” (Burt 2012, para. 6). Further, it can imply “self-division, haunting, or obsession, hence mortality” (Burt 2012, para. 6). In a song, a refrain may be called a ‘burden’ being “a raising of the voice, utterance, oracle . . . the bass or undersong . . . the chief theme, the leading sentiment or matter of a song or poem” (Brogan and Evans 2012).

Between and after the verses, the Refrain comprises of two words: ‘Ue hā’. ‘Ue’ may be a poetical rendition of ‘aue’ (alas) (Williams 1957, 465) and ‘hā’ an interjection (indeed, oh) (Moorfield 2019a). The phrase, thus bestowed, would be a statement of forlorn surprise. An alternate sees ‘ue’ as “*push*, *shove*” or “*shake*” (Williams 1957, 465) and ‘hā’ as “*breathe*” (29). Like Levinas (1989, 114), the ngeri urges us to breathe in our grief.

More personal interpretations are possible. One Ue was companion to Kahu and a descendant of Hoturoa (captain of Tainui) and Whakaotirangi (bringer of kūmara). From this line would come Whatihua and Tūrongo. Another appears as the rainbow deity Ue-nuku, child of the primordial parents. His night in the monthly calendar is as often “Oue” as “Ouenuku” (Roberts, Weko, and Clarke 2006, 12). In literary circles, the polychromatic arc symbolises covenant and messenger, an intermediary for humans with either the transcendent divine or the sacred nature (Ferber 2007). However, in Ue, that divide between divine and nature is lost.

This is no attempt “to elevate natural things to the level of the divine as a compensation for the fear of not being able to rationalize them” (Valevičius 1987, para. 19). Instead, ethics as mōhiotanga and its companion feeling “in the puku” (Melinda Webber, answer to audience question, November 23, 2018) offer a connection to the world in which we live. He is kin, our ‘Ue’ before the ‘hā’. *Ripiripia*’s command that we breathe through our sorrow yields a promise: we will not be alone.

The ‘ue hā’ of our ngeri is the Refrain. Both form and content reinforce the themes of obsession and transience. However, its strength in this analysis is the promise of regularity. The stable pattern presented an object for violation. A reading of self was found in its fixed form. I understand the value of repetition and the small. The title of 'burden' reflects what it bears.

3. Te Tohu o te Ringaringa: On Biodiversity

> There is a prophecy made before the Europeans arrived [by one for whom our daughter is named]. It speaks of a great monster with teeth of gold that swallows the land. Some of our tohunga named this monster colonisation. They cite the massive land loss and the resulting poverties as evidence. Unfortunately, I believe the monster has yet to finish its work. There is something far, far worse on the horizon. (Gray-Sharp 2017c, 88)

Ripiripia is a song that engages directly with lived experiences of death. It communicates both our demand to feel powerful and our corresponding powerlessness. It reminds us of the primary duty of mourning. It holds our hand while we try to breathe. An example of mātauranga Māori, *Ripiripia* is a means for "organising information [and] considering the ethics of knowledge" (Mead 2003, 306). It can be a 'tool for thinking'.

As a ngeri focused on living through death and loss, *Ripiripia* can help order the thinking around the sixth mass extinction. Now that I am aware, what is tika in this context? What am I to do?

The imperatives of the First Verse provide organisation. Immediately, the event of death is located within a set of acceptable behaviours: cutting open, evisceration, identification. The research analogy is clear: one must analyse. The approach is also plain: I am to consider structure. The Second Verse too has structure, alongside signs and substitution. It presents rows of leafy hands, rising and falling. It gives one command with an indirect object whose identity is relative. The imperative reflects the stanza more generally: it affirms multiple readings. The Refrain is a managed transition. As an imperative, it urges breathing through grief. As a declarative, it provides ethical guidance for the study: make space for others. Overall, *Ripiripia* gifts a tool for sharing life with the burden of mourning.

The remainder of this chapter will apply the tool to the sixth mass extinction. It broadens the story by giving an alternate reading to that of Chapter Four. That reading emphasises structure both conceptually and in its analysis. As an ethical matter, it does not attempt to ‘eat all the kōrero’. Instead of offering definitive accounts, the writing begins to establish spaces for others’ research.

3.1 The Burden: Tātau Tātau e

Tātau means ‘we’: you, me, everyone. For days after the mass murders, I kept reading ‘this is not who we are’ in my Facebook feed. But who 'we' are depends upon the definition of that pronoun. As the statement commonly appeared next to a New Zealand flag, the 'we' being referenced were New Zealand citizens. However, that 'we' had to be questioned.

New Zealand citizens gain our collective identity through the state. New Zealand was established on racist acts of violence, terrorists entering homes and places of work and worship, killing people who neither looked nor thought like them. Some of those terrorists were British troops. Some of them were local forces gathered by the likes of Governors Grey and Gore-Brown. If 'we' are 'New Zealanders' then the Christchurch act of terrorism is exactly who 'we' are.

An alternative 'we' could have been 'we who will protect our Muslim communities', 'we who will mourn together for those who have died', and 'we who will support the survivors'. Compassion is from the Latin *compati*; *-pati* means 'to suffer', and *com-* 'with' (Harper 2020a). The 'we' I support is the one who is ready and willing to suffer-with.

3.2 Events, Structures, and Anthropocentrism

Calow (1998a, para. 1; see Myers 1990) defines mass extinction as “substantial biodiversity losses that are global in extent, taxonomically broad and rapid relative to the average persistence times of species in the taxa involved”. Whilst accepting this as an accurate definition of the current biodiversity crisis, the following begins to apply a different framing. Subsequent to the thinking prompted by *Ripiripia*, this reframing considers signification (words as signs and their interpretation) and emphasises structure. Furthermore, “to write is to produce a mark that will constitute a sort of machine which is productive in turn" (Derrida 1988, 8). There are many views, I offer but one, and make space for others.

The phenomenon of mass extinction is categorised as an 'event' (see Pievani 2014; Novacek and Cleland 2001). In Western philosophy, an event is "a change or happening" with two primary interpretations (Blackburn 2016c). First, it can be perceived individually, allowing comprehension of causes and comparison. Secondly, it may be conceived as context-dependent. In the sciences, events tend to fall into the first category.

In mathematics, for example, an event is a subset of all possible experimental outcomes (Clapham and Nicholson 2014a, 2014b). In evolutionary biology, it is a "change of state with regard to behaviour" (Mai, Young Owl, and Kersting 2005). The decision by scientists and others to describe the sixth mass extinction as an 'event' likely echoes these conceptions (see Novacek and Cleland 2001; Ripple et al. 2017). It centres observable action and long-term consequences. It correctly indicates that the current circumstance was avoidable. However, the 'event' concept fails to acknowledge human contributions to the problem. It lacks a structural element by which we non-scientists may locate ourselves.

Structure could be described as a "recurring pattern", and in social settings "the ordered interrelationships between the different elements of a social system" (Scott 2015g, para. 1). It may appear in iterations, sedimentary layers built as a river carves a bed, carves a valley. As an "institutionalized social arrangement", a structure can appear as "the rules that underlie and create the outward features of a society; the social relations that underpin these superficial features" (Kent 2007b). Structure, thus, may be posed as oppositional to agency in that it can limit autonomous action (Brown, McLean, and McMillan 2018). As a category, structure "prioritizes the logic of relations over the logic of substance" (Sandywell 2011b, para. 2). Hence, it is useful for identifying connections with neither apparent agent nor aim.

The extinction crisis can be seen as an 'outward feature of a society' structured by the long-established dominance of humans over our nonhuman kin. It is a very different culture to that from which *Ripiripia* came. It follows a paradigm of exceptionalism where "humans are different from all other organisms, all human behaviour is controlled by culture and free will, and all problems can be solved by human ingenuity and technology" (Park and Allaby 2017h). It extends to "a worldview that sees humans as the source of all value, since the concept of value itself is a human creation, and that sees nature as of value merely as a means to the ends of human beings" (Park and Allaby 2017b). That worldview is anthropocentrism.

In Western philosophy, this human-centredness can be traced from Protagoras' 'man as measure' (Iannone 2001) to Aristotle's *scala naturae* (Ross 1995a) and hylomorphism (Balz 1918). It is classically maintained in modernity by Kantian ethics, where rationalism marks personhood "and the rest of nature [is defined] as a sphere of things devoid of intrinsic moral value or worth in themselves" (French 2008, para. 7). It continues through the idealism of Georg Wilhelm Frederich Hegel and onwards.

Hegel was a German philosopher of the early 19th century. Hegel's dialectical thinking is historicist and totalitising. His logic of "eternal proceeding" constructs "nature as only a necessary but transient phase in the process of development" ("History of Evolution: In German Idealism," n.d., para. 3). However, through Alexandre Kojève's reading, Hegel's anthropocentrism might be seen as a problem of recognition.

According to Kojève (1969, 15), Hegelian recognition requires a bondsman "who, in binding himself completely to his animal-life, is merely one with the natural world of things …. an 'immediate', natural, 'bestial' being". To him belongs the "animal Desire", whose function is preservation of life (Kojève 1969, 5–6). In opposition is the lord who becomes "human, 'mediated'" by "risk[ing] his life in a fight for pure prestige" (Kojève 1969, 15).

Prestige is recognition, "the Desire that generates Self-consciousness, the human reality" (Kojève 1969, 6). The lord fights the bondsman for this recognition, risking both their lives, so as to be separated from Nature, in which he sees "only a simple means of satisfying his desire; and, in satisfying it, he destroys them" (Kojève 1969, 16). This desire for "mastery … over the universal power … [and] the entire objective reality" (Hegel 1807a, para. 196), and the willingness to risk the lives of others in order to gain it, is a totalitarian act. It is also ample grounds for tolerating global depopulation.

The Darwinian revolution of 1859 was meant to abolish such anthropocentrism (Mayr 1972; see United Nations Educational, Scientific and Cultural Organization 1950, 17). No longer accompanied by divinity, humankind would finally understand itself as "part of the evolutionary stream" (Mayr 1972, 988). Instead, Victorian Darwinists worried that "close similarities between man and the rest of the animal world destroyed any purpose of human existence other than that which all animals have" (Diniejko 2010, para. 3). Hence, the 'survival of the fittest' where "the overall purpose of existence is the necessity of reproduction. Sexuality therefore becomes the most important motivation for human behaviour" (Diniejko 2010, para. 3). The emphasis on genetics and speciation over extinction in evolutionary circles, and the impact of *Roe v. Wade* in U.S. society[52], gain additional meaning. Instead of destroying the paradigm of human exceptionalism, Darwinism birthed it anew.

The construction of the extinction crisis as an 'event' provides the phenomenon with a social location. Within the hallows of science, the sixth mass extinction can be observed and measured as a form of change. However, by relocating the 'event' within the structure of anthropocentrism, new readings appear. The early Darwinists were humanists, because they feared not being recognised as human. Moreover, non-scientists can perceive an institutionalised arrangement and are prompted to question their place in it. Section 3.4 continues the structural interpretation, but in a different way.

3.3 The Burden: Te Aroha

I set up the chair northwest of Te Marae o Hine's carvings. We faced the Events Quadrant, but were somewhat separated from it by the concrete strip. It proved a spot of mixed blessings. On the positive side, we could see the people without being swallowed by them. On the negative, we could hear almost nothing. The only discernible sound was "Te Aroha" (Palmerston North City Council 2019, at 11:55). If judged solely on that matter, we might as well have stayed at home.

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[52] *Roe v. Wade* (1973) was a United States (U.S.) Supreme Court decision that gave attending physicians "a qualified constitutional right to perform abortions" (Graber 2004, para. 2). For the U.S. women's liberation movement in the 1970s, these reproductive rights were necessary for equality (Wiesner 2020). The subsequent improved abortion access has been linked to the rise in women's participation in the education and labour markets (Bernstein and Jones 2019). Nonetheless, "the issue of abortion has become one of the most acrimonious political issues in the USA" (Riches and Palmowski 2019, para. 2) such that the debate continues to shape political discourse. For example, "a strong pro-life stand is necessary for any Republican candidate to gain that party's presidential nomination" (Graber 2004, para. 5).

Our attendance, however, served two purposes. First, we followed our own tikanga, which is simply based on presence. A person need do nothing except turn up in order to respond to a call; kua whakautua te reo pōhiri. Second, we witnessed people working together towards healing. Adults came to offer their sorrow, to be there with the suffering. I need to believe this is possible, so that empirical evidence alone was worth the effort of leaving the house.

The City Council's video offers additional benefit (though not in the form of speeches). It is the gift given by the men of the Manawatū Muslim community. The believers sat in the centre of the standing crowd until called to prayer. Then they took their place in straight lines, offering two Takbīr before the Du'ā (supplications for the deceased) (Palmerston North City Council 2019, at 19:00).

These fathers are active targets by the certified in our society. The terrorist was permitted to be in New Zealand and had obtained his weapons legally. These sons are viewed suspiciously by 'average Kiwis'. One of the two women we met on our way out said she was scared of "them" before, but now sees that "we can have extremes" too. These brothers risked their safety, both physical and emotional, in order to pray publicly. They offered supplications not only for the victims in Christchurch, but for all the dead – including mine. God is indeed the greatest.

3.4 The Sixth Mass Extinction as Structural Violence

Global depopulation is a recurring pattern of relations that underpins features we experience in the everyday. By this, I tend an argument that the extinction crisis is itself a structure. Like narrative (and, in this case, language), the sixth mass extinction is "a network of interrelated units, the meaning of the parts being specifiable only with reference to the whole" (Crystal 2008a). The untimely death of an individual (Wilcox 2019), the unfortunate extirpation of a population (Charlie Mitchell 2018; Wright 2011), and the unexpected extinction of a species (Manaaki Whenua – Landcare Research 2019a) are interconnected acts of a narrative. The broader meaning of these acts cannot be comprehended without reference to the structure of anthropogenic mass extinction. The crisis provides the social arrangements by which the independent units can be understood.

The narrative is one of violence. Expanding on the humanism of Galtung (1969, 168), I recognise "*violence . . . as the cause of the difference between the potential and the* *actual*". It is "that which increases the distance between the potential and the actual, and that which impedes the decrease of this distance" (Galtung 1969, 168). If such distance is "*avoidable*" (such as death by pneumonia in a wealthy country), then it is violence (Galtung 1969, 169).

In the case of the sixth mass extinction, I note a significant gap "between what could have been and what is" (Galtung 1969, 168). The *potential* rate of one (maximum) extinction per million species-years is *actually* exceeded almost nine times over. The "ultimate cause" of this disparity is human activity and it is avoidable (Ladle and Malhado 2013, para. 2). For example, economic growth is non-essential to the lifecycle and thus existence of human animals, but is a final factor in anthropogenic mass extinction (see Chapter One). Our actions and inactions are a violence against our nonhuman kin.

I identify the sixth mass extinction as a form of structural violence. The violence is "built into the structure" in that a personal subject remains undefined (Galtung 1969, 171). Instead, the collective noun of 'humanity' is invoked, concealing "the vast inequalities of harm and suffering that attend global patterns of ecological rupture" (Audra Mitchell 2018, 6). Like the ngārara, this is a meaningful composition in two ways.

First, "by conjuring a homogenous figure of humanity" (Audra Mitchell 2018, 6), causal responsibility is avoided. Agency is no longer assigned, particularly to those who benefit from the anthropogenic drivers of "industrialization, international trade, global economic growth and resource extraction" (Audra Mitchell 2018, 5). This is because agentive descriptions influence the attribution of blame and punishment, which would likely be costly. Instead, drivers are identified as "the *unintended* outcome of '*human* development'" (Audra Mitchell 2018, 5; emphasis added) allowing attribution to be shared equally. In this case inequality is more equitable. Of utility, a weakness is made visible: "ethical systems directed against *intended* violence will easily fail to capture structural violence in their nets" (Galtung 1969, 172).

Second, the anthropocentric order that distributes the right to classify is maintained. Extinct species are not the primary object of the structure, but 'collateral damage'. Such 'collateral' is, of course, an intentional outcome for otherwise it would be prevented. Collateral damage is created as examples to those who may resist.

It makes being classified as anything less than ‘fully human’ untenable. In 1864, “’civilisation’ . . . amused itself by shooting the wounded ‘barbarians’ as they lay upon the ground” at Ōrākau (O’Malley 2017, para. 21). In 1881, Parihaka’s women were called “bloody black niggers”, threatened with decapitation (Scott 2020, para. 7), and raped (Te Ture Haeata ki Parihaka 2019, sch 1). In 2019, 51 people were fatally shot by a man carrying a rifle that labelled them ‘kebabs’ (*Al Jazeera* 2019). No matter one’s rank in the hierarchy of humanity, it is better to be in the hierarchy than not.

The violence that ensues from anthropogenic mass extinction is both physical and psychological. In the physical form, it lowers “somatic capacity” to the point of death (Galtung 1969, 169). Like the structural violence of mass human incarceration, anthropogenic mass extinction also constrains movement. Ironically, both climate change and conservation efforts (for example, reservations, captive breeding programmes) disrupt the range[53] of various species. As psychological violence, it reduces our ability to perceive and respond to the biodiversity crisis.

The physical violence is manifest with extinction rates evidencing its presence. As indicated by the ‘crisis’ term, the structural violence is also latent. However, comprehension of precarity is lacking, perhaps as an inability to apprehend the nonhuman lives as worthy of mourning (Butler 2003; see Buchanan 2018c). Hence, an intersection with psychological violence is revealed. More troubling, Galtung (1969, 179) reminds us of our dystopian reality: “manifest structural violence presupposes latent personal violence. When the structure is threatened, those who benefit from structural violence, above all those who are at the top, will try to preserve the status quo”.

The structural violence is both negative and positive. Following Wolfe’s (2006) critique of settler colonialism, modes of operation long-experienced by Indigenous peoples are seen applied to our nonhuman kin. In the negative mode, a decrease is noted as existing populations, species, and relationships are eliminated. In the positive mode, “elimination is an organizing principle . . . rather than a one-off (and superseded) occurrence” (Wolfe 2006, 388). For example, adaptation allows vulnerable populations (human and nonhuman) to contribute to the new relation through (for example) ecological services.[54] Hence, the sixth mass extinction is the negation of life in order to establish and maintain exogenous domination with expropriated resources, including the bodies of the dead and the labour of their survivors.

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[53] A range is “the entire geographical area over which a species occurs” (Allaby 2015b)

In identifying the narrative of the event as violent, individual moments of death, extirpation, and extinction are structured into an ethical relation. I can see the people ducking and the holes in the nets. I can feel the effect of anthropocentric thinking and the consequence of its control. I can hear what is real and I am called to respond.

3.5 The Burden: Pērā ki te Moa

Williams (1852) lists a number of verbs in the reo for extinction as it relates to fire: "*kétokéto*", "*kéwa*" (47), "*ngio*" (95), and "*weróku*" (199). Closer to the contemporary meaning is the concept of "**whare ngaro**" (literally, hidden house), where genealogical lines are without offspring and "become extinct" (Williams 1957, 489). Tikanga exists for its prevention amongst humans, including childrearing by others (whāngai or taurima) and re-partnering for barren pairs (punarua). Amongst the People of Ngātokowaru, the actions of Te Whatanui towards Muaūpoko may be considered another strategy.

As in other places, Whanganui have an idiom ('pērā ki te moa') for the idea that something has become extinct 'like the moa' (Mead and Grove 2003, 286; Te Iwi Maori o te Rawhiti 1874, 267; Wikiriwhi 1955, 41). Indeed, the moa has become the extinct version of the 'kiwi', mourned at international conservation events to affirm nationhood (Young 1983). This is because, when compared to others, the moa's life is constructed as grievable (Butler 2003).

For example, Wehi et al. (2018) display the predominance of moa in ancestral proverbs (whakataukī) via a figure comparing number of whakataukī with number of archaeological sites. A note to the figure states, "Birds represented in blue (i.e. moa and pouakai) became extinct prior to European arrival – but other extinct birds do not occur in the *whakataukī* and are thus not shown" (Wehi et al. 2018, 466). A review of the supplementary material shows six other extinct avifauna with proverbial reference: koreke (*Coturnix novaezelandiae*), hakuwai (*Coenocorypha barrierensis*), moho (*Porphyrio mantelli*, North Island takahe), piopio (*Turnagra capensis*)[55], whekau (*Sceloglaux albifacies*) and huia (*Heteralocha acutirostris*) (Wehi et al. 2018). All were represented in the figure in orange like the extant species (for example, kererū). Whakataukī about these birds were not stated in the main article (in most cases, the sole mention was in the figure). All birds were made extinct post-settler colonisation.

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[54] Ecological (or ecosystem) services are "processes or materials such as clean water, energy, climate regulation, and nutrient cycling that are naturally provided by ecosystems" (Park and Allaby 2017e, para. 1).

The identification of the moa as the "poster species" and "hashtag" for extinction in New Zealand has consequences (Wehi, Whaanga, and Cox 2018, para. 15). It allows the timing of extinction to be isolated to a period before settler colonialism. Like a prehistoric dinosaur, the narrative of the biodiversity crisis becomes one with the past, incapable of resolution. It allows attribution of blame to pre-European social formations. Avowing Indigenous savagery is a standard strategy for Unsettler nation-building. Further, #moa confirms the role of conservation science as an archive of obituaries. It is "the means by which a life becomes, or fails to become, a publicly grievable life, an icon for national self-recognition, the means by which a life becomes noteworthy" (Butler 2003, 23).

Hence, in the #moa's shadow, the vulnerability – the very existence – of other species (extinct and extant) is made unreal. "They cannot be mourned because they are always already lost or, rather, never 'were,' and [those that survive] must be killed, since they seem to live on, stubbornly, in this state of deadness" (Butler 2003, 22). I think this is why Wehi et al. (2018) could not recognise the extinction of the koreke, the hakuwai, the moho, the piopio, the whekau, and the huia. I think it also contributes to the biodiversity crisis' continuation.

3.6 Structures of Mass Extinction: The Biodiversity Social Formation

Biodiversity is "the number and variety of living organisms, from individual parts of communities to ecosystems, regions, and the entire biosphere" (Mayhew 2015a). This subsection explores the structure of the sixth mass extinction through biodiversity social formation. Specifically, it explores the production of biodiversity as "a concrete historically produced complex assemblage . . . . of different instances, levels [and] practices that are articulated together to form a unit" (Barker 2004b, para. 1).

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[55] Also known as korokio.

Ladle and Malhado (2013, para. 3) identify biodiversity as the "unifying concept" linking the extinction crisis with conservation efforts and genetic property rights. This linkage reflects the efforts to contain the problem of mass extinction within the frames of agency (conservation) and property (genetic rights). It reproduces some aspects of the structural violence narrative (for example, homogeneity) whilst suppressing or realigning others (for example, manifestation). The result is a variety of units operating at many levels whose recurring pattern is mass extinction.

The Convention on Biological Diversity (CBD) operates at the supranational level. As one of three Rio Conventions (a group of interlinked international treaties that opened for signing in 1992), its practices are strategic. The Conventions coordinate and share across humanity the responsibility for our planet and kin. In comparison to the other two conventions, the CBD's focus is biodiversity. As a part of the United Nations Environment Programme, it is administered from Montreal by a secretariat of around 110 staff (CBD Secretariat, n.d.c).

Governance of the Convention is by Conference of Parties (COP), a mostly biannual meeting responsible for advancing implementation. Since coming into force, 14 COP meetings have been held (13 ordinary, one extraordinary). At COP 6, parties agreed to a strategic plan for 2002 to 2010, including "a significant reduction of the current rate of biodiversity loss at the global, regional and national level" (CBD 2002, para. 11). "By 2010, failure to reach the targets was well documented" (Campbell, Hagerman, and Gray 2014, 41), and a new strategic plan for 2011 to 2020 was produced. This included the Aichi Biodiversity Targets comprising of five goals and 20 targets (CBD Secretariat, n.d.a). As of July 2018, "most of the Aichi Biodiversity Targets are not on track to be achieved by 2020" (CBD 2018, 2). The CBD, like its sibling conventions, is a process that structures behaviour through political pressure. Due to conflicting motivations present at the outset, its capacity to reduce the extinction rate is minimal.

The CBD arose within existing dynamics of the international community. Subsequent to the 1987 Brundtland Report, the community was learning to balance "economy, environment, and society" in commitment to a new concept, "sustainable development" (Ross-Robertson 2008, para. 2; see CBD Secretariat, n.d.b). More established were the dynamics founded on agency assigned according to economic status. Hence, the noun of country classification: “developed *economies*, *economies* in transition and developing *economies*” (United Nations 2018, 139; emphasis added). Sometimes, the metaphor of ‘rich North’ and ‘poor South’ was used (Koester 1997, 176). It is a literal polarity of inaccuracies (many ‘poor’ countries are equatorial) and exclusions (for example, parts of Eastern Europe). Moreover, it frames supranational and international negotiations as a matter of resources versus (for example) responsibilities.

At the first meeting for developing a convention in November 1988, this frame appeared as “the real issues” of the CBD (Koester 1997, 177). The issues included “the links between biodiversity conservation and development, financial resources, transfer of technology, [and] access to genetic resources” (Koester 1997, 177). Thus, five “basic principles” were agreed, three of which were resource-related: “(a) the links between conservation and development must be incorporated in a new convention; (b) the subject of transfer of technical and financial resources from developed to developing countries should be examined in details; . . . (d) the question of access, including the question of free access, to genetic resources, including genetic resources that had been manipulated, should be examined” (UNEP 1988, 5–6). The CBD as a reproduction of the relation between parties affirmed economic identities.

The opportunity to disconnect economic and environmental strategies was never pursued. Successful negotiations offered the “One/Third” (‘developed’) countries access to the natural capital of the “Two/Thirds World” (Esteva and Prakash 1998, 295): “The rich North needs, the poor South has it” (Frye, quoted in Koester 1997, 176). For the Two/Thirds World, there was recognition of sovereign property rights (see United Nations 1992a, Article 15), technology (see Article 16) a system of benefit-sharing (see Article 19), and finance (see Articles 20 and 21). However, opportunities for participation in negotiations, and the defence of any gains made, were inequitably spread. “A major question for many poorer nations [was] the cost involved in dispatching delegations to spend one to four weeks at an expensive world city” (Sjöstedt, quoted in Koester 1997, 184). Koester (1997, 187) contends that “the Convention represents a North/South political compromise”. Yet if ‘compromise’ means “the *power to decide over the distribution of resources* is unevenly distributed”, it is structural violence (Galtung 1969, 171).

The resulting CBD text was the means by which mass extinction, conservation, and genetic rights were formally connected. The Convention's Preamble acknowledges "that biological diversity is being significantly reduced by certain human activities" (United Nations 1992a). The Preamble does not detail these activities. Instead, a response is outlined in Article 1.

Article 1 states the Convention's objectives: (1) "the conservation of biological diversity", (2) "the sustainable use of its components", and (3) "the fair and equitable sharing of the benefits arising out of the utilization of genetic resources" (United Nations 1992a, Objectives). The latter two objectives reinforce conservation's conception as an economic activity. Moreover, the objectives acknowledge the need to conserve biodiversity for human use without acknowledging why such an action is required (that is, the biodiversity crisis). Thus, the mass extinction's existence is sublated, cancelled and preserved (Verene 2007) at the same time. This is likely a consequence of the sole Principle: "the sovereign right to exploit" (United Nations 1992a, Art. 3). Like the structure within which the biodiversity crisis developed, the CBD is anthropocentric.

New Zealand is a party to the CBD, having ratified the convention in 1993. Its level of formation is national. Its practices straddle strategic, substantive, and operational domains (Boston et al. 1996). In 2000, the first New Zealand Biodiversity Strategy was released (Department of Conservation [DoC] 2000). As a "response to the state of decline of New Zealand's indigenous biodiversity" (DoC 2000, para. 1), the strategy was a "primary tool… used to guide implementation" (New Zealand Government 2014b, 3). Ideology is visible from the Strategy's first goal, where "communities and individuals … equitably share responsibility for, and benefits from, conserving and sustainably using New Zealand's biodiversity" (DoC 2000, para. 8). This devolution to nonstate actors is an approach maintained in other aspects of CBD performance.

The Government's Fifth National Report on its CBD implementation considered "a wide range of actors" on the understanding that "all sectors have a part to play", including in the area of water quality (New Zealand Government 2014b, 3–4). The Sixth National Report took a similar position: "halting the decline of biodiversity poses a significant challenge and needs a sustained collaborative effort across New Zealand" (DoC 2019, 6). However, the duties consequential to the Convention are an obligation of the treaty party, in this case, the New Zealand state. Devolution minimises state capacity to meet their responsibilities. It is, nonetheless, a common strategy of liberal democratic governments.

Engagement on the second Strategy began at the end of 2018. Following naturally from the causes of biodiversity loss, framing is founded on anthropocentricism. Per Treasury's (2018) Living Standards Framework, our nonhuman kin were classified as "natural capital". Hence, biodiversity was important, because it "underpins a range of economic activities" (DoC, n.d.b, 1). It provides "ecosystem services such as carbon sinks, nutrient filtration, flood protection and pollination, which have important economic benefits" (Sage 2019, 5).

The second Strategy was released in August 2020. While "time-bound and measurable" (DoC 2020, 35), the objectives and goals were limited. The Strategy's existence was justified at outset anthropocentrically: "nature is essential for our livelihoods, health, economic wellbeing and food security" (DoC 2020, 12). Hence, one goal for 2025 allows "economic activities that have the most significant adverse impacts on biodiversity [to be] identified, their impacts . . . quantified and active measures [put] in place to reduce these impacts" (DoC 2020, 48). The goal requires neither activities nor impacts to stop for prosperity and biodiversity are "intrinsically linked" (DoC 2020, 43). In the Strategy, "protecting and restoring biodiversity doesn't need to come at a cost to wellbeing and sustainable livelihoods" (DoC 2020, 23).

While economic language is privileged by the nation-state and inherent to the CBD process, it lacks the ability to express intrinsic value, let alone speak for our kin. The manifest structural violence is quantified, but not qualified in its terms, diminishing its comprehension. As speech, it cannot mourn publicly.

Other levels and practices of the biodiversity social formation may possess this ability. In spaces where economic speakers share no grammar, the link between agency, property, and the extinction crisis is less distinct. Here, the manifest violence of mass extinction's narrative can be acknowledged. Here, a "public avowal of sorrow and loss" is safer and less likely to offend (Butler 2003, 24).

The E.O. Wilson Foundation is not one of those spaces. The Foundation was founded in 2005 in honour of biologist Edward O. Wilson. Its core principles are "inspirational education, emerging technology, and sound business strategies" (E.O. Wilson Foundation 2019b). Most ambitiously, the Half-Earth project proposes to grant 50 per cent of the planet to nonhuman life-forms (E.O. Wilson Foundation 2015; 2016). The intention is to protect 85 per cent of species from extinction by reducing habitat destruction (E.O. Wilson Foundation 2019a).

The proposal is based on “three main tenets: (1) habitat loss and degradation are the leading causes of biodiversity loss, (2) current protected areas are not extensive enough to stem further loss of biodiversity, and (3) it is morally wrong for our species to drive other species to extinction” (Cafaro et al. 2017, 400). Despite its admirable aims, the project’s privileging of private property and its maintenance of “nature/culture dichotomies” have been criticised (Büscher et al. 2017, 401). Moreover, it sees overconsumption and social inequality as important, but not within the project scope (Cafaro et al. 2017).

Other spaces are more humble. At the local level, operational practices are often identifiable only in reports and research outputs. They include strict fisheries management (Novacek and Cleland 2001, 5466), recognition of corridors that link habitats and safeguard essential functions (5469), and fertiliser control to minimise nitrogen deposition (5468). Success has been uneven. For example, one New Zealand study found nitrogen concentrations in rivers “increased significantly” from 1989 to 2000 (Ballantine and Davies-Colley 2014) with one possible reason being fertiliser control is not an enforced policy.

A novel, local suggestion has been the alteration of current management strategies to “safeguard evolutionary potential … [and] provide the conditions for selection of adaptive phenotypic plasticity” (Urlich 2015). Long-term, the objective is coexistence between presently protected species and their “introduced predators, so that populations eventually require little or no human intervention” (Urlich 2015). However, on current evidence, it appears unlikely that avian and mustelid could safely share space.

This subsection explored biodiversity as a social formation. It opened with a focus upon the circumstance from which the term ‘biodiversity’ emerged publicly. At the supranational level, the CBD sublated mass extinction through a link to conservation and genetic rights. Hence, the formation reinforces the structural violence, burying mass extinction as subject beneath the right to exploit. The claim to assign value is already established and enforced (Heywood 2000, 141).

But mass extinction's supranational sublation leaves a trace that is articulated at other levels and practices of the social formation. New Zealand's strategy of devolution may be seen as both a consequence of the structural violence and an attempt to be free from it. The E. O. Wilson Foundation's Half-Earth Project promotes both human exceptionalism (one-half for nonhumans ensures one-half for humans) and the possibility of the impossible.

Other options are less grand and more simple. For example, it is understood that "the rest of the biosphere operates on renewable energy and with zero waste, something humans cannot do" (Foley 2017, 252). Thus, Foley (2017, 252) recommends that we follow the example of nonhuman ecosystems: "do not consume resources faster than they are regenerated … [nor] produce wastes faster than they are assimilated or removed … [be] highly diverse … [hence] more robust in the face of changing conditions; and power nearly everything … with the Sun".

4. Ue Hā

This chapter applied a tool for thinking derived from waiata to the biodiversity crisis. *Ripiripia*'s influence was most visible in the emphasis on structure. Beyond the text itself and its clear direction, the necessity of thinking structurally in order to undertake exegesis of a waiata was influential. The identification of mass extinction as having a structure (human exceptionalism and anthropocentrism) and being a structure was only possible because of the tool. Subsequent links with Galtung's (1969) structural violence and Wolfe's (2006) social formation were built on previous writing undertaken for Chapter Three. The theme had a process.

The second influence is the emphasis on process. In order to make space for others, both the exegesis and this reflection detail method. The descriptions offer opportunity to replicate or, alternatively, to apply different perspectives to the same knowledge. It is an opening through which the work may be entered.

The third influence is the presentation of conjunction and disjunction. Approaches to the tool and its application were both methodical. Terms and their definitions, signs and signification, offered points of connection. However, the tool held obvious disconnections between the Verses and Refrain. This allowed space to be made between tool and application; any synthesis was to occur in the second section, not the first. Further, the interruption allowed a different element to be inserted into mass extinction's narrative: the burden of mourning.

For this fourth influence, I wove the autoethnographic through the chapter. It reveals the circumstances under which the chapter was written through a description of grief in the face of tragedy. It also operates as a foil to the rationalisation of nonhuman loss.

Ripiripia is a waiata to which I have screamed. The Christchurch killings occurred two days before the sixth anniversary of my husband's death. I felt the call in the puku and lowered my shoulders. Following the Refrain, I blended Derrida's (1988) concept of iterability (where writing is a witness to absence) and Butler's (2003) concept of grievability (where the only real life is a grievable one) to build the Burdens. They offer a māhau, a transition and breathing point, in a place where there was none.

The study of the sixth mass extinction requires a kaupapa Māori perspective. It is a crisis of importance to our survival and that of our nonhuman kin. It is a site of struggle between multiple forces. Haraway (1988, 587–88) notes how "struggles over what will count as rational accounts of the world are struggles over how to see. . . . The issue in politically engaged attacks on various empiricisms, reductionisms, or other versions of scientific authority should not be relativism – but location." In locating myself amongst our People and the stories that constitute us, I acknowledge my responsibility to and for mātauranga Māori. The mōhiotanga that responds to mātauranga Māori turns similarly towards the biodiversity crisis without prompt. It is a responsibility that seeks to answer even before being called.

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Chapter Six: Responsibility & Mātauranga

Remembering: An Abstract

In the first year, every pōhiri and mihi whakatau included kawe mate. Phone calls were made ahead of time for some. We walked together then, the children, his photograph, and I. At other times, we followed kuia carrying their own pane. I stopped eventually and stood back with the group. Still, we have that regular reminder in triplicate, "Haere, haere, haere"[56]. Kawe mate is a collective grieving. It is a place where loss and despair is accepted.

We sit on the māhau now, because you have come forward from the crowd. We welcome you, the young and the old. If you hold a frame, it will stand on the korowai next to our photos. All will see the one for whom you cry. If your hands are empty, we will fill them with memories, blending our many sorrows. All will see a Beloved's face in your crumpled form. For a while, the burden you carry will be laid down. For a while, the agony you suffer will be shared. Though darkness surrounds you, you are not alone for we are here with you. Now is the time to mourn.

1. Introduction

This chapter, conducted quietly in recognition of those spaces where debate continues, considers responsibility with an emphasis on the philosophical. I begin with a centring in different forms of Māori knowledge. As science has yet to resolve the structural violence of anthropogenic mass extinction, a different starting point from which to approach the problem is functional. Moreover, my place is amongst our People and the stories that constitute us. In embracing my positionality, I take a seat on the māhau, a place gifted by the elder women who trained me. Like my Nanny Piko, I become Mahue – the left behind – a tonotono maintaining her task.

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[56] A statement of farewell for the Dead.

The work, like the space I occupy, is open-sided. It allows contemplation of whatever may arrive on the wind. An etymology of responsibility finds change across 2000 years. The history of Western philosophy is summarised before a wānanga on Emmanuel Levinas begins. His conception of responsibility is considered in multiple ways with specific emphasis on heteronomy. The intention is to continue gathering thoughts from which a tika conception of responsibility may be articulated.

2. On Knowledge

According to Pareraukawa's Te Ahukaramū,

> concepts of knowledge and knowing . . . move from the idea of explicit, codified and externalised knowledge to knowledge as an internalised knowing through to the experience whereby there is no such thing as knowledge, only the experience of the world expressing itself in human consciousness. (Royal 2005, 137)

A first type of knowledge – that which is externalised – he identifies as 'mātauranga'. Mātau means "know . . . understand . . . be certain of" (Williams 1957, 191), the suffix '-ranga' deriving a noun. It is shared knowledge, "'ma' and 'tau' . . . said to be attained when it is held or comes to rest within us" (Smith 2015, 51). Hence, mātauranga is a transferable, active structure that sometimes takes the form of a "wise and knowledgeable person" (Royal 2005, 139).

When an inherited erudition it is 'mātauranga Māori', "an indigenous body of knowledge that arises from a worldview based upon kinship relationships between people and the natural world" (Royal Society Te Apārangi 2017, para. 2). However, it "is not like an archive of information but rather is like a tool for thinking, organising information, considering the ethics of knowledge, the appropriateness of it all and informing us about our world and our place in it" (Mead 2003, 306). It "responds to the three great questions of life, namely: Who am I? What is this world that I exist in? What am I to do?" (Royal 2012, 35) Mātauranga Māori is a means for exploring life philosophically.

To illustrate, an example of mātauranga is the method for calculating current extinction rates. It is knowledge that was transferred to and came to rest in me from a journal article, so that I could distribute it via Chapter Four. Contrastingly, an example of mātauranga Māori is the matters that arise from that calculation for me and others who are similarly directed by its perspective. If we have evidence that our nonhuman kin (and, indeed, our own offspring) are at risk of extinction, what are we to do?

A second type of knowledge is 'mōhiotanga'. Like the first type, mōhio means "know, understand" (Williams 1957, 205), but it is an "internalised or embodied knowing" (Royal 2005, 140). According to Māori Marsden (in Royal 2005, 139), "ko te mātauranga, he mea nō te māhunga o te tangata, ko te mōhio he mea nō te ngākau . . . knowledge belongs to the head and knowing belongs to the heart". Hence, "*kei te mōhio ki roto ēnei āhuatanga i taku manawa*: I know it is there in my heart" (Hokowhitu 2001b, 230). Mōhiotanga differs from mātauranga in that it requires no "exchange (of knowledge) to be present in one's consciousness" (Royal 2005, 140). It is a direct inheritance versus a cognitive transfer. There are no controls, which may explain why this knowledge form is not always well received.

"Don't be a mōhio!" I was regularly scolded as a child for knowing too much, too soon. In the hostile, colonial environment, displays of mōhiotanga are like being "tall, active and well made" (Inwood, Oxley, and Roberts 2016). They are maladaptive. However, suppression of mōhiotanga is unlikely to be successful over the long-term. Neither the tātarakihi nor the tūī are taught to call. Neither the tarata nor the taurepo are taught to flower. Mōhiotanga is a natural condition of living organisms.

A third type of knowledge is 'māramatanga'. Marama references the moon and mārama "light, not dark" (Williams 1957, 180). Thus, māramatanga might be described as "illumination, understanding" (Lambert 2005, 79). Te Ahukaramū describes it as the "quality and experience of understanding that takes places inside a person when they have received certain knowledge" (Royal 2005, 140). Though it may appear entirely cognitive, "a rather mysterious alchemy" occurs (Royal 2005, 140) likely due to it being "o te wairua" or of a spiritual nature (Marsden in Royal 2005, 139).

Māramatanga may be inspired by diverse sources. For example, Smith (2004, 46) suggests a specific interpretation in "conscientization" (conscientização), or "learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality" (Ramos in Freire 1996, 17). When "marama" refers to the "primordial" (Mika 2018, 3), that learning is an "irruption" (Levinas 1989, 82) of remembering versus a behavioural, rationally cognitive, or social consequence. "It might be argued that māramatanga is the highest form of knowledge and knowing" (Royal 2005, 140). This is because it is at least partly derived from the Infinite.

Amongst we who bear the title, māramatanga is a communal "light, enlightenment, knowledge" (Sinclair 2002, 230). However, it is doctrine that the name is not ours alone for 'there are many Māramatanga'. Thus, the movement founded by Mere Rikiriki was but "the first Maramatanga to actually be the Maramatanga that's come out of the New Testament" (Hoana in Sinclair 2002, 43). Similarly, the activities of my parents' maternal grandmothers – Te Awe's monthly meetings and Rangitārewa's Ways with water – were Māramatanga. Like the moon and stars, all may illuminate the darkness.

A fourth type of knowledge is 'wānanga'. Of mātauranga Māori, it is a process of development within which mātauranga of various types may be shared and māramatanga experienced. Smith (2015) identifies it as a level between mōhiotanga and māramatanga in research. It is not an ending in itself, but a "taumata" (peak) on a long journey (Smith 2015, 51). In many ways, this accurately describes the path of contemporary wānanga, bodies "statutorily charged with all the responsibilities of other TEIs [Tertiary Education Institutes], and have the added responsibility of carrying out teaching and research that assists the application of knowledge regarding ahuatanga and tikanga Maori" (Waitangi Tribunal 1999a, x). Their establishment was not a finale, but a middle movement.

Amongst Whanganui, wānanga is a traditional learning process undertaken in the hours before dawn, kia kū te rā (whilst the sun is silent). In the 1970s, the tōhunga Rangimotuhia selected a group, "almost all members of the Māramatanga", to attend his whare wānanga at Patiarero (Jerusalem, Whanganui River) in order to be "trained in the most esoteric aspects of Māori ritual and ideology" (Sinclair 2002, 130–31). Some of those trainees went on to establish the wānanga we attended as children. I would wake in the darkened wharepuni to people speaking a language I did not understand. Though the learning had practical aspects (for example, marae protocols), it involved direct interaction with the noncorporeal. Hence, the early glosses of wānanga in English to a “holy altar” and “a sacred medium”, and the prophetic connections across the Pacific (Tregear 1891, 594).

As an adult, I can connect that divinity with Tāwhaki’s wānanga collection and its consequential secular application. I quote from Pei Te Hurinui’s closing incantation (Jones 2010, 260–61):

> Ko Te Kete o te Wānanga ka hikitia,
> Kia ū te pupuri kei maringi ki waho;
> He hē nui hoki ēnei
> Ko te marea, he pōrewarewa rātou
> Kei ngā kūaha tūtata tonu ngā wairua
> E kore e mau i a rātou te toi-tupu o te wānanga:
> He tuara tēnei o āku whakatūpato;
> He nui atu i tō mua ake nei!
> Kia ū! Kia ū!
> Hou!

The first lines discuss Tāwhaki’s freeing (‘hikitia’) of knowledge (‘Te Kete o te Wānanga’), so that we are now required to hold it close (‘kia ū te pupuri’) lest the contents spill outside (‘kei maringi ki waho’). The middle lines state that it is not everyone’s. The multitudes (‘marea’) are ignorant (‘pōrewarewa’) and the In-between (‘ngā wairua’) unable (‘e kore e mau i a rātou’). The last words, marked in exclamation, exhort resolve (‘kia ū’) and a bold entry (‘hou’) into the world. The wānanga is not for all: we must uphold our duty to preserve its gifts.

Royal (2012, 36) describes wānanga as “a traditional term we can most closely associate with the creation of new knowledge.” However, newness is subjective and Māori temporality nonlineal. Information could be experienced as original by the mānga (student of the wānanga), but not by the pebble in his mouth (see Royal 2007b, para. 30).

Similarly, the structural violence of the anthropogenic mass extinction may appear new. However, positive and negative modes of elimination have been experienced by Indigenous peoples for millennia. The answer to the problem of human exceptionalism, anthropocentrism, and economic growth might be found in the patterns of Indigenous survivors. A waiata I learnt at Rānana (London, Whanganui

River) offers some advice. Whether it is mātauranga, mōhiotanga, māramatanga, or wānanga, the light we seek may be far (nō te pae ki tawhiti). But, sometimes, that which we are to hold is something we already have (ānei tata e).

3. Historicising Responsibility

As outlined in Chapter One, responsibility is related to the PIE etymon **spend-* meaning execution of ritual (Harper 2020l) and offering (Linguistics Research Centre 2020v). Such acts can be seen in the ceremonies of libation, where one remembers the dead in the pouring of drink. Current conceptions of responsibility reflect this promise of respectful conduct. The following section provides an etymology.

According to the *Oxford Dictionary of English*, responsibility has two definitions that are relational and one that is agential (Stevenson 2015d). In the first two definitions, the subject is related to something either through obligation or accountability. To illustrate, I am responsible for our children's wellbeing. This is true in the sense of obligation, because I have a duty of care (both moral and legal). It is also true in the sense of accountability, as I will be blamed for any failure. However, someone can be responsible in one way and not the other. For example, I breached no duty of care, but am to blame for my husband's death. Beyond legal obligation, there is familial responsibility for I am "my brother's keeper" (Genesis 4:9; Levinas 1989, 107).

In the third definition, the agent has the possibility or capacity for autonomous action. Indeed, an agent is characterised by the degree to which this is true. For example, I would like our children to take more responsibility around the house. Whether it occurs or not will be conditional on (1) their initiative, (2) my ability to leave mess alone, and (3) our communication. Nonetheless, the tasks exist as an opportunity to assess the extent of their autonomy.

Adjectives can be added to further elucidate responsibility as a term. For instance, a person has *causal* responsibility if one was the direct or indirect cause of something. *Legal* responsibility is an "accountability under the law", either as a legal obligation or penalty for an offence (Klein 2005, para. 1). *Moral* responsibility links two notions: "(i) the having of a moral obligation and (ii) the fulfilment of the criteria for deserving blame or praise (punishment or reward) for a morally significant act or omission"

(Klein 2005, para. 2). *Role* responsibility is likely the most practically significant in its articulation of duties. For example, "a job, or profession, or social role will be partly defined in terms of the responsibilities it involves" (Blackburn 2016f).

Whilst the legal and moral elucidations host a relational form, all four conceptions offer opportunity to choose and are, therefore, agential. Responsibility thusly posed is "a feature of agency" that at times is "used to denote an action or sphere of action which is part of someone's duty" (Scruton 2007d, para. 1–2). It is an expression of individuality, liberty, and self-rule. However, this interpretation of responsibility is a construct of particular circumstances.

Responsibility is a noun derived from the adjective 'responsible' (Harper 2020i). Like its derivative, 'responsible' is about obligation, answerability, blame, credit, and duty (Stevenson 2015e). It has no equivalent in Old English. The term did not arrive in the language until the 1590s as "answerable" via the Latin and French (Harper 2020i).

The Latin sources contain elements of the relation present in later reflexes. They begin with *sponsis* (meaning "an ancient formula of prayer") and *spondĕo* meaning "in bargains, covenants, treaties, etc, *to promise solemnly*, . . . [or] *to promise* for another, *to become security* for a person" (Lewis and Short [1879] 1891, 1745). With the addition of prefix 're-' (back), the verb *rē-spondĕo* is "*to promise* a thing *in return* for something else; *to offer* or *present in return*" (Lewis and Short [1879] 1891, 1581). Its present active infinitive, *respondēre*, appears as the point when responsibility attained legal ramifications, specifically in the development of common law and judicial hierarchies.

Respondēre was an instrument of law development, interpretation, and comment that operated for over 600 years from the Roman Republic through to the rule of Emperor Hadrian (Chroust 1955, 547). There was a custom in the Republic of pontiff magistrates (*sacerdotes publici*) giving legal rulings (*responsa ponitificum*) as an act of service (Berger 1953, 1581; Chroust 1955, 554). Seeking stability, Emperor Augustus and the early Principate maintained the custom as *responsa prudentium*, opinions given without remuneration by jurists to those seeking interpretations of law (Berger 1953, 1581). *Ius respondendi* was the right granted to favoured jurists by Augustus to give *responsa* "by special Imperial authority or patent" (Chroust 1955, 542). Later systemic amendments would add qualification of expertise and remuneration. The change in responsibility from a reciprocal arrangement to a legal one can be understood in terms of Roman bureaucracy. The legal aspect was reinforced and its structures redesigned as a consequence of the French influence on English.

French began as a dialect of Latin. Attested as distinct from the ninth century, Old French was a literate language within 200 years (Matthews 2014b). The adoption of responsibility's legal sense from Latin is evidenced within 500 years. The noun 'responsaule' (meaning a type of vassal in the feudal system, the man who must pay in perpetuity a lord the rent of an ecclesiastical fief[57]) is attested from 1284 and the adjective 'responsable' (meaning who answers, who is guarantor[58]) from 1304 (Centre National de la Recherche Scientifique 2012 – translated). The adjective indicates an ability to respond (as in 'response-able'), and has been defined as "responsive responding, corresponding" (Hoad 2003g).

Its first appearance in English as "'answerable' (to another, for something)" in the late 16th-century (Harper 2020i) indicates a shift from a promise to an imperative. Moral judgement is attested from 1766 with a letter to the Third Duke of Grafton, Augustus FitzRoy, from the exile Member of Parliament John Wilkes. Republished the following year, it concerns Grafton's message that Wilkes should contact the Earl of Chatham and Lord Privy Seal, William Pitt. Wilkes' (1767, 165) response declares Chatham's new office (functionally that of Prime Minister) "neither important, nor responsible".

Unlike 'responsible', 'responsibility' first appears as a term in Late Modern English. Though attested from 1787 as the "condition of being responsible" (Harper 2020j), an agential rendering appeared a few years earlier "with regard to the degree of responsibility belonging to the offices of cashier and accountant" ("Parliamentary History," 1783, 287). Agency is even clearer in the translated 1793 declaration of vicomte de la Platière and French Minister of Interior, Jean-Marie Roland. On 21 January, Louis XVI of France was executed. Two days later, Roland stated:

> I have done my duty, and I will not shrink from the responsibility attached to the deliberations in which I have taken part: but I declare, that I will not sign the

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[57] "Subst. *responsaule* « homme ayant la charge à vie de payer à un seigneur la rente d'un fief ecclésiastique »" (Centre National de la Recherche Scientifique 2012 – my translation).

[58] "*Responsable* adj. « qui répond, qui est garant »" (Centre National de la Recherche Scientifique 2012 – Google Translate).

> general account of the state of the nation, to be presented by the executive council on the 1st of February. ("Affairs of France," 1793, 129)

He resigned instead. The translation of Roland's declaration may be interpreted as an example of a political origin for responsibility. As Williams (2009, para. 4) states, "in all modern European languages, 'responsibility' only finds a home toward the end of the eighteenth century . . . within debates about representative government". However, in the translation of Roland's words the seeds of contemporary conceptions can also be seen.

Roland accepts the promise he has made as representative: he fulfils his legal, moral, and role responsibilities. The promise is refined in the translation through a claim to autonomous action and free will ('I will not shrink from the responsibility'). His resignation is "rational action . . . guided by motives and purposes, amenable in principle to conscious scrutiny and correction" and consisting of "decision-making and choice" (Bauman 2004, para. 12). That claim to autonomy and rational action express the "revolution taking place in the European mentality . . . the new feeling of self-reliance and self-assurance, readiness to seek and try unorthodox solutions to any current trouble and worry, belief in the ascending tendency of human history and growing trust in the capacity of human reason" (Bauman 2004, para. 3). Roland's translator is presenting a completely modern conception of responsibility.

Current agential conceptions of responsibility likewise reproduce this tendency towards individual freedom and rationality. The move from a spiritual to a legalistic interpretation reflected the expansion of bureaucracy in the Roman Empire's colonial project. Equally, the emphasis on agency in current definitions reflects the norms of modernity. Hence, this conception of responsibility mediates "the development of a new fabric of selfhood rooted in concepts of individuality, autonomy, and freedom" (Calhoun 2002a). It allows the site of control to be localised. As such, it becomes mātauranga, something that can (but need not) rest in me. To be a conception that expresses māramatanga, that is tika, requires more.

4. He Wānanga: Emmanuel Levinas and Responsibility

This section begins an encounter with a specific philosopher, Emmanuel Levinas. It utilises the wānanga as an intense process of knowledge development, assigning a specific time and place for engagement without disallowing talks outside of its plane. Levinas' conception of responsibility is summarised. Particular attention is given to his exegetical method and use of pronouns. An extended explanation of responsibility considers nomoi of multiple forms. Following my methodology and his own philosophy, the section attends to him as a person with an intellectual life (versus an intellectual with a personal life).

4.1 An Ethical Philosopher

Ethics is a derivative of the Greek *ethos* (εθος) meaning "*custom*, *habit*" (Liddell and Scott 1901, 412). The lengthened form (ηθος) means "the manners and habits of man, his disposition, character" (Liddell and Scott 1901, 644). In being "also of animals", including their "*haunts* or *abodes*", the term gains a nonrational element (Liddell and Scott 1901, 644). In comparison to morality, the etymology of ethics suggests a basis similar to mōhiotanga, an embodied knowledge that is not transferable.

Blackburn (2016b) describes the philosophical field of ethics as "the study of the concepts involved in practical reasoning: good, right, duty, obligation, virtue, freedom, rationality, choice." Although the latter half of the list seems strangely distant from the etymology, the first has been of interest since (at least) Plato. Socrates' student finds "'the good' . . . [as] a light that reveals truth", a form that flows from the fount of wisdom (Cohen 2004, 86) "beyond the being" (Levinas 1989, 245). However, the transcendence of being by the good need not be an ascent from one plane to another. Instead, it can occur "within immanence" through substitution "and this movement from being to the other is the good. The 'good beyond being' is thereby wrested from both Platonic metaphysics and religion and is reinterpreted as ethics" (Hart 2002, para. 8). This is the position of Levinas.

Levinas (1906–1995) was a 20th century philosopher of ethics born in Lithuania to a Jewish bookseller and his wife. He moved to France to study in 1923 and naturalised as a French citizen in 1939 (Bergo 2017). Levinas initially trained in philosophy, psychology, and sociology at the University of Strasbourg. In 1928, he enrolled at Freiburg University, met his friend the literary theorist Maurice Blanchot, and learned phenomenology, “the study of structures of consciousness as experienced from the first-person point of view” (Smith 2013, para. 1). His doctoral dissertation of 1930 explored the theory of intuition in Husserlian phenomenology. Contrasting with later work, Levinas presented a totalitising conception of consciousness. In accepting Husserl’s distinction between an “awakened and active consciousness” and a marginal one at the “*horizons*”, independence of the “material world with respect to subjectivity” became conditional (Levinas 1989, 13–14).

Levinas’ intellectual work shifted subsequent to World War II. In 1939, he joined the French army as a translator only to be captured in 1940. As military personnel, he was spared the concentration camps and entered Fallingbostel (Germany) instead. During Levinas’ internment, his wife, Raïssa, and child, Simone, were helped by Blanchot and others to hide in France (Shapiro 2002). As a prisoner of war, he read “Hegel, Proust and Rousseau in between periods of forced labour. . . . *Existence and Existents* [1947], with its description of anonymous existence, and the states of insomnia, sleep, horror, vertigo, appetite, fatigue and indolence, was begun in captivity” (Hand in Levinas 1989, 2). Upon release, he learnt his mother-in-law and Lithuanian family had been murdered. Reunited, the family’s sorrow continued with the death of their infant daughter, Andrée Éliane.

In 1947, Levinas published his first major original work and took the directorship of the École Normale Israélite Orientale, a Jewish teacher training institution in Paris. He was to hold that position for 35 years (Alliance Israélite Universelle, n.d.). In 1949, the family would welcome a son, Michaël. He grew his understanding of the Talmud (the central text of Jewish law and theology) under the “prestigious master” Monsieur Chouchani (Atterton, Calaraco and Hansel 2005, 285). In 1957, Levinas made his first Talmudic lectures to the Colloque des Intellectuels juifs de Langue française, a colloquim of French-speaking, Jewish intellectuals. Together, these experiences changed his theoretical perspective.

In 1961, he gained appointment to the University of Poitiers after publishing his state doctorate (now known as habilitation). In *Totality and Infinity*, we are introduced to the Levinasian “face”, a term that “signifies the distinctive, even unique, humanity of the other person; it is an ethical optics . . . in seeing the ‘face’ of the other person . . . the self is displaced from its priority” (Shapiro 2002, para. 7). The work is a rejection of Western philosophy's "totalizing vision . . . in favour of a thought that is open to th[is] face of the other" (Hand in Levinas 1989, 5). Derrida (1998, 22) describes it as "a vast treatise *of hospitality*", a welcome that "receives beyond the capacity of the I". Here is "what precedes representation and interrupts it: what calls 'the face' or 'infinity' or 'the Other'" (Hart 2002, para. 11).

In 1968 and 1974 (Hand in Levinas 1989, 88), Levinas published his "second magnum opus" (Bergo 2017, section 1.2), *Otherwise than Being: or, Beyond Essence*. Translated by Alphonso Lingis in 1981, the work responds to the metaphysical lapses in *Totality and Infinity* through new ideas (Hoskins 2010, 26). Substitution, for example, is presented as that which is "subjectivity itself" (Levinas 1989, 101). Further, Levinas' "responsibility for the other" is described as "the *for* of the relationship, the very signifyingness of signification, which signifies in saying before showing itself in the said" (Levinas 1989, 90). This 'for' may be explicated by the 'otherwise than being' and 'beyond essence' of the book title.

First, Levinas' (1989, 92) conception of responsibility is posed as meontological, or 'beyond being'. He describes how, in Western philosophy, being is grasped by consciousness in logos (Levinas 1989, 89): "in the realm of truth, being, as the *other* of thought becomes the characteristic *property* of thought as knowledge" (76). However, Levinasian responsibility recurs passively in an obsession "irreducible to consciousness", making it unavailable for possession (Levinas 1989, 91). Instead, an anarchical "trace" (Levinas 1989, 90) is made known through a contest with and "abuse by language" (119). Further, and drawing from the Talmud (Levinas 1989, 245), Levinas suggests that, "to be oneself . . . is always to have one degree of responsibility more, the responsibility for the responsibility of the other" (107). In responsibility, the "non-interchangeable" ego substitutes for the other and divests itself of being (Levinas 1989, 106). Hence, responsibility is otherwise-than-being.

Second, Levinas' conception of responsibility is posed as 'beyond essence'. From the Latin *esse* (infinitive of *sum*, meaning 'to be'), essence acts as mediator between being and notion in Hegelian thought (Waldman 2013). However, for Levinas (1989, 106), responsibility is recurrence by the oneself as an incarnated subject with neither identity nor intermediary. It is a "dis-interested" (Levinas 1989, 107) bond without beginning ("ἀρχή" [89]). Responsibility is assigned in proximity (Levinas 1989, 90), the Latin *proximus* indicating the nearness of place, time, and relationship in "neighbor" and next of kin (Lewis and Short [1879] 1891, 1470). Thus, the derivative of “proximity appears as the relationship with the other, who cannot be resolved into ‘image’ or be exposed in a theme” (Levinas 1989, 89). The subject in its concreteness has no mediating essence to grasp an object; “the secret of its subjectivity is its being present in front of objects” (Levinas 1989, 17). Hence, the self in “its responsibility for the other, the proximity of the neighbour, does not signify a submission to the non-ego; it means an openness in which being’s essence is surpassed in inspiration” (Levinas 1989, 104).

The production of this second major work was, of course, not the end of Levinas’ career. He would continue for another 21 years on the philosopher’s path; refining, abandoning, only to return again for another look. Despite retiring in 1979, Levinas continued to write and lecture. Raïssa died in September 1994 (Bergo 2017) and he followed her the following year on Christmas Day (Steinfels 1995).

4.2 Exegesis and Pronouns

Analysis of Levinas’ conception of responsibility is assisted through consideration of his methods and terminology. Exegesis is “the task of ‘bringing out’ the meaning of a text” (Bowker 2003, para. 1). Related to the PIE etymon meaning “to **seek**, track, trail” (Linguistics Research Centre 2020s), exegesis “seek[s] out legitimate meaning in the light of continuing and developing understanding” (Bowker 2003, para. 1). Levinas uses a type of exegesis to illuminate his ethical philosophy. Indeed, his application of exegesis as ethics (and vice versa) has been noted (Gibbs 2002). This section uses mātauranga Māori to consider his exegesis and pronoun use.

In *Revelation in the Jewish Tradition* (Levinas 1989), exegesis stands as a method for exploring work as prescriptive texts. Levinas describes the text of “Revelation” as “an abnormal and extraordinary relationship, able to connect the world we inhabit to something which is no longer of this world” (Levinas 1989, 191). It “has a particular way of producing meaning, which lies in its calling upon the unique within me” (Levinas 1989, 195). Further, “it is as if a multiplicity of persons – and it is this multiplicity, surely, that gives the notion of ‘person’ its sense – were the condition for the plenitude of ‘absolute truth’” (Levinas 1989, 195).

My Peoples similarly understand revelation is text available for interpretation. The Māramatanga, for instance, shares Levinas’ position on revelatory truth, “encouraging a multiplicity of attitudes, [and] a diversity in points of view” (Sinclair

2002, p. 72). In the narrative about my Nanny Pī, children of the movement are described as being “exposed to all aspects of the movement, the language of inspiration and revelation, the rituals, and the karakia” (Sinclair 2002, 114). Hence, “revelation through wairua, dreams, and songs that [take] on individual meanings” has always been part of my world (Sinclair 2002, 72). Our revelation is a māramatanga that remains unbound.

Levinas’ revelation, comparatively, is founded on written text. “Prescriptive lessons . . . occupy a privileged position within Jewish consciousness”, and “every text is asked to produce such lessons” (Levinas 1989, 193). Thus, the “Jewish exegesis” reads not only the words in relation to one another, but the “embedded” elements within the words themselves (Levinas 1989, 194). Like Uncle Tahu’s method, Levinas’ (1989, 194) method is concerned with the “distinction between the obvious meaning and the one which has to be deciphered, the search for this buried meaning and for one which lies deeper still”. The pronouns used in the I-Thou and I-Other relations present text for such an exegetical task.

The first-person, singular pronoun *I* is etymologically related to ‘ego’ and the Old Persian ‘adam’ (Linguistics Research Centre 2020g). However, Levinas (1989, 104) argues that “the word *I* means *here I am*, answering for everything and for everyone”. Thus, the ‘I’ might be seen as the location of responsibility, if space were not a limitation to its weight. In the reo, the first-person, singular pronoun is *au*. It may be recognised as the second-person, plural possessive *āu* (Williams 1957, 464), inferring belonging to the dialogical other. Like in Levinas, the “self is not a substance but a relation” (Hand in Levinas 1989, 59), the first-person pronoun reflecting whakapapa as guiding principle.

Levinas approaches the second-person in a number of ways. *Vous* (the French formal second-person pronoun, ‘you’) in *Totality and Infinity* suggests a distancing that the translator equates to an acknowledgement of magnificence, and which Levinas (1969, 155) explains as “height”. *Thou* is a second-person, singular pronoun in the nominative case. Peperzak, Critchley, and Bernasconi (in Levinas 1996, 65) note how Levinas’ change from vous inserts thou “between I and the absolute He”. According to Bergo (2017, section 4.3, para. 4), it is “an attempt to express, differently, the unbridgeable distance between myself and the other . . . moral height is thus not expressed in thou-saying; it is a third person relationship”.

Power differentials are acknowledged via pronouns in the reo, but in different ways. The second-person, singular pronoun in the reo is *koe*, which translates to "*You*, *thou*, *thee*" (Williams 1957, 122). There is no formal/informal split, instead the difference is found in the encounter itself. In addition to being a pronoun, koe means "cry as a bird" (Williams 1957, 122), reflecting both the root kō (meaning to "sing" or "resound") (Williams 1957, 121) and the call made in relationship. Koe calls to au, that to which it offers belonging.

Levinas' French terms for other/Other (autre, autrui) are reflexes of the PIE **al*- or **ol*- meaning "beyond; **other**, alien" (Linguistics Research Centre 2020a). A related Levinasian term in English is 'alterity'. However, the Modern *other* is from the Old English word for an ordinal numeral (Harper 2020g). It denotes "second, different, one of two/more", and is a reflex of the PIE **an*- meaning "there, the other side" (Linguistics Research Centre 2020b). Levinas (1989, 107) references this sense of other in recurrence "as the underside of being" when translating "otherwise than being". Although other is related to 'second', it is not a pronoun but an adjective, only forming a noun in English when preceded by an article (definite or indefinite). The term is incapable of the encounter, and thus fulfils Bergo's (2017) 'third person'.

In te reo, the third-person, singular pronoun is *ia*. Ia is a "*current*" or a "*rushing stream*", its fluidity allowing repetition for a "distributive sense" (Williams 1957, 74). In a conversation between au (the first-person) and koe (the second), the Third is the motion that occurs outside. There is a distance to this Third that, nevertheless, does not translate to objectification. As a human Other, ia has subjectivity and agency, blessings and suffering. I say to this Other who may not be disposed to hear me (Hage, 2014). And still I say.

4.3 Heteronomy, Autonomy, and the Settler Society

This section explores the subjection of the will (heteronomy) as the Saying of our responsibility for and to one another. A description of local context opens. The nomos concept and two of its forms are considered in relation to that context.

4.3.1 The Unsettler Society

To apply Moana Jackson's (personal communication, December 10, 2012) terminology, there is the context of settler colonialism and the "Unsettler" society.

"Based around widespread settlement by the colonizing power, rather than just resource extraction", this form of colonisation is "often accompanied by the violent destruction and dispossession of existing indigenous societies" (Castree, Kitchin, and Rogers 2013b). By settling, colonisers became a society who unsettle the People of the Land. In New Zealand, as elsewhere, this "invasion is a structure not an event" (Wolfe 2006, 368) founded in a "logic of elimination" whose "positivity [i]s a continuing feature" (399). As Wolfe (2006, 388) notes, "settler colonialism destroys to replace" "native societies" on the "expropriated land base".

Expropriation is the deprivation of property "by taking it for public use" (Stewart 2006). It is based upon the "discursive predisposition" of possession (Moreton-Robinson 2016b, 114). The verb 'possess' means to "have as belonging to one; own" (Stevenson 2015c), and is related to the Latin *pŏtis* (meaning "powerful") and *sĕdeo* (Harper 2020h). *Pŏtis* is of the PIE etymon for "host, husband, lord, master, owner" (Linguistics Research Centre 2020q). The tale of possessiveness, in this case, is one of power. Reflecting the idea "of long" settlement and "inactive encamping in war" (Lewis and Short [1879] 1891, 1659), possess is also related to the PIE etymon for "to **sit**, **set**, **settle**" (Linguistics Research Centre 2020t). The combined narrative for possession, therefore, is one of an occupying power.

The possessive predisposition of Unsettler society might be seen as an inheritance from Aristotle via Aquinas (Kautzer 2015b, 96), its later acquisitive renderings visible in old maps in Pā's office. I can follow the surveyor's eye as Mesozoic landforms become property. Acts of possession and proprietary claims produce and reproduce a particular social order (Rose 1985) signified by "regular, stable and predictable forms of behaviour" (Heywood 2000, 30). This order is intended towards "continuity, even permanence" (Heywood 2000, 30) and away from the "disruption of productive activity and dissipation of energy in warfare" (Rose 1985, 86).

In the expanse of the Enlightenment and its "demand for the 'standardizing' of all human institutions" (Lovejoy 1917, 130), possessiveness met rationalism. Classification, the "placing [of] phenomena in organized groupings", is rationalism's standard model of order (Moreton-Robinson 2016b, 113). The authority to classify is a marker of stability, for possession of the right to define self-legitimates. Rationalism, in claiming that authority, produced itself as the "marker of humanity" and "established a hierarchy of humankind" (Moreton-Robinson 2016b, 113). Hence, Indigenous symbols are classified, their survivors assimilated and individualised, so as to create the colonised (Smith 1999, 25). The naturalness of the Unsettler is reinforced in their new setting (Wolfe 2006, 389).

A fixation on the liberal right[59] supports the predisposition. Unsettler freedom seeks to justify the colonists' creation whilst denying their violence. Contemporary manifestations are indeed systemic[60]. But its archē (αρχη) – its "*beginning, origin, first cause*" (Liddell and Scott 1901, 227) – is imagined elsewhere, offering nostalgia as distraction[61]. This is perhaps why democracy, amongst other "momentum concepts" (Hoffman 2007, 119), is valorised: a "Leviathan" (Hobbes [1651] 1999a, 7) claims "unity" (Hobbes [1651] 1999b, 106) over responsibility. In New Zealand, as in other colonised territories, that Leviathan is the "*Civitas*" (Hobbes [1651] 1999a, 7; see Lewis and Short [1879] 1891, 346–347) of Unsettler society.

4.3.2 Nomos

Nomos denotes "pasture" or "dwelling place" (Liddell and Scott 1901, 1009), but is more commonly translated as "rule" (Pike 2007, 18; Raynaud et al. 2014, 1127), "*a usage,* [and a] *custom*" (Liddell and Scott 1901, 1009). Like most rules, nomos "impose[s a] division" (Raynaud et al. 2014, 1127). Nomos was the collective term for the rules instigated by Solon, a sixth-century BCE[62] archon of Athens (Raynaud et al. 2014). Solon's rules replaced the laws of Draco who had outlined specific (draconian) judgements, such as capital punishment for most crimes. The nomos was different, requiring magistrates to assess situations in order to determine the correct solution.

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[59] A right is an "adherence/obedience to duty/lawful authority" (Linguistics Research Centre 2020r). When considered a product of nature, it is "a power, privilege, or condition of existence to which one has a natural claim of enjoyment or possession" (Merriam-Webster 2011, section 2b). In neither case is the right an archē for it is not self-derived.

[60] As an example, I note the disproportionate distribution of life between Unsettler and Indigenous Peoples. According to New Zealand's Ministry of Health (2015), life expectancy for non-Māori in 2013 was 80.3 (male) and 83.9 (female) years. Comparatively, Māori life expectancy was 73.0 (male) and 77.1 (female) years (Ministry of Health 2015). For Australia, see the Australian Institute of Health and Welfare (2015). For Canada, see Statistics Canada (2015). For the United States, see Indian Health Service (2017). For an analysis of the Australian situation, see Wolfe (2006, 399).

[61] This is perhaps why the dominion took 40 years to adopt the Westminster convention and its successor still disproportionately favours Anglophilic immigrants.

[62] 'CE' (Common Era) is used in place of 'AD' (*anno Domini*) and 'BCE' (before the Common Era) is used instead of 'BC' (Before Christ). The choice ensures consistency between scientific (where the Dionysian era system has become less prevalent) and nonscientific writing. Moreover, it reflects a desire to show sensitivity to readers whose beliefs differ to my own.

Solon founded a type of democratic system, reducing the authority of the aristocrats and establishing wealth as a constitutional power. Further, he instituted a method for electing his successors. The archon college was designated by vote and the archon himself by lot (Develin 1979). It is under these terms that responsibility "indicates a state to which one has been elected by the other" (Hart 2002, para. 16). There is no archon to mediate, because I am she who has been elected by lot.

Nomos is an open-ended term; though decisive, it lacks counterturn (Liddell and Scott 1901, 1009; see Hornsby and Brogan 2012) and is therefore not a totality. Following Plato (Taylor 2007, 13), nomos is continuous with that which is natural[63] and original[64] ("φύσις," n.d.), which in this case is something human. Nomos belongs to where it applies.

However, nomos has been affected by translation. The Epistle to the Romans is the New Testament's sixth book. Originally written in Greek, the text was translated into Latin and became the Vulgate's Ad Romanos. As Biblical text, Ad Romanos and its subsequent renderings contain the most broadly distributed interpretations of nomos. It is therefore interesting that nomos is institutionalised in Ad Romanos 7:23 and 13:8 as the Latin "legem" (or law). That which was taken (Linguistics Research Centre 2020m) to be "properly *anything assigned or apportioned*" (Liddell and Scott 1901, 1009) is gathered, collected (Linguistics Research Centre 2020l), and bound by bill and statute (Lewis and Short [1879] 1891, 1055). However, its original meaning is passive, an outcome versus an (a)ct itself.

Like tikanga (Tregear 1891, 509; Williams 1957, 416), nomos translates to "custom" (Liddell and Scott 1901, 1009). Customs differ from law by institution, from convention by ambiguity, and from habit by considered practice (Scruton 2007c). However, like rules, laws, conventions, and habits, customs need not be initiated with intent.

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[63] As physei "φύσει" (Liddell and Scott 1901, 1009).

[64] As "phusis (φύσις)" (Raynaud et al. 2014, 1127; Taylor 2007).

Although Indigenous aspects are appropriated (and sometimes reappropriated) in constitutional New Zealand, tikanga itself is disallowed. Instead, a “politics of recognition” (Coulthard 2014, 3) maintains the self-legitimating authority of the Civitas to classify. Thus, the context of the Unsettler society advances a nomos marked by possessiveness, freedom, and hierarchy. That nomos, strung up by modernism (Williams 2006) and number 8 wire, is autonomy.

4.3.3 αlpha Nomos: Autonomy

Autonomy is the autos (αὐτός) form. The English language auto- (“self, by itself”) is a reflex of the PIE **au-* meaning “other, that (one)” (Linguistics Research Centre 2020c). The etymon belongs to the semantic fields “like, similar” and “to separate” (Linguistics Research Centre 2020c). Other glosses include “eke, and”, “either, or” and “again” (Linguistics Research Centre 2020c). The Hellenic αὐτός (“he, oneself”) (Linguistics Research Centre 2020c) refers to the “self . . . the person of the Verb” (Liddell and Scott 1901, 254). The addition of nomos creates a new meaning: “living under one’s own laws, independent” (Liddell and Scott 1901, 253). Although sometimes still applied at the level of the collective (see Gray-Sharp 2011), autonomy is of greatest prominence at the level of the individual (Heywood 2000, 118–19). As the existence of the individual in Ancient Greece is questioned (Martin 1994), this isolated self is a more recent construction. The ideal appears as normative in Immanuel Kant’s conception of the autonomous will.

According to Kant’s moral philosophy, the will is a type of *arbitrium* (Holzhey and Mudroch 2005, 262), a “judgement” marked by “*mastery, dominion, authority,* [and] *power*” (Lewis and Short [1879] 1891, 151). “Only a rational being has a will – which is the ability . . . to act on principle” (Kant [1785] 2015, 18). Therefore, Kant’s ([1785] 2015) principles of “practical reason” (37) divide the rational from the nonrational (28), those worthy of respect from the replaceable (29). Kant’s rational autonomy seeks independence, freedom from an Other, making the subject (if not a self-derived god) “sovereign” (Kant [1785] 2015, 32). However, as Kautzer (2014) notes, “freedom is a form of rule and *rank* relative to others” (114). It “produces not only self-rule, but also the *self as ruler*” (Kautzer 2014, 114). In the context of the Unsettler society, this social relation pursues totality.

According to Smith (1999, 30), “totality assumes the possibility and the desirability of being able to include absolutely all known knowledge into a coherent whole”. It is “all encompassing and thus seemingly inescapable and, on the other hand, dependent on negation and so inherently violent" (Ellis Benson 2014, 248). However, its pursuit is never satisfied. As a nomos, autonomy can only complete itself through an external relation. An irresolvable internal conflict results. As others may "corrupt one's own reason and thereby undermine one's own freedom", they pose a threat to autonomy and so must be controlled (Kautzer 2014, 114). Unfortunately, instead of producing an independence from the Other, autonomy is a social relation based on fear and self-preservation. A change of nomos is therefore recommended, its foundation in something other than an isolated settlement. Despite the current circumstance, the first state of individual *Homo sapiens* is not "rationally self-willed" (Heywood 2000, 118).

Like all living things, we are conceived in vulnerable connection, in this instance between ovum and spermatozoon. Upon implantation, an existing relation is formalised. Acting as host leaves a permanent trace as fetal cells cross the placental wall. Once physically separate, we remain dependent. For example, our bodies require microbial occupation for wellbeing. Moreover, there being no evidence of self-consciousness in the human new-born, we exist only in relation to the other who cares for us.

Our vulnerability is experienced affectively when we cry. Fecundity, our presence before tiny nakedness, commands tears of joy. Mortality, our nakedness before unfathomable presence, commands tears of sorrow. In the nonrational context of phusis (φύσις), where the "originating power" of nature (Liddell and Scott 1940b, section IV1) becomes undeniable, autonomy is subject to the operation of a different type of nomos. That nomos is heteronomy.

4.3.4 βeta Nomos: Heteronomy

Heteronomy is the heteros form of 'nomos'. Like homos (ὁμός), heteros (ἕτερον) is a reflex of the Proto Indo European (PIE) etymon *sem-* meaning "one; as one, together with" (Harper 2020k; cf. Linguistics Research Centre 2020u). Reflecting this inherent relationality, heteros means "*the other* . . . then of all persons or things of which there are two" (Liddell and Scott 1901, 591). "*Of another kind, different*" (Liddell and Scott 1940a, s III) follows a sub-entry meaning "*one's neighbour*" (s IIc). In contemporary usage, the derived prefix heter(o)- becomes "other, different" (Linguistics Research Centre 2020u), however it is a difference of a type, one undertaken together.

Kant ([1785] 2015, 37) declares “the heteronomy of the will . . . the source of all spurious principles of morality” and places it in opposition to autonomy. However, Kant’s selection of heteronomy in his duality is odd. Autonomy’s Ancient Greek opposite was not heteronomy, but tyranny (Liddell and Scott 1901, 1590) (“τυραννευόμενος” [253]). His rejection of both tyranny and the allos form (meaning “other (of several)” [Smyth 1920, 811]) suggests Kant had a specific source of law in mind, a particular other, not distant like the tyrant but personal to the will. As his biography lists no significant relationships and he aligns God’s perfection with “conceptions of power and vengefulness” (Kant [1785] 2015, 39), it is likely that person is God.

In contrast, I suggest heteronomy as a subjection of the will to, and the “saying” (Levinas 1989, 148) of, our responsibility for one another. Following Levinas (1989, 106), subjection is an act of radical passivity, a “substitution” of the Self for the Other. The result contrasts with traditional humanism’s autonomous, rational subject, but is not the displaced man whose subjectivity is subordinated to matter in antihumanism (Zarka 2011). Instead, Levinas proposes a “calling-into-question of the ego” such that subjectivity “start[s] from the other”, revealing a “figure . . . in the shape of [my] responsibility for” them (Zarka 2011, 118). This subjectivity is *a priori*, an unchosen obligation, which assumes me “before the responsibility of freedom” (Zarka 2011, 118). Neither “memorizable” nor refutable, here subjectivity is not conditional on choice: “it constitutes *me* even before *I* begin to choose” (Zarka 2011, 118). Thus, the mastery that is my will is subjected.

Additionally, heteronomy may be posed as a form of saying. In Levinas, language is the site of an ethical encounter. Yet, in “the saying and the said, the act of expression and the thing expressed are never correlative . . . since in saying there is always the trace of alterity that goes beyond anything that can be measured in terms of its thought content” (Hand in Levinas 1989, 148). Hence, the movement of saying and said is not stationary. We are caused to recall that “the saying is both an affirmation and a retraction of the said”, that the first task is “to awaken, in the said, the saying which is absorbed in it” (Levinas, quoted in Bergo 2017, section 5.3, para. 1). Saying is the Self facing the Other, “saying is Desire which the approach of the Desirable exacerbates and whets, and where the approach of the Desirable withdraws in the process” (Levinas 1989, p. 156). Desire is “goodness”, “in desire the ego is borne unto another in such a way as to compromise the sovereign identification of the I with itself” (Levinas 1986, 350). In contrast to the “passionate utterance” (Cavell 2006, 19), the Self “lets go of what it grasps” in saying (Levinas 1989, 156). It is a “voluptuous” (Levinas 1989, 51) act.

Levinas (1989, 114) states that, “inspiration, heteronomy, is the very pneuma of the psyche”. Pneuma is the “breath of life” (Liddell and Scott 1901, 1231) and psyche “*breath* . . . as the sign of” it (1760). Inspire also means to “breathe” (Hoad 2003f). Thus, Levinas suggests that heteronomy is the breath that signifies life’s presence. Like tikanga, nomos becomes life-sustaining. Further, in aligning heteronomy with breath and wind, Levinas suggests a conception that cannot be held, that is “ungraspable” (Levinas 1986, 354; 1989, 41), that takes a non-possessive stance. In heteronomy, agency follows duty such that even the concept itself may blow away, leaving only the obligation of breathing together. When the Other is death, that obligation must be undertaken by those who survive for “to be oneself . . . is always to have one degree of responsibility more, the responsibility for the responsibility of the other” (Levinas 1989, 107).

Although I see heteronomy’s value in the Unsettler society context, I note its limits. Of primary difficulty is the threat of abstraction. In order to communicate the concept, in order to teach it, there will be a temptation to create categories of order. However, the concept is sensuous. Heteronomy requires physical proximity with the world. This must guide pedagogical considerations. In saying my responsibility to another who breathes, I acknowledge my culpability, my terror at their loss. Such an act committed in writing before a computer screen does not challenge me to live through my guilt nor to help others to live through theirs. I do not know who will survive the situation to come, but wish to help prepare those who do.

4.4 Levinas: A Critique

A wānanga on Levinasian thought would be remiss without consideration of risks. The primary difficulty with Levinas’ position is that there are openings for inconsistency, particularly when the relation moves from the interpersonal to the political. Critchley (2004) identifies five specific problems. First, Levinas’ conception of justice and community is bound to a “fraternity”, the commoners of France’s third estate, and therefore the unity of the republic (Critchley 2004, 173). Second, his ethics are intertwined with (and, I would argue, founded in) his monotheism. Third, there is an androcentric, male-centredness to his thought; sexism has been alleged in his work before (Levinas 1989, 57 – see note 27). Fourth, the fraternity and androcentricity extend into paternity and filiality with an emphasis on the father-son relationship. Indeed, Critchley (2004, 174) suggests that Levinas' *Totality and Infinity* reverses Hegelian logic starting "with the totalizing violence of the state only to end with the family". Fifth is Levinas' position on Israel "as both idea and real, as an ideal where ethical responsibility would be incarnated in social justice, and as a really existing state where justice is endlessly compromised by violence" (Critchley 2004, 174).

Unlike Critchley, I do not see a problem with either fraternity or centring of the familial relationship. Whakapapa finds friendship an expression of genealogy. Nor do I see any inherent misogyny. Levinas' (1989, 50) description of the feminine is othering and uses terms of withdrawal, passivity, and "modesty". However, othering is (for this particular philosopher) a subjection of self. It is neither a dislike nor hatred, but a deep respect founded in the culture of his upbringing.

Nonetheless, I agree that there are large problems where Levinas' (1989, 247) particular form of monotheism meets his "need for the state." Although appearing instrumental – "legal justice is required" (Levinas 1989, 247) – his position is unrelated to the outcomes of "leisure, security, democracy" (260). His is a belief in Law (as in Talmudic) and a "peculiar right, revealed by an undeniable Jewish experience …. a State whose prestige none the less stems from the religion which modern political life supplants" (Levinas 1989, 260). He sees "a political unity with a Jewish majority. . . . signif[ying] a State with an army and arms, an army which can have a deterrent and if necessary a defensive significance. Its necessity is ethical" (Levinas 1989, 292). Levinas' Zionism, even when confronted with terrible truths, is unfaltering.

On 14 September 1982, the Lebanese President and 26 others were killed in East Beirut by a bomb. In the aftermath, the Israeli Defence Forces occupied West Beirut and introduced Lebanese militias into the Palestinian camps of Sabra and Chatila (sometimes spelt Shatila). From 16 to 18 September, hundreds of civilians were massacred in these camps. A later investigation concluded that "Israel was involved in the planning and the preparation of the massacres and played a facilitative role in the actual killings" (International Commission 1983, 130; see Gilsenan 1984; Ott 1983).

On 28 September, Levinas participated in a radio interview about the events. When asked about the Palestinian as other, he reframed the victim into a predator, “The other is the neighbour . . . . If you’re for the other, you’re for the neighbour. But if your neighbour attacks another neighbour or treats him unjustly, what can you do? . . . In alterity we can find an enemy” (Levinas 1989, 294). Such reframing contradicts his radical form of responsibility, a space in which I must substitute for the victim and carry the burden of the attacker’s wrongdoing. In finding an enemy, his openness to the Other suddenly closed.

Further, he denied the evidence of Israeli complicity and recentred the problem on himself and his community. “Not enough has been said about the shock that the human possibility of the events at Sabra and Chatila – *whoever is behind them* – signifies for *our* entire history as Jews and as human beings” (Levinas 1989, 296; emphasis added). He moves from an I-Thou to an Us-Them relation. Hence, “My people and my kin are still my neighbours. When you defend the Jewish people, you defend your neighbour; and every Jew in particular defends his neighbour when he defends” the Jewish people (Levinas 1989, 292). When considered as defence of the Jewish neighbour, the Sabra and Chatila massacres become justifiable. At 75 years old, Levinas could evidence but not remedy the contradiction.

Despite years of denial, Levinas’ philosophy crumbles into a humanism. If ethics, by his own argument, precedes language, it holds the possibility of connection without totality. But Levinas, for all his critique of Western (read European) philosophy, cannot extend that welcome beyond it. In 1991, we find his racism apparent: “I often say, although it is a dangerous thing to say publicly, that humanity consists of the Bible and the Greeks. All the rest can be translated: all the rest – all the exotic – is dance” (Levinas, quoted in Critchley 2004, 176). As a dancer (both metaphoric and literal), I am going to follow Critchley (2004, 176) and “dance all night”.

There are further limitations of particular regard to this thesis. As Derrida notes, Levinasian “responsibility applies only to the other human being – Lévinas’ humanism is based on an exclusion of the animal, just as in Heidegger. The biblical commandment ‘Thou shalt not kill’ applies to humans, but leaves out animals” (in Birnbaum and Olsson 2009, para. 26). His philosophy calls us to acknowledge the assymetry in relation to the other, but (when interpreted) the encounter can incite “fusion”, “an ideal, a collective representation, a common enemy … reunit[ing] individuals who cannot touch or endure one another” (Levinas 1989, 164). A possessive creep, swathed in fear, hacks at mystery to assign categories. Although Levinas' work can inspire, it must be amended for broader application. In order to reinvigorate the ethical, it must be weaved with mātauranga of a different sort.

5. Conclusion

This responsibility for the other, "it is in me – in me and not in another, in me and not in an individuation of the concept Ego", for it is here "that communication opens" (Levinas 1989, 115). In acknowledging the fear and self-preservation that Unsettler autonomy delineates, in surrendering these feelings so as to be led by others, we are gifted new openings. Like Ue cast in misty sunsets and Beloveds watching from paired stars, the burgeoning darkness hosts those who will suffer-with. We are in danger, but not alone.

Mahuika (2015, 13) believes that "the tikanga inherent in whakapapa carries with it an appreciation that you uphold the mana of your ancestors". One does not become blameworthy in any perceived failure. Rather, one is born burdened to be the shoulders upon which others – the Seen and Unseen – stand. From a Whanganui perspective, the task begins with remembering oneself as he rau kōtahi. I am a single (kōtahi) leaf (or feather, rau) signifying the whole tree (or plumage). I am a plural singularity, a holobiont; the corporeal manifestation of all those that came before me, a seed of those who will live after I am gone. I exist in proximity to the world as kin. In accepting this learning, my work takes a relational form that offers all of me – mātauranga, mōhiotanga, māramatanga, wānanga – to maintain the whakapapa that is the world. It is this form that casts a life-affirming light upon responsibility.

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Chapter Seven: He Pae a Hinewaiata

He pae hiwi
He pae kohu
He pae hua e
Ko te pae tāwhiti kei tāwhiti
Ko te pae tāwhiti ānei tata e

1. Introduction

This thesis has articulated some theoretical approaches to the study of the current extinction crisis from within the disciplines of Māori and Indigenous studies. For example, an emphasis on ethics and mātauranga Māori have produced structural frames. Reflecting the research methodology, sources have often taken musical form: *Aue te Aroha* (Preface), *He Aituā* (Chapter One), *Kāore Te Pō Nei* (Chapter Two), *Kikō* (Chapter Three), and *Ripiripia* (Chapter Five). This final chapter acts like a waiata, drawing together ideas to make theoretical contributions both broad and particular. More broadly, I proffer conceptual interpretations for research with a focus on theory, representation, and text. More particularly, I make suggestions towards a non-agential responsibility whose purpose is supporting researchers called to the study of the sixth mass extinction.

2. He Kuratahi

I brought two comfortable chairs to the māhau for the aunts who find sitting on the ground difficult. We set up the pillows on the mat in the usual fashion: six stacked in three rows of two covered by one of the korowai (cloak). The pictures were a matter of discussion. Cousin was undertaking kawe mate, so Koro was put out. Uncle covered two issues: the death of his mokopuna's father and the Third Reading of our settlement's Bill. Space was left for those that would cross the grass. It was unusually warm for July, so we sat in the sunshine waiting for the manuhiri to arrive.

Two teina and two kōtiro (girls) stood near me at five o'clock. My first reo pōhiri did not come as I had expected, "Haere mai rā ki runga i te marae o Te Karere whare e i." The line was meant to reference time, specifically the date of our Rā, recalling our connection to Mere Rikiriki and, consequently, the broader history of poropiti (Māori prophets). Instead, my oratory reinforced the chronicles of our location.

The house of Te Karere is named for a female entity who was once our Koro's first-cousin. In naming the entity in my first statement, I defined the space as one with that narrative. I placed the tangata whenua in, and directed the manuhiri into, a world where a girl dies to become a spiritual messenger and later a house. As "te reo rākei kura" ("the poetry of language and culture") is derived from "ngā tongi kura o te ao nei" ("the poetry of the landscape") (New Zealand Government 2018a, cl 1.6), the reo pōhiri asserted the primacy of our location for the dialogue that would follow. In situating the People, I recalled first obligations: to marae as symbol of land and occupation, to Te Karere as metonym of te hunga wairua, and to whare as metaphor of manaakitanga.

I listened to the aunts leading the manuhiri before speaking again. The next reo pōhiri was a narrative, two lines I have spoken since 2015. It is generally useful, but proved particularly functional on the day. The initial line, "Rū mai ngā roi-a-rangi," became words of welcome to those who had returned from the Third Reading. Volcanic entities rū (shake, quiver) and Ngāti Rangi are the People of a mountain, Ruapehu. Our mountain received from Ranginui (the sky) two teardrops (roi-mata) from whence rivers arose. When I welcome my mountain and river relatives, the first line acknowledges them as embodiments of this whakapapa.

The second line was of layers, stating simultaneously "Ahu mai ngā roi-a-whetū e i" and "Hau mai ngā roi-a-whetū e i". The co-occurence is consequential to both my linguistic heritage and the Whanganui rules of reo pōhiri. I was trained to call in a single breath (reo kōtahi) with no breaks in sound. Under such circumstances, the breathy or unvoiced <h> may disappear. This is why 'ahu' (nurture; descent from) can be homophonic to 'hau' (wind; resound; exceed). The rhetorical situation allows a mature audience to consider the line within the dynamics of these homophones.

When "Ahu mai ngā roi-a-whetū e i," the second line blends with the first. It suggests descent from (or of) astral (whetū) bonds (roi). Ngāti Rangi are descendants of

Paerangi, whose birth at Ngā Rimutamaka was prophesied and whose form graces the ridgeboard of Rangituhia. He was both "human and divine" and so "was known as 'Paerangi-i-Te-Moungaroa' – 'Paerangi, God of the Milky Way' and also 'Paerangi-i-Te-Wharetoka' – 'Paerangi from the House of Stone'" (New Zealand Government 2018a, cl 2.14). As deity of Te Moungaroa, Paerangi announces our location in the universe. As issue of Te Wharetoka (Ruapehu), the anchor of the heavens (Te Punga-o-ngā-rangi), Paerangi reminds us of our role as kaupapa tangata. We are intermediaries of earth and stardust.

When "Hau mai ngā roi-a-whetū e i", the second line is personal, a layer for our children. On the night my husband was buried, I arose from my Te Karere bed some hours before dawn. Bare feet to frosted grass, an easterly blew cold on my face. Moonset had passed and the stars rained down like tears. I was alone, but not. This reo pōhiri, like the first, acknowledged a place of miracles.

3. He Hū: On Theory

> I've learned how important it is that our work as Indigenous scholars leaves our communities and nations in better shape than when we started, and how important it is to hold our peoples up as the brilliant, tough, loving, revolutionaries we are, even when we are telling our most brutal and horrible truths, even when we are using big ten-dollar words. (Simpson 2017, 65–66)

My Koro's reo is of Whanganui (specifically the mountain area), but differs to that of others raised nearby. His nine-decade-old lexicon includes words and pronunciations that I have heard nowhere else, likely because he was of a senior line, the sole grandchild raised by generations born in the 1800s. Consequently, my reo is a peculiar blend of school, Koro, and wider Whanganui pronunciations.

A feature of Whanganui reo (we have multiple) is the pronunciation of <wh> (International Phonetic Alphabet [IPA] /hw/ and /f/ amongst others) and <h> (IPA /h/). The <wh> has multiple allophones. I can recognise it as a flat /w/ and with a glottal stop, but was taught to pronounce it as a blown sound (similar to /ʍ/). A comparable situation occurs with the <h>, where it can disappear, appear breathy, or unvoiced.

Whanganui reo are enunciated in accordance with geographically-distinct (almost idiosyncratic) rules.

For example, hū is a small word with multiple, contradictory translations. “*Resound*” and “*noise, hubbub*” contrast with “*still, silent, quiet, at rest*” (Williams 1957, 63–64). A “*mud*, *swamp* . . . . *natural depression* in the ground” does not appear to be a “*promontory*, *hill*” (Williams 1957, 63–64). But “*the cry of a bird*” can be “*desire*” (Williams 1957, 64; cf. ‘hiahia’). ‘Hū’ is of personal interest, because my reading and enunciation differ. The word is two letters in my head, but only the second appears when spoken. While relying on context for interpretation, ‘hū’ simultaneously symbolises two things for me. Language offers no certainty here, but a relationship resigned “at the risk of misunderstanding . . . the risk of lack of and refusal of communication” (Levinas 1989, 109).

Theory is similar. It derives from the Greek theoría (θεϖρια) meaning “*a looking at, viewing*” and when “of the mind, *contemplation, speculation, philosophic reasoning*” (Liddle and Scott 1901, 673). The term’s basis in a finite observer expanded in modernism as empiricists embarked on world tours and rationalists gained possession of the right to define. The idea of theory as “‘principles or methods of a science or art’ (rather than its practice)” is suggested from the 1610s, whilst theory as “an intelligible explanation based on observation and reasoning” appears two decades later (Harper 2020m, para. 2). Nonetheless, in itself, theory is provisional.

As Brewer (2003b, para. 1) notes, all theory “proffers *conditional* knowledge”. In the sciences, theories hold the greatest explanatory power. Thus, they are at the bottom of the inverted pyramid that Scerri (2018) uses to illustrate the “traditional hierarchy of scientific concepts”. However, even scientific theories are “being continually revised and refined as knowledge advances” (Brewer 2003b, 324). The difference between theories of science and those of social life are that the latter are not intended towards a realist truth. Like all theory, they are not meant to establish what is true, only that which is true within the parameters of available knowledge.

Theory can be useful in making visible “hidden, misunderstood or misinterpreted” aspects of research problems (Brewer 2003b, 325). To illustrate, I applied an example of mātauranga Māori as a tool for thinking to the problem of the current mass extinction and revealed a structure. Theory can also help find patterns between diverse phenomena. For example, the structural analysis of the extinction crisis found a form of violence similar to that of Chile. Research, like mine, begins with a feeling about something such that the mind is drawn to contemplate it. The resulting contemplation is theory, whilst the feeling that precedes it is inspiration.

Theory informs research (Smith 1999, 17), providing a means for explaining what a researcher sees and how they respond. For example, Simpson (2017, 66) discusses Nishnaabeg use of “the theories and practices of coresistors”, that of the “Black Radical Tradition . . . revolutionary movements in the Global South, the work of Black womanists and feminists, anticapitalism, anti-white supremacists, antiheteropatriarchy, [and] abolition”. The ethics of her People provide the theory for explaining what she sees. Coresistor theories and practices are not detachable knowledge to be simply taken. The imperative is to “develop relationships of reciprocity and coresistance with these communities that embody our [Nishnaabeg] ethical practices of solidarity” (Simpson 2017, 66). This response, however, must be undertaken “in a truthful way, we have to first know who we are” (Simpson 2017, 67). Simpson’s (2017, 67) theory of Nishnaabeg engagement with coresistor theories hosts a broader truth: “Indigenous thinkers have always engaged in internationalism, but we knew ourselves first, or rather not at the expense of knowing within our own nations.”

My approach to theory is somewhat similar. Although alternatives are discussed across the chapters of this thesis (for example, science; ethical philosophy), I have centred mātauranga Māori (more generally) and Kaupapa Māori (more specifically) as a means for solving a problem of global significance. I accept parts of the writing will slip into philosophical reflection – explication of conditions gives acknowledgement to the space within which I am speaking and a secure place for the modern reader. However, the intention is to articulate the voice of Home/Family (kāinga – Gray-Sharp 2011) first, to keep the fires of occupation burning wherever I am. This is undoubtedly an act of decolonisation.

Colonisation is the imperial exploit of constituting a colony (Scruton 2007b) and the “successful establishment of an invading species in a habitat” (Allaby 2015a). Colonisation by humans is continually refined through assimilatory practices, which restate Unsettler correctness and Indigenous incorrectness. Such practices include suggestions of a performative indigeneity, that everyday habits and rituals are an authenticating project based on an imagined precolonial Utopia. The practices are founded on possession of the self-legitimating right to define and furthered by appropriation clothed in democracy. My interpretation of decolonisation understands these assimilatory practices as psychological violence.

Decolonisation can be defined by its prefix. Though ‘de-‘ may indicate a reversal (as in ‘de-merit’) or intensification (as in ‘de-fine’), I prefer to read the ‘de-‘ in its Latin sense. ‘De-‘ means as “*the going out, departure, removal*, or *departing* of an object from any fixed point. Accordingly, it occupies a middle place between *ab*, *away from*, which denotes *a mere external departure*, and *ex, out of*, which signifies from *the interior* of a thing” (Lewis and Short [1879] 1891, 513).

Decolonisation, from this perspective, is a departure from colonisation. It accepts a starting point close to the violence. Our contact was intimate, but never absolute; we were present, but also peripheral. Such decolonisation is not radical – the mood is less anger, more passivity – following a history of responsible repositioning. Kāinga in multiple locations both required and allowed our tūpuna to leave one place for another. Where a kāinga was not available, there were other options like the hīnau shelter of Tūtakamoana and Rangipare. In the most difficult circumstances, homes were built from softwoods. Departing from colonisation does not have to mean deconstituting a colony or disestablishing an invasive species. It can mean stepping out of the shadows and into mana motuhake.

Decolonising scholarship is the contribution we make as kaupapa Māori, intermediaries between the Academy and descendants of gods. It is required to be transformative. As Smith (1999, 183) points out, “research is implicated in the production of Western knowledge, in the nature of academic work, in the production of theories which have dehumanized Maori and in practices which have continued to privilege Western ways of knowing, while denying the validity for Maori of Maori knowledge, language and culture.” Academic work that “replicates capitalism, heteropatriarchy, and whiteness” fails “Indigenous bodies, particularly the bodies of 2SQ people, children, and women, . . . [as] political orders” (Simpson 2017, 52). These bodies are living (te hunga ora) and dead (te hunga mate) with voices that hū like the matuku (*Botaurus poiciloptilus*) calling for his mate (DoC, n.d.a). We cannot maintain oppressive structures, including Unsettler ways of writing research, and transform our Peoples’ worlds.

This does not preclude engagement with Unsettlers nor Unsettler knowledges. Decolonisation is not a movement for Indigenous bodies alone. It is simply led by us.

However, in “struggling with and over the notion of theory” (Pihama 2015, 10), I write aware that the solutions I pose must reclaim history. That reclamation is polyvocal, recalling both my *historia* as in-story narrator and the *istories* of our milieu. I undertake this task to “centr[e] our concerns and world views” as Indigenous peoples, so that we may develop our own theoretical and research approaches “for our own purposes” (Smith 1999, 39).

The centring of Indigenous thought is a functional decision. I am not a utilitarian. I do not believe ethics are determined by consequences, and “it is the desirable that is valuable, not the valuable that arouses desires” (Levinas 1989, 240). Nonetheless, this thesis evidences the value (indeed the necessity) of an Indigenous approach to the study of the current mass extinction. Unsettler transdisciplinary methodologies can be captured by the exceptionalism and anthropocentrism they privilege. Indigenous peoples’ acceptance of our location in the web of life, alongside our histories of oppression and resistance, allow alternatives to appear. Our obligation to Indigenous bodies and our nonhuman kin bears theoretical fruit.

Theory is “a generic term for the interdisciplinary combination of philosophy, literary criticism, and sociology produced by scholars like Roland Barthes, Michel Foucault, Jacques Derrida, and Gilles Deleuze” (Buchanan 2018e). The content can be variable as evidenced by the broad range of ‘theorists’ – from the Unsettler academics of Judith Butler, Johan Galtung, and Emmanuel Levinas to the Indigenous scholars of Aileen Moreton-Robinson, Leanne Simpson, and Linda Smith. However, the form of theory is often less variable: unflinching prose, chock-full of “ten-dollar words” (Simpson 2017, 66) that close “rather than ensur[e] ongoing debate and evolution” (Pihama 2015, 10).

The most difficult require a dictionary (or multiple) alongside significant reading by earlier analysts to glean a modicum of understanding. It is not necessarily a fault that theory is written this way. Language is a risky relationship, and a form may show respect in the resulting distance between reader and writer. As with Whanganui reo, there is no presumption that the audience is knowable nor the rhetorical situation controllable. Another’s words can invoke active engagement, the consideration of their whakapapa and the special current that feeds them. Hence, difficult theory can prompt our hand to reach for that dictionary and our mind to develop its own interpretation of the text. The problems occur when we replicate the ‘ten-dollar’ form without critiquing its value to our research.

Although trained to reflect a long academic history of paragraphs blocked by thesis statement and evidence, I have intentionally woven narrative throughout this work. Chapter One recounts the history of Māori studies. Raketapauma, Settlement Day, and the ringawera role are recognised in Chapter Two. The third remembers what it is to be manuhiri, to chronicle the acts of a warrior and his People. The fourth recounts the limits of my scientific authority. Chapter Five re-narrates the sixth mass extinction and carries burdens. The sixth chapter stories a word and a theorist. This last part speaks of the māhau again, the singing of songs, and growing up. Inbetween, waiata play, telling tales that translation cannot touch.

Communicating these narratives is part of my praxis, my "reflection and action on the world in order to transform it" (Freire 2005, 51). Weaving narratives between and around ten-dollar paragraphs poses "fundamental questions" about the constitution of authority and who shall hold it, affirming "critique [a]s a political project" (Mayhew 2015c). Moreover, narratives and narration are gifts inherited from our tūpuna and one of the ways my work is decolonial.

I offer narrative and melody to wet stony text. In Greek, the verb is spéndo (σπενδω), "*to pour or make a drink-offering*" in honour of the dead or gods (Liddell and Scott 1901, 1413; see Linguistics Research Centre 2020v). In telling stories and singing songs, in remembering our Living and our Dead, the Inbetween is made to flow. My theory, this chapter, is written in the same form as the units that preceded it following the term that propels the work: responsibility.

4. He Pae: On Representation

4.1 He Pao

Many years ago, whilst studying with Ngā Muka at Ruakā (a marae at Rānana), we were set the task of composing a pao. Pao are short ditties usually inspired by a particular setting. On occasion, they will spread wider, like a whakataukī that was once a whakatauākī. *Te Aroha*, the 1983 composition by Uncle Morvin Simon, is probably the best known example. It was sung widely in the weeks after the Christchurch massacres.

The pao I composed opens this chapter and is centred on the concept of the ‘pae’. The first pae was the horizon (Tregear 1891, 297; Williams 1854, 102; Williams 1957, 244), a boundary over which dark and light pour, a transverse between the Seen and the Unseen. Hence, pae is a term for a variety of horizontal forms from mountain ranges to benches.

The pae of my pao were inspired by our locality. Ruakā is situated on the left bank of the Whanganui River, between Matahiwi and Patiarero, an hour from the nearest petrol station. I am of Ruakā through my paternal Koro’s father and have a kuia buried there. Rānana sits above Moutoa, the 1864 battle site where sons and fathers fought. Rānana is also one of the mass burial sites of 1918.[65]

‘He’ is the indefinite article and ‘hiwi’ ridges of hills, but also can be homophonic in our languages to ‘iwi’ or bones. The first pae in the pao spoke of both: the ridges that forge the valley skyline and the bones that lay at its base. The ‘pae kohu’ were, then, the mists that drift through the River valley and the similarly suspended: stories, spirits, memories. ‘Hua’ are products, so the ‘pae hua’ were the fruit trees that fill the settlement and the descendants who reside there.

The last two lines reference a whakatauākī of Whakaari Rangitākuku Metekingi, a pāhake of Whanganui and Ngāti Apa: “Ko te pae tawhiti, whāia kia tata; ko te pae tata, whakamaua kia tīna” (Mead and Grove 2003, 257). The whakatauākī encourages the audience to seek out distant (tawhiti) horizons whilst holding close those that are near (tata). In my pao, and reflecting off another Whanganui song, I suggest that those horizons appear distant, but are in fact close. Like the hills, the mists, and the fruit trees of Rānana, the answers we are looking for are often right in front of us.

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[65] The international death toll of the 1918 influenza pandemic was greater than 50 million. At the time, Māori were estimated to constitute 50,000 of the 1.15 million New Zealand citizens (Ministry for Culture and Heritage 2020b), but suffered disproportionately from the infection. According to Rice (2018), Pākehā mortality rates were 6.0 per 1,000, but Māori rates were 48.9 per 1,000. While only 4.4 percent of the population, over 27 percent (2,500 of 9,171) of New Zealand’s victims were Māori.

Some of those victims are buried together at Rānana. The site is not singular in the country. A single granite memorial, erected in 1988, at Auckland’s Waikumete Cemetery marks the mass grave of between 400 (*RNZ* 2018) and 1,000 pandemic victims (Harfield 2012). In the pandemic’s aftermath, a royal commission recommended a raft of changes. One result, the Health Act of 1920, has aspects incorporated into its statutory successor. This 1956 Health Act was the primary policy instrument used in New Zealand during the COVID-19 pandemic of 2020.

4.2 He Pae Hiwi

At Ngā Muka, we learnt that marae have five paepae. Each paepae (or pae for short) is a person or group led by their own rangatira in charge of specific duties that constitute the marae. They are both the ridges of the hills, viewable by the distant, and the bones of the People, layered underneath.

The most visible to visitors are those on the marae ātea and in the whare. Hinewaiata is the domain of the short-form orators, the māhau and its surrounds. Tamakōrero is physically both the bench from which long-form orators speak and the men who are responsible for the ceremonial duties conducted there. Those who collect food (for example, hunting, husbandry, large-scale butchering) are the Kaikohikai. The cooks are (and are of) the Kāuta (fire at the centre; cookhouse), whilst those who undertake the ceremonies of whakanoa (to make ordinary) are (and are of) the Wharekai.

As declarative knowledge, the separation into five pae excludes some aspects (for example, ablutions), so feels inexact. However, when read as a layered narrative, organisational principles are clarified. Multiple pae and rangatira indicate that power is to be distributed. No work is less important than any other and all who contribute are of value. There are separate spaces for men and women in front of the house, but gender division is less important behind. As tikanga assigns duties according to genealogy, birth order, and age, hierarchies will play with the five pae, producing, reproducing, and legitimating knowledge.

Contemporary marae tend to divide into two. The Paepae (or more simply 'the Front') undertake the tasks of Tamakōrero and Hinewaiata. Holders[66] of this pae feed the People with talk, so their duties include preparation, storage, and transmission of marae narratives. The Ringawera (literally, hot hands; usually called 'the Back') are the background workers: those who feed the People with food, care for the kitchen, housekeeping, and general maintenance. Where the marae has sufficient hands, labour may be divided into finer specialities. Hence, at some marae, ablutions is a separate pae (the Wharepaku) with workers dedicated to this one task. Similarly, there are diggers (primarily male) who dig graves and shoppers (frequently female) who do the groceries and manage budgets.

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[66] In this case, a holder is a person who is responsible for versus someone who possesses.

I am trained to work as a ringawera of the more general kind. This means I am most comfortable cleaning, organising, and preparing the spaces necessary for others to talk. Tonotono begin training whilst still pre-verbal – fetching, stirring, accompanying – before progressing to more complex chores. I began learning how to work the wharekai before age five. The kāuta at Kuratahi was a shed of three walls where the men cooked. Northeast and attached was a room for dishes and preparation that opened onto the main kitchen area. There, a fireplace stood on the northwest wall, so big I could sit inside. Large cast-iron pots were lifted on and off the fire with long pieces of wood. Some early mornings I was allowed to help, poking at embers and playing with porridge. Nearby stood a cream-coloured cooker that dripped used oil as fuel. There was electricity (we had a walk-in chiller), but the kitchen feels permanently warm and dim in my memory.

The northeast kitchen wall was a servery with panels that could be pulled down tight. They opened onto a dining room big enough to house tractors (for that was its purpose when there were no guests). Corrugated iron walls and roof (held together by white rails, studs, bracing and rafters) enclosed a concrete floor. The long, southeast wall was actually a series of sliding barn doors, so trucks and tractors could drive in. For large events, a marquee was raised on the driveaway straight outside.

Like Kuratahi, at Maungārongo, Kauwhata and Aorangi the first job to learn is clearing tables. When diners finished, I transported used crockery, cutlery, and servingware to the sinks and wiped down surfaces. The second job is table-setting and the third is dishes. By the time the building at Kuratahi burnt-down (started by an electrical fault in the walk-in chiller), I was on pantry preparing food for teas (such as cakes, biscuits, fruit), general settings (like condiments, seasonings), servingware, and desserts. After, there were all the old preparatory jobs (cleaning out cupboards, moving furniture, sweeping) plus new ones (windows). Along the way, I learnt how to peel root vegetables, cut vegetables for chow mein, make wontons, fillet fish, prepare meat, mop, and bake. Apart from Nanny Pī, most of my teachers were men. Comparatively, all top-of-the-line supervisors were women.

There were jobs outside of the wharekai. I was cleaning sleeping spaces pre- and post-events before I got promoted to pantry. Proper bedmaking was not attained until adulthood. Nanny's giant, flat sheets – metres of red cloth sewn together on her machine – helped (I do not understand fitted marae sheets). While able to wash and hang the big sheets correctly (zig-zagged between two lines), I am thankful to the hands that do this instead of mine. I mowed lawns at Kuratahi as a child and at Kawiu as an adult (but mostly that was Husband), and have helped clean up urupā. The task of ablutions began at Kauwhata and Aorangi sometime in the late 1980s – apart from the urinals, it is still my preferred job at those locations (I am usually on dining room).

Subsequent to the upgrade, dishes is the most interesting job at Ngātokowaru. Though a tight space, the equipment is top-notch (power hose, commercial dishwasher, easy-clean bench). I like vacuuming Te Huia Raukura (Kawiu – because it is small and lovely to be in alone) and Te Morehu (Ruakā – because it has different floor levels that make the experience interesting). I can be both a pleasure and a pain if at another marae for more than a day, because (1) I will work a dining room consistently, and (2) I prefer identical settings with cutlery and crockery one thumb joint from the table's edge.

Most marae rely on multitaskers, people able and willing to work multiple pae: gathering, preparation, cooking/cleaning, front of house. It usually takes a shift in marae dynamics – some gone, others prepared to take on more responsibility – that allow dedication to one role. Our Nanny, for example, only withdrew from direct oversight of the kitchen in her late fifties. Contrastingly, I have been able to reduce my ringawera activities at Kuratahi in my early forties.

For the last three years, I have dedicated myself to the Front. It has been a revelation. Where the Back is heavily controlled and predictable, the Front has established patterns to manage volatility. Work on the marae ātea and inside the house is a beautiful and strange process, one I would appreciate less had I not borne the ringawera habit.

4.3 He Pae Kohu

To represent is "to 'portray' or 'make present', as when a picture is said to represent a scene or a person. . . . As a political principle, representation is a relationship through which an individual or group stands for, or acts on behalf of, a larger body of people" (Heywood 2000, 143). It is possible to represent in the first sense and not the second, to portray without the obligation to accept the subjects' authority. Such is the case in anthropology where relativism may execute a modernist's responsibility. Like ethnography undertaken outside anthropology's bounds, New Zealand anthropologists might develop honest and loving relationships at their field sites, but maintain the right to analyse.

Scholars in Māori and Indigenous studies risk similar problems. The Academy is the birthplace of self-legitimation, so has centuries-old complexes for rendering the power to define into the property right of labour-formed authority. Its writing is of both pen and sword, cleaving the author with autonomy, alienating them from the places they belong. Investigations that pursue mātauranga Māori solely as an archive hew likewise, losing the gifts' poetry and analytical power. People, feathered or otherwise cloaked, can be forgotten this way. When undertaking research inside ivory towers, we must remember that we are layers of the land and representatives of People.

If indigeneity is "a politics of potential" (O'Sullivan 2017, 1), our representation as scholars is inherently political. Politics is "the activity through which people make, preserve and amend the general rules under which they live" (Heywood 2000, 33). It is "the social process through which collective power is generated, organized, distributed, and used in social systems" (Johnson 2000, para. 1). For Indigenous scholars, that social process ensures we stand never quite alone. Though the signifier may only indicate the signified's absence, an Indigene is a plural singularity, a place and a People engraved on the soles of ones feet. Our communities lift us, assigning roles according to their needs. Delegates are conduits and must withhold their own opinion. The mandated are responsible for a well-defined claim (and do not offer representation outside of it). Trustees are grounded in but independent of their publics, entrusted to express without direction.

In marae society, representation is initially via delegation. Amongst Whanganui, for example, the keka is a delegate sent to exchange information with manuhiri before a pōhiri. Aunty from the Back will send a delegate to tell the Front that dinner is ready (usually a child, but older if the message is not responded to quickly enough). Comparatively, the junior kaikōrero (second speaker) is frequently assigned a mandate by his seniors, including his aunts and nannies. Likewise, a kaikaranga-in-training is given a mandate in the form of specific words to say. Representation as trustee is usually subsequent to a few decades of performance. To be legitimated in marae society requires dedication.

I am a kaikaranga. My education began under Aunty Joan Akapita whilst a member of Ruapehu Māori Catholic Club. At about age 10, she decided it was time. Aunty – granddaughter of the prophet, Waitangi Tribunal claimant, and all around amazing woman – gave words and told me to "karanga". I was one of two girls who did so on stage that year and for a few years following. Aunty's lessons were an entrée to the main courses of our Nannies, the grandmothers and great-aunts who would train me.

My first karanga on the marae was as a 14-year-old at Aorangi with Nanny Pearl Lawton. "Now Bub," Nanny called me by name sometimes, but mostly it was 'Bub', "Come out here." It was sunny where I stood at the corner of the wharekai chanting loudly the words she spoke into my right ear. We did that at a few more gatherings across my early adolescence – initially in front of the wharekai and later by the māhau – before she stopped coming outside. Then I was on my own.

Nanny Pī was more regular and regulated. After a year living away with my maternal grandparents, I returned to the kitchens of Kuratahi. But, having begun Hinewaiata training amongst my mother's People, Nanny decided I needed active instruction at home. The early lines were simple. I wrote them all down and practiced my calls into the hedge, but kept losing the pieces of paper. Thankfully, my mother had a book in which she jotted karanga learnt from her family and Aunty Joan. Unfortunately, when she gave it to me, I lost that too.

My first oration without oversight by another kaikaranga was at around 15. Nanny was at Kuratahi, there were no adult women, and we had an ope (group of visitors) coming onto Raketapauma. Koro tried to give me words, but I followed my training. I said what Nanny had told me to say. After we lost Aunty Jeanna, I began doing karanga regularly on my own. When Nanny died, I became the senior female of our line. It is a role she prepared me for, but at which I sometimes fail.

I am a trustee, a representative whose right to speak has been legitimated by my community. My responsibility for this community preceded my ability to accept it: I was a tonotono before languaging and a descendant in the womb. In writing the narrative of my political legitimation, I describe a counterpart to the certification mechanisms of the Academy (for example, see Chapter Four). That counterpart centres Indigenous thought and reclaims history. Furthermore, it suggests that, if the extinction crisis cannot be legitimated via Unsettler structures, there are alternates.

As a kaikaranga transforms through the stages of representation – first delegated then mandated and finally entrusted – competencies are evidenced. We display the ability to carefully lift up and weave the sparks of life (rangaranga[67] i Te Kā, hence ‘karanga’). We show our proficiency to negotiate and plait the unknown (whiriwhiri i Te Pō, hence ‘pōwhiri’). We perform the skill of making the darkness heard (Te Pō-iri), and of expressing the longing of the night (hihiri o Te Pō, hence ‘pōhiri’). Ours are the pae of Hinewaiata, tasks of stories, spirits, and memories. We make corporeal an interaction between the human and Mystery.

4.4 He Pae Hua

This thesis describes a space that did not exist before, a meeting between known and unknown. Although an acknowledged scientific phenomenon, the current mass extinction has not been well-articulated outside of the sciences. By explaining the problem from a mātauranga Māori perspective, I have created a new place for scientists and non-scientists. The resulting place is a forum for exchanging ideas about the consequences of the crisis. It is a pae hua, a fruit tree to feed descendants. It is a place I am using my voice to make, weaving words like others weave kutaroa (*Eleocharis sphacelata*) into a soft mat.

I have experience in making places where people can talk. As a ringawera, I can collect, clean, and organise resources to promote comfort and relaxation. As a kaikaranga, I can direct proceedings, demarcating and arranging space sonically. I have used the latter experience to advance an argument that is not simply about how to answer the problem, but why. In emphasising a compassionate approach – one that acknowledges suffering and accepts the responsibility to suffer-with – I respond to a call that I hear in the darkness. I hear this call in the same way I could see the oppression in Chile. I hear this call in the same way I could feel the burdens of 15 March.

My experience of making places are narrated here as *historia*. I situate that *historia* – the source of my ethics, the forging of my reo, the transversity that shapes me –

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[67] “He waka rangaranga” is also a way of referring to death.

before any explication in the text proper. It is an obsession, this responsibility with which I was born. It opens me without recognition; I need not be known, only in proximity, a tonotono at a Nanny's knee. It is an absolute passion that leads and takes me to task.

I do this work, because it is the task I have been set, one that appeared over time. I followed a citation to Emmanuel Levinas (1989) and another to Donella Meadows, Denis Meadows, Jørgen Randers, and William Behrens (1972). Then my husband died. A māramatanga arose in reading (mātauranga) and grief (mōhiotanga). Like the scenes that played in my sleep when learning the reo, I began to dream. Formal instructions found in waiata became an ethical position. But ethics is not morality, capable of transfer and dispersion, normative and malleable in powerful hands. Ethics are our habits, a direct inheritance we reinforce through repetition and ritual, the haunts and abodes we maintain in softwoods. My ethics may be shared by others, but need not be.

There are those who struggle everyday with many other tasks. They are the human and the more than human. They are the issues of gods and the sole proof of life in the Universe. They work hard, become Beloveds, wake up, and breathe. In undertaking their tasks, in living their lives, they contribute to a world in which mine gains purpose. If we are never found face-to-face, I will still call for them on the wind. However, if we share ethics – the places we curl into and feel in our gut – they may meet me on a māhau.

Since Nanny's death in 2005, most of my teina have come to sit with me there. Every 26th of July, there is a discussion about the different roles and words with those who would like to karanga. It was cold but warm in 2011; we had "six black skirts hemmed by bare feet on snow" (Gray-Sharp 2013, 122). In 2020, there were just two in the sunshine as Daughter spoke her first words. Past middle-age, I appreciate the journey is variable, one of lifelong learning that can begin or restart whenever someone feels the need. As a succession strategy, it has been my pleasure to introduce preliminary tasks to the next generation and to offer training. Nevertheless, it can be lonely work.

Despite the footprints left as duties, representation – of a People, of a house, of a sign – can feel an ongoing absence. The substitute for the other may worry the negative space with their fingertips, unsure and bereft. Trust in the metonymy might be strengthened by holding a hand or caressing a Beloved’s face, spending time in a kitchen or scrubbing a floor. For those of a house, I say look to the photos that hang there. Some of those faces once held your hand, caressed your face, scolded you. Behind is another face, flat and anonymous. Both faces are for you, their metonym, surrounding you with their presence. One day, your image will be similarly suspended, the representative and represented exchanging roles. This life is but a moment that too will pass.

Amongst Whanganui, the tōtarahoe are those selected to defend the marae outside its gates. Theirs are the patu and taiaha, the combat before any diplomacy. It is a unit of direct resistance, but my place is not amongst them. As a kaikaranga, I stand inside the marae gates in front of the māhau. Although the marae ātea is a space where struggle occurs, it is primarily through dialogue. My work is a karanga, a call to the spark inside the People. My work is a reo pōhiri, a vocalisation of the Night’s longing. Like my body and my house, it reflects Papatūānuku, a vessel that begins and ends.

Kōrero is both verb and noun; the saying and the said; the void within that parts the filaments. From the māhau, I awaken the saying in Te Karere’s said, the Desire in her address. Te Hua o te Kawariki Kereama (nee Lawton) was my mother’s paternal aunt. Her name reflects Tāwhiao’s tongi (prophetic proverb), an ideal of self-sufficiency in meagre circumstances. Nanny Kawa, never silenced, speaks for me even in death: “Māori women have the first voice and it's the important voice, so that's the voice that I want to play, the important one that is the karanga” (Slater 1984, 8:06).

5. He Waiata: On Text

The word ‘text’ is family to the Latin *texo*, “*to join or fit together . . . to weave*” (Lewis and Short [1879] 1891, 1865). The name reflects an early role as a metaphor for “an instance of language use as a woven tissue or texture” (Di Leo 2014, para. 3). In pre-20th century usage, ‘text’ mainly referred to the written or linguistic, but the definition expanded subsequent to other forms. Later interpretations identified the sign, codes, and discourses as motivating elements, differentiated the text from ‘work’, and discussed its relation to language and culture.

Following the idea of texts as instantations of tohu – some metaphoric, others metonymic – I interpret the concept of ‘text’ broadly. My interpretation of texts can be seen in the variety referenced across the thesis: from journal articles to sound recordings, from oral presentations to my memories. Each is considered polysemic, able to render multiple meanings. Given my ringawera/kaikaranga roles and elected methodology, polyphony also appears.

Polyphony is from a musical texturing technique, where “*many*” (πολύς) (Liddell and Scott 1901, 1248) voices (φωνή) (1704) indicate the co-occurence and dialogue of plural logics in a text. Such is this work, where life and Earth sciences speak to Levinasian ethics and ethnography on a mātauranga Māori platform. From multi-lingual quotations to an array of writing styles, I favour texts as “incorporating many voices, styles, references, and assumptions not a speaker’s ‘own’” (Irvine 2012, para. 4). However, the polyphony is not one of equivalence; the inverted triangle has my background at its base. The experience of ‘many voices’ is an important part of my writing, because it is what I desire for mass extinction studies more generally. I include waiata as a foundational example of polyphony.

Waiata are songs and singing. They wet my text, loosening its hold on the page, revealing another face in the underside’s[68] dark ink blooms. Temporality evident, words bleed like me staining the sheet. I hear the song in my head and sometimes out loud as lyrics leak from my lips. But Derrida (1988) says writing is only writing when it survives our absence. Resigned to inevitable rupture, I insert a reference to a videoed performance or a sound file. Though citations, orthography, typography, and punctuation may manage the risks of communication, waiata (as all mātauranga Māori) are philosophical frames capable of escaping the confines of intent.

Waiata are texts that contain declarative knowledge, (for example, the names of places and people) as well as procedural (for example, how to layer a narrative) and conditional information (for example, why a particular action is preferable over another). As such, waiata constitute human action where meaning is a collection of practices as “textual arrangements” (Barker 2004e, para. 2). However, they are also more-than-texts, incapable of capture within a linguistic idealism.

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[68] “Substitution is not an act; it is a passivity inconvertible into an act, the hither side, of the act-passivity alternative, the exception that cannot be fitted into the grammatical categories of noun or verb, save in the said that thematizes them. This recurrence can be stated only as an in-itself, as the underside of being or as otherwise than being” (Levinas 1989, 107).

Waiata are slow-moving streams reflected by a mellifluous light, collectively embodying the origin of all mana. In mana motuhake, they cause mātauranga Māori to be manifest. Waiata bring us (mātau) together as a company (ranga), forming a vine (toi[69]) from the anchor (punga) of the physical world to the heavens. Such is the work of waiata as a recollection of wairua. Waiata as verb is a revelatory act, connecting the living and the dead. We pierce the ārai with our voices, allowing te hunga wairua to be incarnate. We become attached as toi to the heavens and iho (umbilical cords) to land. We are united and distinctive.

In places where mourning your child’s death is acceptable if for three days (Ministry of Business, Innovation and Employment 2019), waiata poses an alternative. For example, *Ka Mate* (Te Rauparaha’s haka appropriated by a national sports team amongst others and now protected by statute) ponders the possibility of its composer’s imminent demise. *Ngā Iwi e* (the Archie Tamanui standard taught in English-medium primary schools for almost four decades) is an upbeat tune that bids the bereaved to bring their dead with them (Ministry of Education 2008). To waiata is to introduce *istories* to the official narrative, anarchically inviting survivors to pour their tears *in memoriam*. Waiata bring us together in aroha.

Aroha is commonly translated as ‘love’ (an English term that abstracts a spectrum of feeling), but it is only a gloss. Here is the ā of belonging, the hā of the new-born and dying. Here is the breath where attention converges (aro) and Beloveds gain meaning. It is synchronised intimacy, hearts and lungs moving in time. It is pneuma and psyche, the breath of life and breath as the sign of it. Derived from the Latin *inspīro*, inspire means “to breathe in” or into (Stevenson 2015a; see Barrett and Barnett 2012, 2:30; Hoad 2003f; Lewis and Short [1879] 1891, 968, 1743; Linguistics Research Centre 2020o). Aroha, then, is an “openness in which being’s essence [indeed, being itself] is surpassed in inspiration” (Levinas 1989, 104).

In aroha, waiata bond us. Humans can undergo affective synchrony (shared emotional states due to, for example, behaviour and posture) and autonomic-coupling (matched involuntary physiological responses) during cooperative activity (Vanutelli et al. 2017; see Goldstein et al. 2018). Such is the mode of empathy, or pre-dawn wānanga where the majority sleep, or the shared breath of singers as they draw a composition to a close. In the waiata experience, the signifier-signified relation may lose its grasp to emotion and physiology.

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[69] ‘Toi’ is a noun of many translations, including “*origin, source* of mankind”, “*native, aboriginal*”, and “*art, knowledge*” (Williams 1957, 431).

Waiata carve my thesis, illuminating crevices in the research process. Writing is a mode of inquiry in the work, so I proffer my own compositions as a means to develop dialogue with the reader and (more importantly) beyond. The lyrics are 'rerenga' (flowing; flight) and the melody 'rangi' (heaven, sky). At the horizon between absence and presence, waiata simultaneously follow (whai), and are time/space (wā) that draws up (hī), a form of light (ata). As aquifers for reflection they are not simply archives, but subjectivities that begin elsewhere.

There are times when waiata may be likened to the hīnaki of a pā as "*weir*" (Tregear 1891, 296; Williams 1957, 243; cf. Dieffenbach [1843] 1974, 376; Williams 1852, 102). A hīnaki is the "basket in which eels [and other fish] are caught" (Williams 1862, 23; see Tregear 1891, 70; Williams 1957, 51). At the close of whaikōrero, waiata baskets gather thoughts and fill the People, allowing the water to run through. A pā is "an engineered structure extending across an open water channel . . . . used to control river water levels or divert flow into channels" (Allaby 2013j). Our Uncle Mat – grandson of the prophet and Waitangi Tribunal claimant – spoke about the technology of the pā. Freshwater fish, like ngaore (*Retropinna retropinna*),

> are looking for the special current that you create to slow the big current down . . . The fish will go across backwards and forwards, and when they feel the right one they will all go to that one channel. . . . People think 'Oh, you just build a paa' . . . but you're building a special current, they like the water at a certain speed and that's how you catch them. . . . Once it fills up, you put the net at the bottom with the kids in there and that's when the kids really enjoy it – kids with branches shaking them, running down the race. (Matiu Mareikura in Waitangi Tribunal 1999b, 66)

My pā for research creates a similar current, slowing the flow of different ideas from diverse theoretical pools, so that I may capture them in writing. Like those that support whaikōrero, waiata are a hīnaki in the thesis collecting up my thoughts.

Waiata exemplify mana motuhake as the core principle of my methodology. They manifest mātauranga Māori, collecting together and ordering my thinking. More importantly, waiata remind me of who I am within the work. Like the juvenile piharau, I could hide in the sediment, safe in my burrow (NIWA, n.d.). But that is not my task. I am an adult and must feed the People.

6. He Rau Kawakawa: On Non-agential Responsibility

> Learning does not consist only of knowing what we must or we can do, but also of knowing what we could do and perhaps should not. (Eco 2014, 105).

The agential responsibility outlined in Chapter Six offers little to resolve the anthropogenic mass extinction. Autonomy – a social relation based on fear and self-preservation – is foundational to agency. Autonomy's basis in rational individualism brings "liberation from the immediacy of [and thus mastery over] the body" and nature (Kautzer 2014, 113). Hence, responsibility becomes a personal form of the control sought by explorers conquering the 'Far East', the 'New World', 'Darkest Africa', and the 'Antipodes'. Like these near lands, it was reimagined, repackaged, and represented by the authors of modernity to feed restless populations. Following the Unsettler societies that came to colonise, agential responsibility smells of white exceptionalism.

White is not a colour, but the sum of all others. It can be perceived as a surface scattering all visible light without absorbing any. Amongst humans, tint is less important than context; "'whiteness' (like 'masculinity' and 'heterosexuality') is discursively constituted, institutionally embedded, and therefore not synonymous with the direct rule of a particular group" (Kautzer 2014, 109). Hence, a hierarchy. Though the Unsettler mode is to exclude the Indigenous and build empires on expropriated bodies, not all whites are the same. There is "'pure white' or 'dirty white', one white more equal than another" (Božić-Vrbančić 2003, 304). Progression towards the exceptional state of whiteness is rendered through possession of the extraordinary: dominion over the will of others. Agential forms of responsibility help maintain this dysfunction.

The intention of my thesis is to grow the number of researchers examining the crisis in order to solve it. This means supporting new researchers and their methodologies, Indigenous or otherwise. As agential responsibility's foundations in autonomy begin with liberty from and mastery over nature, it risks replicating existing oppressive structures. I therefore wish to make some suggestions toward a non-agential responsibility to assist my fellow researchers.

This responsibility is informed by, first, mātauranga Māori and, second, Levinasian ethics. The suggestions are made in terms of research conducted outside of the natural sciences into the current mass extinction. They are intended to be generative and protective for those who are called to the vocation of (what I term) mass extinction studies. I would like to help keep safe any who are drawn without will.

Mātauranga Māori is "the unique Māori way of viewing the world, encompassing both traditional knowledge and culture" (Waitangi Tribunal 2011b, xxiii), a mōrehu (remnant) in Unsettler society that "survived . . . out of sight of official disapproval" (Waitangi Tribunal 2011a, 14). The *historia* and *istories* of this thesis, indeed my work as a whole, recall its counsel and the harmony it encourages. More than an archive, mātauranga Māori offers tools for thinking about the consequences of current extinction rates. These include exegetical analyses that make visible the episode's structural violence. Mātauranga Māori also poses questions about the ethical consequences of such knowledge. If we have evidence that our nonhuman kin (and, indeed, our own offspring) are being "deprive[d] of life or strength" (Lewis and Short [1879] 1891, 704), what is our responsibility?

Levinasian ethics is, in contrast, problematic. It is a text over which its author leaves Zionist traces. Alone, it crumbles into a humanism. However, when weaved with mātauranga Māori, Levinasian ethics offers a subjectivity that begins from the other in obsession.

"Responsibility in obsession is a responsibility of the ego for what the ego has not wished, that is, for the others" (Levinas 1989, 104). This obsession is "inscribed in consciousness as something foreign . . . . It undoes thematization, and escapes any *principle*, origin, will, or ἀρχή, which are put forth in every ray of consciousness" (Levinas 1989, 91). Such is incapable of absolutism or liberty for "we discern in obsession a responsibility that rests on no free commitment, a responsibility whose entry into being could be effected only without any choice" (Levinas 1989, 106). Thus is a subjectivity founded; “it constitutes *me* even before *I* begin to choose” (Zarka 2011, 118).

A form of non-agential responsibility in research that references Levinasian ethics would begin with an awareness of this subjectivity as incarnate, “an extreme passivity; to be exposed to sickness, suffering, death, is to be exposed to compassion, and, as a self, to the gift that costs” (Levinas 1989, 121). It is “a recurrence to oneself out of an irrecusable exigency of the other, a duty overflowing my being, a duty becoming a debt” (Levinas 1989, 99). When that indebtedness is viewed through mātauranga Māori, we find it is first to whakapapa.

Whakapapa is tika, affirming of life in its connection across the web of existence. My initial suggestion towards a non-agential responsibility draws from this whakapapa through the two lines of metonymy in *Ripiripia*: ‘He aha te tohu o te ringaringa? He kawakawa’. The person is substituted by the hand that lends its meaning to the leaf. The researcher’s subjectivity then, grown like botanical stomata, is desire, joy, and sorrow. But people themselves are also substitutes, symbolic references to a world that holds them in contiguity.

In my non-agential responsibility, we are each a oneself, a rau kōtahi, a single leaf re-placing those for whom we stand as tohu, a whole kawakawa tree of ancestors and descendants, of cousins, human and otherwise. I tell our children of the consequences of this relation. We are born with this endowment, a benevolence of Papatūānuku. Unmerited, it impels us, buoys us, so that we, its vessels, may float. From the gift we receive meaning. We are indebted and commanded in responsibility to serve.

A second suggestion for a non-agential responsibility considers an indeclinable submission based on the idiom of my paternal grandfather’s People of Whanganui. As outlined in Chapter Three, ‘tae pākoro’ describes someone as arriving heavily laden. To tae pākoro is to undertake the ceremonies of memory, to bear on ones shoulders the Seen and Unseen. In arriving somewhere burdened with and conscious of one’s own sorrow, we can see it in others. As Lingis (2000, 110) notes, “suffering is a bond with others. One does not suffer without understanding that others suffer, understanding how others suffer.”

I came to my research burdened, a widow seeking to both give meaning to my sorrow and recreate for others the comfort I had received in my grief. Tae pākoro is the sense that overtook me, an unwilled suffering, a generative compassion. I am bonded to and suffer with our cousins, the human and more than human. But it is a trial in terror.

I experienced ideation after the calculations of the fourth chapter. I was suicidal after the fifth. Subsequent to describing some of the structures of the current extinction crisis, my own death appeared logical. I felt tricked into staying alive and resented our children for justifying my survival. This obligation to my children – this compassion for Beloveds who already have lost one parent – is also something I arrived with to this work. Indeed, their presence was a belongingness that made it possible. A feeling of belonging – to long for and to be longed for – is a sensation of proximity that can keep the researcher safe and prompt them to vocation. Following Levinas (1989, 91), the sensation is an "obsession", "an unconditional, undeclinable, absolute" responsibility for both life and death (113).

Where tae pākoro disturbs, my third suggestion, the māhau, gives space for acknowledging our burdens. The māhau, the shelter introduced at the thesis' opening, is a verandah giving space to remove and replace footwear. In my Peoples' architecture, the māhau demarcates boundaries between inside/outside, tapu/noa, life/death. As a kaikaranga, I have called bereaved visitors to the māhau and sat with them. They arrived as substitutes, a Beloved's face visible in their crumpled form. For a while, what is carried may be laid down.

There are agential practices to protect the mass extinction researcher – a month off upon completion of each major piece of writing, active engagement with our loved ones, regular alone time making music. In order to do this work, to meet one's obligations, I advocate for space away from it. However, as evidenced by my mental health crises, these agential acts have not always been sufficient.

The māhau, then, is a calling and an acceptance when agency fails. In my case, it was both a voice inside my head that sent me to, and the actuality of, my mother. Like those made by me barefoot on grass, the voice was a call by a first speaker. It was someone beyond myself who waited for me, who dreamed of me, who knew me before I knew myself. Strangely, it also felt like my husband during the birth of our third child, patiently leading me to second stage. It was a call I responded to without will.

My mother has a unique gift of non-judgement and applies our Nanny's listening techniques with great skill. It meant I could sit on her porch talking until I came to my own conclusion. The māhau offers a controlled transition so that we may carry on. The call and acknowledging our burdens are its process.

My non-agential responsibility conforms with relational forms. There are still duties and the possibility of being held to account. However, it is absent of liberty, particularly the freedom to choose. Maintenance of autonomy requires a concept of exceptionalism – for who is more exceptional than he who rules – alongside a worldview that finds oneself as the source of all value. Beyond its generative and protective factors, a non-agential responsibility actively denies the structures that underpin the mass extinction crisis. It is tika in this context.

7. Conclusion

> 'Perhaps I should have spoken sooner. Perhaps not. It is time when it is time,' she said, and placed her hand on her son's shoulder. (Makereti 2017, 165)

Autoethnography centres the writer's experience, creating an in-text narrator whose *historia* peppers any analysis. Where objective knowledge has a system of institutional legitimation, the methodology's subjective positioning can leave text afloat, drifting without authority. Although an etic claim is sometimes made, the path to objectivity can appear unclear when the ethnographic experience is self-derived (see Butler 2010).

Thus, the production of legitimate knowledge in autoethnography takes another route, relying upon the writer's ability to represent the experience convincingly. Here, authoring is a binding obligation on the writer to establish text such that it possesses authority in the writer's absence. It is an intentional process of constitution this evidencing of legitimate power. However, the combination of objectives – both the ability to realise an intent and to give moral foundations – positions the autoethnographer on unstable ground. If the desired outcome is not achieved, the writer fails.

A paradox appears. The reader may receive the work differently than the writer intended. The author’s meaning for the text becomes detached, its representativeness moving from a mandate to a trusteeship. Yet, the reader may feel capable subsequent to reading, their labour on the text producing an enforceable claim to authority. In such a situation, I suggest the writer authors a reader. This does not mean the writer is the creative source of their audience, rather that they cause them “to **augment**, increase, magnify” (Linguistics Research Centre 2020d). The best text, in autoethnography as elsewhere, is that which helps the reader grow.

In electing to write autoethnography, I emphasise the personal. Levinas’ lifestory is as interesting to me as his philosophical treatises. Camilo Catrillanca is as real as an academic conference. The 51 believers are as important as the sixth mass extinction. In rereading my text, I find that feeling in the puku that propels me, aware that plurality guarantees that I will fail at least some of the time.

But this failure is one I accept willingly. In the reo, the first-person, singular, personal pronoun (I, me) can be written as ‘ahau’, “**au**, **awau**, **awahau**” (Williams 1957, 2), “auau” (Tregear 1891, 2), and “hau” (Dieffenbach [1843] 1974, 361). When sung with a Whanganui accent, the first and last spellings can be homophonic to ‘āu’, the second-person singular possessive. As with ahu/hau and hū, it is the reo’s flexibility that allows me to perceive another layer. In this case, it is of a subjectivity – a first-person speaker/writer – that begins from (indeed, belongs to) the listener/reader. If, as Dieffenbach suggests, that subjectivity is ‘hau’, then ‘Hau mai ngā roi-a-whetū’ presents the reader as brilliant: the tears of stars.

This thesis begins with a text that defines me, a relational statement and an ethical position. The waiata was composed by Te Karere, she for whom our house is named and for whom I speak. It was carried by the vessel of her human mother, Moe. It was gifted for the hungaruarua, the few and the several. It shows how I am connected to the world, to where I will return, and why. *Aue te Aroha* is a focused breath of love.

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He Māhau: Epilogue

1. Closing the Thesis

This thesis considers my responsibility in the face of mass extinction. I present a number of key ideas herein of which I now summarise three. The first key idea is that we must consider all tools and materials if we are to build a society capable of sustaining life. Too frequently, selection is limited by and to norms of the majority. Unfortunately, those norms (agency, anthropocentrism, economic growth, human exceptionalism, possessiveness, property, and the rights to classify and exploit) are conditioned by autonomy as the social relation of fear and self-preservation. Hence, biodiversity's quantitative measure has been restructured at the supranational level into a social formation of agency as conservation and property as genetic rights.

This does not mean that Unsettler society is abject, existing without merit. My work has relied upon a number of Unsettler tools that (usually with adjustment) I recommend: autoethnography; conceptual, policy, and structural analyses; dictionaries and encyclopaediae; English as a language; replication studies; the university. Similarly, I endorse the surveyed material from Judith Butler, Jacques Derrida, Johan Galtung, Emmanuel Levinas, Patrick Wolfe, and Gerardo Ceballos' team. The Master's tools and materials are varied and some still may yet have function. However, it would be foolish to limit the range to those of his house.

Hence, my work privileges the norms, tools, and material of the kāinga as Home/Family. Values, like aroha, whakapapa, mana motuhake, and kaiponu, articulate tikanga as a social relation of life-sustaining responsibility in the thesis. Tito waiata, Uncle Tahu's deconstruction, and mātauranga Māori are applied as tools. Material from my supervisors sits alongside words inherited from Nannies, Uncles, and Cousins. If the extinction crisis cannot be legitimated via Unsettler structures, I offer alternates.

The second key idea is that tools and materials must be assessed through Indigenous analytical frameworks. As kaupapa tangata – an intermediary between the land and her humans, between the Living and the Dead – I have applied a philosophical framework grounded in the Places and Peoples that made me. Thus, I began writing from the māhau of a specific house, one with she who dictates my ethical position. I located the thesis within the disciplines of Māori and Indigenous studies and their namesake faculty at the University of Waikato. I developed a methodological position informed by the place I will be buried and the land claims that taught me to research. This facilitated safe exploration of Unsettler tools like those named previously. Similarly, it allowed critical analysis of Unsettler material to ensure appropriate employment in this study. All assessment was influenced by tikanga.

Comparatively, Unsettler frameworks are constructed by more conventional norms. For example, ecological and palaeontological communities commonly use metrics for analysis. There is some acceptance in both communities of the anthropogenic mass extinction as a process measured in *rates* (a metric for measuring speed or frequency of change). However, some – notably those whose work focuses on mass extinctions of the past – prefer *levels* (a metric that states a particular variable's value at a certain point). Though both metrics are comparative, those who predicate mass extinction on levels identify an impending disaster. Those who predicate mass extinction on rates perceive a current phenomenon. While the latter allows intervention (and is therefore more useful), both metrics are founded on an empirical analytical framework. Empiricism is built with the tools of agency and the right to classify.

While wiling to assess all tools and materials, this thesis seeks more fertile conceptual grounds. Hence, it identifies mass extinction studies as research differentiated from its palaeontological namesake through a focus on the current process of global depopulation. As a sub-field of extinction studies (Rose, van Dooren, and Chrulew 2017), mass extinction studies is concerned with the philosophical and social aspects of anthropogenic destruction and seeks to bring change through analyses from outside the natural sciences. However, I pose the sub-field as distinct from the broader field in that human-induced mass extinction is observed as a phenomenon of structural violence rather than many independent events.

Moreover, I locate the sub-field within the disciplines of Māori and Indigenous studies. This placement is intended to ground the study of anthropogenic mass extinction in the ethical foundations of my disciplinary home. Such provides new lines of inquiry for scholars already immersed in kinship with the nonhuman world. It expands the conceptual tools and materials by which our relationship to that world may be understood. It leverages the subjects' capacity to operate between, across, and beyond disciplinary boundaries. It also provides the necessary analytical frameworks to support the continuation of life (rather than simply one form of it).

The third key idea is the concept of non-agential responsibility. Unlike agential conceptions, it is tikanga-informed and therefore affirms life. Here, responsibility as "the-one-for-the-other" (Levinas 1989, 90) remains unchained from rational autonomy. It is an example of how "relational responsibility precedes agency" (Hoskins, Martin, and Humphries 2011, 24). I develop the concept across different chapters.

In Chapter Three, an instantiation is described. Observable in a tonotono's movements and shouts turned to whimpers, the vignette presents an example of non-agential responsibility wherein I am substituted for another's name. In Chapter Six, an apophatic investigation can be seen. Where kataphatic analyses describe directly, the apophatic does the opposite. Thus, we learn the concept by what it is not. Agential responsibility is unveiled as a modern mātauranga based upon autonomy, rationalism, and individualism. Therefore, non-agential responsibility can be found through the proffered alternate, heteronomy. In Chapter Seven, three principles of the concept are recommended to protect those drawn without will to mass extinction studies. Students are best to consider: (1) the debt to whakapapa and its command to serve; (2) compassion and belonginess as vocational prompts; and (3) acknowledgement of burdens and the call to rest.

The resulting concept of non-agential responsibility is decolonial in that it is a departure from Unsettler autonomy. The concept's production offers a new avenue for conceptual analyses in decolonial philosophy. Additionally, non-agential responsibility is non-exceptionalist and non-anthropocentric, so undermines structures of anthropogenic mass extinction.

Beyond mass extinction studies, non-agential responsibility offers a means for generating new lines of investigation. For example, the concept can contribute to studies of writing as a method of inquiry. Non-agential responsibility accurately describes the production of this thesis. Much of the work was written in states of compulsion where the need to express overrode intent. With agency deferred to the editing stage, the writing was open to the non-agential. As with all writing, mine is subject to a breach between intent and the context of its interpretation (Derrida 1988). It thus is available to innumerable relation: the writing “becomes a task of responsibility” (St. Pierre 2007, 2). Scholars who experience non-rational, sometimes obsessive, prompts in their work may consider applying a non-agential lens to their analyses. As shown in this thesis, it need not be applied alone.

2. Leaving the Māhau

When the whaikōrero are completed by song, I step from the māhau. My final directions are to tell the People to come together and recognise the peace that is made. You will be helped to stand, to join the others in the line. Open to the elements, the māhau is a temporary shelter. In its proximity, we have come to know one another, to suffer-with.

There is a tightness to the throat, like swallowing is an impossibility, or perhaps more difficult simply because I am thinking about it too much. Pressure on the left eyebrow compounds a dull ache in the sinuses and nausea’s excess saliva. My biceps tighten and belly protests a little under some unseen weight. Pain in the right lower back may be age, or a dehydrated kidney, or our old friend, anxiety.

It is mid-April 2020 and the world has been confined for some weeks. We watch one another through square windows cradled in our hands and on our laps. A first mokopuna. An unimpressed brother. TikTok, Zoom hui, and Facebook Live. *Ripiripia* – that composition edited in the shadows of 1918 – is silent in this new pandemic. Drones collect footage of the rā nehu (burial day). We sit on our couches watching the broadcast and cry alone.

Responsibility may be experienced in a number of ways. Where there is certainty of task, it is energy and focus and hot hands. Where there is confusion and the fear of failure, it is pain and discomfort and waves of panic. I experience the anxious form now aware that what I have said may have been misunderstood. This breach between us is a constant that I cannot completely close. Yet, I trust in the moment when foreheads pressed we exchange breath. I am in you and you are in me. In our suffering, we are never alone.

E tau rā te aroha o te iwi e.....i

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Appendices

Appendix 1 Glossary of Selected Words

A gloss is short note about a word’s meaning. A glossary is a collection of glosses. This glossary is to assist readers who require guidance in reading some of the words used in this thesis. As suggested by the exegeses found across the text, glosses cannot be definitive. English language rules are not universal and translation is context-dependent. Readers interested in broadening their understanding of given terms are advised to consult multiple sources, especially fluent speakers.

ahu (nurture; descent from)
aituā (misfortune)
amo (bargeboard support)
aroha (a focused breath of love; connection and giving)
au; ahau (first-person, singular pronoun)
haepapa (straight; correct; reliable; procedural responsibility)
haere (go; farewell)
haka pōhiri (welcoming chant)
hapū (nation)
hau (wind; resound; exceed)
hau kāinga (winds of Home; home people)
hema (to create a sloping surface)
hiri; hihiri (laborious; longed for)
hono (to splice; join)
hui (gathering)
ia (third-person, singular pronoun; current, flow)
ihi (separate; sunbeam)
iwi (confederation)
kaikaranga (first voice)
kaikōrero (long-form orator)
kāinga (Home/Family)
karanga (short-form oratory; lift and weave the sparks of life; speak first)

kaupapa tangata (people; people of the land)
kawakawa (*Macropiper excelsum*)
kawe mate (post-burial mourning rite)
keka (mediator)
kiko (flesh)
Kīngitanga (a political institution)
koe (second-person, singular pronoun)
koha (contribution)
kōrero (narrative)
Koro (grandfather)
korokio (*Blechnum vulcanicum*)
korowai (cloak)
kōtiro (girl)
kupu (word)
māhau (open-fronted porch)
mana (spiritual prestige)
mana motuhake (spiritual prestige set apart;)
manaaki manuhiri (encourage visitors’ wellbeing)
manaakitanga (standards and hospitality)
manu (bird)
manuhiri (visitor)
marae (village complex)
marae ātea (courtyard)
Māramatanga (a prophetic movement)
māramatanga (illumination; highest form of knowledge)
mātau; mātou (first-person, plural pronoun [exclusive])
mātauranga (shared knowledge)
mātauranga Māori (inherited knowledge)
matakite (seen by the nonhuman; medium)
matekite (seen by the Dead; medium)
mea (one; cause)
mōhiotanga (directly inherited knowledge, not taught)
motuhake (set apart)
nga (oxygen)
nga ai; ngāi (the reproduced)
nga ati; ngāti (the offspring)
ngā rō (multiple withins)

ngaore (smelt)
ngaro (lost)
ngeri (rhythmic chant with actions)
ope (group of visitors)
opo (become sick with nostalgia)
ora; orā (life; of the sun)
pae; paepae (seat of authority; transverse)
pae whaikōrero (seat of debate)
pāhake (elders)
pao (short ditty)
Papa; Papatūānuku (the Earth)
pāpāuma (*Griselinia littoralis*)
pare (door lintel)
pēpeha (tribal maxim)
piki ake (ascend)
pōhiri; pōwhiri (ceremony of welcoming)
poi (dances performed with balls on a string)
poropiti (Māori prophets)
pouaru (widow)
pouri (deep grief)
pū (origin)
puku (belly)
purapurawhetū (multitudes)
pūtaiao (science)
pūtake (root)
Rā (gathering on day of rememberance)
rangatakapū (middle-aged leadership)
rangatira (leader)
Rangi; Ranginui (sky; Universe)
rapu (to seek)
raupatu (confiscation)
reo (language)
reo Māori (collective noun for the Indigenous languages of New Zealand)
reo pōhiri (short-form oratory; longing of the night)
ringa; ringaringa (hand)
ringarehe (expert of history)
ringawera (worker)

ripiripi (to cut open)
ruruku (incantations)
tae pākoro (arrive laden with sorrow)
taiao (world; environment)
taki (recite)
takohanga (specific pledge or token; contribution; contributory responsibility)
tamati moe tohutohu (child who dreams signs)
tangata whenua (people of the land)
tāpae (present; to clear new paths)
tātau; tātou (first-person, plural pronoun [inclusive])
te ahi kā (longstanding occupation)
te aitanga (the progeny)
Te Heke Mai-i-raro (the southern migration of Tainui)
te hunga mate (the Dead)
te hunga ora (the Living)
te hunga wairua (the Inbetween; the noncorporeal collective)
teina (junior sibling/cousin)
tī kōuka (*Cordyline australis*)
tika (responsible; correct; straight; life-affirming)
tikanga (responsibility; those rules, which demarcate what is correct to a specific context)
tohu (sign)
tohunga (expert of signs)
tongi (prophetic proverb)
tono (to ask; command)
tonotono (one who is to be commanded)
tuāhine (female sibling/cousin of a male)
tuakana (senior sibling/cousin)
tūī (*Prosthemadera novaeseelandiae*)
tumuaki (plaited crown; crown of the head; leader)
tungāne (male sibling/cousin of a female)
tūpuna (ancestor)
uri (descendant)
urupā (cemetery)
waiata (song; embodiment of mana motuhake)
wairua (potential of the unseen)
waka tinana (medium)

wānanga (house of learning;)
wehi (awe)
whaikōrero (long-form oratory)
whakapapa (to build a layer; process of linking)
whakatau (address in formal speech; to make rest)
whakatauākī (authored proverb)
whakataukī (ancestral proverb)
whāngai (foster child)
whare (building)
whare wānanga (advanced school of learning)
whare whakairo (carved house)
wharekai (kitchen/dining room)
wharepuni (meeting house)
whenua (placenta; land)

Appendix 2 Observed Extinctions and Extinction Rates (1500-2014)

Table 3 Comparing observed extinctions and extinction rates (1500-2014)

	Taxonomic Group	Number of IUCN Evaluated Species	[A] Species per 10000	[B] Background Extinction of 2 E/MSY	[C] Centuries since 1500	[D] Background extinctions Expected (B*C)	[E] Expected Extinctions since 1500 (A*D)	[F] Observed extinctions	[G] Extinction Rates relative to Expected (F/E)	Ceballos et al. (2015) Observed Extinctions	Ceballos et al. (2015) Extinction Rates
1500–2014: EX Only	Mammals	5513	0.55	2.00	5.14	10.28	5.67	77	13.59	77	13.59
	Birds	10425	1.04	2.00	5.14	10.28	10.72	140	13.06	140	13.06
	Reptiles	4414	0.44	2.00	5.14	10.28	4.54	21	4.63	21	4.63
	Amphibians	6414	0.64	2.00	5.14	10.28	6.59	34	5.16	34	5.16
	Fishes	12457	1.25	2.00	5.14	10.28	12.81	66	5.15	66	5.15
	Vertebrates	**39223**	**3.92**	**2.00**	**5.14**	**10.28**	**40.32**	**338**	**8.38**	**338**	**8.38**
1500–2014: EX, EW, and PE	Mammals	5513	0.55	2.00	5.14	10.28	5.67	107	18.88	111	19.59
	Birds	10425	1.04	2.00	5.14	10.28	10.72	158	14.74	163	15.21
	Reptiles	4414	0.44	2.00	5.14	10.28	4.54	36	7.93	37	8.15
	Amphibians	6414	0.64	2.00	5.14	10.28	6.59	146	22.14	148	22.45
	Fishes	12457	1.25	2.00	5.14	10.28	12.81	152	11.87	158	12.34
	Vertebrates	**39223**	**3.9223**	**2.00**	**5.14**	**10.28**	**40.32**	**599**	**14.86**	**617**	**15.30**

Ceballos et al. (2015b) produces a different number of observed extinctions in the EW and PE categories from my analysis of the provided data (see supplementary material, “Ch3-Ceballos-et-al-analyses.xlxs”). Table 3 outlines those differences. In addition to the analysis provided in table 2, the two right-hand columns of table 3 show the observed extinctions and resulting extinction rates from Ceballos et al. (2015b). There is no difference between analyses in the EX-only category. The numbers of observed extinctions differ in the combined category (EX, EW, and PE) for all taxonomic groups. As my calculations show slightly fewer in each group, my 2014 extinction rates are lower than Ceballos et al. (2015b).