

**NGA PUNI WHAKAPIRI:
INDIGENOUS STRUGGLE AND GENETIC ENGINEERING**

by

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ABSTRACT

This thesis argues that the notion of struggle is culturally based. Struggle for Indigenous peoples centres around the protection of all things they hold precious.

Indigenous peoples are used to resisting colonial threats to the integrity of their knowledge and culture. Biotechnology is a contemporary site of struggle where Indigenous peoples have been resisting the onslaught of genetic engineering and manipulation and the theft and commodification of their knowledge. **Maori**, the Indigenous people of **Aotearoa** (New Zealand), view this site of struggle as a continuation of colonialism in the form of biocolonialism.

This thesis presents a case study examining the struggle of **Maori** against the biotechnology industry and genetic engineering. The foundational philosophy upon which this thesis has been based is **Kaupapa Maori**. **Kaupapa Maori** is a uniquely Indigenous theory and methodology with a central function of claiming and engaging in theory for **Maori** and by **Maori**.

As well as examining the political economy within which this struggle takes place, members of the **Nga Puni Whakapiri** movement (the term used to describe **Maori** groups gathered together to resist biotechnology and genetic engineering) are interviewed to examine their actions, strategies and philosophies that underpin their struggle. Central to this struggle is the notion of “**tikanga**” - correct and appropriate action that is based on a number of principles that those interviewed elaborate on. **Maori** have been very active in recent anti-GE activity; this thesis argues that this is a logical extension of the notion of **kaitiakitanga** or cultural guardianship and protection, sourced from the ancestors.

This work acknowledges that there is an Indigenous worldview that is valid and that has legitimacy in both public and private forums. When assessing research that has the potential to impact **Maori** communities and in decision-making affecting **whanau** (family), **hapu** (sub-tribe), and **iwi** (tribe), the **tikanga Maori** worldview is central.

Developing from this work is an emerging theory of **Maori** struggle. The **Nga Puni Whakapiri** movement is a case study of a uniquely Indigenous form of struggle. Struggle is centred on the protection of knowledge and culture, **tikanga Maori** knowledge.

DEDICATION

This thesis is dedicated to all my **whanau** who have helped me so much, with special **aroha** to my Nana, **Kahureremoa** Nancy Garland, and baby.

This thesis is also dedicated to Dr Cheryl **Waerea-i-te-rangi** Smith, for this thesis would not be in existence without her continued support.

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GLOSSARY

Akarana	transliteration for Auckland
Aotearoa	New Zealand
Ara mai he tete kura	As one fern frond dies, another shoot comes forth
Aroha	love, charity, respect, sympathy
Atua	God
Aue	expletive – damn! bugger!
Awa	river
Awanuiarangi	ancestor of the Ngati Awa people
Awhi	support, care
Federation of Maori Authorities	National Maori body
Haka	war dance
Hakihaki	scabs
Hapu	sub tribe
Hara	sin / offence
Hato Tipene	St. Stephens Boarding School
Hau	wind
Hauhau	Followers of the faith founded by the Te Ua Haumene that originated in Taranaki but had followers from many iwi.
Hawaiki	the original homeland of Maori
Hawera	town in Taranaki
Hee	opposite of tika
Heke	rafters
Hikoi	walk / march
Hoani Waititi Marae	Name of marae in South Auckland
Hoha	bored, a nuisance
Hongi	formal greeting by touching nose to nose
Honohono	healing using the hands
Hui	meeting
I ahu mai koe I whea?	From whence did you come?
Ihi	power, feeling
Ira	life principle
Ira tangata	life principle of mortals, human life, human gene

Iwi	tribe of people
Kahungunu	iwi / tribal area
Kai	food
Kaiako	teacher
Kaimoana	seafood
Kainga	home
Kaitaia	Town in the far north
Kaitiaki	caretaker / custodian
Kaitiakitanga	custodianship, guardianship
Kanohi kitea	face to face - contact
Kapa haka	concert party
Karakia	incantation, prayer
Karanga	call, usually calling visitors onto a marae
Karangaora	Rongoa Centre in Taranaki
Kaitiaki	guardian
Katoa	everyone, all
Kaua e tito	don't tell lies
Kaumatua	elder/elders
Kaupapa	rationale, reason, purpose, agenda, basic idea, topic, plan
Kaupapa Maori	Maori epistemologies
Kauri	type of native tree
Kawa	protocol
Kawai	family tree, pedigree
Kawerau	Town in North Island
Ke	not sin
Kei te pai	good, fine, everything's ok
Kei te tika	that's right, correct
Kereru	native pigeon
Kerikeri	Town in far north / Bay of Islands
Kete	woven flax basket
Kia kaha	be strong, focus
Kia mohio, kia marama	to know, is to understand
Kia ora	hello, greetings
Kingitanga	a movement established to unite the tribes of Aotearoa based in Waikato

Kingites	those loyal to the Kingitanga
Kitea	seen
Kiwi	native bird of New Zealand
Ko wai koe?	Who am I?
Koha	donation, gift
Kohanga	nest
Kohanga Movement	Maori language pre-schools
Kohanga Reo	Language nest, pre-school Maori language movement
Komiti marae	Marae committee
Korero	talk or historical talk
Koroua	elder male
Kotahitanga	unity, togetherness
Kowhai	type of native tree
Kowhaiwhai	painted patterns on rafters of house
Kuia	elder woman/women
Kumara	prized Maori food, sweet potato
Kumara vine	similar to the 'grape vine' expression
Kupapa	traitor, collaborators
Kura	school
Kura Kaupapa Maori	Maori language school - primary/elementary
Kutu	nits, louse
Kuwaha	doorway
Mahau	porch or veranda of a house
Mahi	work, to make, undertaking, act
Mamae	pained, sorrowful
Mana	status, dignity, authority, power
Mana Maori	Maori Political Party
Mana motuhake	autonomy
Mana wahine	asserting the position of Maori women
Mana whenua	land
Manaaki / Manaakitanga	to look after, care for, to host
Manaaki tauira	funding scheme for Maori tertiary students
Manaiā	bird-like carved figure
Manuhiri	visitor

Manuka	shrub plant
Manunui	Town in central North Island
Maori	Indigenous people of New Zealand
Maori Congress	National Maori body
Maori protest movements and churches	Pai Marire/Hauhau movement; Ringatu church; Rua Kenana movement; Ratana church; and the Absolute Maori Established Church of Aotearoa
Maoritanga	things Maori
Marae	formal Maori meeting venues
Mataatua Declaration	Declaration made at first world conference on Indigenous and intellectual cultural property rights in NZ
Mataatua waka	Mataatua canoe, the canoe of the Far north and Bay of Plenty tribes
Matakite	clairvoyant, visionary, prophet
Matauranga Maori	Maori knowledge
Mate Maori	Maori sickness (physical, spiritual, psychological and emotional illnesses)
Matua	parent, sir, uncle, father
Maui	ancestor / demigod
Maunga	mountain
Mauri	life essence, life principle
Mihi / Mihimihi	greetings
Mirimiri	massage
Moko Productions	Maori film / TV production company
Moko	grandchild
Mokomokai	dried and shrunken heads
Mokopuna	grandchildren, great grand children
Moteatea	traditional songs
Motu	island
Muaupoko Co-operative Society	National Maori body
Ne	eh
Nga Kaihautu Tikanga Taiao	Maori advisory body attached to ERMA
Nga Pae o te Maramatanga	Research Institute specifically set up to build research capacity in Maori communities and organisations, mentor Maori researchers, fund and conduct research by Maori and for Maori, and with a central goal of improving the well-being of Maori people in society

Nga Puhi	Tribal area in the far north
Nga Puni Whakapiri	The gathering Maori resistance to genetic engineering
Nga Puni Whakapiri	Maori people and groups who gather together to express their concern with biotechnology and genetic engineering
Nga Tamatoa	activist group of the 1960s / 1970s
Nga tangata Tiaki	people who go out and care for something
Nga Wahine Tiaki o Te Ao	Guardians of our world, a group of Maori women concerned with genetic engineering and the future of our world
Ngai te Ahi	hapu in Tauranga area
Ngakau	emotions
Ngaruawahia	town in Waikato rohe
Ngati Apa	Tribal area in mid-lower North Island
Ngati Awa	a tribe in the Bay of Plenty regions
Ngati He	hapu in Tauranga area
Ngati Maniapoto	tribal area in Waikato rohe
Ngati Pikiao	hapu of Te Arawa
Ngati Tuwharetoa	Tribal area in central North Island
Ngati Wai, Ngati Kuri, Te Rarawa	Wai 262 claimants
Ngati Wairere	hapu in Waikato area
Noa / whakanoa	free from tapu / make common
NZ Maori Council	National Maori body
Otorohanga	Town in central North Island
Pa	fortified village
Paepae	seat for orators and their supporters
Pahu	drum
Pai Marire	Same as Hauhau.
Pakaitore	Name of an early village beside the Whanganui river and site of land protest in early 1990's
Pakeha	non-Maori New Zealanders
Pakeha science	Reductionist science conducted in New Zealand by researchers and people who are not cognisant of, or choose to ignore and obfuscate, the tikanga Maori worldview
Panui	a notice or message
Papatuanuku	Mother earth
Parihaka	a place in Taranaki that was a refuge of passive resistance led by

	Te Whiti and Tohu from the 1860s onwards
Patea	town in Taranaki
Patu	weapon, a club or to hit
Pikaungia	burden
Piko	young fern frond, a bend or curve
Pohiri / powhiri	welcome / welcomed – onto marae
Pohutukawa	type of native tree
Poi	a soft ball tied on the end of a string, used to entertain and to develop suppleness of the wrists of young warriors
Poipoia	bats
Poroporoaki	farewell
Pou	post, pole
Pou hihiri	a sacred Incantation, to fix knowledge in the mind
Pou rakau	weapon
Pou reinga	marker post
Pounamu	greenstone, NZ jade
Poupou	steep, post, in-laws, elders, lines of carved figures on the inside of the carved meeting house depicting ancestors
Poupoutangata o te ra	midday
Poutama	a stepped pattern
Poutokomanawa	central interior post that holds up a house
Powhiri/ pohiri -	ceremony of welcome
Pukana	stare defiantly
Rakau	tree
Rangatahi	young people
Rangi and Papa Ranginui	the sky father, Papatuanuku the earth mother
Ranginui	sky father
Raranga	weaving
Raruraru	trouble
Ratana	founder of the Ratana faith, a religion
Ratana Pa	Religious community based at Whanganui
Raua ko	and
Raukawa	Ngati Raukawa is a tribe
Raupatu	confiscated lands
Raupo	plant whose stalks and leaves were used for building

Reo	language
Riwai	potato
Rohe	region, boundary, territory or district
Rongoa	traditional medicine / healing
Roopu	society, group, body
Rotorua	city in North Island
Rua potato	type of potato
Ruakura	an area in Waikato, Hamilton, also where some controversial GE research is taking place
Runanga	assembly
Ruru	owl, morepork
Ruruhau	shelter
Taewa	potatoes
Tahi	one
Tahuu	ridgepole of a building
Taihoa	stop, pause, wait
Tainui	tribe in Waikato
Tainui rohe	Tainui tribal area, Tainui is the tribal name of the people living in the Waikato
Take	reason or purpose
Takou Bay	Bay in far north where my whanau are from
Tamaki / Tamaki Makaurau	Auckland
Tamariki	children
Tane	a man
Tane Mahuta	God of the forests
Tane nui a rangi	All names for Tane
Tangaroa	God of the seas
Tangata	person
Tangata whenua	people of the land
Tangi	funeral, to cry
Tangihanga	a 3-day ceremony following a death
Taniwha	water creature
Taonga	prized possession, treasure
Tapu	sacred
Tapu Te Ranga	name of marae in Wellington

Taranaki	includes the city of New Plymouth and surrounding area
Taua	war party
Taumarunui	Town in central North Island
Taumata	brow of hill, high place, speakers bench
Tauparapara	chant to preface a formal speech
Taupo	Town in central North Island
Tauranga	city in North Island
Taurima	entertain, adoption
Tautoko	support
Tawhirimatea	God of the winds
Te Ahi Kaa	an activist organisation
Te ahi kaa	the burning fires, refers to occupation of land
Te Aitanga A Hauiti	Tribal area in North Island
Te Amorangi	a Maori women's student group
Te ao hurihuri	the world transforms from dawn to night
Te ao Maori	The Maori world
Te Arawa	iwi / tribal area in North Island
Te Huinga Rangatahi	a Maori student group
Te Iwi Maori	The Maori people
Te kauwae raro	practical knowledge, the lower jaw
Te kauwae runga	esoteric knowledge, the upper jaw
Te kawau maro	birds in flight formation – Ngati Maniapoto saying
Te Kawariki	an activist organisation based in Northland
Te Kohanga Reo	Maori language school - pre-school
Te Kooti	the founder of the Ringatu Faith and a great leader wrongfully imprisoned, he escaped and evaded colonial forces
Te Kore	total darkness
Te Kotuku Whenua Consultants	Environmental agency for Ngati Wairere, Maniapoto rohe
Te Kupu	words, terminology
Te Kura Tuarua	Maori language school - secondary school
Te Ngaki Management Studies scheme	Award for Maori students administered by the University of Waikato
Te Po	the night, dark
Te Puea	a woman leader within the Kingitanga movement

Te Puni Kokiri	Ministry of Maori Development
Te Ra	the day, light
Te Raweke Ira	Name of anti-GE video all in Maori
Te Raweke Ira	The Interference With The Life Principle
Te reo	the language
Te reo Maori	the Maori language
Te Roopu Pukana	Maori organization in Whanganui concerned with GE
Te Runanga o Ngai Tahu	body representing the tribe of Ngai Tahu in South Island
Te taha hinengaro	mental / psychological wellbeing
Te taha tinana	physical wellbeing
Te taha wairua	spiritual / metaphysical wellbeing
Te taha whanau	family / social wellbeing
Te Tii	Place in far north where my whanau are from
Te Tiriti o Waitangi	The Treaty of Waitangi
Te Upoko O Te Ika	The head of the fish of Maui, which refers to the Wellington region. Maui fished up the North Island and places are named after parts of the body of the fish.
Te Waka Kai Ora	National Maori organics movement
Te Whare Wananga O Awanuiarangi	Tribal university of the Ngati Awa people
Teina	younger – sibling
Tiaki	mentor, guard, preserve, foster, conserve, protect, shelter, keep watch over
Tika	proper, right, true, honest, just, personally and culturally correct
Tikanga	protocol and customary practise
Tikanga Maori	Maori protocol and customary practise
Tinana	body – human
Tinana ora	general wellbeing
Tino rangatiratanga	autonomy, self determination, absolute chieftainship
Tohunga	expert, facilitator of ritual, specialist, priest
Tohunga whakatau kaupapa	a person with knowledge and wisdom who uses it in protection of something
Toto	blood
Treaty of Waitangi	Treaty signed between Maori and the British monarch in 1840
Tu tangata	Stand tall, a government-funded training programme for youth
Tuakana	older – sibling

Tuarua	the second, secondary
Tui	type of native bird
Tukuiho	bequeathed, given freely
Tukutuku	support
Tukutuku	woven panels on the inside of a house
Tupapaku	a person has passed away and is surrounded by their grieving family and friends prior to returning them to the Earth Mother
Tupuna	ancestor
Turangawaewae	Central marae in Waikato rohe, Ngaruawahia
Turangi	town in central North Island, Tuwharetoa rohe
Tutu / tutu'ing	playing around, stirred up, cheeky
Tuturu	important, staunch or strong
Tuwharetoa / Ngati Tuwharetoa	tribal area in central North Island
Urupaa	cemetery
Utu	revenge, restoring balance
Waahi tapu	sacred place
Waananga	Maori language school - tertiary level
Waananga	workshop / learning
Waewae hape	club foot
Wahine	woman or women
Wahine toa	female battler / warrior / fighter
Wai	water
Waiata	song
Waiata-a-ringa	action song
Waikato	includes city of Hamilton and surrounding area
Waikato Polytechnic	Community College / polytechnic in Hamilton
Waikato University	University in Hamilton
Waimate	small township in Bay of Islands
Waiora	health
Wairarapa	a region / area in North Island
Wairua	spirit
Waitangi	place where the Treaty of Waitangi was signed in 1840, Bay of Islands
Waitangi Tribunal	government body set up for hearing Tribunal claims

Waka	canoe, vehicle
Wakahuia	TV show in Maori presenting issues relevant to Maori
Wananga	learning
Wehi	fear, awe, be afraid, formidable
Whaea o te ao	mother of the world / earth, mother earth
Whaikorero	speeches
Whaingaroa	Maori marae and settlement in Raglan, Independent State of Whaingaroa
Whakaheke	to come down from the top
Whakahihi	arrogant, extra proud, mischievous
Whakamaa	shame, shy, lack of confidence
Whakapapa	ancestral connections, genealogy
Whakarongo	listen
Whakatakoto korero	lay out the talk
Whakatane	Town in Bay of Plenty area
Whakatauki	proverb
Whakawhitiwhiti korero	interweave the talk
Whanau	family, extended included
Whanaungatanga/whakawhan aungatanga	family – inclusive of extended, we have a whakapapa connection to all things and are kaitiaki for all we hold dear
Whangai	child raised by another family or adoption
Whanganui / Wanganui	City in mid-lower North Island
Whare	house
Whare kai	dining house
Whare tangata	human body
Whare wananga /waananga	house of learning
Whare whakairo	carved meeting house
Wharenui	meeting house
Whenua	land, placenta
Whiro	bad God, evil
Wiri	quiver, hand movement

LIST OF ACRONYMS

AAAS	American Association for the Advancement of Science
ANZFA	Australia New Zealand Food Authority
ANZUS	Australia, New Zealand, United States Alliance Treaty
APEC	Asia Pacific Economic Community
BERL	Business and Economic Research Limited
BIO	Biotechnology Industry Organisation
CoRE	Centres of Research Excellence
CRI	Crown Research Institute
CSIR	Council for Scientific and Industrial Research
DNA	DeoxyriboNucleic Acid
DoC	Department of Conservation
ERMA	Environmental Risk Management Authority
FRST	Foundation for Research, Science & Technology
FSANZ	Food Standards Australia New Zealand
GATT	General Agreement on Tariffs and Trade
GE	Genetic engineering
GIAB	Growth and Innovation Advisory Board
GM	Genetic modification
GMO	Genetically Modified Organism
GP	General practitioner – medical doctor
HART	Human Assisted Reproductive Technology Bill
HGDP	Human Genome Diversity Project
HGT	Horizontal Gene Transfer
HRC	Health Research Council
HRCEC	Health Research Council Ethics Committees
HSNO	Hazardous Substances and New Organisms Act
IBAC	Independent Biotechnology Advisory Council
IPCB	Indigenous Peoples Council on Biocolonialism
IPR	Intellectual Property Rights
IRI	International Research Institute for Maori and Indigenous Education
ISBC	Institutional Biological Safety Committee
MAdGE	Mothers Against Genetic Engineering
MAF	Ministry of Agriculture and Forestry
MAI	Multi-Lateral Agreement on Investment
MED	Ministry of Economic Development
Medsafe	Medical Devices Safety Authority
MFAT	Ministry of Foreign Affairs and Trade
MfE	Ministry for the Environment
MMP	Mixed Member Parliamentary system

MoH	Ministry of Health
MoRST	Ministry of Research, Science & Technology
MP	Minister of Parliament
NERF	New Economy Research Fund
NGO	Non-Governmental Organisation
NIWA	National Institute of Water and Atmospheric Research
NKTT	Nga Kaihautu Tikanga Taiao, ERMA's Maori body
NSOF	Non-Specific Output Funding
NZFSA	New Zealand Food Safety Authority
NZIER	New Zealand Institute of Economic Research
NZTE	New Zealand Trade and Enterprise Agency
OECD	Organisation for Economic Co-operation and Development
PCE	Parliamentary Commissioner for the Environment
PSRG	Physicians and Scientists for Responsible Genetics
RAGE	Revolt Against Genetic Engineering
RCGM	Royal Commission on Genetic Modification
RS&T	Research, Science & Technology
SAFE	Save Animals From Exploitation
SPO	Strategic Portfolio Outline
TEK*PAD	Traditional Ecological Knowledge Prior Art Database
TNCs	Trans-National Corporations
TRIPs	Trade-Related Intellectual Property Rights
WAI 262	Waitangi Tribunal claim number 262
WIPO	World Intellectual Property Organisation
WTO	World Trade Organisation
ZINATHA	Zimbabwe National Traditional Healers Association

PREFACE

TE PO¹

Shadow falls on cornfield, hallowed stream and grassland crop

Papatuanuku,² earth mother, sighs heavily, shoulders straining, earth bound, root embedded
Poison seeps deep and lecherously into muscle and vein

Exhausted and ravaged by pollution, poison and alien cropping, exploited ruthlessly by man's
hand

Papatuanuku grieves as hope and wisdom abandon the open wounds of her flesh

From a timeless past, **Aotearoa**, land of the long white cloud, has been sacred, ancient and
wisdom enshrouded

Majestically it rises, mist enshrined from the mighty Pacific

But what now of our legacy, for our future **mokopuna**, what now of our ancient wisdom and care
towards the land

The legacy is now in doubt

The lands are now despoiled

The waterways are no longer sacred and carry breeding vileness in its once pristine waters

Papatuanuku is no longer revered and fades into the mists of forgetfulness

The timeless ancient land is sorrowful

Papatuanuku, our mother earth, lays crippled yearning for the lost wisdom of the ancients where
respect for the land was paramount as survival of both were intertwined

As we watch our legacy being violated **Ranginui**, sky father, weeps and we hear the mournful cry
of the **ruru**.

TE RA³

Rangi gently nudges **Papatuanuku** awake at dawn's break. Fingers of grey light caress the
slumbering shoulders of earth mother. The mists of sleep blanketing the land he peels away and
delights in wakening the lively chorus of forest birds and tinkering streams.

Papatuanuku thus roused yawns and rubs the sleep from her eyes, rustling the leaves in the
cathedral heights of the forest trees and unsettling the small mammals creeping stealthily amidst
the forest floor debris.

Earth mother welcomes **Rangi's** warm embrace as he sheds his night cloak and dons the raiment
of healing warmth. The land convalesces after countless decades of abuse, violation and alien
intrusion. Its resources low and bloodstream weakened with viral strains, **Papatuanuku** calls
upon the sacred strength and wisdom of time immortal.

She draws the vileness, the alien antigens and vile anomalies unto herself diluting them and
transforming them with her **mana** until they have become part of her raiment like feathers in a
cloak. As a hunter prides himself on his trophies so **Papatuanuku** prides herself on each feather
she adds to her cloak.

A gentle breeze ruffles her feather garment as vocal dissent from mankind against genetic
modification and the pillaging of her lands and waterways is carried sweetly to her ears. A smile
plays on her lips as she thinks perhaps the breeze of dissent foretells a coming storm.

Papatuanuku lays to peaceful slumber content in the knowledge that after a storm brilliant rays
of sunlight will come forth. Peace, enlightenment and wisdom will bud and bear fruit as a new
spring heralds in a new beginning.

¹ "The night" (or dark). poem written by my brother, Leon Reynolds, April 2002.

² Throughout this thesis **Maori** terms and terminology are highlighted in bold in order to differentiate them
from the rest of the text.

³ "The day" (or light), poem written by my brother, Leon Reynolds, November 2003.

NO HEA KOE? WHO AM I?

In my first conversation with one of my interviewees I was given a clear indication of the foundation that I needed to apply in this thesis: **Kaupapa Maori**.⁴ A prerequisite to this approach is to establish who you are and where you have come from. In this Preface, I declare myself to the reader, highlighting where I have come from and my own involvement in this work and movement. This is an insider's perspective, working in an arena I am familiar with and part of.

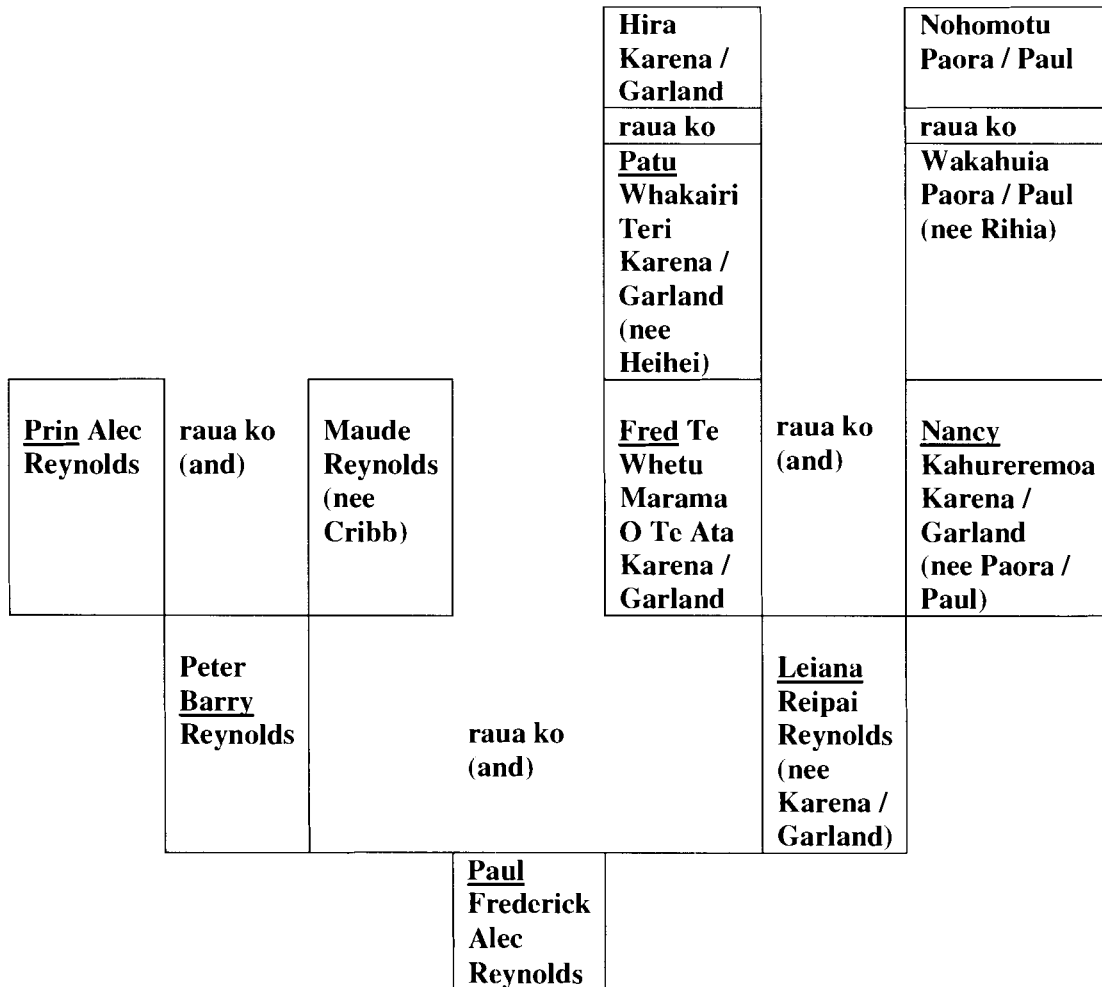
“No hea koe?” This is a question that many **Maori** ask. The direct question, “who are you?” is considered inappropriate when **Maori** meet one another. Where are you from is a question that makes inquiry about a person's traditional tribal territory and their **whakapapa** (genealogy). Who I am relates to my **whakapapa**. My parents lived in **Taumarunui** (central North Island of New Zealand), a small, close-knit farming community where everybody knows everybody else. My dad is of **Pakeha** and **Maori** descent and my mum **Maori**, from the **Ngati Tuwharetoa** (central North Island) and **Nga Puhi** (Bay of Islands) **iwi** (tribes). My brother, two years younger, and I are the only children in our immediate **whanau**.

The upbringing I received was semi-religious and strict but loving. Both my parents are very hard working and they have instilled this work ethic in my brother and myself. My mother has managed a range of shops, including children's clothes, florist and chocolate shops, as well as nursed, taught floristry, been a marketing manager, and is currently a Director for Mary Kay Cosmetics. My father was a well-respected plumber in **Taumarunui**, before moving to join a plumbing company in Hamilton, where my parents currently live. My brother is a business partner in a very successful florist shop in Ponsonby, Auckland. As a family, we have always had close ties with my grandparents, in particular, and other extended family members.

⁴ See Chapter One for more details. **Kaupapa Maori** is a philosophy that centres Indigenous knowledge. It is also an intervention strategy that at its heart is to bring about transformation for **Maori**. This process is considered cyclic, as opposed to a linear and instrumental configuration, with the key sites being conscientization, resistance, and transformative praxis.

My full name links me to my grandfathers from both my mother and father's side of the family, and my grandmother from my mother's side. My full name is Paul Frederick Alec Reynolds. Paul comes from the maiden name of my grandmother, affectionately known by all her **mokopuna** as Nana. Frederick comes from my grandfather, my mother's father, who passed away over ten years ago. Alec comes from my grandfather on my father's side, who also passed away some time ago. As I am the first-born son, and grandson on my mother's side, the selection of a name was important to ensure that I had connections to both sides of my **whanau**.

Whakapapa
For
Paul Frederick Alec Reynolds



All of my **whanau** have been supportive in my study and career, helping financially and emotionally, as well as practically in feeding and housing me while I worked at The **Waikato** Polytechnic, from afar when I was living and studying in Vancouver, and again when I returned home to complete writing the thesis in 2003. My mother and grandmother in particular have encouraged me to strive for the top and achieve the highest qualifications I can for my **whanau**, our people, and myself.

My mother, Leiana **Reipai**, my aunty, Judy **Wakahuia** (my mothers sister), and my grandmother, Nancy **Kahureremoa**, all work for our people in different ways. The commonality in their work relates to the fact that they each instil a self-confidence, self-awareness and self-determination in all the people they come in contact with. I hope to carry on this tradition.

WHERE HAVE I COME FROM? WHAT HAS SHAPED MY PERSPECTIVES?

I attended **Manunui** Primary School in **Taumarunui**, where my parents were active members of the school community. My parents also wanted to give my brother and me the best educational and cultural opportunities and decided to send us to St. Stephens (**Hato Tipene**) **Maori** Boys Boarding School in Bombay, Auckland, where I became a Prefect and, on one occasion, Acting Head Boy.

The transition to the University of **Waikato** from a **Maori** boarding school was difficult because there were very few **Maori** in the School of Management Studies. I was fortunate to be accepted into the Bachelor of Management Studies Degree programme because of the restricted intake in my first year, 1986. I was also fortunate in having a mentor in my first year, Professor Margaret McLaren, Intercultural Communication Lecturer, who has followed my education and career with interest, offering support and guidance whenever it was needed. Following advice from Professor McLaren, I entered and completed a Diploma of Teaching and a Post-graduate Diploma of Communication after graduating with a Bachelor of Management Studies Degree. While at university I received valuable financial support from the **Tuwharetoa** (now called Lake

Taupo) Trust Board, **Te Ngaki** Management Studies scheme, and was a Department of **Maori** Affairs (now called **Te Puni Kokiri**) Public Service Bursar.

In 1993 I was employed by the Department of Design and Communication at The **Waikato** Polytechnic as a Communication Lecturer, later becoming a Senior Academic Staff Member. I also had responsibility for the fostering of **Maori** and international students enrolled in the Bachelor of Media Arts Degree, **Maori** issues within the department, design of new courses and supervision of other lecturers in different programme areas, and liaison with different departments.

While teaching, I completed a Master of Management Studies with distinction at the University of **Waikato**, majoring in intercultural communication. I also completed a Certificate in Tertiary Teaching at the **Waikato** Polytechnic, which was a requirement for new academic staff members.

Again, following the advice of Professor McLaren, I applied and was accepted into the Doctoral programme in the School of Communication at Simon Fraser University.

WHY THIS TOPIC?

The proposal submitted to gain admittance to the School of Communication was based on my interest in land issues, the Treaty of **Waitangi**, and **Maori** resistance to colonisation. However, while taking a course in my first semester called “Knowledge Systems and Development,” I was introduced to confrontations over genetic engineering, genomic research, and biopiracy affecting Indigenous and Third World peoples in particular. This interest in biotechnology blossomed when I enrolled the next semester in a course called “Science and Public Policy 1: Risk Communication,” an in-depth critique of controversies related to biotechnology. The lecturer for both courses was Professor Pat Howard.

Respect for the dignity of life is paramount for me. **Maori**, and Indigenous people in general, have always respected the sanctity and reciprocity of life. Many non-Indigenous people

have this affinity and are also realizing that there ought to be limits on the instrumentalizing of life. My belief is that there should be no patenting on life. My belief is also that there should be no creation of transgenic organisms, which has the effect of tampering, interfering and violating life. It is undignified, disrespectful, short-sighted, and is just “bad,” to use a term commonly used by numerous anti-GE authors critical of patenting and genetic engineering (including Brewster Kneen, Mae-Wan Ho, Andrew Kimbrell, Vandana Shiva, and Jeremy Rifkin).

Information about biotechnology, genetic engineering in particular, is inaccessible for most people because of the scientific language that is used to explain it. There is a need for information to be presented in less scientific and complicated ways; basically the science needs demystifying.

While at a conference called Biodevastation,⁵ an anti-GE forum, in Seattle in 1999, I listened to a presentation given by Debra Harry (a Northern Paiute from Pyramid Lake in Nevada) and read the booklet she had co-written with the late Dr. Frank C. Dukepoo (of Hopi and Laguna heritage), entitled *Indians, Genes and Genetics: What Indians should know about the new biotechnology*.

When Dr Cherryl Smith visited Vancouver later in 1999 and met with me for the first time, we felt that the booklet was exactly what was needed at home. But a book for **Maori** would need to bring in the issues of transgenic research and genetically modified foods, which were beginning to be more talked about in **Aotearoa**. At the time, discussion among **Maori** about genes and genetics had been restricted to only a few places.

Our booklet, *Maori, Genes and Genetics: What Maori should know about the new biotechnology*, was produced for **Maori**. It was a booklet that was loosely adapted from the work of Dr Frank Dukepoo and Debra Harry. Debra has for many years been active in educating Indigenous peoples about the implications of genetic research and is the Executive Director of

⁵ The Biodevastation conference is the forum for an annual gathering of anti-GE members from all over the world.

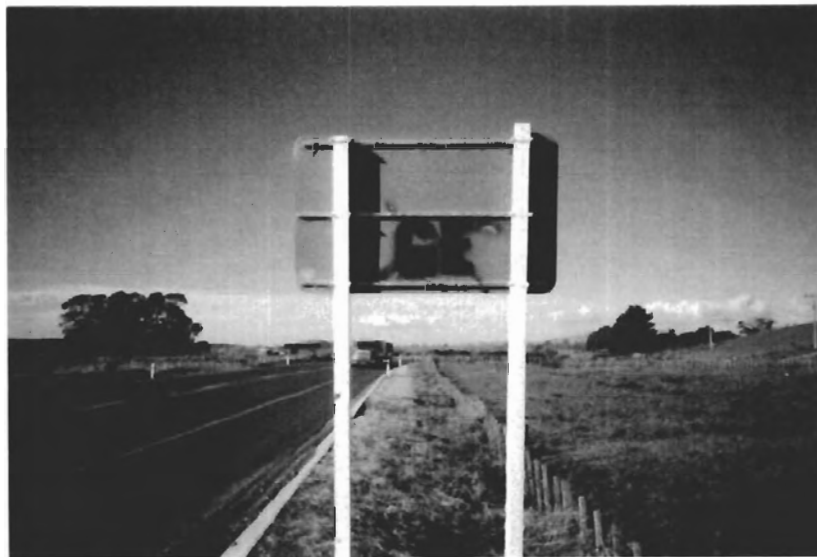
The Indigenous Peoples Council on Biocolonialism.⁶ The purpose of our booklet was to make information accessible and available to as many **Maori** as possible.

Dr Cheryl Smith and I collaborated again in Vancouver at the end of 2002 to write a second version of the booklet entitled, *Aue! Genes and Genetics*, which was published and distributed in 2003. I was also a member of the organizing committee for a Teach-In, "Big money, Bad science: A citizens' response to biotechnology and genetic engineering," held in Vancouver in October 2000. I spoke on a panel with Debra Harry and Beth Burrows on Indigenous views of biopiracy. In 2000 I was also co-producer with other students in the School of Communication of a video documentary, "Dreams of Green," a critique of genetically engineered food.

In February 2002, I returned to New Zealand for a couple of months to conduct the field research for this thesis. Professors Pat and Roger Howard also visited for a short time to help set me up for the fieldwork and conduct pilot interviews prior to going "into the field." I returned to Vancouver in April 2002 to transcribe the interview tapes and compile and organize the research material gathered. During my return to Vancouver in 2002 I met up with Professor **Hingangaroa** Smith, the brother of Dr Cheryl Smith, who agreed to be a member of my doctoral committee. In July 2003 I returned home again to write and complete the thesis.

⁶ The Indigenous Peoples Council on Biocolonialism is an organization specifically focussed on informing indigenous communities worldwide of the impacts of genetic engineering, genomic research and biopiracy/biocolonialism affecting all Indigenous peoples. You can visit the IPCB website at: <http://www.ipcb.org>.

**Photograph of anti-GE graffiti on road sign
between Hamilton and Otorohanga, New Zealand, March 2002**



INTRODUCTION

Maori culture can be likened to Humpty Dumpty. When Humpty sat on the wall he or she was a complete being. But when Humpty fell the whole being was shattered and broken into pieces. In the case of **Maori** culture the pieces have been scattered – some have been destroyed, some hidden and others are just waiting to be reconstructed...Efforts are now being made to reassemble Humpty Dumpty, but the task has become difficult because meanwhile Humpty is changing and continues to grow and expand despite being shattered and scattered.
(Professor **Hirini Moko Mead**)¹

One of the loudest arguments against genetics and biotechnology is coming from our own **Kaumatuā** [elders], who are saying very clearly that no one should corrupt or interfere with **whakapapa** [genealogy]. The sanctity and respect for **whakapapa** is to be maintained. Both **mauri** (life principle) and **wairua** (spirit) of living things are sacred. The responsibility falls on us to protect the legacy of our future generations and this includes the guardianship [**kaitiakitanga**] of **whakapapa**.²

1. GENERAL INTRODUCTION

In 1840 the Treaty of **Waitangi** was signed between **Pakeha** (the British Crown) and **Maori**.³ **Maori** are the Indigenous people of **Aotearoa** (New Zealand). “**Pakeha**”⁴ generally relates to anyone who is non-**Maori**, non-**tangata whenua**, or anyone who is not of this land.

More specifically, **Pakeha** means white. It is a word that has been used by **Maori** to describe the

¹ Mead, H., M., **Tikanga Maori: Living by Maori values**. (Wellington: **Huia** Publishers, 2003), 306. Professor Mead is referring here to the renaissance and rejuvenation of **Maori** culture since the effects of colonisation. The original use of this metaphor was by Professor Bruce Biggs to explain what had happened to **Maori** culture in general. Humpty Dumpty broken into pieces was a metaphor used to illustrate the scattering of **Maori** people nationally (the rural to urban drift) and internationally, and **Maori** society. Occasionally, Humpty Dumpty is restored when there are major gatherings, such as **tangihanga** (funerals) and **whanau** (family) reunions, which brings all the **whanau** together. (2003: 210)

² Reynolds, P., & Smith, C., **Maori, Genes and Genetics: What Maori Should Know About the New Biotechnology**, (**Whanganui**, New Zealand: **Whanganui Iwi** Law Centre, 1999), 3.

³ The Treaty of **Waitangi** will be explained more fully in Chapter Two.

⁴ For a more in-depth explanation of the term “**Pakeha**” see: King, Michael, **Being Pakeha: an encounter with New Zealand and the Maori renaissance**. (Auckland: Hodder and Stoughton, 1985); King, Michael, **Being Pakeha now: Reflections and recollections of a white native**. (Auckland: Penguin, 1999); King, Michael, (Ed.), **Pakeha: The quest for identity in New Zealand**. (Auckland: Penguin, 1991); Salmond, Anne, **Between worlds: Early exchanges between Maori and Europeans, 1773-1815**. (Auckland: Viking, 1997).

coloniser population. **Maori** can, however, incorporate peoples from the different Pacific islands because **Maori** are able to show a **whakapapa** (genealogical) link to peoples of the Pacific.

The Treaty of **Waitangi** guaranteed **Maori** the continuance of their existing right to **tino rangatiratanga**, control over their own resources, treasured possessions and affairs, and assured that they would be dealt with in good faith and treated fairly and decently by institutions that were **Pakeha**-controlled. The Treaty of **Waitangi** was a contractual partnership made between two peoples and guaranteed that **Maori** would be treated as equal treaty partners with **Pakeha**. Since 1840, however, **Maori** have felt that they have been marginalised, and many non-**Maori** believe that **Maori** are being unreasonable in their demands for equal treaty partner rights and status. Many New Zealanders believe that we are, or ought to be, “one people.” They echo the words of Captain Hobson, Governor of New Zealand at the time, after the signing of the Treaty of **Waitangi**, “**he iwi tahi tatou**,” translated in the history books as “we are one people.”⁵ Others believe New Zealand should be multicultural. Richard Mulgan points out, however, that such views leave the way open for **Pakeha** to ignore all other ethnic groups, including **Maori**, by paying lip service to the need to be sensitive to other cultures, while retaining their monocultural dominance.⁶ Multiculturalism also has the effect of downgrading the unique importance of **Maori** people as the **tangata whenua**, or the people of this land.

In 2004 a ghostly echo of the past reared its head in the form of a speech at an Auckland Rotary meeting by the Leader of the opposition party, National Party Leader Don Brash. In his speech Dr Brash, former Governor of the Reserve Bank of New Zealand, cited Captain Hobson’s “we are one people” phrase in advocating the elimination of race-based funding and policies for

⁵ Mulgan, R., **Maori, Pakeha** and democracy. (Auckland: Oxford University Press, 1989), 6.

⁶ Ibid.

Maori, claiming that **Maori** received preferential treatment over **Pakeha**.⁷ The Governor-General, Dame Silvia Cartwright, however, politely disagreed with Don Brash's version of the "we are one people" phrase made by Captain Hobson. Instead, the Governor-General stated that the phrase more correctly would translate as "we two people together make a nation," as was the intention of a Treaty partnership.⁸

In yet another ghostly reminder of the past, a 2004 **Hikoi** (march, walk) to protest the confiscation of land by the Crown was a re-enactment of a **Hikoi** that took place in 1975 for the same reason. In 1975 Dame **Whina** Cooper led a **Hikoi** covering the breadth of the North Island to protest the ongoing theft of land from **Maori** by the Crown. The **Hikoi** ended in Wellington in the grounds of the New Zealand Parliament where the marchers petitioned the government directly for reparation and compensation.⁹ In 2004 a second national **Hikoi**, again covering the breadth of the North Island, with a small contingent from the South Island and supported by a large majority of **Maori** nationwide, marched to Parliament to protest the theft of the seabed and foreshore from **Maori** by the Crown.¹⁰ The land march protested successive government policy and legislative theft that had continuously eroded ownership of **Maori** land.¹¹ The 1975 **Hikoi** ending in Parliament grounds was several thousand people strong, but the 2004 **Hikoi** was an overwhelming twenty thousand people and represented one of the largest protests that have ever

⁷ This speech has resulted in Dr Brash being described as a variety of things, from the "You will be assimilated, resistance is futile" cybernetic Borg in the Star Trek series to similarities being made between himself and former Australian politician and controversial ultra-nationalist Pauline Hanson. *New Zealand Herald*, "Diana Wichtel: 'Star Trek' images in race debate," 14 February 2004, & "Don Brash to spread race message buoyed by poll results," 16 February 2004.

⁸ *New Zealand Herald*, "John Roughan: Somewhat strange behaviour for a Governor-General," 14 February 2004.

⁹ See Chapter Two for more details. For a full account of this march, or other occupations and protests during the 1970s and earlier, see King, M., *Whina: A biography of Whina Cooper*. (Auckland: Hodder and Stoughton Ltd., 1983).

¹⁰ See Chapter Four for more details. A Court of Appeal ruled in June 2003 that **Maori** had customary title over the foreshore and seabed and could pursue this right through the **Maori** Land Court. The Court of Appeal ruling came as a result of eight South Island **iwi** making a claim for customary rights to the Marlborough seabed and foreshore, where there has been an emerging development in marine farming.

¹¹ The 1975 **Hikoi** was called a land march. In 2004 we called it a **Hikoi** showing a return to the use of **te reo Maori** also.

occurred in one place in New Zealand.¹² The 2004 **Hikoi** of twenty thousand mostly Maori was significant as a protest defending **tangata whenua** (people of the land) rights to the foreshore and seabed, the rights for **Maori** to be able to have access to their traditional foreshore grounds and the protection of those grounds. This **Hikoi** is a demonstration of the power of a people to come together around an issue that is seen as vital, as will be illustrated in this thesis around the work of the **Nga Puni Whakapiri** movement.¹³ In fact, this most recent **Hikoi** is likely at the next election to bring down the government that has traditionally prided itself as representing the majority of **Maori** in the country.¹⁴

The above cases illustrate the contemporary environment that **Maori** and **Pakeha** are a part of. **Maori** are the **tangata whenua** and do have Treaty partner rights guaranteed to them in the Treaty of **Waitangi** signed in 1840. Since 1840 the rights of **Maori** have been eroded. As **tangata whenua**, **Maori** have never traditionally considered themselves as private owners of land, seabed and foreshore. In fact, **Maori** and other indigenous peoples did not have a concept of individualized property rights but did have a complex system of understandings that did in effect give territorial rights, which other **hapu** and **iwi** respected. Indigenous people around the world have similar conceptions of life and existence. We are all **kaitiaki** or guardians on this earth for future generations. This is a **tikanga Maori** knowledge conception of the world.

¹² Estimates from different sources range from 20,000 to over 50,000 people. The New Zealand Police estimate was 40,000 people.

¹³ See Chapter Six for more detail. The **Nga Puni Whakapiri** movement are a gathering of Maori who are concerned about genetic engineering.

¹⁴ **Tariana Turia**, **Maori** woman Minister of Parliament, resigned from her senior ministerial positions within the government because in her view the foreshore legislation removed customary **Maori** rights and diminished **iwi** claims to their traditional coastlands. She coined the term “**Hikoi** to the ballot box,” signalling that she was ready to lead a **Maori** political party and vote out the incumbent **Maori** M.P.s who had voted with the legislation. The **Maori** seats are critical to the Labour Party’s success or failure at the polls, the current majority party in the New Zealand Government.

Writer's positioning

All theses are written by authors who have their own subjective positioning. This thesis is no different. As a **Maori** writer writing to a range of audiences it is important to lay out my own positioning. This thesis takes seriously the Treaty partner rights that were guaranteed to **Maori** in 1840 in the Treaty of **Waitangi**. This thesis is also an acknowledgement and legitimization of **tikanga Maori** knowledge, a **Maori** worldview that I grew up in. For this reason, **Maori** are a key audience. Other Indigenous peoples who are continually resisting colonisation and who are striving for the acknowledgement and legitimization of Indigenous knowledge may also find this thesis of interest to their struggle. This thesis is, therefore, written from a **tangata whenua** viewpoint and the viewpoint of the people I interviewed from the **Nga Puni Whakapiri** movement.¹⁵ Since starting this thesis there has been a transition in my position from a researcher studying this movement to becoming a co-worker. As a result of this **mahi** (work) I have become more articulate about my own positioning, more politicised and politically astute, and more certain on how to engage with struggles that are identified in this thesis.

2. THEORY AND PHILOSOPHY

The selection of a philosophy, or methodological and theoretical approach, for this thesis resulted from a conversation with Dr Cheryl **Waerea-i-te-rangi** Smith, who is among other things part of the **Nga Puni Whakapiri** movement. My methodological journey started with the telling of my convoluted and evolving thesis story in a conversation I had with her at her home in **Whanganui**, New Zealand, on 1 March 2002. I was trying to explain to her what my thesis topic was to be:

*It's about **Maori** and GE. I'm really interested in what **Maori** are thinking about these issues and have been thinking for a long time. When I went to Canada, my research topic*

¹⁵ See Chapter Six for more detail. The **Nga Puni Whakapiri** movement are a gathering of **Maori** who are concerned about genetic engineering.

was land and the Treaty, and now it's G.E. And I see that as just an extension of land and the Treaty, to do with the new form of colonisation and a new site of struggle. And it's the most invasive form of colonisation, I think. So it's biopiracy, biocolonialism, all of those things. So I'm interested in what **Maori** anti-GE activists are thinking are the main issues. And a big part is how to get out the message, out there to people. So what's an effective way of communicating to our own people the dangers of GE. Because as we were talking last night, as I was talking with my Aunty Judy and my grandmother last night, well we were talking about scientists and all these cures and that sort of stuff they're offering. But we're saying that talk is just that, it's just talk, and they're looking at one particular area about cures for things, where they don't even look at environmental effects, lifestyle effects, diet. Aunty mentioned diabetes last night, prevalent in **Maori**, and scientists would say, there's a cure for that. It's because you've got a diabetes gene. So all you need to do is eliminate that diabetes gene and you're fixed. And that leaves invisible the whole environment and the whole system we operate within; the food, living conditions, socio-economic conditions, cultural aspects, and so on. I've got big concerns with all of this stuff, in particular, the exploitation and the ripping off of our own people. And that's international. It's here, and it's international too, with other Indigenous people, First Nations, American Indian. That's my little speech. I'm trying to get my head around it. And I'm passionate about this stuff. I get so frustrated when I hear on the news and when I hear all of the stuff about the new knowledge economy talked about and all that sort of stuff, which is the way of the future, and so on and so on; we don't want to be left behind and all of this stuff about we're going to cure all ills of the world through genetic engineering, genetic modification, genetic medication, biopharming, all of these different things. They're short-term fixes for problems that are very visible but invisible to scientists, to government, because there's no money in it. But these very visible problems need to be dealt with, socio-economic conditions, conditions of peoples' diets and so on. All of these larger environmental effects. There's a simple cure, and once you've got the cure, then you're right. All these problems will be gone. And that talk annoys me, frustrates me. That's my thing. Gives me headaches.¹⁶

Dr Cheryl Smith's reply below started me on the track of a **Kaupapa Maori** research perspective.

*One of the things you'll have to do in your thesis is to put yourself in context. You have to chuck out the "I'm an objective observer" rubbish. If you come from a **Kaupapa Maori** perspective, we always position ourselves, "who are we?" "where are we from?" And that question "where are we from?" is not only where are we from tribally but also where are we from in terms of our learning, our ideas, and what has shaped our ideology. And we speak from that. We claim the right to be speakers of and protectors of our own knowledge. That's a really important part for you to kind of nut out too and an important part to write.*

A **Kaupapa Maori** methodological and theoretical perspective comes from an Indigenous worldview that finds inspiration and insight from **Maori** and other Indigenous

¹⁶ Throughout this thesis quotes taken from interviews with my research interviewees will be highlighted in italics in order to differentiate them from other quotes.

knowledge and ways of doing things.¹⁷ This perspective is relatively new in academic theorizing, but its methodological and theoretical positioning within academia is gaining much ground with the help, in particular, of two **Maori** critical education theorists from Auckland University, Professor Graham **Hingangaroa** Smith and Professor Linda **Tuhiwai Te Rina** Smith.

As well as being grounded in **Kaupapa Maori**, there are a number of other theoretical and methodological perspectives employed in this thesis, which includes Antonio Gramsci's work on hegemony, work on enclosure of the commons and resistance to enclosure, grounded theory, and critiques of scientific rationality.¹⁸ Along with **Kaupapa Maori**, an integral part of this thesis draws on **tikanga Maori** and **tikanga Maori** knowledge. **Tikanga Maori** is theory, philosophy, knowledge base, methodology and practise.

What is critical to understand in being able to read this composition in the manner that it was written is that the theoretical and methodological perspectives employed here are implicit throughout the whole thesis.

3. TIKANGA MAORI

Tikanga Maori defined

Maori origins are traced back to the beginnings of creation – **Te Kore** (total darkness). There was no life, only potential. **Papatuanuku** (the Earth Mother) and **Ranginui** (the Sky Father) were clasped together, stifling all growth. Their children, desperate for light, devised a plan whereby one of them, **Tane Mahuta** (God of the Forests) would separate

¹⁷ **Kaupapa Maori**, and the other theories and methods employed in this thesis, will be discussed in greater detail in the next chapter.

¹⁸ Although not specifically cited in this thesis, it is acknowledged that the work of Paulo Freire on “naming the world” and the work of Michel Foucault on discourse, language and power is implicitly weaved throughout the thesis. However, this thesis centres primarily on two theoretical approaches – the work of Antonio Gramsci in relation to hegemony and counter-hegemony, and **Kaupapa Maori** theory as both a philosophical approach and a critical theory of resistance developed by Dr Graham Smith. See the following references for further explication of Foucault and Freire: Foucault, Michel. “Two lectures.” In Power/Knowledge. Selected interviews and other writings 1972-1977, ed. Gordon, C. New York and London: Harvester Wheatsheaf, 1980; Foucault, Michel. “Truth and power.” In Michel Foucault. The essential works 3: Power, ed. Faubion, James D. London: Allen Lane Penguin, 1994; Freire, P. Pedagogy of the Oppressed. London: Penguin, 1972.

his parents. Binding to his mother below, he pushed upwards with his legs with all his strength and thrust his father apart from the earth.

Into the light sprang the raging winds of *Tawhirimatea* (God of the Winds), the swirling seas of *Tangaroa* (God of the Sea), and the towering forests of *Tane Mahuta*. *Tane Mahuta* fashioned the first human, *Hine-ahu-one*, from the clay of his mother; and so developed the spiritual home of **Maori**, the home of their gods and of creation.¹⁹

This story of creation views all things as having a direct **whakapapa** link back to **Papatuanuku**, our Earth Mother. The creation story reflects various **tikanga Maori** values that are foundational to **Maori** being. Key concepts for **Maori** are: “**whakapapa**,” genealogy/ancestral connections, “**mauri**,” life essence, “**wairua**,” spirit, “**tapu**,” sacred, “**tangata whenua**,” people of the land, “**taonga**,” prized possession/treasure, “**kaitiakitanga**,” guardianship/custodianship, and “**tino rangatiratanga**,” autonomy/self determination.²⁰ “**Maori**, like other indigenous peoples,²¹ have a unique relationship with the natural world: the people, the land, the sea, the forest and all living creations are all members of the same family. **Maori** view themselves as part of the natural world and therefore understand the importance of protecting these *taonga* [prized possession/treasure].”²² This is a **tikanga Maori** worldview.

In defining **Tikanga Maori**, Professor Pat **Hohepa** explains first its derivative, **tika**.

There are a number of key principles overarching and guiding the formalities and practices in **Maori** society which we call **Maori** culture. The major principle is **tika**. **Tika** can cover a range of meaning from right and proper, true, honest, just, personally and culturally correct or proper to upright. From **tika** comes the term **tikanga** – customary, traditional and cultural aspects which are true and honest and just... **Tikanga Maori** goes beyond **Maori** Culture, or **Maori** Custom, to mean also the true honest and proper cultural ways. **Tikanga Maori** encapsulates all accepted **Maori** principles. The opposite of **tika** is **hee**. **Tikanga** is not a relic of the past; it has authority in the present. Besides its moral and ancestral authority, **tikanga** adds rationale, authoritativeness and

¹⁹ Solomon, M., & Watson, L., “The Waitangi Tribunal and the **Maori** claim to their cultural and intellectual heritage rights property.” (*Cultural Survival Quarterly*, 24 (4), 2001), 48. pp. 46-50.

²⁰ I acknowledge here that there is not a definitive list of key concepts relating to, or informing, **Tikanga Maori**. A similar acknowledgement is made in footnote number 161 and in the section ‘**Nga uara o nga tikanga**: the values underpinning **tikanga**,’ of a March 2001 Law Commission Study Paper. The values underpinning **tikanga** in Study Paper 9 include: **whanaungatanga**; **mana**; **tapu**; **utu**; and **kaitiakitanga**. A lot of the concepts and values are interrelated and incorporate broad interpretation. *Maori Custom and Values in New Zealand Law: Study Paper 9*. (Wellington, New Zealand: Law Commission, 2001), 28.

²¹ Tauli-Corpuz. Victoria, *Biodiversity, traditional knowledge and rights of Indigenous peoples*. (Penang, Malaysia: Third World Network, 2003).

²² Solomon & Watson, 2001: 49.

control which is timeless. In that sense **tikanga** can be defined as law in its widest sense, while **kaupapa** and **kawa** is the process and ritual of **tikanga**.²³

It is important to be aware of and sensitive to correct social practice in **Maori** communities as well as cognisant of foundational **Maori** values and beliefs; in essence what we are talking about here is **tikanga Maori**. **Tikanga Maori** has wide application, which can include giving specific guidance in how something ought to be done, and as a value and belief system guiding one's wider philosophical and practical path. Although Professor Linda Smith speaks of **tikanga Maori** in relation to **Kaupapa Maori** research, it has wider social application and "is regarded as customary practices, obligations, and behaviours, or the principles that govern social practices. It is about being able to operate inside the cultural system and make decisions and judgements about how to interpret what occurs."²⁴ **Tikanga** can be seen as a rigid set of rules that guide actions, but it can also incorporate flexibility depending on the context and situation. Also significant in **tikanga Maori** is the concept of **tapu** (sacred), which is a significant factor when considering dissemination of traditional knowledge. "Some forms of knowledge are regarded as **tapu** and therefore access to these forms of knowledge is restricted. Even when access is given such knowledge needs to be treated with respect and care."²⁵

Professor **Hirini Moko Mead**, who has written the only comprehensive reference book on **tikanga Maori**,²⁶ also defines **tikanga Maori** very broadly. **Tikanga Maori** is seen as a means of social control, helping to control relationships and providing guidelines for how people meet, identify themselves, and interact. **Tikanga Maori** can also be seen as a **Maori** ethic, or a correct or right way of doing something. It can also be seen as a normative system governing behaviour. Professor Mead also believes **tikanga Maori** can be seen as customary law, as

²³ **Hohepa, P., & Williams, D., The taking into account of Te Ao Maori in relation to reform of the law of succession: A working paper.** (Wellington, NZ: Law Commission, 1996), 16.

²⁴ Smith, L., T., **Kaupapa Maori Methodology: Our Power to Define Ourselves.** (A seminar presentation to the School of Education, University of British Columbia, Vancouver, Canada, 1999b), 10.

²⁵ Ibid.

²⁶ Mead, H., M., **Tikanga Maori: Living by Maori values.** (Wellington: **Huia** Publishers, 2003). Professor Mead believes that this is merely an introductory **tikanga Maori** book.

economic activity conducted in a **tikanga Maori** way, as a tool for re-education and rehabilitation of **Maori** prisoners who choose to connect with **tikanga Maori** knowledge and customs, and as an important element of **matauranga Maori** and **Maori** philosophy.²⁷

Matauranga Maori can be seen as **Maori** philosophy and **Maori** knowledge. In comparison, Professor Mead describes **tikanga Maori** as “**Maori** philosophy in practice and as the practical face of **Maori** knowledge.”²⁸

Tikanga Maori therefore can be understood as a broad term that has various meanings and application within different contexts, but at its centre is the **Maori** conception of origin and the interconnectedness or kinship of all that exists. It is also important to acknowledge that **tikanga Maori** differs across tribal areas because each **rohe** (region) and **whanau** (family), **hapu** (sub-tribe) and **iwi** (tribe, people) has different **tikanga Maori** practices. **Tikanga Maori** is locally grounded but the foundational tenets, as mentioned above,²⁹ are fundamentally the same. In order to be able to read this thesis in the correct way, it is therefore important to understand that the terms “**tikanga**,” along with the derivatives “**tikanga Maori**” and “**tikanga Maori** knowledge,” are utilized in a number of different ways throughout this work and are context specific.

Attempts to delegitimise tikanga Maori

There are many ways **tikanga** has been minimised and reinterpreted in order to justify a particular position. One method has been to belittle the significance of **tikanga** concerns by suggesting that **tikanga** has too wide an interpretation, therefore, its meaning is too ambiguous. **Tikanga** does have wide interpretation, yet it is quite specific in relation to particular contexts. As a concept, **tikanga** is context specific. It also does carry with it layers of meaning. These

²⁷ Ibid., 5-7.

²⁸ Ibid., 7.

²⁹ See Chapter Five for a more comprehensive explanation of **tikanga**.

layers of meaning are informed by **Maori** tradition and customary practice, which ground **tikanga** values and principles but are also impacted by the contemporary world. **Tikanga**, therefore, is an important and relevant concept for our contemporary world and everyday life experiences and situations. **Tikanga** can vary from **whanau** to **whanau**, from valley to valley, **iwi** to **iwi**. Place and origins are important for **tikanga**. People can often observe the same **tikanga** but have different explanations. For non-**Maori** this can be confusing and some critics have suggested that **tikanga** can mean what people want it to mean. This is untrue because **tikanga** is also tested by the collective and consented to by collectives.

Because **tikanga** is such a significant concept for **Maori**, some researchers are reinterpreting it so that **tikanga** falls in line with the goals of their research. Various methods have been employed to reinterpret **tikanga**, including reinventing traditional stories to show that **Maori** practiced genetic engineering in the past; reinterpretation of key concepts central to **tikanga**; employing remedial methods to mitigate the interference with **tikanga**; and downplaying the actual impact on **tikanga**. In some of the reinterpreted traditional stories, for example, **Maori** were depicted as risk-takers. By extension, taking risks with genetic engineering technology is seen as a natural extension of what our **tupuna** (ancestors) have done in the past.³⁰

Each one of these attempts to delegitimise **tikanga Maori** is lacking in an understanding of the meaning(s), context specific interpretation, and a simple respect for a concept that is central to **Maori** peoples and culture. Unfortunately, paid **Maori** consultants or some **Maori** who are seeking research funding are among the disrespectful people who are informing this reinterpretation and obfuscation of **tikanga**.³¹

³⁰ This taking risk point is important as many of our **Maori** men have bought into the myths of taking risks, being macho and assertive/aggressive and not seeing these roles as colonised male roles. They are also refashioning leadership roles to align with new right ideals of entrepreneurs.

³¹ See Chapter Five for a more in-depth analysis of the obfuscation of **tikanga**.

4. CONTEXT OF THE RESEARCH

Indigenous peoples from around the world have been resisting the current threat to the integrity of their knowledge and culture, to their **tikanga** knowledge. They have named these threats bio-prospecting, biocolonialism and biopiracy to express the continuation of the colonial exploitation of Indigenous communities, albeit dressed differently. This time, genetic engineering and manipulation is the culprit. This new technology is swathed with the promise and risk of research and applications that will impact the whole of humanity.

Indigenous communities in the United States, Canada and New Zealand have been particularly vigilant in their resistance to the many problematic facets of biotechnology. Although the size of the core group of activists is modest, their reach is considerable, both nationally and internationally.

In the United States, the Indigenous Peoples Council on Biocolonialism (IPCB) is the only organisation specifically focussed on highlighting negative impacts of biotechnology for Indigenous peoples. The mission of the IPCB is “to assist Indigenous peoples in the protection of their genetic resources, Indigenous knowledge, cultural and human rights from the negative effects of biotechnology...[and] provides educational and technical support to Indigenous peoples in the protection of their biological resources, cultural integrity, knowledge and collective rights.”³² At the forefront of this organisation is Executive Director, Debra Harry, who has been called on for support by Indigenous peoples all over the world.

First Nations people in Canada do not have a specific organisation focussing on this issue but do have the expertise of people such as Jeannette Armstrong, Executive Director of the En’owkin Centre, an Indigenous education institution in the Okanagan, British Columbia, and Leanne Simpson, who works in the field of traditional ecological knowledge and in extension programs with Aboriginal people at the Universities of Manitoba and Victoria, and Centre for

³² Indigenous Peoples Council on Biocolonialism (IPCB) website: <http://www.ipcb.org>.

Indigenous Environmental Resources in Winnipeg. The Pauktuutit Inuit Women's Association is a non-profit organisation that represents Inuit women in Canada and that considers the issue of patenting of higher life forms and the direction of the biotechnology industry as a focus of concern. Jeannette Armstrong, Leanne Simpson, and the Pauktuutit Inuit Women's Association, much like Debra Harry in the US, have been instrumental in making visible the impacts of biotechnology for First Nations people in Canada. Alongside these efforts in North America, localized resistance has been mushrooming.

Indigenous communities in other regions and countries have also become vigilant in their resistance to the new biotechnologies, in particular, when they are faced head-on with the interference by multinational companies in their country. An example of such a head-on confrontation was the situation in Tonga in 2000 when Australian biotechnology company Autogen secured proprietary rights to the entire Tongan gene pool in order to find links between particular genes and diseases, which would lead to the production of therapeutic drugs. Because of the outcry by the Tongan people and the international community, the company withdrew the research project.³³

In New Zealand the area of genetic engineering and modification is highly visible, as has been the resistance by **Maori**. **Maori** have been one of the groups at the forefront of a broad-based opposition. Since 1998 major political contestations have emerged around the issue of genetic engineering and modification, particularly leading up to and after the 2000 Royal Commission on Genetic Modification. The de-legitimising of Indigenous knowledge and the privileging of Western reductionist science, which I call **Pakeha** science,³⁴ underpin these contestations. In response to these challenges, government interests and biotechnology industry groups have also been legitimising the industry through processes of "consultation" and

³³ *New Zealand Herald*, "Tongan gene pool fenced," 24 November 2000. See also: Senituli, Lopeti, Biopolicy and Biopolitics in the Pacific Islands. (An Occasional Paper of The Edmonds Institute, Edmonds, Washington, USA, 2003).

³⁴ Western reductionist science is more fully discussed in Chapter Five.

establishment of an Environmental Risk Management Authority (ERMA), Institutional Biological Safety Committees and ethics committees.

New Zealand is in a period of rapid change in relation to the regulation and legislation of biotechnologies, with two pieces of legislation currently progressing through public consultations prior to consideration by parliament. In 2004, as this thesis reached completion, the Bioethics Council completed consultation with the New Zealand public on the ethical, spiritual and cultural dimensions of using human genes in other organisms. In the same year the Health Ministry conducted consultations with the public before offering policy direction to the government on a new bill that will be introduced to parliament in December 2004 to regulate the storage and use of body parts and human tissue and tissue-based therapies, including organ and tissue donations.³⁵ In 2004 also a Human Assisted Reproductive Technology Bill, known as the HART Bill, will be put before parliament for passing into law.³⁶ The HART Bill, if passed, will give New Zealand the dubious honour of being the first country in the world to sanction inheritable genetic modification.³⁷ An example of inheritable genetic modification considered in the HART Bill is the genetic modification of germ cells (sperm or egg) or embryos so that modified genetic makeup is passed on to the next generation.³⁸

One reason New Zealand is considered ripe for the introduction of biotechnology as the new technology to deliver economic progress is our unique context. We are unique for a number of reasons. New Zealand has a prevailing ideology of “good race relations,” “equality for all,” “clean, green image,” and “nuclear free,” and, according to Roger Boshier, a country of “farm-

³⁵ *New Zealand Herald*, “Opinions aired on tissue storage, organ donation,” 28 April 2004.

³⁶ New Zealand Ministry of Justice website, <http://www.justice.govt.nz/pubs/other/pamphlets/2003/hart/questions.html>, accessed on 14 April 2004.

³⁷ See the Center for Genetics and Society website for a brief critique of the HART Bill, <http://www.genetics-and-society.org/policies/other/newzealand.html>, accessed on 14 April 2004.

³⁸ *New Zealand Herald*, “Opinions aired on tissue storage, organ donation,” 28 April 2004.

gate intellectuals.”³⁹ Our biodiversity and location also make us unique, with an abundance of native plants and species and our relative isolation as an island state surrounded by sea. New Zealand is also a relatively young country with a small-scale economy, with a government looking for diverse export markets, emphasising our “brain-power,” research and development skills, and the knowledge economy. As a result of our unique context, notions of “rights,” “property,” and “ownership” are being reframed within a context of new policy formations promoting the “knowledge economy.”⁴⁰

In response to the ideology of progress linked to biotechnology being championed by the New Zealand Government and business sector, two national **Maori** organisations have emerged as part of the wider resistance to biotechnology development: **Nga Wahine Tiaki o Te Ao** (a small but dedicated group of **Maori** women) and **Te Waka Kai Ora** (a **Maori** organics movement) as well as numerous local organizations with a similar **kaupapa**. The strategy here is to resist on the one hand and offer an alternative on the other.

For **Maori**, resistance has been framed around notions of “**whakapapa**,” genealogy, “**kaitiakitanga**,” guardianship, “**mauri**,” life essence, and “**tangata whenua**,” people of the land. **Maori** resistance to all forms of colonization in New Zealand, however, has existed for 164 years. This new wave of resistance to biocolonialism builds on perspectives and organizational strengths developed in the ongoing anti-colonial resistance by **Maori**.

5. THE FOCUS OF THE RESEARCH

The central focus of this thesis is the explication of the protection of **tikanga Maori** knowledge. Implicit in the focus on **tikanga** is knowledge and what constitutes valid and legitimate knowledges. Emerging out of the central focus of the thesis is a developing theory of a

³⁹ A term meaning self-educated. Roger Boshier, a New Zealand education theorist teaching at University of British Columbia, Vancouver, coined the term in a paper called “Farm-gate intellectuals, excellence and the university problem in Aotearoa/New Zealand” September 20, 2001.

⁴⁰ The ideas in this paragraph came out of discussion with Dr Graham Smith in June 2003.

uniquely **Maori** way of struggle. This nascent theory of **Maori** struggle becomes visible out of the exploration of the **mahi** (work) of the **Nga Puni Whakapiri** movement.

This thesis concerns itself with a contemporary site of struggle but is in fact a continuation of a historical problem that has plagued Indigenous peoples for centuries, colonisation. The site is biotechnology⁴¹ and genetic engineering, and this thesis involves a critical analysis of the theoretical framing of issues surrounding biotechnology research. For example, recent issues that have engaged **Maori** include such areas of controversy as the bioprospecting for new genetic resources for their potential economic value, the testing and commercial production of genetically modified crops and livestock, cloning of animals, patenting of life, human DNA collection and analysis, genetic screening and gene therapies, xenotransplantation, and new reproductive technologies. This **Maori** critique of biotechnology is one of many **Maori** protest and resistance movements that have evolved to counteract the ever-present and continually metamorphosing colonialist ideology. This is a new site of struggle and “the responsibility falls on us to protect the legacy of our future generations and this includes the guardianship [**kaitiakitanga**] of **whakapapa** [genealogy].”⁴²

More specifically, this thesis identifies and illuminates **Maori** perspectives on issues surrounding biotechnology by primarily interviewing **Maori** in the **Nga Puni Whakapiri** movement, a movement made up of **Maori** who are concerned with biotechnology generally and genetic engineering specifically. **Maori**, as one of many Indigenous peoples in the world concerned with the impact of biotechnology, are in a unique position to be able to readily articulate their perspectives because of the recently completed New Zealand national discussion

⁴¹ The term “biotechnology” is used narrowly in this thesis to describe the creation and exploitation of transgenic organisms. I am not using the wider meaning of biotechnology that includes traditional breeding and hybridization techniques that involve genetic modification but not the recombination of DNA from different species. An even wider meaning encompasses any application of discoveries in biology to production of living organisms and their products.

⁴² Reynolds & Smith, 1999: 3.

of the impact of biotechnology and publication of the results of the Royal Commission on Genetic Modification in 2001.

Generally **Maori** have responded with loud and clear opposition against the introduction of biotechnology.⁴³ Why was there such blanket disapproval? To find out why, it is important to understand the **tikanga Maori** responses made by **Maori** in the various consultations and surveys of **Maori** views on the different aspects of biotechnology. This thesis tracks **Maori** responses to biotechnology from 1999 up to and including 2003 and profiles some of the groups involved. In a few short years the challenges from **Maori** were cohesive, strategised, specific and targeted. Whilst “pro-biotechnology” and vested interest groups have attempted to marginalise these voices, this thesis argues that the resistance to biotechnology by **Maori** has been informed and driven from **Maori** communities, informed by academic and scientific analysis, informed by Indigenous and international networks, and is primarily a struggle for the upholding of **tikanga Maori** knowledge.

Critical analysis of biotechnology in New Zealand from a **Maori** perspective is scant because of its relatively recent arrival as a problem for **Maori**. The International Research Institute for **Maori** and Indigenous Education (**IRI**), based at Auckland University, produced in May 2000 one of the only comprehensive analyses of this issue, entitled *Maori and Genetic Engineering*. This thesis continues the work that was begun in this report, which surveyed a diverse range of **Maori** on their views of genetic engineering. The departure here was that I focused on in-depth interviews with key **Maori** anti-GE activists who were able to give rich and thick descriptions of the movement.

There are also other critical New Zealand scholars who have recently written, or will be writing, on different aspects of this issue in relation to **Maori** and New Zealanders in general. Donna Gardiner wrote a groundbreaking Masters thesis in 1997 on how biotechnology impacted on her **whanau** and **hapu**, entitled, *Hands Off Our Genes: A case study of the theft of*

⁴³ See Chapter Five for more explanation of surveys of **Maori** about biotechnology.

whakapapa. Dr Jessica Hutchings completed her Doctoral thesis in 2002, entitled *Te Whakaruruhau, te Ukaipo: mana wahine and genetic modification*, investigating **Maori** women's views on the processes and outcomes of the Royal Commission on Genetic Modification. Dr Jessica Hutchings and Donna Gardiner are also members of **Nga Wahine Tiaki o Te Ao**. In 2002 Vera Monika Leier completed her Masters thesis entitled, *Maori and genetic technologies: an annotated bibliography*.

There are many other researchers currently working in this general research area, including Tee Rogers-Hayden who is writing her Ph.D. thesis on the deconstruction of the discourse and processes of the Royal Commission on Genetic Modification. **Waiora** Port is completing her Ph.D. work on the cultural perspectives of predictive DNA testing in cancer, which involves numerous interviews with **Maori**, including **kaumatua** (elders). **Maori** health researchers, Dr **Papaarangi** Reid, Dr Fiona Cram, and Sarah-Jane Payne are developing guidelines for the handling, use and storage of **Maori** genetic material in research. Dr Liz McKinley and Dr Jacqueline Aislabie are conducting research that will help facilitate the implementation of **Maori** knowledge in the New Zealand secondary school science curriculum. Dr Leonie **Pihama**, Dr Cheryl Smith and Paul Reynolds are also conducting a scoping study into eugenics, race ideologies and biotechnology in **Aotearoa** (New Zealand). I also know of other **Maori** students who intend to conduct doctoral research on this issue from a **tikanga Maori** perspective. This emergence of writing in this area, related in particular to **Maori**, indicates the rising tide of concern among **Maori**.

This thesis, however, is not meant to be a comprehensive analysis of the breadth of this vast research area. There is a larger context that is reflected in, impinges on, and is affected by the struggles over the new biotechnologies. Numerous other scholars have written full accounts of

key aspects of this context from a **Maori** perspective, including: neo-liberalism;⁴⁴ the Treaty of **Waitangi**;⁴⁵ colonization;⁴⁶ **Maori** resistance and the **Maori** revolution;⁴⁷ and **tikanga Maori**.⁴⁸ This is also not meant to be an in-depth analysis of science and biotechnology,⁴⁹ or private property,⁵⁰ as numerous others also have completed in-depth analyses in these areas.

6. CONTRIBUTION TO NEW KNOWLEDGE

The main contribution to new knowledges I see coming from this thesis is the making of space for the validating and legitimizing of **Maori tikanga** and, by extrapolation, Indigenous knowledge generally in the academy. We have our own epistemologies, our own pedagogies, and our own worldviews.

This thesis uses the **Kaupapa Maori** philosophy as philosophy, as process, as theory, and as praxis. Integral to this **Kaupapa Maori** philosophy is the concept of **whanau**. This thesis has contributed in bringing knowledge to my own **whanau, hapu, iwi**, and has deepened my own

⁴⁴ Bargh, Maria, Recolonisation and Indigenous Resistance: Neoliberalism in the Pacific. (Unpublished PhD thesis, Canberra: Australian National University, 2002); Devine, Nesta, The new colonialism: A critical reading of 'The knowledge economy' and 'Bright futures.' (Conference paper presentation made to "Disrupting preconceptions," Post-colonial Conference, University of Queensland, Australia, August, 2001); Stewart-Harawira, Makere, Globalisation and the return to empire: An Indigenous response. (Unpublished PhD thesis, Auckland: Auckland University, 2002).

⁴⁵ Orange, C., The Treaty of Waitangi. (Wellington: Allen & Unwin, 1987); Kawharu, I. (Ed.). Waitangi: Maori and Pakeha perspectives of the Treaty of Waitangi. (Auckland: Oxford University Press, 1989).

⁴⁶ Smith, L. T., Decolonizing methodologies: Research and Indigenous peoples. (New York: Zed Books, 1999a); Walker, R., Nga tohetohe: Years of anger. (Auckland: Penguin Books, 1987).

⁴⁷ Walker, R., Nga tohetohe: Years of anger. (Auckland: Penguin Books, 1987); Walker, R., "The role of the press in defining Pakeha perceptions of the Maori." In P. Spoonley, & W. Hirsh (Eds.), Between the lines: Racism and the New Zealand media. (Auckland: Heinemann Reed, 1990). pp. 31-43; Walker, R., Maori resistance to state domination. (Paper presented at a seminar held at the Education Department, University of Auckland, New Zealand, August 4, 1994).

⁴⁸ Mead, H., M., Tikanga Maori: Living by Maori values. (Wellington: Huia Publishers, 2003).

⁴⁹ Ho, M.-W., Genetic engineering - Dream or nightmare? The brave new world of bad science and big business. (Bath, UK: Gateway Books, 1998); Ho, M.-W., Living with the fluid genome. (London & Penang, Malaysia: Institute of Science in Society & Third World Network, 2003); Lewontin, R., C., Biology as ideology: The doctrine of DNA. (Concord, Ontario: House of Anansi Press Limited, 1995); Lewontin, R. C., The triple helix: Gene, organism, and environment. (Cambridge, Massachusetts: Harvard University Press, 2000).

⁵⁰ Waldron, J., The right to private property. (Oxford: Oxford University Press, 1988); Gold, E. R., Body parts: Property rights and the ownership of human biological materials. (Washington, D.C.: Georgetown University Press, 1996).

knowledge base. This collaboration and centring of **whanau** itself brings change in our **Maori** communities. Alongside this is the interaction and networking with different people and different communities, which is ongoing. There are many audiences for this work.

A developing theory of a uniquely **Maori** way of struggle also emerges from the writing of this thesis. This **Maori** struggle is illuminated by the exploration of the **mahi** (work) of the **Nga Puni Whakapiri** movement. The **Nga Puni Whakapiri** movement is vested with the responsibility to protect and make space for **tikanga Maori** knowledge. This movement is primarily a grassroots movement, in that the people engaged in **Nga Puni Whakapiri** are located within powerful **Maori** networks. They are all well-known contributors to **kaupapa Maori** development, are involved with their own **iwi** as well as urban organizations and institutions. One of the key roles they have undertaken as a highly educated group is to supply information to **Maori** communities, attending **hui** (meetings) and writing to de-mystify government policies and processes. The vast majority of this work is done voluntarily and is done through written materials, film and video and speaking at **hui**.

Although this is a case study of a group in **Aotearoa** (New Zealand), there are some similarities that other Indigenous, traditional, Third-world, developing country peoples may recognise within their own context.

7. SUMMARY OF CHAPTERS

In the Preface I have deliberately positioned myself as a person with a specific identity and perspective related to who I am and where I have come from. My concern for my own **whanau, hapu, iwi, and Maori** in general stems from my standpoint of promoting **Maori** self-determination as well as from a humanitarian standpoint and a compassion for all people and all our relations. Like many other **Maori**, I am concerned when new formations of colonisation

flourish and directly impact on the self-determination of **Maori** and the legitimacy and validity of **tikanga Maori** knowledge.

Chapter One outlines the foundational philosophy upon which this thesis has been based. **Kaupapa Maori** can be seen as a localized critical theory.⁵¹ Central to **Kaupapa Maori** is its function of claiming and engaging in theory for **Maori** and by **Maori**. The **Kaupapa Maori** approach forms the **tahuhu** or ridgepole for the thesis. In addition to the **Kaupapa Maori** approach, an eclectic mix of other methodological and theoretical approaches will be discussed and are applied implicitly throughout the thesis. The work of Antonio Gramsci, in particular, will be instrumental in explaining the structural impediments and constraints that arise around the struggle over knowledge. I also draw on the concept of the enclosure of the commons to analyze resistance to enclosure and Indigenous perspectives on ownership. A critique of the western notion of “rationality” will also be relevant to this thesis because of the role it has played in the colonisation and oppression of Indigenous people. Because “rationality” is a key concept underpinning Western reductionist science and biotechnological developments, I will enlist a number of theorists to illuminate this area, including the work of critical education theorists such as Henry Giroux, theorists of the concept of property such as C.B. Macpherson and Alan Ryan, and theorists in science and biology such as Richard Lewontin and Mae-Won Ho, among others. Grounded theory, the development of theory out of conducting research, will also be enlisted as a significant tool in this thesis to help generate a substantive theory from the data collected. This eclectic selection of other methodological and theoretical approaches forms the **heke** or rafters to this thesis. The following chapters form the rich woven tapestry that envelops and unites our **tahuhu** and **heke** framework. **Tikanga Maori** is embedded in the **tahuhu** and **heke** and throughout the whole thesis.

⁵¹ Smith, L. T., Decolonizing methodologies: Research and Indigenous peoples. (New York: Zed Books, 1999a); Smith, L., T., **Kaupapa Maori** Methodology: Our Power to Define Ourselves. (A seminar presentation to the School of Education, University of British Columbia, Vancouver, Canada, 1999b).

Chapter Two is a historical and contextual analysis of the conscientizing of **Maori** in the 1980s and the simultaneous emergence of the neo-liberal agenda in New Zealand. The conscientization of **Maori** coming out of the **Maori** revolution had a significant influence on **Maori** self-determination. Arising out of the **Maori** revolution was a strong focus on education, with **Maori** schools being established specifically tailored to target **Maori** underachievement and bring about a revitalization of **Maori** language and culture. With revitalization of the ideology of the Right in the form of neo-liberalism, the New Zealand Government radically changed its role from one of being a welfare state to one which resembled a care-taker state with the decentralization and privatization of functions of government and vigorous promotion of globalization. The “new knowledge” economy had its debut, but it wasn’t really new; it was the same old configuration of poor getting poorer. New policies to support this knowledge economy stimulated the spread of biotechnology mania and the removal of barriers to the commodification of life. This chapter provides context for the rest of the thesis and the examination of the contesting forces impinging on **tikanga Maori** knowledge.

Chapters Three, Four, Five, Six, Seven and Eight explore how **Maori** have been impacted by biotechnology and their struggle for space. Chapter Three illuminates the biotechnology monolith from different perspectives. An analysis of the political economy of the biotechnology industry reveals that intersections are numerous, including not just the life sciences corporations but also government and regulatory bodies, universities and collaborations between them, and the media and media related organisations and others. This analysis will be further clarified by examining the government response through the 2003 *New Zealand Biotechnology Strategy* report and highlighting the central role of the Ministry of Research, Science and Technology (MoRST), which is the ministry responsible for research and innovation policies and managing public funding of research, science and technology, including promoting and overseeing the emergence of biotechnology as New Zealand’s new knowledge industry.

Chapter Four is an exploration of the concepts of property and ownership with a focus on intellectual property and the contradictions between the public good and the ever-broadening definition of what constitutes property. This leads to discussion of the commodification of Indigenous and **Maori tikanga** and **taonga** (treasures). Discussion in this chapter will concentrate on revealing a range of examples that will illustrate the commodification of **tikanga Maori** knowledge and the extending reach of the concept of property to open up space for biopiracy. Within this commodification are numerous dilemmas for Indigenous and **Maori** peoples to tackle, including an explanation of the concerns over benefit sharing arrangements, documenting knowledge and the establishment of various types of databases, and concerns over certain aspects of human health research with indigenous communities.

In Chapter Five I confront the notion of Western reductionist science and its impacts on Indigenous and **Maori** communities and peoples. Western science sets itself up as *the* science and axis of all that is considered “truth” in the scientific domain. This critique of scientific knowledge will be conducted with **tikanga Maori** perspectives in mind. I attempt in this chapter to define what I am specifically critiquing in science and situate this critique in a New Zealand context. I will define what I mean by “**tikanga Maori** knowledge,” which is foundational to the work of the **Nga Puni Whakapiri** movement. I will also define the particular science, Western reductionist science, which I call “**Pakeha** science,” that is at work interfering with **tikanga Maori**. As part of this critique, I will scope out what **Maori** think about Western reductionist science research being conducted in New Zealand by reviewing the results and conclusions from a variety of consultations already held with **Maori** on this issue. At the time of writing, the only comprehensive analysis of this issue undertaken by **Maori**, with **Maori**, and for **Maori**, and privileging the **tikanga Maori** worldview, was research conducted by The International Research Institute for **Maori** and Indigenous Education (**IRI**), which produced in May 2000, just prior to the Royal Commission on Genetic Modification, their report entitled *Maori and Genetic Engineering*.

Chapter Six is an examination of **tikanga Maori**, which relies on the conversations I had with key **Maori** involved in the **Nga Puni Whakapiri** movement. The **Nga Puni Whakapiri** movement are **Maori** people and groups who are concerned with the introduction of new biotechnologies. Part of the **mahi** (work) of the **Nga Puni Whakapiri** movement includes making space for and integrating **tikanga Maori** knowledge in any forums, in particular, any forums that deal with issues related to new biotechnologies. The conversations I had with members of the movement and with some of my own **whanau** revealed that there were four main areas related to **tikanga Maori**: **kaitiakitanga**, which is our role in protecting our world; **whakapapa**, where we have a **whakapapa** relationship to all things; **tikanga Maori** as science; and the **tikanga Maori** approach, which is an examination of the uniquely **Maori** style of communication to convey sensitive issues.

Chapter Seven describes the claiming of space for **tikanga Maori**. The chapter provides an overview of the general movement to oppose genetic engineering in New Zealand and the **Nga Puni Whakapiri** movement. The **Nga Puni Whakapiri** movement is made up of three groups: **Te Roopu Pukana**, a group established in **Whanganui**; **Nga Wahine Tiaki o te Ao**, a national group; and **Te Waka Kai Ora**, a national **Maori** organics organisation. I describe the history of the **Nga Puni Whakapiri** groups, which were triggered in 1998 when concern around genetic engineering became more widespread amongst **Maori** as they heard about the types of research being conducted in New Zealand. This chapter is also a description of how the movement has made space for **tikanga Maori** knowledge. A large part of this **mahi** (work) has centred on the production and distribution of resources for **Maori** communities to develop education and awareness around biotechnology and genetic engineering research.

Chapter Eight is an examination of three sites of struggle over **Tikanga Maori**. The first site of struggle examined is the New Zealand Royal Commission on Genetic Modification hearing process. **Nga Wahine Tiaki o Te Ao**, a group of **Maori** women who are all professionals and academics opposed to genetic engineering and modification, made a submission to the Royal

Commission on the first day of the formal proceedings. The second site is the office of the Environmental Risk Management Authority (ERMA), where a group of **Maori** occupied the space and conversed only in **te reo Maori** (the Maori language) and requested the files for all the genetic engineering applications they had approved that included the insertion of human genes into other species. The third is the struggle between **Ngati Wairere**, a **hapu** (sub-tribe) in the **Tainui rohe** (region), who have been fighting with AgResearch, a Crown Research Agency at the **Ruakura** Research Centre in Hamilton. **Ngati Wairere** has been vociferously opposing the AgResearch application to place copies of human genes into cows. The scientific justification relies on the hope of producing therapeutic proteins in the transgenic cows' milk that may lead to a treatment for multiple sclerosis.

There is one final note on the content of the chapters. I want to raise a point from Dr Linda Smith where she states, "So much of the 'method' used in this kind of empirical research gets written out that the voices of the researched become increasingly silenced as the act of organizing, analyzing, and interpreting the data starts to take over."⁵² I have tried as much as possible to keep the voices of the people intact. As a result I have included large blocks of quotes from our conversations in some chapters to ensure their voice is present.⁵³ Occasionally a quote is attributed to an anonymous person in order to protect them from possible backlash, such as the possibility of legal retaliation or professional marginalisation.

We turn now to the first chapter which outlines the theoretical and methodological underpinning of this thesis, "**Kaupapa Maori: The Philosophical Foundation.**"

⁵² Smith, L., T., **Kaupapa Maori Methodology: Our Power to Define Ourselves**. (A seminar presentation to the School of Education, University of British Columbia, Vancouver, Canada, 1999b), 14.

⁵³ I acknowledge here that literature has been produced by Indigenous peoples of the importance of oral narrative as methodology. However, fundamental to the **Kaupapa Maori** theoretical and methodological approach is the making of space for the voice of our Indigenous peoples. For an explication of the importance of oral narrative as methodology see: Archibald, Jo-Ann. Coyote learns to make a storybasket: The place of First Nations stories in education. Unpublished PhD thesis, Vancouver, B.C., Canada: Simon Fraser University, 2002.

CHAPTER 1

KAUPAPA MAORI: THE PHILOSOPHICAL FOUNDATION

Kaupapa Maori Theory, I just want to say again, puts accent on transformation outcomes. And I think that's really important to understand. This is because we can no longer afford just to reinforce the status quo because it's not working. We need to insist on and work for change.¹

In this chapter I want to first explain where I see this thesis fitting within Western traditions of research. I will also critically analyse these traditions and explain why there is an uneasy fit with this thesis topic and my own and my people's perspective on research. I call this section **pikaungia** (burden) because Western traditions of research have been used as an impediment to the legitimization and validation of Indigenous knowledges. However, as we see in the third section of this chapter, there is room to reconstruct these mainstream research traditions to promote the position of Indigenous knowledges. Second, I will explain why the **Kaupapa Maori** approach to research is more appropriate philosophically and practically but also works in tandem with certain other traditional research methods and theories. Finally, I elaborate on other traditional research methods and theories that will play a supportive role, the **heke** or the rafters, in the **Kaupapa Maori** approach employed. The **Kaupapa Maori** research approach becomes the overarching framework (**tahuhu**) for this thesis, enlisting the support (**heke**) of an eclectic mix of other research methods and theories.

1. PIKAUNGIA (BURDEN): THE UNEASY FIT OF THIS THESIS IN RELATION TO WESTERN TRADITIONS OF RESEARCH

Dr Graham **Hingangaroa** Smith explained the status of Indigenous knowledge in relation to Western research traditions and the tension between the two.

*One of my concerns as an Indigenous person now, and as a **Maori**, is the way in which the universities and the academies have captured research. This has really been associated with a capture of "theory" and the embedding of "theory" as a sign of high*

¹ Dr Graham **Hingangaroa** Smith, Research interview with the author, Vancouver, 15 March 2003.

*status research. So I've always seen as part of the struggle the need to get involved with claiming theory for ourselves. That is, we need as part of supporting the validity and legitimacy of **Maori** forms of knowledge, to be engaged theoretically, not just on anyone's terms but on our own terms. So, critically engaging with theory has occupied a lot of my time as a particular site of struggle in order to reclaim research that's useful for us and that works for us, that's relevant for us and that can deliver for us. This critical struggle is also about positivism, and about the sciences generally, the hierarchy of science knowledge, they being at the top of the hierarchy and other knowledge (for example Indigenous knowledge) at the bottom. We need to critically unpack the taken-for-granted belief that science is somehow objective and neutral. I mean, those ideas are a total mythology or hegemonies that are abroad in the community.²*

This thesis topic uncovered serious ontological, epistemological, axiological, rhetorical and methodological problems; it basically revealed the whole gamut of possible philosophical problems.

According to Creswell, "We tell a story. We present the study following the traditional approach to scientific research (i.e., problem, question, method, findings). We talk about our experiences in conducting the study. We let the voices of our informants speak and carry the story through dialogue..."³ However, this is exactly the point where the Western tradition of research is at odds with Indigenous reality. "We tell a story" appears innocent enough, yet whose story are you telling? How are you telling the story? In fact, should you be telling this story at all? Cram explains this point succinctly:

...even when "scientists" claim that there are no biases in their research, it is the scientists who have constructed the research questions, who have decided how the data is to be collected, who have decided which statistical tests to apply to the data, and, in a lot of cross-cultural research, it is **Maori** who are constructed as deficit when compared to a **Pakeha** population. It is **Maori** who are informed that they do not quite come up to scratch on what are described as universal, objective norms.⁴

Within the "traditional approach to scientific research," we know there is a scientific formula to follow and an assumption that we are "impartial" and "objective" researchers, who

² Ibid.

³ Creswell, J., W. Qualitative inquiry and research design: Choosing among five traditions. (Thousand Oaks, California: Sage Publications, 1998), 20.

⁴ Cram, F., "Ethics in **Maori** Research: Working paper." In L., W., **Nikora**, (Ed.), Cultural Justice and Ethics. Proceedings of the Cultural Justice and Ethics Symposium held as part of the New Zealand Psychological Society's Annual Conference. (Wellington: Victoria University, 1993), 1.

should not have a vested interest in the area under study and should not influence the views of the storytellers. Purity of process is paramount at all times. We know just from common sense that maintaining such a puritanical stance in research is an impossibility. The process, language, method and purpose of such supposedly “objective” research is problematic when seen through the eyes of any Indigenous audience. An engineered form of dialogue is manipulated into the form of a story by what Durie⁵ calls “hit and run” researchers.

Similarly, if we interrogate the definition of qualitative research itself, we see a philosophical inconsistency with Indigenous processes. Creswell defines it as, “... an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.”⁶ The process as described here is devoid of reciprocity and respect between peoples. In Creswell’s definition, the researcher is given a privileged position in “building the picture” according to his/her view. This also presupposes that the researcher identifies the problem to be studied, the research topic, and proceeds from there.

Denzin and Lincoln similarly define qualitative research as a routine and autonomous process that is

multimethod in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of or interpret phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials - case study, personal experience, introspective, life story, interview, observational, historical, interactional, and visual texts - that describe routine and problematic moments and meaning in individuals’ lives.⁷

This observation and study of people in their natural settings is again engineered. The naturalness of the setting is breached because the researcher is there. Not only does the researcher invade the

⁵ Durie, A., **Whaia Te Ara Tika: Research Methodologies and Maori**. (Abridged version of paper presented to Seminar on **Maori** Research, Massey University, Palmerston North, New Zealand, July 1992).

⁶ Creswell, 1998: 15.

⁷ Ibid. Denzin & Lincoln, 1994, as quoted in Creswell.

setting, the researcher is imbued with a supposed impartiality that enables him or her to stand back from the situation and research area and make visible what is not immediately visible to the participants/subjects themselves. The research process of defining and interpreting makes invisible the participants/subjects, as they are not necessarily involved in a dialogical “meaning-making” exchange with the researcher. Again, reciprocity and respect is absent in this definition.

To be blatantly honest, researchers are required to be dishonest. Creswell,⁸ in effect, suggests deception in informing study participants about the research topic. He recommends that researchers provide subjects with general but not specific information. There are numerous examples of researchers, whether directly or indirectly, not disclosing full details of how the information they have gathered will be used and for what purposes. He counters this advice, however, by stating that one “...does not engage in deception about the nature of the study.”⁹ The standards required of a qualitative researcher are open to wide interpretation. Creswell does acknowledge this diversity in interpretation, where he says, “...I am reminded of the emerging discourse on this subject of standards and the gulf of distance among those discussing standards in the qualitative area.”¹⁰

The dilemmas for researchers in the West

Academics have grappled with some of these issues related to the problematic of research, but I believe they do not arrive at a comfortable resolution. Some writers consider that researchers themselves need to be aware of their own cultural make-up. Faure and Rubin summarize this point well by saying, “we are each prisoners of our culture. The questions we ask, the things we notice, even our capacity as analysts to examine certain features while overlooking

⁸ Creswell, 1998: 20.

⁹ Ibid., 132.

¹⁰ Ibid., 195.

others are determined in large part by the forces of culture.”¹¹ Similarly, Kanaaneh believes “In our age of post-positivism, we realize and admit that the researcher is inevitably involved in his/her research from the moment he/she chooses the setting and procedure of the research until his/her final product reaches the reader.”¹² Kanaaneh, looking at the role and self disclosure of the researcher, goes part way in questioning the neutrality of the researcher by stating that “...objectivity in the age of post-positivism is not a matter of distance and non-involvement but of openness and honesty in accounting for all the factors that affect the process of anthropological production, including first and foremost the anthropologist him/herself and his/her role in producing his/her own product.”¹³

Creswell recommends that you don't study a people or site that you have a vested interest in because this "...may severely compromise the value of the data...the investigator tracks norms and values of which participants in the culture may not be aware; being an insider may not yield this information.”¹⁴ Silverman¹⁵ reiterates this stance, as he believes this may allow the interviewer to influence the discussion by directing the conversation in a certain way. Marshall and Rossman¹⁶ also acknowledge that the researcher's values may impact on the interview itself or the interpretation.

From a Feminist perspective, however, this traditional conception of “objectivity” is severely criticized, where it is seen rather as “situated knowledges.” Haraway explains this Feminist objectivity as “about limited location and situated knowledge, not about transcendence and splitting of subject and object. It allows us to become answerable for what we learn how to

¹¹ Faure, G., & Rubin, J., (Eds.), Culture and negotiation: The resolution of water disputes. (Newbury Park, California: Sage Publications, 1993), 225.

¹² Kanaaneh, M. “The ‘anthropological’ of Indigenous anthropology.” (Dialectical Anthropology, 22, 1997), 4. pp. 1-21.

¹³ Ibid.

¹⁴ Creswell, 1998: 114.

¹⁵ Silverman, D., Qualitative methodology and sociology: Describing the social world. (Brookfield, VT: Gower, 1985).

¹⁶ Marshall, C. & Rossman, G., Designing qualitative research (2nd ed.). (Thousand Oaks, California: Sage Publications, 1995).

see.”¹⁷ Utilising the metaphor of visualization technologies in critiquing “objectivity,” Haraway sees the choice of instruments as a “politics of positioning” where we are enabled to see from a particular “standpoint.” The construction of rational knowledge therefore is dependent on *how* we see, and “is a process of ongoing critical interpretation among ‘fields’ of interpreters and decoders.”¹⁸ Thus “situated knowledges” is not about disengaging but acknowledging agency in our world.¹⁹

Janet Finch, in her interviews with other women, acknowledges a moral dilemma in her research where, “the situation of a woman interviewing women is special, and is easy only because my identity as a woman makes it so. I have, in other words, traded on that identity.”²⁰ Similarly, I am **Maori** and the majority of my research interviewees are **Maori**, in particular, the **Maori** activists central to this study. The advantage of being a **Maori** researcher, analyzing responses from **Maori** interviewees in the study, relates to being Indigenous, where “I am not considered as one of ‘them,’ but as one of ‘us’ who has access to ‘them,’ that is, as one of ‘us’ who knows ‘us’ and knows how to talk to ‘them.’”²¹

I have relatives and friends who are part of the movement I am studying. This puts me in both a fortunate and a problematic position. I am fortunate because I have initial access to some interviewees. In the traditional sense of research methods, a problem arises in the delicate nature of maintaining the relationship with my relatives as well as considering my position as researcher and author of a report that may not be agreeable to the multiple audiences of the report, including

¹⁷ Haraway, D., “Situated knowledges: The science question in feminism and the privilege of partial perspective,” (*Feminist Studies*, 14, 3, 1988). 583. pp. 575-599.

¹⁸ *Ibid.*, 590.

¹⁹ See also work by others, including Patti Lather, for example: Lather, P., 1991. *Getting Smart, Feminist research and pedagogy with/in the postmodern*, Routledge, New York; Lather, P., 1986. Issues of validity in openly ideological research: Between a rock and a soft place. *Interchange*, 17 (4), 63-84. See also page 165 of Linda Smith’s book *Decolonizing methodologies: Research and Indigenous peoples*, 1999a, where there is a chapter entitled: ‘The challenges of Feminist analysis.’

²⁰ Finch, J., “‘It’s great to have someone to talk to’: The ethics and politics of interviewing women.” In C. Bell & H. Roberts (Eds.), *Social researching: Politics, problems, practice*. (London: Routledge & Kegan Paul, 1984), 80. pp. 70-87.

²¹ Kanaaneh, 1997: 12.

my relatives, **Maori** (activists and **Maori** in general), university supervisory committee, other scholars (Western and Indigenous), and students. However, using a **Kaupapa Maori** sensibility, this familial connection is considered a strong foundation for **Kaupapa Maori** research. Further, the research is not mine alone.

Another dilemma results from the position of the Indigenous researcher as writer. Traditionally, there has been apprehension and suspicion when an Indigenous researcher tries to incorporate an Indigenous sensibility into his/her research. Kanaaneh explains this well in relation to Third World Indigenous anthropologists.

...being Indigenous is considered not only a danger that must be avoided, but a flaw that must be “fixed” or an obstacle that must be overcome. As such, the anthropology reader’s evaluation of the “scientificity” and “anthropologicality” of the product of a Third World Indigenous anthropologist is inevitably an evaluation in terms of: “did this Indigenous anthropologist manage to ‘fix’ the flaw and overcome the obstacle of being Indigenous?”²²

As a result, Kanaaneh sees the Third World Indigenous anthropologist become “an oriental orientalist who produces a local version of Western constructs (and, thus, a Western version of the local culture) instead of enriching anthropology with a local construct of the local culture.”²³

This dilemma is visible for all Indigenous researchers because they have to conform to the dictates of the academic setting and formalities of writing. Dr Maria Bargh, a young **Maori** scholar who has recently completed her thesis, explicates this dilemma clearly:

From its inception I sought to conform this thesis to the rules and regulations of Western academia. I sought out mostly written texts. I wrote with paragraphs, with full stops and capital letters. I have included as many Indigenous authors as I possibly could, yet for some perhaps this thesis will not appear Indigenous “enough.” In response I would like to explain that I am unsure how I would make it more Indigenous and continue to conform to the requirements for the submission of a PhD. While some theses do use video footage as chapters, are there academics who would accept live performances and oral evidence as sufficient? And perhaps more importantly would these actually make the research more “Indigenous” or merely more performative? And is this perceived as the same

²² Ibid., 1.

²³ Ibid., 18.

thing? And who gets to decide this? These questions may well be a challenge for future Indigenous academics to pursue.²⁴

I agree with Dr Bargh that the challenge is still there. She and many other **Maori** and Indigenous scholars coming through “the system” are challenging Western academia and making space for alternative knowledges. I see the **Kaupapa Maori** research method and theory as proactive, transformative, and self-determining for Indigenous people. The **Kaupapa Maori** research approach offers Indigenous researchers a meaningful alternative.

The field research steps

Before leaving Vancouver for New Zealand, there was a whole battery of paper work that was required to be completed for the university before I was granted approval to proceed with the field research.

As part of gaining approval from the university’s research ethics committee, I was required to submit a request for ethical approval of a research project, signed by myself as principal investigator and my supervisor, as well as a research proposal, which included my intended methodology. I also was asked to provide a copy of my intended research instrument, interview questions, and consent form(s) for subjects, which included mention of the subjects’ rights (voluntary participation, anonymity and how it would be guaranteed, confidentiality and how it would be protected, name and phone number of person to address concerns, Chair/Director/Dean, and how to obtain a copy of the research results). I was also required to submit an information sheet for the subjects, mentioning any risks and detrimental effects the subjects might be exposed to.

Prior to conducting any interviews, I planned introductions and a discussion of the purpose of the research, explained what it meant to participate, and obtained informed consent. I

²⁴ Bargh, Maria, Recolonisation and Indigenous Resistance: Neoliberalism in the Pacific. (Unpublished PhD thesis, Canberra: Australian National University, 2002), 26.

devised an interview schedule, leaving time for debriefing and answering interviewee questions after the interview. The consent and information forms for the subjects mentioned all of their rights, as required, and informed them of what the research was about.

After conducting a pilot of the research and interview questions with my family and friends of the family, it quickly became apparent that using this formulaic and sterile research and interview approach was not going to work with my “subjects.”

Revising the method and theory in the field

Following many hours of discussion with my senior supervisor, Professor Pat Howard, the focus of the interview changed from an interviewer and interviewee dynamic to a more flexible “cuppa tea talk” around the table with one or more people (only small groups of around three or four people maximum). Such a dynamic was more informal, reciprocal and respectful in nature and was literally considered a talk over a cup of tea.

Similarly, after much deliberation and discussion with my supervisor and family members, the process of gaining ethical consent from participants was modified. Instead of handing out ethical consent forms that were inappropriate and required extensive explanation and people to sign them, my Professor and I decided that gaining verbal consent from people was more culturally appropriate and more informed than a verbose form that was confusing and slightly disturbing, given the medical research model employed as a standard by Simon Fraser University.²⁵

During the time Professor Pat Howard was in New Zealand, she had relayed stories of her and Professor Roger Howard’s comparable research dilemmas in their field research in China. It appeared that these dilemmas with the traditional approach to field research and interviewing were not unique to my own research work. I felt therefore that it was important to make more

²⁵ This model has been criticized and was being revised in the year following the field research.

visible in this thesis the “in the field” dilemmas of research, as they are legitimate concerns and processes with which each researcher needs to grapple.

As the number of talks with different people evolved, my focus changed from one of “tell me what’s been happening since I left in 1998?” to “how do we communicate with our people?” This change in focus enabled us to move straight into dialogue about methods of reaching our people. As an added aid in helping participants answer the question, I often referred to the booklet Dr Cheryl Smith and I co-wrote as an attempt to communicate with our people. In conversations with my own **whanau**, in particular my mother’s sister, my Aunty Judy Garland, it was revealed that people were eager to read the booklets but found some areas too difficult to understand. The resulting conversations with others centred on this notion of communication and how we can communicate to our people the impacts of this technology. Obviously, this conversation enabled an elaboration of the history of the **Maori** anti-GE movement and the organizations and institutions that emerged, such as **Nga Wahine Tiaki O Te Ao**, **Te Waka Kai Ora** and the Royal Commission on Genetic Modification. During the conversations people also discussed whether or not they considered themselves activists, and the variety of **Maori** terms that they used to describe this work.²⁶

With this change in focus I was able to get immediately into the space of the activity of activism. Along with this, the talk naturally included a critique of the new biotechnologies and the process of, or lack of, public consultation.

Although the tape recorder was a necessary formality, the people I talked with did not mind being tape-recorded. If there was something that they didn’t want recorded, for whatever reason, they asked that the tape recorder be turned off.

I gained consent from participants who were **Maori** anti-GE activists and selected others to video them either describing something to do with their garden or answering the questions:

²⁶ The term “activist” is problematic in New Zealand because of the negative connotations attached to it. “Activist” in New Zealand generally is understood as a **Maori**, a troublemaker and irrational. My mother and grandmother both have difficulty with the term “activist” and certainly do not see me as an activist.

“are you an activist?” and “is there a **Maori** term(s) for the work you’re doing?” The purpose for collecting this video footage was to compile a documentary of my research journey and selected participants in the “cuppa tea talks,” particularly the **Maori** anti-GE activists. Although the video documentary of the journey is completely separate from the field research for the thesis, it is also naturally linked to the thesis process.

There were three main groups of people I spoke to: nine **Maori** anti-GE activists (which included members from **Nga Wahine Tiaki O Te Ao** and **Te Waka Kai Ora**); six relatives (including: Uncle Ray **Kapa**, an elder from my **iwi** (tribe) who lives in our home of **Te Tii**; and Aunty Paula **Puru**, a relative living at home in **Takou** Bay); and eighteen others I spoke to in formal and informal environments in order to give some context to the conversations I had with the **Maori** anti-GE activists and family (including: informal conversations with other **Maori** anti-GE activists and several non-**Maori**: Marty Robinson, an organic farmer and activist; Harold Spencer, a neighbour of my grandmother’s and also an activist; and the Barber I used at home).

There was not an explicit procedure followed in the selection of the three groups, apart from my motivation to speak to **Maori** anti-GE activists. However, integral in the identification and selection of **Maori** anti-GE activists was Dr Cheryl Smith, who was the intermediary in establishing contact with activists. The logistics of location, availability and scheduling also shaped the selection. Unplanned opportunities were also utilized. I was able to have a valuable dialogue, for example, with **Mahinekura** Reinfeld (**rongoa** practitioner and **Maori** anti-GE activist) who was passing through Vancouver, shortly after I returned from the field research. Similarly, in many conversations I was informed of other people I should talk to, and in one instance, others were invited and came to join the conversation. What gave grounding to my research were the discussions with my own family, which is appropriate and necessary in **Kaupapa Maori**. The conversations with the eighteen others I spoke to arose out of formal and informal, scheduled and spontaneous situations.

The majority of people I talked to are academic/professional people, in particular, the **Maori** anti-GE activists. As a result, not only were they part of wonderful cup-of-tea conversations, but they also were invaluable advisors. I gained advice from participants as to the possible content of my thesis (such as different chapters that could be written about) and the process of research (getting feedback on the draft and how I could actually do it efficiently using a template they had devised), for example. The significance of the **Kaupapa Maori** Research approach became clear during these conversations over tea.

When I returned home in July 2003 to complete the writing stage of the thesis, ongoing conversations occurred with Professors Pat Howard and Graham Smith. Ongoing conversations also occurred with Dr Cheryl Smith, which were seminal in the construction of ideas for this thesis. Similarly, there was an ongoing checking back with the wonderful people I had spoken with in order to clarify, modify and add thoughts to the already transcribed conversations. This also included checking back with people when anything was sourced from their transcribed conversation in the final thesis document. This procedure of “checking back” is imperative in the sense of being accountable to people who allowed me to converse with them. This checking back is essential, in particular, for people in public positions that require them to be prudent in their public pronouncements. Checking back is also an integral part of the practice of **Kaupapa Maori** and grounded theory.

My own dilemmas as principal researcher

As researcher I came across many dilemmas in the field and even before I left for the field. The resolution of these dilemmas resulted in considerable learning for me along the way.

One of the central dilemmas I had was the question, “Am I using my own people for my own ends?” Fundamental to resolution of this issue was advice given by Dr. Cheryl Smith. Put simply, she explained that she wouldn’t be helping me and I wouldn’t be gaining access to all of

my interviewees if she or others thought this was the case. The issue was seen as too important not to be written about.

Gaining access to and appropriate methods of first contact with the **Maori** anti-GE activists was key for this research and can be seen as an “absolutely daunting”²⁷ task. **Maori** and other Indigenous peoples have been over researched and have often suffered because of it. Research, according to Pidgeon and Hardy Cox, “...has meant centuries of violation, disrespect, subjectivism, and intolerance, all in the name of research.”²⁸ The level of suspicion is high, even if you are **Maori** or Indigenous yourself, because some **Maori**, unfortunately, have “sold out” their own people in order to receive some personal gain; a person who is a “sell out” is known as a **kupapa**.

I was extremely fortunate to have known Dr Cheryl Smith prior to conducting the field research. I was introduced to her through my Aunty, Judy Garland, herself a **Maori** activist in the movement. Cheryl was making a trip to Vancouver to visit another friend, a First Nation UBC Professor, when I met her. As a result of our meeting, we forged a friendship and partnership and collaborated in producing booklets informing our own people about the impacts of biotechnology.

Access to key people within the **Maori** anti-GE movement was facilitated through Cheryl, who contacted the participants first and vouched for my sincerity and appropriateness in conducting this research. I then arranged to meet with the participants whenever and wherever they were available, which included trips to Auckland, Hamilton, **Kaitaia**, **Kerikeri**, **Takou Bay**, **Taumarunui**, **Te Tii**, **Whakatane**, and **Whanganui**, and included a variety of locations, including homes of the interviewees, café, organic orchard shed, **marae** (meeting house), community centre. Conversations with one person took the form of a conversation over a bucket full of tomatoes that needed washing and wiping. Some people interviewed were accessed through

²⁷ Smith, L. T., *Decolonizing methodologies: Research and Indigenous peoples*. (New York: Zed Books, 1999a), 136.

²⁸ Pidgeon, M., & Hardy Cox, D., “Researching with Aboriginal peoples: Practices and Principles.” *Canadian Journal of Native education*, 26, 2, 2002), 96.

different family and neighbour connections. One was found by asking a local gift shop owner whether they knew a contact person for an organisation named on an anti-GE sticker displayed in their shop window.

Prior to starting an interview, the participants sometimes gave me a further check when I met them with questions such as, “Who are you?” “Where are you from?” “Why are you doing this research?” “Who and what got you into this research area?” The interviewees were naturally suspicious of **kupapa**, people being paid to conduct investigations or just there to exploit Indigenous people again, as is the case with a lot of traditional research. The fact that I had co-authored a booklet with Cheryl on this research topic and therefore was doing work for the movement helped facilitate access. In a sense, this connection placed me, “...in the society more than in the field.”²⁹

Honesty with participants is important to me. In fact, honesty is important full stop. In traditional research, researchers are meant to be impartial and not “lead” discussion or even disclose where they are coming from. After experiencing the floundering of one interviewee in particular in a pilot interview, as well as pilot interviews conducted with family members, it was blatantly clear that an approach of full honesty and identifying my own position was crucial if I was going to get anything meaningful from these conversations. As Eber Hampton aptly puts it, when speaking of similar dilemmas in his own research with American Indian Educators, “I was embarrassed to hear myself asking such questions...The questions had originally interested me within their theoretical context but in the interview they seemed artificial, abstract, and incomprehensible without inordinate amounts of explanation.”³⁰ An example of such a question was: “What do you think about genetic modification and the new biotechnologies? Why do you think that?” This question, as it was posed in the pilot interview, was not given any context for

²⁹ Kanaaneh, 1997: 10.

³⁰ Hampton, E., “Towards a redefinition.” In M. Battiste, & J. Barman, (Eds.), First Nations Education in Canada: The circle unfolds. (Vancouver, Canada: UBC Press, 1995), 12.

our conversation and therefore the pilot interviewee was literally “fishing” to find out what we were after. An interview should be a dialogue not a monologue nor an interrogation.

Because I felt more comfortable being part of a conversation, I also felt more comfortable in having a meaningful dialogue where the sharing of information was reciprocal in nature. As a result of this new process, I was continually gaining new insight and perspectives on the topic. When I was considering questions and the things I was interested in hearing in our conversations, I often referred back to my research journal to notes I kept about the conversations and the process as I went along. The questions and topics therefore evolved over time and were built-on after each interview. Hampton reflects on his process in a similar way describing how he decided to drop the formal interview schedule and participate in the conversation; “I discussed with the participants my interest in the question, and I responded freely to their answers. I then revised the interview process and continued to conduct interviews on the basis of an intuitive, ill-defined feeling of authentic engagement on the part of the participant and myself.”³¹

People I conversed with also helped in devising new and interesting questions and ideas for further conversations. In this sense, the conversations were building blocks for the research design. They involved questions the participants were interested in and they were keen to hear how others responded. In one of the initial conversations I had with Dr Cheryl Smith for example, we talked about whether or not some people within the movement would consider themselves activists. We thought this question would elicit some interesting answers, including some different views on how different persons see themselves, their work, and how they would define what they do.

My family proved to be central in the whole research process. All of my dilemmas were discussed with them in order to get their opinion and help to find a resolution. I consulted my mother and Nana, my grandmother, in particular, for specific dilemmas such as the appropriateness of taking back to Canada the video footage I gained of valuable vignettes with

³¹ Ibid.

activists and family members. For me, the video footage I had captured was a highly personal, emotional and spiritual journey while conducting field research at home. It did not feel right to take that footage of the country. This feeling was intuitively based and I felt did not require justification.

Certain people made a major contribution to these conversations. Not only was I a researcher but also I was part of a team, or **whanau**, of researchers. Dr Cheryl Smith, as I have mentioned previously, introduced me to her fellow **Maori** anti-GE activists. They then also facilitated meetings with others on occasion. Professors Pat and Roger Howard also facilitated the establishing of the groundwork for the conversations, as they arrived for a short visit on my return home and prior to conducting the field research. My grandmother and mother were also valuable contributors to the research and accompanied me during some of my travels in the field. My Nana (grandmother) in particular wanted to accompany and **awhi** (support) me when visiting people and provide support if anyone wanted to know more about my **whakapapa** (genealogy) and **whanau**, as she could vouch for my **whakapapa** connection and help with facilitating access to some people, family members in particular. The research appeared to take on a life of its own in some instances where there was a natural convergence of people and sometimes unexpectedly, by phone, meeting in person or being scheduled for a later meeting time. My grandmother was extremely valuable in making some of these occasions possible. A certain amount of luck, being in the right place at the right time, also contributed to the success of the field research.

On my return to Vancouver, I set about transcribing the taped conversations. By listening to and transcribing the tapes myself I was able to relive the experience of “being there” and see and hear our conversation together in my mind. As a result of this decision, I had an opportunity to reflect on our conversation and make valuable observations and notes in my research journal, which were useful in writing this thesis. The conversations were rich and thick with content that I would not have otherwise experienced if I had employed someone to transcribe the tapes for me. One important point to note from the conversations with interviewees was that there was less

likelihood of the use of **Maori** terminology because the interviewees knew that this thesis was written for a North American audience. The interviewees also knew that I was not a fluent speaker of Maori.

2. TAHUHU (RIDGEPOLE): THE KAUPAPA MAORI APPROACH TO RESEARCH

Kaupapa Maori Research is just one part of the larger picture of Indigenous research and the growing field of writing by Indigenous academic writers that analyse Indigenous ways of knowing and doing research.

Indigenous theorizing³²

James Youngblood Henderson and Marie Battiste ask, “What is Indigenous knowledge?”³³ They state that it is a problematic question when seen from a Eurocentric point of view. They see the problem as three-fold: Indigenous knowledge doesn’t fit into the concept of “culture” as it is seen as rather relating to human knowledge, heritage, consciousness and part of an ecological order; Uniformity of Indigenous knowledge doesn’t exist and it is difficult to categorize; Indigenous knowledge is so inseparable from the people that it sometimes defies definition because it just “is” and may not be readily identifiable. Thus, starting from a Eurocentric standpoint when trying to answer this question will result in *an* answer. Indigenous peoples worldwide have too often had this question answered for them by non-Indigenous people who have defined and categorized Indigenous people and knowledge.

³² This is a very rich and exciting field and I know there are more Indigenous voices out there, however the intention here is only to give a sampling of those Indigenous voices. Also, there are a lot of intersections with feminist, class, and race research because of the experience of marginalization. Linda Smith’s book Decolonizing methodologies: Research and Indigenous peoples, refers to some of these intersections.

³³ Henderson, James Youngblood & Battiste, Marie, Protecting Indigenous Knowledge and Heritage: A global challenge. (Saskatoon, Canada: Purich Publishing Ltd., 2000), 35.

The question itself is problematic. “Who wants to know and why?” “Do we need to ask these questions in the first place? Why?” “What do you want?” Indigenous people themselves should be deciding whether or not questions should be asked in the first place and, if so, choose the questions and decide on the answers that are appropriate to and for them.³⁴

The emergence of Indigenous research methodologies and theories, and **Kaupapa Maori** Research in particular, is a celebration and affirmation of Indigenous ways and worldviews. It brings me great happiness when reading Indigenous researchers’ work to think “hey, that happened to me!” Indigenous theorizing makes space for upcoming scholars to honour where they came from in their writing and work and, in a more mundane sense, gives them the ammunition to validate and legitimize this approach in the eyes of the academy. As Evelyn Steinhauer puts it, “It is exciting to know that Indigenous people all over the world are recognizing that there is a need to validate and confirm Indigenous research as a paradigm of its own.”³⁵

Aboriginal researchers Henry et al. explain the significance of what they call “Indigenist research,”

Historically, tensions between Indigenous peoples and the broader research community have related to issues of power and control of the research process, and to control over the outputs of research. Research methodology has been significantly implicated in the playing out of these tensions. The work of **Tuhiwai** Smith has contributed importantly to the elevation of research methodology as an important site of struggle between the interests of researchers and the interests of Indigenous community members.³⁶

This brings me great pride because Dr Linda **Tuhiwai Te Rina** Smith is **Maori**, as I am. She recognised early in her academic career that there was a dearth of published Indigenous

³⁴ Another major concern for Indigenous people is the question of “what counts as Indigenous consent for research ‘subjects?’” **Aroha** Mead is currently completing her Ph.D. thesis on this topic at Auckland University, New Zealand.

³⁵ Steinhauer, E., “Thoughts on an Indigenous research methodology.” *Canadian Journal of Native Education*, 26, 2, 2003), 80.

³⁶ Henry, J., Dunbar, T., Arnott, A., Scrimgeour, M., Matthews, S., Murakami-Gold, L., & Chamberlain, A., “Indigenous Research Reform Agenda: Rethinking Research Methodologies.” *Cooperative Research Centre for Aboriginal & Tropical Health*, (Links Monograph Series: 2, Australia, 2002), 3.

voices in this area. “I had a good sense that what I was trying to say, others were also trying to say, but it was all talking about research and researchers and about how terrible research is. But I couldn’t find anything written.”³⁷ As a result, Smith’s book *Decolonizing Methodologies: Research and Indigenous Peoples*³⁸ became a highly valued academic source for Indigenous people all over the world. It deconstructed Western privilege and hegemony and offered a map of an alternative research paradigm specific to Indigenous research and researchers. The term “paradigm” is however contested within the context of **Kaupapa Maori** Research, where there is an uneasy comparative fit with the Western science interpretation; Dr Linda Smith calls this the very site of resistance.³⁹

Some Indigenous scholars describe this making of space for Indigenous voices as “postcolonial transformation.”⁴⁰ In fact, there was a whole conference on postcolonial transformation at the 1996 International Summer Institute held at the University of Saskatchewan, Saskatoon, Canada, attended by Indigenous scholars from all over the world. It resulted in a book edited by Marie Battiste, entitled *Reclaiming Indigenous Voice and Vision*.⁴¹ James Youngblood Henderson, one of the participants, asserts, “The crisis of our times has created postcolonial thinkers and societies that struggle to free themselves from the Eurocentric colonial context. While we still have to use the techniques of colonial thought, we must also have the courage to rise above them and follow traditional devices.”⁴² Russell Bishop sees “The reclaiming of cultural

³⁷ Smith, L., T., Battiste, M., Bell, L., & Findlay, L.M., “An interview with Linda **Tuhiwai Te Rina** Smith.” *Canadian Journal of Native Education*, 26, 2, 2003), 173.

³⁸ Smith, L. T., 1999a.

³⁹ Smith, L., T., “**Kaupapa Maori** Research.” In M., Battiste, (Ed.), *Reclaiming Indigenous Voice and Vision*. (Vancouver, Canada: UBC Press, 2000), 233.

⁴⁰ Battiste, M., (Ed.), *Reclaiming Indigenous Voice and Vision*. (Vancouver, Canada: UBC Press, 2000).

⁴¹ Ibid.

⁴² Henderson, James Youngblood, “Ayukpachi: Empowering Aboriginal Thought.” In M., Battiste, (Ed.), *Reclaiming Indigenous Voice and Vision*. (Vancouver, Canada: UBC Press, 2000), 250.

integrity, cultural validity and authority for texts is but part of a wider process of being critical of colonial and neo-colonial hegemonies.”⁴³

In postcolonial transformation, however, there is an acknowledgement of a state of flux, where “No one has a pure worldview that is 100 percent Indigenous or Eurocentric; rather, everyone has an integrated mind, a fluxing and ambidextrous consciousness, a precolonized consciousness that flows into a colonised consciousness and back again.”⁴⁴ However, some **Maori** researchers⁴⁵ would actually say we haven’t passed colonialism yet therefore postcolonial discourse is premature.⁴⁶ Sheilagh Walker sees the term postcolonial as an affront to **Maori**, saying,

The paradox is that whilst the theoretical notion of the Post-**Maori**⁴⁷ is posited as one of empowerment, it never-the-less disempowers **Maori** in the sense that **Pakeha** [non-**Maori**] theorists have already claimed the phrase as their own. The notion of the Postcolonial would itself have no legitimation, if it were not for the existence of **Maori**. Whilst we lie passive at its conceptual level, we choose not to engage with it. Whilst we are, in essence, the victims of colonisation; **Pakeha** theorists have chosen to cash in on our victimisation.⁴⁸

Henry, et al. believe “Indigenous research reform proponents are not necessarily advocating for the development of new research methods, but instead for the re-positioning of Indigenous peoples within the construction of research. Methodological approaches are included

⁴³ Bishop, R., **Whakawhanaungatanga: Collaborative research stories.** (Palmerston North: Dunmore Press, 1996), 240.

⁴⁴ Leroy Little Bear, “Jagged Worldviews Colliding.” In M., Battiste, (Ed.), **Reclaiming Indigenous Voice and Vision.** (Vancouver, Canada: UBC Press, 2000), 85.

⁴⁵ See for example: Walker, S., **Kia Tau Te Rangimarie: Kaupapa Maori Theory as a Resistance Against the Construction of Maori as the Other.** (Unpublished Master’s Thesis, University of Auckland, 1996); Smith, G., H., “Protecting and Respecting Indigenous Knowledge.” In M., Battiste, (Ed.), **Reclaiming Indigenous Voice and Vision.** (Vancouver, Canada: UBC Press, 2000). pp. 209-224; Smith, L. T., **Decolonizing methodologies: Research and Indigenous peoples.** (New York: Zed Books, 1999a).

⁴⁶ I am choosing not to engage in Postcolonial theory as I agree with other **Maori** academics (such as Smith, G.H., Smith, L.T., & Walker R.) that believe there is no “post” to colonial. We are still being colonized.

⁴⁷ Sheilagh Walker sees “Post-**Maori**” as a term being inscribed by **Pakeha** academics to refer to **Maori** who have jumped the hurdle of colonialism and are now getting on with their lot in the modern world, ie. The modern as opposed to the traditional **Maori** has emerged as a reinvented, modern Maori.

⁴⁸ Walker, S., **Kia Tau Te Rangimarie: Kaupapa Maori Theory as a Resistance Against the Construction of Maori as the Other.** (Unpublished Master’s Thesis, University of Auckland, 1996), 116.

on the basis that they represent a capacity for achieving this aim.”⁴⁹ Cajete sees this repositioning as a generational responsibility.

We have, similar to the medical profession, an oath that we take, and that oath is to be responsible to the children who are given to our care and to the information and the knowledge that we convey. Thinking that they know the Native person’s mind and being is a mistake that has been made many times by many non-Native people. That’s the reason Native people have to begin to reflect and to write in their voices about their own experience. That is the only way to begin to correct that process of misunderstanding.⁵⁰

Durie says, “**Maori** have a primary obligation to seek a better way by adapting existing methodologies which are in tune with **kawa** and **tikanga** Maori, or by constructing methodologies from a totally **Maori** base.”⁵¹ Similarly, James Youngblood Henderson states, “We have had to use social analysis to attempt to reverse the process: to dismantle the ideological in order to reveal the cultural (a peculiar blend of objective arbitrariness and subjective taken-for-grantedness). The interplay between making the familiar strange and the strange familiar is part of the ongoing transformation of knowledge.”⁵²

This repositioning of Indigenous peoples within research necessarily requires an understanding of Indigenous philosophy. Leroy Little Bear articulates Aboriginal philosophy as “...holistic and cyclical or repetitive, generalist, process-oriented, and firmly grounded in a particular place.”⁵³ The Indigenous worldview, according to James Youngblood Henderson, is one of humility:

The Aboriginal worldview teaches Aboriginal people to feel humble about their existence. They are but one strand in the web of life. In the circle of which all life forms a part, humans are dependent upon all the other forces for their survival. Aboriginal worldviews also teach that humans exist to share life according to their abilities. They exist to care for and renew the web of life, and therefore they must respect and value all the forces of life. Often this worldview is called the process of humility.⁵⁴

⁴⁹ Henry, et al., 2002: 4.

⁵⁰ Cajete, G., “Indigenous Knowledge: The Pueblo Metaphor of Indigenous Education.” In M.. Battiste, (Ed.), Reclaiming Indigenous Voice and Vision. (Vancouver, Canada: UBC Press, 2000), 189.

⁵¹ Durie, 1992: 7.

⁵² Henderson, 2000: 255.

⁵³ Leroy Little Bear, 2000: 78.

⁵⁴ Henderson, 2000: 259.

Similarly, all Indigenous peoples recognize this connectedness. Evelyn Steinhauer illuminates this connectedness:

Although there are Indigenous groups all over the world, and although we are different in so many ways, the one thing that seems to bind us together is the common understanding of interconnectedness and that all things are dependent on each other...Everything we do, every decision we make, affects our family, our community, it affects the air we breathe, the animals, the plants, the water in some way.⁵⁵

Simply put, “Aboriginal thought, therefore, recognises a matrix of reciprocal relationships.”⁵⁶

What is central in any Indigenous research or research involving Indigenous peoples and cultures is the place and position of Indigenous people themselves. Pidgeon and Hardy Cox argue that

Including Aboriginal peoples in the project from start to finish assists the researcher to develop research questions, methodology, applicable instruments (e.g. surveys, focus group questions) that reflect and respect the cultural beliefs and practices of aboriginal peoples. During the research process, involved participants can help facilitate part of the research, provide valuable contacts and the encouragement to pursue challenging questions.⁵⁷

Research for and with the people is encapsulated for Bishop⁵⁸ by his concept of “**whakawhanaungatanga**,” which literally means becoming one of the family. It exemplifies the connectivity between researcher and participants in the research. Bishop and Glynn believe a “participatory consciousness” evolves out of doing the research. “Such a form of consciousness appears to be the outcome of a slowly evolving cyclical process of lived experiences and reflections upon these experiences within the cultural context of the research participants.”⁵⁹ Even more significance is given to research conducted by Indigenous peoples themselves. In New Zealand this means, “research for **Maori**, about **Maori**, and by **Maori**.”⁶⁰ Reciprocity and

⁵⁵ Steinhauer, 2003: 77.

⁵⁶ Henderson, 2000: 270.

⁵⁷ Pidgeon, & Hardy Cox, 2002: 102.

⁵⁸ Bishop, 1996.

⁵⁹ Bishop, R., & Glynn, T., “Researching in **Maori** Contexts: An Interpretation of Participatory Consciousness.” (Journal of Intercultural Studies, 20, 2, 1999), 179.

⁶⁰ Durie, 1992: 3.

connectivity is also a significant part of this process in which a researcher gives back to the community. Giving back can take many forms, including presenting the completed thesis to the people who helped with the thesis and/or presenting the findings to the community at **hui** (meeting).⁶¹ This process of giving back is essential to our accountability as we are answerable to the community for the work produced and should take responsibility for our actions.

The researcher must also ask himself/herself a core set of questions before starting any research. “How will the research contribute to Aboriginal peoples? What support exists among Aboriginal people for the research? What is its relevance? What research gaps will be filled? What questions will be addressed?”⁶² Dr Linda Smith has a similar set of questions:

Who defined the research problem? For whom is this study worthy and relevant? Who says so? What knowledge will the community gain from this study? What knowledge will the researcher gain from this study? What are some likely positive outcomes from this study? What are some possible negative outcomes? How can the negative outcomes be eliminated? To whom is the researcher accountable? What processes are in place to support the research, the researched and the researcher?⁶³

The approach used by the Indigenous researcher is also important. Indigenous research tends to be intuitive by nature. Evelyn Steinhauer has uneasily referred to this intuitiveness as “cellular memory.” She asks herself, “Where does that nagging sense of knowing, yet with no concrete proof, come from?”⁶⁴ Kanaaneh illuminates this uneasiness with a binary problematic:

The problem (as seen from the viewpoint of a non-Western Indigenous anthropologist), however, is that the classical anthropologist does not appreciate the unique value of such ‘implicit’ knowledge, simply because the classical anthropologist does not know enough to know what he/she does not know. The other side of this problem is that it is extremely difficult for the non-Western Indigenous anthropologist to communicate his/her ‘implicit’ knowledge to his/her Western colleagues: Some of this knowledge is very difficult to translate into English-anthropology; some simply resists articulation in writing. But this is a challenge to take, not to leave, and the non-Western Indigenous anthropologist will always be working at the edge of comprehensibility.⁶⁵

⁶¹ Smith, L. T. (1999a). *Decolonizing methodologies: Research and Indigenous peoples*. New York, Zed Books; & Smith, L., T. (1999b). *Kaupapa Maori Methodology: Our Power to Define Ourselves*. A seminar presentation to the School of Education, University of British Columbia, Vancouver, Canada.

⁶² Pidgeon, & Hardy Cox, 2002: 103.

⁶³ Smith, L., T., 1999a: 173.

⁶⁴ Steinhauer, 2003: 76.

⁶⁵ Kanaaneh, 1997: 10.

A very real example of this knowledge is the important connection Indigenous people have to their loved ones and ancestors, both living and passed on, which would be seen by most non-Indigenous as irrational and irrelevant in research.

Most **Maori** will tell you that they feel the presence of *tupuna* more strongly at particular times. On formal occasions such as the opening of meeting houses, *tangi* and even in *karakia*, *tupuna* are called on directly through *karanga* and a whole myriad of ways. Their presence is recognised in the land in the fine misty rain and the tears that flow and the mountains and rivers.⁶⁶

I believe this “intuitiveness” is more a sensitivity to our environment, to people, animals, land, and so on. I see it also as being a deep respect for the past, the present and the future. I agree therefore with James Youngblood Henderson’s notion of learning, which is accomplished “...through all the senses and instincts. It requires learning language and the diverse realms and forces contained within and beyond language.”⁶⁷

Therefore, when Indigenous peoples are in charge of the research and become “the researchers and not merely the researched, the activity of research is transformed. Questions are framed differently, priorities are ranked differently, problems are defined differently, and people participate on different terms.”⁶⁸

Kaupapa Maori Research

The methodological and theoretical underpinning of this research is necessarily **Kaupapa Maori**. **Kaupapa Maori** is a localized critical theory.⁶⁹ I am **Maori** and I am engaging with **Maori** context. The validity of **Maori** knowledge and **Maori** cultural values are taken for granted. This thesis looks at the application of **Maori** knowledge and cultural values to a

⁶⁶ Smith, C. W., “Straying Beyond the Boundaries of Belief: **Maori** Epistemologies Inside the Curriculum.” *Educational Philosophy and Theory*, 32, 1, 2000), 48.

⁶⁷ Henderson, 2000: 266.

⁶⁸ Smith, L. T., 1999a: 193.

⁶⁹ Smith, L. T., 1999a & 1999b.

particular site. “**Kaupapa Maori** is concerned with sites and terrains. Each of these is a site of struggle.”⁷⁰ This thesis therefore analyses a site of struggle for **Maori**.

There are numerous **Maori** (and some **Pakeha**) academics that have written of the importance of research for **Maori**. The area of **Maori** research, methodologies and theories, has been documented extensively by many authors.⁷¹ Numerous authors also mention a variety of guidelines that should be followed when conducting research with **Maori**.⁷² In essence, all of

⁷⁰ Smith, L. T., 1999a: 191.

⁷¹ Smith, C., W., **He Pou Herenga Ki Te Nui**. (Unpublished Doctoral Dissertation, University of Auckland, 2003); Smith, G., H., **The Development of Kaupapa Maori: Theory and Praxis**. (Unpublished Doctoral Dissertation, University of Auckland, 1997a); Smith, L. T., **Decolonizing methodologies: Research and Indigenous peoples**. (New York: Zed Books, 1999a); Cram, F., “Ethics in **Maori** Research: Working paper.” In L. W., **Nikora**, (Ed.), **Cultural Justice and Ethics**. (Proceedings of the Cultural Justice and Ethics Symposium held as part of the New Zealand Psychological Society’s Annual Conference, Wellington, New Zealand: Victoria University, 1993); Durie, A., **Whaia Te Ara Tika: Research Methodologies and Maori**. (Abridged version of paper presented to Seminar on **Maori** Research, Massey University, Palmerston North, New Zealand, July 1992); **Te Awakotuku, N., He Tikanga Whakaaro: Research Ethics in the Maori Community**. (Wellington, New Zealand: **Manatu Maori**, 1991); Stokes, E., **Maori Research and Development**. (A Discussion Paper Prepared for the Social Sciences Committee of the National Research Advisory Council, 1985); **Teariki, C., Spoonley, P., & Tomoana, N., Te Whakapakari Te Mana Tangata: The Politics and Process of Research for Maori**. (A Position Paper explaining the experiences arising from research for “**Mahi Awatea**,” funded by the Foundation for Research, Science and Technology. Department of Sociology, Massey University, New Zealand, 1992); **Pihama, L., Tungia te ururua kia tupu whakaritorito te tupu o te harakeke: A critical analysis of parents as first teachers**. (Unpublished Master’s Thesis, University of Auckland, 1993); **Pihama, L., Cram, F., & Walker, S., “Creating methodological space: A literature review of Kaupapa Maori Research.” (Canadian Journal of Native Education, 26, 1, 2002). pp. 30-43; Bishop, R., Whakawhanaungatanga: Collaborative research stories**. (Palmerston North: Dunmore Press, 1996); Bishop, R., & Glynn, T., “Researching in **Maori** Contexts: An Interpretation of Participatory Consciousness.” (*Journal of Intercultural Studies*, 20, 2, 1999). pp. 167-182; Walker, S., **Kia Tau Te Rangimarie: Kaupapa Maori Theory as a Resistance Against the Construction of Maori as the Other**. (Unpublished Master’s Thesis, University of Auckland, 1996).

⁷² Smith, G., H., **The Development of Kaupapa Maori: Theory and Praxis**. (Unpublished Doctoral Dissertation, University of Auckland, 1997a); Smith, L. T., **Decolonizing methodologies: Research and Indigenous peoples**. (New York: Zed Books, 1999a); Smith, L., T., **Kaupapa Maori Methodology: Our Power to Define Ourselves**. (A seminar presentation to the School of Education, University of British Columbia, Vancouver, Canada, 1999b); Durie, A., **Whaia Te Ara Tika: Research Methodologies and Maori**. (Abridged version of paper presented to Seminar on **Maori** Research, Massey University, Palmerston North, New Zealand, July 1992); **Te Awakotuku, N., He Tikanga Whakaaro: Research Ethics in the Maori Community**. (Wellington, New Zealand: **Manatu Maori**, 1991); **Teariki, C., Spoonley, P., & Tomoana, N., Te Whakapakari Te Mana Tangata: The Politics and Process of Research for Maori**. (A Position Paper explaining the experiences arising from research for “**Mahi Awatea**,” funded by the Foundation for Research, Science and Technology. Department of Sociology, Massey University, New Zealand, 1992); Bishop, R., “**Te Ropu Rangahau Tikanga Rua: The Establishment of a Bicultural Research Group, Under the Control of Maori People for the Betterment of Maori People**.” (*New Zealand Annual Review of Education*, 2, 1992). pp. 205-223; Bishop, R., “Initiating Empowering Research?” (*New Zealand Journal of Educational Studies*, 29, 1, 1994). pp. 175-188.

these guidelines relate to making space for **Maori** and their voices and maintaining respect for **Maori** people, culture, values and worldview.

Kaupapa Maori emerged in New Zealand out of a number of **Maori** language and schooling interventions that were being developed from the 1980s onward, which included pre-school (**Te Kohanga Reo**), primary/elementary school (**Kura Kaupapa Maori**), secondary school (**Te Kura Tuarua**), and tertiary level (**Waananga**) interventions. These interventions developed to address the crisis of low **Maori** educational achievement and as a revitalisation of **Maori** language, culture and knowledge. Dr Graham **Hingangaroa** Smith outlines this emergence further:

*What we've done in New Zealand is start the theoretical work, Indigenous theorizing. We have built on the success of our early language interventions. And my particular area has been to work with the question, "given that these alternative schooling methodologies have had reasonable success in intervening in the **Maori** condition, what are the key elements that we can identify in each of these successful initiatives and that we might be able to call a core theory of intervention?" Basically I have isolated six elements, which are thought to be always present when we get transformative outcomes for **Maori**, and these elements can now be applied elsewhere in other contexts to develop the change that's required. **Kaupapa Maori** theory, if you like, is a change theory. It's also a transformative praxis because I believe that the accountability for the theory is actually made by the people. It's actually theorizing what the people did first, and then we've theorized that. We've taken that theory of change back to the people, the people have commented again, then we've reapplied it, then we've taken it back and talked to the people again, then we've reapplied it. So we've got this idea of praxis, where we've applied what we have learnt, reflected on what we've done, and then changed accordingly; modified accordingly. This way, I think the accountability to the people is really significant because in a sense you must have accountability. I believe, if you're going to get transformative outcomes. In other words, the people have to buy in to this in order to make the change. So that's **Kaupapa Maori** theory in a nutshell. **Kaupapa Maori** theory is about the "validity" and "legitimacy" of **Maori** forms of knowledge. It's about **Maori** pedagogy. It's about self-determination. It's about utilizing **Maori** processes such as extended families. It's about visioning. It's about validity and legitimacy, as I said. We're using **Kaupapa Maori** theory as a means to inform a lot of our students' work. That is, we're asking our students now to take a **Kaupapa Maori** approach, perspective, in other words to take for granted the validity and legitimacy of **Maori** knowledge, to look for culturally appropriate ways for application and so on.⁷³*

Pihama, **Cram**, and **Walker** see the **Kaupapa Maori** approach as "asserting the right of **Maori** to be **Maori** while at the same time building a critique of those societal structures that

⁷³ Dr Graham **Hingangaroa** Smith, Research interview with the author, Vancouver, 15 March 2003.

work to oppress **Maori**.”⁷⁴ C.W. Smith also sees **Kaupapa Maori** theory emerging out of “practice, out of struggle, out of experience of **Maori** who engage struggle, who reject, who fight back, and who claim space for the legitimacy of **Maori** knowledge.”⁷⁵ Walker explains the intent of her thesis as illustrating ways **Maori** have articulated their own worldview, “By our mere existence as **Tangata Whenua**, by the reality of our **Kaupapa** as **Maori**, by the historical reality of our struggles to maintain **Tino Rangatiratanga**; **Te Iwi Maori** and **Kaupapa Maori** is the alternative to **Pakeha** hegemony.”⁷⁶

Dr Graham Smith outlines six **Kaupapa Maori** intervention elements that represent the core principles for **Kaupapa Maori** research.

1. **Tino Rangatiratanga** (the self-determination principle)

Pihama, Cram, & Walker describe **Tino Rangatiratanga** as relating to “...sovereignty, autonomy, and *mana motuhake*, self determination and independence.”⁷⁷ It is a site of struggle and the counter-hegemonic role of **Kaupapa Maori**.⁷⁸ The philosophy behind “research for **Maori**, about **Maori**, and by **Maori**”⁷⁹ is paramount to **Tino Rangatiratanga**. And Walker would add to this by saying, “Whilst **Kaupapa Maori** Theory can be seen as just another ‘Grand Narrative’, it is our narrative. For **Maori** it is liberating.”⁸⁰ There is ongoing dialogue about where, if anywhere, **Pakeha** researchers fit within **Kaupapa Maori** research and certainly in relation to the **Tino Rangatiratanga** principle.⁸¹ In its most staunch form, **Kaupapa Maori** research advocates **Maori** doing their own research, particularly where research is “for **Maori**,

⁷⁴ **Pihama**, L., Cram, F., & Walker, S., “Creating methodological space: A literature review of **Kaupapa Maori** Research.” *Canadian Journal of Native Education*, 26, 1, 2002, 41.

⁷⁵ Smith, C., W., **He Pou Herenga Ki Te Nui**. (Unpublished Doctoral Dissertation, University of Auckland, 2003), 13.

⁷⁶ Walker, 1996: 142.

⁷⁷ **Pihama**, Cram, & Walker, 2002: 34.

⁷⁸ Smith, G., H., **The Development of Kaupapa Maori: Theory and Praxis**. (Unpublished Doctoral Dissertation, University of Auckland, 1997a); & **Pihama**, L., **Tungia te ururua kia tupu whakaritorito te tupu o te harakeke: A critical analysis of parents as first teachers**. (Unpublished Master’s Thesis, University of Auckland, 1993).

⁷⁹ Durie, 1992: 3.

⁸⁰ Walker, 1996: 142.

⁸¹ Durie, 1992.

about **Maori** and by **Maori**.” However, Graham Smith does posit four models whereby **Pakeha** researchers have been able to carry out culturally appropriate research: **Tiaki** model (mentor model) - guided and mediated by authoritative **Maori** people; **Whangai** model (adoption model) – researcher becomes one of the **whanau** (family); Power sharing model – where community assistance is sought; Empowering outcomes model – which supplies answers and information that **Maori** want to know.⁸²

2. **Taonga tuku iho** (the cultural aspirations principle)

This principle positively advocates **Maori** as an identity but a taken-for-granted identity, whereby “To be **Maori** is both valid and legitimate.”⁸³ **Maori** epistemology, therefore, is taken-for-granted, as is **Maori** language and its importance in articulating **Maori** epistemology.

3. **Ako Maori** (the culturally preferred pedagogy principle)

The school system was failing young **Maori**. **Maori** schooling interventions were developed to address this crisis of low **Maori** educational achievement, and as a revitalisation of **Maori** language, culture and knowledge. As such, “This principle promotes teaching and learning practices that are unique to **Tikanga Maori**.⁸⁴ ‘Borrowed’ pedagogies are acknowledged. **Maori** are able to choose their own preferred pedagogies.”⁸⁵

4. **Kia piki ake I nga raruraru o te kainga** (the socioeconomic mediation principle)

Kaupapa Maori provides an avenue for looking at ways of redressing the socio-economic disadvantage of **Maori**. Its greatest impact is on the well being of the **whanau**. In the schooling interventions in particular, this mediation took the form of collective responsibility where **whanau** and community converged to mediate the burden.

5. **Whanau** (the extended family structure principle)

⁸² Cited in Smith, L. T., 1999a: 177.

⁸³ **Pihama**, Cram, & Walker, 2002: 36.

⁸⁴ Examples of **tikanga Maori** teaching and learning practices include the importance of **whenua** (connection to our land), **whakapapa** (genealogy), **tikanga** (customs), **Matauranga Maori** (seeing the world through **Maori** eyes).

⁸⁵ **Pihama**, Cram, & Walker, 2002: 37.

Whanau is Kaupapa Maori; Kaupapa Maori is whanau. Bishop⁸⁶ would situate this principle as key in his concept of “**whakawhanaungatanga**,” wherein the family and responsibility for family, in its broadest sense, is paramount.

6. **Kaupapa** (the collective philosophy principle)

Kaupapa Maori is a localized critical theory⁸⁷ that puts the spotlight on existing power structures.⁸⁸ Within this principle, there is a “collective commitment and a vision...[which] connects **Maori** aspirations to political, social, economic, and cultural well-being.”⁸⁹

The six principles espoused by Dr Graham Smith inform and guide **Kaupapa Maori** research. **Kaupapa Maori** theory “incorporates implicitly the notion of praxis; action that is informed by thought that seeks to activate, change, challenge and emancipate.”⁹⁰ As Linda **Tuhiwai Te Rina** Smith put it in an interview with Marie Battiste, Lynne Bell and L.M. Findlay in Canada, we need to “Think, think, think, think, think.”⁹¹ She defines thinking as being about,

...using our minds, and culturally when I say using your minds, I also mean your brain, your stomach, your heart. Our word for mind situates the intellect in your entrails, not in your brain. So it is really about focusing, about thinking critically, about reflecting on things, about being strategic...you can influence change if you act. It is just the sense of agency; you grab it, you use it, but you don't leave your thinking hat behind when you act. You do try to mobilise the two together.⁹²

Kaupapa Maori is an intervention strategy that has to some extent been informed by the work of Paulo Freire⁹³ and Antonio Gramsci,⁹⁴ and more significantly, by the work and localized theorizing of critical education theorists Dr Graham Smith and Dr Linda Smith. At its heart is the goal to bring about transformation. This process is considered cyclic, as opposed to a linear and

⁸⁶ Bishop, 1996.

⁸⁷ Smith, L., T., 1999b.

⁸⁸ **Pihama, L., Tungia te ururua kia tupu whakaritorito te tupu o te harakeke: A critical analysis of parents as first teachers.** (Unpublished Master's Thesis, University of Auckland, 1993).

⁸⁹ **Pihama, Cram, & Walker, 2002: 39.**

⁹⁰ Walker, 1996: 151.

⁹¹ Smith, Battiste, Bell, & Findlay, 2003: 184.

⁹² Ibid.

⁹³ Smith, G., H. “Paulo Freire: Lessons in transformative praxis.” In P., Roberts, (Ed.), **Paulo Freire, Politics and Pedagogy: Reflections from Aotearoa – New Zealand,** (Palmerston North, New Zealand: Dunmore Press Ltd., 1999). pp. 35-41.

⁹⁴ Smith, G., H., 1997a.

instrumental configuration, with the key sites being: conscientisation; resistance; and transformative praxis. Dr Graham Smith emphasises this transformative nature of **Kaupapa**

Maori by stating:

*We're trying to reclaim our Indigenous students, in terms of giving them the support and theoretical tools to do their own distinctive Indigenous type of research; it's about reclaiming the curriculum; it's about reclaiming our pedagogy. It's not a simplistic thing, and it both connects and disconnects from other theoretical approaches. **Kaupapa Maori** Theory is about multiple sites of engagement. Our Indigenous struggle, **Maori** struggle, is not a singular struggle. It's not just one linear struggle, it is actually multiple struggles often going on at the same time, and we need to critically engage with multiple sites simultaneously. The reason for the ongoing failure of previous and current change strategies is that they have been conceptualised and applied in the singular/linear template. The new approach is to understand that oppression, colonisation, exploitation and racism are multiply formed and perpetrated and therefore need to be resisted and changed by multiple resistances and interventions.⁹⁵*

I see the real strength in **Kaupapa Maori** Theory in its transformative nature.

3. HEKE (RAFTERS): CO-OPTING RELEVANT WESTERN RESEARCH METHODS AND THEORIES

The **tahuhu** (ridgepole) or the common thread all the way through this research will be **Kaupapa Maori**. Outside of this **Kaupapa Maori** foundational philosophy, my methodological and theoretical approach draws on critical theory as well as other traditional Western methods and theories because “**Kaupapa Maori** is also located in relation to critical theory, in particular to the notions of critique, resistance, struggle and emancipation.”⁹⁶ The incorporation of key understandings from traditional Western research methods and theories will form the **heke** (rafters) or the fabric helping to complete the construction of the methodological and theoretical framework.

The traditional Western research methods and theories are inadequate alone as they do not embrace New Zealand's unique colonial history or the deeply **Maori** philosophical underpinning embedded in **Kaupapa Maori** research. The **heke** are merely the tools to help

⁹⁵ Dr Graham **Hingangaroa** Smith. Research interview with the author, Vancouver, 15 March 2003.

⁹⁶ Smith, L. T., 1999a: 185.

make the invisible visible. In particular, I draw upon Antonio Gramsci to explain some structural impediments and constraints that arise around the struggle over knowledge. I also draw on the concept of the enclosure of the commons, resistance to enclosure, and Indigenous perspectives of ownership. A critique of the Western notion of “rationality,” which I see used as an extension of the enclosure of the commons, will also be relevant to this thesis because of the role it has played in the colonisation and oppression of Indigenous people. Grounded theory will also be enlisted as a significant tool in this thesis to help generate a substantive theory from the data collected.

This eclectic approach brings together the philosophy of both Freire⁹⁷ and Fanon,⁹⁸ where we use our own approaches and tools in the fight against oppression and subjugation, on the one hand, as well as using the “master’s tools to dismantle the master’s house,” on the other. The blend is potent. This approach also ensures our philosophical foundation is sound and appropriate and is blanketed with an envelope that offers coverage to the structure.

Gramsci’s concept of hegemony⁹⁹

Dr Graham Smith elucidates the importance of the work of Antonio Gramsci as a tool to illuminate the terrain of genetic engineering and the “life science” industry. The goal of this analysis is to pave a way for achieving transformation.

Gramsci says in order to get transformation we need to engage with three key principle sites:

We have to engage with the struggle for thinking, for the minds, struggle for consciousness. In other words, for the inner thinking of people. And so he developed the tension between hegemony and counter-hegemony. Hegemony is about how we inform our own impression by buying into, so taking for granted, ideologies that are actually against our interests. So if we buy into it, we are being supportive of it. So then he says you’ve got to develop counter-hegemony. The struggle for the academy and the struggle for knowledge. He basically signals this in his tension between the idea of the traditional intellectual and the organic intellectual.

⁹⁷ Freire, P., Pedagogy of the Oppressed. (London: Penguin, 1972).

⁹⁸ Fanon, F. The Wretched of the Earth. (New York: Grove Press Inc., 1963).

⁹⁹ For a more in-depth look at Gramsci’s work on hegemony, see for example: Roger, S., Gramsci’s Political Thought: An introduction. (London: Lawrence & Wishart, 1991); Bocoock, R., Hegemony. (New York: Tavistock Publications, 1986); Sassoon, A., S., Gramsci’s Politics. (London: Croom Helm, 1980).

Then the third key site for Gramsci that we need to struggle over is what he calls the state or government. And then the concept that he uses to engage with that is called “war of position.” Now “war of position” is very much like what I’ve described as multiple sites of engagement. What he says about “war of position” is that we need to develop multiple struggles but that we also need to understand that struggle itself needs to be flexible; you win some battles here, and something else is happening over here; so come over here and you win this battle here, then something pops out over here. So “war of position” is about being in multiple war engagements if you like, and being responsive.¹⁰⁰

Gramsci saw state apparatuses, such as schools, the media, trade unions, the church, and family, as sites of struggle, as ideological apparatuses of the state, as the ruling classes’ apparatuses of political and cultural hegemony.¹⁰¹ Consent of the masses was gained through the belief that the masses exercise self-government through elections and regular operations of government, for example, which does not interfere with the functioning of capitalist rule. In this sense, the state and the ruling class exercise “hegemony” over the working class. A silent force, the police and army, who could be mobilized if and when needed, are available to provide coercion, if needed, but consensual hegemony seeks to avoid open coercion, if at all possible.

Gramsci says, “One of the most important characteristics of every class which develops towards power is its struggle to assimilate and conquer ‘ideologically’ the traditional intellectuals. Assimilations and conquests are the more rapid and effective the more the given social class puts forward simultaneously its own organic intellectuals.”¹⁰² Gramsci differentiates between two types of intellectuals. “Organic intellectuals” emerge out of every class or social group and their task is to “help organize a given society or the class within society of which they are members and they provide their society or class with the necessary measure of leadership”¹⁰³ to improve or maintain their position. The “traditional intellectuals” are the elite within society who create and endorse “high” culture and legitimate and promote dominant ideology.¹⁰⁴ Simplistically, Holub

¹⁰⁰ Dr Graham **Hingangaroa** Smith, Research interview with the author, Vancouver, 15 March 2003.

¹⁰¹ Anderson, P., “The antinomies of Antonio Gramsci.” *New Left Review*, 100, 1976), 32.

¹⁰² Gramsci, A., *The modern prince and other writings*. Translated into English by Dr. Louis Marks. (New York: International Publishers, 1957), 122.

¹⁰³ Buttigieg, J., A., *Antonio Gramsci’s Triad: Culture, Politics, Intellectuals*. (Centre for Humanistic Studies (CHS) Occasional Papers, Number 10. Minnesota: CHS, University of Minnesota, 1987), 35.

¹⁰⁴ Holub, R., *Antonio Gramsci: Beyond Marxism and postmodernism*. (London: Routledge, 1992), 161.

states that the “‘traditional intellectual’ would stand for the politically resistant intellectual in the world of feudalism or capitalism, and the ‘organic intellectual’ for the world of nascent socialism.”¹⁰⁵ A point to note, however, is that Gramsci believes we can speak of intellectuals but not non-intellectuals, as we each have the capacity to be intellectuals; it is more to do with how we utilise that intellect.

It then becomes the job of intellectuals to infiltrate the ideological apparatuses of the state to conscientise the masses, to win them over as “The imperative need remains to win the working class, before there can be any talk of winning power.”¹⁰⁶ This process is a slow and deliberative creation of the foundations for a new state. The building up of a “counter-hegemony” within an already existing “hegemony” requires “creating alternative institutions and alternative intellectual resources within existing society and building bridges between workers and other subordinate classes,”¹⁰⁷ which “bring the large majority of the people who have lived at society’s periphery to a consciousness of their potential for living a full and meaningful participation.”¹⁰⁸

Effective proletarian struggle involves a “war of position” in which the state and the intellectuals are dug-in, and the “massive structures of the modern democracies, both as state organizations, and as complexes of associations in civil society, constitute for the art of politics as it were the ‘trenches’ and the permanent fortifications of the front in the war of position.”¹⁰⁹ Gramsci’s revolutionary strategy then “becomes a long, immobile trench-warfare between two camps in fixed positions, in which each tries to undermine the other culturally and politically.”¹¹⁰

¹⁰⁵ Ibid., 1992: 164.

¹⁰⁶ Anderson, 1976: 78.

¹⁰⁷ Cox, R., C., “Gramsci, hegemony and international relations: An essay in method.” In S., Gill, (Ed.), Gramsci, historical materialism and international relations. (Cambridge: Cambridge University Press, 1993), 53.

¹⁰⁸ Germino, D., L., Antonio Gramsci: Architect of a new politics. (Louisiana: Louisiana State University Press, 1990), 256.

¹⁰⁹ Forgacs, D., (Ed.), The Antonio Gramsci Reader: Selected writings 1916-1935. (New York: New York University Press, 2000), 233.

¹¹⁰ Anderson, 1976: 69.

This entrenched “war of position” will eventually be breached by the masses (a “historical bloc”) when they have absorbed and dominated the bourgeois culture,¹¹¹ “at which time accommodation of the ‘new’ and ‘old’ hegemonies may occur, or the traditional thinking overturned completely.”¹¹² Buttigieg calls this a consciously prepared revolution “made by humans who having gained a deep awareness of their value and worked hard at cultural transformation succeed in organizing fellow humans and infusing them with the same ideas and values so that they can establish a new hegemony.”¹¹³

Three critical concepts have been selected from the work of Gramsci to help delve into this thesis topic: “hegemony” and “counter-hegemony”; “organic intellectuals”; and the “war of position.” Each of these concepts will be important to a critical engagement with the business of biotechnology and genetic engineering and its protagonists.

Enclosure of the commons

The commons theoretical perspective treats the positivist “scientific” paradigm with distrust and suspicion because of the absence of the research participant voice, which is in itself an enclosure strategy. Enclosure of the commons occurred, Dr **Ranginui** Walker believes, when “The colonial enterprise was validated by instrumental reason, scientific positivism, and the totalising grand narrative of the colonizer.”¹¹⁴

Authors such as Said,¹¹⁵ Freire,¹¹⁶ and Fanon¹¹⁷ have explicated this oppression. Fanon believes the colonist tries to “destroy living tradition in the colonial framework...[and tries to]

¹¹¹ Clark, M., Antonio Gramsci and the revolution that failed. (Glasgow, Great Britain: Robert MacLehose & Co. Limited., 1977), 223.

¹¹² Smith, G., H., 1997a: 161.

¹¹³ Buttigieg, 1987: 17.

¹¹⁴ Walker, R., Maori resistance to state domination. (Paper presented at a seminar held at the Education Department, University of Auckland, New Zealand, August 4, 1994).

¹¹⁵ Said, E., Orientalism: Western conceptions of the orient. (London: Penguin Books, 1978).

¹¹⁶ Freire, 1972.

¹¹⁷ Fanon, 1963.

erect a framework around the people which follows an apriori schedule.”¹¹⁸ Of these three authors, Freire in particular is well liked by many **Maori** critical scholars who perceive “an empathy between his ideas as articulated in *Pedagogy of the Oppressed* (1972) and the lived realities of indigenous peoples’ day-to-day struggles.”¹¹⁹

“The commons,” in its broadest sense, determines the boundaries of community. More commonly used by ecologists, Yang defines it broadly as “dynamic complex social relationships among those who own property in common or who share property that is in some way beyond private domain.”¹²⁰ Authors writing about the commons have utilized the concept in a variety of ways. Examples of academic writing on enclosures of commons have included Indigenous resistance to colonization,¹²¹ peasant and third world peoples’ resistance to Western domination,¹²² Indigenous struggle against state domination,¹²³ international development projects,¹²⁴ and contemporary interpretations of the commons, such as common ownership in condominium complexes,¹²⁵ the global commons,¹²⁶ biodiversity,¹²⁷ and intellectual property.¹²⁸

The concept of the commons can be seen as an umbrella term that encompasses more specific areas of resistance to enclosure of the commons and Indigenous perspectives of ownership as well as struggle over the discourse and ideology of the Western notion of

¹¹⁸ *Ibid.*, 91.

¹¹⁹ Smith, G., H., 1999: 35.

¹²⁰ Yang, H., “Conflicts over the commons in an American suburb.” In A. Wolfe, & H. Yang, (Eds.), *Anthropological contributions to conflict resolution*. (Athens, Georgia: The University of Georgia Press, 1996), 98.

¹²¹ Gump, J., “A spirit of resistance: Sioux, Xhosa, and **Maori** responses to Western dominance, 1840-1920.” (*Pacific Historical Review*, 66, 1, February 1997). pp. 21-52.

¹²² Stern, S. (Ed.), *Resistance, rebellion, and consciousness in the Andean peasant world, 18th to 20th centuries*. (Wisconsin: University of Wisconsin Press, 1987).

¹²³ Walker, 1994.

¹²⁴ Escobar, A., “Discourse and power in development: Michel Foucault and the relevance of his work to the third world.” (*Alternatives X*, Winter 1984). pp. 377-400; & Esteva, G., “Regenerating people’s spaces.” (*Alternatives, XII*, 1987). pp. 125-152.

¹²⁵ Yang, 1996.

¹²⁶ Goldman, M. (Ed.), *Privatizing nature: Political struggles for the global commons*. (London: Pluto Press, 1998).

¹²⁷ Shiva, V., *Biopiracy: The plunder of nature and knowledge*. (Toronto: Between the Lines, 1997).

¹²⁸ Farley, C., “Protecting folklore of Indigenous peoples: Is intellectual property the answer?” (*Connecticut Law Review*, 30, 1, Fall 1997). pp. 1-57.

“rationality.” Enclosure of the commons, in particular its relation to colonization of Indigenous peoples, presents another theoretical backdrop to an analysis of how biotechnology impacts Indigenous and non-Indigenous people.

Resistance to enclosure

Since the signing of the Treaty of **Waitangi** in 1840 and subsequent misinterpretation of three articles to the treaty, numerous protest and resistance movements have evolved in New Zealand to counteract the effects of colonization and enclosure of the commons. Escobar analyses such multiplicity of protest and resistance movements as a resistance to power:

to the multiplicity of forms of power, we must respond with a multiplicity of localized resistances and counteroffensives...Rather than a massive revolutionary process, the strategy must be aimed at developing a network of struggles, points of resistance, and popular bases...Like power, the multiplicity of resistances may be integrated into global strategies.¹²⁹

The common denominator in the resistance techniques used by **Maori** and other enclosed peoples are that they all are “attempts by local people to reclaim the political process and to re-root it within the local community.”¹³⁰

Gump, in an article comparing Sioux, Xhosa and **Maori** responses to Western domination, looked at the ways colonized people reconceptualized themselves in the face of militant action and political acculturation. “For **Maori**...rejection of forced acculturation manifested itself originally as cultural revitalization.”¹³¹ This cultural revitalization included the establishment of a number of **Maori** protest movements and churches, including the **Pai Marire** or **Hauhau** movement in the 1860’s, emphasizing unity and peace, and later the **Ringatu** church, **Rua Kenana** movement, **Ratana** church and the Absolute **Maori** Established Church of **Aotearoa**, all emphasizing unity and resistance to enclosure. The **Maori** of the time were not so

¹²⁹ Escobar, 1984: 381.

¹³⁰ “Reclaiming the commons.” *The Ecologist*, 22, 4, July/August 1992), 202.

¹³¹ Gump, 1997: 22.

much rejecting the Christian message outright but insisting that they be able to formulate their own religious response based on the part of the scriptures they believed to be more relevant to them.¹³² This fight "...to revive and actively construct traditions only reveals just how vital and dynamic these indigenous cultures remain, despite the systematic efforts of authorities representing the dominant culture to eliminate them through cultural assimilation."¹³³

Similar to the above analysis of protest, numerous writers have illuminated the different **Maori** protest and resistance movements in New Zealand (such as Cox, L; Elsmore; Gump; Hazlehurst; King; Walker, R; Williams; **Winiata**)¹³⁴ and analysed the effects of the treaty and race relations (such as Brownlie; **Kawharu**; Kelsey; Mulgan; Orange; Ritchie; Sharp; Wetherell & Potter).¹³⁵ The reporting of the different protest and resistance movements since 1840 has utilized a historiographic approach, with a common link to the tenets of the Treaty of **Waitangi** and **Tino Rangatiratanga** (**Maori** self-determination).

In a call for **Maori** research into the dynamics of resistance, Bishop states that

¹³² Elsmore, B., Mana from heaven: A century of **Maori** prophets in New Zealand. (Tauranga: The Tauranga Moana Press, 1989).

¹³³ Howard, Pat, "The confrontation of modern and traditional knowledge systems in development." (Canadian Journal of Communication, 19, 1994), 203.

¹³⁴ Cox, L., Kotahitanga: The search for **Maori** political unity. (Auckland: Oxford University Press, 1993); Elsmore, B., Like them that dream: The **Maori** and the Old Testament. (Tauranga: The Tauranga Moana Press, 1985); Elsmore, B., Mana from heaven: A century of **Maori** prophets in New Zealand. (Tauranga: The Tauranga Moana Press, 1989); Gump, J., "A spirit of resistance: Sioux, Xhosa, and **Maori** responses to Western dominance, 1840-1920." (Pacific Historical Review, 66, 1, February 1997), pp. 21-52; Hazlehurst, K., Political expression and ethnicity: Statecraft and mobilization in the **Maori** world. (Westport: Praeger Publishers, 1993); King, M., Tihei mauri ora: Aspects of **Maoritanga**. (Methuen: Wellington, 1978); Walker, R., Nga tohetohe: Years of anger. (Auckland: Penguin Books, 1987); Walker, R., Maori resistance to state domination. (Paper presented at a seminar held at the Education Department, University of Auckland, New Zealand, August 4 1994); Williams, J., Politics of the New Zealand **Maori**: Protest and cooperation, 1891-1909. (Seattle: University of Washington Press, 1969); **Winiata**, M., The changing role of the leader in **Maori** society: A study in social change and race relations. (Auckland: Blackwood & Janet Paul Ltd., 1967).

¹³⁵ Brownlie, I., Treaties and Indigenous peoples: The Robb lectures 1991. (Oxford: Clarendon Press, 1992); **Kawharu**, I. (Ed.), Waitangi: **Maori** and **Pakeha** perspectives of the Treaty of **Waitangi**. (Auckland: Oxford University Press, 1989); Kelsey, J., The principles of the Treaty of **Waitangi**. (Lincoln, New Zealand: Centre for Resource Management, 1989); Mulgan, R., Maori, **Pakeha** and democracy. (Auckland: Oxford University Press, 1989); Orange, C., The Treaty of **Waitangi**. (Wellington: Allen & Unwin, 1987); Ritchie, J., Becoming bicultural. (Wellington: **Huia** Publishers / Daphne Bratell Associates Press, 1992); Sharp, A., Justice and the **Maori**: **Maori** claims in New Zealand political argument in the 1980s (2nd ed.). (Auckland: Oxford University Press, 1997); Wetherell, M., & Potter, J., Mapping the language of racism: Discourse and the legitimation of exploitation. (New York: Columbia University Press, 1992).

Resistance is a legitimate strategy and has been an ongoing part of the **Maori** experience for over 150 years. However, both actual and potential hegemonic relationships need to be understood in terms of the principles within each culture [**Maori** and **Pakeha**]. **Maori** people have a way of addressing such hegemonies that goes beyond mere resistance.¹³⁶

Stern, in his book highlighting the history of native Andean rebellion during the eighteenth to the twentieth century, encourages an understanding of people as actors in peasant rebellion. He has made some methodological suggestions that would be applicable to an analysis of **Maori** resistance movements. Of particular relevance was the suggestion: “explicit analysis of pre-existing patterns of ‘resistance adaptation’ is an essential prerequisite for any adequate theory or explanation of peasant rebellion.”¹³⁷ Such an analysis requires the researcher to challenge activists to understand why resistance occurs and understand the continuing evolution and engagement of resistance with others. Stern also believes the researcher needs to understand peasant consciousness and cultural history in order to develop “new theoretical tools needed to explain the multiple contours peasant consciousness can take.”¹³⁸ Similarly, understanding the internal dynamics of peasant resistance groups “may be indispensable to any serious analysis of peasant politics, consciousness, or rebellion.”¹³⁹

It becomes obvious that there would be great difficulty for anyone trying to gain access to people to “tell this story.” Instead of taking an anthropological stance, as Stern advocates, it is appropriate to return to the **Kaupapa Maori** philosophy. This is a site of struggle over **tikanga**, and that is where the engagement with this topic starts. How and what is revealed is totally dependent on that **kaupapa** connection. If you do not connect with the struggle over **tikanga**, then you will not be able to engage wholly in this site. In other words, if you approach this topic and site of struggle from purely a research standpoint, I believe you would find it difficult to enter the site.

¹³⁶ Bishop, 1996: 240.

¹³⁷ Stern, 1987: 11.

¹³⁸ *Ibid.*, 15.

¹³⁹ *Ibid.*, 17.

Theories of “rationality”

The Western notion of “rationality” is a significant factor in the colonisation and oppression of Indigenous people. Its beginnings stem back to the Enlightenment period of the seventeenth and eighteenth centuries with the development of notions of scientific rationality, objectivity and universality. With this Enlightenment positivist lens, the elites of Western society enriched and theorized their position as “superior” through a process of classification and codification of peoples, presenting their reality as “truth.”

Critical education theorist Henry Giroux has outlined three kinds of rationality. He sees “technical rationality” as the logic of domination, where knowledge is scientifically rationalized, seen as linear, and value-free. This type of rationality is scientifically verifiable, and this “hard” data “becomes the focus of explanation and discovery, while other forms of knowledge, such as those that cannot be universalized intersubjectively, are banished to the realm of mere ‘speculative’ wisdom.”¹⁴⁰ “Hermeneutic rationality” on the other hand is the logic of cultural pluralism, of equality, without the acknowledgement of unequal power relations, where “What is missed is the way the ‘invisible’ hand of dominant political and economic interests affect the nature of what is to be decided.”¹⁴¹ The third kind of rationality is “emancipatory rationality,” where it is acknowledged that the world is unjust and consists of unequal power relations. This position has an emancipatory goal and therefore is transformative in nature because “It is aimed at criticizing that which is restrictive and oppressive while at the same time supporting action in the service of individual freedom and well-being.”¹⁴²

For C.B. Macpherson, the “rational” individual had to have property, where “The greatness of seventeenth-century liberalism was its assertion of the free rational individual as the criterion of the good society; its tragedy was that this very assertion was necessarily a denial of

¹⁴⁰ Giroux, H., Theory and resistance in education: A pedagogy for the opposition. (London: Heinemann Educational Books, 1983), 177.

¹⁴¹ *Ibid.*, 189.

¹⁴² *Ibid.*, 190.

individualism to half the nation."¹⁴³ The rationality of property was one of the greatest colonizers of Indigenous people because "...what modern property rights express is a generally utilitarian view of the world. Nature exists to be *used*, and the extension of property rights and their elaboration and division is part and parcel of making nature more and more usable."¹⁴⁴ There is a taken-for-grantedness that property needs to be individualized and that everything necessarily has a utilitarian and pecuniary value.

Rationality also takes the form of reductionist science. Richard Lewontin, a critical biology theorist, believes there is such blind faith put in science that "...the product of science is claimed to be a kind of universal truth. The secrets of nature are unlocked. Once the truth about nature is revealed, one must accept the facts of life. When science speaks, let no dog bark."¹⁴⁵ Mae-Wan Ho similarly sees this as "merely the logical convergence of the instrumental view of nature sanctioned by reductionist science and its kindred capitalist ideology that is driving the new biotech industry towards the limit of the exploitable."¹⁴⁶

Rationality discourse impacts significantly on what is considered valid and legitimate "knowledge."

Grounded theory

The body of knowledge related to grounded theory is appropriate to this thesis because of its focus on the research participants and their stories, and it informs the methodologies used in the research. Strauss and Corbin emphasize the responsibilities of theorists by stating, "...we who aim at grounded theories also believe (as do many other researchers) that we have obligations to

¹⁴³ Macpherson, C., B., The political theory of possessive individualism: Hobbes to Locke. (Oxford: Clarendon Press, 1962), 262.

¹⁴⁴ Ryan, A., Property and political theory. (Oxford: Basil Blackwell Publisher Limited, 1984), 132.

¹⁴⁵ Lewontin, R., C., Biology as ideology: The doctrine of DNA. (Concord, Ontario: House of Anansi Press Limited, 1995), 9.

¹⁴⁶ Ho, M.-W., Genetic engineering - Dream or nightmare? The brave new world of bad science and big business. (Bath, UK: Gateway Books, 1998), 25.

the actors we have studied: obligations to ‘tell their stories’ to them and to others – to give them voice – albeit in the context of their own inevitable interpretations.”¹⁴⁷

Glaser & Strauss pioneered the field of grounded theory when they published their seminal work, *The discovery of grounded theory: Strategies for qualitative research*. In lay terms, the objective of grounded theory is to generate a substantive theory, primarily through interviews, i.e., the development of theory out of conducting research.¹⁴⁸ Creswell calls this a “theory after research” tradition. Grounded theory uses comparative analysis as an entry to developing two basic kinds of theory. The theory generated can be substantive (empirical) or formal (conceptual) in form. Central to the generation of theory is the formation of categories and properties and hypotheses. This occurs as a result of the constant comparing of groups, identifying their similarities and differences. “When he begins to hypothesize with the explicit purpose of generating theory, the researcher is no longer a passive receiver of impressions but is drawn naturally into actively generating and verifying his hypotheses through comparison of groups.”¹⁴⁹ According to Strauss & Corbin, “Theoretical conceptualization means that grounded theory researchers are interested in *patterns* of action and interaction between and among various types of social units (i.e., ‘actors’).”¹⁵⁰ Grounded theorists are therefore cognizant of the process and the fluidity of grounded theory. The process of theory generation is rigorous, with the constant redefinition and evolution of categories and properties. Glaser and Strauss say, “In the beginning, one’s hypotheses may seem unrelated, but as categories and properties emerge, develop in abstraction, and become related, their accumulating interrelations form an integrated central theoretical framework – *the core of the emerging theory*.”¹⁵¹

¹⁴⁷ Strauss, A. & Corbin, J., “Grounded theory methodology: An overview.” In N.K., Denzin & Y.S., Lincoln (Eds.). Handbook of qualitative research. (Newbury Park, California: Sage Publications, Inc., 1994), 281.

¹⁴⁸ Creswell, 1998.

¹⁴⁹ Glaser, B. G. & Strauss A. L., The discovery of grounded theory: Strategies for qualitative research. (New York: Aldine de Gruyter, 1967), 39.

¹⁵⁰ Strauss & Corbin, 1994: 278.

¹⁵¹ Glaser & Strauss, 1967: 40.

The grounded theory approach in this research project involved a study of **Maori** as an Indigenous people affected by new biotechnologies. In-depth interviews were conducted predominantly with **Maori**, as well as accessing archival and current research and conducting a critical analysis of publications relating to biotechnology, produced by a variety of people and organizations, and media reportage. A grounded theory approach was foundational to gathering the stories related to **Maori** perspectives on biotechnology. It was my intention to let the interviewees tell their story, their perspective of biotechnology and its impact on **Maori**.

Interviews

My Ph.D. Committee Senior Supervisor (Professor Pat Howard) and I traveled to New Zealand to conduct preliminary interviews with my **whanau** (family) about some of the biotechnology and genetic modification issues from a non-activist perspective to gauge some of the important issues for them and identify any gaps in information that they may have. This was used as a pilot for my own field research where I interviewed and discovered different perspectives on biotechnology and genetic modification from **Maori** anti-GE activists as well as a mixture of others, including the key people protesting the experimental research being conducted in the **Waikato** area inserting human genes into cows.

Specifically, I collected perspectives on genetic engineering from different **Maori** activists prominent in conveying a **tikanga Maori** worldview of biotechnology. Stories were gathered using in-depth interviews with predominantly **Maori** anti-GE activists. My approach to the interviews was to consider them “conversations over a cup of tea,” which involved the use of broad and general questions in order to leave the space for conversation relatively open. Marshall and Rossman state, “qualitative in-depth interviews are much more like conversations than formal events with predetermined response categories.”¹⁵²

¹⁵² Marshall & Rossman, 1995: 80.

Data collection

As well as interviews, I collected and critically analyzed resources produced for the New Zealand general public and those specifically targeting **Maori** (produced by both **Maori** and non-**Maori**, for and against GE and biotechnology), analyzed news media reportage of biotechnology and genetic modification (from the national newspaper the *New Zealand Herald*, in particular, and a variety of others), and analyzed **Maori** submissions made to the Royal Commission on Genetic Modification and other publicly available documents and submissions made to government bodies such as ERMA (Environmental Risk Management Authority).

The data collection is, in a sense, a historical analysis. Marshall and Rossman believe “Historical analysis is particularly useful in qualitative studies for establishing a baseline or background prior to participant observation or interviewing.”¹⁵³ Sensitivity to the interpretation of both primary and secondary sources of data, including public and private archival records,¹⁵⁴ was also a necessity to avoid modern distortions of historical events,¹⁵⁵ or “bias,” as was the case with a lot of the material gathered because of the polarized views on the subject.

Problems of access were encountered, where some archival data was missing, unattainable/restricted access or incomplete, or in fact too costly to obtain, such as film and television material. Although this whole area of biotechnology and genetic engineering generally is supposed to be transparent because it is largely publicly funded, there are difficulties related to restrictions on access to some information, such as trying to find out the names of the members of Institutional Biological Safety Committees in each institution, and the mere fact that it requires great effort to search for and wade through documents and information available on some websites. Once you do happen to discover and find useful information, the difficulty becomes

¹⁵³ Ibid., 89.

¹⁵⁴ Berg, B., Qualitative research methods for the social sciences. (Boston: Allyn and Bacon, 1989).

¹⁵⁵ Hill, M., Archival strategies and techniques. (Newbury Park, California: Sage Publications, 1993); Marshall, C. & Rossman, G., Designing qualitative research (2nd ed.). (Thousand Oaks, California: Sage Publications, 1995), 80; Scott, J., A matter of record: Documentary sources in social research. (Oxford: Polity Press, 1990).

trying to make sense of it. For myself and other activists working in the area, there is a need to decipher the language and terminology ourselves before we are able to conduct any critique and convey this information to our own communities. The frequent use of acronyms is a simple example of how this whole area of research requires prior knowledge of the different institutions and bodies and how easily anyone researching in this area can become bogged down. There were other reasons for the difficulty in accessing information. The scope of the area is large because of the wide range of disciplines, industries and government ministries and bodies covered; this area and application of science is continually changing at a fast pace, and as a result, the “facts” of science seem to change regularly, and policy development appears reactionary and ad-hoc.

As a result of the inaccessibility of information, an investigative research method was required. Information came from multiple sources and reflected different perspectives; material was obtained from the interviewees, publicly and freely available information from the internet and government and non-government organizations, and other sources. The primary source of information for the focus of this thesis were several Indigenous newsgroups specializing in up-to-date, worldwide information related to issues and rights of Indigenous peoples and **Maori**, biodiversity, biotechnology and genetic engineering: the Protecting Knowledge’s First Nations newsgroup administered by Don Bain in Vancouver Canada; the Indigenous Peoples Council on Biocolonialism newsgroup administered by Debra Harry; and various other news items from New Zealand-based newsgroups focusing on **Maori** issues and rights, forwarded to me from Dr Cheryl Smith. The importance of these networks cannot be overestimated in this work and in this research area in particular because of the inaccessibility of information generally, not only in New Zealand but also internationally. For the large majority of people working in this area, these networks are the only way of finding out what is happening internationally and, in some instances, nationally. The other primary source of information was the *New Zealand Herald* online because of its focus on events in New Zealand and because I was able to gain internet access while I was based in Vancouver, Canada.

4. SUMMARY OF KAUPAPA MAORI: THE PHILOSOPHICAL FOUNDATION

To summarise, the task of this section was to outline the philosophy and theoretical and methodological approach of the thesis.

The **tahuhu** (ridgepole) or the common thread all the way through this research will be **Kaupapa Maori**. Outside of this **Kaupapa Maori** foundational philosophy, my methodological and theoretical approach draws on critical theory, as well as other traditional Western methods and theories. The traditional Western research methods and theories are inadequate alone as they do not embrace New Zealand's unique colonial history or the deeply **Maori** philosophical underpinning embedded in **Kaupapa Maori** research. The incorporation of key understandings from traditional Western research methods and theories will form the **heke** (rafters) or the fabric helping to complete the construction of the methodological and theoretical framework.

Before critically engaging in understanding and making meaning of the material gathered for this thesis, it is necessary to provide a context to the site of struggle by looking at the history of **Maori** struggle in New Zealand and the political context in which this struggle is embedded. The purpose of the next chapter is to do exactly this.

CHAPTER 2

THE MAORI REVOLUTION AND THE NEO-LIBERAL RESPONSE

*The revolution that occurred in New Zealand in the 1980s was a revolution in thinking, of what happened in the minds of **Maori**. There was a shift from being reactive to what was happening to them to saying “To hell with it. We’re going to do what we want to do, and we’re going to deal with our aspirations.” So **Maori** became proactive and moved forward and didn’t get caught in the politics of engagement to distraction on the side. And this is why **Tuki Nepe**’s statement, “we’re paddling our canoe this way, you’re welcome to come on board and help us paddle, if not, you can stay there and drown, but we’re going this way anyway.” And it’s that kind of thinking that’s really important here.¹*

The **Maori** Revolution is a term that some **Maori** writers have used to denote a shift in consciousness by **Maori** in the 1980s. This shift in consciousness signalling an increase in proactive self-determination strategies emerged at a time of rapid expansion and consolidation of neo-liberalism among Western governments. New Zealand was at the forefront in embracing a radical neo-liberal agenda, fully ascribing to the discourse and policies of free trade, decentralization, privatization, and globalization. This stance was at times to come into conflict with the **Maori** Revolution.

The **Maori** Revolution was not just a shift in the mind but also resulted in the development of numerous initiatives in education, health, media, politics, and social services. Education, for example, was seen as a critical area that required **Maori** intervention. Faced with the failures of mainstream schools, **Maori** schools were established specifically tailored to meet the needs of **Maori** and bring about a revitalization of **Maori** language and culture. These initiatives were designed and managed “by **Maori**, for **Maori**,” to revive **Maori** ways of doing things, and to legitimate **Maori** knowledge.

Others have written extensively about the **Maori** Revolution and the neo-liberal agenda. This chapter is not intended to be a comprehensive analysis but rather an overview of some

¹ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

significant moments and ingredients of the **Maori** Revolution and the ascendancy of neo-liberalism.

1. THE MAORI REVOLUTION

A number of significant events in the 1970s and 1980s ignited proactive engagement with the state and its agencies making space for **Maori** to achieve more than the meagre changes in improved well-being and acknowledgement of **Maori** knowledge, culture, pedagogy that had been made up to that point. Key scholars who have written extensively about the **Maori** Revolution include Dr **Ranginui** Walker who calls it the **Maori** Renaissance, Dr Linda Smith, Dr Graham Smith, Dr Cheryl Smith, and Donna **Awatere-Huata**.²

Important to the understanding of **Maori/Pakeha** relationships in New Zealand is an understanding of the Treaty of **Waitangi**, which was signed in 1840 between the representatives from the British monarchy and the **Maori** chiefs in attendance. The treaty was a mechanism used by the British in a number of countries they colonised. In **Aotearoa** (New Zealand) it enabled the Crown to become the sole purchaser of **Maori** land and to assume sovereignty over the country.

The Treaty of Waitangi

In 1840 the **Maori** chiefs of New Zealand and representatives of the British Crown signed the Treaty of **Waitangi**. **Maori** were guaranteed certain rights over their **taonga**. Since the treaty was signed, there have been a number of Acts and government policies affecting **Maori** and the relationship between **Maori** and **Pakeha**. These decisions and policies had the effect of

² See for example: Walker, R., **Ka Whawhai Tonu Matou: Struggle Without End**. (Auckland: Penguin, 1990); Smith, L. T., Decolonizing methodologies: Research and Indigenous peoples. (New York: Zed Books, 1999a); Smith, G., H., The Development of **Kaupapa Maori**: Theory and Praxis. (Unpublished Doctoral Dissertation, University of Auckland, 1997a); Smith, C., W., **He Pou Herenga Ki Te Nui**. (Unpublished Doctoral Dissertation, University of Auckland, 2003); **Awatere**, D., **Maori Sovereignty**. (Auckland: Broadsheet, 1984).

colonizing the **tangata whenua** (people of the land). They progressively transformed what was once inalienable into something alienable, starting with parceling up and enclosing lands held in common and individualizing titles to land through to commodifying flora and fauna.

The Treaty of **Waitangi** contained three clauses that would lead to ongoing disputes because of divergent interpretations made by the signatories. In the first clause the chiefs ceded **Kawanatanga** (governance) to the British Crown. The second clause guaranteed **Maori tino rangatiratanga** (sovereignty, self-determination), which encompassed their land, homes and **taonga** (treasured possessions). The chiefs interpreted this as a guarantee of sovereignty for **Maori** people with the British Crown having a right to govern. This meant that **Maori** did not cede sovereignty but gave the British Crown and its people the right to live in **Aotearoa** and to govern, applying the same protections of law for **Maori** as for British citizens. British interpretation of the first clause however was that **Maori** had ceded their sovereignty.

This was unequivocally stated in the official English version of the treaty lodged with the Home Office. **Kawanatanga** was translated as sovereignty. The disparity in this important first clause between the **Maori** and English versions of the Treaty, is at the heart of the contemporary treaty discourse between **Maori** and **Pakeha**.³

The third clause guaranteed that all **Maori** people would have all of the rights and privileges of the British. The treaty ultimately “guaranteed to the indigenous people ‘the full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties’ subject to the Crown’s exclusive right of pre-emption.”⁴

The treaty was never faithfully observed by **Pakeha** signatories and resulted in the further colonisation of **Maori**;⁵ colonisation hasn’t stopped since 1840 resurfacing in multiple

³ Walker, R., **Maori resistance to state domination**. (Paper presented at a seminar held at the Education Department, University of Auckland, New Zealand, 4 August 1994).

⁴ The Crown was to be given first offer to purchase if **Maori** decided to sell any part of their lands, estates, forests, fisheries and other properties. Mason, A., *The rights of Indigenous peoples in lands once part of the old dominions of the Crown*. *International and Comparative Law Quarterly*, 46 (3), (1997), 821.

⁵ In fact, Dr Makere Stewart-Harawira refers to the treaty as a nullity. See: Stewart-Harawira, Makere. *Te Torino Whakahaere, Whakamuri. Globalisation and the return to empire: An Indigenous response*. (Unpublished Doctoral Dissertation, University of Auckland, 2002).

guises. There have been a number of Acts and government policies that have been instrumental in the enclosure of **Maori** and their commons.⁶ Two central Acts were The Native Lands Act and The **Maori** Affairs Act. The Native Lands Act of 1862, along with its amendments, broke up communal ownership, individualizing **Maori** land ownership and also allowing **Maori** owners to sell land to whomever they wanted, as opposed to **Maori** being **kaitiaki** (guardians of the land for future generations). The **Maori** Affairs Act of 1953 declared that land that was not occupied or being used was to be classified as “waste-land” and appropriated by the government. Other central instruments of enclosure involved the negation of **Maori** culture itself, including the **Tohunga** Suppression Act of 1908, which imposed penalties on **tohunga** (spiritual leaders) for practicing their expertise in **Maori** medicine and **Maori** spirituality, and the banning of speaking **Maori** in Native Schools.

Since the signing of the treaty in 1840, there has been some “progress” in the positioning of **Maori**. However, the position of **Maori** has been tied to **Pakeha** colonial control. Even when **Maori** have made “progress,” it is often within the confines of **Pakeha** frameworks. Some significant improvements have included the rise of young **Maori** leaders, such as Sir **Apirana Ngata**, Sir Peter Buck, and Sir **Maui Pomare**, in the beginning of the twentieth century with influence stretching to the present day in areas relating to law, medicine and parliament.⁷ These three men achieved recognition because of their efforts to fight for **Maori**. They promoted the importance of good health and the value of education in the hope of improving socio-economic status and ensuring **Maori** people and culture survived. Another significant improvement has been official acknowledgement of the importance of **Maori** language and culture, culminating in the decision to designate **Maori** as one of the two official languages in New Zealand in the 1987 **Maori** Language Act, which has been a catalyst for numerous advances in **Maori** language being

⁶ Dr Graham Smith describes this same process as commodification. Smith, G., H., The Development of **Kaupapa Maori**: Theory and Praxis. (Unpublished Doctoral Dissertation, University of Auckland, 1997a), 413.

⁷ For more detail of “The first wave of **Maori** graduates” see for example Chapter Eight of: Smith, C., W., He Pou Herenga Ki Te Nui. (Unpublished Doctoral Dissertation, University of Auckland, 2003), 141.

taught in schools, including the launch in March 2004 of the first free-to-air **Maori** Television (**Maori TV**) channel.

The establishment of the **Waitangi** Tribunal in 1975 was also a significant improvement for **Maori**. The Treaty of **Waitangi** Act, setting up a politically appointed tribunal, the **Waitangi** Tribunal, was enacted to “enable compensation to be awarded to **Maoris** who were prejudicially affected by acts or omissions of the Crown since 1840 which were inconsistent with the principles of the Treaty.”⁸ Some **Maori** have seen the **Waitangi** Tribunal as an avenue for redress of grievances regarding abrogation of **Maori** Treaty rights over land, resources, culture, knowledge and peoples. A group of six northern tribes in New Zealand made a claim, called **WAI** 262,⁹ to the Treaty of **Waitangi** Tribunal in 1991; the first hearings started in 1997, seeking **tino rangatiratanga** (sovereignty, self determination) over traditional knowledges, native plants and animals and other **taonga** (treasures). The **WAI** 262 claim relates specifically to New Zealand’s biodiversity. The **WAI** 262 claimants are still waiting for resolution.¹⁰ A claim filed with the tribunal in 1985 to have **Maori** recognised as an official language is an example of a successful claim resolved through the office of the **Waitangi** Tribunal.¹¹ Although a large number of **Maori** put great stock in the tribunal, it is a very long and tedious process, and the tribunal only has the powers to recommend reparation to aggrieved claimants. The government can ignore, and has in the past ignored, recommendations made by the tribunal.

Maori have consolidated many of their struggles for self-determination and survival as distinct peoples around the treaty. Although there are over fifty-five **iwi** (tribes) in the country, the treaty is invoked as an important issue for all **iwi** dealings with government and the Crown. In

⁸ Mason, 1997: 821.

⁹ The **WAI** 262 claim is covered in more detail in Chapter Five.

¹⁰ The **Waitangi** Tribunal has a backlog of cases of grievances, hence the long delay in hearing cases. The tribunal is also under-resourced.

¹¹ In 1985, **Huirangi Waikerepuru**, a **Taranaki** elder, on behalf of **Nga Kaiwhakapumau I te Reo** (the Wellington **Maori** Language Board), filed the **Waitangi** Tribunal claim to have **Maori** recognized as an official language. This claim also resulted in the birth of the 1987 **Maori** Language Act, **Maori** language schools, **Maori** radio stations, and the first **Maori** TV channel. *NZ Herald*, “Elders journey helped save a language,” 25 March 2004.

regard to the treaty's legal status, it has very little status except its mention in some phrases within legislation. Whilst many **Maori** regard it as a founding document to the country, it is regarded by the Crown as providing a very limited form of local governance at best, and at worst it is viewed as a barrier to progress, and in the neo-liberal parlance, a barrier to free trade.

The Maori Revolution

*You can describe how this revolution began, as there's lots of things that have assisted that conscientization of **Maori** in the 1980s. One was the **Kohanga Reo** development.¹² There was the Springbok tour,¹³ that conscientised people. Treaty settlements starting to bite, resources coming back, fisheries, forestry coming back and so on. So people are feeling good about that. All of this stuff, people are feeling really positive.¹⁴*

During the 1970s and 1980s there were some key events and innovations in the **Maori** Revolution whereby **Maori** articulated grievances and critical analysis and demanded change.¹⁵ On February 6 of each year, official commemorations celebrate the signing of the 1840 Treaty of **Waitangi**. Since the early seventies, the annual **Waitangi** Day commemorations have been memorable for **Maori** protest over Treaty grievances. This focus on protest intensified over the years with specific protests highlighting particular cases of Treaty grievances.

The 1975 land march led by Dame **Whina** Cooper protesting the theft of land from **Maori** by the Crown and agents was an example of this intensified protest mood of Maori around the country.¹⁶ The most violent and prolonged land protest during this time was the occupation of Bastion Point, prime coastal land in central Auckland which the Crown was going to develop as high-value housing, during the period 1977/1978. My grandmother, Maude Reynolds, was one of

¹² **Kohanga Reo** are **Maori** language schools developed by **Maori** to fill a need of the community.

¹³ In 1981 the Springbok rugby team from apartheid South Africa and the New Zealand Rugby Union were given permission by the NZ government to proceed with a rugby tour of NZ, causing much controversy.

¹⁴ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

¹⁵ Key events and innovations adapted from Smith, L. T., *Decolonizing methodologies: Research and Indigenous peoples*. (New York: Zed Books, 1999a), 109.

¹⁶ For a full account of this march or other occupations and protests during the 1970s and earlier, see King, M., *Whina: A biography of Whina Cooper*. (Auckland: Hodder and Stoughton Ltd., 1983).

the many staunch protestors who stayed for the duration of the occupation, January 1977 to May 1978. The Auckland land occupation was quashed with a show of state force after a prolonged period of occupation. She was one of the approximately 200 protestors arrested and removed from the land by police force. As a result of this intensive protest, Bastion Point was eventually returned to the local **iwi**. In 1978 another land occupation was made in the coastal town of Raglan. The occupation of Raglan Golf Course, which was also going to be developed, was led by Eva Rickard¹⁷ and supported by local and national **iwi**. As a result of the protest led by Eva Rickard, the Raglan Golf Course land was returned to the local people.¹⁸

The 1980s were also important for **Maori** self-determination. The struggle coalesced in a meeting of minds of a variety of political activist groups, both **Pakeha** and **Maori**. Dr Graham Smith says this occurred around the time of the 1981 tour of New Zealand of the Springbok Rugby team from the then apartheid South Africa. In 1981 the Springbok rugby team and the New Zealand Rugby Union were given permission by the New Zealand government to proceed with a rugby tour of New Zealand. This incident called into question the neutrality of the state; the government allowed the rugby tour to go ahead, even with the unpalatable political situation in South Africa, and facilitated this with the help of a huge police presence at each rugby match that was held. The protest action by both **Maori** and **Pakeha** was so fierce at times that the games were cancelled due to fear for player and audience safety.¹⁹ “The visibility of the depth and breadth of **Pakeha** racism which had hitherto been obscured within ‘home-grown’ egalitarian myths, such as ‘we are all one people,’ served to conscientise many **Maori** and fellow **Pakeha**

¹⁷ Eva Rickard was a staunch supporter of **tikanga Maori**. She is the mother of Angeline Greensill, herself an activist and in the **Nga Puni Whakapiri** movement, who carries on the work of her mother. Angeline was one of the people I talked with for this project.

¹⁸ A significant contemporary land ‘occupation’ was the 1995 occupation of **Pakaitore** (also referred to as the **Moutoa** gardens occupation in the media) in **Whanganui**, a public park in the center of the city, which was illegally taken, and validated in court documentation, from the local **iwi** during colonization. My Aunt Judy Garland, along with Dr Cheryl Smith, was one of the staunch protestors who stayed for the duration of this occupation. I am indebted to my Aunt for connecting me with Dr Cheryl Smith.

¹⁹ Some protest action included throwing broken glass on the rugby field and dropping flour on to rugby players on the field from a small plane flying low overhead.

New Zealanders to counter the ‘best race relations in the world’ hegemony.”²⁰ The Springbok tour frighteningly exposed the racist underbelly of a sector of New Zealand society, which left **Maori** feeling vulnerable.

During the 1970s and 1980s there was also growing unrest regarding **Maori** generally low socio-economic position, high crime rate, high incidence of poverty and poor health, and educational underachievement. **Maori** communities were also very concerned about the loss of their language, knowledge and culture. A lot of **Maori** were fed up. People were frustrated with the underachievement of their children and the inadequacy of the existing system to cater to their needs. They concluded that nothing would change in the near future or ever if they just sat waiting for it. Change needed to come from home. This revolution in thinking resulted in parents and communities coming together to start their own education programs that targeted their own children, beginning with **Te Kohanga Reo** in 1982, **Maori** language “nests” for preschool children. **Te Kohanga Reo** inspired a “desire by **Maori** communities to regain or hold on to **Maori** language and cultural knowledge. This desire and mood is what **Te Kohanga Reo** captured and for which it provided a new and positive focus.”²¹ **Te Kohanga Reo** built on the **whanau** or extended family as the fundamental unit. It “was represented and represented itself as ‘the future.’”²² Following this commitment by the community to **Te Kohanga Reo**, there was a need to extend this concept further so that graduating **Te Kohanga Reo** children could continue in this unique learning environment. This resulted in the establishment of the follow-on educational initiatives of **Kura Kaupapa Maori** Elementary Schools in 1986 (**Maori** immersion philosophy and practice schools), **Kura Tuarua** (**Maori** immersion secondary school options) and **Whare Wananga** (**Maori** Tertiary options). **Kura Kaupapa Maori** Elementary Schools were legislated in the Education Act in 1989, with the accompanying option of establishing tribal

²⁰ Smith, G., H., The Development of **Kaupapa Maori**: Theory and Praxis. (Unpublished Doctoral Dissertation, University of Auckland, 1997a), 221.

²¹ Smith, L. T. Decolonizing methodologies: Research and Indigenous peoples. (New York: Zed Books, 1999a), 169.

²² Ibid.

universities. By 2004 there were three **Te Whare Waananga** established to fill the gap of higher learning institutions incorporating **Maori** philosophy and language. These educational initiatives were driven by **Maori** and were centred on **Maori** philosophies and concepts.

A variety of **Maori** protest groups spearheaded the push for change. Dr Cheryl Smith sees **Nga Tamatoa** (the young warriors) ushering in a new era of **Maori** self-determination, where **Maori** were becoming more proactive. Auckland University was an incubator for young **Maori** starting to question colonial power. **Nga Tamatoa**, along with other **Maori** groups such as **Te Reo Maori** Society and **He Taua**, had its beginnings at Auckland University in the 1970s activism of **Maori** university students.²³

Nga Tamatoa focussed on the “racist system” in education, justice and **Maori** Affairs. They also ran a couple of courses to train fluent speakers how to teach. As Syd Jackson pointed out, the issues that **Nga Tamatoa** were concerned about were not new issues. For years groups, such as the **Maori** Women’s Welfare League and the Young **Maori** Leaders conferences, had passed remits [resolutions] year after year calling for change, for more recognition of the **reo**, for recognition of Treaty rights, for changes in government policies. The difference said Syd was that, *‘We tried to say let’s not become another talk organisation, what action can we take?’* The **whakataukii** [saying, proverb] that **Nga Tamatoa** chose for their group reflected this sentiment **Tama Tu Tama Ora, Tama Noho Tama Mate**, which Syd translated as *If you don’t get off your arses and do something then you’re dead.* **Nga Tamatoa** members went to the Young **Maori** Leaders conference of 1970 and to the **Maori** Women’s Welfare League and challenged them directly about the lack of action.²⁴

All of these struggles, and many other events and initiatives, highlighted the need for things to change. Dr Graham Smith elaborates that this proactive thrust was the “real” revolution.

The “real” revolution of the 1980’s was a shift in mindset of large numbers of **Maori** people – a shift away from waiting for things to be done to them to doing things for themselves, a shift away from an emphasis on reactive politics to an emphasis on being more proactive, a shift from negative motivation to positive motivation. These shifts can be described as a move away from talking simplistically about “de-colonization” (which puts the colonizer at the centre of attention) to talking about “conscientization” or

²³ **Te Reo Maori** Society, meaning The **Maori** Language Society, was another **Maori** student activist group based at Victoria University in Wellington, which as its name suggests was based around making space for the **Maori** language. **He Taua**, meaning war party, was centered around the immediate cessation in 1979 of annual capping parade antics by Engineering students who dressed in grass skirts and were performing a mock **haka** [traditional **Maori** war dance]. See: Smith, C., W., **He Pou Herenga Ki Te Nui**. (Unpublished Doctoral Dissertation, University of Auckland, 2003), 278, 273.

²⁴ Smith, C., W., **He Pou Herenga Ki Te Nui**. (Unpublished Doctoral Dissertation, University of Auckland, 2003), 281.

“consciousness-raising” (which puts **Maori** at the centre). These ways of thinking illustrate a reawakening of the **Maori** imagination that had been stifled and diminished by colonization processes.²⁵

However, this change in consciousness certainly was not unique to **Maori**.

Internationally there was an accompanying rise in activism by Indigenous peoples from around the world. Although this was a slow process because of important conscientising work in their own communities and countries, these indigenous communities started to establish new or deeper relations with other Indigenous communities worldwide. This upsurge in Indigenous activism emerged in an international context of general disquiet with the status quo. A significant contributor to this rising tide of discontentment related to the emergence of neo-liberal policies being implemented by Western governments globally.

2. THE INTERNATIONAL CONTEXT

International context of neo-liberalism

The intention in this section is to provide a brief overview of neo-liberalism and the accompanying international context in relation to the commodification of indigenous knowledge and biodiversity in particular. A number of key scholars, both international and national, have

²⁵ Smith, G., H., Indigenous struggle for the transformation of education and schooling. (Keynote address to the Alaskan Federation of Natives (AFN) Convention. Anchorage, Alaska, USA, October 2003).
Retrievable from website: www.ankn.uaf.edu/Graham/. Accessed on 20 November 2003.

already written extensively about neo-liberalism and the intersection of neo-liberalism and biocolonialism.²⁶

The neo-liberal agenda hasn't made a grand entrance but has entered the world stage progressively. This new surge of market ideology has arisen from the confluence of a number of significant markers, including: globalisation, structural adjustment programs (particularly for developing/third world countries), and the redefinition of the state. Each one of these areas has impacted peoples worldwide, but particularly indigenous and third world peoples. Devlin Kuyek and Brewster Kneen in their book *The real board of directors: The construction of biotechnology policy in Canada, 1980 – 2002*, outline what this new politics means:

The new politics are referred to as “neo-liberal” and they generally involve: increased freedom of movement for capital, goods and services; budget cuts for social welfare programs and budget increases for programs that support industry; deregulation; privatisation of government enterprises, agencies and services; and the elimination or privatisation of “public goods,” such as biodiversity or community practices.²⁷

In a world shaped by neo-liberal assumptions, governments have obligations to their world partners that come before the welfare of citizenry, for “even as a welfare agency the state does not work against the market. Rather, it is a complementary institutional device which

²⁶ See for example: Bargh, Maria, "Recolonisation and Indigenous Resistance: Neoliberalism in the Pacific." (Unpublished PhD thesis, Canberra: Australian National University, 2002); Boyle, J., Shamans, software & spleens: Law & the construction of the information society. (Cambridge, Massachusetts: Harvard University Press, 1996); Henderson, James Youngblood & Battiste, Marie, Protecting Indigenous Knowledge and Heritage: A global challenge. (Saskatoon, Canada: Purich Publishing Ltd, 2000); Kelsey, J The New Zealand experiment: A world model for structural adjustment? (Auckland: Auckland University Press, 1995); Smith, L. T., Decolonizing methodologies: Research and Indigenous peoples. (New York: Zed Books, 1999a); Smith, G. H., The Development of Kaupapa Maori: Theory and Praxis. (Unpublished Doctoral Dissertation, University of Auckland, 1997a); Kuyek, Devlin & Kneen, Brewster, The real board of directors: The construction of biotechnology policy in Canada, 1980 – 2002. (Sorento, Canada: The Ram's Horn, 2002); May, C., A global political economy of intellectual property rights: The new enclosures? (London: Routledge, 2000); Shevory, T. C., Body/Politics: Studies in reproduction, production, and (re)construction. (Westport, Connecticut: Praeger Publishers, 2000); Shiva, V., Biopiracy: The plunder of nature and knowledge. (Toronto: Between the Lines, 1997); Gold, E. R., Body parts: Property rights and the ownership of human biological materials. (Washington, D.C.: Georgetown University Press, 1996).

²⁷ Kuyek, Devlin, The real board of directors: The construction of biotechnology policy in Canada, 1980 – 2002. (Sorento, Canada: The Ram's Horn, 2002), 4.

promotes the extension of the market.”²⁸ The welfare agency role of the state is diminishing and is being outweighed by the market and the accompanying market ideology. The market ideology is synonymous with the ideology of individualism. There is a shift to individuals as responsible for their actions and individuals being responsible for their own welfare. This shift in thinking is accompanied by the ideology of “choice,” where the individual is “free” to choose what services they want to pay for.

This extension of the market is operationalised through international agreements that bind signatory countries to the rules and regulations enshrined within those agreements. The more powerful, developed countries dictate the rules under the guise of international fairness. Smaller developed countries and, in particular, developing countries are offered the carrot of invitation to a smorgasbord of international market opportunities. Structural adjustment agencies and programs are also influencing the extension of the market. Ideologies of international development assistance are just “colonisation as usual”²⁹ that entrap countries, especially poor developing countries, into perpetual debt.

The Western paradigm is crystallized in policies of international development assistance where Western society, through cultural agents such as the World Bank, self-consciously sets about to help the rest of the world to ‘develop’. The development process as it is practiced cannot be understood without acknowledging the fundamental concept of progress on which it is based. This concept has changed little since its 19th century Victorian articulation, although the methodologies for achieving it have evolved dramatically. Instead of the West’s earlier attempts at cultural domination through force, the current approach of development seeks to win the hearts and minds of ‘beneficiaries’ through carefully designed assistance programs.³⁰

²⁸ Berthoud is pointing to the expansion of the market to include commodified and privatized social services, such as health care, education, water, power, prisons, etc. Berthoud, Gerald, “Market.” In Sachs, Wolfgang, (ed.). *The development dictionary*. (London: Zed Books, 1992), 73.

²⁹ I say “colonization as usual” here because the end-goal is the same in colonialism and neo-colonialism. The only difference from the past is that it is dressed differently. For an overview of the neo-colonial nature of international development assistance see: Sachs, Wolfgang, (ed.). *The development dictionary*. (London: Zed Books, 1992).

³⁰ Groenfeldt, D., The future of indigenous values: Cultural relativism in the face of economic development. (*Futures*, 35, 2003), 922.

These countries then become tied to the conditions imposed by the international development assistance agencies, such as the World Bank and International Monetary Fund, and therefore become vulnerable to exploitation of their natural biodiversity, resources and traditional and indigenous knowledges, which these Western advisors consider to be the only thing of value at their disposal.

The market also is a catalyst for change in government. There have been progressive shifts in the role of governments from welfare to market agency.

These shifts have been accompanied and in part ushered in by the rise of an aggressive neo-conservatism in North America and much of Western Europe. The electoral victories of Thatcher (1979) and Reagan (1980) are often viewed as a distinctive rupture in the politics of the postwar period. I understand them more as consolidations of what was already under way throughout much of the 1970s.³¹

Crook believes there has been “a 'neo-liberal' redefinition of the role of the state,” where the state has been transformed over a period of more than twenty years.

The symptoms are familiar and include: sales of public assets, financial and trade de-regulation, labor market reform, the “down sizing” of the public service...In areas from emergency services to air traffic control and meat inspection there is a trend towards industry self-regulation and the “contracting out” of services. Perhaps most critically, there is a heavy emphasis on individual responsibility.³²

The state in essence devolves most responsibility to the private sector, shifts the role of social welfare of the citizenry onto the individual citizen, and facilitates the repositioning of the market as central to society's well-being.

Accompanying this change in role of the state have been a host of specific international trade agreements that have set limits on national sovereignty in the name of promoting trade. In 1947 the General Agreement on Tariffs and Trade (GATT) was established to set up rules and

³¹ Harvey, D., *The condition of postmodernity: An enquiry into the origins of cultural change*. (Cambridge, Massachusetts: Basil Blackwell, 1989), 166. The neo-conservatism of the Bush, Cheney, Rumsfeld cabal is a particularly bold and militaristic expression of this aggressiveness. Even mainstream neo-liberals are beginning to talk about U.S. imperialism. Bush openly launched a “pre-emptive strike” when he authorized the assault on Iraq in March 2003. Troops in Iraq are widely described as an occupying army. Since 1989 when Harvey was writing, much has changed.

³² Crook, S., “Biotechnology, risk and sociocultural (dis)order.” In R. Hindmarsh, G. Lawrence and J. Norton, (Eds.). *Altered genes - Reconstructing nature: The debate*. (St. Leonards, NSW: Allen & Unwin, 1998), 138.

regulations for a world trading system that was supposed to balance multilateral trade with domestic trade to avoid undermining domestic industries and jobs. In 1994 the GATT was superseded by the World Trade Organisation (WTO), which oversees rules of trade including trade-related aspects of intellectual property rights (TRIPs). The main aim of the TRIPs agreement is to harmonise legislation so that all member states in the global trading system provide the same level of intellectual property protection. TRIPs protects owners of intellectual property globally and opens up signatory countries to privatisation by enveloping areas that were previously outside market relations. Christopher May explains the logic of this.

Thus where knowledge is related to trade in some manner it should be included within the remit of the TRIPs agreement's provisions. This notion of trade-relatedness brings knowledge across the line from passive to active property, from public/social to private. There is implicitly a moment when something that has previously been in the public domain (as non-ownable knowledge) is re-coded as trade related and thus amenable to the "protection" afforded other trade-related (intellectual) property. This moment is when the (intellectual) property passes from passive to active, when its trade-relatedness is asserted. This movement, as a succession of such moments, is one that is broadly parallel to the enclosures of common land in Great Britain and elsewhere during the sixteenth to nineteenth centuries. What might once have been public or commonly "owned" is rendered trade-related and thus private.³³

TRIPs is the predominant instrument for the sanctioned pillaging of international biodiversity and indigenous/traditional knowledge. "The TRIPs agreement offers developing states the carrot of inclusion in the information society of the future while at the same time ensuring that the 'rules of the game' are those which have already advantaged the developed states."³⁴ Maria Mies and Veronika Bennholdt-Thomsen are quite clear about the intention of TRIPs. "The GATT, today guaranteed by the WTO, with its clause on Trade Related Intellectual Property Rights (TRIPs), is a clear case of this neocolonial attempt at enclosure or piracy of indigenous peoples' traditional common knowledge."³⁵ TRIPs was also a powerful attempt at

³³ May, C., A global political economy of intellectual property rights: The new enclosures? (London: Routledge, 2000), 77.

³⁴ *Ibid.*, 166.

³⁵ Mies, M. & Bennholdt-Thomsen, V., The subsistence perspective: Beyond the globalised economy. (London: Zed Books, 1999), 151.

forcing WTO member countries to buy into an intellectual property system that would open up their countries to further exploitation. David Vaver explains the rationale behind TRIPs.

It was precisely the fear that the rapidly industrializing countries of Asia might continue to harbour only lukewarm enthusiasm for a system monopolized largely by foreign multinational corporations that led the industrialized nations, in which these corporations were headquartered, to campaign successfully for the entrenchment of the high levels of intellectual property protection and national treatment³⁶ that the TRIPs agreement of 1994 eventually contained. This movement continues apace at the international level under the aegis of the World Intellectual Property Organization.³⁷

International context of biotechnology

TRIPs facilitated the commodification of Indigenous and traditional knowledge and biodiversity, the breadth of which included commodifying knowledge, culture and **taonga** of peoples through to patenting Indigenous peoples' genes and cell lines. This commodification was driven by perception of profit opportunities by the life sciences corporations.

Biotechnology applications of particular concern for Indigenous, developing country and third world peoples include such areas as bioprospecting for genetic resources of potential economic value, the testing and commercial production of genetically modified crops and livestock, cloning of animals, patenting of life, human DNA collection and analysis, genetic screening and gene therapies, and new reproductive technologies. Initiatives in all of these areas have impacted indigenous and third world peoples' communities directly.

To my knowledge, Devlin Kuyek's book *The real board of directors: The construction of biotechnology policy in Canada, 1980 – 2002*, is the only comprehensive critical analysis of the biotechnology industry in Canada. Kuyek states, "The US, Japan, and the European Community had begun to build their biotech industries in the 1970s and their support continued into the succeeding decades. Canada's biotech strategy [1983 National Biotechnology Strategy] began as

³⁶ "National treatment" means that foreign competitors must be treated the same as domestic companies, that is, no protection of jobs or enterprises or markets for local products.

³⁷ Vaver, D., *Intellectual property law: Copyright, patents, trade-marks*. (Concord, Ontario: Irwin Law, 1997), 276.

an effort to keep up with the other leading industrial nations.”³⁸ Keeping up required leading edge research by leading edge researchers, usually found within the university environment.³⁹ When funding to universities was reduced drastically due to the implementation of the government’s neo-liberal policies, which included reduced funding and switch to a user-pays system, universities were forced into making a number of changes. Alternatives included donations, tuition fee increases, staff layoffs, restructuring, and industry partnerships. Universities unable to attract significant funding became “teaching universities.” Universities able to attract funding and garner targeted research funding from competitive research pools administered by government funding agencies would become the “research universities” able to attract sought after researchers and lucrative research projects. Partnerships between universities and life science corporations have become ubiquitous.

Pressure for government support for the biotechnology industry is maintained by powerful lobby groups that have overcome the limitations of traditional industry lobbies.

These groups are typically hybrids, with representatives from industry, government, citizens’ groups and academe. They can take the form of committees, councils or advisory bodies. For industry they meet three key needs: they provide a credible external voice; they integrate government into lobby work; and they give industry access to and control over public opposition.⁴⁰

The typical lobby group falls under the umbrella of some sort of biotechnology industry organization, such as the Biotechnology Industry Organization (BIO). A central goal of this group is the promotion of biotechnology and the encouragement of international trade and trade alliances. However, “while these groups have had great success in controlling government, they are less capable of reaching the public. For this task, they have developed an intricate web of hybrid lobby groups.”⁴¹ Hybrid lobby groups are often advisory committees. These bodies have a clear mandate. “It is understood from the outset that the government and the advisory bodies

³⁸ Kuyek, 2002: 24.

³⁹ Ibid., 62.

⁴⁰ Ibid., 70.

⁴¹ Ibid., 73.

share a common agenda. The advisory bodies, and the government itself, are only there to act out the roles of and make a few adjustments to a script that, in many ways, has already been decided upon behind closed doors.”⁴²

The Canadian government supported the biotechnology industry by initiating a number of measures. The government introduced intellectual property right legislation to encourage investment in innovation and protect the rights of innovators, the owners of the intellectual property. Regulatory reform was also instituted to avoid impeding biotechnological innovation or, at the very least, minimizing the effects, where “biotech regulations are now just a legitimising stamp in the commercialisation process; the capacity and the intent to protect the public interest has been destroyed.”⁴³ Government has also reorganised public research, where funding was targeted toward and channelled into the biotechnology sector.⁴⁴ Kuyek identifies three negative consequences of this rush to biotech innovation. The first was the diversion of resources from other possible sources of innovation and research. The second negative consequence is the simple fact that “Canada’s biotech industry is simply a feeder industry for the big TNCs [Trans-National Corporations] of the US, Europe, and Japan and consists almost entirely of small firms, spun-off from university or hospital research.”⁴⁵ The third and final negative consequence relates to government influence. “Neo-liberal governments employ a rhetoric of small government, but they intervene in every possible way to support the industries that they deem to be the most important.”⁴⁶

New Zealand has followed a path similar to that of Canada with similar effects.⁴⁷

⁴² Ibid., 75.

⁴³ Ibid., 80.

⁴⁴ Ibid., 79-80.

⁴⁵ Ibid., 82.

⁴⁶ Ibid., 83 & 81-83.

⁴⁷ The next chapter offers a detailed analysis of the political economy of biotechnology in New Zealand.

Protection of knowledge and biodiversity

The World Intellectual Property Organization (WIPO), which came into force in 1970, is an agency of the United Nations with a mandate to promote and protect intellectual property.

Graham Dutfield outlines the contemporary world intellectual property situation.

In the past few years, high-level discussions on the subject have been taking place at the WTO, the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD), and at the World Intellectual Property Organization (WIPO) which has established an Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore. Developing country governments in these forums increasingly take a similar view to NGOs that for several years have argued that TK and folklore need to be protected legally, and have criticised the formal IPR system for legitimizing its misappropriation.⁴⁸

Although WIPO has the veneer of good intentions, its mandate is to “promote” and protect IPRs. Through international trade agreements and organizations such as the WTO, the position of private property is elevated to the point where the caretaker/guardian or “original owner” of the “property” becomes invisible in the equation. For organizations actually in the business of bioprospecting, the belief is that if something with a potential economic value is not privately owned, then it is “fair game” for privatization. In fact what is defined as “property” is decided by those who craft these international conventions and agreements and who want to get their hands on knowledge and resources that have not in the past been available to be owned as private property. The initiatives and efforts of Indigenous and developing country peoples to protect their knowledge and resources has had to confront powerful international coalitions, in the form of organizations like WIPO and the WTO, with every intention of commodifying all and sundry, irrespective of whether or not it was traditionally conceived as inalienable. Christopher May summarises this position well.

It is commonly recognised that capitalism has widened itself geographically (usually discussed under the rubric of globalization). However, it has also deepened its penetration into previously non-commodified social relations. While dependent on the

⁴⁸ Dutfield, G., Protecting traditional knowledge and folklore: A review of progress in diplomacy and policy formulation. (UNCTAD/ICTSD Capacity Building Project on Intellectual property rights and sustainable development, Draft Report, October 2002), 2.

construction of alienable property to separate labour from its product and to allow products to be exchanged in a market, under capitalism forms of property are not unduly limited except for their legal existence *qua* property... there is little that cannot in one way or another be rendered as property. This process is driven by the need to earn a profit, for capital to be reproduced, and not by the 'natural' existence of particular *forms* of property. Intellectual property rights are the key method to assert ownership over knowledge resources. Where these knowledge resources were previously part of a social reservoir, IPRs are a tool of commodification or enclosure.⁴⁹

An important focus of struggle over protection of intellectual property is the Convention on Biological Diversity. The convention really took hold at the United Nations Conference on Environment and Development held in Rio de Janeiro in June 1992. The convention's mandate centers on the notion of sustainable use and conservation of biodiversity. It also has the aim of developing access to and fair and equitable sharing of benefits from biodiversity use. However, as with WIPO, I see this convention as facilitating commodification of knowledge and resources.⁵⁰

A number of international instruments declare that Indigenous resources, culture, knowledge, **tikanga** and **taonga** should be protected. Part VI, Article 29, of the UN Draft Declaration on the Rights of Indigenous Peoples, as agreed upon by the Members of the Working Group at its Eleventh Session (1993), states:

Indigenous peoples are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual property. They have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs and visual and performing arts.⁵¹

The declaration is still in draft form amid wrangling by different government representatives and organizations about the wording and scope of different clauses.⁵² There is no consensus on the

⁴⁹ May, 2000: 12.

⁵⁰ To read an analysis of the weaknesses of the convention, and the struggle over it, see Chapter 5 of Vandana Shiva's book, Monocultures of the mind: Perspectives on biodiversity and biotechnology. (New York: Zed Books, 1993).

⁵¹ Venne, S., Our elders understand our rights: Evolving international law regarding indigenous rights. (Penticton, British Columbia: Theytus Books Ltd, 1998), 213.

⁵² There is anecdotal evidence, from Indigenous observers participating at various international fora, to suggest that the New Zealand government is one of the key states trying to dilute the rights of Indigenous peoples.

term “Indigenous peoples” for example, because some states are concerned about the implications of the term in relation to international law and with respect to self-determination and individual and collective rights.⁵³ The draft is being prepared for adoption by the General Assembly during the International decade of the World’s Indigenous People (1995 – 2004). The resolutions of the General Assembly are not binding however on individual governments. The effect, I think, is that the United Nations process is a moralizing watchdog with no teeth to enforce what it decides.

In 1993, at the First International Conference on Cultural and Intellectual Property Rights of Indigenous Peoples, held in New Zealand, delegates agreed to promulgate the **Mataatua** Declaration. The declaration identifies an urgent need for Indigenous peoples and the international community to develop appropriate protection mechanisms. In the meantime, the declaration calls for a global moratorium on any commercialisation of traditional plants, medicines and human genetic materials. Dr Graham Smith describes firsthand the intent behind the **Mataatua** Declaration.

*One of the things that people have been heavily involved in has been this issue around intellectual and cultural property rights. I was involved with the development of the **Mataatua** Declaration at the First World Conference on Indigenous and Intellectual Cultural Property Rights, where we developed a framework which basically said we didn’t want to engage with the international intellectual cultural property law because we felt that that was in fact a colonizing agency rather than a protecting agency. Intellectual cultural property rights were originally developed as a mechanism for exploitation of knowledge rather than for protecting knowledge. I think there are a lot of Indigenous people, a lot of **Maori** people, who with false consciousness buy in to the idea that intellectual cultural property rights are going to protect them. In actual fact, it’s not. It’s about exploitation.⁵⁴*

The declaration made recommendations for Indigenous peoples, states, national and international agencies as well as the United Nations. The **Mataatua** Declaration was the first of numerous subsequent international Indigenous peoples’ conferences and declarations calling for a

⁵³ Office of the United Nations High Commissioner for Human Rights website, “Indigenous issues: Report of the working group established in accordance with Commission on Human Rights resolution 1995/32,” [http://www.unhcr.ch/huridocda/huridoca.nsf/\(Symbol\)/E.CN.4.2003.92.En?Opendocument](http://www.unhcr.ch/huridocda/huridoca.nsf/(Symbol)/E.CN.4.2003.92.En?Opendocument), accessed on 22 March 2004.

⁵⁴ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

moratorium on any further commercialization of traditional plants, medicines and human genetic materials. Examples of Indigenous conferences and declarations include: Latin & South American Consultation on Indigenous Peoples Knowledge (September 1994 – Bolivia); Asian Consultation on the Protection and Conservation of Indigenous Peoples Knowledge (February 1995 – Malaysia); Pacific Consultation on the Protection and Conservation of Indigenous Peoples Knowledge (May 1995 – Suva); and the Ukupseni Declaration, Kuna Yala on the Human Genome Diversity Project (November 1997 – Panama). In February 2004 representatives from Indigenous organizations attending the Convention on Biological Diversity in Kuala Lumpur, Malaysia, at the Seventh Conference of the Parties, declared that there should be “No access zones to genetic resources and indigenous knowledge” established.⁵⁵

The UN Draft Declaration on the Rights of Indigenous Peoples, and the **Mataatua** Declaration, and the many other international Indigenous peoples’ declarations since are not enforceable. In 2002 there was a concerted effort made by Indigenous people around the world to develop responses from a local, regional, national, and international level to any IPR developments adversely impacting Indigenous peoples. The Call of the Earth: Ancient Wisdom for Sustaining Livelihoods, Cultures and Environments project is a three-year initiative aimed at improving the legal protection of traditional knowledge. Bellagio, Italy hosted the first global roundtable of Indigenous people in November 2002, with the intention of holding regional and national roundtables in the countries of the nineteen Indigenous representatives on the committee. This proactive stance is led by Indigenous peoples worldwide, including **Aroha Te Pareake** Mead, who led the first International Conference on Cultural and Intellectual Property Rights of Indigenous Peoples resulting in the **Mataatua** Declaration.⁵⁶ Not all of the efforts to protect traditional knowledge to date have been led by Indigenous peoples, which is why I see this

⁵⁵ Indigenous Peoples Council on Biocolonialism, “CBD’s International Regime: Indigenous Activist Organizations Call for No Access Zones to Genetic Resources and Indigenous Knowledge,” press release, 19 February 2004.

⁵⁶ Call of the Earth website: <http://www.earthcall.org/>.

project providing much hope. Victoria Tauli-Corpuz, Director of Tebtebba Foundation, an Indigenous peoples' international non-governmental organisation, based in Baguio City in the Philippines, undertaking research on the impacts of globalisation on Indigenous peoples has a simple message.

The best protection and defence of our biodiversity and traditional knowledge is for us to persistently assert our right to self-determination and our rights to our territories and resources. Self-determination means our right to freely determine our political status and freely pursue our economic, social and cultural development.⁵⁷

As part of these rights, Indigenous peoples have the right to say “no.” Sick of exploitation of their biodiversity, some Indigenous peoples have instigated local systems of regulation declaring their territories off limits to outsiders who do not have permission to be there. On February 22, 2000, the St’át’imc Nation of Mount Currie (Lil’wat Nation) in British Columbia, Canada, issued a *Statement of Proprietary Rights Over All Species on our Traditional Territory*. It states that,

in the interests of preservation of biodiversity and the survival of our peoples, we hereby give notice that all gathering and resources extraction activities on our unceded traditional territory fall under the ownership and jurisdiction of the St’át’imc and will be enforceable by the St’át’imc Nation Tribal Police. All collectors and in-field buyers of mushrooms and other non- timber forest resources collected for commercial purposes on these territories will require a permit.⁵⁸

International protest

It is common knowledge what happened in the streets of Seattle during the WTO Ministerial Meeting. The night before the meetings were to begin, 14,000 people surrounded the convention hall. The next morning a dozen intersections around the convention centre were occupied by protesters. The vast majority of the delegates were unable to get through to the hall on the morning of November 30. The opening plenary session had to be cancelled. By afternoon, more than 40,000 people were marching through downtown Seattle toward the Convention Centre. Many carried signs protesting globalization, labor conditions in the Third World, and the imposition of genetically engineered crops, animals, and food products. This was the visible manifestation of a

⁵⁷ Tauli-Corpuz, Victoria, Biodiversity, traditional knowledge and rights of Indigenous peoples. (Penang, Malaysia: Third World Network, 2003), 3. This book offers a more comprehensive indigenous analysis of protection of knowledge and biodiversity.

⁵⁸ St’át’imc Nation of Mount Currie (Lil’wat Nation), press statement, Statement of Proprietary Rights Over All Species on our Traditional Territory, British Columbia, Canada, 22 February 2000.

web of networking among activists in a vast array of civil society organizations over many months.⁵⁹

There has been visible protest against the saturating ideology of individualism (which has the effect of commodifying “anything under the sun”), with national and international rallies, networks and campaigns, including the convergence of an international group of protestors at the now infamous WTO meeting in Seattle in 1999. Similarly, the Cartagena Protocol on Biosafety negotiated on 29 January 2000 was the outcome of a successful campaign impacting on the neo-liberal agenda, brought to bear by groups of citizens, NGOs, and some governments from all over the world concerned with the global push by industry and the US government in particular for genetically modified organisms to be accepted as safe. What is clear from international protest is that the global agenda can be disrupted. The Cartagena Protocol on Biosafety and the Seattle WTO meeting illustrate this point well.

It is clear that the Biosafety Protocol negotiated in Montreal [February 2000] is not a watertight robust agreement, but it definitely represents a victory. In particular, the inclusion of the precautionary principle and the right of governments to refuse to allow the import of GMOs is an important achievement in what will no doubt be an ongoing struggle to forge a strong international legal framework to protect biodiversity and the livelihoods of farmers and indigenous people's whose survival is directly dependent on their ability to continue to nurture their diverse ecosystems' vitality.⁶⁰

Dr Jane Kelsey believes “globalisation is really partial, fragile and highly contested.”⁶¹ The job for the many publics internationally then is to find the cracks and make them bigger; interrupt and disrupt the process and apply pressure to change the agenda.⁶²

⁵⁹ Howard, P., *The Lilliput strategy in the struggle for an international biosafety protocol*. (*Theomai Journal: Society, Nature, Development Studies*, 1, 2000), pp. 57-78.

⁶⁰ Ibid.

⁶¹ Kelsey, J., *Reclaiming the future: New Zealand and the global economy*. (Wellington: Bridget Williams Books Ltd., 2000), x.

⁶² For a comprehensive analysis of neo-liberalism in New Zealand see: Kelsey, J., *The New Zealand experiment: A world model for structural adjustment?* (Auckland: Auckland University Press, 1995).

3. NEO-LIBERALISM IN NEW ZEALAND

In the international arena, New Zealand has signed the international GATT/WTO agreement and thereby is bound by the TRIPs agreement, is a member nation of APEC, and was seriously considering signing the MAI agreement, and probably would have had there not been an international and national outcry. Overall New Zealand is party to approximately 2,500 international treaties, with negotiations for the inclusion of new treaties, conventions and agreements occurring each year.⁶³ International instruments therefore bind New Zealand. New Zealand is also furiously trying to enter into more international trade agreements. New Zealand, along with the 145 other member states, had pinned its hopes on mega-deals facilitated through the WTO. However, it is becoming apparent that it is extremely difficult to get agreement among members to promote trade and lower their trade barriers, as was aptly illustrated at the September 2003 WTO meeting held in Cancun, Mexico. This has meant that there is great stock being put in bilateral agreements (otherwise known as Closer Economic Partnership agreements) such as that made between the governments of New Zealand and Singapore, Chile, and Hong Kong,⁶⁴ and the November 2003 Seriously Asia conference held at Parliament where the Prime Minister alerted the country that “Asia is moving ahead without New Zealand and this country must engage quickly or be left behind.”⁶⁵ The “prize” for any country is of course a bilateral trade agreement with the United States, as is currently being brokered with Australia. However, according to a *New Zealand Herald* editorial in September of 2003, New Zealand is well down the US priority list as “there will be no place for countries that have not endeared themselves to the US. Scratch

⁶³ Ministry of Foreign Affairs and Trade (MFAT), International Treaties List at 27 June 2003. (Wellington, NZ: MFAT, 2003). i.

⁶⁴ *Ibid.*, 11.

⁶⁵ *NZ Herald*, “NZ must engage with Asia now, says Helen Clark,” 27 November 2003. See also other *NZ Herald* articles: “Praise for NZ during conference,” 27 November 2003, and “Editorial: NZ’s future fortunes lie with Asia,” 28 November 2003.

New Zealand's prospects of a free-trade agreement on the score of this country's nuclear policy and Helen Clark's criticism of President George W. Bush."⁶⁶

Outside of this international/global context, New Zealand has established itself as the model for all other countries contemplating the implementation of neo-liberal policies. Sir Roger Douglas in 1984 ushered in reforms, dubbed "Rogernomics" thereafter, that would transform New Zealand from the social welfare and democratic state traditionally upheld by the Labour Party, of which Sir Roger was then Minister of Finance, to a state that embraced market liberalization, free trade, limited government, a narrow monetarist policy, a deregulated labour market, and fiscal restraint.⁶⁷ Nesta Devine summarises the reforms of the 1980s as: "methodological individualism; trust in the market to bring about progress; the canonisation of self-interest as the driving force of the market; the deliberate diminution of government role in the economy, distrust of bureaucracy."⁶⁸ Dr Graham Smith identifies the hallmarks of the "New Right" thrust as "the de-emphasising (and in some cases the removal) of the 'welfare state', the insertion of 'user pays' charges for social services, the privatization of state assets and services, the devolution of state bureaucracies to the local and community level and the introduction of a regime of more austere and coercive laws, regulations and controls."⁶⁹ Iris Claus, policy writer for the New Zealand Treasury, provides another summary of the "economic transformation."

The economic transformation of New Zealand, beginning in 1984, is notable for its comprehensiveness, rapid pace and the level of intervention from which it started. More specifically, the reforms centred around (i) the liberalisation of domestic markets and

⁶⁶ *NZ Herald*, "Editorial: Breakdown at WTO dire for NZ," 16 September 2003. Prime Minister Helen Clark had earlier in the year made a comment that the Iraq war would not have occurred if Democrat Al Gore were president. NZ also has a staunchly held policy since 1984 that nuclear-propelled warships are not welcome in our waters, much to the frustration of the US administration. After denying a US warship access to NZ ports in 1985, the US suspended its defence commitments to NZ under the ANZUS (Australia/NZ/US) alliance treaty.

⁶⁷ Spencer, M., "A white American female civil rights attorney in New Zealand: What **Maori** experience(s) teach me about the cause." (*William Mitchell Law Review*, 28, 1, 2002), 297.

⁶⁸ Devine, N., *The new colonialism: A critical reading of 'The knowledge economy' and 'Bright futures.'* (Conference paper presentation made to 'Disrupting preconceptions', Post-colonial Conference. University of Queensland, Australia. August, 2001).

⁶⁹ Smith, G., H., 1997a: 395.

trade, (ii) the reduction of the size and scope of the state, (ii) monetary policy, driven by an overriding goal of price stability, (iv) labour market deregulation and de-unionisation of the workforce, and (v) fiscal restraint, through broadening the taxation base and cutting state spending and social support (Kelsey 1995). Understanding changes in the production structure is important as they affect the transmission and propagation of shocks in the economy.⁷⁰

Aziz Choudry, prominent New Zealand critic of GATT/WTO and member of a group called GATT Watchdog, sums up the “unique” position the government placed the country in.

Between 1988 and 1993, Aotearoa/New Zealand enjoyed the dubious distinction of leading the world in the sale of state-owned assets, often at bargain basement prices, to overseas investors, most of which are well-known transnationals. Some NZ\$14 billion – or 3.6% of the annual GDP was sold off like this. The Economist magazine describes the neoliberal economic reforms as “out-Thatchering Mrs Thatcher.” Other commentators have referred to this process as “revolutionary,” or indeed, “Chile without the gun.”⁷¹

Since the 1980 neo-liberal reforms, **Maori** and Pacific Island peoples have fared much worse than European New Zealanders. In the July 2003 joint report, *Decades of Disparity*, researchers from Otago University’s Wellington School of Medicine and Health Sciences and the Health Ministry found that the neo-liberal economic and social reforms instituted in the early 1980s impacted **Maori** and Pacific Island peoples’ life expectancy, well-being and socio-economic position: “**Maori** had enjoyed large increases in life expectancy from the 1950s to the 1970s, but discrepancies between **Maori**, Pacific and European life expectancy emerged in the 1980s.”⁷² It doesn’t matter what social or economic report you read or what indicator you look at (health, literacy, employment, disposable income, housing conditions, crime rate, abuse victims, access to amenities), **Maori** and Pacific Island people are doing worse than everybody else. Other reports have similar findings. The July 2003 third annual Social Report by the Ministry of Social Development “found that while most social measuring sticks are improving, life is growing worse

⁷⁰ Claus, I., Changes in New Zealand’s production structure: An input output analysis. New Zealand Treasury Working Paper 03/01, 2003). 1.

⁷¹ Choudry, A., APEC, free trade, and ‘economic sovereignty.’ (Paper prepared for GATT Watchdog, 14 November 1996). Downloaded from: <http://www.aotearoa.wellington.net.nz/chondry1.html>, accessed on 30 October 1998.

⁷² *NZ Herald* articles: “**Turia** points to ‘discrimination’ in health system,” 10 July 2003. See also: “Life expectancy disparities among ethnic groups widen,” 9 July 2003.

for **Maori**, Pacific people and the young.”⁷³ The 2003 quarterly Poverty Indicator Project reports by the Council of Christian Social Services (representing social services of the Salvation Army and Anglican, Baptist, Catholic, Presbyterian, and Methodist churches), which looks at people applying at seven foodbanks throughout New Zealand (Invercargill, Dunedin, Christchurch, Wellington, Palmerston North, Hamilton, **Manukau** City), found that weekly after-tax incomes got up to just over \$300 in comparison with a New Zealand median of over \$700.⁷⁴ The 2003 Child Poverty Action Group’s report reveals “the change in the medial real equivalent disposable income between 1982 and 1998. The income of those in the poorest 10 per cent of the population has actually fallen nearly 20 per cent in those 16 years, while the richest 10 per cent’s has increased 36 per cent.”⁷⁵ The 2003 Child Poverty Action Group’s report also reveals that overcrowded housing is another issue related to poverty, which “was clearly associated with rises in infectious diseases such as preventable lung infections, skin and stomach infections...areas with overcrowded housing, such as Counties-**Manukau**, reported twice the national average rate for meningococcal infection in children under the age of 1.”⁷⁶ Dr Graham Smith describes another disturbing factor emerging alongside this widening gap between **Maori** and Pacific Island peoples and Europeans in New Zealand.

*About five years ago a report was released on the demographics in New Zealand. The then Head Statistician, Len Cook, released a report that said **Maori** would become more than 50% of the population with Pacific peoples by the year 2051 and that **Pakeha** would become a minority in the country. The consequences of that for an aging **Pakeha** population and an out of work **Maori** population would be disastrous. So suddenly everyone was concerned with getting **Maori** into work and productive, and were seriously and genuinely concerned to do something.*⁷⁷

This statistic required the government to rethink the future direction of New Zealand, to think about how to help **Maori** become “productive” members of the economy, as well as think of how to reinvigorate industry in New Zealand generally. The answer was the “knowledge economy.”

⁷³ *NZ Herald*, “Taking the pulse of the nation,” 21 July 2003.

⁷⁴ *NZ Herald*, “Government agencies add to poverty problem,” 27 November 2003.

⁷⁵ *NZ Herald*, “Down and out on the poor list,” 19 July 2003.

⁷⁶ *NZ Herald*, “Overcrowded housing linked to increase in child diseases,” 15 September 2003.

⁷⁷ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

Documents commissioned by the National government in the late 90s, and promoted by the Labour government since, formed the foundation for further entrenchment of neo-liberalism in New Zealand under the umbrella of the knowledge economy: *The Knowledge Economy: A submission to the New Zealand Government* (Ernst & Young, 1999); *Bright Futures, five steps ahead* (Ministry of Commerce, 1999); and *Bright Futures, making ideas work for New Zealand* (New Zealand Government, 1999). Dr Graham Smith elaborates the potency of this knowledge economy rhetoric.

New Zealand has of late, in the new global sense, become very interested in the potential of new markets that's extended out of what they call the knowledge economy, that is trading on our ability to think and be innovative through research, to find new discoveries and use patents and copyrights and other controls to exploit that as a particular resource to drive new income streams for the government. The consequence of this is that universities and researchers treat research as entering this sort of ideological conception of a research terra nullius, where everything is fair game and anything can be researched and we should therefore exploit and develop new markets. It's at that point that we have a lot of dangerous research going on that has basically pushed the parameters of what might count as morally driven and ethical research to try and find something unique and discover a new innovation that will lead to a major funding bonanza.⁷⁸

Driving this push for the knowledge economy are the promised economic benefits for the country, in particular in the broad area of biotechnology. However, numerous reports⁷⁹ have begged to differ, with one finding that “The release of genetically engineered crops, animals and other organisms could offer New Zealand farmers a 5 per cent boost in earnings over the next decade – or slash their earnings by 43 per cent.”⁸⁰ The biotechnology industry is also finding itself in a position of being uninsurable,⁸¹ which of course means industry and government leave

⁷⁸ Ibid.

⁷⁹ See for example: BERL (Business and Economic Research Ltd) Report commissioned by the Ministry for the Environment and The Treasury entitled, Economic risks and opportunities from the release of genetically modified organisms in New Zealand, April 2003; IBAC (Independent Biotechnology Advisory Council) report entitled, Economic implications of a first release of genetically modified organisms in New Zealand: Discussion paper, 31 December 1999; Report prepared by Dr Caroline Saunders, Lincoln University Agribusiness and Economics Research Unit. See details at One News NZOOM.Com website, “No point to GM say academics,” 7 September 2003, http://www.onenews.nzoom.com/onenews_detail/0,1227,218948-1-7,00.html, accessed on 2 October 2003.

⁸⁰ *NZ Herald*, “GE releases could lift farm returns 5pc or slash them 43pc,” 17 April 2003.

⁸¹ *NZ Herald*, “Big insurer refuses GE farm cover,” 27 September 2003.

the area of legal liability for any detrimental effects of biotechnological innovation largely ambiguous.⁸² The New Zealand government promotes the knowledge economy as being in the public interest and for the public good because of the economic benefits that will accrue from the industry of biotechnology. However, even with damning evidence to the contrary, the government's position seems set in stone. What this illustrates is that "the trouble is not that we lack good arguments and theories, but rather that modern politics simply does not provide appropriate roles and institutions in which the goal of defining the common good in technology policy is a legitimate project."⁸³

Neo-liberal economic reforms are basically an attack on the idea of the public, the common good, and the commons. There are dire consequences of such a position.

*The free market and neo-liberal economics actively undermines the whole notion of public good. It wants to assert the privatised sort of control, and the idea of the public or the collective is seen as being counter to the idea of the free market. But if we don't have the idea of the public good, it means that it's basically an open market, full-on exploitation, as much as you like, on every issue. So it's got consequences for us.*⁸⁴

The common good becomes the good that is privatized. There are two significant contributors that assist this commodification and privatization: instituted legal regimes and a change in research funding and the research agenda.

Instrumental in privatising the commons are legal regimes that facilitate commodification and privatisation. Foundation intellectual property Acts in New Zealand include: The Copyright Act 1994, the Patents Act 1953, the Designs Act 1953, the Trade Marks Act 1953, and the Plant Variety Rights Act 1987.⁸⁵ The whole intellectual property law scene in New Zealand is currently undergoing an overhaul in order to update the Acts to ensure they are in line with the international agreements to which the New Zealand Government is a signatory. The government

⁸² Terry, S., Hickford, M., Palmer, G. (Sir), Bertram, G., Who bears the risk? Genetic modification & liability. (Wellington: Chen Palmer & Partners and Simon Terry Associates Ltd, 2001).

⁸³ Winner, Langdon, "Citizen virtues in a technological order." In Feenberg, Andrew & Hannay, Alastair, (eds.). (Technology and the politics of knowledge. Bloomington: Indiana University Press, 1995), 77.

⁸⁴ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

⁸⁵ This area is more fully discussed in the next chapter.

is updating the Acts to broaden and include provisions to cover newly emergent technologies. This will open the way for the commodification of knowledge and resources that were historically inalienable.

Neo-liberalism has had a major impact on how universities operate. Dr Graham Smith describes how universities are in battles over hiring “number one researchers.”⁸⁶

New Zealand is changing its rules; we're developing what's called research-led institutions, research universities, which follow the Johns Hopkins model. They've split the pathways for academics now into researchers and teachers, and we're having performance reviews now over researchers. And all this is designed really to reinforce the existing hierarchy of institutions in New Zealand. The University of Auckland, for example, has so many what we might call “number one researchers.” What that means is if you've got a lot of number one researchers, you can garner the funding that's available to promulgate research by the “number ones” that you have on your staff and in the team. So, it's just a way really of getting funding, capture of funding, and developing income streams for universities in the first instance, and then eventually if they discover something, they can capitalize on it for the country. So that's really the picture, and it's linked very much to the global free market structure. From the institutional point of view, they're playing a game of positioning themselves as a top-notch university, and they're playing the game of getting as much money as they can for the institution. But there are some consequences and costs along the way that are at the expense of the morals and ethics component of research I believe.⁸⁷

The largest research-funding agency in New Zealand is now the state, which has separated its policy-making from allocation of resources. The Ministry of Research, Science & Technology is responsible for developing research and innovation policies and oversees, but does not distribute, the public funding of research, science and technology for the government. The ministry contracts the Foundation for Research, Science & Technology to manage the funding of research and innovation projects.⁸⁸ In its capacity of primary research funding agency for the government, the Foundation for Research, Science and Technology decides whether research projects are

⁸⁶ Other authors who analyze the impacts of neo-liberalism on education in New Zealand include: Roberts, P., “Freire, neoliberalism and the university.” In Roberts, P., (ed.), Paulo Freire, politics and pedagogy: Reflections from Aotearoa – New Zealand. (Palmerston North: Dunmore Press, 1999); Hill, D., In Freire's footsteps: Neo-liberal hegemony and the domestication of education. (New Zealand Journal of Adult Learning, 26, 1, 1999). pp. 48-55.

⁸⁷ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

⁸⁸ Ministry of Research, Science & Technology website: <http://www.morst.govt.nz/default.asp?CHANNEL=About+MoRST&PAGE=About+MoRST>, accessed on 22 March 2004.

following the strategic direction set by government before being approved for funding. Strict criteria are tied to the funding allocation. Dr Linda Smith sees that the “restructuring of research connects with the wider restructuring of the state in line with new right economic policies. These have emphasised the importance of government objectives, of competition and contestability, of the separation of policy from funding, of outputs that are purchased and of outcomes.”⁸⁹ Although there is a formal separation between policy-making and allocation of resources, it is apparent in the relatively subordinate nature of the Foundation that the separation is limited.

The redefinition of the common good through neo-liberal economic reforms has not been received well by the majority of New Zealanders. Public dissent has largely centred on the socio-economic impacts of the reforms instituted by Rogernomics in 1984 and the entrenchment of neo-liberal economics in the setting of policy direction in the reports *Knowledge Economy* and *Bright Futures* in 1999.⁹⁰ The imposition of neo-liberalism in New Zealand has required the management of dissent. Management has taken various forms including manipulation of consent, consultation, mediation, negotiation and control of information. Most visible in dissent have been communities directly affected by neo-liberalism.

Kelsey (1993) has argued that “the most sustained challenge to the liberal reforms came from **Maori**” but that **Maori** were, in turn, regarded as “an equal, if not greater, threat to the New Zealand economy and the New Zealand way of life than those who were ringing in the changes.” Managing **Maori** dissent has been as important to the legitimization of reforms as the manipulation of consent.⁹¹

In terms of managing individual dissenting **Maori** voices, a very successful technique has been to call such voices “radicals” and “activists” with extremist tendencies. In terms of Treaty of **Waitangi** negotiations between the Crown and individual **iwi** for example, management is also

⁸⁹ Smith, L., T., **Kaupapa Maori Methodology: Our Power to Define Ourselves**. (A seminar presentation to the School of Education, University of British Columbia, Vancouver, Canada, 1999b).

⁹⁰ Spencer, 2002: 299.

⁹¹ Smith, G., H., & Smith, L., T., New mythologies in **Maori** education. In Spoonley, P., Macpherson, C., & Pearson, D., (eds.). **Nga patai: Racism and ethnic relations in Aotearoa/New Zealand**. (Palmerston North: Dunmore Press, 1996), 224.

maintained with the threat that negotiations will be delayed even further if **Maori** leadership does not contain critical and dissenting voices.⁹²

4. IMPACTS OF NEO-LIBERALISM ON MAORI

Whereas in previous times **Maori** could quite comfortably exist in isolation of global events, this is no longer the case. We are directly affected by the international agreements and instruments that our Crown Treaty partner negotiates, signs and ratifies on behalf of the Treaty of **Waitangi** nation – **Aotearoa** New Zealand.⁹³

Globalisation facilitates the enclosure of the commons and is made operational through international “free” trade agreements. The signing of the General Agreement on Tariffs and Trade (GATT), which was superseded by the World Trade Organization (WTO), as well as the subsequent Trade-Related Intellectual Property Rights (TRIPs) agreement opened the door wider to the commodification and wholesale exploitation of Indigenous and third world cultures in particular.

Maori are directly impacted by the neo-liberal agenda. The most significant document affecting **Maori** was The Treaty of **Waitangi** signed in 1840, where **Maori** were guaranteed certain rights over their **taonga**. The government’s neo-liberal policies seek to extinguish all treaty partner rights of **Maori** and make what was once inalienable, alienable. Examples of extinguishments of The Treaty of **Waitangi** as a direct outcome of neoliberal policy initiatives are numerous. The 1986 State-Owned Enterprises Act declared that Crown land could be sold as an asset into private ownership by newly privatized government departments. Once privatised, it could not be subject to claim under the **Waitangi** Tribunal because compensation to **iwi** for past grievances can only be made from the reservoir of land in Crown ownership.

⁹² Ibid.

⁹³ Mead, A., **Maori leadership: The waka tradition the crews were the real heroes**, (Paper delivered to the **Hui Whakapumau Maori** Development Conference held at Massey University, Palmerston North, 1994).

The 1992 Sealords deal is another example of extinguishment. During 1991/1992 negotiations were undertaken between representatives of the different **Maori** tribal areas and the government over the allocation of fisheries in New Zealand. In the Treaty of **Waitangi** (Fisheries Claims) Settlement Act of December 1992 a complex pan-**Maori** deal involving million's of dollars worth of fishing quotas and part-ownership of the Sealord fishing company was completed. The Sealords deal was heralded as a full and final settlement of **Maori** fishing rights, except where fishing and shellfish gathering were for customary festivals. The 1994 – 95 **Tainui** Treaty settlement is an example of government compensation for past grievances between the Crown and **iwi**. The result for **Tainui** was compensation of land and cash and was seen as one of the largest **iwi** settlements made by the government.⁹⁴

The most significant treaty extinguishment measure related to what is known as the Fiscal Envelope or Settlement Envelope. On December 8, 1994 the New Zealand Government announced the setting aside of a \$1 billion settlement sum to settle all **Maori** treaty grievances.⁹⁵ When the government unveiled the settlement documents, a group of **Maori** gathered at the steps of the New Zealand parliament building in Wellington and symbolically burnt the settlement documents. Syd Jackson, a prominent voice in **Maoridom**, was even more direct; “Our people see the idea of a fiscal cap as something designed to smash the treaty and therefore to smash us, and we're not prepared to sit back and be smashed again.”⁹⁶ **Maori** were unified in their rejection of the Fiscal Envelope. Gina Rudland, President of the **Maori** Law Society, stated in news broadcast, “It has been developed, with all due respect, behind closed doors by ministries of the Crown. The number of **Maori** who have today and last night come out against the settlement

⁹⁴ Since then numerous tribal areas have settled with the government including the **Ngai Tahu** legislated settlement of 1998, an **iwi** representing a huge geographic area in the South Island.

⁹⁵ Several books have been written about this Treaty negotiation and settlement process, including: a book written in 1995 by **Wira** Gardner, the then CEO of **Te Puni Kokiri** (the Ministry for **Maori** Development), entitled, Return to sender; and a book written in 1997 by Sir Douglas Graham entitled, Trick or treaty.

⁹⁶ *TVI News* item, 9 December 1994.

envelope proposal must be a clear indication to the government that it has not consulted widely.”⁹⁷

There was similar outrage by Derek Fox, a prominent **Maori** media commentator, who confronted Doug Graham (the then Minister of Treaty Negotiations and now Sir Douglas Graham) on national television, stating that “For the past one hundred and fifty years, people like Doug Graham stole it and have enjoyed the benefits of land, farming it and reaped benefits accrued from it...[It’s a] 20th century axe and blanket deal. A billion dollars is an insulting joke on the **Maori** people.”⁹⁸ Gina Rudland says further,

the one billion dollar figure is bandied around quite a lot. Ten billion dollars would not be enough to settle these claims, and the reason for that is that the Crown's approach to this whole settlement process is not to say we will look at each **Maori** claimant group, their claims on their individual merits, what they’re saying is, we’ll put all of these claims into the one envelope, we’ll jiggle them around and we’ll make a relative assessment against the final cap as to what people will get.⁹⁹

The one billion dollar figure has been highly controversial having the effect of pitting one claimant against another. Doug Graham played down the monetary aspect by saying, “But it’s not only about money, [it’s about] restoration of mana (prestige), apology from the Crown for past wrongs. The taxpayer has to try to resolve these claims.”¹⁰⁰ The “Crown proposals for the settlement of Treaty of **Waitangi** Claims” booklet reveals a major contradiction due to the government’s inflexible and arbitrary cap on the overall cost of settlements.

The Crown considers that the sum available for settlements has to be *acceptable* to the wider community, *affordable* for the Government, provide *durable* settlements, and be *viable* to claimants (that is, the elements of a settlement must be sufficient to redress the claimants’ sense of grievance)...The amount in the Envelope is a political decision which cannot be open for negotiation.¹⁰¹

After unveiling the Fiscal Envelope proposal, the government scheduled a series of consultative regional **hui** (meetings) between February and April 1995 to gauge **Maori** response

⁹⁷ *TV1 Prime Time News*, 8 December 1994.

⁹⁸ *Holmes TV1*, 8 December 1994.

⁹⁹ *TV1 Prime Time News*, 8 December 1994.

¹⁰⁰ *Holmes TV1*, 8 December 1994.

¹⁰¹ Office of Treaty Settlements, Crown proposals for the settlement of Treaty of **Waitangi** Claims. (Wellington: Office of Treaty Settlements, 1994), 24.

to the Fiscal Envelope. **Maori** rejected the offer and to this day do not agree with the government proposals for full and final settlement of Treaty of **Waitangi** claims and grievances. Little prior negotiation was sought with all the “treaty partners” while devising the proposals. The government still thinks the proposals are worthwhile, even if the majority of **Maori** do not, and actively court any tribal groups and leaders who choose to negotiate a deal. The ultimate goal of the government is to complete all treaty settlements by 2010.¹⁰²

What the Sealords deal, **Tainui iwi** settlement claim, and the Fiscal Envelope illustrate are measures by government to sever their ties with **tangata whenua** (people of the land) and end their obligations deriving from the Treaty of **Waitangi**. However, the controversy remains. A more recent example of conflict over enclosure of commons is the debate around ownership of the seabed and foreshore, which surfaced in mid-2003. The government is still deliberating whether **Maori** have claim to the seabed and foreshore because it appears from official discourse that the seabed and foreshore are not part of **Papatuanuku** (the land). Even more recently, the government in November 2003 rejected the recommendation by the **Waitangi** Tribunal that **Maori** are entitled to compensation for gas and oil royalties from petroleum exploration.¹⁰³

The Sealords deal, **Tainui iwi** settlement claim, and the Fiscal Envelope are all examples of commodifying the relationship between **Maori** and the Crown. What you see in the Treaty of **Waitangi** is a contract made between parties that create rights that can be bought and sold.

If the Treaty is regarded as a bill of sale, then **Maori** can only be guaranteed the full value of their intellectual property if they develop the skills to protect it...which will enable them to get full value for their property, that is, to convert their knowledge from a “public good” which is, technically, something which produces benefits which cannot be

¹⁰² The Treaty of **Waitangi** settlement process during this period has been hailed as a model case study illustrating innovation in the New Zealand public service, where governmental interagency groups set up the framework for treaty negotiations and negotiated settlements with **iwi** from different tribal areas. One report refers to the work of this group as “thinking outside the box.” However, that thinking didn’t include **Maori** anywhere near the “box” until the Crown was ready to consult. See the report prepared by the Amherst Group Ltd., Getting results: Case studies of innovation in the public service. (Wellington, NZ: Treasury, May 2003).

The year 2010 is significant because it “coincides” with the date to remove all trade barriers in APEC.

¹⁰³ *NZ Herald* article, “**Turia** understands **Maori** frustration at oil rejection,” 24 November 2003.

entirely captured by the producer or owner, into private property, of which all the benefits can be captured by the owner.¹⁰⁴

Dr Graham Smith provides an illuminating range of examples of commodification of **Maori** knowledge, which includes the commodification of treaty rights, settling land and other claims with compensation monies and parcels of land. **Maori** identity is another where **Maori** must choose one **iwi** that they belong to when completing official forms, when in fact many **Maori** are affiliated to more than one. Traditional knowledge is also commodified when the state defines what is **Maori** knowledge for **Maori**, and in the commodification of traditional customs, such as **koha** (a gift). The amount of **koha** must be declared in order to assess taxes, where **koha** is usually a gift of an undisclosed amount of money to help alleviate costs especially on the **marae** at **hui**. Another example of commodification occurs when **iwi**/tribal groups are required to compete for limited resources and funding and develop economic potential from their local knowledge and resources. Traditional land title and Indigenous fauna and flora are examples of commodification when it becomes privatised and enclosed. Commodification of personal rights and of customary rights occurs in the settling of Treaty of **Waitangi** claims, where the Crown extinguishes both property rights (land/compensation) and personal rights (intangible rights guaranteed to **Maori** of protection of flora and fauna and self determination).¹⁰⁵ What this means for **Maori** and indigenous cultures in general is a loss of autonomy.

In this expanded, international free-market place, individual indigenous cultures become even more susceptible and vulnerable to multiple cultural and economic forces through regulations and controls. The pressures to participate in the new “market” environment are increased, subsequently the vulnerability of intellectual and cultural properties to be exploited are correspondingly increased. Local cultural rules, customs and practices become more marginal as the new market of multiple “monied” cultures impact. In the global market-place everything is commodified within the economic reductionist ideology of the libertarian free-market place.¹⁰⁶

¹⁰⁴ Devine, 2001.

¹⁰⁵ Smith, G., H., 1997a: 413.

¹⁰⁶ Ibid., 395.

Nesta Devine sees that **Maori** are problematized as an obstacle to national competitiveness whose knowledge must be commodified and utilised to contribute to the development of the knowledge economy. Biotechnology prospectors and investors strive to hook **Maori** into the knowledge economy by encouraging innovative uses of existing knowledge, resources and **taonga**. Analogous to the allure of the Venus flytrap, the allure of the financial rewards is tempting, but once accepted the path is irreversible. Once commodification and privatization of traditional knowledge and **taonga** starts, such as patenting of medicinal uses of native plants and gene research and discovery, there is little that can be done to stop the rush to commodify everything.

Garrity sees the commodification of **Maori** knowledge as arising from the inadequacy of existing legislation to offer protection and from the drafting of legislation that emasculates (weakens, undermines) the Treaty of **Waitangi** guarantees afforded **Maori**.¹⁰⁷ The resulting impact on **Maori** is immense.

*What we get in the new free market context is a major emphasis on the individual, the freedom of the individual, the rights of the individual, and when you couple that with ideas like choice, then it's the idea of the autonomous chooser, that we have freedom to choose as an individual. That may serve **Pakeha** well as a concept, but for **Maori**, we are not individuals. At various points we have collective responsibilities, which have to be adhered to, which extend to extended family or tribal area.¹⁰⁸*

As an equal treaty partner, **Maori** should be consulted when negotiating new international treaties, conventions or agreements. Historically this has not happened or, if it has happened, consultation has been farcical. The 27 June 2003 International Treaties List published by the New Zealand Ministry of Foreign Affairs and Trade highlights that this list is

intended to increase awareness of international treaties and to assist **Maori** to contribute their views as New Zealand develops its position on a range of international treaties...The government department leading New Zealand's involvement in respect of a particular treaty must identify at an early stage whether there is a need for engagement with **Maori**. The lead department is responsible for establishing the level of engagement

¹⁰⁷ Garrity, B., Conflict between Maori and western concepts of intellectual property. (Auckland University Law Review, 8,4, 1999), 1206.

¹⁰⁸ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

based on the nature, degree and strength of interest among **Maori**. Such engagement may range from raising awareness of the issues by distributing information papers through to full consultation.¹⁰⁹

What often happens is that the ministry or department concerned consults with stakeholders, namely industry representatives who are not going to disagree anyway. **Maori**, like the majority of citizens of New Zealand, are often unaware of what the government and its ministries are negotiating supposedly on behalf of the citizens they represent in international forums and meetings.¹¹⁰

A very disturbing contributor to commodification is the manipulation and cooptation of consent through consultations with **Maori**. Graham Smith and Linda Smith point out that “if **Maori** can be convinced that matters are urgent and have to be settled within a tight timeframe, then **Maori** participation can be co-opted and, more importantly, contained.”¹¹¹ This has had the effect of distracting **Maori** leadership. Within this urgent decision-making process, “an illusion of proper consultation with **Maori** was created. However, the reality was that it provided a suitable distracting climate in which the vested interests of government were able to structure policy to suit themselves.”¹¹²

Dr Maria Bargh believes, however, there may actually be scope in utilising the existing rights **Maori** have vested in the treaty to both bolster the move towards self-determination and, as an added bonus, subvert the neo-liberal agenda.

I argue that in a sense the Treaty of **Waitangi** provides an opportunity for **Maori** to skew and manipulate neoliberal policies. In another sense however, the neoliberal attempts to render the Treaty obsolete by dividing “economic” from political/constitutional concerns forces particular kinds of pressure on what is seen by most **Maori** and neoliberal

¹⁰⁹ MFAT, 2003: i.

¹¹⁰ See for example the ratification by the Ministry of Economic Development and Ministry for the Environment of the Rotterdam and Stockholm Conventions (which prohibit the exports of specific pesticides, industrial chemicals and persistent organic pollutants (POPs)). Although this agreement is only used as an example, the principle of the matter is the importance of consultation with the treaty partner. MED website, “Regulations required under the Rotterdam and Stockholm Conventions,” 5 August 2003, at <http://www.med.govt.nz/ers/environment/rotterdam-stockholm/index.html>. Accessed on 27 September 2003.

¹¹¹ Smith, G., H., & Smith, L., T., 1996: 223.

¹¹² Ibid.

advocates as the key facilitator of their respective versions of **Maori** development: the tribe. The government and neoliberal advocates seek to ensure that the tribe conforms to corporate organisational features suitable for interacting in a neoliberal global economy. Some **Maori** also seek a corporatised form of the tribe, while others remain convinced that the symbolic and political role of the tribe as partner to the Crown, as per the Treaty of **Waitangi**, is of utmost significance. **Maori** resistance demonstrates both the inadequacy of neoliberal policies and strategies and also the way that Indigenous resistances constantly problematise and skew neoliberal attempts at reform.¹¹³

Similarly, as Dr Graham Smith has expounded, the Treaty of **Waitangi** is an important instrument to defend.

*Maori have said "we have a **Maori** point of view, a collective point of view, which emanates from the treaty." And what the government is trying to do is to settle all the Treaty claims, to get rid of them. So if you settle the Treaty by 2010, they can say the Treaty is all settled, now we can get down to the real agenda, which is to speak about individuals. Once you separate individuals into individuals, you can create all sorts of hierarchies. So the Treaty is a very important instrument to defend.*¹¹⁴

Maori are used to fighting for their rights. We've been fighting for years, since 1840 at least. So the upshot is we aren't likely to stop.

5. SUMMARY OF THE MAORI REVOLUTION AND THE NEO-LIBERAL RESPONSE

The "new knowledge" economy had its debut, but it wasn't really new because it produced the same old configuration of the rich getting richer and the poor getting poorer. In the guise of progress and modernization, new scientific knowledge, the public good, and benefits to society, neo-liberalism undercuts New Zealand's treaty obligations and cheats its treaty partners. The government is progressively extinguishing the rights of **Maori** that are contained within the Treaty of **Waitangi**. Instead, binding agreements are made between trading nation states. A question then arises as to how much power New Zealand really has to decide its own future. Put another way, has New Zealand still got the power to assert its own autonomy? Although this question is outside the scope of this thesis, I personally have serious doubts as to New Zealand's

¹¹³ Bargh, Maria, Recolonisation and Indigenous Resistance: Neoliberalism in the Pacific. (Unpublished PhD thesis, Canberra: Australian National University, 2002), 24.

¹¹⁴ Dr Graham Smith, Research interview with the author, Vancouver, 15 March 2003.

autonomy. There are definite limits and constraints that are bundled up in the many international agreements to which New Zealand is a signatory. **Maori**, however, are going to resist any attacks on Treaty partnership rights.

The New Zealand government is committed to innovation, intellectual property and the knowledge economy as key to the country's future prosperity. It has great hopes for the biotechnology of recombinant DNA. The next chapter will analyse the emerging biotechnology monolith in New Zealand.

CHAPTER 3 MANUFACTURING PUBLIC CONSENT¹

Colonisation convinces indigenous people we don't have power.
(**Moana** Jackson, 2003)²

If you want to interrupt power, study it.
(Michael Apple, 2003)³

An adequate treatment of the politics of biotechnology would have to include an analysis of the relations between science, the universities, industry and the state...as well as relations between states (particularly the North and the South).⁴

The objective of this chapter is to conduct a multi-dimensional analysis of the political economy of the New Zealand biotechnology industry. The analysis will highlight the government's 2003 *New Zealand Biotechnology Strategy: A foundation for development with care* report and the central role of the Ministry of Research, Science and Technology (MoRST), the ministry responsible for research and innovation policies and the administration of public funding of research, science and technology.⁵

This chapter is an effort to make visible the web of relationships that biotechnology is built on to illuminate how the public are manipulated and coerced into consent.⁶ This coerced consent requires the participation of a variety of state and other apparatuses, including: New

¹ This title is derived from the book and video series by Noam Chomsky, including: Chomsky, N., *Manufacturing consent: Noam Chomsky and the media*. (Montreal: Black Rose Books, 1994).

² Quote from a film directed by Max Pugh and Mark Silver, produced by Debra Harry, entitled "The Leach and the Earthworm," UK/USA, 2003.

³ Quote from presentation given by Michael Apple, Educationalist, to E-**Wananga** students at **Te Whare Wananga o Awanuiarangi, Whakatane**, NZ, 10 July 2003.

⁴ Strydom, P., "The civilisation of the gene: Biotechnological risk framed in the responsibility discourse." *Nature, risk and responsibility: Discourses of biotechnology*. P. O'Mahony. (ed.). (New York: Routledge, 1999), 25. pp. 21-36.

⁵ MoRST, *New Zealand Biotechnology Strategy: A foundation for development with care*. (Wellington: MoRST, 2003a).

⁶ Antonio Gramsci's notion of hegemony is relevant to the concept of coerced consent used here where the oppressed and subordinate in society are coerced and co-opted into their own oppression and domination. This notion in relation to **Maori** is elaborated in the following article: Smith, G. H., & Smith, L., T., "New mythologies in Maori education." In P., Spoonley, C., Macpherson, & D., Pearson. (eds.), *Nga Patai: Racism and ethnic relations in Aotearoa/New Zealand*. (Palmerston North, NZ: Dunmore Press, 1996). pp. 217-234.

Zealand Government and regulatory bodies; international bodies and agreements that bind the New Zealand Government; industry; research in Crown Research Institutes, universities and private research institutions, and collaborations between them; media and media related organizations; and schools and the education system. This chapter also explores: the redefinition of intellectual property laws in New Zealand, where taonga has been opened up to commodification; biotechnology policy and regulation undertaken by the government since the early 1990s, which includes the Royal Commission on Genetic Modification; and the investment in biotechnology in New Zealand, with the key investor being the government.

I want to turn now to an analysis of the different actors (government, university and industry, media, school, and public) in the biotechnology web and their relationships with one another.

1. GOVERNMENT

Biotechnology forms an important component of the neo-liberal agenda for the New Zealand Government. It is considered "a new and important field, revealing not only the secrets of life but also having enormous potential economic and medical implications, and thus deserving close attention from the state."⁷ In order to explicate government's role in the biotechnology sector, this analysis will look at the government position and strategy, the Royal Commission on Genetic Modification, regulatory agencies and mechanisms, government ministries and agencies that foster biotechnology, and the central role of the Ministry of Research, Science & Technology (MoRST) and the government's 2003 *New Zealand Biotechnology Strategy: A foundation for development with care* report in influencing the university, industry, media, schools, and the public.

⁷ Gottweis, H., "Genetic engineering, discourses of deficiency, and the new politics of population." (*Cultural Politics* 13, 1997), 64.

Government position and strategy

The New Zealand government enthusiastically promotes the biotechnology industry and sees it as a critical ingredient to achieving the new knowledge economy. The government sees biotechnology as one of three⁸ key “enabling sectors critical to New Zealand’s future, with wide applications across the economy.”⁹ In 2002 the government established a Biotechnology Taskforce to set priorities and develop an action plan for New Zealand’s commitment to biotechnology, resulting in a May 2003 report, *Growing the biotechnology sector in New Zealand: A framework for action*. It calls for transformational change in six areas: People, Funding, Institutions, Infrastructure, Regulation and Global Participation. The primary recommendations made by the taskforce center around: the need to build critical mass; the need for regulatory reform to encourage growth; and the need to establish international networks to stimulate international investment. The taskforce has big hopes for New Zealand’s biotechnological future.

Underlying this framework we have a bold vision for growth in the New Zealand biotechnology community over the next 10 years, with the number of companies having a core biotechnology focus increasing fivefold to more than 200 and the number of biotechnology organisations expanding threefold to over 1,000. We expect biotechnology to employ more than 18,000 people by the end of that period.¹⁰

The May 2003 *New Zealand Biotechnology Strategy: A foundation for development with care* report outlined why New Zealand needs a government strategy for biotechnology and how it will achieve this. It argues a concentration on biotechnology will “add value” to our existing economy by improving productivity, fostering implementation of new product ideas and services. “The Government is seen as a facilitator, building capability and infrastructure, funding

⁸ The other two sectors are information and communications technology and creative industries. The government identified the three key enabling sectors as part of its Growth and Innovation Framework, outlined in the February 2002 MED report *Growing an Innovative New Zealand*. The Framework sets out the government’s sustainable economic growth objectives and what the government believes it and the private sector must do to achieve higher sustainable economic growth.

⁹ MoRST, 2003a: 5.

¹⁰ Biotechnology Taskforce, *Growing the biotechnology sector in New Zealand: A framework for action*. (Wellington: Biotechnology Taskforce, 2003), 4.

fundamental research, encouraging development investment, fostering global linkages and ensuring a workable regulatory regime.”¹¹ Government sees its main tasks as: partnering with industry; promoting and providing avenues for education of the public; committing to leading an integrated approach to biotechnology; providing a “robust” regulatory environment while not hampering innovation; and encouraging **Maori** participation because “**Maori** have much to offer and much to gain from biotechnology.”¹²

This biotechnology strategy and framework for action is a direct reflection of the central recommendations of the Royal Commission on Genetic Modification, which delivered its report to government in July 2001.

~~The Royal Commission on Genetic Modification~~

The Royal Commission on Genetic Modification was touted as the world’s first substantial inquiry into genetic modification. The commission was required to report to the New Zealand government on two main areas:

- (1) the strategic options available to New Zealand to address, now and in the future, genetic modification, genetically modified organisms and products; and
- (2) any changes considered desirable to the current legislative, regulatory, policy, or institutional arrangements for addressing, in New Zealand, genetic modification, genetically modified organisms, and products.¹³

The submission hearing process occurred from October 2000 to March 2001. The four-member commission read 11,000 public submissions, heard evidence from more than three hundred experts, held fifteen public meetings, of which two were national **hui** (meetings) with **Maori**, and a series of ten regional **hui** with **Maori** throughout the country.¹⁴ The Commission cost in excess of \$5 million and produced a four-volume, 1,500-page report presented to

¹¹ MoRST, 2003a: 6.

¹² MoRST, 2003a: 7.

¹³ Royal Commission on Genetic Modification, Report of the Royal Commission on Genetic Modification: Report and recommendations 2001. (Wellington: PrintLink, 2001), 6.

¹⁴ *New Zealand Herald*, “Interest high as GE study panel hands over report,” 27 July 2001.

government at the end of July 2001. The government published its response to the Commission's report in October 2001. For the duration of the Royal Commission process there was a voluntary moratorium on all field trials of genetically modified organisms, which was revised by government post-commission to prohibit the commercial release of genetically modified organisms, except for human and animal medicines, for a further two years until October 2003. The government lifted the moratorium on applications for field trial research after October 2003.¹⁵

The report's main recommendation was for New Zealand to "proceed with caution" and keep its options open. In order for the New Zealand government to proceed, some of the most significant of the forty-nine recommendations made by the commission were to:

- establish a national bioethics council to advise government on social, ethical and cultural issues;
- establish an office of Parliamentary Commissioner on Biotechnology to be a biotechnology watchdog;
- develop a biotechnology strategy for New Zealand's future;
- change regulation by devolving some responsibility for assessing GMO research to Institutional Biological Safety Committees, give the Minister for the Environment call-in powers to step in and make a ministerial decision as to the impact of the first GM crop release, and add another category of GMO release called 'conditional release,' where conditions may be applied to the approval of a GMO release such as the exclusion of releasing a GM crop in a district where it may threaten another established crop;
- give the Minister for the Environment veto power to intercede in any decision because of the significance of cultural, ethical or spiritual issues;
- develop an industry code of practice for coexistence of genetically modified and unmodified crops;
- amend the Patents Act 1953 to include a specific exclusion of the patentability of humans and the biological processes for their generation;
- leave unchanged the liability system for GMO damage;¹⁶
- provide public research funding for socio-economic and ethical impacts of release of GMO's;
- conduct an economic impact assessment report on the release of GMO's in New Zealand; and
- promote more inclusion of **Maori tikanga** and reference to the Treaty of **Waitangi**.¹⁷

¹⁵ *New Zealand Herald*, "Full text: Prime Minister on GE," 30 October 2001.

¹⁶ Current law makes GM developers liable only if they are negligent or breach ERMA controls, conditions and rules.

¹⁷ Royal Commission on Genetic Modification, 2001: 352-360.

Janet Hope details a number of criticisms of the Royal Commission's report.¹⁸ General impressions of the inadequacies of the report appear to be threefold. The first was a lack of analysis or criticism of the range of views on each issue, with the result that "the reader is frequently left to guess the Commission's response merely from the order in which the different views are presented."¹⁹ Hope believes this significantly affected the quality of the commission's analysis in making its major conclusions and recommendations. Second, by not considering any possibility of a temporary moratorium on GMO releases in New Zealand, the Commission demonstrated a strong faith in the technology and human ability to control it, yet the Commission was established "precisely because many New Zealanders do not share this faith."²⁰ The commission doesn't acknowledge its own bias in its report when, for example, it appears to unquestioningly adopt the views of the patent community and accept the notion that intellectual property rights are socially and economically beneficial.²¹ New Zealand's international obligations are seen as beyond question or even amelioration.²² Furthermore "it did not take seriously concerns about the impact of commercialisation on the ability or willingness of scientists to express independent views relating to the risks and potential benefits of GM technology."²³

Hope finds most disturbing the commission's rejection of concerns and evidence submitted relating to unpredictable risks and, further, its view that liability for GMO damage is a non-issue. Although it makes a few recommendations aimed at minimising predictable risks, the commission "rejected evidence of unpredictable risks on the ground that this evidence was inconclusive. By taking this approach, the Commission tacitly accepted the assertions of GM

¹⁸ Hope, J., "Preserving opportunities or taking unjustified risks? Reflections on the report of the New Zealand Royal Commission on Genetic Modification." The Australasian Journal of Natural Resources Law and Policy, 8 (1), 2003). pp. 29-56.

¹⁹ Ibid., 33.

²⁰ Ibid., 34.

²¹ Ibid., 49.

²² Ibid.

²³ Ibid., 54.

scientists and industry bodies that the risks associated with GM *are* capable of being managed using currently available scientific risk assessment techniques.”²⁴ The commission also decided that liability for adverse effects resulting from GM technology was to be borne by society as a whole because of their unquestioning confidence that “all possible harm resulting from the use of GM technology will be prevented by the measures it has recommended.”²⁵ It justified its recommendation of no action by suggesting that: there is nothing distinctive about GM technology risks that requires special remedies to be put in place; any liability regime would restrict and impede innovation; a bond system wouldn’t work because insurers might not issue bonds for this risk, or, if they did, the premium cost would be prohibitive for GM companies; and a liability scheme of environmental user charges would also be prohibitive because of cost.²⁶ Despite the commission’s perturbing rejection of evidence of unpredictable risks and its view that liability for GMO damage is a non-issue, “One fact uncovered by the Commission was that although some New Zealanders have absolute objections to the use of GM technology, for the most part the New Zealand debate over GM is about risks.”²⁷

The Commission’s report basically expounds “business as usual” and “full steam ahead.” Inherent in the report is a giddy belief in the ideology of progress. In the Commission’s words,

Technology is integral to the advancement of the world. Fire, the wheel, steam power, electricity, radio transmission, air and space travel, nuclear power, the microchip, DNA: the human race has ever been on the cusp of innovation. Currently, biotechnology is the new frontier. Continuation of research is critical to New Zealand’s future. As in the past we should go forward but with care.²⁸

²⁴ Ibid., 37.

²⁵ Ibid., 52.

²⁶ Ibid., 51.

²⁷ Ibid., 53.

²⁸ Royal Commission on Genetic Modification, 2001: 3.

Regulatory agencies and mechanisms

The existing regulatory framework is highly fragmented, with institutions having wide responsibilities that include GM as one part of their brief. As a result, unravelling the GM regulatory institutional framework is a complex task. Because of this complexity, the government sees a need to assign a body to oversee the whole regulatory system in New Zealand. It is the government's intention to "assign MoRST an overview role in relation to biotechnology-related regulation, in liaison with key agencies and sector bodies."²⁹

Regulation of GMO's currently involves four government ministries, several other government bodies, independent bodies set up by government, and Acts of Parliament.³⁰ The Ministry for the Environment (MfE) is the primary ministry responsible for environmental laws and policies and is responsible for the Environmental Risk Management Authority (ERMA), **Nga Kaihautu Tikanga Taiao** (a **Maori** Advisory committee to ERMA), and the Hazardous Substances and New Organisms Act (HSNO) (1996). The Ministry for the Environment also supports **Toi te Taiao**: the Bioethics Council, made up of **Maori** and non-**Maori** members from a variety of backgrounds.

The Ministry of Research, Science and Technology (MoRST) is responsible for policy, strategy and research development relating to science and technology, including the administration of public funding of science and technology research in New Zealand, which includes investment in biotechnology and GMO's.

The Ministry of Agriculture and Forestry (MAF) has responsibility for enforcing the conditions imposed by ERMA on conditional release of GMO's, new organisms in containment, and release of unauthorised new organisms. It is charged with ensuring importers comply with

²⁹ MoRST, 2003a: 32.

³⁰ Information for this section was gathered from the Genetic Modification in New Zealand Website, <http://www.gm.govt.nz/links.shtml>, accessed on 20 August 2003, and a report prepared by MoRST, New Zealand Biotechnology Strategy: A foundation for development with care, (2003a).

laws and regulations relating to the importation of new organisms and hazardous substances, as well as administering some food legislation along with the Ministry of Health.

The Ministry of Health (MoH) is responsible for the broad area of New Zealand's public health. It is currently responsible for overseeing the regulation for manufacture and sale of all food (including GM) in New Zealand through the Food Act 1981, but this responsibility will in the future be transferred to the New Zealand Food Safety Authority.

The New Zealand Food Safety Authority (NZFSA) is attached to the Ministry of Agriculture and Forestry and combines functions from the Ministry of Agriculture and Forestry and Ministry of Health.³¹ NZFSA was established on 1 July 2002 to administer food and food related product safety regulations and laws, including regulations relating to food with genetically engineered ingredients. The regulations were developed by Food Standards Australia New Zealand (FSANZ) (formerly known as Australia New Zealand Food Authority (ANZFA)). FSANZ is responsible for developing food standards, including ensuring the safety and labelling of GM foods for Australia and New Zealand.

A number of other regulations and Acts of Parliament falling under the umbrella of a variety of ministries control aspects of GMO research and development, including the Animal Welfare Act (1999), Agricultural Compounds and Veterinary Medicines Act (1997), Medicines Act (1981), Human Assisted Reproduction Technology Bill (forthcoming), Human Tissue Act (1964), Patents Act (1953), New Zealand Plant Variety Rights Act (1987), and bioprospecting regulation.

There are also institutional ethics committees overseeing and approving GMO research applications, including the Health Research Council Ethics Committee (HRCEC), animal ethics committees within a variety of institutions, university ethics committees, and government and corporate ethics committees, as well as a variety of Institutional Biological Safety Committees. In

³¹ Information obtained from govt.nz portal, <http://www.govt.nz/en/search/govt-contact-details/?urn=urn:nz:gl:an:000528>, accessed on 21 August 2003.

addition, there have been a number of independent bodies with a mandate to oversee the broad area of biotechnology. Cabinet established the Independent Biotechnology Advisory Council (IBAC) in May 1999 in response to the public's expressed uncertainty regarding biotechnology. It served as a public consultation body and source of information for government and for making the public aware of biotechnology.³² IBAC ceased operation in August 2001 when its role was taken over by **Toi te Taiao**, the Bioethics Council, in response to a recommendation made by the Royal Commission on Genetic Modification in the July 2001 report to government. The Bioethics Council is mandated to “play a key role in enhancing New Zealand’s understanding of the cultural, ethical and spiritual aspects of biotechnology, and ensuring that biotechnology development has regard for the values held by New Zealanders.”³³ The government is encouraging the development of biotechnology as a key economic goal. The Bioethics Council was set up to deal with “cultural, ethical and spiritual” concerns. These concerns are contradictory to valuing biotechnology as an economic goal. The Council was in effect set up to try to cushion some of the objections to biotechnology.

The Parliamentary Commissioner for the Environment is an independent watchdog, appointed under the Environment Act 1986. The Ministry for the Environment “is a policy advisor (a part of the system of agencies and processes established to manage the environment). The Parliamentary Commissioner is a policy reviewer outside this system and reporting on it.”³⁴ There was also a recommendation made by the Royal Commission on Genetic Modification for the government to establish another independent Parliamentary Commissioner, this time for Biotechnology. The government however has considered that this position is not necessary. Environment Minister Marian Hobbs, in answer to the question “why hasn’t the government established a Parliamentary Commissioner for Biotechnology?” replied that the present

³² Independent Biotechnology Advisory Council website, <http://www.ibac.org.nz/pubs/briefing/intro.html>, “Briefing for the incoming minister,” 26 November 1999. Accessed on 10 January 2000.

³³ MoRST, 2003a: 13.

³⁴ Parliamentary Commissioner for the Environment website, http://www.203.97.170.34/about/pce_about.shtml, accessed on 19 August 2003.

Parliamentary Commissioner is expensive, the commissioner's advice is of questionable value, the commissioner prepares reports that the minister is not aware of, and the commissioner prepares reports that are out of date.³⁵

The Environmental Risk Management Authority (ERMA), established in 1996, is the central authority responsible for the approval or rejection of any application made for GM research. The Authority comes under the umbrella of the Ministry for the Environment and is governed by the Hazardous Substances & New Organisms Act. ERMA controls regulation and approval of GMO imports, research or development (field-testing or releasing) of GMO's in New Zealand. It is responsible for approving the introduction of new plants and animals. ERMA makes decisions on a case-by-case basis as to whether or not applications related to "new organisms" and "hazardous substances" will be approved for use or sale in New Zealand. It evaluates proposals and their potential risks for the environment and public health. Food Standards Australia New Zealand (FSANZ) is responsible for the food side of GM technology, developing food standards that include regulating the safety and labelling of GM foods.

ERMA, guided by the Hazardous Substances & New Organisms Act, did not turn down any applications related to GMO's between 29 July 1998 and 15 July 2002. Of the 128 applications received for import or development of GMOs in containment, 110 were approved. ERMA received and approved a further thirteen applications relating to the field-testing of GMO's in containment,³⁶ which included highly controversial research applications to place human genetic material into sheep and cattle, where the animals were electronically tagged and contained within a high security perimeter. This high incidence of approval has put ERMA on the defensive, as is apparent in a report to the minister.

³⁵ This is a question I posed at a meeting I attended with the minister. The closed meeting was held at the University of Waikato on 24 September 2003 between a group of, predominantly, university and Crown Research Institute scientists and the Minister for the Environment, Marian Hobbs.

³⁶ ERMA, Briefing report for incoming government. ER-BR-02-1 07/02. (2002a: 21).

Why applications have generally been approved

An issue for some observers of the HSNO [Hazardous Substances & New Organisms Act] process is the fact that virtually all applications have been approved. Does not this suggest that the Authority is biased in favour of approval? The issue is particularly pointed in the case of GMOs because of the strong positions taken by interest groups on this technology.

The perception of bias is wrong!

In the particular case of GMOs, all applications considered to date have been “in containment.” The Authority has focused on setting controls which manage any risks down to a very low level. Under these circumstances, benefits do not weigh heavily in decision- making and the result can be expected to be more often an **approval** rather than a **decline**. While this is entirely logical, it has given the quite mistaken impression that all applications will be approved. That is **not** the case.³⁷

As of 4 August 2003, ERMA had received 148 applications to import or develop GMOs in containment. Of the applications that had been decided, 132 had been approved and 0 declined. A further 16 applications were received for field-testing of GMO's in containment, with 13 approved and 0 declined. Approvals for GMO field-testing in containment have included four for GM animals (sheep and cattle), several for plants, including GM sugarbeet, potatoes, petunias, maize, and pine and spruce trees, and one for fermentation.³⁸ So although zero GMO applications have been declined since 1998, ERMA, as stated above, insists that it is a “mistaken” impression that all applications will be approved.

Through provisions in the Hazardous Substances & New Organisms Act, ERMA is also able to delegate responsibility for assessing applications for “low risk” GMO research in containment to Institutional Biological Safety Committees, which are concentrated in “six crown research institutes, six universities and four private companies (Fonterra, Carter Holt Harvey, Genesis Research and Development and Fletcher Challenge spinoff Trees and Technology Ltd at **Te Teko**, near **Whakatane**).”³⁹ Similar to the ERMA approval rate, Institutional Biological Safety Committees had approved 768 of the total 776 applications received up to 24 July 2002; an approval rate of 99%. Of particular interest are the 169 decisions involving human genes, with

³⁷ Ibid., 25, emphasis in original.

³⁸ ERMA website, “New organisms – Summary applications table,” <http://www.ermanz.govt.nz/no/no-decisions-summary.asp>, accessed on 6 September 2003.

³⁹ *New Zealand Herald*, “GE gates swing open...carefully.” 27 September 2002.

163 of those human gene research applications based in four institutions: AgResearch, **Ruakura** (18); Massey University (12); University of Auckland (91); and University of Otago (42).⁴⁰

The Hazardous Substances and New Organisms Act (1996) guides decisions made by ERMA relating to GM organisms and GM foods. An application for the release of a new organism will only be declined

where the new organism is likely to cause any:
 significant displacement of any native species;
 significant deterioration of natural habitats;
 significant adverse effects of human health and safety;
 significant adverse effects to New Zealand's inherent genetic diversity; or
 disease, be parasitic, or become a vector for human, animal or plant disease, unless that is the purpose of the importation.
 Only after these minimum standards are met will a new organism be considered for release (either conditionally or without controls).⁴¹

In accord with recommendations made by the Royal Commission in 2001, the government proposes to amend the HSNO Act (in the form of The New Organisms and Other Matters Bill) to include a new GMO 'conditional release' category. ERMA then would be able to approve a release of GMO's with some conditions that would manage and minimise any risk, which could include such measures as "where a crop or animal is to be located; the conditions under which it could be grown and used; and what kind of monitoring of environmental impacts needs to be carried out."⁴² Other proposed amendments include: streamlining the approval process for low risk GMO work, for medicines and veterinary medicines, and fast-tracking approval of medicines and veterinary medicines in emergency; extending powers of the minister to include the right to intervene on a matter of cultural, spiritual or ethical concern; implementing a liability for harm caused by non-compliance and a civil penalty regime for breaches of

⁴⁰ ERMA, 2002a: 24. A case of human gene research at AgResearch, **Ruakura**, will be discussed further in Chapter Eight.

⁴¹ Ministry of Agriculture and Forestry, Government response to the Royal Commission on Genetic Modification: Report on managing the effects of GM organisms and coexistence in primary production – Paper 1: Overview. (Wellington: MAF, 2003).

⁴² Ibid.

conditions imposed to ensure safety of research; and measures to more fully take account of the principles of the Treaty of **Waitangi**.⁴³

The government also intends to enact a Human Assisted Reproduction Technology (HART) Bill and update the Human Tissue Act to take account of developments in human cells and tissues which do not come within the scope of the HSNO Act. In its deliberations regarding the HART Bill, the government appears to be considering legalising germ-line genetic modification, that is, genome engineering that is inheritable. This has raised concerns about a move towards a contemporary form of eugenics. “GE Free NZ has described the Human Assisted Reproductive Technology (HART) bill as the most comprehensive and far-reaching eugenic legislation the like of which the world has not seen since Nazi Germany in the 1930’s...”⁴⁴

Experiments in gene therapy, whereby new genes are inserted into cells to correct an inherited medical problem, have also necessitated updating regulations regarding the use of human cells and tissues. In August 2003 the first patient underwent brain surgery in the United States utilising a new gene therapy for Parkinson’s disease.⁴⁵ The gene therapy was developed by a New Zealand-United States team, led by New Zealand Professor Matthew During, who is affiliated to Auckland University and Columbia University in New York. The American Food and Drug Administration approved this gene therapy surgery for a further twelve Parkinson’s patients. Professor During hopes to run a second trial in New Zealand.⁴⁶

⁴³ MoRST, 2003a: 29.

⁴⁴ *Scoop.com* website article, “Call for ban on genetically engineered humans,” <http://www.scoop.co.nz/mason/stories/SC0308/S00070.htm>, accessed on 21 August 2003.

⁴⁵ *New Zealand Herald*, “Pioneering surgery goes well,” 21 August 2003.

⁴⁶ Gene therapy is a highly controversial area because of the high risk and uncertain results associated with these experiments to date. In 1996 Professor Matthew During was criticised for controversial research he was conducting at Auckland Hospital. Professor During operated on two American children who had a brain disorder called Canavan disease by inserting synthetic genes into their brains that had been developed by Professor During’s research team and an American team. Ethics approval was not received from the Medical School prior to beginning the research. Research approval from the Ethics Committee was received retroactively. <http://www.stuff.co.nz/stuff/print/0,1478,2627420a7144,00.html>, accessed on 2 October 2003.

Nga Kaihautu Tikanga Taiao is the **Maori** advisory committee to ERMA, advising the authority on:

taking account of the principles of the Treaty of **Waitangi**;
 how **Maori** approach risk and risk aversion;
 specific risks of concern to **Maori**;
 appropriate consultation with **Maori** where risks are identified;
 the extent to which applications satisfactorily address **Maori** perspectives;
 other advice on **tikanga Maori** as required.⁴⁷

Nga Kaihautu Tikanga Taiao also holds an educational responsibility, which includes engendering understanding about ERMA and HSNO amongst **Maori** communities, developing educational resources and tools for **hapu/iwi/Maori** nationwide, and ensuring **Maori** participation in the HSNO process through consultation and submissions.

Minimizing impacts of regulation on industry

The central problem with regulation of GMO's in New Zealand is that while claiming to be rigorous and robust, the main aim seems to be to minimize the impact on the biotechnology industry. Government documents produced by different ministries and bodies, pronouncements from the Prime Minister to ministers and to government spokespeople, recommendations from the Royal Commission on Genetic Modification, and Acts of Parliament and regulation are full of examples of measures taken to appease GMO researchers and developers and to keep to a minimum any delay in bringing products to market. The biotechnology industry has been vocal in its opposition to any regulation of GMO's with all sectors reciting similar speeches that include the script, "The local biotechnology industry will fall behind the rest of the world until uncertainties and overbearing Government regulations for genetic modification are tackled."⁴⁸

The government has been listening and the "genetics regulation has been greatly influenced by

⁴⁷ ERMA website "**Nga Kaihautu Tikanga Taiao**," <http://www.ermanz.govt.nz/about/nktt.asp>, accessed on 18 August 2003. See Chapter 8 for further discussion of the operation of **Nga Kaihautu Tikanga Taiao**.

⁴⁸ *New Zealand Herald*, "Biotech industry: Red tape is holding NZ back," 6 March 2002.

the demands of those social actors with obvious interests in the commercial advancement of biological research."⁴⁹

Government appeasement of the industry lobby has been facilitated by the stamp of approval "earned" by the "public consultation process" of the Royal Commission on Genetic Modification. The Royal Commission recommended that there be no change to the current liability regime in New Zealand. This means that the public must bear any risk associated with the use of genetically modified organisms. A 2001 report prepared by law firm Chen Palmer & Partners and economic consultants Simon Terry Associates recommended that a "polluter pays" principle be enacted. "In absence of a Crown or industry funded entity to be the risk bearer, such losses will fall on innocent parties (often third party citizens and businesses) and will remain with them unless they can persuade the government that it should exist."⁵⁰ The consultants argued for mandatory insurance coverage before approval by the Environmental Risk Management Authority of any GMO product or experiment.

A Law Commission report was also prepared for the government in 2001 on the legal liability of releasing genetically engineered organisms. It identified the inadequacy of existing liability rules, stating that the "current statute and common law will not ensure that all damage that could potentially be caused by GMOs will be compensated. It is unlikely that any liability regime could guarantee this."⁵¹ In 2003 the government announced "the introduction of a strict civil liability and penalty regime so that scientists who caused environment damage or other harm by breaching the conditions of their research could be sued or fined."⁵² The penalties for breach are being set by the government at up to \$10 million for a body corporate or three times the

⁴⁹ Loeppky, R., "Gene production: A political economy of human genome research." (Studies in political economy: A socialist review, 60 (Autumn), 1999), 35.

⁵⁰ Terry, S., Hickford, M., Palmer, G. (Sir), Bertram, G., Who bears the risk? Genetic modification & liability. (Wellington: Chen Palmer & Partners and Simon Terry Associates Ltd., 2001), i.

⁵¹ Law Commission Study Paper 14: Liability for loss resulting from the development, supply, or use of genetically modified organisms. (Wellington: Study Paper / Law Commission, 2002), 38.

⁵² *New Zealand Herald* article, "\$10m fines to back GM laws," 13 February 2003.

commercial gain of such research, whichever is larger, and up to \$500,000 for individuals.⁵³

There was no mention by the government of mandatory insurance cover to be taken out by researchers and developers or adherence to the “polluter pays” principle in the event that there is damage or harm caused by use of GMOs but where there is no breach of the conditions of research.

Another example of government appeasement of industry is regulation relating to labeling of food. The government again was bolstered by the Royal Commission’s recommendation that current regulatory arrangements for food were adequate. “Even though it found that ANZFA bases all its safety decisions on scientific data *provided by applicants*, the Commission concluded that ANZFA’s methodology is sound.”⁵⁴ The current rules for labeling food are found in Standard 1.5.2: Food produced using gene technology, which came into effect on 7 December 2001. The rules require that a product must be labeled if it contains 0.1 per cent or more of GM ingredients. This broad stipulation and measurement is sufficiently loose to allow labeling that is ambiguous.⁵⁵ There are a number of exceptions to the labeling requirement for food produced using gene technology. These include meat, eggs and dairy products from animals fed with GM feed; foods in which GM DNA has been removed during processing;⁵⁶ any processing aid or food additive that is considered removed during processing; flavours present in food with less than 1g/kg concentration; the unintentional presence of genetically modified organisms in a food, ingredient, or processing aid in a quantity of less than 10g/kg per ingredient.⁵⁷

There are also a number of measures taken by the government that will streamline the approval process for GMO importation, research and development. Central to these streamlining

⁵³ *New Zealand Herald*, “Rules firm for GM release,” 2 September 2003.

⁵⁴ Hope, 2003: 42.

⁵⁵ *New Zealand Herald*, “Food labels never tell the whole story,” 23 August 2003.

⁵⁶ A claim made about oils made with GM corn, soy, canola and cotton seed.

⁵⁷ FSANZ website, Standard 1.5.2: Food produced using gene technology, http://www.foodstandards.gov.au/_srcfiles/Standard152_GM_%20v62.pdf, accessed on 4 September 2003.

measures is the move by the government to devolve more regulatory responsibility and enact a number of new laws and amendments that facilitate, promote and actively support the industry of biotechnology. Institutional Biological Safety Committees have been given the responsibility to approve “low risk” GMO experimentation in containment. Some town councils may be required to introduce additional controls in the event of conditional release of GMOs in their district, and some are even contemplating whether or not they “should have the power to block any GM applications in their districts, either for specific planning reasons or because their communities chose to stay ‘GE-free’.”⁵⁸ The Bioethics Council, an independent body whose recommendations and advice to government have no legal force, has been given the responsibility to develop ethical guidelines for xenotransplantation involving GM technology (recommendation 9.2) and to address the issue of genetic discrimination in association with the Human Rights Commissioner (recommendation 12.1).⁵⁹ I see all of these measures as efforts by the government to devolve its own responsibility as regulator of biotechnology to others while expanding its role in promoting the industry.

With the changes to the Hazardous Substances and New Organisms (HSNO) Act in the form of The New Organisms and Other Matters Bill, the government: established regulations to lift the moratorium on the commercial release of GMOs, which was imposed in July 2000 and expired on October 29 2003; enacted the civil liability and penalty regime for breach of the conditions of GMO research; created a new category of “conditional release” of GMOs; devolved further regulatory responsibility to Institutional Biological Safety Committees by extending their powers to include approval of GM projects as a whole rather than for each GMO produced and importation and development of “low risk” GMO research projects. The government also requires approval to be sought from ERMA and the Health Ministry’s Medical Devices Safety Authority (Medsafe) for medicines containing GMOs. It introduced call-in powers for the Minister for the

⁵⁸ *New Zealand Herald*, “GM-free status sees NZ eggs fetch premium price in US,” 28 July 2003.

⁵⁹ Royal Commission on Genetic Modification, 2001.

Environment where there are ethical, cultural or spiritual concerns with a particular GMO research application. It also strengthened the protection of commercially sensitive information and extended the time from fifteen to thirty working days for ERMA to make its decisions.⁶⁰

There was a flurry of articles published in the *New Zealand Herald* in the months just prior to the expiry of the moratorium on the commercial release of GMOs. Opposition to the lifting of the moratorium came from a variety of quarters including such groups as the Green Party, numerous anti-GE groups, church groups, Zespri (New Zealand kiwifruit exporter), and even local town/city councils concerned with issues of liability and in some regions the preservation of declared GE-free districts. The results from a survey of 801 people in an August 2003 nationwide Herald-DigiPoll “found that 68.6 per cent want to extend the present three-year ban on releasing GMOs from containment.”⁶¹ Some **Maori** groups are challenging the decision by the government to lift the moratorium on genetic modification and are seeking legal redress citing a breach of the Treaty. **Maanu** Paul, member of a group of **Maori** organic growers called **Te Waka Kai Ora**, believes “Under the treaty, the Government had a duty to protect **Maori**, but the lifting of the moratorium on genetic modification...was a failure to carry out that duty.”⁶²

Hope points out that the Hazardous Substances and New Organisms (HSNO) Act “places considerable emphasis on informed public participation in the approval process. However, the whole decision-making structure is built around the assumption that there are no generic objections to the use of GM technology.”⁶³ An August 2003 application by a Crop & Food Research plant geneticist in Lincoln, Christchurch, to test genetically modified onions (New Zealand’s fourth-largest horticultural crop) resulted in a record number of more than 1,500

⁶⁰ *New Zealand Herald*, “GE gates swing open...carefully,” 27 September 2002.

⁶¹ *New Zealand Herald*, “GM: Is it too soon?” 23 August 2003.

⁶² *New Zealand Herald*, “**Maori** seek treaty hearing to oppose end of GM ban,” 4 September 2003.

⁶³ Hope, 2003: 44. Hope’s point here is that the process does not acknowledge the commonality in objections preferring to see objectors as a disparate group and without any consistency and common objections.

submissions made to ERMA.⁶⁴ A 2002 GM cow research application by AgResearch in **Ruakura**, Hamilton, approved by ERMA, was the previous record holder with 863 submissions, of which 856 were objections and only seven were in support.⁶⁵ There have been consistent objections made by the public, which include: the concern over the risks of eating GM food; concern over unintended risks associated with the release of GMO's; and cultural, ethical and spiritual concerns.⁶⁶ Although there are mechanisms in place for public participation, it appears this process is merely a mandated formality.

Intellectual property rights and bioprospecting⁶⁷

The ideological perception promoted by industry, researchers, developers, and government is that biotechnology research is being carried out in the public interest and for the public good. Therefore, charges by ERMA related to GMO research applications are seen as exorbitant and prohibitive.⁶⁸ For example, a typical charge to import a GMO into containment for use in research would be \$2,500 to \$5,000. To conduct a GMO field trial, the fee would be \$70,000 to \$80,000.⁶⁹ “The Crown-owned AgResearch Institute says its latest application to insert genes from various animals into cows has already cost it almost \$500,000 in legal costs and

⁶⁴ *New Zealand Herald*, “Test for low-spray onions brings 1500 submissions,” 22 August 2003. By the time the public hearing into the application occurred in late 2003, more than 1900 submissions were received with the large majority opposing this experiment.

⁶⁵ *New Zealand Herald*, “Cash cow, or mad cow?” 5 October 2002. This research experiment is discussed more fully in Chapter 8.

⁶⁶ Hope, 2003: 44.

⁶⁷ “Bioprospecting” is defined by the NZ Government as “the examination of biological resources (e.g. plants, animals, micro-organisms) for features that may be of value for commercial development. These features may include chemical compounds, genes and their products, or in some cases, the physical properties of the material in question” MED, *Bioprospecting in New Zealand: Discussing the options*. (Wellington: MED, 2002), 5.

⁶⁸ The applicant carries out GMO research and field trials. Biotechnology industry players see costs related to GMO research applications as exorbitant. Expenses can include: cost of preparation of application by applicant; charges by ERMA for processing of application, including the submission and hearing process and expense of expert witnesses; compliance costs for the applicant which can include ensuring the field trial area is contained, secure and monitored; and other costs related to consultation with the public, legal review, and appeals.

⁶⁹ ERMA, 2002a: 27.

ERMA fees, which start at \$25,000 to \$35,000.”⁷⁰ However, when this “public good” does come to market, often with substantial public funding, the public good turns into private gain. The “public good” then becomes a product available to the public at a price. The morphing agent for this commodification is primarily intellectual property law, which is “founded on the assumption that society benefits from the efforts of intellectual creation...[and] prohibits others from profiting from the creator’s efforts. This has an important function in that without this protection there is likely to be no incentive to innovate.”⁷¹

Intellectual property opened up a whole landscape of possibilities for the commercialization of resources and knowledge that had not been conceived of before in property terms. Through the Trade Related Intellectual Property Rights (TRIPs) agreement, within the auspices of the General Agreement on Trade and Tariffs (GATT) and governed by the World Trade Organization (WTO), Western models of intellectual property rights are extended internationally.⁷² Signatory governments are required to harmonize their intellectual property legislation to comply with WTO rules and the TRIPs/GATT agreement. It is believed that such measures reward industry for their efforts and afford them protection of their “inventions,” thus recognizing the investment in intellectual property made by industry both nationally and internationally.

Through patenting, scientists can secure property rights over plants used in local medicines by accessing local knowledges held by indigenous or third world peoples. This form of property acquisition is commonly known as biopiracy or biocolonialism by indigenous and third world peoples, while practitioners call it bioprospecting. Scientists can also secure property rights

⁷⁰ *New Zealand Herald*, “GE gates swing open...carefully,” 27 September 2002.

⁷¹ Garrity, B., “Conflict between **Maori** and western concepts of intellectual property.” *Auckland University Law Review*, 8 (4), 1999, 1201.

⁷² For less developed countries these intellectual property rights are only recognized “...when knowledge and innovation generate profits, not when they meet social needs” Shiva, V., *Biopiracy: The plunder of nature and knowledge*. (Toronto: Between the Lines, 1997), 122. Shiva is talking here about the intellectual commons, especially the local knowledges of peasants and indigenous peoples. Good examples of this commodification of local knowledge are the attempts, both successful and unsuccessful, of privatising neem, turmeric and basmati rice.

through patenting by identifying particular genes that are seen as valuable and having commercial potential. Richard Lewontin states, “If human DNA sequences are to be the basis of future therapy, then the exclusive ownership of such DNA sequences would be money in the bank.”⁷³ Indigenous and third world peoples also see the commodification of the body as biopiracy and biocolonialism.

This biotechnology industry is a “knowledge” industry with the goal of producing marketable information.

[T]he explosion of entrepreneurial genome research has been driven by the corporate pursuit of basic, marketable information (eg., DNA sequencing, gene location, gene function, etc.), resulting in a rapid and continuous change of the means by which this information is produced (eg., specialized training, bioinformatics, provision of research facilities, etc.).⁷⁴

However, the information itself is not generally being sold but rather the right to use it.

The Patents Act (1953) and the Patent Attorney Profession are going through an overhaul, so too is the New Zealand Plant Variety Rights Act (1987). The government also sees a need to introduce new regulations relating to bioprospecting. The purpose of this intellectual property overhaul is to foster and protect innovations and creativity in the new knowledge economy and to ensure New Zealand’s conformity to international intellectual property agreements (particularly TRIPs). Reforms have also been driven by technological developments, particularly in the area of biotechnology. The Ministry of Economic Development (MED), formerly the Ministry of Commerce, has responsibility for the protection and international representation of New Zealand’s intellectual property regime. The Ministry grants patents and registers trademarks and designs through the Intellectual Property Office of New Zealand and grants plant variety rights through the Plant Variety Rights Office.⁷⁵ The government is formulating its intellectual property change measures and is yet to announce its decisions. As well

⁷³ Lewontin, R., C., “The dream of the human genome.” In Bender, G., & Drucker, T., (Eds.). Culture on the brink: Ideologies of technology. (Seattle: Bay Press, 1994), 75.

⁷⁴ Loepky, 1999: 41.

⁷⁵ Ministry of Economic Development website, http://www.med.govt.nz/buslt/int_prop.html, accessed on 1 September 2003.

as reviewing the 2001 recommendations on intellectual property made by the Royal Commission, a number of discussion papers were released in 2002 by the government and Ministry of Economic Development for public consultation, including *Review of the Patents Act 1953: Boundaries to patentability*, *Review of the regulatory regime for the Patent Attorney Profession in New Zealand*, *Review of the Plant Variety Rights Act 1987*, and *Bioprospecting in New Zealand: Discussing the options*.

Central to any changes in intellectual property law are the views and concerns of **Maori**.⁷⁶ In the 1999 discussion paper called *Patenting of biotechnological inventions: A Ministry of Commerce paper on issues for discussion with Maori*,⁷⁷ one section outlines concerns of **Maori** about patents relating to biotechnology. The main concerns summarized in this paper include: concerns related to genetically altering indigenous flora and fauna and the rejection of patents on genetically altered flora and fauna; a belief that Treaty of **Waitangi** rights are infringed if a patent is granted; and concerns **Maori** have regarding the bioprospecting of **Maori tikanga**. Most urgent though is the need for a decision to be made about the **WAI 262** claim, which refers to the broad rights and responsibilities **Maori** have over their indigenous flora, fauna and **tikanga**, as is stipulated in the Treaty of **Waitangi**.⁷⁸ The paper does note however,

Maori concerns are diverse, encompassing both a desire to conserve and protect their **taonga** [treasures], and also to enable **Maori** development and commercial exploitation of these where appropriate. A flexible mechanism may be required to balance these sometimes conflicting interests. It appears unlikely that sufficient flexibility can be built into the Patents Act to effectively reconcile these interests.⁷⁹

⁷⁶ For example see the following articles: Paton, M., "Reform of the New Zealand Patents Act – Why should you care?" (*Chemistry in New Zealand*, 66 (3), 2002), pp. 54-56; Young, S., "The patentability of **Maori** traditional medicine and the morality exclusion in the Patents Act 1953." (*Victoria University of Wellington Law Review*, 32 (1), 2001), pp. 255-275; Garrity, B., "Conflict between **Maori** and western concepts of intellectual property." (*Auckland University Law Review*, 8 (4), 1999), pp. 1193-1210.

⁷⁷ Ministry of Economic Development website, http://www.med.govt.nz/buslt/int_prop/biotech/index.html, accessed on 1 September 2003.

⁷⁸ For discussion of the **WAI 262** claim see Chapter Five.

⁷⁹ Ministry of Economic Development website, http://www.med.govt.nz/buslt/int_prop/biotech/index.html, accessed on 1 September 2003. This dilemma will be more fully explored in Chapter Four.

In February 2000, the Department of Conservation (DoC) and the Ministry for the Environment (MfE) prepared a report, *The New Zealand Biodiversity Strategy: Our chance to turn the tide*, which discusses the potential of bioprospecting. In the section “Conservation and use of genetic resources,” two recommendations were made in relation to bioprospecting and acknowledging **Maori** knowledge: “Develop an integrated policy and legislative framework for managing bioprospecting in New Zealand, including arrangements for sharing benefits from the use of genetic resources, which are consistent with international commitments”⁸⁰ and “Ensure that the use of **matauranga Maori** (traditional knowledge) in the identification and commercial use and development of intellectual rights to indigenous genetic resources occurs only with the consent of the holders of that knowledge, and that they share in any subsequent benefits.”⁸¹ In respect of the conservation and sustainable use and management of biodiversity, the report recognizes the need to: develop partnerships between **Maori** and Crown agencies; respect **matauranga Maori**; ensure policy development has regard for the treaty settlements process; provide for **Maori** interests and involvement in government-funded scientific research about biodiversity; and recognize customary use of Indigenous species by **Maori**.⁸²

Bioprospecting makes a significant reappearance in 2002 in the form of a Ministry of Economic Development discussion paper on possible new regulations relating to bioprospecting in New Zealand and again in 2003 in the government’s biotechnology strategy document, which states: “Intellectual property law and bioprospecting regulations are important elements of the regulatory framework surrounding biotechnology. Getting intellectual property law and practice right is vital for supporting New Zealand innovation.”⁸³

In the discussion paper *Bioprospecting in New Zealand: Discussing the options*, released in November 2002, the Ministry of Economic Development sought submissions from the public

⁸⁰ DoC & MfE, *The New Zealand Biodiversity Strategy: Our chance to turn the tide*. (Wellington: DoC & MfE, 2000), 77.

⁸¹ *Ibid.*, 78.

⁸² *Ibid.*, 96-98.

⁸³ MoRST, 2003a: 27.

on improving the bioprospecting policy framework. The government sees bioprospecting as falling within its biotechnology strategy because of the commercial potential of prospecting for new biological products to bolster the new knowledge economy. The Ministry of Economic Development outlines three main policy options in the discussion paper: (1) a proposed government policy statement on bioprospecting because the government doesn't have one currently; (2) mechanisms for enhanced co-ordination and information sharing, which could result in the delegation of this role to an existing or new government body; and (3) a framework for benefit-sharing arrangements "to help researchers structure their activities, funding arrangements and intellectual property management in a manner that will help maximize possible benefits to New Zealand, and provide for better involvement of relevant stakeholders, and **Maori**."⁸⁴

The Ministry received forty-five submissions to the bioprospecting discussion document from a variety of sources, including **Maori**, environmental groups, government organizations, private biotechnology firms, scientists and researchers, interest groups and individuals.⁸⁵ Although the government is yet to announce its decisions, there were some strong messages coming out of the submission process: that there should be some sort of regulatory framework for bioprospecting; that a resolution to the **WAI 262** claim was necessary; that there was concern over patenting and impact on traditional knowledge; and that there is a need for greater consultation with **Maori**. **Maori** submitters were unanimous in their desire for a more meaningful consultation process and a strengthening of the effect of the Treaty of **Waitangi**. They asserted "that **tino rangatiratanga** gives full and exclusive possession of **Maori** lands and resources to **iwi, hapu** and **whanau** and that **Maori** should also be allowed to exercise **kawanatanga**

⁸⁴ MED, *Bioprospecting in New Zealand: Discussing the options*. (Wellington: MED, 2002), 4.

⁸⁵ MED website, "Major issues raised in the submissions to the bioprospecting discussion document, May 2003," <http://www.med.govt.nz/ers/nat-res/bioprospecting/submissions/summary/summary.pdf>. accessed on 22 August 2003.

[governance] and **kaitiakitanga** [stewardship] over their resources.”⁸⁶ In a 6 August 2003 media statement by Associate Minister of Commerce, Judith Tizard, she states, “we will be establishing a **Maori** Consultative Committee which will provide advice as to whether an invention involves traditional knowledge, indigenous plants and animals or is likely to be contrary to **Maori** values.”⁸⁷

Garrity points out that “Protection has been virtually non-existent because traditional **Maori** knowledge and intellectual property does not fit within established Western models. Resolution of the conflict is plausible, but requires change to a well-entrenched mind set.”⁸⁸ Western notions of property are entrenched globally in the form of international agreements that ensnare all manner of things into commodifiable forms. Even though the government has a responsibility to consult with **Maori** as treaty partner, New Zealand’s intellectual property obligations are primarily controlled from offshore. Intellectual property law is thus problematic for **Maori** and Indigenous peoples because

the decision to base a new global system of trade-related IPR law (World Trade Organisation [WTO] legislation on trade-related intellectual property rights [TRIPS]) on precedents established within this particular juridical tradition has revealed the critical role that institutions play in creating new cultures of regulation: acting as powerful vectors for the transmission of specific, culturally determined systems for codifying knowledge and as self-appointed arbiters of the “normative” bases of global regulatory regimes.⁸⁹

Science-based risk assessment

A number of areas relating to the interpretation of the science of biotechnology are of concern. The framing of a specific area will determine whether or not it requires regulation, whether it is seen as a non-issue or a minor or a major area of risk. It is assumed sufficiently

⁸⁶ Ibid.

⁸⁷ MED website, “Amendments proposed for the Patents Act and Plant Variety Rights Act,” http://www.med.govt.nz/buslt/int_prop/patentsreview/media/minister-20030806.html, accessed on 4 September 2003.

⁸⁸ Garrity, 1999: 1210.

⁸⁹ Parry, B., “Cultures of knowledge: Investigating intellectual property rights and relations in the Pacific.” (*Antipode*, 34 (4), 2002), 680.

rigorous regulation will minimize any effect on the environment. However, "We know that an ecosystem is disturbed when a new species is introduced from a different geographical habitat, from another continent perhaps. The entire ecosystem feels the effects."⁹⁰ Regulation does not fully take into account unexpected effects of GMO development, production, release into the environment, and consumption.

The Royal Commission on Genetic Modification rejected "evidence of risks associated with GM food on the ground that the evidence was inconclusive. But *absence of evidence* does not equate to *evidence of absence* when it comes to risks, especially where, as is the case in relation to GM food, little effort has been made to gather such evidence."⁹¹ Regarding the broader spectrum of GMO research, the Commission had similar views on risks, deciding to reject concerns and evidence submitted relating to unpredictable risks. Wills points out the limitations of the thinking that led to this rejection.

Current procedures for the legal regulation of genetic engineering, especially the release into the environment of engineered organisms, are based on assessments of changes induced in single organisms and limited investigation of the interaction between the modified organism and selected members of its proposed ecological niche. It is assumed that any unintended effects can be observed and that any unobserved effects will prove to be innocuous.⁹²

For example the Royal Commission found that the current regulatory arrangements for food were adequate, even though safety "assessments" relating to food are based on scientific data *provided by applicants*.⁹³ However there are concerns that the scientific data provided is inadequate.

There is, at present no evidence to support the assertions of the biotech industry and the regulatory bodies that genetic engineering biotechnology and its products are safe. Tests for toxicity and allergenicity of food products, where they have been carried out at all,

⁹⁰ Wills, P. R., "Disrupting evolution: Biotechnology's real result." In R. Hindmarsh, G. Lawrence and J. Norton, (Eds.). Altered genes - Reconstructing nature: The debate. (St. Leonards, NSW: Allen & Unwin, 1998), 76.

⁹¹ Hope, 2003: 43.

⁹² Wills, 1998: 78.

⁹³ Hope, 2003: 42.

are solely targeted at *known* allergens and toxins, and not designed to reveal unexpected products resulting from the genetic engineering.⁹⁴

Horizontal gene transfer is another area of concern because there is a connection between horizontal gene transfer and genetic engineering. "What is the connection between horizontal gene transfer and genetic engineering? Genetic engineering is a technology designed specifically to transfer genes horizontally between species that do not interbreed."⁹⁵ World-renowned GM science critic Dr Mae-Wan Ho, Director of the Institute of Science in Society in the UK, has recently published a new book documenting some of the studies that have been carried out in the world that go some way in providing proof of the inherent instability and risk of conducting GM research. Michael Meacher, British Environment Minister sacked in June 2003 for voicing fears about GM food, is also able to list a number of studies providing evidence of the possible harmful effects of GM in our food.⁹⁶ Mae-Wan Ho's attempts at alerting the UK government of the dangers of horizontal gene transfer have also fallen on deaf ears.

I first pointed out the dangers of horizontal gene transfer to MAFF [UK Ministry of Agriculture, Fisheries and Food] in a series of correspondence beginning in 1996. Their scientific advisers said there was no evidence it could happen. When it became clear that it could readily happen in the laboratory, the scientific advisers said, "Just because it happens in the laboratory does not mean it will happen in the field". When positive findings turned up in the only field monitoring experiment in the world that has ever been performed, the science advisers swept that under the carpet.⁹⁷

Similar "deaf ears" and "blind eyes" characterise the New Zealand government and regulatory bodies. In a simplified quick guide to horizontal gene transfer (HGT) prepared by MoRST in 2001,⁹⁸ horizontal gene transfer is described as a naturally occurring process of movement of a gene from one species to another. In the quick guide it also states that there is very low risk, in

⁹⁴ Ho, M.-W., Genetic engineering - Dream or nightmare? The brave new world of bad science and big business. (Bath, UK: Gateway Books, 1998), 34. Dr Mae-Wan Ho was also called as a Witness at the Royal Commission on Genetic Modification.

⁹⁵ *Ibid.*, 13.

⁹⁶ *New Zealand Herald*, "GM: Is it too soon?: Tampering with creation," 23 August 2003.

⁹⁷ Ho, M.-W., Living with the fluid genome. (London & Penang, Malaysia: Institute of Science in Society & Third World Network, 2003), 109.

⁹⁸ MoRST website, "Horizontal gene transfer (HGT) – A quick guide." <http://www.morst.govt.nz/uploadedfiles/Biotechnology/hgt.pdf>, accessed on 5 August 2003.

fact it is considered rare, of horizontal gene transfer occurring and having harmful consequences for the environment if GMOs are released. In the “knowns and unknowns” section of the quick guide, MoRST outlines some apparent facts:

- HGT occurs naturally; it is not unique to GMOs.
- Bacteria to bacteria HGT has occurred throughout evolution and will continue to happen in natural systems.
- Plant to bacteria HGT has been shown to occur in the lab under artificial conditions, but so far, has not been observed in the field. It has been estimated that it may occur in the natural environment at a very low frequency of around one in 10,000 million bacteria.⁹⁹

MoRST however does acknowledge that more research needs to be conducted to better manage the risks. A Select Committee charged with reporting on a Bill to amend the Hazardous Substances and New Organisms (HSNO) Act expressed similar sentiments in its 2002 report to government. In the Bill, the Select Committee has imposed controls on the approval of outdoor containment developments and field tests of GMOs that require the removal or destroying of the organism or *heritable material* from the organism at the conclusion of the field tests. The Select Committee did not include DNA in the definition of heritable material. “The decision involved an assessment of the risk posed by horizontal gene transfer (HGT) where bacteria can assimilate DNA into their own DNA other than by descent. This raises the possibility that genetically modified DNA will transfer from the field-test organism to the DNA of other organisms.”¹⁰⁰ DNA was omitted from the definition of heritable material because the risk of horizontal gene transfer occurring was not considered significant.

If it were, the clean up process from field tests would involve sterilising significant volumes of soil and result in a *de facto* moratorium on field tests altogether because of the prohibitive costs and practical difficulties involved. In order to make certain that this does not happen, the Bill even explicitly states that the definition of *destroyed* includes leaving genetic elements to break down or become inactive at the site.¹⁰¹

⁹⁹ Ibid.

¹⁰⁰ Christensen, M., & Jamieson, I., “Legislative steps in New Zealand to implement the recommendations of the Royal Commission on Genetic Modification.” (*Australasian Biotechnology*, 12 (3), 2002), 31.

¹⁰¹ Ibid., 32. Another problem is the current low level of knowledge regarding soil bacteria. The area is so underdeveloped that less than 1% can be cultured and therefore analysed for horizontal gene transfer. The majority have not yet even been named. A major concern is transfer and spread of antibiotic resistance genes throughout the world’s bacteria.

The horizontal gene transfer issue raises a key question for **Maori**; “how safe is the **whakapapa** of all **taonga** in this country?” where **taonga** as a concept incorporates broad definition including plants, birds, animals, and peoples.

As a disturbing aside, it appears the government does not consider soil science as a significantly productive area for the new knowledge economy and has halved the amount of funding allocated to soil science.¹⁰² You would think soil science would be an area requiring more funding not less because of the possible environmental impacts from field-testing and release of GMOs.

The belief that GM and non-GM production systems can coexist is yet another area of concern. In the Government response to the Royal Commission on Genetic Modification: Report on managing the effects of GM organisms and coexistence in primary production – Paper 1: Overview, 2003, officials assert that “effective coexistence of GM and non-GM production can be achieved in New Zealand by proceeding carefully and rigorously examining each use of a GM organism on a case-by-case basis within the context of New Zealand’s comprehensive regulatory framework.”¹⁰³ This decision is in contrast to the recommendation made by the Royal Commission on Genetic Modification that an industry code of practice be developed ensuring adequate separation distances are maintained between GM and non-GM crops.¹⁰⁴ Although there is an acknowledgement that there is a possibility of the unintended presence of GE material in non-GE products, such as the case of pollen transfer, it is believed New Zealand crop farmers have the capability to ensure separation as part of their own control and monitoring procedures.¹⁰⁵ The risk of contamination of non-GM crops by GM crops is seen as manageable.

¹⁰² *New Zealand Herald*, “Editorial: Soil sciences funding cut harms nation,” 5 September 2003.

¹⁰³ MAF website, <http://www.maf.govt.nz/mafnet/rural-nz/research-and-development/biotechnology/gm-coexistence-decision/paper1-overview.htm>, accessed on 4 September 2003.

¹⁰⁴ Royal Commission on Genetic Modification, 2001: 355.

¹⁰⁵ *New Zealand Herald*, “Release of GE crops to be assessed case-by-case,” 17 April 2003.

A final concern for this chapter is the assessment of risk. Assessing risk as if it is mathematically quantifiable is problematic to say the least. “Ranking dangers (which is what risk assessment requires) so as to know which ones to address and in what order, demands prior agreement on criteria. There is no mechanical way to produce a ranking.”¹⁰⁶ In a 2002 Law Commission report prepared for the government on liability for loss resulting from genetically modified organisms, the difficulty of assessing and ranking risk is acknowledged:

The main difficulties for any liability regime stem from the special features of GMOs (mindful that these features may not be unique to GMOs). These include the fact that:

- it is difficult to estimate the level of risk posed by GMOs;
- it is difficult to assess the magnitude of the potential damage that could be caused;
- genetically modified organisms have the potential to create catastrophic levels of harm;
- genetically modified organisms have the potential to cause irreversible damage;
- some of the potential negative effects of GMOs will likely manifest in the long term and be diffuse in nature;
- plaintiffs may face difficulty and expense in establishing causation and proving the extent of any damage; and
- genetically modified organisms are a source of ethical and spiritual concern for part of society.¹⁰⁷

ERMA nevertheless, as primary regulatory agency approving GMO research, has devised a “qualitative” scale to describe the magnitude (or measure of the severity) of an adverse or beneficial effect occurring (minimal, minor, moderate, major, or massive), and a parallel “qualitative” scale to describe the likelihood of an adverse or beneficial effect occurring (very unlikely, unlikely, 50% chance, likely, or very likely).¹⁰⁸ The combined likelihood of effect and magnitude of adverse or beneficial effect results in a table that enables the calculation of the level of risk; negligible, very low to negligible, low, medium, high or extreme. With this ingenious

¹⁰⁶ Douglas, M., & Wildavsky, A., Risk and culture: An essay on the selection of technical and environmental dangers. (Berkeley: University of California Press, 1982), 3.

¹⁰⁷ Law Commission, 2002: 38.

¹⁰⁸ ERMA Decision, 30 September 2002, Application code: GMD02028, Application category: Develop in containment any new organism under the Hazardous Substances and New Organisms (HSNO) Act 1996, Applicant: AgResearch Limited, Purpose: To develop transgenic cattle that can express functional therapeutic foreign proteins in their milk, and to develop transgenic cattle to study gene function and genetic performance. Date application received: 1 May 2002. Hearing: 13-15 August 2002, Considered by: A special committee of the Authority comprising Authority members Jill White, Colin Mantell, Lindie Nelson and Jane Lancaster, and appointed member Manuka Henare. From ERMA website, <http://www.ermanz.govt.nz/appfiles/execsumm/pdf/GMD02028-005.pdf>, accessed on 4 October 2002.

innovation, "The whole complex task of risk identification, assessment and management can appear as a purely technical matter, best left to the experts."¹⁰⁹ In a December 2002 position paper on "Approach to risk," ERMA acknowledges the subjectivity inherent in risk assessment.

Ideally all aspects of uncertainty should be identified, characterised according to their source, and some measure of the extent to which they are likely to affect the estimation of risk should be given. However, in environmental risk decision making particularly, characterisation will rarely be quantitative – it is more likely to be qualitative and subjective. There is often a temptation to resort to "pseudo quantification", including the application of safety factors, the use of indices, or the allocation of representative numbers to levels of probability and magnitude. While such approaches have value in specific circumstances these endeavours to quantify should be recognised for what they are – a reflection of qualitative judgements.¹¹⁰

Although proclaiming the moral high ground, ERMA has, in effect, devised a "pseudo quantification" ranking criterion that gives the impression of being functional and rigorous.

Douglas and Wildavsky see this process as problematic inasmuch as the creator's bias remains invisible.

One salient difference between experts and the lay public is that the latter, when assessing risks, do not conceal their moral commitments but put them into the argument, explicitly and prominently... The ordinary individual admits that his loyalties and moral obligations are largely the matter at stake, but the risk expert claims to depoliticize an inherently political problem.¹¹¹

Overall the decision-making process in the biotechnology and GMO regulatory regime is necessarily political, is distorted by an economic imperative, and is based on the ideological notion that progress is a duty but that "we need to proceed with caution."

"Progress" can be understood as *legitimate* social change *without* democratic political legitimization. *Faith in progress replaces voting*. Furthermore: it is a substitute for questions, a type of consent in advance for objectives and consequences that remain unknown and unmentioned. Progress is a blank page as a political program, to which wholesale agreement is demanded, as if it were the earthly road to heaven. The

¹⁰⁹ Crook, S., "Biotechnology, risk and sociocultural (dis)order." In R. Hindmarsh, G. Lawrence and J. Norton, (Eds.). Altered genes - Reconstructing nature: The debate. (St. Leonards, NSW: Allen & Unwin, 1998), 137.

¹¹⁰ ERMA, Approach to risk: Position paper on the approach to risk, methodologies for dealing with this and the technical and community information required for implementation. ER-OP-03-02 12/02. (2002b), 21.

¹¹¹ Douglas & Wildavsky, 1982: 73.

fundamental demands of democracy have been turned on their heads by the model of progress.

Although there are numerous insertions of the importance of social, cultural, spiritual and ethical values and issues in the Royal Commission recommendations, regulatory discussion documents, and even the establishing of a Bioethics Council, there is no clear direction as to its administration, and therefore it remains vague, ambiguous and entirely open to interpretation. Similarly, regulatory measures are designed to minimize any negative impact on the industry and foster and protect innovations and creativity in the new knowledge economy. Science is used to prop up the drive for biotechnological research and development by maintaining a malleable notion of risk. There is only a façade of a robust and rigorous regulatory regime in New Zealand.¹¹³

Ministry of Research, Science & Technology

The Ministry of Research, Science & Technology (MoRST) was established in October 1989 as part of a government reorganisation of the administration of research, science and technology in New Zealand. Different bodies were established specifically for: research, science and technology policy and public funding (MoRST); research, science and technology funding and investment; research and development (nine Crown Research Institutes; universities, **whare wananga** (tribal universities), Centres of Research Excellence (CoRE), university research commercialisation services, polytechnics; research associations and organisations; and private

¹¹² Beck, U., Risk society: Toward a new modernity. (London: Sage Publications, 1992), 214.

¹¹³ New Zealand's inadequate regulatory regime is in keeping with the inadequacy of regulatory regimes internationally. See for example: Dr Anne Clark at Guelph University in Canada explains the inadequacies in Canadian regulations on her website at <http://www.plant.uoguelph.ca/eclark>; the Alliance for Bio-Integrity has also launched a lawsuit against the U.S. Food & Drug Administration to obtain safety testing of GM foods, which can be accessed from their website at <http://www.biointegrity.org>; the Canadian Institute for Environmental Law & Policy has a report on the inadequacies of regulation of agricultural biotechnology in Canada, accessible from their website at <http://www.cielap.org>; and the Canadian Health Coalition has documents discussing the struggles of Health Canada scientists on their website at <http://www.healthcoalition.ca>.

business).¹¹⁴ MoRST holds a central role in the whole research, science and technology sector in New Zealand.

MoRST oversees the Government's investment in RS&T and shapes the overall direction of the RS&T sector. We work in partnership with other parts of the government, the research sector (especially Crown Research Institutes (CRIs) and universities), the private sector, and counterpart agencies in key overseas countries to generate benefits for New Zealand through RS&T.¹¹⁵

MoRST leads the development of the government's biotechnology strategy through a network of relationships with various ministries, government agencies and bodies, the private sector, and the New Zealand public. MoRST also provides expertise and support to the Growth and Innovation Advisory Board (GIAB), which is made up of some leading figures in New Zealand industry (including leading players in biotechnology), academia, the labour movement and the media, providing "independent advice to the Prime Minister and senior economic ministers on the progress and evolution of the Government's innovation framework."¹¹⁶

MoRST manages the public funding of science through four funding and investment agencies: Royal Society of New Zealand, Health Research Council, New Zealand Venture Investment Fund Limited, and Foundation for Research, Science & Technology. The Royal Society of New Zealand is an independent academy of sciences and an association of science and technology, managing several funds: Marsden Fund, Supporting Promising Individuals, and Promoting an Innovation Culture. The Health Research Council is the main funder of health research and manages the Health Research, **Maori Knowledge & Development Research**, and Supporting Promising Individuals funds. New Zealand Venture Investment Fund Limited is a seed capital fund with co-investment from the Crown and private sector investors and manages

¹¹⁴ Information obtained from "MoRST – Igniting the future: Statement of intent 2003 – 2006," (2003b) & MoRST websites:

<http://www.morst.govt.nz/?CHANNEL=RS%26T+LINKS&PAGE=RS%26T+Links>, "RS&T Links," accessed on 25 May 2003, &

<http://www.morst.govt.nz/default.asp?CHANNEL=About+MoRST&PAGE=About+MoRST>, "About MoRST," accessed on 5 August 2003.

¹¹⁵ MoRST, MoRST – Igniting the future: Statement of intent 2003 - 2006. (Wellington: MoRST, 2003b), 3.

¹¹⁶ *Ibid.*, 35.

the New Zealand Venture Investment Fund. The Foundation for Research, Science & Technology (FRST) is the largest funding agency managing eight “public good” funds: Research for Industry, Technology New Zealand, New Economy Research Fund (NERF), Supporting Promising Individuals, **Maori** Knowledge & Development Research, Social Research, Environmental Research, and Non-Specific Output Funding (NSOF). An individual or organization could access any one of these four funding and investment agencies to fund modern biotechnology research. In fact, researchers are encouraged to apply to multiple funding sources to ensure they receive adequate resourcing.

Government funding of biotechnology research and development

The Foundation for Research, Science & Technology (with a total 2002/2003 funding allocation of \$403 million¹¹⁷) is the primary agency that managed the bulk (\$98.9 million) of the over \$134.5 million spent on modern biotechnology research funding in the 2002/2003 fiscal year, which does not take into account research done as part of education funding.¹¹⁸ The remaining funds for modern biotechnology were managed by the Royal Society of New Zealand through the Marsden Fund (\$12.1m), the Health Research Council through the Health Research Fund (\$11m), the Centres of Research Excellence (\$12.2m), and the Ministry of Agriculture and Fisheries through the Sustainable Farming Fund (\$0.3m).

Funding agencies, such as the Foundation for Research, Science & Technology and the Health Research Council have been encouraged to fund researchers concentrating on aspects of **Maori, tikanga, and Maori** communities.¹¹⁹ This encouragement is a result of recommendations

¹¹⁷ FRST website, 26 July 2002 “Briefing for the incoming minister,” <http://www.frst.govt.nz>, accessed on 8 August 2003.

¹¹⁸ Personal email communication with Andrew Baldwin, Communications Assistant, MoRST, 6 August 2003.

¹¹⁹ Information for this paragraph obtained from various locations on FRST website but particularly, May 2003 “Request for proposals: Impacts of new technologies,” <http://www.frst.govt.nz/Publications/guides-forms/RFP-ImpactsNewTechnologies.doc>, accessed on 21 August 2003.

made by the Royal Commission on Genetic Modification to encourage more **Maori** participation in future research and the economic possibilities of commercialisation of **Maori** knowledge. Both **Maori** and non-**Maori** researchers have led this foray into incorporating “**Maori**,” in its broadest sense, into research projects seeking public funding. This incorporation of “**Maori**” in research is problematic and will be discussed more fully in the next chapter. I shall touch on just a few examples below to illustrate.

A number of **Maori** researchers have sought public funding for projects that effectively trade on being **Maori** and that could be considered at odds with **Maori tikanga**. The Foundation for Research, Science & Technology has provided funding for research projects led by Dr **Meto** Leach of Waikato University on **rongoa** (**Maori** medicine and healing) methods used by **Tuhoe** people. This amounted to \$320,000 for 2000/2001 and \$320,000 for 2002/2003. The aim is commercialisation of this traditional **rongoa** knowledge. Dr **Mere** Roberts, formerly of University of Auckland but now moved to **Te Whare Wananga o Awanuiarangi**, in collaboration with Dr **Manuka Henare**, University of Auckland, and other collaborators nationally and internationally, secured Foundation for Research, Science & Technology funding of \$200,000 annually from July 2001 – June 2004 for research on “Incorporating **tangata whenua** values into scientific decision making,” which in essence is counter to **tikanga Maori** where Western reductionist science and **tangata whenua** (people of the land - **Maori**) values are drastically different. **Waiora** Port, University of Auckland, secured \$94,000 Health Research Council funding from January 1999 – December 2002 for her research on “Cultural perspectives of predictive DNA testing in cancer,” which involved numerous interviews with **Maori**, including **kaumatua** (elders).

Examples of research by non-**Maori**, with some **Maori** researcher collaboration in some instances, involving **Maori** as subject and “non-participant” are numerous. The Health Research Council approved funding of \$1,018,694 from July 2002 – June 2005 for research conducted by Dr Parry Guildford, University of Otago, for research aiming to expand understanding of an

inherited stomach cancer syndrome particularly common in **Maori**. Dr Guildford's research is a good example of the expanding area of medical research in search of "bad" genes. Biotechnology impacts research is an area of funding concentrating on dialogue and decision-making with the public, with **Maori** specifically highlighted. Dr Rosemary du Plessis, University of Canterbury, with Bevan **Tipene-Matua**, has been allocated Foundation for Research, Science & Technology funding of \$570,000 annually from April 2003 – June 2008 to develop a methodology for facilitating dialogue, gaining perspectives of ethical, social, cultural and spiritual issues, and analysing ethical frameworks. Dr Judy Motion, University of Waikato, gained Foundation for Research, Science & Technology funding of \$500,000 annually from April 2003 – June 2008 to develop frameworks for dialogue and decision-making in relation to sustainable biotechnology after examining the socio-economic, cultural and religious/spiritual impacts. Professor Donald Evans, University of Otago, with Professor Mason Durie, is conducting research to clarify and evaluate **Maori** beliefs and perspectives concerning genetic engineering, securing a Foundation for Research, Science & Technology grant of \$200,000 annually from April 2003 – June 2008. This type of funding focussing on dialogue and consultation with **Maori** highlights attempts being made by industry, researchers and government to bring **Maori** on-board.

A large majority of the 2002/2003 modern biotechnology funding was invested in agricultural biotechnology (\$69.8m), biomedical / pharmaceutical solutions¹²⁰ (\$34.7), and bioactive and nutraceutical solutions¹²¹ (\$11m).¹²² The nine Crown Research Institutes secured approximately 70% of the total Foundation for Research, Science & Technology funding of \$403

¹²⁰ "Developing new added-value products, processes and services that deliver health solutions, derived from expertise and know-how developed through research targeting the understanding of fundamental health-related physiological/neurological processes and their manipulation and management for improved health outcomes." Personal email communication with Andrew Baldwin, Communications Assistant, MoRST, 6 August 2003.

¹²¹ "Developing new added-value products, processes and services that deliver health and wellbeing solutions, often derived from knowledge and/or materials from the existing biological industries." Personal email communication with Andrew Baldwin, Communications Assistant, MoRST, 6 August 2003.

¹²² Personal email communication with Andrew Baldwin, Communications Assistant, MoRST, 6 August 2003.

million, with 10% going to universities and 20% going to the private sector.¹²³ Crown Research Institutes, established in 1992, form a significant part of the technology and innovation strategy of the government's research, science and technology focus and operate as a commercial arm of the government, which allows them to borrow funds, form joint ventures and subsidiaries, and engage with private companies nationally and internationally.¹²⁴

In the May 2003 Biotechnology Taskforce report, *Growing the Biotechnology Sector in New Zealand: A Framework for Action*, significant recommendations are made with onerous financial implications for the government and thus taxpayers which include: Action 3 – Allocate \$300 million (\$135 million in 2002) per year over five years for biotechnology research; Action 4 - Allocate \$200 million to establish a Biotechnology Investment Fund; Action 6 – Reduce taxes for the biotechnology sector; Action 11 – Allocate \$450 million per year over three years to establish a single biotechnology industry body; and Action 26 – Create a not-for-profit organization based in the US to facilitate access to philanthropic and government funds. The Taskforce sees this as an investment: “Fundamental research will continue to fuel new commercial opportunities and improve technology. Government must continue to be the active player in core research funding. The taskforce recognises that an investment in research should be treated as ‘investment’ and not as a cost to government.”¹²⁵ In the 15 May 2003 Budget Speech, the government has come to the party part way with a focus on increasing publicly funded research, promoting private sector investment, and thereby promoting closer links between the public and private sector.

\$140 million, plus \$12 million capital, is committed to new investment in Vote: Research, Science and Technology over the next four years. A new pre-seed Acceleration Fund will be established. This fund will have \$19 million to invest over the next four years, in partnership with the private sector, in the early commercial development of

¹²³ FRST website, 26 July 2002 “Briefing for the incoming minister,” <http://www.frst.govt.nz>, accessed on 8 August 2003.

¹²⁴ Crop and Food Research website, “What is a Crown Research Institute?” <http://www.crop.cri.nz/who/cris/crwhat.htm>, accessed on 14 September 2003.

¹²⁵ Biotechnology Taskforce, *Growing the biotechnology sector in New Zealand: A framework for action*. (Wellington: Biotechnology Taskforce, 2003), 6.

promising discoveries in our research institutions. Existing research funds such as the New Economy Research Fund and the Marsden Fund are being boosted substantially again.¹²⁶

The investment in the biotechnology industry made by the government is significant. A comprehensive study of the government investment in biotechnology is beyond the scope of this report, but I have raised a few examples and statements that indicate the government's degree of commitment. This disclosed amount is just a fraction of the total investment in biotechnology. If you just look at the multiple government ministries and agencies involved throughout the whole biotechnology process (from research to development to regulation to trials to commercialisation), the funding directed at government and non-government researchers, the heavy investment in promoting and legitimising genetic engineering (The Royal Commission on Genetic Modification, Knowledge Wave Conferences (funded by the government and expounding New Zealand's potential as a new knowledge economy), biotechnology conferences and seminars), and the involvement at both a national and international level in biotechnology related matters (changing and updating national legislation to accommodate biotechnology with public consultation processes, international trade agreements, meetings and obligations), it is clear the government has devoted billions of dollars to this project. *New Zealand Herald* science writer Simon Collins, in referring to the release of the 2003 *New Zealand Biotechnology Strategy*, states, "despite the long trail from the royal commission to today's document, it is still an open question as to whether most New Zealanders feel they have consented to a coherent strategy that led to that funding decision and others like it."¹²⁷ A question that is not being addressed by the government is "What is the return on the investment?" The New Zealand public is not seeing a return on the investment being made on its behalf.

¹²⁶ New Zealand Government, Budget Speech, 15 May 2003. Hon. Dr Michael Cullen, Minister of Finance. (NZ Government, 2003). 5.

¹²⁷ *NZ Herald*, "Middle ground on biotechnology satisfies no one," 26 May 2003.

2. THE UNIVERSITY / INDUSTRY / GOVERNMENT CONGLOMERATE

[B]iotechnology is interesting and instructive for the light it throws upon power asymmetries between global high technology actors at the cutting edge of science being, nevertheless, dependent on smaller, knowledge-intensive businesses to develop the necessary technology...the latter are dependent on the former for finance and distribution and marketing services. A further irony is that both the entrepreneurial or “dedicated biotechnology firms” (DBFs) and big pharma are inordinately dependent upon public funding for the basic scientific work which they both seek to exploit for profit. This shines an intriguing light on systemic sectoral interactions between globalised power, as practised by pharmaceutical multinationals, scientific power as possessed by entrepreneurial firms, often found in localised clusters, and governmental power, exercised through public research funding and promotion of a publicly-owned university sector, conceived of as the engine of the knowledge-driven economy.¹²⁸

The New Zealand government is making significant investment in the growth of the biotechnology sector, which is evident in its *New Zealand Biotechnology Strategy*. The key agencies that support the biotechnology science, research and skill base are the Ministry of Research, Science & Technology, Foundation for Research, Science & Technology, the Health Research Council, Royal Society of New Zealand, Ministry of Education, and the Tertiary Education Commission, which is responsible for funding tertiary education and training and administering the Performance Based Research Fund (where funding is allocated on the basis of the quality of an institution’s research¹²⁹). The Biotechnology Directorate, based in the New Zealand Trade and Enterprise (NZTE)¹³⁰ Agency, and the Ministry of Foreign Affairs and Trade (MFAT) as well as other agencies such as Ministry of Economic Development (MED) are the key agencies that support industry development and trade and investment in biotechnology.¹³¹ The New Zealand Trade and Enterprise has also been instrumental in launching a global

¹²⁸ Cooke, P., “Biotechnology clusters, ‘Big Pharma’ and the knowledge-driven economy.” (*International Journal of Technology Management*, 25 (1/2), 2003), 66.

¹²⁹ An institution’s research is peer reviewed using three key points to determine quality: research output, which is based on previously completed research; peer esteem, based on recognition of the staff member’s research by peers; and contribution to research environment, which includes development of research students, new and emerging researchers and contribution to a high-quality research environment. “PBRF Guidelines Part 3: Assessing, Scoring and Assigning A Quality Category to Evidence Portfolios,” found at the Tertiary Education Commission website at http://www.tec.govt.nz/home/download_1245.html, accessed on 8 February 2004.

¹³⁰ Industry NZ and Trade NZ merged on July 1 2003 to form NZTE.

¹³¹ MoRST, 2003a: 33.

biotechnology brand, BiosphereNZ,¹³² to promote New Zealand's capabilities internationally. The Ministry of Research, Science & Technology website gushes about New Zealand's international expertise and assets in the biotechnology arena.

With a large proportion of its government science funding invested in biological sciences over the past two decades, New Zealand has significant science strengths (capability, critical mass, infrastructure and international collaborations) in many areas of the biological and medical sciences relevant to biotechnology. These assets are found across its CRIs, universities, and private sector companies and research centres. Commercialisation of the research has, over the past three years, seen the development of a set of new science-commercial partnerships and the formation of new commercial biotechnology companies.¹³³

What is not immediately apparent in the above institutions employed by the government to support the investment in biotechnology is the significant amount of crossover and cross-pollination within the membership of each of these institutions, with collaborations between university researchers, industry and government researchers and agencies, and of course public funding provided by the government. Public funding agencies have boards and panel reviewers who are made up of participants from academe, industry and government bodies/agencies. Researchers and organizations seeking public funding are made up of diverse collaborations of academic scientific researchers and industry (and sometimes government body researchers, such as Crown Research Institutes), including the commercial biotechnology companies affiliated to universities throughout the country.

This amalgamation of sectors is projected to provide vast economic potential for the country. According to a Trade New Zealand article called "Biotech trailblazers – The New Zealand Life Sciences story," New Zealand's export earnings are over 70% derived from biological-based industries, which includes biotechnology, which is expected to have a spectacular increase in value from NZ\$136 million in 1996 to NZ\$2 billion by 2010.

¹³² BiosphereNZ website is, <http://www.biospherenz.com>, and showcases biotech business and investment information. BIOTENZ is another website supported by NZTE, showcasing NZ biotech providers, products and services at, <http://www.biotenz.org.nz>.

¹³³ MoRST website, under 'Current work,' 'Biotechnology,' "New Zealand's research strengths," <http://www.morst.govt.nz/?CHANNEL=NZ%27S+STRENGTHS&PAGE=NZ%27s+strengths>, accessed on 5 August 2003.

Discoveries of new health therapies by local firms are expected to generate more than NZ\$1 billion in the next three years. Treatments for psoriasis, asthma, diabetes and viral diseases, now being proven in the clinic by New Zealand companies, have the potential to help hundreds of millions of people afflicted with disease.¹³⁴

As part of its biotechnology strategy the government has identified eight key areas of strength in New Zealand: large animal-based biotechnologies; plant-based biotechnologies; biomedical science and drug discovery; bioprocessing technologies and biomanufacturing; innovative foods and health; agritechnologies; medical technologies and devices; biocontrol, biosecurity and bioremediation.¹³⁵ In the next section I will highlight some of these collaborations between academic scientists, industry and government, using examples found in some of the eight key biotechnology areas.

The biotech boomers¹³⁶

New Zealand's economy was traditionally based on large animal farming, including sheep, dairy and beef cattle, and deer. The eight key areas of strength build on this traditional foundation and highlight the convergence of thinking in building New Zealand's biotechnology future.

Highly visible biotechnological research conducted in New Zealand has included transgenic sheep and cattle that have been produced to express proteins in milk to help in the search for possible cures for such diseases as multiple sclerosis and cystic fibrosis,¹³⁷ and developments to improve fertility, meat and wool productivity. Biotechnology company Ovita, based in Dunedin, is an example of a consortium made up of AgResearch, a Crown Research

¹³⁴ Trade New Zealand, "Biotech trailblazers – The New Zealand Life Sciences story." (*Australasian Biotechnology*, 12 (3), 2002), 42.

¹³⁵ MoRST website, under 'Current work,' 'Biotechnology,' "New Zealand's research strengths," <http://www.morst.govt.nz/?CHANNEL=NZ%27S+STRENGTHS&PAGE=NZ%27s+strengths>, accessed on 5 August 2003.

¹³⁶ Information for this section has been collated from a variety of sources, including MoRST website, New Zealand Biotechnology Strategy, *New Zealand Herald*.

¹³⁷ Research in this area will be explored in more detail in further chapters, especially Chapter Eight.

Institute (CRI), New Zealand Wool Board and Meat New Zealand. The Ovita consortium is researching the sheep genome in order to develop greater sheep productivity and quality, improving fertility, meat and wool, and research to detect disease and create vaccines. Ovita's research will also have applications in the human therapeutic and veterinary area.

The primary Crown Research Institutes involved in research and development in plant-based biotechnologies, sometimes in collaboration with local universities, include Crop and Food Research, HortResearch, Forest Research Institute and AgResearch. Research in this area has included: pest-and disease-resistant potatoes; disease-resistant peas and tamarillos; GM research on onions, lentils, asparagus, sugarbeet, broccoli, cauliflower, cabbage, fruit (apples and kiwifruit); GM research on flowers, pine trees, and white clover.¹³⁸

There are numerous advancements in New Zealand's biomedical knowledge and medical technologies (some relating to genetic engineering), with important contributions from medical schools based in Auckland and Otago universities, leading to significant medical research into drug discovery and development in neuroscience, cardiovascular disease, asthma, diabetes, cancer, osteoporosis and bone health. Numerous biotechnology companies, most with collaborative research and development arrangements, have emerged from this area. Protenix, concentrating on Type 2 diabetes, has developed a potential diabetes drug (with potential sales estimated at more than \$1.7 billion a year) that had investors ecstatic and signing over \$20 million in September 2003, with \$18 million pledged from a New Zealand consortium of financial institutions and investors headed by Birnie Capital Partners, formerly known as FR Partners and prior to that Fay Richwhite,¹³⁹ and \$2 million from the Foundation for Research, Science & Technology.¹⁴⁰

Another significant international and national collaborative project centres on developing a cure for tuberculosis and involves researchers (Professors and students) from Auckland

¹³⁸ *NZ Herald*, "Designer life: Inside the GM labs," 1 November 2001.

¹³⁹ Fay Richwhite was a well-known New Zealand financial institution.

¹⁴⁰ *Waikato Times*, "\$20m cash injection for diabetes drug," 2 September 2003.

University's School of Biological Sciences, with research based at the Laboratory of Structural Biology. The Laboratory of Structural Biology receives support from the Auckland Medical Research Foundation, Centres of Research Excellence (CoRE), The Health Research Council of New Zealand, the Marsden and New Economy Research Fund, and Pfizer and is a central part of the Centre for Molecular Biodiscovery, a cluster of five leading research groups at the University of Auckland designated by the government as a national Centre of Research Excellence.¹⁴¹ The researchers at the Laboratory of Structural Biology are part of Mycobacterium tuberculosis Structural Genomics Consortium, formed in 2000 to provide a structural basis for the development of therapeutics for tuberculosis, which consist of over 70 public and private laboratories in 12 countries.¹⁴²

Other New Zealand organizations conducting significant collaborative biomedical research are The MacDiarmid Institute for Advanced Materials and Nanotechnology based at Victoria University in Wellington (with affiliations to the University of Canterbury, Christchurch, University of Otago, Dunedin, and Massey University, Palmerston North), The Malaghan Institute of Medical Research (a private charitable trust), and the Liggins Institute based at the University of Auckland. NeuronZ Limited and EndocrinZ Limited are biotechnology companies with agreements with The University of Auckland to develop and commercialise intellectual property originating from the Liggins Institute. Through Auckland UniServices Limited,¹⁴³ the companies will contract back to the Institute significant elements of their research and development programmes.

High on the government's trade agenda is the exporting of food. New Zealand, according to MoRST, "can satisfy the growing international demand for nutraceutical [foods high in

¹⁴¹ Laboratory of Structural Biology website, School of Biological Sciences, Auckland University at, <http://www.xena.lsb.sbs.Auckland.ac.nz>, accessed on 13 September 2003.

¹⁴² Mycobacterium tuberculosis Structural Genomics Consortium website, <http://www.doe-mbi.ucla.edu/TB/>, accessed on 13 September 2003.

¹⁴³ Auckland UniServices Limited is the commercial research and knowledge transfer company for New Zealand's largest university, The University of Auckland.

nutrition and health and well-being value], bioactives [foods with health / medical value] and functional [providing health benefit over and above basic nutritional value] health foods. The convergence of nutritional science, biomedical science and food technology is an emerging area of biotechnology that we are well placed to exploit.”¹⁴⁴ The largest food company in New Zealand is The Fonterra Group, which has numerous collaborations with both public and private organisations. ViaLactia is a biotech subsidiary of Fonterra based at Auckland University Medical School with some work concentrating on genetically modifying cows to produce different varieties of milk and numerous other products derived from milk, such as specialty ingredients, nutraceuticals and pharmaceuticals.¹⁴⁵

All of the above examples highlight the collaboration between the New Zealand government, industry and academic scientists/institutions in the drive toward building the knowledge economy through biotechnology.

The biotech frenzy

Collaborative projects and business ventures are being made between the scientific community in academic and private institutions and major biotechnology corporations with the advent of commercialization of products of genetic engineering. The biotechnology industry seeks to hire, co-opt, and collaborate with biotechnology scientists and researchers who can conduct research, or are conducting research, into areas that could prove economically advantageous for the industry. The biotechnology industry funds the expensive research either in their own research facilities or in public research institutions. They also exploit, gain access to, woo away researchers, or otherwise tap into results of research paid out of tax dollars. Even when corporate-funded research and facilities are based at university campuses, it still involves the

¹⁴⁴ MoRST website. “Innovative foods and health,” <http://www.morst.govt.nz/?CHANNEL=INNOVATIVE+FOODS&PAGE=Innovative+foods>, accessed on 5 August 2003.

¹⁴⁵ Ibid & *NZ Herald*, “Gene rules threaten \$60m deal – Fonterra.” 16 February 2002.

labour of researchers receiving salaries or stipends from government utilizing publicly owned resources. Loepky believes industry is economically motivated to enter into such arrangements, which he calls “technological rent,” or “the means by which surplus profits are sought out through the monopolization process.”¹⁴⁶ Academic institutions are similarly motivated because of the often cash-starved position they find themselves in after successive budget cuts to education. This decision brings consequences for the academy where “industrial organizations will undoubtedly want to establish spheres of influence in biology departments. And the departments themselves may undergo a metamorphosis as tensions develop between pure researchers and applied genetic engineers.”¹⁴⁷

Beck sees these arrangements as problematic, because when “dealing with civilization's risks, the sciences have always abandoned their foundation of experimental logic and made a polygamous marriage with business, politics and ethics - or more precisely, they live with the latter in a sort of 'permanent marriage without a license.'”¹⁴⁸ The sciences in effect are required to follow the money trail where the “choice” of research is determined by what research is funded by government and/or industry. Especially in academia with the commercialization of universities, all departments and schools are encouraged to find external sources of funding because of the limited research budget allocated to universities by government. Cooke believes this phenomenon in biotechnology “is a study in complexity between multinationals and entrepreneurial start-ups, competition with collaboration and public subsidy for private profitability.”¹⁴⁹

Government collaboration in academic and corporate genome research through funding and collaborative ventures is actively promoted by government as being instrumental in enacting the knowledge economy and encouraging progressive research that will have long-term benefits

¹⁴⁶ Loepky, 1999: 40.

¹⁴⁷ Krimsky, S., Genetic alchemy: The social history of the recombinant DNA controversy. (Cambridge, Massachusetts: The MIT Press, 1982), 347.

¹⁴⁸ Beck, 1992: 29.

¹⁴⁹ Cooke, 2003: 79.

for all of society. This collaboration is also legitimised under the umbrella of international trade and as an attempt not to be “left behind” or “miss out on opportunities.”

By emphasizing the intersection between (unfair) market competition and nationalistic rivalry, government and industry place the finishing touch on justifications which legitimate government support (eg., tax relief, basic science funding), help instigate and accelerate scientific and technological innovation, and seek a capital-friendly realignment of policies (eg., deregulation and patent protection).¹⁵⁰

This constructed crisis of “being left behind” and “missing out on opportunities” was well illustrated in the race to map and sequence the human genome where speed was an integral part of the human genome project and “for states, corporations, genomicists, technoscientific tools, and biomaterials alike, it ...[became] a matter of survival of the fastest.”¹⁵¹ As a consequence, Gottweis states “The social construction of a ‘technology race’ positioned private industry to take a decisive role in the politics of genetic engineering. In the United States, the scientific developments around genetic engineering were quickly exploited commercially.”¹⁵²

This same “rush” mentality permeates the whole genomic production process, including conceiving something in property terms even when a commodifiable product or process has not yet been developed. Ruth McNally and Peter Wheale note that “at the same time as patenting is a stimulus to corporate investment in research and development, it is also a stimulus to patenting itself, even amongst those opposed to the principle of patenting, because if one organization does not patent a process or product, another one might.”¹⁵³ However, in order to keep the pretence going, the biotechnology industry must have a market. Not just any market will do; it has to be a market absolutely crying out for more. Beck suggests, “an *insatiable appetite for medicine* is produced, a permanently expanding market for the services of the medical profession whose

¹⁵⁰ Loepky, 1999: 44.

¹⁵¹ Fortun, M., “The Human Genome Project and the acceleration of biotechnology.” In Thackray, Arnold, (ed.). Private science: Biotechnology and the rise of the molecular sciences. (Philadelphia: University of Pennsylvania Press, 1998), 198.

¹⁵² Gottweis, 1997: 73.

¹⁵³ McNally, R. & Wheale, P., “Bio-patenting and innovation: Nomads of the present and a new global order.” In P. O’Mahoney (Ed.). Nature, risk and responsibility: Discourses of biotechnology. (New York: Routledge, 1999), 175.

ramifications echo into the distant depths."¹⁵⁴ This "insatiable appetite" for medical advancements is an example of what Keller calls the rhetorical power of gene talk.

The invocation of genes has proven demonstrably effective not only in securing funding and promoting research agendas but also (and perhaps even especially) in marketing the products of a rapidly expanding biotech industry. Indeed, the new partnerships between science and commerce that are daily being forged by the promises of genomics bind genetics to the market with a strength and intimacy that is unprecedented in the annals of basic research in the life sciences. The closer such ties, the greater the research scientist's investment becomes in the rhetorical power of a language that works so well.¹⁵⁵

3. THE MEDIA

Science writers, in effect, are brokers, framing social reality for their readers and shaping the public consciousness about science-related events. Their selection of news about science and technology sets the agenda for public policy. Their presentation of science news lays the foundation for personal attitudes and public actions. They are often our only source of information about the scientific and technical choices that significantly affect our work, our health, and our lives.¹⁵⁶

"Constructive community engagement" through improving access to quality information is considered a vital goal by the government in its *New Zealand Biotechnology Strategy*.

"Information must be easily accessible and easily understood. It must demonstrate a range of perspectives and be from sources that are regarded as independent and trustworthy."¹⁵⁷ The government believes the public requires information on the science, research, market sector, regulation and ethics of biotechnology from a variety of government and non-government sources, including: a biotechnology Internet portal with relevant links, existing websites of government agencies, research institutes, sector bodies, specialist groups, science centres, videos, publications, exhibitions and seminars, and print and TV media.

The media in particular are persuasive in directing public attention and indirectly influencing public policy. They are an "indispensable bridge between the scientists and other

¹⁵⁴ Beck, 1992: 211.

¹⁵⁵ Keller, E. F., *The century of the gene*. (Cambridge, Massachusetts: Harvard University Press, 2000), 143.

¹⁵⁶ Nelkin, D., *Selling science: How the press covers science and technology*. (New York: W.H. Freeman and Company, 1995), 161.

¹⁵⁷ MoRST, 2003a: 11.

sectors of society.”¹⁵⁸ As well as scientists, there are a community of players, including government, industry, and university, who help the news media shape the news. And there are the journalists covering the science stories. Verica Rupa’s media analysis of the coverage of the Royal Commission’s report on genetic modification, the only published analysis of GE media coverage in New Zealand,¹⁵⁹ revealed an

almost unanimous conviction of all five editorial teams¹⁶⁰ that genetic engineering would bring economic prosperity to New Zealand. All used arguments – rewritten from the Royal Commission’s report and Government’s responses to that report – belonging to a strong neo-liberal, business oriented media discourse.¹⁶¹

Editorial headers from the *New Zealand Herald* illustrate this positioning: “Reality must rule in debate on GM” (4 September 2001), “Science must win the GM argument” (26 September 2001), “Moratorium on GM just fence-sitting” (30 October 2001). In stressing only positive possibilities offered by genetic engineering, New Zealand’s newspapers effectively “helped the ‘pro GE’ part of the public sphere to dominate discussion about GE. In so doing they chose sides – or chose their own side – rather than reflecting or better informing the opinions of their readers.”¹⁶²

Complicit in this position was the government. “The Government framed the story about the Report as a political issue, secured a position as a primary definer, and qualified the Report as balanced, sensible, and sane – the ‘middle road’ between development and care for the environment.”¹⁶³

¹⁵⁸ Krimsky, 1982: 342.

¹⁵⁹ Personal email communication with Verica Rupa, Lecturer in Media Studies, Victoria University of Wellington, 31 July 2003. “I haven’t seen any other analysis of GE media coverage. I am continuing work on that issue and will have some more results by the end of the year. The story about presentation of **Maori** concerns is a sad one, as is the general story about presentation of **Maori** in NZ media and media coverage of GE issue.”

¹⁶⁰ *New Zealand Herald* (national/Auckland), *Press* (Christchurch), *Dominion* (Wellington), *Evening Post* (Wellington), and *Otago Daily Times* (Dunedin), which are the five largest metropolitan newspapers in NZ.

¹⁶¹ Rupa, V., “Keeping our options closed: The dominance of the conflict story-telling frame in media coverage of the Royal Commission’s Report on Genetic Modification in New Zealand.” (*Political Science*, 54 (2), 2002), 66.

¹⁶² *Ibid.*, 67.

¹⁶³ *Ibid.*, 64.

Framing the different communities

According to Patrick O'Mahony and Tracey Skillington in an analysis of the Irish and British press in the 1990s, the media framed different communities into four main groupings, which they call discourse coalitions on biotechnology: fundamentalist critique, new left libertarian critique, counter-scientific expertise coalition, and biotechnology as solution coalition. The fundamentalist critique of biotechnology coalition consists of a risk, anti-science and anti-consumerist discourse, where society is seen in a stewardship role. This perspective is embedded in the notion of "harmony with nature" and upholding the moral discourse of rights and justice for all life, including animals.¹⁶⁴ The new left libertarian critique of biotechnology coalition is primarily founded on the concept of "true" democracy. "Ethically guided government regulation" of corporations and the environment, avoidance of exploitation of farmers and indigenous people, avenues for "true public debate," and transparency and dialogue *with* the public are all crucial concerns for the second coalition.¹⁶⁵ The counter-scientific expertise coalition, which employs scientific experts to disprove the facts of corporate scientists used to promulgate the worth of biotechnology, encourage a principle of precaution particularly in relation to potential risks and uncertainty involved in the area of new biotechnology.¹⁶⁶ The biotechnology as solution discourse coalition is premised on the belief that biotechnology is for the public good and "the ideology of the market with its jargon of the 'new and improved' is called upon in order to justify these nature-altering developments. This facilitates the movement of this coalition's discourse from private interest to public good."¹⁶⁷

The New Zealand media frames the different communities into similar groups, with some groups traversing more than one of these discourse coalitions, such as the majority of **Maori** who

¹⁶⁴ O'Mahony, Patrick & Skillington, Tracey, "Constructing difference: Discourse coalitions on biotechnology in the press." In O'Mahoney, Patrick, (ed.). Nature, risk and responsibility: Discourses of biotechnology. (New York: Routledge, 1999), 103.

¹⁶⁵ Ibid., 105.

¹⁶⁶ Ibid., 108.

¹⁶⁷ Ibid., 111.

are against the interference with life through genetic engineering and believe that there has been a breach of the Treaty partner relationship because there has been inadequate consultation with the government on this issue.¹⁶⁸ Utilising O'Mahony and Skillington's discourse coalitions, New Zealand anti-GE groups, which include **Maori**, would predominantly¹⁶⁹ tend to fall within the fundamentalist critique of biotechnology coalition. This coalition is seen as a threat to the pro-GE camp, the economy, and therefore the country, and is demonised in the media with headlines in the *New Zealand Herald* such as: "Scare stories bolster GE crusade" (4 August 2001), "Anti-GM sabotage destroys potatoes" (11 January 2002), "Protests seen as threat to GE research" (14 January 2002), "**Ruakura** scientists fear for their safety" (5 October 2002), "GE fears make New Zealand 'a laughing stock'" (26 July 2003), "Select Committee rejects British MP's anti-GE comments" (7 August 2003).

In Rupar's analysis, genetic engineering is framed as a simple conflict story between two communities. The conflicting "discourse communities" employed by the media were predominantly the environmental camp on the 'bad' side, namely the Green Party, and the authoritative and deliberative government on the 'good' side, with stories framed as a "'horse race' (who is winning and who is losing), 'reaction' (a response from one of the major players), and 'straight news account' (basic answers on who, what, when, where, why and how)."¹⁷⁰ There are, however, a variety of communities in New Zealand with an interest in genetic engineering.

Framing the story

Nelkin identifies several features of contemporary science reporting in the media: information is presented simply and is high on imagery; information generally highlights the

¹⁶⁸ See Chapter Five for surveys of Maori views on GE/GM.

¹⁶⁹ NZ anti-GE groups are reflected in other discourse coalitions. However, in the much polarised debate and controversy associated with this technology in NZ, anti-GE groups tend to be more than likely lumped in the fundamentalist critique of biotechnology coalition.

¹⁷⁰ Rupar, 2002: 64.

wondrous prospects of the research for the public; science and technology is seen as a race; and the important role of scientists is emphasized in the media. All of these aspects are integrated into the stories published by the New Zealand media. There is a parallel observation made by Hubbard and Wald about the American media. The media generates a heightened sense of anticipation in the public where “new discoveries” are given generally uncritical public exposure, even though the research is in its early stages.

Rupar found, however, that during the period of the Royal Commission reporting, the actual substance of the story, the risks or benefits of genetic engineering, were predominantly opinion pieces, editorials or letters to the editor.

Public relations as media manager

Corporations and governments actively engage public relations firms to help communicate the good news of biotechnology and to play down the bad because “unrealistic public expectations about the benefits of science also leave the enterprise vulnerable when things somehow failed to 'work.’”¹⁷¹ This leads to the need for a carefully managed media profile with “‘parachute teams' or 'truth squads' of scientists, ready to move into risk situations in order to defuse the opposition by presenting technical 'facts.’”¹⁷² The intention of both corporate and scientific communities is to ensure the presentation of facts labours the point of benefits and cures for all and, for government in particular, that biotechnology is “couched in terms of the public interest.”¹⁷³

Kay Weaver and Judy Motion have written of two New Zealand examples of the employment of a public relations firm, Wellington-based Communication Trumps. King Salmon,

¹⁷¹ Nelkin, 1995: 70.

¹⁷² Ibid., 137.

¹⁷³ Weaver, C., K., & Motion, J., “Sabotage and subterfuge: Public relations, democracy and genetic engineering in New Zealand.” (Media, Culture & Society, 24 (3), 2002), 326.

a private company based near Blenheim, began genetically modifying Chinook salmon in 1994 to promote rapid growth. However, in 1999 it was discovered by the Leader of the Green Party, Jeanette Fitzsimmons, that King Salmon had employed Communication Trumps to help manage public concern over the incidence of GM salmon developing deformities. The strategies Communication Trumps advised included: establishing relationships with different groups and individuals, including ERMA, the Ministry for the Environment, and certain activist groups; promoting the benefits and minimizing public access to information about deformities; and having a strategy set in place if the information became public. The strategy of managing public concern “is about providing fragments of knowledge to the public, and only those fragments which function in the corporate interest.”¹⁷⁴

The second example illustrated by Weaver and Motion was the employment of Communication Trumps by four Crown Research Institutes (Crop and Food Research, HortResearch, Forest Research, and AgResearch), all with interests in genetic engineering, who together formed a trust called Gene Technology Information Trust in 1998. The Trust was formed to provide the public with authoritative and impartial information on gene technology. It is unclear, although easy to surmise, why a Trust needed to be formed by government agencies in the first place and why it needed Communication Trumps to take a central role. Communication Trumps’ role was to run the Trust’s Gene Pool information programme, with the purpose of educating the public about gene technology through a variety of means. Weaver and Motion surmise that the choice of the name “Gene Pool” was not an accident as it conveyed a suitably unemotional and neutralized conception of genes as an undifferentiated pool available for scientists to use, as opposed to the action and possible interference implied in the term genetic engineering and modification. What makes this case extremely interesting is the lack of information that I was able to track down through my research into this incident. Conducting searches for information relating to this specific case about the PR firm and government/CRI

¹⁷⁴ Ibid., 337.

involvement revealed little. Even the media seemed quite silent on this issue, apart from a few very short articles on the television news and few other sources. My impression is that the “Trust story” was buried because it revealed too much about the measures taken to convince the public that this new technology is safe and in the public interest, and that tapping into the public purse was/is justified.

In September 1999 Gene Technology Information Trust ceased operations after an investigation by Parliament’s Education and Science Select Committee discovered that both public and private sources of funding contributed to the trust.¹⁷⁵

In 1997-98, the trust received \$70,000 from the Science Promotion Fund and Technology NZ, \$30,625 from crown research institutes, \$27,500 from Monsanto, \$5625 each from the Beef and Lamb Marketing Bureau and NZ Kiwifruit, \$3749 from the Plant Breeding and Research Association and \$1000 from Agriseeds. A further \$13,920 came from seminars.¹⁷⁶

A central tool in Communication Trumps’ public information strategy was the production of a pamphlet. Weaver and Motion outlined a number of methods utilised in this one-sided pamphlet to emphasize the benefits of genetic engineering, including: aligning traditional food production methods with the new GE ones so that it appears there is little difference; simplifying the science of genetic engineering so that it is “represented as apolitical and unproblematic – and not a site of necessary contestation”¹⁷⁷; and downplaying the possible health risks of GM food. Weaver and Motion concluded “Gene Pool was a front group for the corporate sector, government research and, therefore, a New Zealand government that viewed genetic engineering in terms of potential wealth creation as highly beneficial to the New Zealand economy.”¹⁷⁸

Both these cases clearly illustrate attempts made by government, in this case a conglomerate of Crown Research Institutes, and corporations to construct a story of how the

¹⁷⁵ *TV One News* website, “GM trust’s activities ‘one-sided.’” 12 October 1999.

¹⁷⁶ *NZ Herald*, “Gene trust ‘abuse’ by GM food proponents,” 4 September 1999.

¹⁷⁷ Weaver & Motion, 2002: 339.

¹⁷⁸ *Ibid.*, 340.

public should view a particular issue, “to construct a dominant hegemonic discourse about genetic engineering and gene modification.”¹⁷⁹

4. SCHOOL & THE EDUCATION SYSTEM

Since 1999 the New Zealand school system has introduced a new technology curriculum that is compulsory from Years 1 to 10 [primer 1 to form 4] and includes biotechnology as an area of focus... The National Certificate of Educational Achievement now makes it possible to study biotechnology through to year 13 [form 7], providing a broader pathway to tertiary study.¹⁸⁰

Since 1999 the government has specifically included the area of biotechnology into the technology curriculum, and as part of its initiatives for “constructive community engagement” and “growing the biotechnology sector,” it is supporting biotechnology education with resources and funding.

The government in particular wishes to promote science and technology at senior secondary and tertiary levels, promote **Maori** and Pacific Island participation, encourage post-graduate research through new scholarships and fellowships, and also encourage participation by biotechnology companies and incorporation of students into their planning and development of programmes.¹⁸¹ In one of these school-industry collaborations, eleven Year 12 (form 6) Auckland high school students “used genetically modified E.coli bacteria to multiply tiny samples of genetic material taken from apples and pumpkins at Genesis Research and Development in Parnell. Then they used Genesis equipment to ‘read’ the genetic sequences of the material.”¹⁸² Biotechnology company Genesis Research and Development has pioneered this new scheme with a project studying potential benefits of **harakeke** (flax) in the biotechnology industry. **Harakeke** is a key initiative established by Genesis Research and Development. The head of Genesis Research and Development, Jim Watson, is a key member in the drive to develop the industry of

¹⁷⁹ Ibid., 337.

¹⁸⁰ MoRST, 2003a: 17.

¹⁸¹ Ibid., 11.

¹⁸² *New Zealand Herald*, “Gene science goes to school,” 10 December 2002.

biotechnology in New Zealand, being a member of the Royal Society of New Zealand (a pre-eminent science institution) and a member of the government's Innovation Committee (a government think-tank). The name **harakeke**, as used in the name of this project, is symbolic of nurturing the young (or **whanaungatanga**), where the older flax leaves surround and protect the newer shoots. "**Harakeke**'s mission is to develop a partnership between the growing biotechnology industry in New Zealand and secondary schools to promote science teaching and learning and business growth."¹⁸³ Students are involved in a variety of projects with a biotechnology focus, including the biological, commercial, regulatory and legal areas. Students spend time in the labs where they work alongside scientists on actual research projects, as well as by themselves, and attend lectures given by the staff explaining the different aspects of their work.

In another initiative, "supported by Hamilton-based science publishers Biozone, the British Council, Dexcel [private biotechnology company], NIWA [National Institute of Water and Atmospheric Research; a Crown Research Institute], AgResearch, the Royal Society of New Zealand and Waikato University," an inaugural national Biolive Conference was convened for secondary school biology teachers, centred on the themes of biotechnology and genetic engineering and evolution. The convenor of the conference explained, "in a time when there were many controversies surrounding parts of biology, it was important for teachers to teach in an open minded way and use critical evaluation based on evidence. 'It is easy to scare people with half-truths and untruths. Misinformation can very easily be used for political purposes.'"¹⁸⁴

The "Introducing technology" section of the *Technology in the New Zealand Curriculum* document produced for the Ministry of Education explains why technology is a significant area for the education curriculum, echoing the whole premise of the government's *New Zealand Biotechnology Strategy*,

¹⁸³ MoRST, 2003a: 15.

¹⁸⁴ *Hamilton Press*, "Issues for bio teachers," 16 July 2003.

Men and women working in technological careers add value to traditional products and services and create new ones to improve people's quality of life, and help New Zealand's continuing development as a successful nation. New Zealand is rich in energy resources and primary products which can be processed into higher value products, through ideas and technologies yet to be developed.¹⁸⁵

It is beyond the scope of this thesis to discuss in great detail how biotechnology and gene technology impact the school and the education sector. However, what is important to note is that schools are part of the government's collaborative effort of promoting new technologies in New Zealand society and part of its overall strategy in the promotion of the "knowledge economy."

5. THE PUBLIC

The Parliamentary Commissioner for the Environment in the Preface of his October 2000 report, *Caught in the headlights: New Zealanders' reflections on possums, control options and genetic engineering*, states,

We are no longer in an era when questions about technology and its future uses can be left to a small section of society – the science organizations and their investors, public or private. New Zealanders have considerable wisdom and experience that can help in the process of shaping and asking the right questions. It is essential – for effective possum control across this country's landscapes, for the credibility and public acceptability of science in the 21st century, and for an appropriate response to the challenges of genetic technologies – that we engage with and utilise this wisdom.¹⁸⁶

This point permeates the whole report of the Parliamentary Commissioner. Since this report was published, citizens, including **Maori** as **tangata whenua** and Treaty partners, have had only a perfunctory role to play in decisions related to biotechnology, despite the government's promise of engagement with communities.

¹⁸⁵ **Te Kete Ipurangi** website, government education portal site, "Technology in the New Zealand Curriculum," http://www.tki.org.nz/r/technology/curriculum/p6_e.php, accessed on 19 August 2003.

¹⁸⁶ Parliamentary Commissioner for the Environment, *Caught in the headlights: New Zealanders' reflections on possums, control options and genetic engineering*. (Wellington: Office of the Parliamentary Commissioner for the Environment, 2000), ii.

The government says it is vital to “Build understanding about biotechnology and constructive engagement between people in the community and the biotechnology sector.”¹⁸⁷ As well as making information about biotechnology accessible, active engagement and dialogue will “develop constructive relationships between scientists and developers in the biotechnology sector and different groups in the community,”¹⁸⁸ by funding dialogue initiatives through the Science and Technology Dialogue Fund, funding outreach activities, supporting the development of **Maori** initiatives to develop communication models and resources that will help facilitate better dialogue with **Maori** communities, and support the work of the Bioethics Council whose primary role is to dialogue with the public.

All of these measures to “develop constructive relationships” and initiate “constructive engagement” with different communities, in particular **Maori**, are efforts to re-educate any persons resistant to biotechnology.¹⁸⁹

Protestors

The public is made up of many communities. The more visible public is of course the many protest groups, united in their protest against biotechnology but who each have a different **kaupapa** (agenda) to follow and different bottom lines. A variety of groups, new and old, have mushroomed around the issue of biotechnology and genetic engineering, highlighting this as an area of public concern in contemporary society. This gives rise to Winner questioning the participatory role of the citizen and the public in contemporary democracy because,

While the activities of public interest groups are clearly an exercise of the right of free speech, and while they are obviously important to the effective operation of modern democracy, the very existence of these groups points to the lack of any clear, substantive

¹⁸⁷ MoRST, 2003a: 10.

¹⁸⁸ Ibid., 14.

¹⁸⁹ See Chapter Five for a survey of **Maori** viewpoints on biotechnology and genetic technology.

meaning for the term *public*. In this conception, the 'public' arises ad hoc around certain points of social stress.¹⁹⁰

Coombe asserts "Free speech is a doctrinal field that clings tenaciously to Enlightenment concepts and bourgeois ideals in the face of late-capitalist realities."¹⁹¹ In reality "Mass communications controlled by private actors and governed by market forces simply do not permit the diversity of perspectives necessary for the flourishing of dialogic democracy."¹⁹² As noted by Rugar, the news media chose to frame the debate as a simple conflict story between two communities; predominantly the environmental camp, namely the Green Party, and the government.¹⁹³ The media also predominantly bedded with the pro-GE camp, as was discovered in Rugar's analysis of the five largest daily newspapers in New Zealand. Therefore, with this frame and stance, the media actively discredited protest groups for, among other things, their lack of understanding of the "real" issues, by the insertion of an "expert" pro-GE opinion, and / or degrading the group as emotive or unscientific, and / or lacking an understanding of the benefits of this science. "Protests, fears, criticism, or resistance in the public sphere are a *pure problem of information*. If the public only knew what the technical people know, they would be at ease - otherwise they are just hopelessly irrational,"¹⁹⁴ or "ignorant, inconsistent, overzealous, mentally ill, and victims of a host of other infirmities."¹⁹⁵

Greenpeace NZ, RAGE NZ (Revolt Against Genetic Engineering, now called GE Free NZ), Mothers Against Genetic Engineering (MAAdGE), Save Animals From Exploitation (Safe), the Green Party, Soil and Health Association (now called Organic NZ), Physicians and Scientists for Responsible Genetics (PSRG), the Sustainability Council of NZ, **Nga Wahine Tiaki O Te Ao**

¹⁹⁰ Winner, Langdon, "Citizen virtues in a technological order." In Feenberg, Andrew & Hannay, Alastair, (eds.). Technology and the politics of knowledge. (Bloomington: Indiana University Press, 1995), 75.

¹⁹¹ Coombe, Rosemary, The cultural life of intellectual properties: Authorship, appropriation, and the law. (Durham and London: Duke University Press, 1998), 258.

¹⁹² *Ibid.*, 259.

¹⁹³ Rugar, 2002.

¹⁹⁴ Beck, 1992: 58.

¹⁹⁵ Leiss, W., & Chociolko, C., Risk and responsibility. (Montreal, Kingston: McGill-Queen's University Press, 1994), 9.

(group of professional **Maori** women opposed to GE), and **Te Waka Kai Ora** (**Maori** organics organization), are just some of the groups critically engaging on this issue. These various groups are informed and cognizant of the science as they come from diverse backgrounds and occupations including scientists, university professors, lawyers, business people, high-profile entertainers, and concerned members of the general public.

It is not the uneducated or advocates of a new Stone Age culture who are warning of the dangers, but more and more these activists are people who are themselves scientists - nuclear engineers, physicians, geneticists, or computer scientists and the like - as well as countless citizens, for whom subjection to danger and competence overlap. They know how to make arguments, are well organized, in some cases possess their own periodicals, and are in a position to provide the public and the courts with arguments.¹⁹⁶

The Sustainability Council of New Zealand is an example of one of the groups critically engaging on the GE issue.¹⁹⁷ This high-profile organization has the “realisation of a sustainable New Zealand” as one of its central purposes. The board consists of a range of experts and well-known New Zealanders, including the late Sir Peter Elworthy (prominent member of NZ Deer Farmers’ Association, President of Federated Farmers, and many other memberships), Professor Garth Cooper (Professor in Biochemistry & Clinical Biochemistry at Auckland University, Chief Science Officer of biopharmaceutical corporation Protomix, and member of the government’s Biotechnology Taskforce), Dame Susan Devoy (World number one squash champion), Annabel Langbein (International award-winning creative culinary writer), Sam Neill (Internationally famous movie star), Simon Terry (Managing Director of Simon Terry Associates Ltd. specialising in energy, environmental and regulatory issues, and author of the 2001 report: *Who bears the risk? GMOs and liability*).¹⁹⁸

¹⁹⁶ Beck, 1992: 203.

¹⁹⁷ The following examples of websites provide useful information and analysis for concerned citizens to engage with the government on issues related to GE. Sustainability Council of New Zealand: <http://www.sustainabilitynz.org>. GE-Free New Zealand in Food and Environment (Rage Inc.): <http://www.gefree.org.nz>. Mothers Against Genetic Engineering: <http://www.madge.net.nz>. Physicians and Scientists for Responsible Genetics: <http://www.psr.org.nz>.

¹⁹⁸ Sustainability Council of New Zealand: <http://www.sustainabilitynz.org>. Accessed on 29 February 2004.

Trust

Engendering trust is key to public engagement and approval. According to the government's *New Zealand Biotechnology Strategy*, this trust is engendered through a dialogical relationship between the scientists and developers and the public. "By having the chance to share information and views, people can gain greater trust and confidence in science and technological development. The science and technology community, in turn, can gain greater trust and confidence in the public's ability to contribute to decisions about science issues."¹⁹⁹ Rather than engendering dialogical relationships, the reality is a monological relationship where the government is clear on what it wants the public to think. The focus of the government's *New Zealand Biotechnology Strategy* is for uncritical, euphemistically defined as "constructive" in government-speak, public acceptance of science and technology development. "Trust" then is believing in science and technology development.

A large part of public trust regarding biotechnology rests on public confidence in the regulatory measures that the New Zealand government puts in place and the transparency of its processes. However, the government is placed in a conflictual position because of its role as both promoter and regulator of biotechnology. It is an awkward balancing act between "the often conflicting political demands of protecting science, economy and the public interest."²⁰⁰ This tension is illuminated in the *New Zealand Biotechnology Strategy* where trust is seen as requiring a rigorous regulatory system with processes for consultation but which should not stifle innovation.²⁰¹ However, this "enlargement of the policy community to ensure a continuing public engagement with the systems of regulation is likely to prove a difficult enterprise for which there

¹⁹⁹ MoRST, 2003a: 14.

²⁰⁰ Jones, M., & Salter, B., "The governance of human genetics: Policy discourse and constructions of public trust." (*New Genetics and Society*, 22 (1), 2003), 21. pp. 21-41. This balancing act is tied to the states role as a conduit or mediator for the global economy. Another important role of the state has always been to protect its legitimacy by balancing the needs of competing interest groups.

²⁰¹ MoRST, 2003a: 7.

is no blueprint, no central structure of political management and against which there is considerable cultural inertia within the scientific and policy community.”²⁰²

Consultation

Consultation with the public has been ongoing in various forms, including consultation on the government’s 2003 *New Zealand Biotechnology Strategy*, 2002 *Bioprospecting in New Zealand: Discussing the options*, Independent Biotechnology Advisory Council (IBAC) 2000 report *Views on the Biotechnology Question*, Parliamentary Commissioner for the Environment (PCE) 2000 report *Caught in the Headlights: New Zealanders’ Reflections on Possums, Control Options and Genetic Engineering*, 2002 *Public Discussion Paper: Improving the Operation of the HSNO Act for New Organisms*, with the most significant being the 2001 *Report of the Royal Commission on Genetic Modification*. However, it is what happens with the reports that matter. The outcome from the consultations is predictable. “The search for an objective answer brings a plurality of responses rather than a simple consensus.”²⁰³

Skillington believes the debates surrounding biotechnology are effectively shut down because of this plurality and because of the belief that the public just needs a bit more education so that they see it our way.

The institutional codification²⁰⁴ of applications of biotechnological innovation occur largely in a state of denial of both the complex and pluralistic nature of contemporary society, and of the fundamental political rights of its people. Institutional industrial-scientific and political elites have aimed at privileging the authoritative voice of science and devaluing the non-scientist’s involvement in decision-making procedures. This involves a correlative detour to a closed door policy regime with the aim of removing delicate issues relating to biotechnology from the potential reach of public challenge.²⁰⁵

²⁰² Jones & Salter, 2003: 38.

²⁰³ Winner, 1995: 75.

²⁰⁴ Skillington defines institutional codification as “new policy and legal norms to deal with the application of bio-innovations and the risks they entail...” Skillington, Tracey, “Modernity’s organic economy of governmentality.” In O’Mahoney, Patrick, (ed.). *Nature, risk and responsibility: Discourses of biotechnology*. (New York: Routledge, 1999), 195.

²⁰⁵ Skillington, Tracey, “Modernity’s organic economy of governmentality.” In O’Mahoney, Patrick, (ed.). *Nature, risk and responsibility: Discourses of biotechnology*. (New York: Routledge, 1999), 195.

A comment made by Minister of Research, Science and Technology, Pete Hodgson, in a 2001 newspaper article echoes this belief: “The requirements of democracy are often inconvenient for science, business, and Governments. We override them at our peril.”²⁰⁶

Maori

The government provides various opportunities for **Maori** to have a voice and engage in a dialogical relationship with scientists, developers and regulators. **Maori** are involved in multiple consultative committees, including the ERMA **Nga Kaihautu Tikanga Taiao** Advisory Body, **Maori** caucus of the Bioethics Council, the soon to be established **Maori** Consultative Committee on Intellectual Property, and the Institutional Biological Safety Committees (IBSC), with the legal requirement that there be at least one **Maori** person on each IBSC. This however does not take account of the numerous **hui** or general consultation processes involving **Maori**, or the many other ministries, bodies and agencies that require or receive input from **Maori**.

All of these measures give the appearance of being consultative and engaging the community, yet the reality seems to be that they are merely token efforts at providing voice to a community that is listened to with “exquisite politeness” but whose voice becomes invisible in the decision making process. “On a matter that holds so many risks for what **Maori** submitters called the ‘**ira tangata**’ [life principle of humans], it is not enough that we be heard with ‘exquisite politeness’ and then marginalized. Our **mokopuna** [grandchildren] deserve better and our rights demand more.”²⁰⁷

²⁰⁶ *New Zealand Herald*, “Dialogue: New regime will save money, not add to compliance costs,” 2 November 2001.

²⁰⁷ Jackson, M., An exquisite politeness: The Royal Commission on Genetic Modification and the redefining of the Treaty of Waitangi. (Unpublished paper, 2001).

6. SUMMARY OF MANUFACTURING PUBLIC CONSENT

If you want to build a skyscraper, you need an architect who specializes in building skyscrapers, but if you want a panel to decide whether or not to build more skyscrapers, you do not want it to consist mainly of those architects. Nor, in the case of either genetics or skyscrapers, should the decisions be based on the interests of businesses which stand to profit from them.²⁰⁸

Hubbard and Wald highlight what I see as the central problem of the biotechnology industry in general. The government is heavily supporting the industry of biotechnology in a variety of ways by: relaxing regulations through devolving some regulatory responsibility to university and industry ethics councils, town and city councils; affording legal protection to researchers and developers of inventions and innovation through intellectual property measures; fostering growth by injecting huge amounts of funding into university, industry and crown agency biotechnology research; instituting recruitment of qualified personnel; and educating the public on the positive benefits of biotechnology for them and the economy. You have a government who is actively promoting the technology, on the one hand, and vested with the responsibility of regulating it on the other. Put simply, tax dollars are being spent to promote research and development that could be controversial if generally understood by the public.

The Parliamentary Commissioner for the Environment sees two-way communication between the public and scientists, research policy makers and investors, as vital. However, “science is only one factor in the equation, and the science community, official agencies and biotechnology industry must recognise that other disciplines and value frameworks also have validity and will be essential for satisfactory resolution of the issues.”²⁰⁹ So much is invested, financially, structurally, and ideologically, that I see it as extremely difficult to turn the tide we seem to be riding. The public, **Maori** and the treaty, the welfare state, and the public good are

²⁰⁸ Hubbard, R., & Wald, E., Exploding the gene myth: How genetic information is produced and manipulated by scientists, physicians, employers, insurance companies, educators, and law enforcers. (Boston: Beacon Press, 1997), 160.

²⁰⁹ Parliamentary Commissioner for the Environment, 2000: 85.

given token insertion in biotechnology policy pronouncements yet, as illustrated in the governments heavy investment in the biotechnology industry, are perceived as impediments to “progress” and the neo-liberal agenda.

To summarise, the main objective of this chapter was to conduct an analysis of the political economy of the New Zealand biotechnology industry in order to situate New Zealand within the global biotechnology environment and provide a context for the local industry. Weaving the government’s 2003 *New Zealand Biotechnology Strategy* report throughout this chapter has further clarified the significance of the biotechnology industry to the New Zealand Government.

Although the public face of the different actors conveys an altruistic nature, the reality is quite different. In a nutshell, and very crudely, scientists are influenced by their own frame of reference, corporations are interested in the bottom-line, governments favour the economy over citizenry and are bound by international trade pacts, and the media are seen as the handmaidens of industry. Loepky thinks this works successfully because “Increasingly embedded in the regulatory activities of multiple institutions (i.e., the media, hospitals, universities, etc), which actively shape the boundaries of social ‘consent,’ productive genome science is easily legitimated in the name of society’s well-being.”²¹⁰ This observation holds true beyond genome science to the larger sphere of genetic engineering technologies.

As signalled in the previous chapter, New Zealand, as signatory to TRIPs, has economic obligations that it is bound by. The government has complied with these obligations and has opened New Zealand up to further commodification. The purpose of the next chapter is to illuminate how the biotechnology industry impacts on **Maori** self-determination and rights and **tikanga Maori**.

²¹⁰ Loepky, 1999: 52.

CHAPTER 4 COMMODIFYING TIKANGA & TAONGA

The world is a supermarket.
(Michael Apple, 2003)¹

One thing hard for the **Pakeha** to understand is that our elders never allow us to sell any knowledge of anything **Maori** that is really **tapu**. To them it is priceless. Money can never buy knowledge and when they teach they will tell people: "This knowledge I am passing over to you must never be sold." This is how we get to know things. They're handed down from generation to generation and it becomes part of you. And this is the part of **Maoritanga** you can never teach. You know it's there all right, you've got it all there.
(Ngoi Pewhairangi, 1977)²

The objective of this chapter is to explore the concept of property and ownership from an Indigenous and **tangata whenua** (people of the land; **Maori**) perspective. The chapter specifically examines how commodification of Indigenous knowledge occurs in an international and national context. One of the key impacts has been the commodification of knowledge, resources, and peoples. This chapter will scope the range of ways that commodification of Indigenous knowledge occurs and the dilemmas this creates for Indigenous peoples.

1. PROPERTY, ENCLOSURES & THE TREATY PARTNERS

Ultimately, the best way to assure equitable treatment for traditional peoples is to provide them not only with a basic understanding of the legal principles concerning access to biodiversity resources, but also of the practical considerations surrounding bioprospecting. After all, biodiversity resources will not be an economic asset to traditional peoples or to anyone else if the regulations controlling access are so stringent as to scare off all potential investors or to drive them back to the "bad old" days when genetic materials were removed from developing countries with little or no compensation to anyone. It is in everyone's interest that indigenous peoples have a basic understanding of the workings of the markets for pharmaceuticals and other products of bioprospecting, so that they can defend their own interests on the basis of their own sophisticated technical understanding. Ideally, scientists in both developed and developing countries

¹ Quote from presentation given by Michael Apple to E-Wananga students at **Te Whare Wananga o Awanuiarangi, Whakatane**, NZ, 10 July 2003. Michael was critically analysing capitalism.

² In 'Foreward: Learning and **tapu**,' of book: King, Michael (ED.), **Te Ao Hurihuri: The world moves on.** (New Zealand: Hicks Smith & Sons/Methuen N.Z. Ltd., 1977), 10.

should some day be working as full collaborators with counterparts from indigenous peoples, or even be employed by them as contractors.³

This excerpt comes from a journal article entitled *Partnerships for value-added through bioprospecting*, written by Charles Weiss, a Professor at Georgetown University and former Science and Technology Advisor to the World Bank, and Thomas Eisner, a Professor at Cornell University and a Member of the National Academy of Sciences. Both authors are frank about where they see Indigenous or “traditional peoples” fitting in. What they have produced is a “how to” guide on bioprospecting using an “enlightened” ethnobotanical mindset of “we know what’s best for Indigenous / traditional people.”⁴ They tell us not only do we need to change our whole conception of “property,” we also now need to protect that property from “removal,” and, therefore, it behoves us to have a basic understanding of the market for this property too.

Biotechnology is an enclosure strategy that involves the creative development of the concept of private ownership. Biotechnology as an enclosure strategy is new in the sense that patents on life, bioprospecting, and the development of marketable products and processes of genetic engineering are a new form of colonialism, or biocolonialism which involve enclosures of commons.

Traditional forms of enclosure are apparent in New Zealand’s colonial history, which included the confiscation of land and the constitutional enclosure document, The Treaty of **Waitangi**. The path for colonial ownership of commonly held land around the world was paved by the enactment of treaties with Indigenous nations. The United Nations Special Rapporteur, Miguel Alfonso Martinez, explains that treaties were “used as tools to acquire ‘legitimate title’ to

³ Weiss, C., & Eisner, T., “Partnerships for value-added through bioprospecting.” (*Technology in Society*, 20 (4), 1998), 491.

⁴ I am suspicious and have a critical view of the more participatory role being played out in the discipline of ethno-botany, where Indigenous peoples are being encouraged into benefit-sharing arrangements, for example, instead of having their biodiversity stolen from them. The option of abstaining from participating in such arrangements seems absent. Further, I have personally witnessed how numbers of non-Indigenous peoples at different “Indigenous” forums speak for and about Indigenous persons as if they know best, and Indigenous peoples can’t speak for themselves.

the indigenous lands by making the indigenous side formally 'extinguish' those and other rights as well."⁵ Dr **Ranginui** Walker, a prominent **Maori** critic of enclosure, says,

The fiction fostered by the purveyors of the treaty was the ideology of the Crown as a benevolent all-powerful monarch, guaranteeing **Maori** rights against other foreign powers. But real power resided with parliament, which was not bound by the treaty. Manipulation of **Maori** consent to this deception was master-minded by the missionaries, who rationalised their role in terms of their mission of converting **Maori** from "barbarism" to "civilisation."⁶

Jonathan Hart argues that the appropriation of culture, or acquiring of property rights, "...can be achieved through ventriloquy, translation, or dispossession of lands and other property."⁷ Hart defines ventriloquy as "speaking for others, often while being unaware of doing so or pretending not to. It can also be a displacement of one voice onto another."⁸ The early missionaries were the ventriloquists with their discourse of civility. A contemporary form of "ventriloquy, translation and dispossession" is centre stage at the moment in the form of a debate about the "ownership" of New Zealand's foreshore and seabed. This, as with much contemporary colonialist discourse, centres on the "public good" and "public access" for all and the homogenising notion that "we are all one people." At its heart is a dispute over recognition of customary title. A Court of Appeal ruled in June 2003 that **Maori** had customary title over the foreshore and seabed and could pursue this right through the **Maori** Land Court. This decision had the country in a furor with the government threatening to enact legislation to put control and ownership of the New Zealand foreshore and seabed into Crown hands, effectively extinguishing any **Maori** customary entitlement. The national television news stations captured and broadcast images of conservative, elderly **Pakeha** protesting on the street carrying signs with messages that included "Whites have rights too." The Court of Appeal ruling came as a result of eight South

⁵ Martinez, Miguel Alfonso, United Nations Special Rapporteur, Study on treaties, agreements and other constructive arrangements between states and indigenous populations. (Geneva: United Nations, 1999), 45.

⁶ Walker, R. Maori resistance to state domination. (Paper presented at a seminar held at the Education Department, University of Auckland, New Zealand, August 4, 1994), 4.

⁷ Hart, Jonathan, "Translating and resisting empire: Cultural appropriation and postcolonial studies." In Ziff, Bruce & Rao, Pratima, (eds.). Borrowed power: Essays on cultural appropriation. (New Brunswick, NJ: Rutgers University Press, 1997), 138.

⁸ *Ibid.*, 165.

Island **iwi** making a claim for customary rights to the Marlborough seabed and foreshore, where there has been an emerging development in marine farming.

What this case brings to the fore is the privatisation of something that was not traditionally conceived of in property terms. Along with the traditional enclosure of land are new forms of enclosure such as of intellectual commons. Shared knowledges, the intellectual commons, are being captured and enclosed by patents and monopoly rights. As **tangata whenua** (people of the land), **Maori** have never considered themselves as private owners of land, including the seabed and foreshore. Central to **Maori** is the word **kaitiaki** (guardian) and the concept of **kaitiakitanga** (guardianship), which is an obligation not to own or control but to protect and sustain nature and her resources for the next generation. However, with the colonialist enclosure ideology, land, resources, **tikanga**, and now seabed and foreshore, are being redefined as property, individualised, privately owned and controlled. The debate has created a division within **Maoridom** as to whether the foreshore and seabed are considered “private property” and owned by **Maori** or not considered in property terms at all. What is certain is that **Maori** see the significance in their role as **kaitiaki** or custodian. This debate continues.

A new frontier is being opened up through the exploits of the biotechnology industry. Biotechnology enlists the help of intellectual property as its method of enclosure via commodification.

The enclosures of common land from the fifteenth to eighteenth centuries were essentially an act of commodification, only in the last half century has the commodification of knowledge moved to the centre of capitalism's expansionary logic. Thus, given the new areas into which commodification is reaching, the products of intellectual effort and creation, the information society is a new period of enclosure.⁹

In this new era almost anything can be rendered as property. Delgado observes, “we are currently witnessing a process aimed at perfecting and increasing the complexity of private

⁹ May, C. A global political economy of intellectual property rights: The new enclosures? (London: Routledge, 2000), 43.

property throughout the world, under the modality of Intellectual Property.”¹⁰ Bronwyn Parry argues that this regulatory regime “has proven a most effective instrument for disciplining and monopolising objects and phenomena that have, until now, remained outside the grasp of global capital.”¹¹ **Moana** Jackson identifies the process as an enclosure inasmuch as “ownership builds a fence around the thing that is to be owned and it excludes others from access or rights in it unless they pay for it.”¹²

Intellectual property rights law treats Indigenous peoples’ knowledge and **tikanga** as not deserving of “protection” as they are not sufficiently scientific or intellectual to be considered knowledge at all. Indigenous knowledge becomes property, intellectual property, once there has been “human intervention based on what non-Indigenous peoples ‘add’ to what has existed for generations.”¹³ However, it is not only Indigenous peoples who are marginalised by intellectual property, but the public generally. David Vaver says intellectual property law leaves little or no room for discussion or public debate.

If one feature stands out about intellectual property law, it is how much the law affects the public, but how little the public affects it - indeed, how little the law lets the public affect it. Intellectual property law is a social construct that shuns social participation, let alone control...The acts justify themselves by how they benefit the public, but the justifications are long on assertion, short on proof. Beneath the veneer, one finds an infrastructure inhospitable to public entry.¹⁴

In the following sections I want to explore the concept of property and ownership from an Indigenous and **tangata whenua** perspective. Before we can look at impacts on Indigenous and **Maori tikanga**, it is first necessary to identify the origins of property rights in life forms and

¹⁰ Delgado, G., C., “Biopiracy and intellectual property as the basis for biotechnological development: The case of Mexico.” *International Journal of Politics, Culture and Society*, 16 (2), 2002), 305.

¹¹ Parry, B., *Cultures of knowledge: Investigating intellectual property rights and relations in the Pacific*. *Antipode*, 34 (4), 2002), 699.

¹² Jackson, M., “Intellectual property rights and implications for **Maori**.” In *Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two*. (Auckland, New Zealand: **IRI/Moko** Productions, 1997), 32.

¹³ Mead, A., “Cultural and intellectual property rights of Indigenous peoples of the Pacific.” In *Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two*. (Auckland, New Zealand: **IRI/Moko** Productions, 1997), 25.

¹⁴ Vaver, D. *Intellectual property law: Copyright, patents, trade-marks*. (Concord, Ontario: Irwin Law, 1997), 280.

the human body, which can be seen as a direct result of the business of biotechnology and the focus of the new knowledge economy. The definition of property ensnares Indigenous and **Maori tikanga**, leading to myriad dilemmas for all Indigenous peoples. The sections following will provide a survey of the range of commodification of **tikanga** and the dilemmas for Indigenous peoples and **Maori** resulting from this commodification.

History of patenting of life forms and privatisation of the body

The ownership of genetic information was brought to the fore in March 2000 when President Bill Clinton and Prime Minister Tony Blair announced to the world that they would ensure that the research results of the Human Genome Project, a publicly funded international consortium mapping the human genetic code, would be made publicly available. The Human Genome Project, first launched in the late 1980s and led by Dr Francis Collins, with funding by the National Institutes of Health, set out to map and sequence a prototypical human genome. A private American company named Celera, led by Craig Venter, who used to work for the National Institute of Health, announced a parallel research project with the same aim, but utilising different technology. Celera offered to sell its research results to licensed users.

It was believed that once the genes were mapped and identified, scientists would be able to take this information, identify the function of a particular sequence of a gene, such as a gene that is linked to a specific disease, and patent that gene because of the potential development of a test for, or treatment of, the identified disease. The joint statement by President Clinton and Prime Minister Blair only referred to the “raw, fundamental human DNA sequence information” being made freely available and not subject to patent. However, both leaders endorsed the patenting of gene sequences when a specific disease can be linked to it. The mapping of the human genome is basically completed with the discovery that the genetic determinist assumption underlying the

project was incorrect.¹⁵ Nevertheless, the mad race to patent human genes has continued unabated.

So how do you patent something? The US is the international “promoter” and leader in patent action. Although different countries around the world may have different criteria for approving a patent on a “new” invention, the United States is considered the benchmark. In fact, international trade institutions such as the World Trade Organisation, have a critical role in harmonising trade and intellectual property laws and regulations, which invariably are consistent with the laws and regulations established by the United States. Before the US Patent and Trademark Office grants a patent, it must meet four basic criteria. The claimed invention must: (1) be able to be patented and not have been patented before. A gene, for example, must be isolated from its natural environment and must have some utility, such as helping in diagnosing a particular disease; (2) be novel; (3) not be obvious to a person who has ordinary skill in the technology at the time the invention was made; and (4) be fully disclosed in the text of the patent application so that a skilled practitioner would be able to practice the claimed invention.¹⁶ As of August 2000, the US Patent and Trademark Office had over 20,000 gene patent applications pending. Of those patents already issued, approximately 6,000 were for “full-length genes from human, animal, plant, bacterial and viral sources. Of these 6,000 patents, over 1,000 [were] specifically drawn to human genes and human gene variations that distinguish individuals.”¹⁷ In a November 2000 special report commissioned by the Guardian and compiled by GeneWatch UK from a commercial patent database, it was found that there were 161,195 complete or partial human gene patents pending or granted to patentees from more than 40 international patent authorities, including the US Patent and Trademark Office and the UK and European Patent

¹⁵ Barry Commoner, who directs the Critical Genetics Project at the City University of New York, provides an excellent critique of the Human Genome Project in the following journal article: Commoner, B., “Unraveling the DNA myth: The spurious foundation of genetic engineering.” (Harper’s Magazine, 304 (1821), February 2002), pp. 39-47.

¹⁶ Parr, M., & Preston, T., “Patenting human gene-based inventions.” (USPTO Today, 1 (8), 2000), 23.

¹⁷ *Ibid.*, 28.

Offices.¹⁸ In October 1999, Craig Venter's Celera filed preliminary patents with the US Patent and Trademark Office on 6,500 complete or partial human genes, vowing to take no more than three hundred through to completion of a full patent.¹⁹

History of patenting of life forms

The first patent on life was given in 1971 to Ananda Chakrabarty, who worked for the General Electric Company, on genetically engineered bacteria designed to consume oil spills on the ocean. Ananda Chakrabarty applied to the US Patent and Trademark Office for a patent but was rejected because US patent law did not allow patenting of living things. The US Patent and Trademark Office believed such a move would require the enactment of legislation by Congress. However, on appeal to the Court of Customs and Patent Appeals, the patent was narrowly upheld by a three-to-two decision. The US Patent and Trademark Office appealed the case again, this time to the US Supreme Court. The justices granted the patent by a narrow majority, deciding five-to-four in favour. Andrew Kimbrell says the nine justices in the *Chakrabarty* case all agreed "this was a 'narrow' case - one that did not affect the 'future of scientific research.'"²⁰ However, Kimbrell sees that the "complete failure by the Court to correctly assess the impacts of the *Chakrabarty* decision may go down as among the biggest judicial miscalculations in the Court's long history."²¹

In this one case, Jeremy Rifkin states, "The court's action laid the all-important legal groundwork for the privatization and commodification of the genetic commons."²² Rifkin explains that the privatization and commodification of the genetic commons is an "international

¹⁸ *The Guardian*, "Special report: The ethics of genetics," 15 November 2000.

¹⁹ *BBC News*, "Human gene patents defended," 27 October 1999.

²⁰ Kimbrell, A., *The human body shop: The cloning, engineering, and marketing of life*. (Washington, D.C.: Regnery Publishing Inc., 1997), 234.

²¹ *Ibid.*

²² Rifkin, Jeremy. *The biotech century: Harnessing the gene and remaking the world*. (New York: Jeremy P. Tarcher/Putnam, 1998), 43.

effort to convert the genetic blueprints of millions of years of evolution to privately held intellectual property."²³

I agree with Richard Gold that the function of all courts and the court system is to frame everything as having economic value, basically because non-economic value is difficult to measure.²⁴ Further, court decisions rely significantly on precedent setting cases, as was mentioned in a brief supplied to the court by The People's Business Commission, headed by Jeremy Rifkin.²⁵ Kimbrell is adamant though that "The Supreme Court would never have ruled for the patenting of these other living organisms or human subparts. Any such decision would have led to an immediate public uproar."²⁶ Public outcry would certainly have occurred had they known. However, I imagine the general public would have thought that the future scenarios painted by Rifkin were too phantasmic to be a real possibility, especially since developments in genome research and recombinant DNA technology were relatively new. Given what most of the public know now, or even ten or twenty years ago, this case would have generated a lot more questions and controversy.

In 1980 the US Congress passed the Bayh-Dole Act, which made it possible for universities and public research institutions to patent products or processes developed with federal government research funding. This enclosure of publicly funded research is another ground breaking change that has been repeated in other countries. Along with this change, a number of ground breaking court cases since Chakrabarty further entrenched the belief that the commodification of life was indeed inevitable. In September 1984 Allen, Downing, Chaiton, & Coast Oyster Company applied for a patent on a Pacific oyster that had been improved as well as the process for improvement. Although denying the patent in 1987, the Board of examiners in the

²³ Ibid., 41.

²⁴ Gold, E. R., Body parts: Property rights and the ownership of human biological materials. (Washington, D.C.: Georgetown University Press, 1996).

²⁵ Kimbrell, 1997: 232.

²⁶ Ibid., 253.

U.S. Patent Office “declared that patents could in principle be granted on nonhuman animals.”²⁷

In 1985 the Patent and Trademark Appeals Board awarded a patent to Kenneth Hibberd, a Minnesota scientist working for Molecular Genetics Research, for a variety of genetically engineered corn.²⁸

In 1988 the first mammal was patented. “Invented” by Harvard Professor Philip Leder and licensed to Du Pont, it is “a genetically engineered mouse [dubbed Harvard oncomouse²⁹] containing human genes that predispose it to developing cancer.”³⁰ The main utility claim for the oncomouse was “as sources of malignant or proto-malignant tissue for cell culture and as living systems on which to test compounds for carcinogenicity or...power to prevent cancers.”³¹

However, the patent claim includes not just the Harvard oncomouse but also “any transgenic mammal, excluding human beings, containing in all its cells an activated oncogene that had been introduced into it - or an ancestor - at an embryotic stage.”³² In 1992, three more patents were awarded by the US Patent and Trademark Office for genetically engineered research mice.³³

What was apparent from the Chakrabarty case was that the US Supreme Court’s task was to interpret

the broad language that Thomas Jefferson had written into the patent law of 1793, which remained at the core of the patent code: he [Chief Justice Warren Burger in delivering the majority opinion in the Chakrabarty case] called it expressive of its author's philosophy that ‘ingenuity should receive a liberal encouragement’ and noted that all succeeding Congresses had left Jefferson's language virtually intact.³⁴

²⁷ Kevles, D., J., “Diamond v. Chakrabarty and beyond: The political economy of patenting life.” In A., Thackray, (Ed.), Private science: Biotechnology and the rise of molecular sciences, (Philadelphia: University of Pennsylvania Press, 1998), 74.

²⁸ Ibid.

²⁹ A patent has been granted for the Oncomouse in the US and Europe. The latest decision by the Canadian Supreme Court has denied patent protection to the Harvard University’s Oncomouse, leaving it up to the government to make a decision on allowing the patenting of higher life forms. *Globe and Mail*, “Harvard mouse patent rejected: It’s up to Parliament to determine use of altered life forms, top court decides,” 6 December 2002.

³⁰ Rifkin, 1998: 47.

³¹ Kevles, 1998: 75.

³² Ibid.

³³ Kimbrell, 1997: 237.

³⁴ Kevles, 1998: 70.

The Chakrabarty case was the beginning of the end in court history of what was to be defined as patentable. “The radical new patenting policy suddenly transformed a decision about patenting microbes into one that allowed the patenting of all life forms on earth, including animals.”³⁵

History of privatisation of the body

The case of John Moore was precedent setting and significant in conceiving the human body, and parts thereof, as a commodity. John Moore had hairy-cell leukaemia, which was a rare disease. In 1976 attending physician, Dr. David Golde, was treating him at the Medical Center of the University of California, Los Angeles. It was decided to remove Moore's spleen. For the next seven years Moore returned to the hospital for supposed check-ups and provided Dr. Golde with samples of blood, skin, bone marrow, and sperm. Dr. Golde noticed that Moore's body was overproducing lymphokines, a component of the human immune system. The spleen tissue and bodily samples collected from Moore helped produce quantities of lymphokines. From this Golde developed a “new” cell line.³⁶ Moore brought suit against Golde, Quan (his research assistant), UCLA, and Sandoz Pharmaceutical Corporation after he learned that UCLA had patented a cell line derived from his spleen tissue in 1984 and licensed it to the drug company. In a preliminary trial Moore's claim was rejected.

On appeal, however, the California Court of Appeal found that Moore had retained a proprietary interest in his cells and that Moore was entitled to compensation for conversion if he could prove his claims at trial. On further appeal, the Supreme Court of California found that Moore had no proprietary interest in his removed cells and thus could not sustain his action for conversion. The court nevertheless held that Moore was entitled to compensation if he could prove that Golde had breached his fiduciary obligations to Moore by failing to inform Moore, prior to the splenectomy and the other medical procedures, of Golde's commercial interest in his cells.³⁷

According to Warren Greenberg and Deborah Kamin, there were three basic principles used in deciding whether John Moore had property rights: 1. There was no reported judicial

³⁵ Kimbrell, 1997: 238.

³⁶ Gold, 1996: 24.

³⁷ Gold, 1996: 25.

decision that had supported retained cell ownership following excision; 2. California statutory law limits the continuing interest of patients in excised cells; 3. The patented cell line cannot be Moore's property as the cells from Moore's spleen were developed into a cell line (called the "Mo" cell line) which produced proteins and is helpful in producing drugs that may treat leukaemia and AIDS.³⁸ The cell line was therefore developed by Dr Golde, seen as an invention, and patented.

The Moore case can also be seen as illustrating the justification of intellectual property. Christopher May outlines three approaches to justifying property. The first utilises John Locke's argument "of property as labour's 'just desert,' intellectual property is seen as a suitable reward for intellectual labour."³⁹ The second draws on Hegel and his ideas of the self. "Intellectual property is recognition of the individual's sovereignty over their thoughts. The expression of self through the creative act therefore should be protected as this represents the product of selfhood and is the property of the self."⁴⁰ The final justification is purely economic:

By allocating a price through a market for property, users are constantly required to assess the return that use generates and to think about how this might be maximised. This promotes a more efficient use of resources as well as innovations in the methods of use. By fostering progress in economic organisation and increased efficiency, society as a whole benefits.⁴¹

James Boyle (along with: Lori Andrews & Dorothy Nelkin; Richard Gold; and Warren Greenberg & Deborah Kamin)⁴² highlights the contradictory and problematic nature of the decision made by the court in the John Moore case:

On the one hand, property rights given to those whose bodies can be mined for valuable genetic information will hamstring research because property is inimical to the free

³⁸ Greenberg, W. and D. Kamin, "Property rights and payment to patients for cell lines derived from human tissues: An economic analysis." (*Social Science & Medicine*, 36 (8), 1993), 1072.

³⁹ May, 2000: 7.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Andrews, L. B. and D. Nelkin, *Body bazaar: The market for human tissue in the biotechnology age*. (New York: Crown Publishing, 2001); Gold, E. R., *Body parts: Property rights and the ownership of human biological materials*. (Washington, D.C.: Georgetown University Press, 1996); Greenberg, W. and D. Kamin, "Property rights and payment to patients for cell lines derived from human tissues: An economic analysis." (*Social Science & Medicine*, 36 (8), 1993). pp. 1071-1076.

exchange of information. On the other hand, property rights *must* be given to those who do the mining, because property is an essential incentive to research.⁴³

The court's decision rested on the side of the "miner" and was justified because of the expense to do such research and for the benefit of the public good. Uses for tissue and cell culture technology include studying biochemical processes, such as human genetics, disease, and therapeutic and toxic effects of drugs, producing therapeutic agents to treat diseases, and developing diagnostic agents. The cost of developing, establishing and maintaining a cell line is very expensive (approx. US\$30,000) and the success in developing such a cell line varies (over 99% of all cell lines never make it to market).⁴⁴

The Moore case opened up the body to penetration by capitalist markets. Stephen Munzer defines the body, and its parts, as "any organs, tissues, fluids, cells, or genetic material on the contours of or within the human body, or removed from it, except for waste products such as urine and feces."⁴⁵ Sources of biotechnology materials are seen by both Boyle⁴⁶ and May⁴⁷ as a "commons" that can be mined for profitable cell lines and genes, which then become private because of their location, identification and development into marketable products. Andrews and Nelkin see the body as a hothouse of "invention" because "uses of the body have captured the entrepreneurial imagination - and market interests provide incentives to treat tissue, blood, and other body parts as commodities. Tissues are stored, sold, and even stolen."⁴⁸ May asserts the biotech industry's motivation to characterize biotechnological resources, such as genes, as property rests on the need for encouragement and reward of innovation.⁴⁹ Commodification

⁴³ Boyle, J., *Shamans, software & spleens: Law & the construction of the information society*. (Cambridge, Massachusetts: Harvard University Press, 1996), 24.

⁴⁴ Greenberg & Kamin, 1993.

⁴⁵ Munzer, S. R., "An uneasy case against property rights in body parts." In E. F. Paul, J. Red, D. Miller and J. Paul. (Eds.). *Property rights*. (Cambridge: Cambridge University Press, 1994), 259.

⁴⁶ Boyle, 1996.

⁴⁷ May, 2000.

⁴⁸ Andrews & Nelkin, 2001: 174.

⁴⁹ May, 2000: 106.

through patenting also facilitates monopoly control on stock values and has the effect of attracting venture capital.

Because the body has not historically been conceived of in property terms (with the exception of slavery), framing a case like Moore's as theft of a body part is problematic. For Andrews and Nelkin, the only recourse is through other methods, such as claiming emotional distress, violation of a public health or tissue protection law, or public decency law, which are all useless, as they "fail to deal with abuses that involve research on and commercialization of body tissue"⁵⁰ and are extremely difficult to prove. In 1995, however, the Michigan Appeals Court held that the next of kin had a property right in the dead body of their relative. This was the first case where property rights were granted in tissue outside of the body. The case involved the theft of eyes from a deceased person by a Saginaw, Michigan Community Hospital pathologist's assistant, named Anthony Herrera, when he was conducting autopsies. The eyes were sold out of the Central Michigan Eye Bank, which Herrera owned.⁵¹

What is the impact of patenting life forms and privatising the body?

What the Moore case illustrates to Richard Gold is that the courts are coming up with decisions that only focus on fostering business because they are ill equipped to deal with non-economic values. Even if something is brought before the court that was traditionally not conceived of in property terms, the courts are still operating within a Western common law, rational, property discourse framework. This is their mandate. The judges therefore decide on anything that goes through the courts in economic terms only because non-economic value is too difficult to measure. This situation has practical implications for Gold.

Instead of attempting to protect new goods through property law, I suggest the better strategy is to first attempt to change the way we talk about those goods already subject to property rights... Only after property law has expanded to truly permit a full and open

⁵⁰ Andrews & Nelkin, 2001: 161.

⁵¹ Andrews & Nelkin, 2001: 167.

discussion of nonmarket ways of valuing goods should reformers and theorists seek to subject new goods - such as the human body or health - to property analysis.⁵²

Gold believes the courts will leave it up to Congress (in the US) to decide on whether the body and its components are property. If Congress doesn't make a pronouncement to ban property rights in the body, the courts will continue to make decisions based on economics. When discussing the Moore case, Thomas Shevory concludes:

The definitions and defenses of property rights will tend to be shaped by courts to accommodate ascending economic forces... Traditional notions of property as bounded spaces that need protection from the incursions of 'outside' forces come up smack against the insurgency of late stage capitalism, which requires more fluid and open-ended conceptions of property interests.⁵³

2. COMMODIFICATION OF TIKANGA & TAONGA: THE BUSINESS OF BIOPROSPECTING OR BIOPIRACY OR BIOCOLONIALISM

So how does this enclosure of **tikanga** in the form of commodifying culture, knowledge and peoples affect Indigenous people? In this section we will explore a range of areas of commodification of **tikanga**, including general examples of cultural appropriation providing context to the section through to patents on life, bioprospecting, and the development of marketable products and processes of genetic engineering. The first area of concern is the Human Genome Diversity Project that has as its aim the “preservation” of Indigenous peoples. The second area is an illumination of examples of the commodification of Indigenous **tikanga** and **taonga**. The final area covered in this section outlines the dilemmas for Indigenous peoples over the commodification of their **tikanga** and **taonga**.

⁵² Gold, 1996: 174.

⁵³ Shevory, T. C., Body/Politics: Studies in reproduction, production, and (re)construction. (Westport, Connecticut: Praeger Publishers, 2000), 163.

The Human Genome Diversity Project

The Human Genome Diversity Project (HGDP), often called the Vampire Project by Indigenous peoples, is investigating “human variation and diversity by sequencing the DNA of select, and supposedly more ‘genetically pure,’ indigenous populations.”⁵⁴ According to the Organization for Economic Co-operation and Development (OECD), the sampling populations are ones that are “anthropologically unique, or that constitute linguistic isolates, or that are in danger of losing their identity as genetic units, or that might be especially informative in identifying the genetic aetiology of important diseases.”⁵⁵

The HGDP, initiated in 1991, was the brainchild of a group of scientists under the leadership of Luca Cavalli-Sforza, a Stanford biologist and population geneticist. Its goal is to collect blood samples from fifty individuals from each of some 722 populations it has identified as valuable.⁵⁶ Pharmaceutical and biotechnology firms have been extremely interested in sponsoring such a project for its promising profit potential.

The HGDP's most lasting influence may have been to encourage private sector research and the worldwide quest for disease genes. The tissue of indigenous peoples can reveal genetic variants in the DNA that might indicate evolutionary information, as some HGDP scientists had hoped. But it can also reveal genetic variations that predispose people to particular diseases or that provide disease resistance.⁵⁷

As Debra Harry and Frank Dukepoo state, many of our “indigenous peoples regard their bodies, hair and blood as sacred elements, and consider scientific research on these materials a violation of their cultural and ethical mandates...Many Indigenous people consider any

⁵⁴ Harry, D., & Dukepoo, F., Indians, genes and genetics: What Indians should know about new biotechnology. (Wadsworth, Nevada: Indigenous Peoples Council on Biocolonialism, 1998), 7.

⁵⁵ Organization for Economic Co-operation and Development, (OECD), The global Human Genome Programme: Megascience: The OECD forum. (Paris: OECD Publications, 1995), 44.

⁵⁶ Hubbard, R., & Wald, E., Exploding the gene myth: How genetic information is produced and manipulated by scientists, physicians, employers, insurance companies, educators, and law enforcers. (Boston: Beacon Press, 1997), 177.

⁵⁷ Andrews & Nelkin, 2001: 70.

manipulation of their genetic composition a serious assault to their genetic integrity.”⁵⁸ This is considered a desecration of the sacredness of the body and is overlooked by researchers in the name of science because of “an underlying attitude that Science is, indeed, beyond reproach, that it can never be wrong, while ‘moral attitudes’ or ethics are infinitely negotiable and evolvable.”⁵⁹ This particular belief is described by Brewster Kneen as a “bad attitude,” an attitude “that shows no respect, no gratitude...All life is fair game for control and exploitation – or eradication.”⁶⁰ Rifkin, correspondingly, views this attitude as a philosophical transformation, where the term “algeny,” meaning, “to change the essence of a living thing,” “is likely to emerge as a new philosophical framework and overarching metaphor for the Biotech Century.”⁶¹ Rifkin’s algenist works with DNA to create “superior” versions of biological organisms, with the goal of engineering the perfect organism.⁶² Ruth McNally and Peter Wheale point out that,

The commercial value is not in conserving indigenous peoples *per se*, only their extracted genes. Indeed, once genetic samples have been taken, the peoples become devalued from the researchers’ point of view and their genes can become patentable subject matter of other agents.⁶³

In response to the commodification of genes and cell lines taken from Indigenous peoples through the HGDP and other similar projects, numerous citizens groups have called “for national legislation to mandate the US Patent and Trademark Office to cease granting patents on human genes, and to exclude living creatures, their genes or components from the patent system.”⁶⁴ The US Patent and Trademark Office and the courts, however, have continued to accommodate economic forces driving this enclosure, monopoly, and commodification of life and the genetic

⁵⁸ Harry and Dukepoo, 1998: 8.

⁵⁹ Ho, M.-W., Genetic engineering - Dream or nightmare? The brave new world of bad science and big business. (Bath, UK: Gateway Books, 1998), 174.

⁶⁰ Kneen, Brewster, Farmageddon: Food and the culture of biotechnology. (Gabriola Island, British Columbia: New Society Publishers, 1999), 38.

⁶¹ Rifkin, 1988: 33.

⁶² Rifkin, 1988: 35.

⁶³ McNally, R. & Wheale, P., “Bio-patenting and innovation: Nomads of the present and a new global order.” In P. O’Mahoney (Ed.). Nature, risk and responsibility: Discourses of biotechnology. (New York: Routledge, 1999), 172.

⁶⁴ Harry, D., “Indigenous Peoples critical of the Human Genome Project.” Indigenous Peoples Council on Biocolonialism Press Release, June 26, 2000.

commons. TRIPS and the neoliberal drive to harmonise intellectual property regimes are facilitating the globalisation of patents on life and stimulating the “gene rush” and worldwide bioprospecting. Meanwhile, instead of encouraging public debate, governments are deflecting attention to meaningless rounds of consultations with “stakeholders.”⁶⁵

Tikanga & taonga

Cultural appropriation of Indigenous **tikanga** and **taonga** evolved with the advent of colonisation.⁶⁶ There are ranges of general examples of cultural appropriation that illustrate this contemporary form of colonisation in New Zealand and overseas. Commodification of Indigenous culture happens with little regard for cultural sensitivity; the evidence can be found in any tourist souvenir shop. Paco Robanne, international style guru, utilised **Maori** motifs, such as **ta moko** (traditional tattoo) designs, in a fashion collection of scantily clad models trying to look “primitive” and jiving to the accompanying “jungle” music.⁶⁷ Lego, world-renowned children’s toy maker, had in 2001 promoted a new game called Bionicle which includes reference to Polynesian culture and uses **Maori** words, including **Tohunga** (healer, expert), in a context which was seen as culturally offensive.⁶⁸ The Danish toy maker, on being informed of this offence by Maori lawyer **Maui** Solomon, pledged to develop a code of conduct to ensure that they are not culturally insensitive in the future. This case, I think, is an exception to the rule.

In 2002 a Polo Ralph Lauren imitation of the Cowichan sweater, traditionally made by Cowichan First Nation people for generations in British Columbia, Canada, went on sale in a

⁶⁵ I was invited to attend one such consultation meeting held at the Sheraton in Vancouver, Canada, on 2 May 2001. The Canadian Biotechnology Advisory Council was holding the roundtable consultations nationally on Biotechnological Intellectual Property and the Patenting of Higher Life Forms. Notably there were no First Nation participants.

⁶⁶ This sort of appropriation was characteristic of the earliest period of colonisation. For further explication of this point see: Smith, L. T. Decolonizing methodologies: Research and Indigenous peoples. New York: Zed Books, 1999a: 61-63; Stewart-Harawira, Makere. Te Torino Whakahaere, Whakamuri. Globalisation and the return to empire: An Indigenous response. Unpublished Doctoral Dissertation, University of Auckland, 2002: 114-117.

⁶⁷ *Holmes* TV1/TVNZ, 23 January 1998.

⁶⁸ *BBC News*, “**Maori** take on hi-tech Lego toys,” 26 October 2001.

Fifth Avenue store in New York.⁶⁹ After an unsuccessful attempt by the Ralph Lauren Company to get the Cowichan people to mass-produce the sweaters ten years prior, because of inconsistency in output of the final product, it seems the company decided to produce their own version. The Cowichan women who knit the sweaters in British Columbia do not have any copyright protection but have registered the name “Genuine Cowichan,” which is applied to every sweater they make, but they realise people are knocking off their sweaters all over the world. A similar registered trademark, “**toi iho**,” is used in New Zealand to indicate that the purchaser is buying an authentic **Maori** artwork. Across the Pacific in the Northern Territory of Australia, master didgeridoo makers in the Aboriginal community of Manyallaluk are extremely concerned at the mass poaching and harvesting of specialty wood used in making didgeridoos from Aboriginal land.⁷⁰ The non-Aboriginal didgeridoo makers are poaching timber, painting them with stolen Aboriginal designs (sometimes employing Aboriginal people who need the money), and then selling them as authentic to unsuspecting tourists. In North America, Aveda Corporation⁷¹ touts itself as a socially and environmentally conscious, New-Age-type beauty industry player, utilising this image in its promotional material on the web and in its advertising. Aveda prides itself on its efforts to preserve Indigenous knowledge and utilise natural Indigenous resources in partnership with Indigenous people all over the world. Such products include Brazilian seed pigment from the urukum plant to make “Uruku” labelled lip color products and a line of products branded “Indigenous,” including a sweet-grass, cedar and sage purifying aroma candle. Although internally Aveda sees itself as upholding Indigenous integrity, externally Indigenous peoples were outraged at an “Indigenous” labelled product line. The company agreed to discontinue the brand in late 2003 after negotiation with Indigenous groups concerned with the label.

⁶⁹ *Vancouver Sun*, “Cowichan-like sweater makes its way into Lauren’s line,” 7 November 2002.

⁷⁰ *UK Independent News*, “White ‘poachers’ create disharmony over didgeridoos,” 9 August 2003.

⁷¹ See the Aveda Corporation website at: <http://www.aveda.com>.

These are just a few of the many examples that could be mentioned. Obviously **Maori** are not alone in having their **tikanga** and **taonga** commodified, as many other Indigenous peoples worldwide are subjected to a similar wave of exploitation. The following section briefly describes a whole range of Indigenous **tikanga** and **taonga** being commodified that illustrate the expanse of the contemporary property terrain and the new form of colonialism or biocolonialism.

Tikanga & taonga: Plants

A large area of exploitation of Indigenous **tikanga** is in plants and other natural resources that have been traditionally used by communities and are now seen as hot property in the nutraceutical, medicinal, and New Age health industries. As in the Aveda Corporation case, this exploitation of the natural resources and remedies traditionally used by Indigenous peoples is sometimes in partnership with different Indigenous communities, but often not, and sometimes involves complicit governments. This exploitation of Indigenous **tikanga** happens all over the world, as the following cases from Peru, Australia, Thailand, the Philippines, Tibet and Inner Mongolia illustrate.

The Andean plant maca, grown by Puna highlands people of Peru, has been traditionally used as a food crop and for medicine. Companies identifying the profit potential of this humble plant have been developing sexual enhancers and fertility products and have taken out numerous patents on maca, which has outraged Peruvian farmers and Indigenous people.⁷² Other companies have been racing to find potential plant products to make antibiotics, drugs and other health and beauty related cash crops by conducting scouting missions in natural environments. Australian BioProspect Limited has been conducting such missions in the Australian tropical rainforests and has successfully discovered compounds for antibiotics, pesticides, and a possible cancer treatment. The Queensland government has sanctioned an agreement with BioProspect Limited to access “plants, soil, insects, marine organisms, and animals in state-owned areas as well as a

⁷² ETC Group, “Peruvian farmers and Indigenous people denounce patents on maca,” 3 July 2002.

collection license for Western Australia.”⁷³ New Zealand horticulture researchers have also seen the advantage of bioprospecting overseas, especially in the development of new exotic and ornamental flowers for commercialisation. Crop and Food Research, a Crown Research Institute, is looking for “new” marketable flower species in South America.⁷⁴ Another New Zealand plant scientist has travelled to Chile to extract seeds from native wild flowers for commercial production. He believes money drives the search for the perfectly genetically enhanced plant, which **Maori** should be a part of and “if we prevent it [Indigenous plants] being used, the threat that we have is that someone from overseas will steal it and then it’s going to be very difficult to turn the clock back.”⁷⁵ His comments refer to his belief that **Maori** views expressed in the **WAI 262** claim against commodification of flora and fauna are economically disadvantageous for **Maori**.⁷⁶ **Maori** have expressed concern about both the theft and genetic manipulation of plants. Further, **Maori** have opposed not only exploitation of their **tikanga** and **taonga**, but also the exploitation of other people’s biodiversity.

In Thailand, a government-initiated biotechnology research institute study of traditional knowledge being exploited in the region was designed to avert biopiracy of Thai resources by transnational companies.⁷⁷ The study is described as seeking better ways of benefit sharing by examining local and international laws and regulations and ways to help state agencies better deal with transnationals. Although the efforts of the Thai Government appear protective in nature, the result is government-led exploitation of Thai resources rather than transnational companies. The fact remains that resources are still being exploited. Illustrative of this exploitation is the Thai case involving the suspected biopiracy of jasmine rice, or Hom Mali as it is called locally. All Thailand’s rice germplasm was donated and stored in the International Rice Research Institute, a

⁷³ Environmental News Network (ENN), “Bio-prospectors seek treasure in Australia forests,” 8 November 2002.

⁷⁴ *Stuff.co.nz*, “Native species being plundered for medicines, scientists say,” 22 February 2003.

⁷⁵ *60 Minutes* TV1/TVNZ documentary feature, “Whose rights?” aired on 28 September 1997.

⁷⁶ The **WAI 262** claim will be explained in more detail in Chapter Five.

⁷⁷ *Bangkok Post*, “Study to help fight biopiracy: Benefit-sharing being built into trade laws,” 16 September 2002.

public institution based in the Philippines, created to develop the high-yield varieties of the Green Revolution and mandated to protect germplasm in its care from patent or development unless otherwise authorised. There is controversy, however, whether the Institute was complicit in making jasmine rice available to an American-funded rice researcher or whether the researcher gained access illegally.⁷⁸ And in the Philippines the government enacted the Philippine Plant Variety Protection Act of 2002, which “is aimed at protecting and securing the exclusive rights of plant breeders with respect to their new plant variety, particularly when beneficial to people, through an effective property system,”⁷⁹ which in effect is controlled by a government-established body that has right of veto.

The Chinese central government authorised an expedition in 2002 by an international consortium of scientists who were hoping to discover extremophiles (micro-organisms living in inhospitable environments) in natural salt lakes and hot springs in Tibet and Inner Mongolia.⁸⁰ The Chinese government had secured sovereign rights to the biological resources discovered and a share in the commercialisation of any resources. It was unclear, however, if either Tibet or Inner Mongolia will see any benefits from this expedition.

Tikanga & taonga: People

It is not only plants, microbes, Indigenous knowledge and all other forms of **tikanga** that are being exploited. Humans too are commodifiable and exploitable as the following examples from Venezuela and Brazil, Canada, Taiwan, Iceland, the Cook Islands and Tonga illustrate. Much debate has surrounded the 1960s collection of blood samples by an American geneticist from approximately 20,000 isolated Yanomami villagers living in southern Venezuela and

⁷⁸ *India Together* website, http://www.indiatogether.org/agriculture/articles/noel_jasmine.htm, “And now, Thai jasmine rice,” August 2002, accessed on 15 August 2003.

⁷⁹ Philippine Government website press release 7 June 2002, <http://www.gov.ph/news/default.asp?newsid=1471>, “GMA approves law creating NPVPB to protect plant varieties,” accessed on 15 August 2003.

⁸⁰ “Microbe hunt raises doubts over local benefits of bioprospecting,” *Nature*, Volume 420 (109). 14 November 2002.

northern Brazil. The study's purpose was to look at population structure and the effects of viral exposure. There has been much debate concerning this research around whether the Yanomami people were deliberately exposed to the measles virus.⁸¹ This controversy was triggered by the publication of *Darkness in El Dorado: How Scientists and Journalists Devastated the Amazon* in 2000 by investigative journalist Patrick Tierney, describing the unethical practices of this research project. As a result Yanomami descendants are demanding that their blood, held in various genetic databases in America, be returned.

In the Canadian First Nation case of the Nuu-Chah-Nulth people on Vancouver Island in British Columbia, blood was taken and later used for a purpose other than what it was originally collected for.⁸² An Oxford University genetic researcher in the mid-1980s collected the blood from 900 Nuu-Chah-Nulth donors to investigate the reasons why there was such a high incidence of arthritis. The Nuu-Chah-Nulth discovered in 2000 that their blood was used for other anthropological research by the original researcher without their permission. The Nuu-Chah-Nulth want their blood returned from where it is being held in storage at Oxford University.

In another case of human genetic research, biotechnology company Vita Genomics secured access to Taiwan Aboriginal genetic materials in 2002 through the Taiwan National Health Care system. The company website states that "samples, such as blood, urine, spinal fluid, diseased or healthy tissue will be used as a source for genomic and mitochondrial DNA."⁸³

A very large project established in 1998, sanctioned by an act of parliament, involves the 275,000 residents of Iceland.⁸⁴ An international genomic consortium gained access to the public medical register in order to investigate the incidence of genetically transmitted diseases, which is

⁸¹ "Culture and consent: Human tissues collected by anthropologists provoke increasing controversy," *The Scientist*, 4 December 2002.

⁸² CBC Radio News, British Columbia, Canada, "Transcript – The Nuu-Chah-Nulth say they want their blood back," 21 September 2000.

⁸³ See Vita Genomics website, <http://www.vitagenomix.com/sampcollect.asp>, accessed on 14 August 2003.

⁸⁴ *Wired News*, "Iceland's genetic jackpot." 10 December 1999.

easier to identify within a relatively homogenous, isolated population such as Iceland, where genealogical records are detailed and public.

Closer to home, in 2002 the people of the Cook Islands were going to be used by the New Zealand based biotechnology company Diantranz in a human trial of an experimental treatment for type 2 diabetes. The trial involved Cook Islanders being injected with genetically engineered insulin-producing pig cells. However, type-2 diabetes can be managed by good diet and exercise making such a hazardous treatment ethically questionable. The uproar that resulted from this 2002 announcement resulted in the company withdrawing its trial. Nevertheless, further attempts to get approval elsewhere are likely, as Diantranz has already carried out limited experiments in Mexico and unsuccessfully attempted the same in New Zealand.⁸⁵

In another disturbing case, the Australian biotechnology company Autogen secured rights in November 2000 to the whole Tongan gene pool, some 108,000 residents, to seek links between diseases and genes in order to produce therapeutic drugs. Because of Tonga's relative isolation, stability and clearly traceable lineage and genealogy of peoples, Autogen Company Chairman Joseph Gutnick believes "you can easily observe from generation to generation and from brothers and sisters and families if there is a prevalent gene that causes a particular disease."⁸⁶

Other disturbing incidences of biopiracy targeting Indigenous peoples occurred during the 1990s and patent applications withdrawn because of the international outcry that resulted. Patent applications were filed on cell lines from a 26-year-old Guayami woman from Panama who along with other Guayami people carried a virus with antibodies that appear promising for AIDS and leukaemia research; the cell lines of people of the Solomon Islands; and cell lines of members of the Hagahai peoples of Papua New Guinea who appear to be immune to leukaemia

⁸⁵ See Biowatch South Africa website, "Factsheet: Human genetic research and Indigenous people," <http://www.biowatch.org.za/dharry.htm>, accessed on 14 August 2003.

⁸⁶ *NZ Herald*, "Tongan gene pool fenced," 24 November 2000.

and certain degenerative neurological diseases.⁸⁷ All three cases are examples of homogenous populations that are relatively isolated and therefore prime targets for biotechnology companies trying to track genealogically through DNA any indication of “bad” genes associated with particular diseases. The companies hope identification of such a “naughty” gene will mean the potential to develop a cure or at least a test to diagnose for the incidence of the “defect.”

In New Zealand interference with **whakapapa** (genealogy) has been occurring with some frequency and with zealous government sanction. In 1994 Pharmaceutical Proteins Limited (PPL) Therapeutics (the Scotland-based company that produced Dolly) and Selbourne Biological Services (based in **Tauranga**, New Zealand) conducted genetic engineering research seeking a cure for cystic fibrosis and other such diseases. The research involved inserting human DNA into sheep eggs to produce transgenic offspring that would supply milk containing human proteins that could be harvested and used in the production of a treatment. The researchers required consent from the local **iwi** to carry out this research in their area and secured this by manipulatively convincing one member of the **iwi** that this research was for the betterment of all humankind.⁸⁸ It was discovered by the local **iwi**, however, that the company representatives composed the letter and persuaded the **whanau** member to sign it. Neither the **whanau** member nor any other single member of an **iwi** had the authority to sign on behalf of the community.⁸⁹ In September 2003 PPL Therapeutics decided to downsize its operations and sell the more than 3,000 transgenic sheep as well as the research farm where New Zealand’s first transgenic livestock field trial was conducted. Because the farm and transgenic sheep could not be sold, the

⁸⁷ See *Biowatch South Africa* website article, “Factsheet: Human genetic research and Indigenous people,” by Debra Harry, <http://www.biowatch.org.za/dharry.htm>, accessed on 14 August 2003, & *New Internationalist* article “Resisting the gene,” by **Aroha Te Pareake** Mead, August 1997, pp. 26-27.

⁸⁸ *New Internationalist* article, “Resisting the gene raiders,” by **Aroha Te Pareake** Mead, August 1997, pp. 26-27.

⁸⁹ Gardiner, D., N., “Hands off our genes: A case study on the theft of **whakapapa**.” In Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two. (Auckland, New Zealand: **IRI/Moko** Productions, 1997), 57.

company slaughtered and incinerated the transgenic sheep and buried the “normal” sheep on their research farm.⁹⁰

In 2000, AgResearch, a Crown Research Institute based in Hamilton, New Zealand, conducted a similar project seeking a cure for multiple sclerosis. Human genes were inserted into cows with the hope that transgenic female offspring would produce milk containing human proteins that could be harvested and used in seeking a cure. In 2002 AgResearch received approval to extend its existing research to include inserting other genetic sequences from humans, goats, pigs, deer, sheep and mice into cows.⁹¹ In both cases of the AgResearch approval process, local **Maori** vociferously opposed the research but were overruled.⁹²

Tikanga & taonga: Maori enterprises and joint ventures

I am concerned about **iwi** who enter business partnerships with industry, government or universities to conduct genetic research on our **tikanga**. I believe that we need to think very carefully about the implications of deciding to commercialise or to enter into any arrangements with others or even to document our own **tikanga** for future generations because of the potential for misuse or theft by the unscrupulous. A balance must be maintained, and the “trick” to that is “being able to ‘exploit’ and at the same time maintain the integrity of your knowledge and cultural frameworks.”⁹³

A 2003 New Zealand Institute of Economic Research (NZIER) report prepared for **Te Puni Kokiri** (The Ministry of **Maori** Development) examined the potential of the **Maori** economy, where “**Maoriness**” is seen as an asset. The report found that the economy is “robust,” but improvements are needed by **Maori** organizations in order to take advantage of available

⁹⁰ *New Zealand Herald*, “Bolger attacks GM sheep killing,” 19 February 2004.

⁹¹ *NZ Herald*, “Scientists get nod on gene-swap research,” 2 October 2002.

⁹² Both the AgResearch cases mentioned here are elaborated in Chapter Eight.

⁹³ Smith, G., H., “Controlling knowledge: The implications of cultural and intellectual property rights.” In Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two. (Auckland, New Zealand: **IRI/Moko** Productions, 1997b), 18.

opportunities.⁹⁴ A number of **Maori** initiatives have been developed where this “**Maoriness**” has been viewed as an asset. One such initiative, **Nga Rauru** Nutraceuticals, involves three business units based in the **Nga Rauru rohe** in South **Taranaki**.⁹⁵ The business units include: a **marae**-based greenhouse growing tomatoes and peppers; **marae**-based native plant nurseries; and a NZ Institute for Crop and Food Research joint venture to develop commercial production of herbal remedies. In another initiative, **Te Puaha O Waikato** Trust is developing local **Waikato** land, which is currently under-utilized, to produce natural products, such as oils and medicines, from native plants and to create badly needed jobs for local **iwi**.⁹⁶ A similar joint venture will be made between **Te Puaha O Waikato** Trust and Nature Link, a local biotech company, to help with start-up costs, to establish sustainable management of resources, and to bring products to market. A number of other efforts supported by the government through funding administered by a Technology New Zealand scheme called “**Maori** collectives TechLink” include bringing to market fern fronds, traditionally known as **pikopiko** (bush asparagus), flax-fiber fabrics, farmed eel and mussels, and muttonbird (**titi**) oil.⁹⁷

Other Indigenous initiatives have been developed where the integrity of **tikanga** has been maintained as much as possible. Tohono O’odham Nation tribal members are working in combination with a University of Arizona professor and faculty members at Presidio High School on a project to study traditional uses of creosote bush for treating disease and its contemporary use in treatments today.⁹⁸ In another educational effort, Yup’ik Native nutritionist Mary Gregory imparts her wisdom of plants and knowledge of their use and conservation. Mary Gregory is known as the local expert on plants and plant use; she conducts annual spring and fall public guided tundra walks through the University of Alaska Fairbanks Kuskokwim campus. She also

⁹⁴ *NZ Herald*, “**Maori** economy ‘spectacular’ and poised for more growth,” 4 February 2003.

⁹⁵ The **Tariana Turia** mail list, NZ Government newslist, “**Turia** commends **Nga Rauru** innovation,” 9 May 2003.

⁹⁶ *NZ Herald*, “**Maori** land brings work opportunity,” 18 June 2003.

⁹⁷ *NZ Herald*, “\$1m for **Maori** to build assets,” 29 May 2003.

⁹⁸ *Arizona Daily Star*, “American Indian medicine focus of exciting project,” 18 February 2003.

conducts private guided tundra walks.⁹⁹ In Nunavik, similar projects have been conducted to document and keep alive Inuit knowledge of traditional medicine and identification and classification of flora for future generations.¹⁰⁰

In the case of the Aveda “Indigenous” line of products, as mentioned earlier, the company attempted to work collaboratively with communities. The “Indigenous” line is based on Native North American healing traditions with key ingredients that are “sustainably harvested in partnership with Native peoples. And Indigenous sales help support Native groups who work to preserve Native culture, land and economic opportunity.”¹⁰¹ Aveda attempted to help support three Indigenous projects by giving them a portion of the “Indigenous” product sales. One project involved the Haida Gwaii of British Columbia, Canada, who are cultivating, harvesting and processing natural resources for nutraceutical purposes. The Blackfoot Bear Roots Association in Montana, USA, is involved in another project that grows and fosters traditional organic horticulture and nutraceutical products. The final project supported by Aveda was the Native Plants/Native (Curriculum Development) Project in Pennsylvania, USA, where a group of elders are developing curriculum for youth on the benefits of medicinal plants, Native cultural practices and conservation of the environment. However, controversy surrounding the “Indigenous” brand name and line of products forced the company to discontinue the line. In the press statement released by Aveda Corporation on 11 November 2003, they state,

Aveda will continue its ongoing partnerships with indigenous communities in the sustainable sourcing of plant and flower ingredients...Aveda also intends to develop new frameworks for enhanced partnerships, based on sustainable business and conservation models, and, even more importantly, self determination. We hope to achieve a solid sense of interdependence in the greater “web of life.”¹⁰²

⁹⁹ *Anchorage Daily News*, “Nutritionist shares knowledge of traditional plants.” 9 June 2002.

¹⁰⁰ From a paper entitled, “An Inuit perspective on biotechnology and intellectual property,” Pauktuutit Inuit Women’s Association’s comments on the Canadian Biotechnology Advisory Committee’s Interim Report, prepared by Phillip Bird, 2001: 12.

¹⁰¹ Aveda Corporation website address <http://www.aveda.com/protect/we/indigenous.asp> visited on 13 August 2003.

¹⁰² Aveda Corporation website <http://www.aveda.com>.

This drive for commercialization of “**Maoriness**” or “**Indigenusness**” can be problematic and highly controversial, both within the Indigenous communities themselves and beyond. The next section will discuss these Indigenous dilemmas.

Indigenous dilemmas over commodification of tikanga

“What is traditional and **tapu** (sacred) as opposed to what is open to the public domain is very confused, even amongst ourselves and that’s a major difficulty.”¹⁰³ There have been a number of local individual initiatives on different continents led by Indigenous people and joint ventures made between Indigenous communities and industry that are controversial. One of the most problematic is when **iwi** enter arrangements with researchers to help with genetic research to find solutions to medical problems or to genetically modify our **tikanga**. Other areas of concern include: initiatives by **iwi** to commercialise areas of **tikanga** that are considered by **Maori** elsewhere as not appropriate for commodification; the establishment of databases of **tikanga** and genetic banks in order to provide protection and prevent theft; and some partnerships with industry, university and government that involve the identification of medicinal plants and remedies and knowledge of their traditional use for commercialization and benefit sharing of resulting profits. This section will explore the problematic nature of some of these efforts.

Benefit sharing arrangements

The UN Convention on Biological Diversity (1992) is an international agreement that sanctions and actively encourages contracts between “developing” countries and “developed” country corporations. These contracts are known as “benefit-sharing” arrangements where local Indigenous people are given a share of any profits from products brought to market. It is, in fact, an internationally sanctioned and legitimised form of biopiracy. The result of such deals is the

¹⁰³ Smith, G., H., 1997b: 19.

commodification of **tikanga**, which was traditionally held in common. "Common property systems recognize the intrinsic worth of biodiversity; regimes governed by IPRs see value as created through commercial exploitation...biodiversity is converted from a local commons into an enclosed private property."¹⁰⁴ There are a number of benefit-sharing arrangements that indigenous people have entered, or where governments or organizations have entered into arrangements without appropriate or even any Indigenous consultation, including contracts in Costa Rica, Brazil, Nigeria, Zimbabwe, and South Africa.

In 1991 a contract was signed between the Merck pharmaceutical company and the National Institute of Biodiversity (INBio) in Costa Rica, which gives Merck screening, developing and patenting rights on products or processes developed by utilising animals, plants, or micro-organisms collected while bioprospecting in the Costa Rican rain forests. "In return, Merck has paid US\$1.3 million to aid Costa Rica's conservation programme and has agreed to give INBio an undisclosed percentage of any royalties."¹⁰⁵ INBio does not represent the local communities who utilise these rainforests as a commons. The problem is that the people who actually utilise the rainforest had no voice in this deal. If they were asked, I doubt whether the local people would sanction such a contract which impacts on access to their own rainforest. In 1991 annual sales for Merck were US\$8,600 million. Disturbingly, "Given that Costa Rica holds 5 percent of the world's biodiversity, the entire global stock of biodiversity could be sold in similar deals for just \$26 million."¹⁰⁶ In 2003 INBio was proposing to enter another arrangement with the Swiss Federal Institute of Technology (ETHZ) to allow them access to bioprospected resources so that they could develop new drugs. The proposal came up against protest from the

¹⁰⁴ Shiva, V., Biopiracy: The plunder of nature and knowledge. (Toronto: Between the Lines, 1997), 67.

¹⁰⁵ McNally & Wheale, 1999: 173.

¹⁰⁶ Ibid.

Red de Coordinacion en Biodiversidad, a Costa Rican civil society body concerned with biodiversity and rights of local communities.¹⁰⁷

A project in 2002 to determine the commercial value of plants traditionally used by Kraho Indians in Brazil, involved the collaboration of a team consisting of Kraho Indians, Federal University of Sao Paulo researchers and industry.¹⁰⁸ The project, however, came unstuck because the Federal University of Sao Paulo had failed to gain full consent from all of the Kraho peoples based in seventeen different villages. A similar controversial project was undertaken by the Nigerian National Institute for Pharmaceutical Research Development (NIPRD) and a traditional healer. The controversy related to selling patent rights to a sickle cell anaemia drug to a foreign company when in fact the drug had actually been researched and developed locally because of the concern with the high incidence of sickle cell anaemia in Nigeria. The Director General of NIPRD, with the full consent of government, sold the rights to the new drug to allow mass production by a foreign company.¹⁰⁹

In Zimbabwe, the government has encouraged collaboration between traditional healers and medical practitioners, including approving the formation of the Zimbabwe National Traditional Healers Association (ZINATHA).¹¹⁰ In 1994, ZINATHA contracted the Zimbabwe Regional Drug Control Laboratory (with affiliations to the World Health Organization and Zimbabwe Ministry of Health) to test a sample of two hundred plant medicines and found that ninety-five percent were “good,” including traditional medicines that could eliminate or reverse AIDS symptoms. Subsequent tests with the help of the University of Zimbabwe resulted in a joint patent between ZINATHA and the University for their most promising medicine compounds. Patenting is seen by ZINATHA as an important mechanism for the protection of traditional

¹⁰⁷ From *BIO-IPR* listserv administered by Genetic Resources Action International (GRAIN), “[BIO-IPR] ETHZ-INBio bioprospecting deal,” 23 May 2003.

¹⁰⁸ *The Seattle Times*, “Brazilian tribe feels betrayed by plant search,” 16 September 2002.

¹⁰⁹ *Science & Development Network*, “Row over Nigeria sickle cell patent,” 5 June 2003.

¹¹⁰ From *The Phytomedica Network* listserv administered by Conserve Africa Foundation (CAF), “[Phytomed] Medicinal plants and traditional medicines in Zimbabwe,” 25 August 2002.

knowledge. They thus have taken the next step by forming a company, ZINATHA Enterprises (Pvt) Ltd., to process and market traditional medicines. In effect, the government has sanctioned the commodification of medicines traditionally used by the Zimbabwean people as a taonga held in common. Although seen as a preventive measure against exploitation, patenting will actually inhibit local access to traditional medicines because of the excessive cost. A follow-on effect will be the limited availability of plants for making traditional medicines because of the resulting increase in demand for production. Medicines derived from plants traditionally held in common are literally fenced off through patenting, and local access is inhibited even with the formation of a local processing and distribution company.

The San people of the Kalahari Desert, represented by the South African San Council, an organisation representing the three major groups of San in South Africa, namely the !Xun, the Khwe, and the Khomani, finally signed a deal in 2003 after three controversial years of seeking acknowledgement and rights to a plant they had been using for centuries. The deal gives the San shared profits in the development of a hunger and thirst suppressant traditionally used by the San when on hunting expeditions.¹¹¹ The South African San Council and the South African Council for Scientific and Industrial Research (CSIR), a government research body, signed the deal that would involve the development of the traditionally used Hoodia cactus plant. Phytopharm, a British biotechnology company, and Pfizer, the pharmaceuticals giant, acquired the rights to the Hoodia plant in order to develop and commercialise it as an anti-obesity drug for the West. The San will receive eight percent of the licensing payment and, subsequently, six percent of all royalties once the product makes it to market. The income will be put into a trust to support education, develop skills and create jobs for the San peoples.¹¹² Although sounding like a win-

¹¹¹ *AllAfrica.com*, "Marginalised San win royalties from diet drug," 26 March 2003.

¹¹² CSIR website, media release, 24 March 2003, "The San and the CSIR announce a benefit-sharing agreement for potential anti-obesity drug," http://www.csir.co.za/plsql/ptl0002/PTL0002_PGE013_MEDIA_REL?MEDIA_RELEASE_NO=7083643, accessed on 20 March 2004.

win resolution for all concerned, again the effect is to take a **taonga** out of the commons and invest “ownership” of traditionally held knowledge into a private company.

The dilemma of benefit sharing

Although entering into collaborative business arrangements to exploit Indigenous resources, knowledge, and **tikanga** may be beneficial for some **iwi**, the dilemma becomes one of defining where the property line, in the form of intellectual property rights granting patent rights over **tikanga**, should be drawn. These agreements involve not just a creation of new rights over **tikanga**; “they also involve a rewriting of the traditional rights that enabled local communities to be the keepers of biodiversity, with a stake in its replenishment and utilization.”¹¹³ This redefinition of rights provides “an increasingly important mechanism for controlling not only intellectual and cultural expressions but also biological materials, revealing the absolute fragility of distinctions between intellectual and physical property, tangible and intangible resources, nature and culture.”¹¹⁴ Dr Graham Smith best sums up this dilemma for **Maori** and, indeed, for all Indigenous people:

I think that **Maori** are entitled, where they can, and within certain guidelines, and parameters, to exploit (and I use that word here in its sustainable definition) the resources that they have in order to give them an economic return in a managed and careful way...On the other hand I think there are some properties which belong more universally to all **Maori**, which do not belong to individual **iwi** or groups or people and therefore ought not to be exploited individually on that basis. These cultural properties should remain in the centre, as part of a common cultural and intellectual property right held by **Maori** people generally and should be sustained and protected as such.¹¹⁵

Language and human genes are examples of areas that Dr Smith recommends should not be exploited. However, some Indigenous and non-Indigenous people are attempting to protect **tikanga** from bioprospectors by documenting and storing knowledge in databases and gene banks. Indigenous communities themselves manage some of these databases, but a large number

¹¹³ Shiva, 1997: 96.

¹¹⁴ Parry, 2002: 680.

¹¹⁵ Smith, G., H., 1997b: 20.

are established and controlled by non-Indigenous organizations and people, sometimes with Indigenous people's collaboration.

Documentation and databases of **tikanga**

The United Nations' World Intellectual Property Organization (WIPO) actively encourages documentation of **tikanga** to achieve protection from patenting by others. WIPO, like the 1992 UN Convention on Biological Diversity, encourages benefit-sharing arrangements. The WIPO promotes intellectual property rights for Indigenous peoples.¹¹⁶ An example of such a database is the Traditional Ecological Knowledge Prior Art Database (TEK*PAD) of the Science and Human Rights Program of the American Association for the Advancement of Science (AAAS), designed to protect Indigenous knowledge from patenting by bioprospectors. It has links to the US Patent and Trademark Office and European Patent Office databases. "TEK*PAD allows for the option of defensive disclosure, for traditional knowledge holders who wish to place information in the public domain in order to preempt patenting by others,"¹¹⁷ which helps establish as prior art traditional knowledge that is detailed in a printed publication or other publicly accessible repository.¹¹⁸

Thailand's government in 2003 initiated work on a database of all plant varieties and traditional wisdom in efforts to prevent patenting by foreigners. The Thai government is setting up a team of local villagers, government officials and scholars to survey the different plant varieties and start the database, which is expected to be compiled over four years.¹¹⁹ Argentinean Indigenous leaders in 2003 called on their government to establish a register of traditional knowledge in an attempt to stop the biopiracy of their resources without any compensation to

¹¹⁶ WIPO Update 201/2003, <http://www.wipo.int/pressroom/en/updates/2003/upd201.htm>, "Next steps for international protection of traditional knowledge in view," 21 July 2003, accessed on 11 August 2003.

¹¹⁷ American Association for the Advancement of Science website, <http://www.shr.aaas.org/tek/tekpad.htm>, accessed on 15 August 2003.

¹¹⁸ The January 2004 issue of *Seedling* on the GRAIN website is dedicated to intellectual property rights and the issues explained in this section. See GRAIN website at: <http://www.grain.org>.

¹¹⁹ *Bangkok Post*, "Plan to compile knowledge of all plant varieties and uses," 5 August 2003.

them. The Argentinean National Institute of Industrial Property (INPI) could administer the initiative; it is responsible for intellectual property laws in the country.¹²⁰

In India there has been some controversy over establishing such databases. A joint venture has been made between The Council of Scientific and Industrial Research (CSIR) and the Indian Systems of Medicine and Homeopathy to develop a traditional knowledge digital library to protect traditional knowledge. The knowledge will be catalogued and placed on a protected website with restricted access as well as put on DVD's that will be sent to patent authorities worldwide to ensure that this catalogued knowledge is not patented when authorities consider granting a patent.¹²¹ Critics of the database argue that it plays into the hands of foreign companies because the database offers easy access to the traditional knowledge of India; bioprospecting need not take place out in the field in the country of origin but through internet and DVD access.¹²² In Canada, the Centre for Traditional Knowledge at the Canadian Museum of Nature in Ottawa initiated a national database in 2002 to document Canadian First Nations' expertise and knowledge. The database has created some animosity within some First Nations communities because of the fear that their knowledge will be stolen if they deposit it in a national database.¹²³ Concern has also been raised by Indigenous peoples in Venezuela regarding a government database that has been cataloguing information since the mid-1990s on traditional knowledge of the biological diversity of the Venezuelan Amazon.¹²⁴

Other forms of codification and documentation are also of concern because of their potential for appropriation by outsiders. Native American elders from Wisconsin, Michigan and Minnesota have also been helping in cataloguing their knowledge in a collaborative project with the Great Lakes Indian Fish and Wildlife Commission, which is an association of Native

¹²⁰ *Science & Development Network*, "Call for Argentine register of local knowledge," 21 March 2003.

¹²¹ See articles on this topic: "Who are the real owners of traditional knowledge?" *Financial Express*, 26 May 2003; & "Patent your heritage," *New York Times*, 15 December 2002.

¹²² *Science & Development Network*, "Biopiracy fears cloud Indian database," 5 December 2002.

¹²³ "Tribes query motives of knowledge databases," *Nature*, 419 (866), 31 October 2002.

¹²⁴ *Latin American Press*, "Right to knowledge," 17 December 2002.

Americans. The knowledge of the traditional use of plants was compiled in 2002 in the form of a CD-ROM and other educational resources.¹²⁵ In New Zealand there are similar projects that document **tikanga**. One such project involved the documenting of traditional **Maori** uses of native fungi by a University of Auckland student and a Landcare, Department of Conservation scientist in 2003.¹²⁶ Another project involved collaborative work between the **Ngai Tahu** tribe in the South Island and a New Zealand anthropologist who was entrusted with documenting the tribal history and tradition of the people of **Waitaha**. The anthropologist was given access to interview many elders so that he could document their story to support an **iwi** treaty claim being heard by the **Waitangi** Tribunal. However, the author went further than his conferred mandate, documenting the stories into publishable book form (published in 1994 as *Song of Waitaha*) available to the public, and interviewing other elders who were not part of the **iwi**, thus retelling a different story. This case illustrates the “misappropriation of **taonga Maori** [**Maori** treasures] by non-**Maori** for their own purposes.”¹²⁷

All of the above cases illustrate the documentation of traditional knowledges, the intellectual commons of Indigenous/traditional peoples. This documentation and codification of knowledge can be seen as the path to commodification of Indigenous **tikanga** and **taonga**. The repository for this precious knowledge was, and still is, traditionally held by **kaumatua** (elders) from each local area. This knowledge was imparted to a person whom the **kaumatua** deemed would be an exemplary **kaitiaki** (guardian) of this **taonga**. If there was not a suitable **kaitiaki** for this knowledge, then that knowledge would lay dormant until such time as a suitable person was

¹²⁵ Visit The Great Lakes Indian Fish and Wildlife Commission website, <http://www.glifwc.org/>, and click on materials published. Accessed on 15 August 2003.

¹²⁶ *New Zealand Herald*, “A world dying beneath our feet,” 7 April 2003.

¹²⁷ Liddell, T., “The travesty of **Waitaha**: The new age piracy of early **Maori** history.” In Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two. (Auckland, New Zealand: **IRI/Moko** Productions, 1997), 42.

identified.¹²⁸ The **kaitiaki** were the greatest protection for knowledge rather than the use of codification techniques to prevent patenting and preserve common “property” rights. The actual codification is an enclosure of knowledge because the transmittal of this knowledge was through listening, watching, learning and actively participating with **kaumatua**. Through codification knowledge loses its significance, its **mana** (power, integrity), because it is open to criticism where its meaning is narrowly defined and taken out of context, without the rich learning imparted by **kaumatua**. It therefore loses the rich layers of meaning when translated from **Maori** to English and from traditional methods of transmittal to codified script.

Because Indigenous people are caught in a defensive position and reactive mode, many believe that by codifying knowledge, creating databases, and entering into benefit-sharing arrangements, Indigenous people will protect their knowledge and have control over its exploitation and use. Some Indigenous people believe that “only by making proprietary claims to own their cultural distinction will intellectual property laws legitimate their difference,”¹²⁹ but if Indigenous people “buy-in” to the application of intellectual property, that application “may itself be seen as a colonizing domination in that it forces an assimilation of indigenous culture.”¹³⁰

Moana Jackson reiterates this point and believes if we do “buy-in,” it “dismisses what I understand to be one of the cultural underpinnings of who we are,”¹³¹ our coexistence and

kaitiakitanga (guardianship) relationship with nature. Lisa Strelein further believes there is a

risk in accepting an instrument of assimilation as a basis from which to champion a greater commitment to the recognition of Indigenous peoples’ rights. The ideology of

¹²⁸ Some knowledge may lay dormant and expire with the passing of a **kaumatua** (elder). However, this knowledge may be revived in the form of gifts of knowledge inherited by **kaitiaki** (guardians) of future generations. The knowledge is embedded in the psyche of selected individuals of generations to come. These individuals are identified as **taonga** (precious treasures), special people born with gifts, through the reading of **tohu** (signs). In many cultures there are similar beliefs of signs of gifted people being born, such as in Tibetan culture when a new lama/high priest is selected.

¹²⁹ Coombe, Rosemary, *The cultural life of intellectual properties: Authorship, appropriation, and the law*. (Durham and London: Duke University Press, 1998), 288.

¹³⁰ Farley, C., “Protecting folklore of Indigenous peoples: Is intellectual property the answer?” (*Connecticut Law Review*, 30 (1), 1997), 56.

¹³¹ Jackson, M., 1997: 33.

individual freedoms is the greatest threat to the rights of communities, and in accepting the instrument, one must accept the ideology upon which it is based.¹³²

The instrument indeed is problematic and should not be seen as a defence against the commodification of Indigenous **tikanga** and **taonga**. Accepting the instrument, as Strelein states, will significantly impact on Indigenous **tikanga** and **taonga** in the future.

Human health research

A final area of concern that creates numerous dilemmas for our people are human health research projects entered into with university researchers, or industry or government to find cures for diseases that are prevalent in our communities.¹³³ Some Indigenous peoples have a disproportionate incidence of illness and disease as compared to non-Indigenous populations. This invariably relates to relative socio-economic position, which impacts on food, lifestyle and access to medical treatment. "By focusing our attention on microorganisms or genes, scientists succeed in drawing attention away from societal influences."¹³⁴ The following examples of projects illustrate this concentration on the gene and individualized bodies.

A collaborative project in Ontario Canada, between Oji-Cree people of the Sandy Lake First Nation and medical researchers from Toronto's Mount Sinai Hospital sought to identify causes of the unusually high incidence of diabetes in the community. A genetic mutation was discovered that was thought to be useful for the Oji-Cree people when they were a hunter-gatherer society, but a Mount Sinai Hospital doctor said "the mutation became a liability in recent generations as the tribe developed a more settled lifestyle with regular access to commercial

¹³² Strelein, Lisa, "The price of compromise: Should Australia ratify ILO Convention 169?" In Bird, Greta, Martin, Gary & Nielsen, Jennifer, (eds.). *Majah: Indigenous peoples and the law*. (Annandale, NSW: Federation Press, 1996), 86.

¹³³ With genetic research and screening, the main outcome is diagnostic tests and not cures, despite much rhetoric and persuasion based on talk of possible cures.

¹³⁴ Hubbard & Wald, 1997: 60.

food.”¹³⁵ The Sandy Lake First Nation is guaranteed twenty percent of any commercial value that results from the project.

Maori families have also approached scientists to ask for their help with health problems they are having, such as stomach cancer and rare genetic disorders. One such case was featured in a 1998 *60 Minutes* documentary. A **Maori whanau** (family) was attempting to find out why their family was dying of stomach cancer.¹³⁶ They had thought that they had been cursed because of the devastation the cancer had wrought on their family. A group of scientists from Otago University were recruited by the **whanau** to find a cure for the cancer in 1996. In order to track **whanau** births, deaths and causes of death, one family member said,

we were delving into the things of dark ages, we were delving into **whakapapa** [genealogy]. In our religion, we don't do that...some people don't allow you to touch their information – it's all information from the past. So, you've got to have their blessing to go and get into that information.¹³⁷

Debra Harry and Frank Dukepoo believe this is a common view held by Indigenous peoples worldwide, where this information harvesting is sometimes seen as a violation of **tikanga** and there is a feeling of deep responsibility to protect the integrity of such information and ancestral identity.¹³⁸

Scientists would never be able to gain access to such information that the **whanau** was offering, which included the creation of a database of 3,000 names and identified lines of family struck by cancer, and the collection of DNA samples from 125 family members who did or did not have the cancer, because of the **tapu** (sacred) nature of such information and bodily samples. As a result of the information collected and analysed, scientists were able to identify a mutated gene from the kilometres of DNA that was gathered. The results of the research were published in an international science journal, with the family members named as co-researchers, and with the suggestion that the research might lead to a cure for stomach cancer and cures for other cancers

¹³⁵ Foubister, V., “Tribes under the microscope.” (*Rotarian*, 177 (6), 2000), 33.

¹³⁶ *60 Minutes* TV1/TVNZ documentary feature, “Gene or curse?” aired on 24 May 1998.

¹³⁷ *Ibid.*

¹³⁸ Harry & Dukepoo, 1998: 8.

linked to the same mutated gene. The scientists received warm praise for their work and became regarded as **tangata whenua**, or respected members of the family. **Tangata whenua** status confers on the scientists a very privileged familial relationship that includes their hospitality and trust. The cancer research team devised a blood test that gave people the opportunity to be screened to see if they had the mutated gene.¹³⁹ The principal cancer researcher said, “the project was a partnership with the family trust and profits were shared equally.”¹⁴⁰

Another New Zealand case involved a **Maori** family that had lost a number of family members to a rare genetic disorder. The genetic disorder mostly affected male members of the family but was passed on by their mothers and resulted in varying deformities or death. A child genetics specialist at Otago University who investigated the case was able to identify the gene and thus provide a screening test to determine who else in the family carried the gene.¹⁴¹

However, such a predictive test is inconclusive.

Some people ask, 'But what if I really do have a genetic tendency to develop a condition, such as high blood pressure? Wouldn't it help me to know that?' Yes and no. For one thing, if you have this or any other other “tendency,” it does not mean you will develop the condition. And if you do not have that “tendency,” it does not mean you won't develop it.¹⁴²

What is clear for a lot of Indigenous people is that DNA is not ours to own. Debra Harry says, “We don't have a right to change it and fix it and manipulate it or sell it because it belongs to our future generations. We also have spiritual beliefs about the body, that you don't take a piece of somebody's body from them because it also has a part of their spirit.”¹⁴³ It is one of those areas that Dr Graham Smith believes should not be exploited. This however is extremely problematic, as the above examples illustrate, because people are hoping that by instigating and

¹³⁹ Genetic screening is not a cure and carries its own problematic impacts in a context in which no cure is available.

¹⁴⁰ *Newsroom*, “**Maori** warned of genetic research exploitation,” 1 September 2000. This is a press release made by Debra Harry when she was in New Zealand on a speaking tour with **Maori** communities discussing the impacts of genetic research on Indigenous peoples.

¹⁴¹ *New Zealand Herald*, “Study uncovers fatal gene flaw,” 19 March 2003.

¹⁴² Hubbard & Wald, 1997: 73.

¹⁴³ As quoted in Foubister, 2000: 29.

helping with this kind of research cures for diseases that affect our people, our **whanau**, will be found.

When a decision is taken to proceed with this type of research, we put ourselves in a highly vulnerable position because we are exposed to violation and exploitation. When the Nuu-Chah-Nulth peoples solicited research into the worryingly high incidence of arthritis in their communities, they were exploited inasmuch as the cell lines developed from blood samples provided to university researchers were used for another purpose without their consent. Because of their negative experience with the university geneticist involved, they demanded the return of the cell lines and considered establishing their own repository for genetic samples.¹⁴⁴ I definitely agree with their demand for the return of these extracted samples. Considering their experience, I also do not blame them for wanting to control their own samples. However, the creation of a repository for Indigenous genetic information is problematic. We have seen throughout this whole section on “Commodification of **tikanga & taonga**: The business of bioprospecting or biopiracy or biocolonialism” the unscrupulous nature of some individuals, industries, university researchers, governments and international trade and intellectual property instruments. Setting up such a repository just opens up our **ira tangata** (our human life principle) to violation.

3. SUMMARY OF COMMODIFYING TIKANGA & TAONGA

Enclosure, in the form of intellectual property rights, guaranteed to have international currency through the TRIPS agreement, is “the latest attempt to formalize the continuing piracy of Third World genetic resources by Northern biotech companies, effectively sanctioned by the science of genetic engineering.”¹⁴⁵ It is a “neocolonial attempt at enclosure or piracy of

¹⁴⁴ “Tribe blasts ‘exploitation’ of blood samples,” *Nature*, Volume 420 (111), 14 November 2002.

¹⁴⁵ Ho, 1998: 23.

indigenous peoples' traditional common knowledge."¹⁴⁶ Shiva, as well as Debra Harry and other Indigenous authors such as New Zealander **Aroha** Mead call this piracy biocolonialism for the simple fact that it is colonisation as usual. Ho believes this "pilfering" "has intensified as agricultural bio-technology drives 'gene hunters' to prospect for commercially lucrative genetic resources in the South, in the new regime of intellectual property rights that allows patenting of living organisms and their genes."¹⁴⁷ This "harmonization" of intellectual property rules for international "free" trade is the rope that snares the commons. This results in developing country/traditional/Indigenous knowledge and resources being transformed from common property of the community to private property for the few, with little, if any, acknowledgement of the "original source."

Commodifying of Indigenous knowledge has caused Indigenous peoples to be positioned as "defensive" and in "dilemma mode." This situation places Indigenous people in a position of always being "on the back foot" and in reactive mode. For some the only way to protect this **tikanga** and **taonga** is to attempt to implement property systems themselves; these systems require that "things" be viewed in economic terms and therefore in terms of its commodity status (for example, not yet considered property but in the process of being commodified). As a result of this commercialisation of **tikanga** and **taonga**, a tear in the fabric of Indigenous culture appears as such dilemmas for Indigenous peoples appear more frequently, where some peoples feel they have no option, or that it is the best option for their people to sign bilateral resource rights agreements with multinational companies, for example. Such dilemmas I see as problematic as they seem to provide the carrot, as it were, but instead only leave the scraggly carrot top. I say "seem" because getting the scraggly carrot top may seem better than nothing, but the whole process of commodification of **tikanga** is, I think, a violation. Such a decision of whether or not to enter into an agreement needs very careful deliberation and consultation.

¹⁴⁶ Mies, M., & Bennholdt-Thomsen, V.. The subsistence perspective: Beyond the globalised economy. (London: Zed Books, 1999), 151.

¹⁴⁷ Ho, 1998: 24.

My view is that the slippery slope that some communities enter to permit the patenting of some **tikanga** and life forms and not others is counter-productive and can be seen as assimilationist in nature. When some communities patent some areas of **tikanga** in an effort to protect that **tikanga** in general, it is problematic.

Although biodiversity is unique and is the product of the stewardship of indigenous peoples who often have recognized, protected, developed and utilized its potential, it cannot be left alone and patented *in situ* because the patent system does not reward conservation. Its uniqueness can only be recognized by the patent system when individual genes are identified, extracted, characterized and exploited through gene technology.¹⁴⁸

I believe that this is not the answer as once you fall into the trap of conceding that some life forms have ownership (and therefore economic value), and others don't, there is absolutely no reason to stop further encroachment of what is considered commodifiable.

Similarly, I think we need to restrict our use of property discourse in efforts to tame the onslaught of property in life forms, the body, our knowledge and **tikanga**.

The human body and human health have not, traditionally, been considered to be property. The option of concluding that these goods ought not to be subjected to property discourse is a real one. We can, as a society, conclude that the body and health are not and ought not to be property. If the body and health are not property, they will not be evaluated within a discourse that focuses on their market aspects rather than the nonmarket values inhering in them.¹⁴⁹

When we start talking in property terms about things that are not traditionally considered property, such discourse carries with it the ideology of individualism, private property, and exploitation. This occurs most often in debates around rights to benefit and access, such as the current debates in New Zealand around the "ownership" of the seabed and foreshore, and in retaliatory defensive arguments when others are initiating the commodification of **tikanga** and **taonga**.

In conclusion, the objective of this chapter was to conduct an exploration of the concept of property and ownership and to look at its impacts on Indigenous and **Maori tikanga** and

¹⁴⁸ McNally & Wheale, 1999: 172.

¹⁴⁹ Gold, 1996: 161.

taonga. This overview illustrates how property ensnares Indigenous and **Maori tikanga** and **taonga**, leading to myriad dilemmas for all Indigenous peoples.

The biotechnology industry is a multi-headed beast, with Medusa type characteristics; anything in its purview is turned into private property or is in the process of being turned into private property. This is problematic though for Indigenous peoples. Roht-Arriaza poses the question central to the dilemma of property rights for Indigenous peoples: “should Indigenous people (or other traditional or local communities) try to modify existing systems to suit their needs, or are such systems irredeemably inappropriate?”¹⁵⁰ Our alternatives are limited. One option is to remain outside of the Western conception of “value” as “economic value.” Dr Graham Smith believes the answer could be to simply assert autonomy, or our **rangatiratanga**.

This is something that we have learned from the **Kaupapa Maori** approach, which picks up on the Freirean notion of naming the world. In this sense we just declare that this is **Maori** knowledge, and command dominion over what we say is our knowledge and cultural and intellectual property rights, and that’s it, and don’t enter into any debate about it whatsoever.¹⁵¹

The purpose of the next chapter is to critically engage with the concept of western reductionist science and to explore sites of struggle over **tikanga Maori**. In effect the next chapter is an examination of the assertion of **rangatiratanga**.

¹⁵⁰ Roht-Arriaza, Naomi, “Of seeds and shamans: The appropriation of the scientific and technical knowledge of indigenous and local communities.” In Ziff, Bruce & Rao, Pratima, (eds.). Borrowed power: Essays on cultural appropriation. (New Brunswick, NJ: Rutgers University Press, 1997), 272.

¹⁵¹ Smith, G., H., 1997b: 18.

CHAPTER 5

TIKANGA MAORI KNOWLEDGE & WESTERN REDUCTIONIST SCIENCE

Always go back to the same question: Do you think our **tupuna** [ancestors] would've agreed to putting genes into sheep?
(**Moana** Jackson, 2003)¹

Our elders say, as with **te reo** [the language], the **rongoa** [traditional healing and medicine] is so precious, no money can buy it.
(**Mahinekura** Reinfeld, 2003)²

One of the government people accused me of being anti-science. My reply was that I am pro-**tikanga** not anti-science and that GE/GMO's are a very small part of the Western scientific tradition and that scientists themselves are divided on the usefulness of the technology.
(Dr Cheryl Smith, 2002)³

In this chapter I explore the contradictions that are apparent between what is generalised as **tikanga Maori** knowledge and that which is considered Western reductionist science. The intention of this chapter is to argue for critical space for **tikanga Maori** as valid and legitimate knowledge in its own right. This space making for **tikanga Maori** is predicated on a critique of scientific knowledge. This chapter will bring together three sets of evidence: what **Maori** traditional knowledge tells us; what **Maori** critical experts say; and what critical theory says. Evidence will include research conducted by The International Research Institute for **Maori** and Indigenous Education, which produced the report entitled *Maori and Genetic Engineering* in May 2000, which at the time of writing was the only comprehensive analysis of this issue undertaken by **Maori**, with **Maori**, and for **Maori**, and privileging the **tikanga Maori** worldview. A brief analysis of the **WAI 262** Claim is also necessary because of its primary focus on **tikanga Maori**.

¹ Quote from a film by Max Pugh and Mark Silver, produced by Debra Harry, entitled "The Leach and the Earthworm," UK/USA, 2003.

² Quote taken from *The Daily Times* (local **Taranaki** newspaper, NZ), "Nature's cure," 6 June 2003.

³ Personal email communication to author on 7 November 2002, in reference to Ministry for the Environment consultation round on buffer zones where GM and non-GM crops co-exist.

The chapter also analyses examples of the obfuscation of **tikanga** and examples of controversial research that are an affront to **tikanga Maori**.

1. TIKANGA MAORI KNOWLEDGE & WESTERN REDUCTIONIST SCIENCE

For **Maori**, **tikanga** is one way we have articulated our worldview, values, beliefs, and epistemologies. **Tikanga** articulates **Maori** ways of doing things. In the Introduction, I have scoped out the broad definition and explanation of the term **tikanga**. **Tikanga** has specific application in different areas and for different **kaupapa** (purposes). Genetic engineering and creation and use of transgenic organisms is a specific area that impinges on **tikanga Maori**. In order to articulate **Maori** perspectives on the new biotechnologies, I first need to differentiate between worldviews; a worldview which is informed by **tikanga Maori** knowledge and another which is not. In order to do this I have had to develop appropriate terminology that would adequately define and be able to differentiate between the worldviews. In this section I want to define what I mean by “**tikanga Maori** knowledge” and “Western reductionist science.”

The term “science” is culturally bound; there are different interpretations of what science means for different peoples. For Indigenous peoples, the term “science” has had specific meaning. “Science” has been experienced as the handmaiden of colonialism. In the name of science, colonial (historic and contemporary) explorers have named, described, categorized and defined indigenous peoples and their knowledge. Indigenous people have been researched, experimented on, and samples of their genes have even been extracted, identified and then bought and sold once a use has been found for them. “Science” then is a way of seeing and a way of doing things that a lot of Indigenous peoples are wary of.

“**Tikanga Maori** knowledge” is a term that encapsulates **Maori** ways of knowing. **Tikanga Maori** knowledge has a long history and strong traditional foundations but is highly relevant in providing guidance in the contemporary context. **Tikanga Maori** knowledge incorporates **Maori** traditional teachings, values, beliefs and epistemologies. **Tikanga Maori**

knowledge sees the world through a **tikanga Maori** informed lens. Central to the **Maori** worldview is the **whakapapa** (genealogical) link between all things. **Tikanga Maori** knowledge is based on relationships (**whakapapa**) and how we interrelate. It includes notions of respect, the dignity and sacredness of all things, which require a reciprocal **kaitiaki** (guardian) relationship. This reciprocity manifests in every effort we make to respect all things. What we do to the earth, our environment, and peoples will impact on how the earth, environment and peoples interact with us. This holistic view of the world, which recognizes that our actions can have an impact on the world we live in, also acknowledges the fact that we are not alone on this earth. We do not own or control it. As part of our **whakapapa** and **kaitiaki** relationship with all things, **Tikanga Maori** knowledge recognises that we are connected to a particular place. There is a **whakapapa** relationship to the **rohe** (area) of our **iwi** (tribe), **hapu** (sub-tribe) and **whanau** (family) and all things that share that geographic area. **Tikanga Maori** knowledge is therefore based on **whakapapa** (genealogy and relationships), **kaitiakitanga** (guardianship), connection to place, and all of the values and beliefs that form and inform these relationships.

Western reductionist science, which I call loosely “**Pakeha** science,”⁴ sets itself up as the pre-eminent model for all scientific endeavours and as the authority on what should be considered “truth” or “facts,” or scientific knowledge. Its claim to universalism is central to its monopoly position as a knowledge system. **Maori** knowledge or science is not legitimised in the eyes of some Western scientists because it has not been through “rigorous,” “scientific” testing and is therefore not part of the academic and theoretical tradition on which Western science, and indeed Western reductionist science, is based. In opposition to the holistic conception of the world where

⁴ The term “**Pakeha** science” is another term I use for Western reductionist science but it is also defined as non-**Maori** or non-Indigenous. I do acknowledge that there are alternative non-reductionist perspectives and scientific work of scientists who are critical and challenging industry and governments to stop releasing GMOs, gene therapy experiments, xenotransplantation, cloning of transgenic animals, etc. Many of these scientists also have worldviews that are similar to Indigenous perspectives. Some do science that reveals the dialectical unity, integrity, wholeness, or integrated complexity of organisms, organs, and cells of species, ecological communities, and the biosphere as a whole. However, **Maori** and other Indigenous peoples do have a different **kaupapa** from non-**Maori** and non-Indigenous people. Refer to Chapter Seven for more detail of the differences.

the parts are seen as indivisible from the whole, Western reductionist science generally views the parts as autonomous. This view of science gives rise to the possibility for Western reductionist scientists to manipulate and modify the parts, for example research involving the modification of genes, in order to influence the whole. This reductionist conception operates on the mechanistic notion that by replacing or changing a part, the whole will be “fixed.” However, Western reductionist scientists are not fully prepared for unintended consequences resulting from the manipulation of the parts to influence the whole.

Although some **Maori** may be scientists, they may not be operating from a **tikanga Maori** knowledge worldview. Therefore, the science that they practise is considered, under this definition, non-**Maori**. The New Zealand context is also quite specific. New Zealand is one of the countries in the world at the forefront promoting neo-liberal policies and transforming itself into a “knowledge economy.” As an integral part of the “knowledge economy,” the life science industry is considered an important investment in the future. Government and industry have facilitated this shift in investment priorities and have established an extensive infrastructure to support this investment.

Understanding the blindspots of reductionist science helps provide **Maori** with a very clear and unencumbered position on the issue of genetic modification and engineering. It is problematic because there is a very clear relational link to and an attached obligatory responsibility to protect the integrity of all things. By briefly defining **tikanga Maori** knowledge here and exploring its practical application throughout the thesis, this work is an effort to reveal the enormous value of **Maori** knowledge and epistemologies in giving shape to the Maori resistance to this new form of biocolonialism so as to protect the integrity of all life.

2. TIKANGA MAORI KNOWLEDGE FRAMEWORKS⁵

Tikanga Maori knowledge concepts

For the purposes of this thesis I want to explain three key concepts that inform **tikanga Maori** knowledge, namely: **whakapapa** (genealogy), **mauri** (life principle) and **kaitiakitanga** (guardianship). As well as referring to familial links such as **whanau** (family), **hapu** (sub-tribe) and **iwi** (tribe/people), Dr Cheryl Smith sees **whakapapa** as laying out

Maori views of existence by showing the connections between states of existence, the human and natural world. It provides explanation for existence and also articulates the human role within that existence. Within **whakapapa** there are origins and explanations for trees, birds, parts of the human body, words and speaking, the cosmos, the gods, **karakia** [prayer], the moon, the wind and stones. All life is connected and interrelated.⁶

The knowledge of **whakapapa** is usually transmitted orally when giving a **whaikorero** (speech) on the **marae** (meeting place), but can also be transmitted through numerous mediums such as **waiata** (song), carving, and **kowhaiwhai** (artwork decorating the inside of a **whareniui** or meeting house). **Whakapapa** is most commonly used to describe relationships to **whanau**, **hapu**, and **iwi** and more broadly the interrelationships with all things. **Whakapapa** incorporates a **tuakana/teina** relationship with all things, where humans are the **teina** (younger) of all other

⁵ Professor Pat **Hohepa** mentions in his working paper that he is concerned with the commodification (cooptation and utilisation of common terminology in policy documents and public discourse) of some **Maori** terms and concepts, especially in relation to how they are defined by the western legal system. I would also like to acknowledge concern with this section “**Tikanga Maori** frameworks,” which could be seen as a form of codification of a central concept within the **Maori** world. However, I believe the use of the term and practice of **Tikanga Maori** frameworks, as used here, is cognisant of the **tikanga Maori** worldview. **Hohepa**, P., & Williams, D., The taking into account of **Te Ao Maori** [the **Maori** world] in relation to reform of the law of succession: A working paper. (Wellington: Law Commission, 1996), 20.

⁶ Smith, C., W., He Pou Herenga Ki Te Nui. (Unpublished Doctoral Dissertation, University of Auckland, 2003), 312.

things in the world, which are our **tuakana** (elders).⁷ Georgina Roberts, in outlining how **Maori** hold a holistic view of the world, reiterates this connection.

There is a sense that everything is connected through **whakapapa** (genealogy), **Maori** place emphasis on **te taha wairua** (spiritual), **te taha whanau** (family), **te taha hinengaro** (mental) and **te taha tinana** (physical). The labelling of genetically modified food is one aspect of the much larger issue of **Maori** health and well being, which is a link in the **Maori** belief system, which again is an integral part of **Maori** culture as a whole. Some **Maori** feel that genetic modification interferes with the **whakapapa** (genealogy) and **mauri** (life-force) of an organism. The mixing of genetic material from different species, therefore, is culturally offensive.⁸

Georgina Roberts, along with other **Maori**, does believe strongly that everything has a life essence/force or **mauri**, whether it is animate or inanimate. In specifically referring to genetic engineering, Angeline Greensill believes,

mauri even exists, ex-situ (when taken from its original place). The same perspective is carried over to issues of replication, trans-genetic engineering and cloning, hence to alter genes or genetic material is to alter the blood of ancestors, altering the **whakapapa** relationship by changing or introducing “new blood”... Tampering with **whakapapa** is likely to have a negative effect on the **mauri** of the species involved as well as on the **whanau** and **hapu**.⁹

From this perspective, the mixing of **mauri** in genetic engineering therefore is seen as abhorrent and a violation of **tikanga Maori** because, as an example, in transgenic and cloned animal experiments, deformities and still births are often the outcome. This mixing of **mauri** represents an irrevocable imbalance in the system. If reproduced, this imbalance of **mauri** will be represented in the **whakapapa** of the new organism or transgenic offspring.

In **tikanga Maori** science, **Maori**, along with other Indigenous people, believe they have an inherited responsibility to protect all things in our world. Dr Jessica Hutchings sees this

⁷ Here is an example where Western scientists provide lots of evidence that leads them to a similar conclusion. The human species is very young. The bacteria are the most elderly of our living ancestors. See for example: Lynn Margulis & Dorion Sagan, *What is life?* (London: Weidenfield and Nicolson, 1995).

⁸ Roberts, G., “**Maori** perspectives and the Treaty of **Waitangi**.” *Will the ENZ justify the means?* (Proceedings of a forum on the ethics of genetic engineering, Capital City Forum, Wellington, New Zealand, 25 August 2000), 27.

⁹ Greensill, A., “Genetic engineering – **Maori** views and values.” *Pacific World*. (1999), 26.

kaitiaki relationship as being one of protection, not control, and located within specific tribal areas.

Kaitiakitanga may be better understood by breaking the word down to look at its various components. The basic meaning of the term “**tiaki**” is to guard, although it has other meanings depending on the context. It may also mean to preserve, to conserve, to foster, to protect, to shelter and to keep watch over. **Kaitiakitanga** governs the natural order and denotes an obligation to protect not control nature. The exercise of **kaitiakitanga** belongs to those who have **mana** (authority) over a tribal area. **Kaitiakitanga** in a practical sense is the right of tribal peoples, those having ancestral link to the land through genealogy (**whakapapa**) – to manage resources according to their own cultural preferences.¹⁰

Tikanga Maori science also informs the interrelationship between the gene and the body. **Aroha Te Pareake Mead** refers to **whakapapa**, along with **ira tangata**, as a term that defines the human gene.

The H. W. Williams (1985) *Dictionary of the Maori Language*, defines the former [**ira tangata**] as the “life principle of mortals” and the latter [**whakapapa**] as being to “place in layers, lay one upon another” and “a genealogical table.” The **Maori Language Commission**¹¹ uses the term **ira tangata** to refer to the actual human gene, while **whakapapa** refers to what is contained within the gene.¹²

Terms such as “**ira tangata**” and “**whakapapa**” used to describe the human gene, as seen in the above definition, may be misconstrued as essentialising the gene and falling within the realm of reductionist Western science. This interpretation of the terms is totally at odds with **tikanga Maori** science. The whole body is seen as sacred, as is any part. If seen through a **tikanga Maori** science lens, the gene is considered just as sacred as the body. This conception of the body can be illustrated by the use of two examples. The first is the significance of the ceremonial burial of the umbilical chord from a newborn. The placenta and umbilical chord from the birth of a newborn is returned to the land where the **whanau** has traditional **iwi** links. By ceremonially burying the

¹⁰ Hutchings, J., “The **Maori** view on GM: Molecular **kaitiakitanga**.” *Splice*, 7, 4, 2001, May/June. The Splice of Life is an online magazine produced by The Genetics Forum, a UK watchdog on GE issues, at <http://www.geneticsforum.org.uk/>

¹¹ The **Maori Language Commission** was established under the **Maori Language Act 1987**, promoting the use of **Maori** as a living language and to encourage its use in ordinary communication.

¹² Mead, A., “Human genetic research and **whakapapa**.” In **Te Whaiti**, P., McCarthy, M., & Durie, A., (eds.), **Mai I Rangiatea: Maori wellbeing and development**. (Auckland: Auckland University Press/Bridget Williams Books, 1997), 128.

afterbirth under a tree on the land which is associated with the **whanau**, the newborn will always have a connection to the **whenua** (land), their tribal ancestral people, and the symbolism of new life in the planting of a tree. The placenta and umbilical chord symbolically link the newborn to the land, the people and to **tikanga Maori** science. The second example relates to the burial of the body. Traditionally, when a person dies, the body is taken by the **whanau** and returned to their ancestral tribal land for burial in the **urupa** (cemetery) of their own people. In cases where a coroner is required to examine the body, **Maori** become very aggrieved that their loved one is taken from them and are also very suspicious about the interference with the body fearing that the body will be returned to them incomplete with some organs or body parts missing. All parts of the body are important to **Maori** people. Each part of the body has its own significance, but no one part can be conceived of without its relationships to others. This conception of the body then does not fetishize the gene nor does it grant the gene more power or importance, as is the case with Western reductionist science.

When **Maori** use the central concepts of **whakapapa**, **mauri** and **kaitiakitanga** to guide them in assessing the merits or otherwise of research, the issues and impacts become very clear. In a more formalised process of assessment, some **hapu** and **iwi** have devised their own tools or frameworks to help in decision-making.

Tikanga Maori knowledge framework

A **tikanga Maori** knowledge framework is an assessment tool that incorporates **Maori** values and beliefs into a framework to help identify the potential impacts of proposed research and aid in making decisions as to whether or not to approve the research. Dr **Hirini** Mead believes, “Applying a **tikanga Maori** framework of assessment should give us a **Maori**

viewpoint, or a **Maori** position, on whatever the issue might be.”¹³ There are a variety of frameworks that have been devised by different **iwi** and organizations throughout New Zealand.¹⁴

Jacqui **Amohanga** of **Te Kotuku Whenua** Consultants, **Ngati Wairere** Environmental Agency,¹⁵ described the impetus for her efforts to articulate frameworks to guide her own analysis of research proposals.

*What I do is environmental work, not just for **Ngati Wairere** but for all of **Maniapoto** as well as other areas. I was trying to think of a really easier way for me not to be sidetracked into a sort of **Pakeha** colonized viewpoint with these applications. So, I needed something to just keep triggering in my own mind, well these are our value systems.*¹⁶

There are two types of **tangata whenua** assessment frameworks that Jacqui uses to assess research proposals: the **tinana** (body) health and well-being framework and the holistic/environmental framework. Within each framework, the values relating to each area of the body or environment are used as a check to determine whether or not the proposed research will impact on them.

The tinana (body) health and well-being framework

Four areas comprise the **tinana** health and well-being framework: **Taha Wairua** (spiritual / metaphysical well-being), **Taha Hinengaro** (psychological well-being), **Taha Tinana** (physical illnesses), **Taha Whanau** (family / **whakapapa** / social well-being). In each one of these areas there are lists of values that need to be checked off as to the potential effects on them if the proposed research is approved. For example, in the **Taha Tinana** (physical illnesses) area, it assesses the potential to cause: **ate whanewhane** (liver complications), **ate wharowharo** (lung

¹³ Mead, H., M., **Tikanga Maori: Living by Maori values**. (Wellington: **Huia** Publishers, 2003), 336.

¹⁴ Ibid. Dr **Hirini Moko** Mead has also devised a **tikanga Maori** framework. See Chapter Twenty of his book.

¹⁵ **Te Kotuku Whenua** Consultants, **Ngati Wairere** Environmental Agency were part of the team opposing transgenic cow research by AgResearch at **Ruakura**, Hamilton. **Te Kotuku Whenua** Consultants made a submission on behalf of the local hapu **Ngati Wairere**. The research applications made by AgResearch to ERMA were approved. Information for this section was obtained from various working papers given to the author by Jacqui **Amohanga** on 9 March 2002.

¹⁶ Jacqui **Amohanga**, research interview with the author, Hamilton, New Zealand, 9 March 2002.

complications), **tuakiri o te tangata** (immune system complications), **tinana ora** (general well-being problems).

The holistic/environmental framework

Five areas comprise the holistic/environmental framework: **Ranginui Tawhirimatea** (atmospheric), **Papatuanuku Ruaumoko** (geological), **Tangaroa Tutewehiwehi** (hydrological), **Tane Mahuta Haumietiketike** (ecological), **Nga Taonga Tuku Iho** (historical). As in the above framework, each of these areas has lists of values that need to be checked off as to the potential effects on them if the proposed research is approved. For example, in the area of **Nga Taonga Tuku Iho** (historical), it assesses the potential effects on: **iho matua** (remnants of historical sites of habitation), **kaitiaki** (desecration of spiritual guardian domains, such as **urupa** or cemetery), **kainga** (loss of historical habitation areas), **pa tuna** (desecration of customary fishing sites).

The effort to create **tikanga Maori** knowledge frameworks is one part of acknowledging **Maori** value systems and epistemologies and incorporating them in assessments of research. It also gives **iwi** a starting point to assess the effects of research being conducted in their **rohe** (tribal area or region).

Although **tikanga Maori** knowledge frameworks are a useful starting point for assessing different types of research, it can also be seen as very formulaic and reductionist in approach, thus antithetical to **tikanga Maori** science. However, these types of methods for assessing research are an attempt to summarise the impacts on our local environment and our people in order to inform local **iwi** of upcoming research and to enable them to participate in an expedient and focussed manner. The processes for research submission and approval require consultation with the public. However, this public consultation process limits both the period of time for consultation and the submission length itself. The public consultation process is therefore hostile to **Maori** because of the time constraints which impact on how many **Maori** can be consulted. Individual **Maori** cannot make a decision for local **iwi** until they have been given the mandate to

represent the **iwi**, which may be made up of many **hapu** (sub-tribes) throughout the **rohe**. The representatives then must consult all **Maori** from the different **hapu**, or their representatives, which is a time-intensive process especially when topics such as genetic engineering need to be explained. Of concern is the codification of **tikanga Maori** knowledge concepts themselves. However, for a **tikanga Maori** knowledge view to be recognised and given legitimation in formal consultation submission processes, **tikanga Maori** knowledge needs to be codified in order for it to be articulated in the submission process. **Tikanga Maori** knowledge frameworks are an attempt to implant **tikanga Maori** in hostile public submission processes. By doing so, **tikanga Maori** knowledge becomes incorporated in public discourse, representing an alternative worldview.

3. THE WAI 262 CLAIM

Tikanga Maori knowledge has been given tremendous exposure in the **WAI 262** case. A group of six northern tribes in New Zealand originally made a claim (called **WAI 262**) to the Treaty of **Waitangi** Tribunal in 1991.¹⁷ The first hearings began in 1997, and the claim is still under consideration at the time of writing.

At the claim's core is the assertion that **Maori** cultural values and beliefs have been actively suppressed by the dominant culture since the signing of the Treaty in 1840. The claimants seek recognition of those values and cultural practices associated with native flora and fauna and the development of mechanisms for their active protection. Most importantly, the claimants seek recognition of their *tino rangatiratanga* [absolute chieftainship] over those *taonga* [treasures].¹⁸

The **WAI 262** Claim relates specifically to New Zealand's indigenous flora and fauna and the knowledge and uses of that biodiversity. The claim's central purpose is to demonstrate the significance of this knowledge to **Maori** and the need to protect it appropriately. In a *60 Minutes* New Zealand television feature, the principal claimants of the six northern tribes, Del **Wihongi**

¹⁷ **WAI 262** is the 262nd claim lodged with The **Waitangi** Tribunal.

¹⁸ Solomon, M., & Watson, L., "The **Waitangi** Tribunal and the **Maori** claim to their cultural and intellectual heritage rights property." (*Cultural Survival Quarterly*, 24, 4, 2001), 46.

and Anne Herbert, have stated, for example, that they fear that “commercial plant breeding, particularly altering the base material, either selectively or genetically, will damage the plants **mauri**, that is the plants essential being.” They see this view as being based on the belief that there is a higher order “purpose they were designed that way for.”¹⁹

As an “Interested Person” in the Royal Commission on Genetic Modification, the **WAI 262** claimants made a submission, which expressed concerns about genetic modification and the lack of recognition given to **Maori tikanga**.

Everything in the **Maori** world view has a **mauri** – a life force which connects that thing directly and indirectly to every other living thing. Current and future generations of **Maori in Aotearoa**, by virtue of their **whakapapa** links to the **mauri** of those living things, are charged with the responsibilities and the obligations of being **kaitiaki**. Thus there is something immediately distinctive about the impact and disadvantage that **Maori** face in relation to issues of genetic modification to the impacts and disadvantages that other New Zealanders face, and it is by virtue of **whakapapa** that such a distinction is possible.²⁰

The **WAI 262** claimants highlighted two main concerns in their submission to the Royal Commission: 1) genetic modification tampers with **whakapapa** and is thus contrary to **tikanga Maori**, and 2) **Maori** have obligations as **kaitiaki**. Access to any genetic resources requires consultation with the **whanau** and **hapu** of each **rohe**, following an ethical code of conduct, and development of and respect for benefit-sharing arrangements if research and development occur. The claimants highlighted the central problem of divergent and incompatible views on resources.

Under the capitalist model, resources are viewed entirely as a means of exploitation for economic gain. There is little or no reciprocity or respect for the integrity of the resources as living and breathing entities with their own **mauri**. Respect for the **mauri** of the environment is seen as imposing barriers to the exploitation of resources and economic advancement. Modern progress has little time for ritual and respect. Thus, there is a fundamental clash between the ideological underpinnings of the Intellectual Property Rights system and the philosophical underpinnings of what is referred to here as “Indigenous Peoples Rights and Obligations.”²¹

¹⁹ *60 Minutes* TV1/TVNZ documentary feature, “Whose rights?” aired on 28 September 1997.

²⁰ Royal Commission on Genetic Modification Witness Brief by **WAI 262** Claimants, S4, B(c), 2.

Accessible from the Royal Commission on Genetic Modification website:

[http://www.gmcommission.govt.nz/pronto_pdf/wai_262_claimants/Wai%20262%20claimants%20Ngati%20Wai%20Ngati%20Kuri%20Te%20Rarawa%20\(SUB%20IP%200089\).pdf](http://www.gmcommission.govt.nz/pronto_pdf/wai_262_claimants/Wai%20262%20claimants%20Ngati%20Wai%20Ngati%20Kuri%20Te%20Rarawa%20(SUB%20IP%200089).pdf), accessed on 13 April 2004.

²¹ *Ibid.* S4, B(f), 6.

The concerns addressed by the **WAI** 262 claimants have been consistently expressed and expanded on in the many consultations held with **Maori**.

4. TIKANGA MAORI KNOWLEDGE: CONSULTATIONS WITH MAORI

Maori have been “consulted out,” worn out by consultations. There is a history of consultation that has occurred with **Maori** but not necessarily by **Maori** and for **Maori**.²² Even when some consultations have occurred with **Maori** and have been led by **Maori** researchers, the result has not necessarily been for or owned by **Maori** or conducted in a **tikanga Maori** way. Regardless of how conducted, the consultation that has occurred with **Maori** has revealed consistent expression of concerns relating to genetic engineering.

One example of such consultation with **Maori** is the government’s Review of the Patents Act 1953, which was initiated in 1989 by the then Ministry of Commerce (now called Ministry of Economic Development) as a general overhaul of the country’s intellectual property laws. Since 1989, **Maori** have made submissions on this issue in 1992, 1994, 1999 and 2002.²³ There appears to be consistency in all of the submissions made by **Maori**. The consultations with **Maori** revealed unanimity that there should be a halt to all decision making on this issue until the **WAI** 262 claim is heard and decided. There is also general opposition to reforms that extend patentability in biotechnology and grant patent rights to inventions based upon living organisms. The consultations have also established that patenting inventions derived from Indigenous flora and fauna infringes **kaitiaki** rights conferred by the Treaty of **Waitangi** and that there are

²² Refer to ‘Section 3: **Maori** views’ of the May 2000 **IRI** Report on “**Maori** and genetic engineering.” and Working paper on dialogue issues, Dr Cheryl Smith, 13 May 2003.

²³ Ministry of Economic Development discussion paper on website, March 2002, “Review of the Patents Act 1953: Boundaries to Patentability,” Section 4: **Maori** and the patenting of biotechnological inventions. http://www.med.govt.nz/buslt/int_prop/patentsreview/discussion/patentsreview-06.html, accessed on 27 September 2003. Summaries of the submissions are available on this website. It appears the government has received ample submissions for each consultation round conveying concerns of **Maori**, but chooses to ignore **Maori** concerns when policy decisions are made.

concerns with patents on inventions based on traditional knowledge. There was also concern that the concept of collective ownership of knowledge is not recognised. There was general opposition to patenting of genetically modified products and processes because of the concern with social and environmental effects as well as cultural and spiritual concerns with the alteration of life forms.²⁴ More specifically, in the **tikanga Maori** knowledge conception of the world, life forms have a **whakapapa** back to **Atua** (the Gods), and each life form has its own **mauri**, including genes. The Ministry of Economic Development summarises the views on genes of Maori submitters.

Genes are a part of the **whakapapa** relationship as animal or plant life. For **Maori**, a gene has **Mauri** that continues to exist ex-situ (when taken from its original place). The same perspective is carried over to issues of replication, trans-genetic engineering and cloning. Hence to alter the “genes” or genetic material is to alter the blood of ancestors, altering the **whakapapa** relationship by changing or introducing “new blood.”²⁵

As a result of all of this government consultation with **Maori** on the Review of the Patents Act 1953, a recommendation has been made to establish yet another committee, a **Maori** Consultative Committee for the Intellectual Property Office of New Zealand. This proposal concurs with a recommendation made by the Royal Commission on Genetic Modification. The new committee’s role would be to provide advice only to the Commissioner of Patents, with the ultimate decision on whether or not to issue a patent continuing to lie with the Commissioner. The proposed functions of the **Maori** Consultative Committee include:

- Providing advice to the Commissioner of Patents as to whether an invention claimed in a patent application is derived from or appears to be derived from traditional knowledge, indigenous plants and animals;

²⁴ Ibid.

²⁵ Ministry of Economic Development information paper on website, February 1999, “**Maori** and the patenting of life form inventions: An information paper produced by the Patenting of Life Forms Focus Group for the Ministry of Commerce,” http://www.med.govt.nz/buslt/int_prop/maoripatent/maoripatent-03.html, accessed on 27 September 2003.

- Providing advice to the Commissioner of Patents as to whether the commercial exploitation of such an invention is or is likely to be contrary to **Maori** values.²⁶

Although seeming inclusive of **Maori** values and beliefs, in fact the **Maori** Consultative Committee has limited authority over Indigenous flora and fauna only, not cows or bacteria or wheat or corn. The committee is a consultative committee only and the Commissioner of Patents has the final say. The establishment of the **Maori** Consultative Committee lends some credibility to the Intellectual Property Office of New Zealand, which gives the appearance of consulting seriously with **Maori**. The fact remains that the advice given by the consultative committee can quite easily be ignored.

In an exploratory report entitled *Genetically modified organisms and **Maori** cultural and ethical issues*, commissioned by the Ministry for the Environment, policy writer Nici Gibbs outlines the basis of **Maori** concerns about genetically modified organisms:

All elements of the natural and divine worlds, including humans and genetic material, are related and are linked by the possession of **mauri** – the life force; It is the responsibility of the present generation, as **kaitiaki**, to protect the **mauri** of genetic material from defilement or abuse; Genetic manipulation may be seen to interfere with the integrity of species, and, therefore, may interfere with the **mauri** of the affected species; **Kaitiakitanga** is part of the exercising of **rangatiratanga**, and the ability to effectively exercise both affects the **mana** of an **iwi** or **hapu**; and The Treaty guaranteed **Maori rangatiratanga** over their **taonga**. Genetic resources could be considered to be **taonga**, and control over genetic resources may therefore be part of this guarantee.²⁷

Gibbs believes **Maori** have unique concerns about genetically modified organisms that are based on three key concepts: “**mauri** (emphasising the life force present in all elements of the natural world); **whakapapa** (emphasising the interconnectedness of all elements of the natural world); and **kaitiakitanga** (emphasising the responsibilities of present generations to maintain the

²⁶ MED Cabinet paper on website, 6 August 2003, “Review of the Patents Act Stage 3, Part 3: **Maori** Consultative Committee for the Intellectual Property Office of New Zealand,” http://www.med.govt.nz/busl/int_prop/patentsreview/cabinet/part3/index.html, accessed on 27 September 2003.

²⁷ Gibbs, Nici, *Genetically modified organisms and **Maori** cultural and ethical issues*. (Wellington: Ministry for the Environment, 1996), 18.

integrity of the natural world for future generations).”²⁸ The purpose of this government commissioned report was to offer up questions for further debate and explore whether “genetic manipulation is never an acceptable technology, or whether genetic manipulation may be morally and ethically justifiable by **Maori** in some instances.”²⁹ An earlier discussion document, prepared in 1991 as an Information Paper for the Centre for Resource Management at Lincoln University, highlighted similar **Maori** concerns. It points out that spiritual values are important to **Maori** culture and that all things have a spirit or **wairua**, that **Maori** have a deeply held spiritual connection to the land and the natural environment, and that **Maori** have a **kaitiaki** (stewardship) relationship to all things in **Aotearoa**, not just native flora and fauna.³⁰

The 2001 Report of the Royal Commission on Genetic Modification highlights the findings of its extensive consultation with **Maori** at consultation **hui** and in the commission hearings. The Commissioners, in summarising “**Te Ao Maori**: the traditional **Maori** world view,” state:

Maori spiritual values we heard about frequently involved the concepts of **whakapapa**, **mauri** [life essence], **tapu** [sacred] and **noa** [free from tapu] (and **whakanoa** [make common]), **hara** [sin] and **ke** [not sin], **mana** [influence/authority], **ihi** [power] and **wehi** [fear/awe], **whanau**, **hapu** and **iwi**. All are relevant not only to understanding the holistic or ecological approach **Maori** have to their environment, but also to explaining why **Maori** prioritise a duty of **kaitiakitanga** or “obligated stewardship.” To **Maori** this duty is easily explained by tracing **whakapapa** (genealogy) up through the ancestors, to the Gods, and ultimately to **Papatuanuku**, the Earth Mother, and **Ranginui**, the Sky Father. By going sideways in these kinship links, **Maori** trace descent lines for all living creatures and so have to honour them as kin.³¹

This summary is consistent with **tikanga Maori** views expressed in various fora. **Maori** have described their **whakapapa** links to all things and a consequent inherent **kaitiaki** responsibility to all things. They stated that life must not be interfered with because the integrity of **whakapapa** must be kept intact. Although there were a few paid **Maori** consultants who did not oppose GM,

²⁸ Ibid., 44.

²⁹ Ibid., 45.

³⁰ Macer, D., Bezar, H., & Gough, J., *Genetic engineering in New Zealand: Science, ethics and public policy*. (Information Paper No. 27. Lincoln University, NZ: Centre for Resource Management, 1991), 28.

³¹ Royal Commission on Genetic Modification, *Report of the Royal Commission on Genetic Modification: Report and recommendations 2001*. (Wellington: PrintLink, 2001), 19.

the majority of oral and written submissions made to the Royal Commission by **Maori** opposed genetic modification, in particular, the mixing of genes to create transgenic organisms. They expressed concern that there was a breach of the Treaty of **Waitangi** in terms of inadequate consultation with the Treaty partner. There was also concern with Indigenous flora and fauna and traditional knowledge being conceived in intellectual property terms. The Commission seemed to politely acknowledge these concerns and then dismiss them.

All of the reports of consultations with **Maori** mentioned here were not led by or necessarily for the benefit of **Maori**. The reports were prepared as a token effort to “consult” with **Maori**. Although government commissioned consultations with **Maori** revealed markedly similar and consistent concerns in their summarised reports, from the Ministry of Economic Development to the Ministry for the Environment to the 2001 Report of the Royal Commission on Genetic Modification, the result has been that all of this consultation has been for nothing. The government is intent on narrowing the sphere of **Maori** authority. **Moana** Jackson is right that it is not enough that “we be heard with ‘exquisite politeness’ and then marginalised,” as was the case in the Royal Commission Report.

In May 2000 the International Research Institute for **Maori** and Indigenous Education (IRI) based at Auckland University produced a report entitled *Maori and Genetic Engineering*. The report explored three key areas (food, human health and biological diversity) by conducting twenty-four key informant interviews with **Maori** who were knowledgeable about **tikanga Maori** and/or GE and related issues as well as nineteen general focus groups with a total of ninety-four **Maori** from a variety of locations, age brackets and backgrounds.

Both key informant interviewees and focus group participants raised concerns regarding many aspects of **tikanga Maori**, including interference with the **wairua**, **whakapapa**, and **mauri** of a species, and the **kaitiaki** role of **Maori**. In particular, the mixing of **whakapapa** in transgenic research was seen as abhorrent and a desecration of **mauri**, or life force, and **wairua**, spirit. Both interviewees and focus group participants also saw the Treaty of **Waitangi** as the

foundation document and process where **Maori** may assert **tino rangatiratanga** over their **taonga** and all living things, including Indigenous flora and fauna. They viewed New Zealand intellectual property regimes as breaching the rights of **Maori (whanau, hapu, iwi)** as **tangata whenua**, granted them in the Treaty of **Waitangi**, which is the basic argument made by the **WAI 262** claimants. Both groups had similar dilemmas over human health research, inasmuch as it was felt that sick **whanau** members might benefit from genetic experimentation that leads to a cure of disease. Both groups, however, saw cloning as abhorrent. The report highlighted the fact that the key informants and focus group participants believed that there was a critical need for more open and urgent discussion around human health research.

In another consultative project currently in progress and led by **Maori** researchers, the privileging of the **tikanga Maori** worldview is less clear. “Incorporating **tangata whenua** values into scientific decision making: what and how” is funded by the Foundation for Research, Science and Technology and led by Dr **Mere** Roberts (Zoologist/Environmental science) with Dr **Manuka Henare** (Business Studies/philosophical anthropologist), Associate Professor Richard Benton (Linguist), and Mark **Henare** (post graduate student in anthropology), all of Auckland University, and international collaborators Dr Terre Satterfield (psychological anthropologist) and Dr Melissa Finucane (psychologist) of Decision Research based in Eugene, Oregon, USA, a non-profit research centre with primary engagement in work for government and non-government organizations seeking to improve decision-making processes.³² The aim of the project is to devise a decision-making framework that incorporates **tangata whenua** values for inclusion in the GMO regulatory process and policy development.³³ The project appears to be trying to massage a

³² Information obtained from a variety of sources: Roberts, M., Genetically modified organisms and **Maori**: A critique of the ERMA process for assessing cultural effects under the HSNO Act 1996, 2000; FRST website: <http://www.frst.govt.nz/Publications/guides-forms/RFP-ImpactsNewTechnologies.doc>, accessed on 21 August 2003; ERMA website: <http://www.ermanz.govt.nz/news-events/archives/events/erma-conference02/manuka-henare.pdf>.

³³ This research is part of the explosion of research since the completion of the Royal Commission on Genetic Modification, substantially funded by the government body Foundation for Research Science and Technology, into how to engage **Maori** in consultation and devise frameworks for dialogue.

Maori sensibility into a Western reductionist scientific framework, much like trying to mix oil and water. Put simply, the **Pakeha**, Western reductionist, scientific discipline and framework is hostile toward **tikanga Maori**.

5. THE OBFUSCATION OF TIKANGA MAORI KNOWLEDGE

Tikanga Maori knowledge provides clear guidelines for how **Maori** might conceptualise a set of **tikanga**-informed values, practices and knowledge for the issue of genetic engineering. Consultation with **Maori** over controversial science research has been fraught with problems. In particular, recent consultations over the controversial issue of genetic engineering have again exposed the traditional problems of reliance on “selected” **Maori** experts. Research teams interested in promoting their research, universities conducting this research and government agencies promoting this research seek these “selected” **Maori** experts to legitimise their work. Yet over and over again consultation with the general **Maori** public has revealed the same concerns relating to genetic engineering and the use of traditional knowledge, flora and fauna. Dr Cheryl Smith believes there have been two main responses to such consultation with **Maori**:

1. We have been told that we must need more education, especially about science. We are told that obviously we don't understand new things. More education of communities needs to happen and the science curriculum in schools needs to change, for example. This has been particularly evident as a response from ERMA representatives who told us at **hui** that more education was needed and who also submitted a paper to the incoming government to ask for a budget to educate us. (Within one **Maori** women's network I work with there are **kuia** (women elders), doctorate graduates, Masters graduates, lawyers, medical specialists and we have made representations to ERMA)
2. The ways we think, our philosophies, need to be changed. We have had our traditional stories re-told to fit the new scientific paradigm, we have had findings appearing re-translating and re-explaining their meanings to show that mixing of genetic material is ok, we have been told that the stories where our ancestor transformed into a bird was genetic engineering, that it was a traditional practice.³⁴

There are numerous other examples of obfuscation techniques that require mention. The most insidious of responses though is the reinvention of traditional stories and the reinterpretation of **tikanga**. Individuals are involved in these reinventions without any collective reflection with

³⁴ Personal communication with author, 8 October 2002.

other **whanau** and **iwi** members. It is of considerable concern that our own people are co-opted as individuals and enlisted to retell our stories and reinterpret our **tikanga** without accountability to the wider cultural grouping. This practise of course is similar to the individualisation of land titles in the early eighteenth century by the government to alienate land from group guardianship.

Reinterpretation of stories

One of the most controversial reinterpretations of stories was made in a submission to the Royal Commission on Genetic Modification by paid consultants for the New Zealand pro-biotechnology lobby group, the Life Sciences Network (Inc), **Paora** Ammunson³⁵ and **Tamati** Cairns.

Whilst the vast number of **Maori** who appeared before the Commission stated that they were opposed to GM, only one of the Interested Persons group argued that GM was a “traditional” practise because they argued that **Maui’s** transformation and other **korero** [other similar stories] could be seen as genetic modification... This has been discussed at a number of **hui** and **Maui** was not genetically modified.³⁶

In the written submission prepared for the Royal Commission by **Paora** Ammunson and **Tamati** Cairns, a sanctimonious scolding was delivered that was critical of existing **Maori** interpretations of **tikanga**, including the **kaitiaki** and **whanaungatanga** (familial relationship, one of the family) relationship that **Maori** have for all things and any arguments used that explain that genetic modification is a violation of **whakapapa** or **mauri**. The following excerpt is an example of the arrogance and flippancy used in the witness brief:

We recognise the usefulness of the kinship personification in highlighting the importance of respect for the environment. However we do not believe that the relationship between

³⁵ **Paora** Ammunson (**Ngati Kahungunu ki Wairarapa, Te Arawa**) is a chief consultant of PHP Consulting Limited based in Wellington. Among his skills he is listed as an expert in **tikanga Maori** and associated concepts and philosophies. PHP Consulting Ltd specialises in managing relationships between governments, companies and Indigenous communities. They also offer a Treaty & **Maori** Relationships Profile for companies or organizations, where they have adapted risk management analysis to Treaty and **Maori** issues. The PHP Consulting Ltd website is: <http://www.php.co.nz/index.htm>, accessed on 12 November 2003.

³⁶ Reynolds, P., & Smith, C.W., **Aue! Genes and Genetics**. (Whanganui, New Zealand: Whanganui Iwi Law Centre, 2003), 31.

trees, rocks and people is one that truly parallels the **whanaungatanga** practised by **Maori** amongst their blood kin. It goes without saying that the level of support that a rock can provide to the socialisation and economic needs of a family is significantly different [than] that of a human relative.³⁷

Maori are presented as not “expert” or “sophisticated” enough to interpret their own traditional stories, which supposedly indicate that genetic modification was practised in the past and can be interpreted in the stories as a natural and logical step towards progress in the present and future. However, Ammunson and Cairns appear to have drawn on the writings of some Western writers, including the writing of nineteenth century New Zealand Governor Sir George Grey, to help significantly in the areas where the traditional stories were reinterpreted. Similarly some leaps in logic were made to achieve the desired outcome.

There are some stories and customary examples of mixing human **tapu** [sacred] and organs with other species. The stories of the ancients are filled with examples of men and gods transforming themselves into other life forms. **Maui**, the celebrated demigod turns himself into a **kereru** (native pigeon) to secretly follow his mother into the underworld. **Wairaka** the celebrated Bay of Plenty woman leader calls on the gods to metaphorically turn her into a man to avoid and appease the clash of **tapu** involved in her sailing a **waka** [canoe] to safety. The customary ceremonies involved in eating the vital organs of a vanquished foe symbolise the victor taking the abilities of his enemy into his own physical body. In each of these examples, there is no significant and prohibitive norm that results in the actors being somehow culturally inappropriate.³⁸

It is therefore clear to Ammunson and Cairns that the current “**Maori** side of the genetic modification debate is coloured by simplistic and western-driven understandings of **tikanga**. **Maori** groups, as with all communities, can be manipulated by emotional scare tactics, and, be blinded to the potential benefits.”³⁹ As a result, Ammunson and Cairns see **Maori** understandings of genetic modification evolving and believe a more sophisticated debate needs to occur around

³⁷ Royal Commission on Genetic Modification Witness Brief by **Paora** Ammunson and **Tamati** Cairns for the New Zealand Life Sciences Network Inc., sB(g), s2, s23. Accessible from the Royal Commission on Genetic Modification website: http://www.gmcommission.govt.nz/pronto_pdf/nzlsn/nzlsn_wb_ip0024_paora_ammunson.pdf, accessed on 7 April 2004.

³⁸ Ibid., sB(g), s2, s45.

³⁹ Ibid., sB(g), s2, s56.

interpretation of key customary **Maori** concepts and **tikanga** to achieve greater understanding. Bevan **Tipene-Matua** concurs and believes **Maori** need to be more fully informed so that they can consider the possible benefits of genetic engineering technology, which requires “more time for **Maori** and others to discuss and debate the wider issues (not just the scientific ones) regarding GM.”⁴⁰ Similarly, Dr **Mere** Roberts in her Witness Brief to the Royal Commission on behalf of ERMA’s **Maori** body, **Nga Kaihautu Tikanga Taiao** (NKTT), states:

Because some of the uncertainty about the future uses, risks and benefits of GE perceived by **Maori** may be based on insufficient knowledge about this technology, NKTT is concerned that more attention be given to educational efforts concerning GE and directed at **Maori**. NKTT believes it can make an important and increasing contribution to this role.⁴¹

It appears that Dr **Mere** Roberts and her colleagues are indeed contributing to the educational efforts directed at **Maori**. In a spring 2004 article entitled, “**Whakapapa** as a **Maori** mental construct: Some implications for the debate over genetic modification of organisms,” an elaborate exploration of the concept of “**whakapapa**” is outlined utilising the **whakapapa** origins of the **kumara**, or sweet potato, as a case study. The authors believe that the primary lesson learnt from the exploration of origins of the **whakapapa** of the **kumara** is that risk-taking can be beneficial. This situation occurs when younger people outsmart older people and when a “trickster/hero” takes dangerous risks on behalf of his/her people so that they may have access to new knowledge and technology.

One might therefore conclude from these stories that normally prohibited actions are justifiable if the cause or purpose is correct (**tika**) or worthy and the potential benefits appear to outweigh the risks...sometimes it is only through deliberately flouting

⁴⁰ **Tipene-Matua**, B., “A **Maori** response to the biogenetic age.” In Prebble R. (ed.), Designer genes: The New Zealand guide to the issues, facts and theories about genetic engineering. (Wellington: Dark Horse Publishing Ltd., 2000), 109.

⁴¹ Royal Commission on Genetic Modification Witness Brief by Dr **Mere** Roberts for the Environmental Risk Management Authority (ERMA) **Maori** body, **Nga Kaihautu Tikanga Taiao** (NKTT), sB(b), s4. Accessible from the Royal Commission on Genetic Modification website: [http://www.gmcommission.govt.nz/pronto_pdf/environmental_risk_management_authority/Environmental%20Risk%20Management%20Authority%20\(WB%20IP%200076-Dr%20M%20Roberts%20for%20Nga%20Kaihautu%20Tikanga%20Taiao.pdf](http://www.gmcommission.govt.nz/pronto_pdf/environmental_risk_management_authority/Environmental%20Risk%20Management%20Authority%20(WB%20IP%200076-Dr%20M%20Roberts%20for%20Nga%20Kaihautu%20Tikanga%20Taiao.pdf), accessed on 7 April 2004.

culturally embedded norms that important and beneficial changes to society are brought about.⁴²

Although appearing feasible, I believe this story is just another effort to reinterpret **Maori** stories. This story softens the effects of obvious infringements of **tikanga Maori** when GE technology is employed. The simple message is that our ancestors were risk-takers. It is therefore appropriate to take risks, in the form of GE technology and research, for the greater good of humankind.

Reinterpretation of tikanga

As in the reinterpretation of stories, **tikanga** has been reinterpreted in a variety of ways to accommodate genetic engineering. In this section we will discover how key concepts such as **mauri** (life essence) and **whakapapa** (genealogy) have been reinterpreted, and **karakia** (prayer) has been seen as the way forward to smooth the path toward acceptance of genetic engineering.

In the 30 September 2002 decision made by ERMA in relation to Application GMD02028, submitted by AgResearch to develop transgenic cattle that can express functional therapeutic foreign proteins in their milk and to develop transgenic cattle to study gene function and genetic performance, **mauri** was reinterpreted significantly. As opposed to the traditional belief that all things have a **mauri**, a life force and essence, the ERMA decision incorporates an unexpected variation on this conception, which is aimed at ultimately quashing concerns that genetic engineering will interfere with **mauri**.

Many **Māori** are concerned about the apparent mixing of the **mauri** of one organism with another through the transfer of genes. Yet, following traditional thought, the **mauri** of an organism is the exclusive property of that organism. It is indivisible and not transferable. The **mauri** is a quality of the totality of the organism and is not separable except at the death of the organism. It is imbued at creation and departs when it separates itself from the **tinana** [body] thus releasing the **wairua** [spirit]. The separation brings about the death of the organism. While the **mauri** can vary in strength and vitality over the course of life, it does not leave until death. When genetic material is extracted from an organism, it is thus removed without the **mauri** of the host organism. This is because a

⁴² Roberts, M., **Haami**, B., Benton, R., Satterfield, T., Finucane, M., **Henare**, M., & **Henare**, M., “**Whakapapa** as a **Maori** mental construct: Some implications for the debate over genetic modification of organisms.” (*The Contemporary Pacific* 16, 1, 2004), 22.

gene is a chemical that produces a protein not an organism. In other words, the only **mauri** present is the **mauri** of the particular sequence of bases, which constitute the gene. Each gene therefore contains its own **mauri**, the **mauri** of the gene, which allows it to exist and function. However, the gene does not have the **mauri** of the organism from which it is extracted.⁴³

Therefore, in relation to Application GMD02028, “When the genetic material is extracted it only has its own **mauri**, which is not the **mauri** of the human from which it derives because the totality of the human is not present in the individual gene. It thus follows that the gene does not introduce the **mauri** of the human into the cow.”⁴⁴

By compartmentalising and conceptualising the **mauri** of the human gene as independent from the **mauri** of the totality of the human, this interpretation of **mauri** negates the **tikanga Maori** views of the large majority of **Maori** in the country, including **Maori** submitters who presented **tikanga** evidence to the Royal Commission. In the Report of the Royal Commission on Genetic Modification, it was acknowledged that the large majority of **Maori** submitters opposed the creation of transgenic animals, as in Application GMD02028, because of the mixing of **mauri**. However, “**Tamati** Cairns and **Paora** Ammunson, when giving evidence for the Life Sciences Network, took the view that this mixing occurs all the time anyway. ‘The water piped through a family home has a **mauri** that mixes with the **mauri** of the drainpipes and eventually the **mauri** of the water glass.’”⁴⁵ Ammunson and Cairns further clarify this point stating, “It is not a new phenomenon or a culturally reprehensible thing for the **mauri** of one thing to be mixed or come into contact with the **mauri** of another. However like **tapu** (sacredness) the issue is not about whether or not humans have the power to mix the **mauri** of ‘x’ object with the **mauri** of ‘y’ object, but more a matter of how best to do this.”⁴⁶ Again, this interpretation of the mixing of **mauri** as a common phenomenon has the effect of negating **tikanga Maori** views of the majority

⁴³ Environmental Risk Management Authority (ERMA) Application GMD02028, s4.6, p.33. Accessible from the ERMA website: <http://www.ermanz.govt.nz/search/application3.cfm?applicationcode=GMD02028>, accessed on 7 April 2004.

⁴⁴ Ibid.

⁴⁵ Royal Commission on Genetic Modification, 2001, 35.

⁴⁶ RCGM Witness Brief, sB(g), s2, s49.

of **Maori**. The creation of transgenic animals is not to be dismissively passed off as a natural and common phenomenon that can be mediated through a “best practice” methodology, as implied by Ammunson and Cairns.

Another example of reinterpretation of **tikanga** can also be found in the 30 September 2002 decision made by ERMA in relation to Application GMD02028. In this example, the Committee vested with the responsibility whether or not to approve research involving the creation of transgenic cows reinterprets **whakapapa** in its decision.

The Committee recognises that there are many types of **whakapapa** such as the genealogy of creation and the genealogy of a human being. **Whakapapa** has logic and a structure that can be misunderstood and inadvertently misapplied. The key principle to understanding **whakapapa** is the idea of the laying of dimensions over each other. This idea is in the term **papa**, which is the act of laying one dimension over another. According to The Williams **Maori** Dictionary (1975:259) **whakapapa** is to place in layers, or, to lay one upon another. However, sometimes **whakapapa** is used in a European sense to refer to a family tree (see The Reed Dictionary of Modern **Maori** (1995:305). In this usage genealogy refers to a coming down from the top of the family tree but the appropriate **Māori** term is **whakaheke**, to come down from the top. The tree metaphor is the opposite to the meaning of the primary **Māori** idea of building layers from a base or foundation. Colloquially, it is stated that a person can **whakapapa** to an ancestor or to God. The **whakapapa** of human beings starts in a **whanau** and the union between a male and female who because of the union have children. This, according to **tikanga** is a level of **papa**. To develop further the **whakapapa** requires the building of additional **papa** or levels. It follows that to suggest the **papa** is the result of placing a gene from one person into another is a misunderstanding of both the science and traditional **Maori** thought. The result of the transfer is still one person and is only an infinitesimal part of someone else.⁴⁷

The purpose behind using such a long quotation here is to give the reader the opportunity to see the elaborate length and logical sequencing of attempts at reinterpreting **tikanga**. In this version of **whakapapa**, the Committee labours the point that the mixing of **whakapapa** in the creation of transgenic cows is “infinitesimal” and therefore of negligible concern to **tikanga Maori**.

In yet another attempt at reinterpreting and nullifying the impact on **tikanga**, it is believed **karakia** (prayer) may be performed to help any potential spiritual or other breach that may occur. This point is made clear in the decision handed down by ERMA in relation to

⁴⁷ ERMA Application GMD02028, s4.6, p.34.

Application GMD02028, where the applicant, AgResearch, and local **hapu, Ngati Wairere**, are encouraged to dialogue and **karakia**:

The spiritual risks are, however, amenable to mitigation through ongoing dialogue and appropriate **karakia**, provided the motive and purpose of the research are identified and articulated. The Committee concludes that, while the expressed concerns still remain, there are procedures in place between **Ngati Wairere** and AgResearch to enable the dialogue to occur and appropriate cultural steps to be taken to avoid, as far as practical, the emergence of spiritual harm. Given this situation, the Committee's view is that risks attributable to the spiritual concerns are low.⁴⁸

A similar stance is made by Ammunson and Cairns in their witness brief to the Royal Commission in regards to the mediating effects of **karakia**.

While there may be no traditional **karakia** for transplanting genetic material, there are many appropriate **karakia** and supporting rituals for transplanting **mauri** and appeasing **tapu** across species. We can conclude that establishing a means by which we can carry out the act of genetic manipulation across species is not of itself beyond the ken or volition of **Maori** philosophers and **tohunga** [expert/priest/spiritual leader].⁴⁹

When attempts are made to reinterpret **tikanga**, it is useful to identify who is doing the reinterpreting and to ask why they are doing it. In the examples used in this section, the reinterpretation attempts are made by persons and bodies with vested interests. The decision to approve research creating transgenic cows was given by ERMA, the GE/GM regulatory body in New Zealand. The decision to approve the application, which incorporates reinterpretation of **tikanga**, was a forgone conclusion as GE/GM applications have a strong history of being approved.⁵⁰ The witness brief prepared by **Paora** Ammunson and **Tamati** Cairns also incorporates reinterpretation of **tikanga**. The authors are paid consultants of the New Zealand Life Sciences Network Inc. and therefore are a mouthpiece for an organization that has vigorously promoted biotechnology, genetic engineering and genetic modification in New Zealand. In contrast, the large majority of **Maori** who have been consulted or who have made

⁴⁸ ERMA Application GMD02028, s4.6, p.36.

⁴⁹ RCGM Witness Brief, sB(g), s2, s42.

⁵⁰ ERMA, Briefing report for incoming government. ER-BR-02-1 07/02. (2002a), 25.

submissions on their views of genetic modification and engineering, as illustrated in the above section on surveys of **Maori**, are not paid consultants and do not work for ERMA.⁵¹

Obfuscation of tikanga

Obfuscation of **tikanga Maori** also occurs in a variety of other ways. Although not an exhaustive list, below are a few brief examples to illustrate the variety of techniques used to obfuscate:

1. Is there a distinction between a human gene and a copy of a human gene?

In the report by Nici Gibbs for the Ministry for the Environment,⁵² she raises this very question in relation to the placing of human genetic material into a sheep and comes to the conclusion that there is no distinction for **Maori**. Whether a human gene is copied or not is irrelevant as **Maori** are **kaitiaki** for all things in **Aotearoa**. Further, it doesn't matter whether a human gene is copied or not when it is inserted into a sheep, for example, because violation of **tikanga** occurs at two levels: when genes are tampered with and when mixing the genes. **Aroha Te Pareake Mead** states further,

The practice, then, of synthetically reproducing a gene from an original for research use would not withstand cultural scrutiny, as most **Maori** would consider that a copy, like a mould, only exists because of an original. Without an original **whakapapa**, copies and variations would not exist. Isolation, reproduction or manipulation of the physical gene would not alter the perception by **Maori** of the **whakapapa** and **mauri** inherent and inextricable from the gene.⁵³

As is suggested in this quote, any research with DNA sequences that constitute “genes” is inherently problematic because of the interference with **whakapapa**, **mauri** and **wairua** (spirit).

2. But the cow is an introduced species so **tikanga** doesn't count.

⁵¹ In fact, **Maori** have sometimes incurred great personal expense in travelling to different consultation **hui**, preparing submissions with little or no resourcing, and taking time off their own work to be heard.

⁵² Gibbs, 1996: 38.

⁵³ Mead, 1997: 129.

Angeline Greensill believes that this point is irrelevant, again because we are **kaitiaki** for everything in **Aotearoa**.

*When we talk about “**kaitiakitanga**” of our native species and other **taonga** [precious gifts], the commission, and the lawyers, and all these other people basically say, cows are not from here, therefore, they’re not one of your **taonga**, and therefore you don’t have a say. Well as far as I’m concerned you’re in our space, this is **Aotearoa** [New Zealand], and everything that happens here, whether it’s a cow or anything else, impacts upon us. We are responsible for everything whether it’s indigenous to this land or not, they’re all sharing our space, and the impacts will affect all of us. So, that’s not an argument that I accept.⁵⁴*

Referring to the AgResearch application process to create transgenic cows, Jacqui **Amohanga** further clarifies this point.

*The cow’s an interesting one because like all through that whole process, even up to today, everyone goes, “Well cows were introduced into this country. Why is it so significant to you?” Yet, a cow is still the **mokopuna** [grandchild] of **Rangi** [Sky father] and **Papa** [Earth mother].⁵⁵*

3. Do my individual rights take precedence over the collective?

This point is significant for **Maori**. In relation to the human genome and health, Gibbs notes, “the genome [an individual’s genome] is collectively owned by the **iwi**, **hapu** or **whanau**. An individual must first discharge their obligations to the group and its control over **whakapapa** before consenting to the use of their genetic material for any uses ranging from collection of genetic specimens, to use in non-human species.”⁵⁶ Dr Leonie **Pihama** further explains that there are obligations to other **whanau**, **hapu** and **iwi**.

*We are really clear around **nga tikanga** and between individual and collective rights. What comes with those individual rights or **whanau** rights is that they’re also obligations. We can say to **whanau** wanting to be involved in research, you’re asserting your **whanau** right to do that but you also need to ensure that your **whanau** rights don’t impinge on ours. You also have obligations back to us as well. So if you go ahead fiddling with your genes, you need to let everyone else know that that’s what your **whanau** are doing because this **whanau** may not want it. We don’t know what’s going to happen 50 years out from now. What are we doing? That whole power of two thing*

⁵⁴ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

⁵⁵ Jacqui **Amohanga**, research interview with the author, Hamilton, New Zealand, 9 March 2002.

⁵⁶ Gibbs, 1996: 40.

*where it affects the next generation...There's a **tikanga**, it's actually about **whanaungatanga** and caring and friendship. So our people don't want to say, no you can't find a cure for your uncle or aunty. And on the whole we don't say that, even the most staunch line, we would never say to your family, no you can't. But I would want them to be really clear about the particular implications for my **whanau**, **hapu**, and **iwi**, and **Maori** in general and collectively.⁵⁷*

Jacqui **Amohanga** is clear on this point.

*Basically the **whakapapa** belongs to, like myself does not just belong to me, it belongs to everybody that comes on my **whakapapa** line.⁵⁸*

Within the **tikanga Maori** worldview the **kaitiakitanga** of the human genome is a collective responsibility of **Maori**. If an individual, or even **whanau**, make a decision to enter research arrangements with others that will impact on genes, on **whakapapa**, then other **whanau**, **hapu** and **iwi** must be consulted before that decision is made.

4. Does it make a difference if GM/GE research is in the lab or containment?

This is a non-issue for me and was a non-issue for the **Nga Puni Whakapiri** group I conversed with. Whether research is conducted in the laboratory or in containment is also irrelevant. The mere fact that the research is being conducted is more pertinent than where the research is taking place. The research, wherever it is conducted, is still an infringement of **tikanga**.

5. There is more than one **Maori** view on GE

When an argument is made that there are conflicting views on **Maori** interpretations of GE,⁵⁹ the arguers are not satisfied with the consistent results from consultations and submissions made by **Maori** in relation to **tikanga**, as demonstrated in the above section "Tikanga **Maori** knowledge: Consultations with **Maori**." It is also important to ascertain who are the dissenting voices, as is illustrated in the sections "Reinterpretation of stories" and "Reinterpretation of **tikanga**."

⁵⁷ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

⁵⁸ Jacqui **Amohanga**, research interview with the author, Hamilton, New Zealand, 9 March 2002.

⁵⁹ For example see *NZ Herald*, "More than one **Maori** view on genetic engineering," 26 October 2003.

Speaking in relation to the Royal Commission process, Dr Leonie **Pihama** states that when we use our own terminology, the issue is very clear for our people and there are no conflicting views.

*What we realized in part of the process of the commission was that in fact, when we bring it to our own terminology it's very clear. When we talk **whakapapa** [genealogy], **mauri** [life essence], **tapu** [sacred], **noa** [not sacred], all those concepts, and interrelationships between the various species, it's really clear. It's very clear what you do and don't do. I think we need more of that kind of submission. And in that sense, we really don't need the technical terms. But what we need in terms of the technical stuff, is that when we go onto processes like the commission, we go into debates with organizations like the Life Sciences Network, or with our own people who partner with Life Sciences, manipulating our knowledge. So the **Paora Ammunson's** and **Tamati Cairns'**, those kinds of people that write for multinationals – they write about us for the interests of multinationals and pharmaceutical companies.⁶⁰*

6. It is a responsibility to employ GE technologies in our role as **kaitiaki**

GE researchers are quick to promote the potential healing powers from using this new technology, as is the case in a *New Zealand Herald* article entitled, “Potential healing power of GE potato,”⁶¹ which is one of the many research projects utilising plants and animals as hosts for the production of medicines and medical ingredients. Similarly, it is disturbing when **tikanga** is twisted to incorporate acceptance of GE. Ammunson and Cairns highlight the potential benefits from genetic engineering for **Maori**, including both public health benefits and potential economic benefits, with potential **kaitiakitanga** benefits of GE being the most interesting. Ammunson and Cairns see genetic technologies as the way to eradicating pests and diseases, and even as a way, may an obligation, of repopulation as part of **Maori kaitiaki** responsibilities.

We are also aware that some **Maori** groups see the potential in GE technologies to revive or protect endangered species such as native birds. The question to consider is if humans shirked their **kaitiakitanga** duties and were responsible for pushing some species to the brink of extinction, shouldn't we use the technologies available to use to repopulate those species?⁶²

⁶⁰ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

⁶¹ *NZ Herald*, “Potential healing power of GE potato,” 26 October 2003.

⁶² RCGM Witness Brief, sB(g), s4, s8.

7. Fear of further acculturation if we accept this new technology.

The issue of GE/GM is just colonisation again in a different guise. Dr **Mere** Roberts surmises that **Maori** see the GE/GM issue as acculturation and fear the accompanying detrimental impact on culture and traditions, basically **tikanga Maori**.

Many **Maori** are therefore aware that acceptance of this new technology may possibly result in the loss or serious compromise of their traditional customs and beliefs, and this fact motivates some to hold even more closely to them. So the issue is not so much about whether GE is safe, but about the extent to which its acceptance will erode or so alter the spiritual values and hence the very fabric of their traditional beliefs, that these no longer constitute an entity or culture that is distinctly “**Maori**” as opposed to “**pakeha**” or any other culture.⁶³

Although I agree that this issue is colonisation as usual, and **Maori** are concerned with the further delegitimisation of traditional culture, I think **Maori** are first and foremost concerned with the infringement of **tikanga** that results from GE research. Bound up in the notion of infringement of **tikanga** is the obvious interference with **whakapapa** through the creation of transgenic organisms for example, and the unknown risks associated with genetic engineering. This position is supported by the voices of the many consulted, as illustrated in the section “**Tikanga Maori** knowledge: Consultations with **Maori**.”

As is demonstrated here, the obfuscation of **tikanga Maori** occurs in a variety of forms. As Jacqui **Amohanga** explains, this enlisting of our own people to support biotechnology is of great concern.

*In regards to getting the message out to people, in particular from a non-colonised viewpoint, we do have **kupapa** [traitors] in this country that, particularly some of the ones that participate in the Royal Commission process, that came out and sort of do a whole reconstruction of some of our value systems just to justify biotechnology happening in this country. For us at the grassroots level, it's really, really hard and difficult to fight against the biotechnology industry being imposed in our country, let alone having to go through and fight against our own people that have been bought off by them.*⁶⁴

⁶³ **Mere** Roberts, Genetically modified organisms and **Maori**: A critique of the ERMA process for assessing cultural effects under the HSNO Act 1996. (2000), 20.

⁶⁴ Jacqui **Amohanga**, research interview with the author, Hamilton, New Zealand, 9 March 2002.

Although the above is not an exhaustive list, the examples used illustrate their role in complicating the issues for **Maori**.

6. CONTROVERSIAL WESTERN REDUCTIONIST SCIENCE RESEARCH

There are numerous areas of biotechnological research considered controversial and impinging on **tikanga Maori** knowledge.

Katherine Moldave of AlcheraBio, a Canadian animal-health consultancy, literally coos with the potential of biotechnology on animal health and productivity because “breeding animals to be more disease or parasite resistant could produce significant economic savings. Additional benefit could be derived from resulting improved performance of the animal.”⁶⁵ Moldave believes those animals possessing “superior genetics” will achieve extraordinarily high value when cloned because of the “added-value” from cloning. However, “Almost a quarter of the calves and lambs cloned from adult animals by Government-owned AgResearch have died within about their first three months of life. AgResearch’s cloning programme leader, Dr David Wells, said ‘errors in the pattern of gene expression’ had produced some animals with deformities that made them ‘not viable at birth.’”⁶⁶ AgResearch estimates that only six per cent of cloned embryos survive to weaning age of three months, with the large majority aborted during pregnancy or by scientist induced abortion because of abnormal size or other deformities.⁶⁷

PPL Therapeutics NZ was given ERMA approval to breed ten thousand sheep with a human gene in order to produce milk with human protein from the transgenic offspring, all in hopes of finding a cure for cystic fibrosis and congenital emphysema.⁶⁸ The Crown Research Institute, AgResearch, based in Hamilton, was given approval for a similar project in efforts to find a cure for multiple sclerosis. Human genes were inserted into cows creating transgenic

⁶⁵ Moldave, K., “The impact of biotechnology on animal health and productivity.” (*Animal Pharm*, 514, 2003), 13.

⁶⁶ *NZ Herald*, “Cloned animals dying at AgResearch,” 14 November 2002.

⁶⁷ *NZ Herald*, “Cloning raises morality questions,” 14 November 2002.

⁶⁸ *NZ Herald*, “Genetics spark **Maori** concern,” 26 March 1999.

offspring that produce milk containing human proteins. In 2002, AgResearch was given approval to extend its existing research to include inserting genes from humans, goats, pigs, deer, sheep, mice and other genetic sequences into cows.⁶⁹ Both these cases highlight the conception of animals as factories, which contravenes the respect required for a living part of nature that has a **whakapapa** and **mauri**. They are more than statistically dispensable tools for experiments in the process of scientific advancement.

Gene therapy is a highly controversial area that impinges on **tikanga Maori**. Suzuki and Knudtson highlighted clearly the dilemma for **Maori**.

[G]ene therapy can be seen as the ethical equivalent of an organ-transplant operation - a local transformation in a patient's phenotype, without a corresponding change in the underlying genotype of his or her reproductive cells. But the ethical dimensions of gene therapy shift the instant the target changes from somatic cells, with fleeting lifetimes, to germ, or reproductive, cells belonging to lineages that are potentially immortal.⁷⁰

Some **Maori** would still find somatic cell gene replacement therapy problematic because of the tinkering and interference with **mauri**. However, germ-line gene replacement therapy is seen as a violation of **tikanga Maori** because of its interference with **whakapapa** and impact on future generations.

Genetic screening is also problematic for **Maori** families who have health problems such as stomach cancer and rare genetic disorders.⁷¹ Some geneticists believe the identification of "the gene" is the first step in developing a cure for a genetic disorder, which could include gene therapy or some other intervention.⁷² A large majority of **Maori** consulted on these issues believe

⁶⁹ *NZ Herald*, "Scientists get nod on gene-swap research," 2 October 2002.

⁷⁰ Suzuki, D. & Knudtson P., *Genethics: The ethics of engineering life*. (Toronto: Stoddart Publishing Co. Limited, 1990), 183.

⁷¹ See for example: *60 Minutes* TV1/TVNZ documentary feature, "Gene or curse?" aired on 24 May 1998; and *New Zealand Herald*, "Study uncovers fatal gene flaw," 19 March 2003.

⁷² No such cures have been developed thus far. The one possible "cure" was a group of children in France with SCIDS, the so-called "bubble boy" immune deficiency syndrome. The "therapy worked against SCIDS in the children, but two of them developed leukaemia, which was blamed on the gene therapy. As a precaution, the Food and Drug Administration in January last year suspended 27 gene therapy trials in the United States." *CNN.com* news, "New clues in 'bubble boy' gene therapy." 15 January 2004.

that genetic screening and the development of a “cure” for a genetic disorder can result in interference with **mauri**, **wairua**, and **whakapapa**.

There are a number of other examples of scientific research highlighting conflicts with **tikanga Maori**, in particular examples that interfere with the **tapu** (sacredness) of the body. The *UK Observer* reveals that a North Carolina Company, Great Smokies Diagnostic Laboratory, claims it is possible to foretell an individual’s medical future by carrying out a simple “Genovations” genetic test that only requires a small DNA sample.⁷³ Health Interlink, based in Leicestershire, also distributes the tests in the UK. In another new venture in science and health, the *Canadian Press* released a story advocating the use of stem cells obtained from umbilical cord blood cells rather than the ethically fraught use of embryonic stem cells in disease treatment. Montreal blood specialist Dr Denis-Claude Roy said, “Normally, (umbilical-cord) cells are thrown in the garbage, but now we can save lives (with them).”⁷⁴ And finally, the *Chicago Tribune* highlights experimentation on humans who are considered “brain-dead.”

The advantage of using a brain-dead individual for research is that his body functions like normal with blood circulation and working lungs. But the person is dead, with no chance of resuscitation, once brain activity stops. “It may seem cruel and macabre to do research on a brain-dead person, but it reduces the risk to the living and it makes dangerous experiments that much less dangerous,” said Arthur Caplan, director of bioethics at the University of Pennsylvania. . . The experiment conducted by Arap and Pasqualini involved injecting millions of tiny molecules into brain-dead subjects and following their path through the circulatory system. After the subjects were removed from life support, numerous tissue samples were taken to search for the specific sites in the body that the molecules attached to.⁷⁵

These examples vividly illustrate the instrumental view of the body, which is in stark contrast to a **tikanga Maori** view of the body as **tapu** (sacred).

⁷³ *UK Observer*, “Gene test to help you beat death sparks row on ethics,” 19 January 2003.

⁷⁴ *Canadian Press*, “Umbilical blood an alternative to controversial embryo stem cells, doctors say,” 8 July 2002.

⁷⁵ *Chicago Tribune*, “Science seeks secrets of life in brain-dead,” 15 May 2003. For a revealing discussion of research on “brain-dead” patients and harvesting of their organs for transplants, see: Kimbrell, A. *The human body shop: The cloning, engineering, and marketing of life*. Washington, D.C.: Regnery Publishing Inc., 1997.

Nanotechnology, biotechnological interventions on a nano-scale, is the next stage of this problematic biotechnology. For more information about nanotechnology, see the ETC Group website at: <http://www.etcgroup.org>.

Dr Martin Wilkinson, senior lecturer in community health at Auckland University, exhibited a similar conception of the body as disposable and mere vessel with functional value in objecting to families' ability to refuse consent to organ harvesting.

Getting family consent to use children's or adult's body organs or parts for donation is unnecessary, misguided and leads to wasted valuable organs...Dr Wilkinson said avoiding distress to parents was less important than saving lives. It was also hard to see why families could veto the use of organs from relatives who were registered donors. Families made the most noise, the deceased did not complain and potential recipients were not present.⁷⁶

Interference and violation of the body is legitimized by the promising allure of a cure for illness. For **Maori**, the body is considered **tapu** (sacred) and any interference is seen as an affront to **tikanga Maori**. The umbilical cord in particular has strong cultural and spiritual significance for **Maori**, which is now specially **acknowledged** in New Zealand hospitals. After birth the newborn's umbilical cord is taken by the **whanau** and given a ceremonial burial at their home, connecting the newborn to a particular **iwi** (people/tribe), **kainga** (place/home) and **whenua** (land).

In 2004 the New Zealand government is set to review and introduce the Human Assisted Reproductive Technology Bill, commonly known as the HART Bill, which amongst other measures, such as prohibiting human cloning for reproductive purposes and commercial surrogacy, will legalise germ-line genetic modification (inheritable human genetic engineering).⁷⁷ The Ministry of Health is also updating rules on the research, therapy and educational use of human tissue. The update will include the areas of informed consent, organ and tissue donation

⁷⁶ *New Zealand Herald*, "Organs consent 'wasteful,'" 20 September 2003.

⁷⁷ To find out what the New Zealand government is proposing in the HART bill, see the Ministry of Justice Website: <http://www.justice.govt.nz/pubs/other/pamphlets/2003/hart/questions.html>, accessed on 14 April 2004.

law, and human tissue-based therapy safety.⁷⁸ The Ministry of Health has conducted consultation workshops around the country on human tissue law.⁷⁹

7. THE CONFRONTATIONAL NATURE OF WESTERN REDUCTIONIST SCIENCE

At the heart of **tikanga Maori** knowledge are key concepts that provide clear principles for difficult decisions. At the heart of the dominant paradigms of reductionist forms of Western science are some concepts that are incompatible with **Maori tikanga** and very problematic to other Indigenous peoples as well.

Life as inert and mechanical

Much of modern reductionist science is mechanistic and sees life, nature and biodiversity as largely consisting of separate and independent parts. This machine metaphor in biology has its origins as far back as the 17th century French philosopher Rene Descartes. This metaphor shapes both scientific thinking and scientific method.

If the animal is like a machine, as Descartes claimed in Part V of the *Discourse on Method*, then it is made up of clearly distinguishable bits and pieces, each of which has a determined causal relation to the movement of other bits and pieces.

But Descartes's machine model is not only a description of how the world operates but also a manifesto for how to study natural phenomena. If I wish to study an animal as a machine, I commit myself to behaving as if the animal can be broken down into pieces whose identity as pieces is unproblematic and which have a clear chain of causal connections with each other in producing the properties of the whole.⁸⁰

When life is viewed as machine, “an ethical shift takes place – life is seen as having instrumental rather than intrinsic value.”⁸¹ Shiva believes this results in two forms of violence:

⁷⁸ *NZ Herald*, “Tissue laws under ministry microscope,” 6 April 2004.

⁷⁹ The Bioethics Council has also conducted public forums around the country on the ethical, spiritual and cultural dimensions of the use of human genes in other organisms. See Bioethics Council website: <http://www.bioethics.org.nz>.

⁸⁰ Lewontin, R. C., *The triple helix: Gene, organism, and environment*. (Cambridge, Massachusetts: Harvard University Press, 2000), 71.

⁸¹ Shiva, V., *Biopiracy: The plunder of nature and knowledge*. (Toronto: Between the Lines, 1997), 32.

"First, life-forms are treated as if they are mere machines, thus denying their self-organizing capacity. Second, by allowing the patenting of future generations of plants and animals, the self-reproducing capacity of living organisms is denied."⁸² This mechanistic view of life exhibits the fallacy that science is never wrong and morals and ethics are malleable. This disrespect for life is fundamental to reductionist science.

The gene and reductionist science

Genetic essentialism puts great stock in the individual and resonates with an ideology of possessive individualism.

Society is now thought to be the consequence, not the cause, of individual properties. It is individuals who make society. Modern economics is grounded in the theory of consumer preference. Individual autonomous firms compete with each other and replace each other. Individuals have power over their own bodies and labor power, in what MacPherson called "possessive individualism." This atomized society is matched by a new view of nature, the reductionist view. Now it is believed that the whole is to be understood *only* by taking it into pieces, that the individual bits and pieces, the atoms, molecules, cells, and genes, are the causes of the properties of the whole objects and must be separately studied if we are to understand complex nature.⁸³

Reductionist biomedicine concentrates on identifying genetic predispositions and propensities for myriad disorders including cancer, diabetes, and schizophrenia. Geneticists have even tried to identify genes for such conditions as alcoholism, homosexuality and criminality. Focusing on the individual is problematic, however, as it "diverts attention from the real causes, but also stigmatises individuals, through placing the blame for society's ills on people's genes, and through the arbitrary categorisation of the 'normal' versus the 'abnormal.'"⁸⁴ Dr Graham Smith calls this the "politics of distraction."⁸⁵ Dr Cheryl Smith calls it a "deficit view of our

⁸² Ibid., 23.

⁸³ Lewontin, R., Biology as Ideology: The Doctrine of DNA. (Concord, Ontario: House of Anansi Press Ltd., 1995), 12.

⁸⁴ Ho, 1998: 35.

⁸⁵ Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003.

community.”⁸⁶ Gottweis calls this the “discourse of deficiency,” the “rewriting of life on a subcellular level in terms of 'absences,' of 'improvables' in need of the intervention of genetic technologies.”⁸⁷ Suzuki and Knudtson tersely challenge this view stating that the human genome is not “like some sort of genetic garden from which hereditary defects can simply be plucked like so many weeds.”⁸⁸

Ruth Hubbard is also critical of the genetic determinist-driven research agenda. She argues people’s needs could be better served by developing education campaigns aimed at increasing awareness about the importance of a good diet and regular exercise and “providing the economic and social conditions that could enable more people to live healthily, rather than spending time and money trying to find 'aberrant' alleles and to identify individuals whose genetic constitution may (but then again, may not) put them at special risk.”⁸⁹ Although there is merit in the manageability of science for scientists when seen through a reductionist lens, the reality is far more complex, and “the major diseases today are polygenetic and complex, have environmental determinants, and are not approachable by genetic analysis alone as suggested by the reductionist narrative of molecular biology.”⁹⁰ Because of this complexity, Hubbard and Wald argue that “tampering with DNA will have unexpected effects, and there is every reason to believe that some of them will be undesirable.”⁹¹

Reductionist molecular biology, focused on the gene, leads to the increasing management of life by external administrators. A number of authors have written of the future impact on society of this administration of our bodies, including Gottweis, Hubbard and Ward, and Nelkin and Lindee. Nelkin and Lindee suggest, “The future of medicine seems to lie in more aggressive

⁸⁶ Personal communication with the author, 5 April 2003.

⁸⁷ Gottweis, H., “Genetic engineering, discourses of deficiency, and the new politics of population.” (*Cultural Politics* 13, 1997), 65.

⁸⁸ Suzuki and Knudtson, 1990: 188.

⁸⁹ Hubbard, R., & Wald, E., Exploding the gene myth: How genetic information is produced and manipulated by scientists, physicians, employers, insurance companies, educators, and law enforcers. (Boston: Beacon Press, 1997), 77.

⁹⁰ Gottweis, 1997: 75.

⁹¹ Hubbard and Wald, 1997: 114.

biological manipulation, rather than in social intervention to change behaviors that promote disease. Increased authority and power are therefore vested in scientists and physicians, who become the managers of the medicalized society."⁹² Hubbard and Wald elaborate.

That the healthy as well as the ill live under such continuous medical surveillance is in the interest of the medical-industrial complex, and not in ours. Our new fixation on genes can only make us less confident about our bodily functioning and so increase our alienation from ourselves. We need to engage in active debates about the practical consequences of genetic forecasts for our self-image, our health, our work lives, our social relationships, and our privacy.⁹³

As a result, Hubbard and Wald make an urgent call for us all "to demedicalize our relationship to our bodies and our state of health."⁹⁴ Although this urgent plea by Hubbard and Wald was made in 1997, the expansion of medical surveillance and genetic screening and forecasting has continued without much public debate.

The framing and language of reductionist science

Scientists ask questions they know they can answer or are amenable to their methods.

Science as we practice it solves those problems for which its methods and concepts are adequate, and successful scientists soon learn to pose only those problems that are likely to be solved. Pointing to their undoubted successes in dealing with the relatively easy problems, they then assure us that eventually the same methods will triumph over the harder ones.⁹⁵

Why do scientists do this? It is important to maintain the veneer of expertise and, more problematic, the ruling paradigm. Mae-Wan Ho explains this charade quite bluntly.

What do most scientists do when faced with findings that threaten to topple the ruling paradigm? They describe the findings at great lengths in technical language that not even scientists in other disciplines can comprehend; they fail to interpret the findings altogether or interpret them incorrectly, avoid discussing the practical implications, and above all, dismiss incriminating evidence suggesting that what their colleagues are doing

⁹² Nelkin, D., & Lindee, M., S., The DNA mystique: The gene as a cultural icon. (New York: W.H. Freeman and Company, 1999), 195.

⁹³ Hubbard & Wald, 1997: 162.

⁹⁴ Ibid.

⁹⁵ Lewontin, 2000: 73.

could be dangerous. At the same time, they try desperately to paper over the cracks of the crumbling edifice of the old paradigm, and engage in rampant speculations.⁹⁶

In a similar vein, scientists' use of particular frames will couch an issue in a particular way.

Nelkin and Lindee provide an illustration of such framing of alcoholism.

If defined as a sin, alcoholism represents an individual's flaunting of social norms; if defined as a social problem, it represents a failure of the community environment; if defined as intrinsic to the product consumed, it represents the need for alcohol regulation. But if defined as a genetically determined trait, neither society nor the alcohol industry appears responsible. And if behavior is completely determined - either by genetics or environment - even the addicted individual cannot really be blamed.⁹⁷

When explaining the historical incidence of tuberculosis, Lewontin says,

Although one may say that the tubercle bacillus causes tuberculosis, we are much closer to the truth when we say that it was the conditions of unregulated nineteenth-century competitive capitalism, unmodulated by the demands of labor unions and the state, that was the cause of tuberculosis. But social causes are not in the ambit of biological science, so medical students continue to be taught that the cause of tuberculosis is a bacillus.⁹⁸

And further, in speaking about the bogus crime gene, Kaplan focuses the issue of crime in America on a more meaningful path: "Rather than attempting to understand why one inner-city youth adopts a life of crime and violence while another does not, we perhaps ought to concentrate our limited resources on understanding why so many more violent crimes per capita occur in the United States than in many other Western nations."⁹⁹

Another source of obfuscation is scientists' use of language, their choice of terminology in articulating science. According to Keller, scientists are language-bound. "The words they use play a crucial (and, more often than not, indispensable) role in motivating them to act, in directing their attention, in framing their questions, and in guiding their experimental efforts. By their

⁹⁶ Ho, M.-W., *Living with the fluid genome*. (London & Penang, Malaysia: Institute of Science in Society & Third World Network, 2003), 110.

⁹⁷ Nelkin and Lindee, 1999: 94.

⁹⁸ Lewontin, 1995: 45.

⁹⁹ Kaplan, J. M., *The limits and lies of human genetic research: Dangers for social policy*. (New York: Routledge, 2000), 103. To obtain further elucidation on this issue I would recommend the recent book by Michael Moore entitled, "Stupid White Men...and Other Sorry Excuses for the State of the Nation," (Penguin Books, 2002).

words, their very landscapes of possibility are shaped."¹⁰⁰ Keller describes here how scientists are themselves limited, directed, and guided by the words that they use to think, analyse and describe problems, processes and results of research.

Genetic engineering has fostered and been shaped by a new language. In the discourse using this language, the gene is privileged because of its ascribed function.¹⁰¹ Genetic engineers seek and patent “functional” or “instrumental” knowledge driven by the notion that knowing how things work will logically lead to ability to make them work more efficiently. This biotechnological goal has shaped molecular biology and transformed its scientists into engineers and entrepreneurs. Identifying and ascribing a function to a particular gene, no matter how faint or weak a connection, is a shrewd and strategic scientific endeavour that can lead to a new viable area of study and investment and thus to access to research funding. Language is also used to perpetuate the status quo, where some older discourses are replaced or transformed. Language can be powerful in reproducing certain institutional forms and hegemony, where “older” or “pre-existing” scientific areas are redefined using more sanitised contemporary language that factors in the positive connotations of “progress” or downplays any inherent “danger.” Gottweis observes that this “progress talk” is a counterstrategy employed to defray resistance. “Social resistance against genetic engineering was met by counterstrategies seeking to establish a framing of biotechnology as an articulation of progress and modernization.”¹⁰²

The language of “risk” is a powerful example of how science is defined and articulated. A number of authors have written on the pervasive nature of risk discourse, including Beck,

¹⁰⁰ Keller, E. F., The century of the gene. (Cambridge, Massachusetts: Harvard University Press, 2000), 139.

¹⁰¹ Ideas in this paragraph have been formulated from the many group “meetings” and email communications I have had with two fellow School of Communication graduate students, Mavis Jones (currently a PhD student in the UK) and Albert Banerjee (currently a PhD student in Canada).

¹⁰² Gottweis, 1997: 79.

Crook, Douglas and Wildavsky, Leiss and Chociolko, and Winner.¹⁰³ Winner notes "One's initial definition of the problem helps shape subsequent inquiries into its features."¹⁰⁴ The choice of the word "risk" in biotechnology research "tends to imply that the chance of harm in question is accepted willingly in the expectation of gain."¹⁰⁵ However, "this disposition to weigh and compare is not invoked by concepts that might be employed as alternatives to 'risk' - 'danger,' 'peril,' 'hazard,' and 'threat.' Such terms do not presuppose that the source of possible injury is also a source of benefits."¹⁰⁶ Crook raises another problematic aspect related to risk, that of how to articulate risk discourse itself.

The rhetorical battle over the cultural riskiness of biotechnology is fought along two main axes, one running between "natural" and "unnatural," the other between "old" and "new." If "new" and "unnatural" are both risky, it is important to its proponents that biotechnology should not be seen as having both characteristics at once. The ideal, but perhaps implausible, strategy would be to position biotechnology as both "old" and "natural."¹⁰⁷

In any event, when decision makers are faced with uncertainty and possible "risk," Winner suggests the result is, "prudence becomes not a matter of acting effectively to remedy a suspected source of injury, but of waiting for better research findings."¹⁰⁸

¹⁰³ Beck, U., Risk society: Toward a new modernity. (London: Sage Publications, 1992); Crook, S., "Biotechnology, risk and sociocultural (dis)order." In R. Hindmarsh, G. Lawrence and J. Norton, (Eds.). Altered genes - Reconstructing nature: The debate. (St. Leonards, NSW: Allen & Unwin, 1998). pp. 132-144; Douglas, M., & Wildavsky, A., Risk and culture: An essay on the selection of technical and environmental dangers. (Berkeley: University of California Press, 1982); Leiss, W., & Chociolko, C., Risk and responsibility. (Montreal, Kingston: McGill-Queen's University Press, 1994); Winner, L., The whale and the reactor: A search for limits in an age of high technology. (Chicago: University of Chicago Press, 1986).

¹⁰⁴ Winner, L., The whale and the reactor: A search for limits in an age of high technology. (Chicago: University of Chicago Press, 1986), 152.

¹⁰⁵ *Ibid.*, 145.

¹⁰⁶ *Ibid.*, 149.

¹⁰⁷ Crook, S., "Biotechnology, risk and sociocultural (dis)order." In R. Hindmarsh, G. Lawrence and J. Norton, (Eds.). Altered genes - Reconstructing nature: The debate. (St. Leonards, NSW: Allen & Unwin, 1998), 141.

¹⁰⁸ Winner, 1986: 144.

And if Maori say no, what then?

Ultimately **Maori**, and other Indigenous peoples, have found that Western reductionist science takes precedence over any resistance to new technologies. Donna **Ngaronoa** Gardiner sees this as symptomatic of the arrogance of Western reductionist science.

In the event of a community saying no to the experiments, Western scientists view that resistance as being based on ignorance and misunderstanding of the projects aspirations. These attitudes reflect beliefs about western racial superiority – that western science knows best – even if the subjects of that science do not consent. This is also a symptom of arrogance and the belief that any innumerable number of experiments can be undertaken in the name of science. The fact that Indigenous populations may not consent because of a fundamental difference in world view is of little consequence to unscrupulous companies and scientists.¹⁰⁹

8. SUMMARY OF TIKANGA MAORI KNOWLEDGE & WESTERN REDUCTIONIST SCIENCE

In conclusion, the objective of this chapter was to conduct an exploration of the concept of **tikanga Maori** knowledge and a critique of Western reductionist science.

Indigenous people around the world have similar conceptions of life and existence. Donna **Ngaronoa** Gardiner sums this up as, “In a world of capitalism, surrounded by profit oriented governments and the companies that drive that need for profits, the only thing that stands between total unethical behaviour – perhaps even the very integrity of what it is to be human – are the guardians of Mother Earth – Indigenous Peoples.”¹¹⁰ We are all merely **kaitiaki** or guardians on this earth for future generations, so what we do to the earth now will be felt by generations that come after us. For North American Indigenous peoples this is embodied in the concept of the seventh generation. **Maori** have similar terms such as “**te ao hurihuri**,” the world

¹⁰⁹ Gardiner, D., N., “Hands off our genes: A case study on the theft of **whakapapa**.” In Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two. (Auckland: **IRI/Moko** Productions, 1997), 54. Although I agree that Western reductionist science (**Pakeha** science) is problematic for **Maori** and other Indigenous people, there are some “good” applications of science. However, the philosophy and **tikanga** which reductionist **Pakeha** science is built on is arrogant.

¹¹⁰ *Ibid.*, 58. It is also acknowledged that a number of other peoples all over the world have been fighting unethical greed and destruction with much courage and determination.

turns from the dawn to the night, and “**ara mai he tete kura**,” as one fern frond dies another shoot comes forth.¹¹¹ All of these concepts have a connectedness to **whakapapa** and its continuance in life’s journey.

Maori and other Indigenous people have valid and legitimate knowledge. **Tikanga Maori** knowledge offers a valuable framework for assessing the impacts of research projects and as principles that can offer researchers and scientists crucial guidance, as it has done for generations of **Maori**. However,

The alternative is not to abandon science as some disillusioned environmentalists in the North seem to be advocating, nor is it a wholesale return to “traditional” methods. It is important to stress that so-called traditional methods have also evolved through the ages, as knowledge has accumulated, and it is simply Eurocentric arrogance to deny the existence of science in cultures other than the Northern European.¹¹²

The purpose of the next chapter is to examine how the **tikanga Maori** worldview informs **Maori** resistance to genetic engineering by predominantly relying on the conversations I had with key **Maori** involved in the movement. This group of **Maori**, **Nga Puni Whakapiri**, disclose the **kaitiaki** relationship that they and many **Maori** have with **tikanga Maori** knowledge.

¹¹¹ Personal correspondence with Dr Cheryl Smith, 8 September 2003.

¹¹² Ho, 1998: 230.

**CHAPTER 6
 NGA PUNI WHAKAPIRI: THE GATHERING MAORI RESISTANCE
 TO GENETIC ENGINEERING**

**Ruru tangi tohutohu
 Waiata composed by Toroa Pohatu¹**

**Ruru koukou
 Ruru koko koukou
 Whakarongo ki te tangi o te manu, ruru koukou
 Manu kaitiaki, manu karere o te po, ruru
 Tangi tohutohu, tangi tupato
 Mo te whakatipuranga
 Pari rau pakipaki
 Pari rau ruruhau
 Hohou I te rongo**

**Puni whakapiri, puni takitahi
 Te kaupapa tangi aue
 Kupu tohutohu, kupu tupato
 Mo te iwi whanui
 Houhia te rongo
 Houhia korero te raweke ira
 Whakarongo ki te tangi a te manu, ruru koukou**

This **waiata** tells the story of the owl; the protector and the guardian of the realms of death. It has arrived as a warning, warning the people of imminent danger. It calls people to listen. As the guardian of the realms between life and death it warns of “**te raweke ira**” – the taking and theft of the life force. Its wings are outstretched as wings of protection for those **kaitiaki** who are listening and moving to protect the future generations. It sings its messages out to the world, spreading the messages of the ancestors; warnings and sacred words that travel to connect the many around the world. There are those gathered as a “**puni**,” a close group who are gathered as the protectors. Heed their words.

¹ **Toroa Pohatu** from **Whanganui** composed this **waiata** for the launch of the book, *Aue! Genes and genetics*, on 7 December 2002. Reynolds, P., & Smith, C.W., *Aue! Genes and Genetics*. (**Whanganui**, New Zealand: **Whanganui Iwi** Law Centre, 2003).

This chapter will give primacy to the voices of the people I conversed with for this project, in particular key **Maori** involved in developing resistance to genetic engineering. **Maori** involved in this **mahi** (work) are the **kaitiaki** for our generation. They are our protectors and advance warning system alerting us to actual and potential violations of **tikanga Maori**. This group of people are not “neutral.” They are predominantly high-profile, “activist” academics who have consistent politics and are a voice for **Maori**. Many of this group are spokespeople for large constituencies of **Maori**. A central focus of the group is to uphold the values of **tikanga Maori** knowledge.

In this chapter I specifically cover four main areas related to **tikanga Maori**, which are informed predominantly by conversations I had with key **Maori** in the movement and with some of my own **whanau**. The first area is **kaitiakitanga**, where people explained their views on our role in protecting our world. The second area focuses on our **whakapapa** relationship to all things. The third area analyses **tikanga Maori** as science. The fourth and final area explores the **tikanga Maori** approach – a **kaupapa Maori** approach. This final area incorporates an examination of the unique style of communication, of language and expression, used by **Maori** to discuss sensitive issues.

Ultimately this chapter makes “space” for **Maori** knowledge, for **Tikanga Maori**, in the conviction that **Maori** have a worldview that is valid. As Dr Cheryl Smith has stated, we must value our own knowledge,

*...valuing that which you already know. I think that is one of the worst things that colonisation did to us. It took away our ability to value our own knowledge, what we already know and what we already do. And they said you know ‘oh, that’s only that,’ when in actual fact that’s where **taonga** are, that’s where our knowledge is.²*

² Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002. Dr Cheryl Smith is of **Ngati Apa, Te Aitanga-A-Hauiti, Ngai Tumapuhia A Rangi** descent. Dr Smith is an academic and central figure in the **Nga Puni Whakapiri** movement and member of **Nga Wahine Tiaki o te Ao** and **Te Waka Kai Ora** (both these groups will be discussed fully in Chapter Seven). She is also in numerous **Maori** local and national community organisations and was a member of the national Bioethics Council in New Zealand from 2002 -2004.

1. KAITIAKITANGA

Central to **Maori** is the word **kaitiaki** (guardian) and the concept of **kaitiakitanga** (guardianship/stewardship), which is an obligation to protect all things for the next generations. **Maori** involved in the **Nga Puni Whakapiri** movement are wary of the new biotechnologies and genetic engineering in particular. These new technologies have the potential to negatively impact on **tikanga Maori** knowledge and **taonga**. This movement performs a vital double role as **kaitiaki** of our **taonga** and warning system alerting our people of upcoming research that will impact on this **taonga** and **tikanga Maori** knowledge. Key figures in the movement talk of this **kaitiaki** role when asked whether they consider themselves activists. The descriptions of their involvement in the movement are imbued with passion and a heavy sense of responsibility. As Angeline Greensill explains, we have a conscience that is inherited.

*We can't get on with our lives while this stuff carries on because we have a responsibility. Unfortunately, we have a conscience that has been handed down, that you must look after our planet for the next generations. We have unfortunately inherited that responsibility that no one wants to share. And it's only the Indigenous peoples that seem to have this idea that you must live with the planet and you must care for the planet and you must never do things that are going to break the fabric, which is its undoing. Everything that we know, I mean tampering with the genes, is just breaking the **whakapapa** link to the past and to the future. That's not our right.³*

Kaitiakitanga is a central concept in the work of the movement. In answering the questions, “do you consider yourself an activist?” and “is there a **Maori** term that you could say would sum up the work that you do and the work around **Maori** anti-GE activism?” we are able to unravel a rich texture of meaning.

³ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002. Angeline Greensill is of **Tainui, Ngati Porou, Ngati-Toa, Nga Rauru** descent. Angeline Greensill is a senior lecturer at **Waikato** University, lawyer and another central figure in the **Nga Puni Whakapiri** movement and member of **Nga Wahine Tiaki o te Ao** and **Te Waka Kai Ora**. She is also in numerous **Maori** local and national community organisations.

Do you consider yourself an activist?⁴

Angeline Greensill defines activism as a verb because it can relate to how active you are in the movement.

*If you mean a person who is active in the issues that are affecting our people, I think I'm active. My mother [Eva Rickard] was considered a land activist. The words have changed over time; they're all labels, like "freedom fighters," whatever people are calling themselves, all sorts of things, "radicals." So when they use that word "activist," it's always had bad connotations when used in the media. For me, I don't mind being labelled an activist. I'm not as active as I'd like to be. But perhaps more a **wahine kaitiaki**, someone who cares for the land and cares for those that are coming, ie., a carer, a carer of others.⁵*

Annette Sykes has inherited her activism from her grandmother, great grandfather, great grand uncle (great grandfather's brother), and her children will also inherit this obligation to protect all things we consider precious.

*I am an activist. I believe in treaty rights and to enable that to be effective in this country you have to be an activist to ensure that that position is well informed and understood by the peoples of this country. Activism for me is something that's inherited. It's not something that is recent. My grandmother was an activist to protect our lakes, my great grandfather was an activist to get our lands back, my great grand uncle died at Gate **Pa** protecting the rights of our people to our land. So, all of those different aspects of activism are something I've inherited and can't escape. It is something that my kids are going to have to live with for the rest of their lives. I mean they will inherit an obligation to look after those things most precious to us.⁶*

Dr Leonie **Pihama** acknowledges the many faces of activism, including incorporating **Maori** understandings in academia and theory.

⁴ The term "activist" is politically fraught in New Zealand. A person who is labelled an "activist" is negatively portrayed as a "trouble maker" and "deviant" when reported in the media. I am deliberately not choosing to engage with this problematic term but instead relying on the interpretations provided by my interviewees as they stand alone in their completeness and are the primary voices I want to give visibility to in this thesis, in particular in these **Tikanga Maori** chapters from here onwards.

⁵ Angeline Greensill, research interview with the author. Hamilton, 9 March 2002.

⁶ Annette Sykes, research interview with the author, **Rotoiti**, 17 March 2002. Annette Sykes is a **Te Arawa** lawyer in **Rotorua** doing a lot of work with **Maori** around Treaty of **Waitangi** issues and for **Maori** communities. She is also another central figure in the **Nga Puni Whakapiri** movement and member of **Nga Wahine Tiaki o te Ao**. She is also in numerous **Maori** local and national community organisations. In 1864 Gate **Pa**, buttressed **Maori** fortress situated in **Tauranga**, was the focus of a heated battle between **Ngai-te-Rangi** and **Ngati Koheriki** tribe members and British troops over the confiscation of **Maori** land by the British. The British troops with greater numbers and far superior fire-power were defeated by the more strategically astute **Maori** fighting at Gate **Pa**.

*I do consider myself an activist. I think in terms of the work that I do as a **Maori** academic and as a filmmaker, the whole idea around activism is about bringing **Maori** understandings and theorising about the world and thinking about the world into an active form. So that's what it's about for me.*

*I have a basic belief around the idea, it's a kind of a Freirian idea in many ways, that there are interrelationships between theory and practice because I consider myself to be a theoretician, a **Maori** woman who is a theoretician. It's about bringing those understandings into ways that bring change, that bring change in the world. In order to bring change, there needs to be some kind of active engagement of what the issues are. When I think about activism, I think about those kinds of ideas that are about bringing change, doing things that are worthwhile, thinking of some kind of interventional transformation in a very **Maori** way. I think we probably need to reframe the word "activism" in terms of **Maori** understandings. Part of that for me is when I think about **Maori** language (this is going a little bit to the side), when I think about **Maori** language, I think about how as a learner, a second language learner, I learn **te reo Maori** often in a passive voice and when I hear fluent speakers I hear them speaking in the active voice. So, within the language you have things like the way it's framed grammatically, the **mahi** or the action is what's important, not necessarily the person doing the action. So the subject or the person doing the action could actually be dropped off the end but what you do is important. I think that is really inherent culturally. It's the **mahi** we do, what we do that is actually more important than the fact that I do it, that the individual does it. So when I take that concept in terms of change and what's happening in the world, on our land, it is taking understandings and beliefs and analysis and actually enacting those in ways that are going to bring change and transformation. Or else it's not actually worthwhile doing it. But any form of activism also has to be well informed about why we're doing it, what our analysis is, how that fits in **Maori** understandings, how our people come to look at those things spiritually and culturally. So it's always an interrelationship. That's why when I think about things around theory and practice, in an academic sense, the whole Freirian kind of dialectical unity stuff comes to the fore, where they are in relationship with each other but also have enough distance to be able to reflect on each other. I think you'll find a lot of **Maori** people, academics, particularly when talking about that relationship, look at what we do as informed by how we reflect on our understandings and vice versa.*

I'm comfortable doing it academically, I'm comfortable doing it in writing, I'm comfortable doing it visually in the film making, and I'm comfortable to be out there walking the streets with our people, or putting tents up on land or whatever we're doing.⁷

Dr Cheryl Smith sees activism as related to challenge and bringing about change and as connected with the love of **whanau**.

In this country the term activist is a dirty word, it's used to down people. When I visited the United States, I noticed that the term has a currency that it doesn't here. You can get

⁷ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002. Dr Leonie **Pihama** is of **Te Atiawa, Ngati Mahanga** descent. Dr **Pihama** is a lecturer at Auckland University and is also the Director of **IRI**, the International Research Institute for **Maori** and Indigenous Education. She is also another central figure in the **Nga Puni Whakapiri** movement and member of **Nga Wahine Tiaki o te Ao**. She is also in numerous **Maori** local and national community organisations and is an accomplished **Maori** film-maker.

*some pretty big corporate bodies that call themselves activist environmental law firms for example. Over here though, the media trashes people by labelling them activists. To get back to the question - yes I do consider myself an activist in the sense that I think that change is something that I am working for and challenge is important in the process (even though I am actually a wimp). But my motivation goes a lot deeper than that; it goes back to the love of my own **whanau** and the teachings of our old people really, and to my understanding of the history of our people. During my graduation, one of the **kaumatua** [elders] who spoke said a really lovely thing, he said “the weapons of today are knowledge, that the weapons of yesterday were the **patu** [club]” and he was glad to see me come through armed with the new knowledge because he felt I had already proven myself over the years by working for the people. I was also given a beautiful **patu** pounama [greenstone/jade club] by the **whanau**. Many of us have grown up in an environment of challenge. If anything our most radical activists are our **kaumatua**, my mother may look like a sweet little **kuia** [female elder].⁸*

For Theresa **Reihana** her passion for this work is depicted not only through her painting and actions but also through her passion for informing others.

If you don't do something, you know, no one else is going to, and that you'll be surprised how many people don't know. The best thing about it is when they do find out, they want to do something about it. You know, even if it's only one person, it's worth it because you don't know how many people that one person's going to touch or inspire. And everybody has a skill, whether it be vocal, you know, whatever that skill is. They're better at it than anybody else in the world. So we just need to network these people so we can all work together. My father didn't know anything about it, you know. My mother didn't; she knew a bit, but nothing that would make her go out and talk to people about it. But they do now, and they tell everybody about it now. And I'm sure people see us coming and go, “Oh my God. You used to be so nice Theresa.”⁹

Jacqui **Amohanga** quite simply sees activism as just “doing it,” not just “talking it.”

Yes I do. I've been doing activist work for a number of years and I do consider myself an activist. An activist to me is someone that actually walks the talk of what they're actually standing up for.¹⁰

Percy **Tipene** sees it as standing up and being counted.

⁸ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

⁹ Theresa **Reihana**, research interview with the author, **Kaitiaia**, 7 March 2002. Theresa **Reihana** is a **Maori** artist from **Kaitiaia** and is of **Ngati Hine** descent. She has completed a series of paintings visually depicting **Maori** concern with genetic engineering. She is also another figure in the **Nga Puni Whakapiri** movement, supporting the work of **Nga Wahine Tiaki o te Ao** and **Te Waka Kai Ora**.

¹⁰ Jacqui **Amohanga**, research interview with the author, **Hamilton**, 9 March 2002. Jacqui **Amohanga** is of **Ngati Paretekawa**, **Ngati Kaputuhi**, **Waikato-Maniapoto iwi** descent. Jacqui **Amohanga** is another central figure in the **Nga Puni Whakapiri** movement and member of **Nga Wahine Tiaki o te Ao**. Jacqui is a member of **Te Kotuku Whenua** Consultants, the **Ngati Wairere** Environmental Agency; **Ngati Wairere** is a **hapu** (sub-tribe) in the **Waikato** area. She is also in numerous **Maori** local and national community organisations.

*Why do I consider myself an activist? Well, I'm vocal in different forums. I've been to Council forums debating the issue with pro-GE people, so I've stood up and made myself be counted. Then I guess I'm looked upon as a radical **Maori**.*¹¹

Dr Graham Smith understands his role in activism as at the level of knowledge and theory.

*Yes I am an activist, but I'm also a theorist as well, which I think involves an understanding of the politics. My view of the politics is that I'm not actually on the front line of genetic engineering as such. My entry point is at the point of "knowledge." I'm interested in the way in which knowledge is manipulated and controlled by dominant interest groups in society to reproduce and perpetuate their own interests. These dominant groups are sometimes economically formed and motivated; sometimes they are culturally formed around being **Pakeha**, and sometimes they're formed in other ways, around gender interests and so on. Knowledge has always been a significant part of the way in which societies are controlled. There is an inextricable relationship between the control of knowledge and power. In this sense, the Academy has always been a significant site to defend in the eyes of Western European academia. It is the backbone and legitimating force of European society and Western knowledge. Through the control over the universities and the control over knowledge, Europeans have basically been able to extend the control into society at the ideological level and at the practical level. So, I've always been interested in the way in which knowledge has been struggled over, and sometimes it's not even struggled over, it's just been reproduced in the interests of the dominant population. So, I enter into the issue related to genetic engineering at the level of which it is about the control over particular forms of knowledge through research.*¹²

Is there a Maori term that you could say would sum up the work that you do and the work around Maori anti-GE activism?

Angeline Greensill explains that **Maori** women have always had a responsibility to care, to be

kaitiaki:

*We have a group called **Nga Wahine Tiaki o Te Ao** [Guardians of our world]. A group of woman who are prepared to get out there and look after the **Maori** world (**te ao***

¹¹ Percy **Tipene**, research interview with the author, **Whakatane**, 16 March 2002. Percy **Tipene** is of **Nga Puhī, Ngāti Hine** descent. Percy **Tipene** is another central figure in the **Nga Puni Whakapiri** movement and member of **Nga Wahine Tiaki o te Ao** and Chairperson of **Te Waka Kai Ora**, a national **Maori** organics movement. Percy is also in numerous **Maori** local and national community organisations.

¹² Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003. Dr Graham Smith is of **Ngāti Apa, Te Aitanga-A-Hauiti, Ngai Tahu, Ngāti Kahungunu** descent. Dr Smith is a Professor at Auckland University, New Zealand, and Distinguished Visiting Professor at the University of British Columbia in Vancouver, Canada. Dr Smith is another central figure in the **Nga Puni Whakapiri** movement. Dr Smith is also in numerous **Maori** local and national community organisations, including past Chairperson of the Board of **Te Whare Waananga o Awanuiarangi**, a tribal university based in **Whakatane**, and Pro-Vice Chancellor (**Maori**) of Auckland University.

Maori). I guess what's involved in that "**tiaki**" is care, it means caring, **kaitiaki**. We've given ourselves that responsibility. **Maori** women have always had that responsibility I think, and we will continue to do anything we can do. I belong to that organization that is throughout the whole country, and, yes, our women have been quite active in the last two years since the GE debate began. And I think we have become known as an organization that's referred to by some of the other **Maori** groups as "doing the GE thing."

[Why **Maori** women do you think?]

Well it's just that we can work well together. We find it really easy to work together I think. We all have the same backgrounds, and we nurture the children, the future generations. That is a real concern for us, that there is going to be space for them that is going to be safe.¹³

Jacqui **Amohanga** feels the term and concept **kaitiakitanga** encompasses this work and asserts that another part of the work is being a strategist.

*To me, it sort of reflects on the practice of **kaitiakitanga**. **Kaitiakitanga** is an inherited obligation of looking after your environmental space around you. I think by putting out the message of the whole GE issue and possible impacts that it might have on values, that's really what it's about. If it conflicts with those **Maori** values, particularly when it conflicts with environmental management, or **kaitiakitanga**, then if you're seen to stand up for your own value systems, and it may be contrary to other people's value systems, then quite often you'll be termed as an activist, a radical activist because you're not conforming to the so-called society norms.*

*The other issue for me is that we are all **nga tangata tiaki** and that's basically people that go out and care for whatever is around them, whether it be environment, people, caring for **tamariki** [children], **rangatahi** [youth], **kaumatua** [elders], **kuia** [female elder], you know, **nga tangata tiaki** [people who care, are caretakers]. When it comes to actually standing up and really having to fight for issues, in a sense I'd term myself as a **wahine toa** [female warrior/fighter], where basically we're going out in battle, going out in battle to stand up for the value systems that our ancestors have left us and that are still applicable today. One of the key things that is a reminder for me is a term that, because I'm from **Ngati Maniapoto** [tribal people and area], our **tupuna Maniapoto** [ancestor named Maniapoto] came up with a term "**te kawau maro**" [battle strategies]. It's about developing strategies when you're going into a battle. So to me that's another term for activist, it's that they're basically strategists. The term "**te kawau maro**" refers to the birds in their flight formation, so their flight formation actually sets the strategic direction for where you're going. To be able to actually stand up and walk the talk on your issues, you need to have a strategy in mind of how you're going to actually inform people so that those people can make informed decisions.¹⁴*

Dr Cheryl Smith also believes **kaitiakitanga** is one of the key issues in biotechnology, along with **whanaungatanga** which she defines as "the living of good relationships."

*When it comes to the issues of biotechnologies, I feel that the key important issue is **kaitiakitanga** [guardianship] - if there are doubts about the safety of our plants, **rongoa** [traditional medicines], animals, embryos, genetic material, **whare tangata** [our*

¹³ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

¹⁴ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

bodies/people], **ira** [life force], all of these **taonga** [precious gifts] that we have responsibility for then we should be making a noise about that. What I see are huge concerns all around the world, not just from us and other Indigenous ones but also from scientific communities, from developing countries, from comfortable middle class families, from many areas. We get tarred and feathered here when we challenge because we get put into the “**Maori** activist” camp which is like extremely dangerous and not to be trusted. **Maori** activists are just sooo dangerous. I mean you have to laugh really. A number of the current MPs used to be in the **Maori** activist extremist camp, boxed and labelled.

I'm a lot of things - I'm a **Ngati Apa** [tribal people and area] woman. I'm a mother, a daughter, a sister, a wannabe grandmother. I'm an academic and gardener. If people want to down me for being a radical **Maori** activist - go tell my grandmother, she trained a number of us.

If we go even deeper than the term **kaitiaki** [guardian], we find that the basis of that is **whanaungatanga** [familial relationships], which is the living of good relationships. **Kaitiakitanga** [guardianship] is about good relationships, being aware of the **whanaungatanga** of all species and honouring those. Plants and birds are to be respected, rivers and lakes are to be respected, our mountains, places of burial, harbours are to be respected. **Whanaungatanga** is the expression and affirming of family relationships, family in the widest sense and part of that is **kaitiakitanga**.¹⁵

Dr Leonie **Pihama** feels this **mahi** (work) is encapsulated in several terms and concepts but is informed by **Maori** philosophies, that is, **kaupapa Maori**.

There are definitely **Maori** terms that link to the notion of activism and resistance and struggle because we have a history of it. Nationally we have a history of it, and at a tribal and **iwi** level we have a history of it.

I'm fortunate actually to come from two tribal areas that have actively resisted the crown – both in **Waikato** and in **Taranaki**. We have really clear examples of forms of activism and forms of resistance to colonial oppression. When I think back around what I'm doing, I can look back a few hundred years and actually see that it's not something that's new to this generation. It's something that our people have done.

And part of that is actually about renaming from the English concepts of resistance and struggle. A lot of the ways in which **Taranaki** history has been talked about has been as passive resistance. It's a bit of an oxymoron really, passive resistance, because any form of resistance is in and of itself active no matter what it might be. The work that I do and the work that many involved in this movement, the anti-ge movement, and the wider anti-colonial movement, I would term as **kaupapa Maori**, being informed by **Maori** philosophies. **Kaupapa** is the foundation understandings and philosophies that are distinctly **Maori**. So a lot of what I do is driven by **Kaupapa Maori** understandings. The other words that come to mind are things like **tino rangatiratanga** [self-determination], having an ability and asserting the right to our own determination of our own lives, and in our own land, in our own way.

There are a whole raft of words that link to how we do things, how we understand things. And then there is a whole range of concepts that are directly related to the GE issue, concepts like **whakapapa** [genealogy], **mauri** [life essence], life forms, essence, and all those things. I would describe the work that I do, my involvement or my philosophy, as

¹⁵ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

definitely **kaupapa Maori** and the other side would be **mana wahine**, asserting the position of **Maori** women and the rights of **Maori** and the integrity of **Maori** women. What I've done in my own doctoral research is actually look at that concept of **mana wahine** as a theoretical framework within a **kaupapa Maori** theoretical framework. So, when expressing our understandings, we need to ask ourselves how aware we (**Maori**) are of wider **Maori** philosophies.

My position on that is that once we actually have a society or are in a position where things are healthy for **Maori** women and **Maori** children, things will be healthy for all. That's my basic position. This is because it is our women that carry the burden of many things and our women and children that carry the burden of much of the oppressive behaviour. There has been a tendency of our men to be co-opted into ways in which the Crown operates, and that's from way back, from the initial signing of the treaty. What I do is really driven by what I currently understand to be **tikanga Maori** and the ways in which I see that our people approach things.¹⁶

Percy **Tipene** sees the **mahi** (work) as one of protection and protector.

*I think of an activist as a person who has strong convictions about his beliefs, and they're willing to put a lot of stuff into stating their beliefs. I think a **Maori** term for the **Maori** anti-GE movement is "**tohunga whakatau kaupapa**," which means a person that advocates against GE. It's a person with knowledge and wisdom. So once you've got that, he's actually a **tohunga**, a person that has wisdom, that has knowledge, and he's a protector.¹⁷*

Kaitiakitanga is a sense of responsibility, an obligation to care for all things, which is felt deeply by those in the **Nga Puni Whakapiri** movement.

2. WHAKAPAPA, MAURI AND WAIRUA

Dr Leonie **Pihama** sums up the whole GE area as directly affecting **whakapapa**:

*It's just another form of oppression, except that there is a direct effect on **whakapapa**, it's much more direct, spiritual, and cultural.¹⁸*

Maori anti-GE activism is a passion that encompasses more than the individual activist, as already touched on by Dr Leonie **Pihama** (where the **mahi** or the work is more important than the individual) and Annette Sykes (where this work is inherited). Dr Cheryl Smith explains this passion.

¹⁶ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

¹⁷ Percy **Tipene**, research interview with the author, **Whakatane**, 16 March 2002.

¹⁸ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

*I came to the conclusion a long time ago that there is more than just me. It's one of those areas where the passion is more than just me. I do feel that it's the sort of thing that my grandmother, who's passed on, would be totally appalled by. She would be sickened by where things have gone. And so it's really ones like her, there's quite a few **kaumatua** [elders] from here who have now passed on, who I know heard about the glimmerings of it and were totally appalled, that such things could be happening all over. So I know that the passion we have, yours and mine, comes not just from us here in the here and now but comes from those before us as well. And I believe that the passion just tells us they are supplying the oomph to get out and do something and to be active in this area and work. And you know, I'd much rather spend my time on nice things. I'd much rather spend my time on just growing **kai** [food] and doing things which you know have a direct and immediate positive response for us. But GE is one that forces us to do all sorts of things, which is in response to protection.¹⁹*

Angeline Greensill describes our **whakapapa**, and thus **kaitiaki**, relationships to our children, our **mokopuna** [grandchildren], and our lost urban youth.

*That is a real concern for us that there is going to be space for the children and the future generations that is going to be safe. This whole idea of **kaitiakitanga** is something that our people do, it's a responsibility and an obligation we have to the past and to the future. It's something we can't escape. So I think if you're born and brought up with that sort of tradition, it's very hard to walk away. You know, you have a conscience about it. There are a lot of people unfortunately today who stay in the cities and who are lost, who have never been brought up with the values; we are now about three generations in town. Over 80% of **Maori** are urbanised. A lot of them still have their roots, but there are still those that are lost. We need to get messages out to them about this whole issue. All they're trying to do is to survive. They haven't got time to care; they're trying to survive in this world we live in. It's just another thing that we have to cope with. I mean GE to me is just the biggest threat that we have ever faced.²⁰*

When Theresa **Reihana** is painting, she is always thinking of her **mokopuna** (grandchildren) not yet here.

*When I'm painting, my **mokopuna** go through my mind. My grandchildren aren't here yet, but that's what I think. That's who is always in my head. My future that aren't even here. You know I've been, I said to my partner, you know if there's one thing that you help me do in our whole lives that we could achieve, it would be helping us to do something against this, whether it works or not. It could, you could never ever be wrong, ever.²¹*

My aunty Paula **Puru** reinforced this point.

¹⁹ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

²⁰ Angeline Greensill, research interview with the author, **Hamilton**, 9 March 2002.

²¹ Theresa **Reihana**, research interview with the author, **Kaitaia**, 7 March 2002.

Particularly **Maori** women have a lot to do with their **moko's** [grandchildren], a lot. My daughter's in-laws say to me, "well, what do you think?"²²

When speaking about the transgenic cow research being conducted by AgResearch, Jacqui

Amohanga explains we have a **whakapapa** to all things.

*But don't forget, there are two components in that cow application. One was that they were going to muck around with the **whakapapa** of that cow. They were going to knock out a gene in that cow. Now, one of my concerns is that, as far as I'm concerned, we all are connected to the cow. We have a **whakapapa** connection to that cow. We have a responsibility; we have an inherited obligation as a **kaitiaki** to actually look after that cow. It has nothing to do with the mixing of human DNA into it. We have a responsibility to look after it. And that is, you know, that's one of the things I feel really, sort of, **mamae** (pained/sorrowful) about, is that people only stood up once the human DNA element came into it because we are connected to everything.²³*

Dr Cheryl Smith states strongly that interference with **whakapapa** occurs outside the laboratory as well as inside.

*For us, if somebody interferes and manipulates human genetic material and puts it into animal cells, that abuse is just as much an abuse if it's behind closed doors as if it's out here in the paddock. For us it's the same thing. I think we have clearer opinions because we've had a longer history of colonisation. And we have an understanding that unless we set up some pretty massive walls, it's the old adage, if you give them an inch they'll take a mile. You bring it into one lab, it's going to be in fifty labs. You expand it out this way, and the next minute you'll find, and so forth. And so for us it was very easy to be clear about what we were offended by. And because we have such strong beliefs about the **tapu** [sacredness] of a person and the need to honour the **tapu** of a person, and we do believe there are consequences for breaking those rules, I think for us, it's easier for us to say no way to everything.²⁴*

When explaining some of the concepts behind her paintings, Theresa **Reihana** explains the threat of GE.

*I don't believe that the government's got any right to make decisions about our spirituality and concerning the **whenua** [land], our land. Genetic engineering threatens all, everything cultural, everything **Maori**. In our culture, **mauri** is the life essence of every single living thing on the earth. It's a cycle. Everything works together. You can't create life to save dying life. You can't cross species because it goes against all our*

²² Paula **Puru**, research interview with the author, **Takou Bay**, 6 March 2002. Paula **Puru** is my aunty and lives in the area where our family has **iwi** connections, **Nga Puhī**. Aunty Paula is involved in numerous **Maori** local community organisations.

²³ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

²⁴ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

*beliefs, and it threatens our **whakapapa** because you can't take our DNA and mix it in with other animals and that sort of thing.*²⁵

Genetic engineering represents a significant threat of interference with the **mauri** (life essence) and **wairua** (spirit) of plants used in **rongoa** (traditional medicine), for example, as it would change the whole basis and composition of the traditional medicine making it unsafe for **rongoa** practitioners and **rongoa** users. **Mahinekura** Reinfeld, talking about her work at **Karangaora**, rekindling **rongoa** (traditional **Maori** healing) medicine within **Taranaki**, explains her work and the possible impacts GE would have on **rongoa** medicine.

***Rongoa** is any healing really, any medium of healing that we might like to take on. We look at traditional healing, so it could be **honohono**, like heat healing with hands, or hands-on, healing through your hands, like **mirimiri**, or massage. I think there's this notion of romance around healing because we're all healers, as I said, coming into your house last night is healing because it just has that real calm effect, and laughter of healing, crying of healing. So we all have the capacity to heal. And also in **rongoa**, there are people that practice **rongoa** in their own home, or medicines in their own homes, but there are people that take it on, maybe at a different level, and you might say a doctor or a specialist. And so I suppose, that's what **Karangaora** is.*

*Within our own group, **Karangaora**, we've had continued discussion about the impact of genetic engineering on us because we're talking about **whakapapa**, our **whakapapa**, which is the changing of our spirit, of our very essence, of our being. And we can relate that to everything around us, including our plants. And this is where it impacts on us as healers or people of **rongoa**.*

*So if we were to have genetic engineering within our plants, it will change the **whakapapa** and also the healing that we know within those plants and what they related to. So, with changes, it would impact on our whole social and spiritual well-being because the impact also is that it would change the healing within the makeup of those plants. If you interfere with nature, what is it going to do to the actual nutrition? The actual growth and the **whakapapa**, and also when you're talking about **rongoa**, what effect does it have on us? We won't know that. We will never know that. We might know in a hundred years when our people are getting another wave of unwellness. Because I believe that will happen if you change the spirit of something so precious to us.*

*We're just rekindling **rongoa** and we do it, as far as we can, as we think, traditionally **Maori**, in that we use the oils and the creams from our birds and our fish, so I use fish oils, as well as our **rakau**, or our trees. So, there would be a whole chain that would be affected because the birds would be eating the **rakau** or the leaves and the berries, which have been genetically changed, which is going to change the oils and the makeup of that bird and the fish. So, I'm just talking specifically from a **rongoa** perspective. It would*

²⁵ Theresa **Reihana**, research interview with the author, **Kaitaia**, 7 March 2002.

*change a whole chain of things, our bush, our sea, **Papatuanuku**, and that of course will have an effect on us.*²⁶

In Percy **Tipene**'s work in **Te Waka Kai Ora**,²⁷ he says being able to identify the **whakapapa** lines is important.

*It's about telling our people about **whakapapa**, the genealogy lines. This organization here, **Te Waka Kai Ora**, has some real positive things towards promoting anti-GE. Why? Because if the actual produce that we're using doesn't have a **whakapapa** that aligns itself to an **atua** [God], or a God, it's not on. So, when we're talking about our **whakapapa** to **kaumatua** [elders], I can say that in the next few generations if we allow it to happen, your **mokopuna** [grandchildren] will be getting up to do their **kawai** [explaining their whakapapa links] and it'll go like this, "my mother comes from a blade of grass, my father comes from a leg of a horse, my step-father comes from some plant species."²⁸*

As **kaitiaki** for all things, the **Nga Puni Whakapiri** movement is vested with the responsibility of the protection of **whakapapa**. If the **whakapapa** of an entity is disturbed, interfered with or violated, this will directly impact on the **mauri** and **wairua** of that entity.

3. TIKANGA MAORI IS SCIENCE

Tikanga Maori refers to the values we have been taught, values that form the foundation for one's understanding of the basic truths and principles of reality, life, and ethics.

An uncle of mine, Ray **Kapa**, says there is resistance among **Maori** because of what we were taught.

*I've been to a few **hui**'s [meetings] around the district. There's people polarized for and against, but there's a lot of interest at the moment. There's a lot of **Maori** people who are really against GE too for the simple reason that they don't want to play around with those things. They said they always believed in natural ways to plant and grow ever since*

²⁶ **Mahinekura** Reinfeld, research interview with the author, Vancouver, 8 May 2002. **Mahinekura** Reinfeld is of **Taranaki, Ngati Toa** descent. **Mahinekura** Reinfeld is a **rongoa** practitioner (traditional **Maori** healing/medicine) at the **Karangaora** traditional **Maori** healing centre in **Taranaki**. She is also another central figure in the **Nga Puni Whakapiri** movement and member of **Nga Wahine Tiaki o te Ao**. She is also in numerous **Maori** local and national community organisations.

²⁷ **Te Waka Kai Ora** is a national **Maori** organics organisation. See Chapter 7 for more detail.

²⁸ Percy **Tipene**, research interview with the author, **Whakatane**, 16 March 2002.

*their forefathers were growing **kumara** and maize and all the other stuff. They never ever grow anything GE, growing vegetables and that, so there's a greater amount of resistance to it. But of course there are some; I don't know whether it's because they have interests with the people growing stuff for the markets. I don't know the background for the people that are for GE grown vege's and all the other stuff. But I do know there are some there who do support it. But the majority I have come in contact with are totally against it.*²⁹

In regards to sickness, disease, death and dying and acknowledging that we do use whatever is available around us, Angeline Greensill explains that our views on these aspects of life are formed from the way we were brought up.

*It depends on what values you were brought up with because we're brought up that we live and we die. That's a cycle of life. And sometimes maybe people suffer cancer and the quality of life goes down. And so the argument by the scientist is "we can improve your quality of life." They can certainly prolong life, but improving life is another matter. I've been asked this question several times: "But what if your child was having such and such a disease and we could fix it." I said, "If my child had a disease like that, then that's life." That's the way I've been brought up, and it's a very puritanical [straight-forward and no-nonsense] way of life.*³⁰

Dr Cheryl Smith makes a similar point, while adding that we as a people celebrate difference.

*I'm very much a pragmatist; I believe that when it's our time to die, it's our time to die. I think we have very healthy ceremonies around death. I think we have very healthy attitudes to illness and dying. A lot of that has been because we have suffered so much of it, and we are very familiar with it. And it's become very personal from the time colonisation began. Death and dying is personal because our people die younger, and they get more illnesses. Things like **tangi** [funerals] mean that we grieve and we allow grief. So we allow natural processes for things to occur. Our attitude to people with what people call genetic disorders is not the same as how **Pakeha** seem to see genetic disorders. Things like **waewae hape** [club foot], so there's a whole lot of things which we have accepted as a natural part and course of life and which we have accommodated and allowed and celebrate. And that's the difference. We celebrate those differences. Whereas for **Pakeha**, they for a long time have had a history of working out what they consider to be normal and what they consider to be abnormal. All of the social Darwinism stuff that we know happens daily. Daily encounters are happening in the GE area as well. And it's one of the key driving things. Now for us, I think that our systems have been quite healthy in regards to some of those things. And we are less concerned about wanting to eliminate; eliminate what we see as abnormalities. For me that's a key*

²⁹ Ray **Kapa**, research interview with the author, **Te Tii**, 6 March 2002. Ray **Kapa**, **Nga Pahi**, is my uncle and lives in **Te Tii** where my family are from and where my grandfather is buried. He cares for our **marae** (meeting house) and is also the Chairperson of the **marae** committee and Chairperson of the board administering our tribal land interests. Uncle Ray is also involved in numerous **Maori** local community organisations.

³⁰ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

*thing, that's a key difference there for a start. I don't believe our people could come up with such bizarre ideas as to ask questions of "how do you eliminate an abnormality?"*³¹

Angeline Greensill differentiates between various "sciences":

*We have science. **Maori** have always had science. But the question our scientists always ask, before they go **tutu'ing** [playing] with anything, is "why do we need to do it?" If it's not necessary, leave it alone. And they're not asking that question "why?" They want to say, gee I wonder what happens here, if we do this I wonder what's going to happen? And they're putting through, actually there are about 300 and something thousand animals this year that are going to be experimented on in this country.³² 300,000 that are going to be experimented on and slaughtered, for what purpose? I mean that's just madness. And that's every year! That's not science. It's bad science.*³³

The business of science in the new knowledge economy is huge. However, **Mahinekura** Reinfeld believes strongly that "why" we practice traditional medicine is to bring wellness to our people.

Knowledge and dispensing of **rongoa** is not for sale.

*For us we don't sell any of our **rongoa**, it's so precious, it's given **tukuiho** [given to us by our ancestors], it's given to us. And so that's been something from our elders in **Taranaki** that we don't sell it. We go on a **koha** [gift/donation] basis. Well, if you give me something, like you gave me those beautiful cards today, you could get a massage from us for that. It's about giving, and what you give you receive back.*³⁴

In regards to **tikanga** frameworks, Jacqui **Amohanga** highlights the fact that we need to become informed about how to implement our own value systems, our own **tikanga**, and our own ways of seeing things when assessing research applications that are within our **rohe** (region/area).

*I use a holistic worldview of **Maori** health, **Maori** worldview of wellbeing... I give it out because I want people to start becoming informed on how to implement our own value system. It's that whole informing thing.*³⁵

In **Mahinekura** Reinfeld's work at **Karangaora**, she is rekindling this knowledge base. She believes, however, that some of our knowledge is "sleeping" for the moment.

³¹ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002. Other authors who have made similar observations about the eugenic Social Darwinist assumptions behind much promotion of genetic screening and gene therapy include:

Dr Ruth Hubbard, Dr Richard Lewontin, Dr Mae-Wan Ho and Dorothy Nelkin.

³² *NZ Herald*, "Experiments on animals could quadruple in near future," 16 February 2004. The number of animals used in scientific research in New Zealand in 2002 was 263,684.

³³ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

³⁴ **Mahinekura** Reinfeld, research interview with the author, Vancouver, 8 May 2002.

³⁵ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

*We're actually rekindling this in **Taranaki**, in that a lot of that knowledge I believe is sleeping at the moment, I won't say lost because I believe it's there because it doesn't just come from reading or knowledge of research. It also comes through **wairua**, through spirit. And if you don't believe in **karakia** [prayer] or that spiritual aspect, then I don't believe that it comes, the healing comes through.*

*Now I know there are elders out there that have lots of stories about **rongoa**, but when I've come to research a **waiata** [song] or songs or **karakia**, it's very difficult to find **karakia** that specifically relate to plants, although there are generic ones. I've been given two old **karakia** that actually relate to somebody when they are choking, so there were **karakia** for everything, every area, rather than just **Papatuanuku**, Mother Earth, and the **Whaea o Te Ao** [Mother of our world] and **Rangi** [Sky Father].³⁶*

Mahinekura Reinfeld's research has discovered that within some of these traditional **waiata** and **karakia** lies knowledge of some "sleeping" **rongoa**. Along with **waiata** and **karakia**, a number of sayings amongst our people are significant indicators and readings of the environment and people, as in some of the expressions highlighted by Dr Cheryl Smith, and a dialogue between Judy Garland (J), **Kahurere**moa Garland (K) and myself (P).

*For us here in **Whanganui**, one of the gauges of good health is how healthy the river is. That's a key gauge because if you can look at the river and say it's healthy, we know the people are healthy.³⁷*

*J – We are an environmental people. We live it. We are it. What do I mean by that? We use the stars, we use the moon, we use the months, we use the weeks, and we use the tides. We use the tides to get **kai** [food] from the sea. We use the moon and the stars to do our planting at different times of the month.*

*P – The plants. What's the one with the **pohutukawa** [native tree with distinctive red blooms]? Where does that come from? The **pohutukawa** when it blooms, the **kaimoana** [seafood] is fat.*

J – That's right. And the flax. When the flax starts to bloom, the same thing.

*K – **Kaimoana** is sour, bitter.*

J – And that's what I mean by we're environmental people, we are the environment, we live it. That's what I mean.

K – The whole of mankind. His life is controlled by the moon. Tide is controlled by the moon, the rise and fall of the tide...

J – And we've always used that.

K – And where mankind is concerned, his health depends on how the moon is. And I remember with planting, this is where we're getting so close to the environment, why we have that understanding between reading the stars or reading the moon, and the effects of the moon on our food. We were taught never to weed our gardens when the moon is waxing because you will never be able to kill the weeds. It doesn't matter what you do with it, they'll still go on growing. But always do your weeding when the moon is waning. You can throw your weeds between the rows and they won't grow again. They'll die. And

³⁶ **Mahinekura** Reinfeld, research interview with the author, Vancouver, 8 May 2002.

³⁷ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

it's all according to the moon. And even for planting, as Judy kept saying, you plant by the moon and also different phases of the moon; you plant greens on some days, and other days of the moon you plant underground or plant above ground. It's all according to where the moon is or whether the moon is quarter or half or whatever. Fishing also follows how the moon is. You won't find fisherman going out any old time. Even to conceiving a child, because in the early days couples were betrothed. And the tribes decided when they were to be united because they worked out, if at a certain time they are united, a child is conceived at a certain time of the moon.

P – Well what did your father and mother use to do?

K – They planted by the moon, they harvested, they weeded and they nurtured the plants according to the phases of the moon. And that was how we learnt, just by watching and working with them. They didn't really teach us by telling us what to do, but it was just that they had us working with them. And we grew up working with them.

P – How did they know?

K – Oh, it's something that has been passed down through the ages. Things weren't written, as you know. It was all passed down by word of mouth.

J – It was our life. That's why I'm saying we were the environment, we are the environment. We knew no different. It's our normal practice.³⁸

Dr **Hirini** Mead points out that sometimes these sayings are considered “old wives tales,” but in actuality they have practical and scientific underpinnings.³⁹ This skill is the knowledge in being able to “read” the environment in which we live with which we interact. Angeline Greensill explains that we need to teach our children the relationship to the earth.

*Up North, like up in Auckland, little **kohanga** [preschool] kids are growing their organic corn there. You know they've introduced the **kohanga's** to growing food. The kids don't want to go to the supermarket; they want to grow organic food. So they're learning at a young age to grow good crops. So you start teaching them. You can't start when they're in their 30's or 40's; you've got to start them when they're generally young to teach them about the issues and touch the earth and relating to the earth.⁴⁰*

Mahinekura Reinfeld sees a major effort in her work is sharing information:

It's about sharing this knowledge with our own people again, and this is where we are at at the moment, is sharing that knowledge. Empowering our people with knowledge that this is the way to wellness.

*Last year [2001], one of the total immersion **Maori kura** [Maori school] back in Auckland, the kids were eleven and twelve, I sent them some information as they wanted to do science for a school science fair I think it was. So it was the first time that anyone had done it for our kids, and they did the medicines, and they did little tests on how it worked, and I gave them the information and said “now this is...” So they had this cream*

³⁸ **Kahureremoa** Garland and Judy Garland, research interview with author, **Whanganui**, 28 February 2002. **Kahureremoa** Garland is my grandmother. Judy Garland is my aunty. Both women, of **Nga Puhī** and **Ngati Tuwharetoa** descent, are active in promoting the values of **tikanga Maori** knowledge.

³⁹ Mead, **Hirini**, **Tikanga Maori**. (Wellington: **Huia** Publishers, 2003).

⁴⁰ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

*on them that was like an insect repellent, and told them how long it would last and wouldn't be bitten. And they did **kutu's** [lice] or nits as well and that took four seconds to die in this mixture. So you know, just little experiments like that.⁴¹*

We **Maori** have our own knowledge, our own science. It is not blind, it is not laden with arrogance, and it is not disconnected from everything – from reality, our world, our planet, and our web of connections and relationships with all things. It is traditional, tried and tested, it has a deep conscience, it has feeling, and it is responsible, respectful and caring.

4. TIKANGA MAORI APPROACH

Maori have a distinct style of communication, in particular when dealing with sensitive issues as in genetic engineering and modification. This communication style incorporates story telling and humour, local language and terminology and is based on **kaupapa Maori**. Women play a major leadership role in this movement, which is logical given their perspectives as reflected in our conversations relating to **kaitiakitanga**, **whakapapa** and **tikanga Maori**.

Kahureremoa Garland believes women are meant to be healers.

I believe the healing of our environment is in the hands of women. Why did I say that? Because women are the nurturers. They are the ones who have the children. They are the ones who bring up the children, they are the ones who nurture. So they are the natural part of God's creation who are to be healers.⁴²

Dr Cheryl Smith describes the role of **Nga Wahine Tiaki o Te Ao** and some of the reasons why women have taken centre stage on this issue.

***Nga Wahine Tiaki** wasn't about exclusion of the men. One of the things we wanted to do was to talk specifically amongst ourselves of the concerns we had as women. And the fact that all of us, every one of us that came together I think, aside from one, have got children, you know, so there were concerns about that for us as, "what as **Maori** women is our approach to genetic engineering?" For us there is great concern about the fact that child bearing and the process of birth is a role for women, is something that **Maori** women need to have a voice on. Anything that impacts on the **tapu** and sacredness of birth and the role of women in that process is something that we must participate in*

⁴¹ **Mahinekura** Reinfeld, research interview with the author, Vancouver, 8 May 2002.

⁴² **Kahureremoa** Garland, research interview with author, **Whanganui**, 28 February 2002.

*discussion about. So we really wanted to kind of bring that forward as an important **korero** [talk/conversation] to be had before making a submission to the Royal Commission.⁴³*

Percy **Tipene** believes speaking to our people needs to be couched in ways that are based on cultural and traditional practices.

*It's about how you can simplify a process based on cultural and traditional practices. I guess a good one is based on **Maori** religion because throughout our meals, before we actually have a meal we say **karakia** [a prayer] to bless the food. When we bless the food, we always say thank you to God for the food we eat. One of the implications, if this thing happens, is we'll be sitting at the table and we'll be saying "thank you Doctor so and so for creating our food." So it's about man playing God.⁴⁴*

Angeline Greensill states we have a history, and embedded in our stories are our values and beliefs and our warnings for the future.

***Maori** have a long history, right from the beginning, where we traced our ancestors all the way through, through all the others right down. So we're actually responsible forward and back, right to the beginning of time. And in our stories, if you listen to the stories, in there are all the values, beliefs and things that happen in your world. And the story that I think about when I think about genetic engineering is not only **Maui** [Maori figure in history and stories], who sort of went too far and thought he could **tutu** [muck around] with everything and then he killed himself because he didn't know the limits. But the other story is about **Whiro**, who was a bad God, who decided that he'd send his mosquito's out to see what all these other Gods had. So, in a sense, he took a bit of **Maui**, take a bit of this, because he wanted their genes, he wanted their **mana**, their power. And this is exactly what these guys are doing in a modern way – they come and take your blood. How many vials do they need when you get pregnant? They take about four. Are they being used for secondary uses for something else? I don't trust them anymore.⁴⁵*

I believe these stories are traditional methods of conversing with present generations and warnings of the results of **tutu'ing** (mucking around) with things we are not meant to **tutu** with. As well as our stories, humor is also often used in conveying powerful messages about genetic engineering to our people, as is illustrated in this conversation with Judy Garland.

*See, there are people out there who believe that when God created man, he didn't go and make man up from a bit of this and a bit of that. He didn't go to the cow, or the sheep, right. He created man from, what we know, **Papatuanuku**. **Papatuanuku** is land and*

⁴³ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

⁴⁴ Percy **Tipene**, research interview with the author, **Whakatane**, 16 March 2002.

⁴⁵ Angeline Greensill, research interview with the author, **Hamilton**, 9 March 2002.

Rangi is the sky, ok. So our beliefs, our values, stem back to then, time of creation, eh. As for today, well we don't have to have God to create man no more. We can do it ourselves. And we do it this way. We will now cross this gene with that gene. We've been doing it to the monkey and the rat for yonks, and yonks and yonks. Well half of us look like it anyway, like bloody monkeys.⁴⁶

Jacqui **Amohanga** explains further how **kuia** (women elders) and **kaumatua** (elders) inform themselves and our people about sensitive issues.

A group of our kaumatua and kuia from Maniapoto [tribal area] went down to Wellington and they just sort of made a whole lot of jokes and things about the GE issue as a way of them understanding the impacts of it. Like comparing their whakapapa to bulls and that sort of thing. And also like the riwai (potato) one and the African toad, calling it pota-toad. You know, so that was their way of understanding the whole area, in a language and a terminology that gave them a quick way of understanding and being informed on the genetic engineering issue. It's a way of talking about a sensitive issue.⁴⁷

Dr Leonie **Pihama** believes when we use our own terminology, our own language, the issue is very clear for our people.

What we realized in part of the process of the commission was that, in fact, when we bring it to our own terminology, it's very clear. When we talk whakapapa [genealogy], mauri [life essence], tapu [sacred], noa [not sacred],⁴⁸ all those concepts, and interrelationships between the various species, it's really clear. It's very clear what you do and don't do.⁴⁹

The GE issue is a specific site of struggle. Dr Graham Smith, along with Dr Leonie **Pihama** earlier, has spoken about the relationship between this site and **Kaupapa Maori** theory:

The interface with this theoretical stuff and GE is, I believe, at the level of knowledge. It's about the validity and legitimacy of knowledge. Often our cultural resistance to particular experimentation is reinforced within our Kaupapa Maori theorizing because we take the validity and legitimacy of the Maori way of doing things as the starting point. The lawyers, or the legal people, talk about the intersection between law and lore. You know, in a sense it's a similar sort of thing that I'm arguing here. It's about how we get some form of purchase around our cultural views and ways of doing things. So it's very much about that.

⁴⁶ **Kahurere**moa Garland and Judy Garland, research interview with author, **Whanganui**, 28 February 2002. Right at the end of this conversation Judy Garland throws in a comment about some of us looking like monkeys anyway. This short sentence is a throw-away comment that has the effect of making a joke out of a very serious topic. This is a technique that our people have used effectively to convey important messages. This is a legitimate and effective method of communicating with **Maori**.

⁴⁷ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

⁴⁸ Something can be made **noa** or "not sacred" in a variety of ways, depending on context. For example, something can be made **noa** by blessing it and conducting a karakia (prayer).

⁴⁹ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

I think another important part to this is understanding what I call “the new formations of colonisation.” This is part of this wider context. These new forms of colonisation are formed at the intersection of cultural oppression and economic exploitation. What I’m speaking to here is the way in which our Indigenous knowledge becomes very vulnerable in this whole process of research. Where it’s being utilized, captured, and exploited for the benefit of researchers in the academy and so on. Another new form of colonisation is the extent that we have put growing emphasis in recent years on how we might defend [ourselves against] the encroachment of commodification. One of the things that people have been heavily involved in has been the issues around intellectual and cultural property rights.⁵⁰

This is not a new struggle. Dr Cheryl Smith believes **Maori** have seen this all before. GE is just another round of colonization.

For us it’s been completely invasive. It’s colonisation as normal. That’s where I think as Indigenous peoples, we’ve got two key roles. One is we’ve mainly not gone soft on colonisation because we’ve seen it for so long, so we do know how to strategise, we do know how to fight, but I can’t stand the middle class smugness that says we do not know and therefore we will not be listened to even in this. And so we’ve got a new thing that’s come along, GE. So that’s one thing I think we’ve got the advantage on. The other thing, which we’ve got the advantage on, is that we have got knowledges there. We have got ways of dealing with each other. We have got ways of interacting with the world that is balanced and that nurture each other. That’s what the West has lost. I mean, it’s move on and plunder, move on and plunder.⁵¹

5. SUMMARY OF NGA PUNI WHAKAPIRI: THE GATHERING MAORI RESISTANCE TO GENETIC ENGINEERING

In conclusion, the objective of this chapter was to conduct an exploration of the **tikanga Maori** worldview by drawing on conversations held with key figures in the **Nga Puni Whakapiri** movement. The **tikanga Maori** worldview is not singular and static. Its organic dynamism is characteristic of Indigenous peoples generally. “It is generally true that for indigenous peoples cultural heritage is a complex whole in which the various parts are so interrelated that it makes little sense to think about any one part in isolation.”⁵² The

⁵⁰ Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003.

⁵¹ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

⁵² Suagee, Dean, “Human rights and cultural heritage: Developments in the United Nations Working Group on Indigenous Populations.” In Greaves, Tom, (ed.). Intellectual property rights for indigenous peoples: A sourcebook. (Oklahoma: Society for Applied Anthropology, 1994), 205.

interrelationship between all of the points in this discussion is vital. What is also vital is an understanding that **tikanga Maori** lives on; it accommodates where necessary, but the core remains unchanged.

What then does the **tikanga Maori** worldview mean for us? This question needs to be answered with another: If you have respect for the world we live in, how can you try to control and interfere with it? My belief is that there should be no genetic engineering. There should be no patenting on life. It is undignified, disrespectful, and short-sighted. It is “bad science.” **Tikanga Maori** knowledge is not bad science.⁵³

In this site of struggle, what seems plain to me is that the **Nga Puni Whakapiri** movement is based on **aroha, aroha** for all things. **Aroha** is accepting all people of all races, and all things, animate and inanimate. It is opening the doors of hospitality to all. **Aroha** is charity, respect, sympathy and love. This concept of **aroha** is strongly tied to the philosophy of “**whakawhanaungatanga**” or close family and community connections. This relationship extends to all things as we are all connected through **whakapapa**.

Aroha and hospitality are imbued in a wonderful quote by Gustava Esteva; “My peasant thinking says that to do without something in order to be hospitable to someone, to give him or her gifts one has (everything one has is a gift!), is no sacrifice; it is a joy.”⁵⁴ A similar belief was instilled in me by my grandmother when she told me a story of how her father, my great grandfather, came home from fishing one day empty handed. His reason was not because he did not catch any fish but because after sharing the fish out to his community, he had nothing left for his own family. The generosity of our people is enormous. The gift the **Nga Puni Whakapiri**

⁵³ There are numerous references and websites that explain what’s faulty about the science and deal with the inadequacies of the science that “supports” genetic engineering experiments and release of its products. An excellent website to begin the explanation of faulty science is the ISIS (Institute of Science in Society) website of which Dr Mae-Wan Ho is Director: <http://www.i-sis.org.uk/>. An excellent Indigenous website is the IPCB (Indigenous People’s Council on Biocolonialism) of which Debra Harry is Executive Director: <http://www.ipcb.org/>. Other authors that critique this reductionist science are: Dr Ruth Hubbard and Dr Richard Lewontin.

⁵⁴ Esteva, Gustava, “Regenerating people’s spaces.” (*Alternatives*, XII, 1987), 138.

movement gives to us all is acting as an intermediary in a reconnection with and respect of all the gifts given to us by the creator.

CHAPTER 7

NGA PUNI WHAKAPIRI: ENGAGING MAORI COMMUNITIES

You know, you just go with your gut eh. Your gut tells you that can't be right. This cow shit just can't be right. That's what your gut tells you eh.¹

I think, you know, for generations, I think we've done enough talking. The thing is to do, to do now. There have been some beautiful talks gone. And it's come through the generations, talk, talk, talk, talk, talk, talk. We have not written anything down, we don't write. We just talk and pass it on and pass it on. But I think it's high time we did something.²

I was brought up in Auckland and worked in Auckland all my life. I was pregnant with my second child. I had three stepchildren, and my baby wasn't planned, you know, the first one or the second one, and I ended up getting really crook [sick]. I went to hospital, and I was lying in hospital, and they were giving me morphine, and my baby was only six weeks old. I thought to myself, well if I get better, because I was very sick, if I get better now, I'm leaving. I'm just going to leave everything, take my children, and move up north. I had realized then I had nothing to give my kids. If I died, what was going to happen to them? When I got up home, I went back to Mum and Dad; middle-aged with all my kids still going back to Mum and Dad. I had no money, I had no nothing so I thought I'd start writing poetry and keep a journal for them. Then I thought one day, I think I'll paint a picture. So, I painted a picture, then I painted another one, then I thought I think I'll stockpile for a year and then do the big launch and get off the benefit. But the only thing was I found out about genetic engineering. Then I started thinking and realized that no-one's going to do it unless I do it or unless that person does it. You can't cry because of what people are doing. You can't blame the scientists and the government because we put them there. The only thing we can do is educate. The business side of my business has sort of gone down a bit, but it's well worth it. But I think I can find a balance and do both in time.³

¹ Annette Sykes, research interview with the author, **Rotoiti**, 17 March 2002.

² **Kahurere**moa Garland, research interview with the author, **Whanganui**, 28 February 2002.

³ Theresa **Reihana**, research interview with the author, **Kaitaia**, 7 March 2002.

This chapter describes the claiming of space for **tikanga Maori** knowledge by the **Nga Puni Whakapiri** movement. The movement is part of the larger anti-colonisation movement, related to struggles for restitution of Treaty of **Waitangi** grievances, reclamation of land and other **taonga**, making space for knowledge and claiming space for **tikanga Maori** knowledge, and striving for self-determination. In previous chapters you can see that the **Nga Puni Whakapiri** movement has specifically taken on a **kaitiaki** role in protecting all **taonga**. The three groups involved, **Te Roopu Pukana**, **Nga Wahine Tiaki o Te Ao** and **Te Waka Kai Ora**, have all been instrumental in this protection and **kaitiaki** role. Emerging out of this movement, particularly in the work of **Te Waka Kai Ora**, has also been a focus on the importance of growing our own **kai** (food) and taking measures to ensure we are contributing to the creation of a healthy ecosystem of which we are an integral part. An important part of the **mahi** (work) of **Nga Puni Whakapiri** has been a primary concentration on a variety of ways to improve our people's awareness of issues related to genetic engineering including the impacts on **Tikanga Maori** knowledge.

1. THE GENERAL MOVEMENT OPPOSING GE IN NEW ZEALAND

Over recent years major political contestations have emerged in New Zealand around the issue of genetically modifying life. For some, respect and dignity for all life is seen as paramount. Indigenous people have always respected the sanctity and reciprocity of life. In New Zealand, a wide variety of groups have stood up and opposed GE, with some emerging specifically around this issue, including: The Green Party, Greenpeace, Friends of the Earth, Physicians and Scientists for Responsible Genetics (PSRG), Revolt Against Genetic Engineering (RAGE New Zealand) (Renamed GE Free New Zealand in 2000), Soil and Health (Renamed Organic NZ in 2001), and most recently Mothers Against Genetic Engineering (MAdGE). A range of **Maori** have also waged concerted and united efforts against this emergent technology.

Widespread concerns of Maori around the issue of GE

Dr Cheryl Smith believes there is widespread concern by **Maori** about genetic engineering. “I attended fifty-three **hui** all around the country in a period of two years. At every one of those **hui** I heard **Maori**, especially **kaumatua**, raising their worries and concerns about GE.”⁴ However, for **Maori** communities throughout the country there are numerous **hui** to attend, all with important issues that impact on local communities. GE is one area of concern amongst the many, including the guardianship of the seabed and foreshore and Treaty of **Waitangi** grievance claims. For this reason, reaching **Maori** audiences far and wide is sometimes difficult. Uncle Ray **Kapa** sums up what’s needed for our **Maori** communities.

*When there’s no money out there to make **Maori** people aware, some of them vaguely know what GE’s about, but I think the vast majority out there only vaguely know what GE’s about and how it’ll affect human beings over a period of time. But we are slowly starting to debate the issues on an **iwi** basis. But because there’s nobody really coming around, people, people who are in the know, coming around to tell us, it’s a very, very grey area for **Maori**. All we can pick up is the little bit we get on the news media. That’s about the extent of the coverage that the ordinary person gets. Other than that, I think the government loves it to stay like that because I think the government does support GE. They say they don’t, but their research doesn’t say that.*⁵

As Uncle Ray has pointed out, a lot of people (both **Maori** and **Pakeha**) acquire information about GE from the media. For Barry Reynolds (B) and Leiana Reynolds (L), my parents, the media is their only entry point around these issues, as discussed in a conversation we had together.

B – Well, I don’t know a great deal. The only thing I know, a little bit about genetics and what its implications are, is what you hear on the news now and again, so they put modified something in a crop of potatoes or something to make the potato grow bigger, or so they don’t have black rot in it. That’s about all I know about genetic modification. I don’t know hardly anything.

P – So where you do get information, where you hear about genetic modification or genetic engineering is from the news, TV, Radio?

B – Yes, radio or the TV.

⁴ Personal communication with author, 28 November 2003.

⁵ Ray **Kapa**, research interview with the author, **Te Tii**, 6 March 2002.

*L – Mainly television and the papers. The **Waikato Times** is quite informative.*

P – And what do they say usually on television and on the news?

B – Well they're putting their view across about what is actually happening. There was also something else on the news the other day about where they need to do some testing because it could save kids with diabetes, whatever.

P – What do you think about that?

B – Well, possibly it could save lives. I think maybe it needs research done into it.

P – Is there a difference between genetic research for humans as opposed to genetic research on food?

L – There is a difference isn't there son? Distinctly a difference. Hell, I like my food, I don't want it tampered with. Oh no, I don't want anything tampered with at all. I don't want all their rubbish put in my food.

B – If it comes to help people through a really sick illness, I can see that maybe it has got a benefit. But, as I said, I'm not really up on all of this stuff so I don't really understand too much about it, it's only what I hear on TV.⁶

For **Maori** who attend **hui** around GE issues or hear about GE from their friends, **whanau** or through other avenues, the issue becomes clearer. Dr Leonie **Pihama** says, however, that it has nothing to do with helping our people.

*No matter what they say about **Maori** not having correct information, it's actually totally incorrect. On the whole, and you know it's in that research report.⁷ The area that is most difficult for our people is the human health area. And that's interesting because we're the ones dying. We're the ones who are getting diabetes, we're the ones who are getting intestinal cancer, we're the ones being affected by the crap coming out from the mills, you know, the environmental issues, and the bad food. So food is the one area that our people are clear on. We are clear; the majority say no. We're really clear on the manipulation of our flora and fauna. There are things that we are very clear about. We're being so manipulated on our understanding on what our well-being is. We are really clear around **nga tikanga** [customs].*

*It's clear what it's about. It's about money, you know, basically the whole capitalist ploy around engaging people in a sort of field that they want to go. That's been happening for years in this country. And it's across the board. You know, send us to schools, remove our language, tell us we're terrible people, make us fail, and then there is this huge industry to try and work out why we're failing. Seriously, it's a health issue, it's a housing issue, etc., and so if we pull **Maori** people out of the equation of all these issues in this country, many of these industries would have no reason to exist. We're a big industry. It's the major industry in this country – the **Maori** industry.⁸*

⁶ Barry and Leiana Reynolds, research interview with the author, Hamilton, 19 March 2002. Barry and Leiana Reynolds are my Mum and Dad.

⁷ International Research Institute for **Maori** and Indigenous Education (**IRI**). (2000). **Maori and Genetic Engineering**. Auckland: **IRI/University of Auckland**. Dr Leonie **Pihama**, Dr Fiona Cram, and Glenis Philip-Barbara completed this report.

⁸ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

Once **Maori** communities hear about how GE will impact all our lives, the ambivalence around GE disappears. Percy **Tipene** puts it quite succinctly for a lot of **Maori**.

*“What part of no don’t you understand?” And that’s how **Maori** spell it out. And people still ask questions so the next part of the question should be, “What part of no don’t you understand?”⁹*

Encounters with the Greens and other groups

The usefulness of relationships with non-**Maori** groups in opposing GE has been varied. In relation to the Green Party’s stance on GE, there has been some tension with **Maori**.

I think one of the things we knew from day one in our fight with GE was that the Greens would always sell out. They were influential in shaping how the government would see GE. Right from day one they gave away all fights in regard to research, in regard to GE research, they gave away all fights on reproductive technology, they gave away all fights in regards to medical cures, they gave away fights in so many territories. For us, we found the most revolting stuff was being done inside the laboratories. And so we’ve had to actually counter the Greens. They’ve made us appear, once again, and this is the dynamic I said before, we wind up in the most extreme position. We wind up being the ones on the front line, whilst they’re trying to look reasonable here. We have said “absolutely no way to GE.” The Greens have said “Put it in the lab.” In other words, do what you please, just don’t put it out there in the paddocks. Now for us, if somebody interferes and manipulates human genetic material and puts it into animal cells, that abuse is just as much an abuse if it’s behind closed doors as if it’s out here in the paddock. For us it’s the same thing.

*For us the feeling is they’ve sold us out from day one. What they should’ve done, to me, was said “how do **tangata whenua** feel about it?” given that we are the Indigenous people of this country, and we have a particular role to play. But they jumped the gun, and were arrogant and said, “We know best about the environment, let’s make this statement.” So it’s left us kind of positioned out there and the **Maori** MP’s also have got left out to dry. The Greens of course have nicely positioned themselves; have wound up in quite a nice position as the defenders of keeping it in the lab and keeping it out of the paddocks. So it’s very much become more of an agricultural type focus, the GE stuff here. So people are really talking a lot about food. But they’re completely oblivious to what’s gone on in terms of birth and reproduction, what’s gone on in regard to medical cures and so forth. Really, the Greens have accepted that, oh yes, there will be medical cures.¹⁰*

The Green Party has had a significant impact on the GE issue in New Zealand, as explained in the statement made above. Alongside this Green Party position of the middle ground,

⁹ Percy **Tipene**, research interview with the author, **Whakatane**, 16 March 2002.

¹⁰ Anonymous.

Maori have had to fight a far greater battle of opposing GE medical and reproductive research and GE research in the lab. Because the media has played the GE issue out in the press as largely a political issue fought between two opposing political parties, the Labour Party and the Green Party, the accompanying media exposure given to the Green Party has influenced how the public sees the issues.¹¹ What becomes invisible in the political and public arena are the range of possible GE research applications and the complexities of each of these areas. The Green Party stance on GE is therefore considered a “soft” option by some **Maori**.

In terms of the Greens, I mean, they're a political party, and not only that, they're also a movement. They capture a lot of our people. You know one of the things that occurred there for us is people like the Greens have actually been able to carry the message and they've let us down at the last minute. The Greens took a soft option. It would've been political suicide to do otherwise.¹² But that should not have been the ruling factor in making a decision. They could've made it difficult for Labour. And of course they said, "But we've got a moratorium for you." The whole point is that this shouldn't be happening at all.¹³

The GE issue for a lot of **Maori** is just colonisation as usual. However, it has major impacts on non-**Maori** too.

Now what happens is, I'm watching these others now suddenly discover, you know, they're calling it colonisation, they've appropriated the term colonisation, they're saying it's a new type of colonialism. It's not. It's not a new topic. It's the same old colonialism.¹⁴

*We've been dealing with the removal of all of our basic resources for a long time. Suddenly, we've had a shift and the shift has meant that some **Pakeha** are now suddenly for the first time discovering that that can happen to them as well. It can spread and happen to them as well. The past benefits were more clearly there for them. Now, hello, the rich are getting richer, the poor are getting poorer, and poor is including some middle class ones as well as some brown ones. And it's even affecting the middle classes, shock horror. So there's a whole kind of dynamic going on here. And for me, that's the*

¹¹ Rupal, V., “Keeping our options closed: The dominance of the conflict story-telling frame in media coverage of the Royal Commission’s Report on Genetic Modification in New Zealand.” (*Political Science*, 54, 2, 2002). pp. 59-68.

¹² New Zealand has an MMP parliamentary system of government which requires them to form a coalition government with smaller parties, such as the Green Party, if they are unsuccessful in securing a majority of seats in parliament. The Labour government, which was the party securing most seats in the last election (2002), were applying pressure on the Green Party to allow concessions on the GE issue or risk being dumped for another minor party. *NZ Herald*, “On the Green rollercoaster,” 22 July 2002.

¹³ Anonymous.

¹⁴ Colonisation is not new to **Maori**. It may be dressed up differently or given a new name but essentially it is still colonisation as usual. The difference is only in the style, method or form.

crux of, you know when you asked me that question of “how do we participate with the Greens?” and so forth, for me that’s a fundamental difference. So when we talk about the land, we will never talk about it in the same way. We can’t talk about it in the same way. We need to talk to each other as different groups, different views, different perspectives. For us we need to have a full voice in there. But at the moment we’ve got the same old patterns we’ve had ever since colonisation began, which is where they assume the right to speak for us. They use our stories as examples to back up what is happening in terms of privatisation or globalisation. At the end of the day when I look around at the world, it’s still the same old pattern; brown people are dying, dying in the fight for these things. We always go further, we always take bigger risks. For me, I know that consciously, so when we work together, I just know that’s a dynamic. I don’t get disappointed. Some of my mates will get disappointed, I don’t. That’s just where things are.¹⁵

What is apparent for a lot of **Maori** when discussing the issue of genetic engineering is that there is a holistic view of life. We don’t just look at food or research conducted in the lab or medical or reproductive research or whatever. **Maori** take a wider view. This view is not as apparent in the different and sometimes fragmented views of non-**Maori** groups opposing GE. However, it is fortunate to have a variety of groups in this area, particularly when each covers different areas and work around the GE issue.

*I am grateful to our **Pakeha** colleagues working in the GE issue because I know they do a lot of work in areas that we do not want to expend a lot of energy in, for example regional council work, local body work, and talking about trying to create GE free zones across the country. Those types of roles, like making hundreds and hundreds of petitions and submissions, a lot of that, and monitoring of who is doing what around the place. So, I’m grateful for that knowledge and for that link in that we can kind of keep informed in those areas. But for us the key issue here is focusing on educating our own. Let’s get as many people aware as possible of just even the basics.¹⁶*

Marty Robinson, organic farmer and anti-GE activist living in **Kerikeri**, believes there has not been much **Maori** involvement as, he believes, **Maori** have a more important agenda.

*Well we have had the **Maori** Law Society come to a couple of the meetings but a pretty loose connection there. They’ve got a more important agenda for themselves with land and government. But we have similar philosophies when it comes to GE, and so it’s probably going to be a good stepping stone issue to getting some more partnership, but GE and food is our only agenda. But that’s really how we keep in touch with the **Maori***

¹⁵ Anonymous.

¹⁶ Ibid.

*groups, just because we haven't really connected yet with one another, but it's there ready to be built up.*¹⁷

Maori have a different **kaupapa** from non-**Maori** groups. The **Nga Puni Whakapiri** movement carry this **kaupapa** in all of the work they do.

2. THE NGA PUNI WHAKAPIRI MOVEMENT

Maori critiques of biotechnology have emerged out of a larger anti-colonisation movement. Related to this movement is the concern with intellectual property rights. The 1991 **Wai 262** claim and the 1993 **Mataatua** Declaration are an amalgamation of this concern with intellectual property rights, where **Maori** have formally voiced opposition to the commodification and debasement of all of our **taonga** (treasures) in **Aotearoa**.

Dr Cheryl Smith believes the movement emerged from a concern with intellectual property rights and thus the protection of **taonga**.

*We have been concerned about cultural and intellectual property rights for some time. We were vaguely aware of genetic engineering stuff going on, but we weren't that aware that it was happening here. We were concerned about the protection and preservation of our **taonga** for many years. We focussed the fight more on things like protection of our **waiata** [songs], protection of our **korero** [talk/stories], protection of our carvings, our **taonga** generally. And the cultural and intellectual property rights claim, **Wai 262**, really brought to a head and sort of consolidated a lot of the **korero** [discussion] that was around about these things. So to me that time before 1999 is really a time of a lot of individuals and groups of **Maori** talking more about cultural and intellectual property rights. And so all broad based. Key figures in that would be **Aroha Mead**, **Moana Jackson**, **Mau Solomon**, **Del Wihongi**, and **Pauline Tangiora**. So you know those are key names in that group.*¹⁸

¹⁷ Marty Robinson, research interview with the author, **Kerikeri**, 6 March 2002. Marty Robinson is also affiliated to: New Zealand Biodynamic Association, Far North Organic Growers, & **Te Tai Tokerau** Organic Producers, Founding member of GE Free Northland (started off as Free Northland) – now affiliated with GE Free NZ.

¹⁸ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

In 1997 genetic research was being conducted in **Tauranga** in the **rohe** of **Ngati He** and **Ngai te Ahi hapu** (subtribe), where transgenic sheep were being created using human genes. However, most **Maori** considered this an isolated incident.

Now, Donna Gardiner had written her thesis on the putting of human material into sheep, I think that might've come out in 1997. And she looked at her own hapu and said "how the hell did this happen?" "How did our whanau give permission for this to happen?" And when she looked into it, she found a multinational had come to her home, they had said to her family, "can we have permission to do X, Y, & Z?" and some of them, only about three, signed something and committed themselves. And once people actually found out what the implication of that was, what it meant, of course that research caused a big storm. So she tracked that story in her thesis in 1997. At the time we were kind of thinking, oh yea it's around, but it's an isolated incident. I would put it more in that sort of category. So in that environment you've got cultural and intellectual property rights being talked about, and Donna wrote her thesis under that umbrella of cultural and intellectual property rights.¹⁹

I think in terms of GE specifically, when did we start talking about genetic engineering, when did we focus it? I would say a lot of it came out of the production of this book.²⁰ It certainly gave it a good push along. What had happened up until then was that there were individuals around the country concerned about but not having a lot of awareness or information about it. So the likes of Angeline Greensill, the likes of Leonie [Dr Leonie Pihama], the likes of myself, we were concerned because we knew something was happening, but we didn't know what.

*When you and I had that discussion in Canada, it was very timely. The fact that we produced something specifically for **Maori** was very timely for those people around the country too who were also thinking about it and knowing it was happening, and that included Donna Gardiner, Angeline Greensill and so forth.²¹*

Te Roopu Pukana

Prior to the formation of **Nga Wahine Tiaki o Te Ao**, a small group opposing genetic engineering was formed in **Whanganui** after attending an ERMA consultation **hui**, which was touring the country during February 1999.

*At the urging of one of our kaumatua, Reuben Ashford, we came together and had a meeting. There was half a dozen of us actually who came here to this house, and we formed a group called **Te Roopu Pukana**. **Te Roopu Pukana** means basically, the group*

¹⁹ Ibid.

²⁰ Reynolds, P., & Smith, C.W., (1999). **Maori. Genes and Genetics: What Maori Should Know About the New Biotechnology**. **Whanganui**, New Zealand: **Whanganui Iwi** Law Centre.

²¹ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

that **pukana's** you in defiance [stares defiantly]. So it was a defiant stance. We solely focused on the issue of genetic engineering. And the reason we did that was because ERMA had come here to have a consultation **hui**. That was at the very beginning of setting up ERMA. They sent Bevan **Tipene-Matua** and Gerard Albert to ask the **iwi** what we thought. Only half a dozen of us turned up at that **hui**. No one knew who the hell ERMA was. No one thought it was very important. There were three other **hui** going on on that date. But I got rung the day before by Bevan. So you know it was an absolute shambles in terms of anyone knowing what the hell was going on. So six of us got down there that day. Those six of us who were there just couldn't believe it, couldn't believe what was going down. So I think all of us who were there, including one of our **kuia** and **kaumatua**, committed themselves totally to talking about GE. And then we had a meeting here. We formed a group called "**Te Roopu Pukana**," we produced this brochure (and this is another good brochure that went all over the country). Simple, easy, written for **Maori**.

That **kaumatua** who was in that group, he was one of our key spokespeople who was concerned about the threats to **tikanga**. He went everywhere talking about GE. He was a really wonderful person, but he died last year. He was one of the clearest speakers against it, purely because of what we know. The **tapu**, you know he talks about it in here, the **toto**, blood is sacred, humans are sacred, people are sacred, and animals are sacred. Very simple **korero**, you know, and he'd go around to **hui** saying things like "we don't want **moookopunas**." And he would just sway whole groups, **korero** in **Maori**, put it in terms that people understood. So, he was really good. So, he's remembered by us. And his daughter has carried on the same path.²² She's picked that up as well. So for us, that local has sort of interconnected with the national.²³

On a local level, **Whanganui** has a core group of people involved in the **kaupapa** (cause), and many others who support the **kaupapa**.

Nga Wahine Tiaki o Te Ao

In 2000 a powerful group of **Maori** women formed a national group called **Nga Wahine Tiaki o Te Ao**, a group that has a central **kaupapa** of providing information and resources for **Maori** communities about the impacts of genetic engineering. **Nga Wahine Tiaki o Te Ao** is a group consisting of mothers, grandmothers, **rangatahi** [young people], academics, lawyers,

²² The daughter is **Toroa Pohatu**. **Toroa** composed the waiata placed at the beginning of the **Tikanga Maori** Worldview Chapter. She sang the **waiata** at the launch of the new book written by Dr Cheryl Smith and myself: Reynolds, P., & Smith, C.W., (2003). **Aue! Genes and Genetics**. **Whanganui**, New Zealand: **Whanganui Iwi** Law Centre.

²³ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

rongoa practitioners, health and justice and environmental workers, educationalists, media workers and artists, with three women holding doctorates, at least seven with masters degrees, two lawyers and numerous other qualified people. The formation of this national network of **Maori** women enabled the facilitation of **hui** for **Maori** communities around the country to discuss GE, provide resources on GE, and to run speaking tours, such as a speaking tour in 2000 with Debra Harry, a leading international spokesperson on biopiracy.²⁴

Dr Leonie **Pihama** briefly explains the beginnings and history of **Nga Wahine Tiaki o Te Ao**.

*We had a kind of loose network going on, and it was primarily women. We had been working across from each other for a little while on what the issues were. From that loose network began **Nga Wahine Tiaki o Te Ao** because we were networking loosely with each other across the country. It's quite a big group when we call everyone in. And from that point, we had a **hui** down at **Tuwaharetoa** to discuss the issues. At that **hui** we named ourselves **Nga Wahine Tiaki o Te Ao**, as a loose collaborative network of **Maori** women interested and concerned about the issues. It wasn't intentional that there weren't any men. There just don't seem to be many men working in this area who are working in a really radical way outside the Crown. But there are people joining in, but not a lot. There are people pretty well all over the country with good knowledge on all the fundamental issues. **Nga Wahine Tiaki o Te Ao** is also a group that came together because we have to be there to support key people, that means **Maori** people. We need to state the issues, but then we also need to keep them within that support, people who are out there at the coal face, **hapu** [subtribes] like **Ngati Wairere**, people like Angeline Greensill who have been in there right from the beginning in the conflict, who've been challenging the Crown. There's a whole bunch of people that actually need to have, I think, the constant **tautoko** [support] with their **mahi** [work] because it's exhausting what they do.*

*So that's basically about what **Nga Wahine Tiaki o Te Ao** is. And the name is just about that guardianship role we have as women and taking that seriously.²⁵*

From discussions with Dr Cheryl Smith, the make-up of the core group of **Nga Wahine Tiaki o Te Ao** is estimated at about twenty women from all over the country, but there are hundreds who are on the **kaupapa**, who are working on this issue.

²⁴ From 30 August – 13 September 2000 Debra Harry and Brett Lee Shelton from the Indigenous Peoples Council on Biocolonialism from the USA did a speaking tour around the country discussing the implications of genetic technologies for communities. **Hui** were held in: Auckland, **Kaitiaia**, **Tauranga**, Hamilton, **Rotorua**, **Taranaki**, **Whanganui**, and Wellington.

²⁵ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

*We've got quite a network of women. On the day when we went before the Royal Commission, we had extra ones in there too. We had quite a good spread geographically. Now all of these people are not only activists, they are also community workers, so they're actually community based and they're actually doing **mahi** at home as well. And that's been quite powerful.²⁶*

Annette Sykes also describes the beginnings of **Nga Wahine Tiaki o Te Ao**.

*We got together a group of women called **Nga Wahine Tiaki o Te Ao** and decided well this is shit man. So we had a small information campaign initially targeted around the **Wai 262** stuff and the cow stuff. That's how it all started, that's what, about five years ago?*

*What was also going on too was this kind of information drop. There was that first booklet that you and Cheryl did, Leonie did a booklet for **Kohanga Reo** and a video.²⁷ So, this is all part of an educational process.²⁸*

Dr Cheryl Smith describes the majority of the people in the movement as educators, coming out of the academic system or as professionals.

*Under this umbrella of **Nga Wahine Tiaki** is that we, all of us, are also good educators, and that's how we got to know each other. So, we come out of this on an education type wrap. We've all run **waanangas** [workshops], we've all done presentations, and we've all published stuff. So, you know, we're talking about a powerful group in that sense. And we all have very good networks.*

*You see the thing about **GE**, it's like your Nan saying that question of hers, which is "why don't you tell us what it means?" And that's the thing. The thing we've found with genetic engineering is that it is, the term itself even, immediately drives people into "I don't know what you're talking about." As soon as the words "genetic" and the word "engineering," both of which are hostile to **Maori** because one is a medical term and the other is an engineering term, both of which immediately capture whole meanings and capture whole disciplines, you know, and disciplines we've never been involved in. So immediately you get this reaction from **Maori**, which is why we've had to plug away at the language, to kind of read through it and to try to decipher and to demystify and make it talkable, bring it to a point of being able to be engaged.²⁹*

Judy Garland emphasises the need for good teachers and educators in this work.

One of the biggest skills that you need is your, I believe, your teaching skills on hand, to reach the cross section of people. It's all very well to have all the knowledge under the sun, but what to do about. If you don't know how to give it out to the people, good night, Irene. I'm going to sleep.³⁰

²⁶ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

²⁷ Discussion of the development of resources is elaborated later in this chapter.

²⁸ Annette Sykes, research interview with the author, **Rotoiti**, 17 March 2002.

²⁹ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

³⁰ Judy Garland, research interview with the author, **Whanganui**, 28 February 2002.

Dr Cheryl Smith and **Kahureremoa** Garland also pick up on this point of being able to communicate with our people.

You know I would consider myself an absolute failure if I'd gone through that whole bloody system (university), and I could not come back and talk to my mother about everything, about everything I'm researching, writing. If it did not have relevance for her, what was the point in doing it?³¹

It's knowing how to share what you have acquired and the knowledge you hold. I mean you can hold all the answers, but if you don't know how to share it with others, it's worthless. All those hours of study, all those years of study, gone down the drain.³²

Jacqui **Amohanga** explains an important point about juggling workloads and that this small group of people really needed to be in a lot of places at once.

*It was really hard on the likes of Angeline, me, Cheryl, all the ones that sort of became actively involved in the GE issue right at the start because people, **Maori** from all over the country, were asking us to come in and talk. And it was really, really, hectic. Ok, so the first thing we needed to do was write. What literature can we hand out so that someone else can go and take the literature and talk to the literature? Because like a small group of you can only be at so many places all at once. The other level we have is we also have **Pakeha** groups asking us to do the same thing. And that was quite draining as well. And then what was even worse was actually, well particularly for me, was actually having to deal as an advocate for **Ngati Wairere**,³³ in a so-called relationship of consultation with AgResearch on the transgenic cow application as well as getting the message out to the rest of the **motu** [island – north and south]. That is quite draining.³⁴*

Dr Cheryl Smith discusses the networking within the group and significant use of communication technologies.

*With the GE stuff, **Nga Wahine Tiaki o Te Ao**, we've networked around the country. We keep in touch with each other in our different areas, because email is wonderful. We've got good communication. Mobile phones are wonderful. They've revolutionised our activist work. Laptops. Technology has really made it much easier. GE is the first thing I've been involved in where technology has really been useful or it has really come to the fore and allowed us to have information right there and for everyone to have it simultaneously/globally. So we've had the global evidence backup for our fights. We knew when the Percy Schmeiser thing came out. We knew within twenty four hours the outcome of that. It's awesome to have that kind of information available. Now, in every*

³¹ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

³² **Kahureremoa** Garland, research interview with the author, **Whanganui**, 28 February 2002.

³³ The **Ngati Wairere** and AgResearch case will be discussed in the next chapter.

³⁴ Jacqui **Amohanga**, research interview with the author, **Hamilton**, 9 March 2002.

other time we've fought before, we haven't had that. GE is the sort of issue that is actually many groups; different types of groups are actually involved. It's actually brought together a lot of people, agricultural people alongside medical people. It's just kind of really weird. Because GE has gone across many, many sectors, impacting on health, education and everything, it's actually been quite pervasive. So a lot of different things have come together on this issue. So our networks formed. We had, as I say, email and all those things have revolutionised us, it means that we can communicate.³⁵

The people involved in these sites of struggle are in effect a crisis line for our people as their **whanau** and others are approaching them for help when they hear of controversial research being conducted in their own **rohe**. Often, the people from the local **hapu** or **iwi** find out about controversial research at the last minute because of inadequate consultation and notice for submissions of concern about research from the agencies, such as the Environmental Resource Management Authority (ERMA), vested with this responsibility. At the same time, the area of new biotechnologies is such a fast-paced environment that space for airing concern is severely limited. Often the law, regulation and monitoring of these new technologies lag behind new developments and sometimes appear to be implemented on an ad-hoc basis.³⁶

There are other reasons why our people don't know that something is happening within their own **rohe**. For example, ERMA often deals with entities such as **iwi** organizations where many of the staff are voluntary and are already overloaded with work. Compounding this situation is the scientific language that applications are written in; even when you read the application you may not necessarily understand it. If people don't understand the issues and they already have heavy workloads, applications are sometimes shelved and put to one side. The crisis line role that the **Nga Puni Whakapiri** groups offer is therefore crucial for already overburdened **whanau, hapu** and **iwi**.

³⁵ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

³⁶ Discussions of these issues are more fully explored in the three case studies illustrated in the next chapter.

As well as providing information, resources and support for **Maori** communities, a central part of the **Nga Wahine Tiaki o Te Ao kaupapa** was also to provide an alternative, as Jacqui **Amohanga** explains.

One of my concerns was that whenever I go out and sort of publicize issues and things, I always like to not leave things in negative mode. So, whilst the whole area of biotechnology is negative, you know, you need to give them something positive. If you don't have biotechnology, what then? In a sense, because of all the work that we've been doing in the biotechnology area, the alternative has been in the natural organics area; the organics group have just suddenly come to the highlight. Which is good.³⁷

Te Waka Kai Ora

In February 2000 **Te Waka Kai Ora**, the first National **Maori** Organics Association in New Zealand, began to take shape. After a series of regional **hui** canvassing the opinions of **Maori** from around the country, ideas were brought back by the working group for the establishment of the national body. **Te Waka Kai Ora** is a movement that encourages people to grow their own **kai** and produce food based on **tikanga Maori** philosophies. GE was a key concern for **Maori** who have attended the **hui** around the country. Those attending the **hui** called on **Te Waka Kai Ora** to express their concern over GE as part of their **kaupapa**. **Te Waka Kai Ora** is also moving towards developing methods for certification and verifications of organic food that is **tikanga** based.

The name **Te Waka Kai Ora** is translated as “a vehicle for healthy products” or “the pathway for healthy food.” Percy **Tipene**, Chairperson of **Te Waka Kai Ora**, says, “Looking at these two definitions, the vehicle expresses taking ownership, control or **tino rangatiratanga** and the pathway embraces **kaitiakitanga** or guardianship, which are the goals the working group hopes to achieve for **Maori** in the organic gardening and farming sector.”³⁸ **Te Waka Kai Ora** is an organization that is run by **Maori**, with **Maori**, and for **Maori**. The goal of **Te Waka Kai Ora**

³⁷ Jacqui **Amohanga**, research interview with the author, Hamilton. 9 March 2002.

³⁸ **Te Waka Kai Ora** Official Press Release, 20 March 2001.

is to “provide a pathway toward the production, processing, and labelling of pure, safe and healthy products. The key element in achieving product integrity is environmental health, attained through sustainable practices based on **Tikanga Maori**.”³⁹ Percy outlines **Te Waka Kai Ora**’s early development at a regional **hui** in **Whakatane**.

We had a plan, we started off with a dream, then it became a mission, then we had no money, and then it became an illusion.

*That’s how we started. So we’ve actually collected all our books and then, over a period of two years now, we’ve often wondered where **Maori** was positioning himself in the actual organic sector throughout **Aotearoa**. To our dismay, we had no say in any organic forum within **Aotearoa**. There were a lot of people speaking on behalf of **Maori** within the actual organics sector.*

*When we talk about our **Te Waka Kai Ora**, we are in the game of creating a healthy environment first because we believe “if your land’s not healthy, so too are the people living on it,” **ne?** [eh?] So that’s the basis of the simplicity in how we talk to our people. If your land’s not healthy, so are you living on it. So how do we sort of start the process and look at how we can make that land healthy? **ne?** [eh?] And once we look at that, then we look at how we can introduce the right **kai**.”⁴⁰*

Te Waka Kai Ora is all about growing good **kai** and has GE as a central concern.

*The GE stuff, anti-GE stuff, we’ve been promoting that. We promote that really strongly within **Te Waka Kai Ora**. For us, **Te Waka Kai Ora**, GE is one of our number one issues. We’re concerned about the growing of **kai**, but **kai** cannot be safe if GE is here. So it’s logical for us, no way to GE, and we’ve participated in a lot of different forums to kind of get that message out.”⁴¹*

The kaupapa of growing our own kai

Dr Cheryl Smith talks about the **kaupapa** of growing our own **kai** and preserving **Maori** potatoes⁴² and other seeds and plants.

*The main **kaupapa** of the **kai** is really reviving of growing our own food, but we’re also concerned about making sure that we know where our food comes from, and we have strong traditions about how to grow that food, and we want to make sure that we still observe those ways of preparing food and growing it.”⁴³*

³⁹ **Te Waka Kai Ora** Incorporated Society Documents, (2002), 11.

⁴⁰ Opening remarks made by Percy **Tipene**, Chairperson, at a **Te Waka Kai Ora** regional **hui**, **Whakatane**, 16 March 2002.

⁴¹ Anonymous.

⁴² There are a variety of **Maori** potatoes that have been grown in New Zealand. However, they are not widely available to the public. Part of the **kaupapa** of **Te Waka Kai Ora** is to re-establish the different varieties of potatoes and encourage their preservation by **whanau**, **hapu** and **iwi**.

⁴³ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

Angeline Greensill is concerned about her children and **mokopuna** (grandchildren).

*One of the things about the GE debate is that we no longer trust the food that's in the shops. So we've got to start growing our own food again. I mean I live in the city where the soil is not suited really to some of the crops that we actually grow in other gardens in my tribal space, which is Raglan. It's a place that has sandy soil and is a perfect place for growing **kumaras** [sweet potato]. I tried **kumara** for the first time this year, and it shows that it can actually grow. They're a really good crop in terms of health because they don't have as many carbohydrates as potatoes. So I thought I'd just try them here, and I need to add some more sand to the soil for next year's garden.*

*So one of the things that has come out of this is that our people have to get back growing our food again, and it's not as if it's difficult. It's easy to go to the shop and buy stuff from the supermarket, but you really don't know what you're buying. So for the sake of my **mokopunas**, my children, I want to make sure that we can actually grow our own food and eat from our own garden.⁴⁴*

Uncle Ray **Kapa** has grown up with growing his own food.

*(Do you preserve and save your **kumara/rua** potato from season to season?)*

*No, actually my mother used to grow her own seed, used to have a storehouse, and have fern at the bottom, it's going to be airing and covered over, so they won't grow. Have air around it, if it's too hot they'll start sprouting. I've done all that. Well in the last three years since I've finished work, when I retired from school, I've come back here, and I always dreamed of growing my own. Always dream of it because as far back as I can go, when we were still three and four years old, before I went to school, we used to come on Xmas to our grandparents place in **Waimate**, and the whole family seemed to come back. We used to grow all our own **kumara**, vegies. During the holidays we'd come back and plant them all, and our grandparents used to look after them. We used to have **kumaras** there in the **rua/kumara** pit. Big, would be about four feet deep, the pits for our **kumaras** would be. The building would be about thirty feet by twenty feet wide, and they had all these pits dug into it, into the ground. And they sorted all their **kumara** out into different sizes, the ones to eat, the ones they feed for their horses and the pigs, and the seed for the following year. We never used to run out of **kumara** for the following year. And my mother grew her own here, right up to the day, 'til the last two years before she died she used to do it, her own. And she died at eighty-one. And she used to grow her own. I used to come out here and help her dig it up for her, but she weeded the gardens. So, I've always, always been interested in growing my own. And it's something that I enjoy doing and something that I enjoy having my **mokopuna's** here and getting them interested in growing their own. I think it's something that, if we do have to get an interest at a very early age, it's something that you'll never lose. I've been growing my own, and I'll promote it with anyone else as well.⁴⁵*

⁴⁴ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

⁴⁵ Ray **Kapa**, research interview with the author, **Te Tii**, 6 March 2002.

The kaupapa of nurturing one's environment

As part of the **kaupapa** of growing our own **kai**, there is also a similar **kaupapa** of rejuvenating our environment for ourselves and as safe haven and refuge for birds and insects. At my grandmother's home in **Taumarunui**, I am able to find peace, as are the rest of my **whanau**, and I am uplifted by hearing the proliferation of birds in her extensive gardens, including one of our national **taonga** (treasures), the **tui**. Nana explains being born an environmentalist and how she has created a haven around her for her **whanau**, for the birds and insects, for the preservation of old fruit trees from her birthplace, and for the preservation and conservation of traditional medicinal plants and native trees.

I say that I was born an environmentalist because from the beginning we have been taught early about conserving and preserving because of the needs of the family in the village. As a young person, and living with a family who didn't have much, we had to turn to the land for sustenance. And right from the beginning through observation and through following what our older people did, our parents did, we learnt how to plant seeds and how to nurture plants and how to look after them.

Within and around my home I have created a haven. I'm trying to create around me an environment for birds, bringing birds and insects back, although some of them have not been to my liking, as you know with aphids and pests and what have you. I have learnt in the meantime to try and manage that part of it by perhaps planting more than I need to feed the white fly or the butterfly or the birds, and there's plenty there. There are fruit trees down there with enough fruit for the birds and the insects and myself and serving others also because I can provide food for other people who need fruit. I'm particularly interested in the preserving of our old fruit trees. So, here, around me are trees that I have grown in the last perhaps fifteen or twenty years, with seeds and cuttings I've had brought back from old homesteads way up north where there's no one living there, but there's still signs of old trees, fruit trees. And now they are growing in my own garden. They're not good keepers, hence they're not being used commercially. Now these are things we're looking at now. Why change, why engineer, why modify our old seeds and fruit trees to suit the world today when they did us very well in the early days. But I can see there that it's only perhaps because now commercially they need good keepers, they need good-looking fruit, and it's all for market. It's all for looking at, but perhaps the value and quality and taste of these fruits are being lost along the way with so much modifying and so much engineering.⁴⁶

My grandmother continues to explain her preservation of native trees and medicinal plants.

In my environment, in my own little way, I'm planting native trees and medicinal plants to shelter and to feed the native birds. I am preserving native trees, growing trees that grow berries, that provide shade, that provide nectar for the native birds, because the

⁴⁶ **Kahureremoa** Garland, research interview with the author, **Taumarunui**, 13 April 2002.

*natural food chain in life is being broken and shattered. And we need to get it back because I go back to what I say, and I say over again. At the beginning, God presented us with a beautiful gift, a gift of creation. It was a dream of perfection, an Eden. He presented us with an Eden, and what did we do with it? We abused it. And it has been abused right through the ages. It's still being abused. Ok, maybe it was meant to happen to make us fight harder to keep our treasure. I'm talking about creation itself. Now, what are we going to do to heal and to bring back that gift from the creator? And there are already moves towards bringing it back. But you are working with people. I think they'll be your greatest enemy. What do you say? I think they'll be your greatest enemy. Man's greatest enemy is man because he is influenced by power; he's influenced by money. And none of that, none of that will bring peace and love into the world. But here I'm not able to grow all that I have learnt from my early age because of the climate. I have to plant what suits the climate, or trees that work and survive in the climate I'm in now. But I do have those that are blood cleansers, those that help digestion and all that sort of thing, that cleanses the blood - I've got the hebes. The hebes, there are various types of hebes in my garden. There are all sorts of native trees that I have, all the different pittosporums, the flaxes, which is one of our most useful. Now what others, the **kowhai**, I've even got the **kauri** trees growing here, and **pohutukawa**. Each and every one has a healing element in it. And all we need to know is to really delve into it and find out about it. I don't advise anybody just to use these indiscriminately, because we can't. I mean, if we talk of natural herbal cures from our environment, we're still running risks. Why? Because a lot of us are under medication, a lot of us now are eating refined food. It's because of our adopted diets that we need to be careful in the use of our own **Maori** medicinal plants and herbs. We still have to be careful because they can harm you if you use it in the wrong way, and the wrong time of the season. These things have to be learnt. It's seasonal. It's according to the moon, it's according to lots of different things, time of the year, it's according to its growth, it's according to a lot of things. So really, going back to our natural herbs, going back to our natural way of life today is not safe. Why? There's not enough knowledge. Times have changed, there's been climatic changes which have an effect. There's habitat changes, our habitats have changed; that affects the trees. It affects the environment. And so you have to relearn.⁴⁷*

The groups **Te Roopu Pukana**, **Nga Wahine Tiaki o Te Ao** and **Te Waka Kai Ora**

most visibly represent the **Nga Puni Whakapiri** movement. As a corollary, the **kaupapa** of the **Nga Puni Whakapiri** movement fuses with the **kaupapa** of our home life when what we do naturally and ordinarily, as in the case of my Nana, contributes to our own wellbeing. However, this **kaupapa** is not new. This **kaupapa** has been revived and its legitimacy restored through the **Nga Puni Whakapiri** movement and in the valuing of our own **tikanga Maori** knowledge worldview. This **kaupapa** is acknowledging and valuing what we already know.

The methods used by the **Nga Puni Whakapiri** movement in education and awareness are many and varied. We, as a people, have a history of “just doing it” and doing it our way, the

⁴⁷ Ibid.

way that works for us. It is also why we do things voluntarily: we want to help and protect; we want to fight injustice; we want to do something to make our world a better place and improve our people's wellbeing. And where do we start? We start with our own **whanau, hapu and iwi**.

3. EDUCATION AND AWARENESS

Dr Graham Smith believes we need to develop a critical consciousness in our communities.

*One of the things I'm worried about is that we have a number of our own people who are complicit in this whole exercise of genetic engineering. I think one of the worries is how we somehow develop some form of critical consciousness, not necessarily with those people, because I think some of them are beyond saving. They've got their hands so dirty, they're up to their eyebrows in it. And it's really to conscientise our communities about what's going on in order for the communities to act in an informed way on these issues. So, I certainly agree with a number of people who have been out there trying to educate our communities about these kinds of issues. I think it's very important that we develop a range of materials and communications, which actually are genuinely targeted and aimed and accessible by **Maori** communities. So it means the production of appropriate materials, it means a lot of getting out to **hui's**, with a **kanohi kitea** [face-to-face] approach rather than third person, and it means deconstructing some of the mythologies that have been put abroad by various ethics groups and other researchers who actually don't give a damn about the community, who are just interested in getting their research project completed and their dollars in their coffers, either for the institution or themselves.⁴⁸*

As Dr Graham Smith elaborates above, there are a number of barriers to the conscientising of our people. One of those areas is the co-optation of some **Maori** voices by the pro-GE lobby groups. In any context you will always have people who are complicit with the oppressor. Co-opting the oppressed, a few **Maori** voices, to do the critical engaging work with **Maori** communities to try and “turn them around” and win their support for genetic engineering is “thinking smart” for pro-GE lobby groups. When some **Maori** reinterpret traditional **Maori** stories and try to obfuscate **tikanga Maori** knowledge to legitimise the use of genetic engineering technology, they are considered **kupapa** or traitors. However, these same **Maori** tend not to have the support of their

⁴⁸ Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003.

hapu or **iwi**; a vital link for any **Maori** person. The individual members of the **Nga Puni Whakapiri** groups, as well as the **Nga Puni Whakapiri** groups themselves, do have the support of **Maori** communities throughout the country and the members are spokespeople for various **whanau, hapu, iwi** and local and national **Maori** organisations.

Nga Puni Whakapiri: The national context

The **Nga Puni Whakapiri** groups considered that education and awareness was important for our **Maori** communities so that they were aware of research being conducted in their communities. In terms of some of the resources produced specifically for **Maori** communities, Dr Graham Smith believes the two booklets written by Dr Cheryl Smith and Paul Reynolds were an important tool for education and awareness.⁴⁹ They critiqued reductionist science, in particular the impacts of genetic engineering research on **Maori** communities, highlighted the variety of research being conducted in New Zealand and internationally, provided informative commentary on different aspects and impacts of the technology and where to find more information, and provided examples of community research protocols and resources that would be useful in helping to assess research applications that may have been proposed for their **rohe** (region/territory).

*That booklet “**Maori, Genes and Genetics**,” is attacking the selected and constructed forms of knowledge. It’s trying to take on the myths, the hegemony; it’s about counteracting the “traditional” and “conservative” intellectuals who are reproducing the status quo and the dominant state’s **Pakeha** perspective. This counter-movement is about trying to put demystified information into the community, and to let the “truth” go up against the prevailing state policy.⁵⁰*

Dr Leonie **Pihama** describes some of the resources produced for our people.

⁴⁹ Reynolds, P., & Smith, C.W., **Maori, Genes and Genetics: What Maori Should Know About the New Biotechnology**. (Whanganui, New Zealand: Whanganui Iwi Law Centre, 1999) & Reynolds, P., & Smith, C.W., **Aue! Genes and Genetics**. (Whanganui, New Zealand: Whanganui Iwi Law Centre, 2003).

⁵⁰ Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003.

*I think that the multi-layered approach of resources is important. There are a whole lot of things going on really in terms of the resources. The video “**Te Raweke Ira**,” produced for **Waka Huia**, was very full of stuff, had a lot of issues, and gave clarity to issues in **te reo Maori**.*

*This booklet, “**Maori, Genes and Genetics**,” was really important and still is really important. I would like to see a whole range developed, bringing it back down into fundamental **Maori** concepts of the world.*

*What we realized in part of the process of the Royal Commission was that, in fact, when we bring it to our own terminology it's very clear. When we talk **whakapapa, mauri, tapu, noa**, all those concepts, and interrelationships between the various species, it's really clear. It's very clear what you do and don't do. I think we need more of that kind of submission and resources. And in that sense, we really don't need the technical terms.⁵¹*

Producing a variety of resources, both in type of medium and format or style, was important for the variety of people in our communities, from **kaumatua** (elder male) and **kuia** (elder female) to **rangatahi** (young people) and **tamariki** (children). The video “**Te Raweke Ira**,” for example, was produced entirely in **te reo Maori** (the **Maori** language) for one of the few **Maori** language programmes on national television, **Waka Huia**. “**Te Raweke Ira**,” meaning “Interference with the life principle,” contained interviews with a variety of **Maori** around the country discussing their views and concerns about the technology and explored the impacts of genetic engineering by using a **tikanga Maori** knowledge perspective.

A fundamental finding of the education work carried out by the **Nga Puni Whakapiri** groups was that **Maori** communities were more responsive when the language of genetic engineering was translated and demystified from a reductionist science perspective into **tikanga Maori** knowledge terminology. The technical terms, such as “horizontal gene transfer” and “transgenic organism” were mystifying and confusing for **Maori** communities; this problem was not unique to **Maori** communities. However, when **Maori** terminology and cosmology was used to explain and describe the technology, the issues became very clear for **Maori** communities, as stated above by Dr Leonie **Pihama**.

A number of community specific resources were developed including a GE-Free **marae** kit, which Dr Jessica Hutchings and **Tere** Harrison compiled. In the GE-Free **Marae** kits, there

⁵¹ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

were a mixture of items, including traditional **Maori** gardening calendars that guide when different plants should be planted, weeded and harvested, stickers, and information on how to make **maraes** GE-Free, including preservation and growing of traditional varieties of **riwai** (potato) and **kumara** (sweet potato). Groups of **marae** have also held meetings together to try and declare all of the **marae** at once, GE-Free. Other people have gone around **Maori** organizations and collected signatures saying, “No we don’t want GE” and sent them to Prime Minister Helen Clarke. Other groups support the **kaupapa** (cause) by photocopying informative material for their area, emailing their community any news and new information, and holding **marae waananga** (community workshops) on genetic engineering.

Other types of education and awareness initiatives of the **Nga Puni Whakapiri** movement include the use of video, film and compact disc. Dr Leonie **Pihama** has been involved in film and television for a long time and is part of a **Maori** women’s production company called **Moko** Productions. The main **kaupapa** (purpose) of the company is to produce, duplicate and distribute information to **Maori** communities. Dr Leonie **Pihama** explains the significance of these powerful mediums.

Video to me is just another mechanism, eh, it’s just another tool. My involvement in video has always been about using it as a tool to get the message across, whatever way we can. I don’t care whether I shoot on a home VHS camera and never ever switch it from the raw stuff or if we have access to industry stuff. I’ll do anything.

*Our first working with video as a political form specifically took the form of Annette Sykes with the Fiscal Envelope.⁵² The video itself was incredibly powerful in terms of what it did. And even the most conservative Crown agents were saying that that video had an impact, which **Wira** Gardner [the then CEO of **Te Puni Kokiri**/Ministry of **Maori** Development] dubbed in his book “Return to Sender,” which he wrote on the Fiscal envelope, I think he called it amateurish but did the job, or something like that. And it did. It made a huge impact. When we did that, it felt confirmed for me the power of the visuals/medium in sharing these issues with our people. After we did the Fiscal Envelope video, I would go to the Fiscal Envelope **hui**, you know for all of the process we all tried to be everywhere where we could be, and cover all of the **hui**. So, the various activist radical networks covered them all. I would go into **hui** on the Fiscal Envelope, like one*

⁵² On December 8 1994 the New Zealand Government announced the setting aside of a \$1 billion settlement sum to settle all **Maori** treaty grievances. Several books have been written about this Treaty negotiation and settlement process, including: a book written in 1995 by **Wira** Gardner, the then CEO of **Te Puni Kokiri** (the Ministry for **Maori** Development), entitled, Return to sender; and a book written in 1997 by Sir Douglas Graham entitled, Trick or treaty.

was at **Hoani Waititi Marae**, and I would hear people saying things that almost verbatim, were out of Annette's mouth from the video. I would recognize the statement. And I had people ringing saying "We just showed it to a class of thirty people, and they want a copy." I'd duplicate it thirty times. So we only actually copied like a hundred, but it just went, boom, boom, boom, boom, right out. So that was alongside this kind of material, "**Kia mohio. Kia marama.**" [to know is to be enlightened] doing a whole range of fact sheets, there were a whole lot of people blasting stuff out. The video was part of that. We did the **Te Raweke Ira** video, two years ago actually before it was a topical thing to be doing. A lot of it came out of these materials, the resources already produced by that particular group. **Wakahuia**⁵³ had a couple of spots and then we did some other programmes. Next to no budget, of course. But it did the job. Then from there, I mean with some of it we've re-cut it into smaller pieces, like half an hour. And then there was **Mere Takoko's** video that she did. I helped produce it with her. It's a video for the **rangatahi** [young people], and also it was a short video, it was snappy. It's gone out to various libraries and stuff.

Basically, video for me is about providing another way of seeing the issues really, of presenting the issues. I'm currently writing a feature film as another form of presenting the **kaupapa** [cause]. It's about genetic engineering. For me it's about using another genre, it's a way of getting a really important message over.⁵⁴

Angeline Greensill further explains the work by **Mere Takoko**, a young film/video maker making resources for **rangatahi** (young people).

*One of the ways that **Mere** has tried, and she's been very good at it, is a cheap way of producing CD's. I mean CD's are only worth a couple of dollars so that you can produce a program, slap it on, and it's out there. And it's transportable, you can flick it through the mail, you can stick it on the internet, you can give it out to kids. And if they've got a CD Rom, if they're lucky enough to have access to computers, they can play it. If they haven't, you can't get that message to them. The other way is to show those sorts of things at **hui**, and she's actually done that with her video, just put up a TV somewhere and chucked in a video. Everybody's usually got a video at home so that chucking the videos around is another good method.*⁵⁵

Mere Takoko's video and CD, where the video was reformatted and dubbed onto CD, were specifically produced for **rangatahi** (young people). The video and CD consisted of interviews with **rangatahi**, rap music and footage of GE protest marches and speeches around the country.

The use of paintings is another type of education resource. Theresa **Reihana** sees painting as being another powerful medium for our people.

*I want to reach all people. What I sort of come to realize is that for people, especially for **Maori**, it's easier to understand something from a picture than to read off pages and pages of information. So what I'm doing is trying to give it to them in a simpler form, and*

⁵³ **Wakahuia** is one of the few **Maori** language programmes on national television.

⁵⁴ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

⁵⁵ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

it works because I see them become interested. They might not like one picture but another picture will be a trigger. And then they'll ask me about it and then straight away, well, boom. This is what's happening out there.

*This approach works because we are more of an oral people; that's how we learn, that's how we taught our children. We repeated things. We never wrote anything down, you know, we learnt by what we saw. We never had a written history apart from our carvings that had our **tupuna** [ancestors] and our Gods and our ancestors in them. We recited things. All our songs are all stories, **whakapapa's** [genealogies], you know, that's how we remember all our legends. It was all passed down.⁵⁶*

In one of Theresa **Reihana's** paintings an elderly woman is depicted looking down and talking to a young child. The title of the painting is "You are not my **mokopuna** (grandchild)." Because **whakapapa** is highly important for **Maori**, locating kin and **kainga** (home) connections, representing connections to people and place, cloning and some reproductive methods, such as sperm donor clinics, present problems for **whakapapa** connections. In another painting, Theresa has painted several objects, including a **kawakawa** leaf, a **Maori** potato, and a baby, with all three aligned to a product barcode, and a memo note. The text in the painting says, "Patent pending, government go ahead." The **kawakawa** leaf is a native plant that somebody had tried to patent. It is used for **rongoa**, **Maori** medicine, as a natural painkiller as well as cleanser for the liver. The variety of the **Maori** potato depicted, called the **peruperu**, is representative of the threat of GE to our organic food. The baby was significant for Theresa because that was what got her motivated against GE, especially when Theresa heard reports that scientists were cloning babies for spare parts to save people who were dying. The barcodes represented DNA sequences and the commodification of life. The memo represented a non-violent way of getting the message across; key was education. Angeline Greensill further elaborates the power of Theresa's work.

*This I believe is one way; this is a powerful way as people are sent a message. It's been shown in **Waitangi**, **Whanganui**, and out at **Whaingaroa**. People have come up and sort of looked at it and got the message. I think they just looked at her paintings and thought, "shucks yes!" just by looking at it.⁵⁷*

Jacqui **Amohanga** explains that communicating the message can happen in any venue.

⁵⁶ Theresa **Reihana**, research interview with the author, **Kaitia**, 7 March 2002.

⁵⁷ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

Wherever there's a forum, particularly for **Maori**, it's a matter of actually linking the whole genetic engineering issue, where applicable, into the **kaupapa** of that **hui**. The way genetic engineering is going, it is just so easy to, like fisheries, two **huis** on fisheries the last couple of days. They're actually mapping the DNA sequence of the hector dolphins and every other species, fisheries species. Ok, and then they're mixing the **whakapapa** of the flounder. So, you know, whichever **hui** you go to, genetic engineering is actually impinging on everything. Those people that are gathered there for that **kaupapa** are concerned about the issues for the management of that **taonga**, or whatever they're talking about, but they may be not aware that the genetic engineering issue is actually impinging and been imposed in that area. So what you're doing is effectively covering different sectors of **Maori** that have specialist skills or knowledge in a particular **taonga**. So it's taking advantage of those occasions to get them informed in their specialty area.

Now the **rangatahi** conference in Wellington was a good one because, basically, the government provided a forum of 400 **rangatahi**. To get into it, it was something like \$1500 per participant, ok. So it was a target group that not normally we would get at a grassroots level. So it was all the **Maori** that work in bureaucracy, which work for trust boards, etc., which have been moulded into that corporate mode. And the topic was, "what is the future direction for young **Maori** leadership towards the year 2020?" And so, here's an example of putting the GE issue into that topic area, I just got up and, as part of the audience, because I was asked to go on a panel for **Mana Maori** [a **Maori** political party], but I didn't do it during that time. I got up beforehand and I said, "Look, do you really want to know what the future direction of young **Maori** leadership is towards the year 2020? If you do, you will come with me at a time where we don't interrupt your conference, and we will march up to parliament, and we will voice our opinions on the whole area of genetic engineering from a **rangatahi** viewpoint. You know, that's what leadership is all about, it's actually not just sitting around talking about it, it's actually going out there and walking the talk and doing something about it. The other thing is that you've also got to be able to build up your networks to be able to do that. Parliament provided the perfect opportunity, they probably didn't realize it, but they did, and a very good one."⁵⁸

Annette Sykes also talks about the different roles each person plays in the movement.

*I'd like to pay tribute to the leaders; I'm not a leader. I'm more like, there's the people that are coming in to develop the material, and there's those of us that are like communicators, and I very much am dependent on the analysis coming from people like Cheryl, like Angeline, like Jacqui, and then I just package it. That's the role that I think we have to play. I think that there needs to be both people. I mean there's no way I could become a scientist on this stuff, you know. They've devoted like five years cutting edge development on this stuff. They then synthesize information, which comes back to us, and then we can look at it and send it out.*⁵⁹

Dr Leonie **Pihama** describes the impact of the first and only significant survey of **Maori** and their views on GE.

⁵⁸ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

⁵⁹ Annette Sykes, research interview with the author, **Rotoiti**, 17 March 2002.

What we did as a research team, with Fiona Cram and myself, and another woman Glenis Philip-Barbara, we produced a report called “Maori and Genetic Engineering.” That’s quite a significant document because it’s the first of its kind. There were really clear issues voiced. The food issue was quite big back then. It’s huge, hugely important, I think, because with Maori, we’re primarily working class. Because of that we tend to shop for cheaper food. So the multiple effects can bring dire consequences. We already see it anyway in diabetes, an incredible rate of diabetes amongst our people. As a consequence, we’re more susceptible to their manipulation of food and stuff but also to their experimentation because then we become the target, you know, where in the north Maori are targets for diabetes initiatives. So we kind of lose, we’re in a lose/lose situation; they make us sick and then feed you and take your genes.⁶⁰

The varied and multi-layered approach of education and awareness methods used by the **Nga Puni Whakapiri** movement are all effective means of developing a critical consciousness in our communities. This critical consciousness follows a **kaupapa Maori** path of beginning with raising the consciousness of our own **whanau, hapu** and **iwi**, for it is they who will be our greatest support in our struggles for making space for **tikanga Maori** knowledge. The educational and awareness resources produced by the **Nga Puni Whakapiri** movement also attack the status quo of knowledge, namely, the domination of a reductionist science.

More specifically, Dr Graham Smith believes in order to combat contemporary colonial threats, such as new biotechnologies, we need interventions in three key sites.

I think a way in which we might struggle against the excesses of this stuff, genetic engineering, etc., is to develop interventions in three key sites:

- 1. First we need to struggle for the thinking of the people. We’ve got to win the war of hegemony, win the minds of our people on this issue because a lot of them are sucked in. We need this knowledge to protect the health of the people and all of this kind of thing, rather than about the best interests of pharmaceutical companies. They don’t see the pharmaceutical companies rubbing their hands over the profits that’ll be made.*
- 2. Second, we need to win the war for the academy. We need to struggle over theory. There are multiple sites in the academy that we need to win.*
- 3. Third, we need to win the war of the state intention. We need to find ways of engaging with policies that derive from the state, and the way they are conceptualised. One of the reasons again for training a whole lot of what I call “Ph.D. credentialed change makers” is because the “Ph.D. credentialed change maker” can enter some of these sites and do the business. It’s not going to be Joe Bloggs off the street. It’s got to be people with PhD’s who are in their faces intellectualising the changes. You know, who listens? Whose voice is heard when you critique the actions of the state? The intellectuals. So it’s largely an intellectual struggle at this particular level.*

⁶⁰ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

If you like, we need an action plan and a rationalization of what the struggle is about, and how the struggle is to be conducted.⁶¹

Education and awareness, and thus conscientization of **Maori** communities, requires strategies. The three key sites described by Dr Graham Smith form part of this education and awareness strategy for **Maori**, but also for the larger anti-colonial movement. Winning the “war of hegemony” has been integrated in the education and awareness resources and methods devised and used by the **Nga Puni Whakapiri** movement. Key elements in the production of education and awareness material are the critiques of reductionist science and the implementation of **tikanga Maori** knowledge frameworks and perspectives in assessing genetic engineering research.

Winning the “war for the academy” has also been integrated in the education and awareness resources and methods. **Tikanga Maori** knowledge presents an alternative worldview to a dangerous reductionist, mechanistic, profit-driven model of scientific research. By incorporating this alternative and local Indigenous worldview into multiple forums and mediums and in public processes, the legitimacy and wisdom of **tikanga Maori** knowledge will become more fully realised in **Maori** communities, the general public and government institutions. The education and awareness work being produced by members of the **Nga Puni Whakapiri** movement, the majority being academics and professional people, stimulates academic research, and in turn encourages other academic researchers to write in this area, which adds to the legitimisation of **tikanga Maori** knowledge in the academy. Two national **Maori** research institutes also form an integral part of the “war for the academy” in legitimising **tikanga Maori** knowledge. **Nga Pae o te Maramatanga**, translated as “Horizons of insight,” is a research institute that has a critical mass of **Maori** researchers from across the disciplines and tertiary institutions with a key focus on producing high quality research that is consistent with **Maori** needs and aspirations and leads to practical outcomes that result in the development and

⁶¹ Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003.

advancement of **Maori** in society.⁶² The International Research Institute for **Maori** and Indigenous Education (**IRI**) is another research institute with **Maori** researchers producing high quality research that will lead to an improvement in **Maori** and Indigenous peoples lives.⁶³ The University of Auckland hosts both research institutes. There are, therefore, a variety of approaches employed to win the “war for the academy.”

Winning the “war of the state” requires engaging and interrupting state policy making forums. As part of state policymaking, to win the “war of the state” requires influencing the outcome of policy. In the next chapter three different sites will be explored where the **Nga Puni Whakapiri** movement implemented **tikanga Maori** knowledge in forums where state policy could be influenced. Any opportunity to engage with the state is taken up by the **Nga Puni Whakapiri** movement and the larger anti-colonial movements. As part of this engagement, as Dr Graham Smith has elaborated, **Maori** students in all disciplines have been encouraged by Dr Graham Smith and other **Maori** academics in the academy to pursue and complete a doctoral degree. Increasing the number of “Ph.D. credentialed change makers” is a strategic effort to win the “war of the state.”

Nga Puni Whakapiri: The international and national context

The discourse of the contemporary debates around genetic engineering and modification, especially the ideology of biotechnology, is complex and difficult for most New Zealanders. This has the effect of ensuring that the status quo remains as understanding the debate is made difficult because the terminology used is obscure and clouded in scientific myth. One of the battles then

⁶² See **Nga Pae o te Maramatanga** link, http://www.auckland.ac.nz/cir_faculties/index.cfm?action=display_page&page_title=TeWananga_CoRE, accessed on 1 May 2004. Professor Linda Smith is one of the Joint Directors of this institute. I am also employed by **Nga Pae o te Maramatanga** as a Post-doctoral research fellow.

⁶³ See **IRI** (International Research Institute for **Maori** and Indigenous Education) link, http://www.arts.auckland.ac.nz/research/index.cfm?S=R_RESIRI, accessed on 1 May 2004. Dr Leonie **Pihama** is the current Director of IRI. The past Director was Professor Linda Smith.

becomes demystifying the science so that the whole area of biotechnology becomes accessible to a wider public, both Indigenous and non-Indigenous peoples.

Once information enters the arena of public discourse, it becomes a visible public affair that is open to external investigation and regulation. Vulnerable to such external pressures and concerned about threats to their professional sovereignty, scientists have begun to seek more control of the public discourse on science - to influence the images of science in the press.⁶⁴

Not only do scientists seek to control the public discourse but also, as has been discussed in Chapter Three, government and its institutions support biotechnology and genetic engineering. This has resulted in the emergence of a proliferation of **Maori** and other social movements opposed to genetic engineering and the control of the public discourse on science.

A new global order created through the patenting of genetically engineered life-forms is the source of public conflict which has provoked into action a contemporary social movement employing both traditional and symbolic strategies. The actions of this social movement have not only been successful in challenging particular patent laws and the legitimacy of individual patents, but function as a “symbolic multiplier”: their actions have made power visible.⁶⁵

By highlighting the issues around genetic engineering, the “symbolic multiplier” effect allows the public to perceive the larger impacts of the technology. This coalition of groups, which Douglas and Wildavsky call environmental public interest groups, have as their central goal the demystifying of science and the exposure of the political economy of scientific research. All are attempts at informing our communities of the impacts of genetic engineering; impacts on our environment, our future, and ourselves. Douglas and Wildavsky suggest that because most environmental public interest groups lack any real structure, they can be powerful. “These headless groups can be politically potent. They are numerous, small, and unencumbered. They travel light. They are difficult to defeat because there are so many of them, and they do not stay in

⁶⁴ Nelkin, D., Selling science: How the press covers science and technology. (New York: W.H. Freeman and Company, 1995). 148.

⁶⁵ McNally, R., & Wheale, P., “Bio-patenting and innovation: Nomads of the present and a new global order.” In P. O’Mahoney (Ed.), Nature, risk and responsibility: Discourses of biotechnology. (New York: Routledge, 1999), 183.

one place (or one shape, for that matter) for too long. Beaten down here, they rise elsewhere.”⁶⁶ I partially agree with this notion that groups such as the **Nga Puni Whakapiri** movement are powerful because they lack any real structure. What is most fundamental to the **Nga Puni Whakapiri** movement members is the **kaupapa** (cause or purpose) and **mahi** (work) of the movement rather than the individual in the movement, or even perhaps the particular movement itself. In this sense, it doesn’t really matter how the group or movement is structured. Each one of these groups has the potential to re-emerge in a different guise if this is required because it is not the group, movement or individuals that are important, but the **kaupapa** and **mahi** of the movement itself.

Although the different groups may have diverse worldviews, such as **Nga Wahine Tiaki o te Ao** and the Green Party for example, they are still generally on the same **kaupapa** (cause or purpose), a **kaupapa** that is at odds with the ideology of progress embedded in the increasingly corporatised life sciences preoccupied with genetic modification as a path to packaging and marketing new commodities. The wider anti-GE movement aligns with an Indigenous cosmology that Groenfeldt feels the New Age spiritual “seekers” and the environmental movement more generally are embracing, where “New Age Indian spiritualists serve as ambassadors of cosmologies radically at odds with the Western view of progress, and provide an outreach function to a socially powerful market of largely middle and upper class spiritual seekers.”⁶⁷ In agreeing with this assertion, I consider that this coalition of groups present a very real presence in the public arena, providing a public block and show of force against emergent technologies.

⁶⁶ Douglas, M., & Wildavsky, A., Risk and culture: An essay on the selection of technical and environmental dangers. (Berkeley: University of California Press, 1982), 172.

⁶⁷ Groenfeldt, D., “The future of indigenous values: Cultural relativism in the face of economic development.” (Futures, 35, 2003), 924. I acknowledge here that what is missing from this analysis is the resistance of Third World farmers struggling to save their seeds, crops, soil, and farm animals from genetic pollution that threatens to destroy their means of subsistence and their countries’ food security. For a more in-depth look at this area I would start with reading work produced by Vandana Shiva and the Third World Network.

The **Nga Puni Whakapiri** movement claims legitimacy for an alternate worldview, a **tikanga Maori** knowledge worldview. This alternate worldview is manifest in the variety of education and awareness resources prepared for our communities. The resources are important tools in initiating critical consciousness around genetic engineering technologies in order for our people to be able to act in an informed way on these issues. When we use our own terminology to articulate the impacts on **tikanga Maori** knowledge, the issues become very clear.

Consciousness raising itself is a confrontational act. It makes visible the larger picture of the inequalities and unfairness in society. Winner sees this as one of the ways of exposing power. "By calling attention to a possible danger, one hopes to attract support for a broader program of social criticism and reform. The alleged danger works as a symbol that may enable people to consider other social maladies, for example, the concentration of institutional power."⁶⁸ This site of struggle then is one of many struggles. It is also a conduit to raising more than a consciousness around genetic engineering and other emergent technologies but gives an opportunity for others to become involved in the broader **Nga Puni Whakapiri** movement of bringing about transformations in our society for the greater well-being of our people.

4. SUMMARY OF NGA PUNI WHAKAPIRI: ENGAGING MAORI COMMUNITIES

In conclusion, the objective of this chapter was to chart the history of the **Nga Puni Whakapiri** movement and conduct an exploration of how the movement engages **Maori** communities. This exploration draws primarily on the conversations I had with key figures within the **Nga Puni Whakapiri** movement.

Nga Puni Whakapiri translates literally as "the group that gathers when needed." An important part of the **mahi** (work) of the **Nga Puni Whakapiri** movement is to gather together to

⁶⁸ Winner, L., *The whale and the reactor: A search for limits in an age of high technology*. (Chicago: University of Chicago Press, 1986), 141.

protect **taonga**. Protecting **taonga** can include a variety of methods, including learning our own histories, re-learning who we are and valuing what we already know, and claiming space for our own **tikanga Maori** knowledge. In claiming space for **tikanga Maori** knowledge, the **mahi** for the **Nga Puni Whakapiri** movement has also specifically included a variety of ways to improve the awareness of **whanau, hapu** and **iwi** of issues related to genetic engineering, which include the impacts on **Tikanga Maori** knowledge.

The **Nga Puni Whakapiri** movement, as part of the larger anti-colonisation movement, strives for self-determination and sovereignty (**tino rangatiratanga**) and an acknowledgement and validation of the importance of the **Maori** worldview.

For **Maori** a purposeful dream has been conceptualized partially around key cultural concepts such as **tino rangatiratanga** (sovereignty), **whanau, hapu, iwi** (extended family, sub-tribal groupings and tribe), **te reo** (**Maori** language) and **tikanga Maori** (**Maori** cultural customs). These concepts, which are embedded in the **Maori** language and world view, provided a way of coming together on **Maori** terms.⁶⁹

Tikanga Maori knowledge embodies these key cultural concepts of **tino rangatiratanga, whanau, hapu, iwi, te reo**, and **tikanga Maori**. The **Nga Puni Whakapiri** movement in its struggle to legitimise **tikanga Maori** knowledge is an important element in the contemporary **Maori** renaissance.

This chapter described the history of the **Nga Puni Whakapiri** movement, how the movement engages **Maori** communities and claims space for **tikanga Maori** knowledge. The purpose of the next chapter is to focus on three different sites where the **Nga Puni Whakapiri** movement have implemented **tikanga Maori** knowledge.

⁶⁹ Smith, L. T., *Decolonizing methodologies: Research and Indigenous peoples*. (New York: Zed Books, 1999a), 109.

CHAPTER 8

NGA PUNI WHAKAPIRI: SITES OF STRUGGLE

*The thoughtful **Maori** all the time now is suspicious. “What is the thought behind the thought? **Ne**. Why are these policy things being created?” And I guess that’s how critical **Maori** are. They’re one of those critical people, groups that say when a policy comes up, what we look at is, “what is the thought behind the thought?” Nine times out of ten, the thought behind the thought, **te kehua o te koura** [the ghost hiding behind the gold pot], **ne** [eh], is driven by a multinational group, driven by some industry who has a financial stake.¹*

I didn’t have a clue what to do about it in the beginning. I was just a normal housewife.²

¹ Percy **Tipene**, research interview with the author, **Whakatane**, 16 March 2002.

² Maree **Pene**, research interview with the author, Hamilton, 9 March 2002. Maree **Pene** is of **Ngati Hikairo, Ngati Wairere** descent. Maree **Pene** was one of the central **Ngati Wairere** figures, along with Angeline Greensill and Jacqui **Amohanga**, fighting the AgResearch research application to place human genes in cows to produce transgenic offspring.

This chapter examines three critical sites of **Maori** resistance in the contestation over genetic engineering. The first site of struggle examined is the New Zealand Royal Commission on Genetic Modification hearing process. **Nga Wahine Tiaki o Te Ao** made a submission to the Royal Commission on the first day of the formal proceedings held in a hotel in Wellington. The second site is the office of the Environmental Risk Management Authority (ERMA), occupied by a group of **Maori**, conversing only in **te reo Maori**, who demanded the files for all approved GM/GE applications that had included the insertion of human genes into another species. The third site is the struggle between **Ngati Wairere**, a **hapu** in the **Tainui rohe**, who have been fighting with AgResearch at **Ruakura** Research Centre in Hamilton. **Ngati Wairere** has been vociferously opposing their application to place copies of human genes into cows. The scientific justification relies on the hope of producing therapeutic proteins in the transgenic cows' milk that may lead to a treatment for multiple sclerosis.

1. SITES OF STRUGGLE OVER TIKANGA MAORI KNOWLEDGE

For **Maori**, struggle and resistance is in our consciousness. It's a hangover from colonisation that we have never recovered from because the struggle is still with us. **Maori** do know how to interrupt and resist power. Escobar, in referring to the work of Michelle Foucault, expands on the concept of resistance to power. Escobar says, "to the multiplicity of forms of power, we must respond with a multiplicity of localized resistances and counteroffensives... Rather than a massive revolutionary process, the strategy must be aimed at developing a network of struggles, points of resistance, and popular bases."³ Dr Graham Smith, in reference to the work of Antonio Gramsci, calls this the "war of position."

"War of position" is very much like what I've described as multiple sites of engagement. What he says about "war of position" is that we need to develop multiple struggles but

³ Escobar, A., "Discourse and power in development: Michel Foucault and the relevance of his work to the third world." (*Alternatives X*, 1984), 381.

*that we also need to understand that struggle itself needs to be flexible. “You win some battles here and something else is happening over here,” so come over here, and you win this battle here, then something pops out over here. So “war of position” is about being in multiple war engagements, if you like, and being responsive.*⁴

In the resistance to GE, there has been a multiplicity of struggles as well as a multiplicity of resistance techniques used by **Maori**. Methods of resistance have included the production of community resources (such as GE-free **marae** kits and information books), making public submissions, and demonstrations and protests. Each method claims space in hostile environments by implementing the **tikanga Maori** worldview, an alternative to the reductionist science worldview, as counter-resistance. All of these methods make power visible. McNally and Wheale believe that this resistance and struggle by social movements has “unveiled the ‘hidden face of power’ of the bio-industrial complex. By unmasking the ‘hidden face of power’ of the bio-industrial complex, the social movement has created the conditions of possibility for the renegotiation of the rules governing biodiversity, genetic diversity and genetic sovereignty.”⁵ In each site of struggle, the rules are being contested and fought over. Non-indigenous intellectual property rights claims, legitimised by reductionist science, are being contested.

Tino rangatiratanga, or self-determination, is the ultimate goal in all resistance to power. For Dr Leonie **Pihama** this means, “*having an ability and asserting the right to our own determination of our own lives, and in our own land, in our own way.*”⁶ However, self-determination isn’t going to happen overnight.

*Tino rangatiratanga change is eked out of small victories, as I call it, incremental victories. You’ve got to see where it’s being won, and indeed, where it’s being lost. So we’ve got to be able to conceptualise and talk about the incremental change pathway. Because anyone who holds the vision that the cargo plane is going to land, and we’re going to get everything overnight is dreaming. We need to paint a picture of our struggle that’s realistic and achievable.*⁷

⁴ Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003.

⁵ McNally, R. & Wheale, P., “Bio-patenting and innovation: Nomads of the present and a new global order.” In P. O’Mahoney (Ed.). Nature, risk and responsibility: Discourses of biotechnology. (New York: Routledge, 1999), 183-184.

⁶ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

⁷ Dr Graham Smith, research interview with the author, Vancouver, 15 March 2003.

In the following accounts of three sites of struggle over **tikanga Maori** knowledge, we explore how power is interrupted and resisted and how **tikanga Maori** knowledge is being applied in hostile environments.

2. NGA WAHINE TIAKI O TE AO & THE ROYAL COMMISSION

The Royal Commission on Genetic Modification

The Royal Commission on Genetic Modification was required to report to the New Zealand Government on two main areas:

1. The strategic options available to enable New Zealand to address, now and in the future, genetic modification, genetically modified organisms, and products; and
2. Any changes considered desirable to the current legislative, regulatory, policy, or institutional arrangements for addressing, in New Zealand, genetic modification, genetically modified organisms, and products.⁸

The outcome from the Commission process was that genetic modification would proceed, with caution.

Between July 2000 and April 2001 the commission held a variety of consultations and a number of formal hearing processes.⁹ Consultations with **Maori**, the treaty partner, included national **hui** (meetings) and ten regional **hui** held throughout the country. Prior to these **hui**, **Nga Kaihautu Tikanga Taiao** representatives consulted with **Maori** communities around the country.¹⁰

The commission received a total of 292 applications for Interested Person status, of which fifteen were from **Maori** or **Maori** organizations. Of the 117 groups or individuals granted

⁸ GM Commission website, http://www.gmcommission.govt.nz/inquiry/open_statement_0708.html, "Inquiry activities: Commission's opening statement, Wellington scoping meetings, 7 August 2000." Accessed on 7 November 2000.

⁹ RCGM, Report of the Royal Commission on Genetic Modification: Appendix 1. (Wellington, New Zealand, 2001), 107.

¹⁰ **Nga Kaihautu Tikanga Taiao** is the **Maori** advisory body of ERMA.

Interested Person status, only seven were **Maori**.¹¹ The seven conferred Interested Person status were: **Te Runanga o Ngai Tahu**; New Zealand **Maori** Council; **Nga Wahine Tiaki o Te Ao**; **Muaupoko** Co-operative Society; **Maori** Congress; Federation of **Maori** Authorities; **Wai 262** Claimants, **Ngati Wai**, **Ngati Kuri**, **Te Rarawa**.¹² Interested Person status was deemed as having an interest in the inquiry that is distinct from that of the public, which conferred on Interested Persons speaking rights in front of the commission. If you were not granted Interested Person status, you could still submit a written submission.

As the most visible and proactive supporter of genetic engineering and genetic modification in New Zealand, the Life Sciences Networks' Royal Commission Closing submission conveniently positioned general public opinion as broad and **Maori** as divergent.

It is submitted by the New Zealand Life Sciences Network (Inc) and those of its members represented in this submission ("the Network") that, based on the content, and weight, of the huge amount of evidence received by the Royal Commission, the single critical issue is:

Where does New Zealand draw the line on the use of genetic modification?

1.7 A broad spectrum of opinion exists. The various communities, which made submissions and gave evidence, while having some intended cohesion, also had a range of internal differences. They also "borrowed" arguments from other communities where those arguments tended to support their central theme.

1.8 Some **Maori** organisations, (**Nga Wahine Tiaki o te Ao**, National **Maori** Congress, NZ **Maori** Council, **Muaupoko** Cooperative Society, **WAI 262** claimants) took a position which may be summarised as:

1.9 No use of genetic modification is acceptable in New Zealand because it offends deeply held spiritual and cultural beliefs in **whakapapa**, **mauri**, **matauranga** [knowledge]; it transgresses a **Maori** role as **kaitiaki** of the land, the environment and all living things whether they are indigenous or introduced species and is in breach of Treaty rights.

¹¹ RCGM, 2001: 117.

¹² **Te Runanga o Ngai Tahu** is the governing body that oversees the South Island's **Ngai Tahu** tribe's (**Ngai Tahu** is the third largest tribe in NZ) activities and administration of over 30,000 members. The New Zealand **Maori** Council is a body that represents over 900 tribes throughout New Zealand. **Nga Wahine Tiaki o Te Ao** is an organisation of professional **Maori** women who are opposed to GM. **Muaupoko** Co-operative Society represent **Muaupoko iwi** between the **Manawatu** River and **Waikanae**. The **Maori** Congress was formed in July 1990 under the patronage of the **Maori** Queen, Dame **Te Atairangikahu** and the late **Tuwharetoa** paramount Chief, Sir **Hepi te Heuheu** and Mrs **Reo Hura**, the leader of the **Ratana** Church. The Congress is a national body that seeks to provide a forum for **hapu** and **iwi** to come together to discuss issues of shared concern with a particular focus on the future development of **iwi Maori**. The Federation of **Maori** Authorities represent land-owning trusts in NZ. **Wai 262** Claimants are a group of **iwi** seeking a hearing with the **Waitangi** Tribunal to determine **Maori** cultural and intellectual property rights and **Maori** sovereignty.

Furthermore, the whole process of consideration of genetic technology by state institutions excludes **Maori** from their right to be consulted effectively pursuant to the Treaty of **Waitangi** and, the process of the Royal Commission is in breach of the Crown's obligations to deal directly with the Treaty partner on matters which are addressed within the Treaty itself. Genetic modification is such a matter because it has the potential to impact on our **taonga** [precious treasures], our forests, lands and **rangatiratanga** [sovereignty].

1.10 However, this was not a universal view and significantly more accepting views were put forward by other **Maori** organisations (**Te Runanga o Ngai Tahu**, Federation of **Maori** Authorities) and individuals (Ammunson and Cairns). Consequently, the Royal Commission should draw the conclusion that **Maori**, as a sector of the community, are as divergent in their views as other sectors of the community.¹³

The individuals with divergent views, **Paora** Ammunson and **Tamati** Cairns, happened to be paid consultants who were acting as witnesses for the Life Sciences Network in the Royal Commission. The total number of **Maori** organizations granted Interested Person status was seven. All seven **Maori** organizations had concerns with genetic modification.¹⁴

Nga Wahine Tiaki o Te Ao hui in Turangi

Little consultation had occurred with **Maori** communities on such an important issue prior to the Royal Commission process. For this reason many **Maori** felt that the government had

¹³ Closing submissions on behalf of the New Zealand Life Sciences Network (Inc) and listed member organizations, RCGM.

¹⁴ The Life Sciences Networks' Royal Commission Closing submission statement that reads, "significantly more accepting views were put forward by other **Maori** organisations (**Te Runanga o Ngai Tahu**, Federation of **Maori** Authorities)" is, I think, a stretch of the truth.

Throughout the **Te Runanga o Ngai Tahu** submission there is concern with the inadequacy of the Royal Commission process to consult with all **Maori** and concern that only seven **Maori** organizations were granted Interested Person status. **Te Runanga o Ngai Tahu** states that a "precautionary approach" needs to be taken on this matter. Perhaps this is where the Life Sciences Network sees a "significantly more accepting view." However, in Section B (i) Summary of their submission, **Te Runanga o Ngai Tahu** states its precautionary approach is to say "no" to genetic modification. Accessible from RCGM website: [http://www.gmcommission.govt.nz/pronto_pdf/te_runanga_o_ngai_tahu/Te%20Runanga%20o%20Ngai%20Tahu%20\(SUB%20IP%200041\).pdf](http://www.gmcommission.govt.nz/pronto_pdf/te_runanga_o_ngai_tahu/Te%20Runanga%20o%20Ngai%20Tahu%20(SUB%20IP%200041).pdf), accessed on 18 April 2004.

The Federation of **Maori** Authorities submission, although appearing supportive of genetic engineering as an avenue for increasing agricultural productivity, particularly as it is a national body representing **Maori** landowners, outlines the fundamental values of **tikanga Maori** that need to be incorporated in any decisions made about GM and are emphatic that **Maori** need to be adequately consulted. The Federation of **Maori** Authorities submission also states upfront that all the members of the Federation do not support the statements made in the submission. The Federation of **Maori** Authorities submission is accessible from the RCGM website:

[http://www.gmcommission.govt.nz/pronto_pdf/federation_of_maori_authorities/Federation%20of%20Maori%20Authorities%20\(FoMA\)%20\(SUB%20IP%200069\).pdf](http://www.gmcommission.govt.nz/pronto_pdf/federation_of_maori_authorities/Federation%20of%20Maori%20Authorities%20(FoMA)%20(SUB%20IP%200069).pdf), accessed on 18 April 2004.

already failed them. What exacerbated this situation was the fact that the government had already introduced the technologies and were supportive of the technology before the Royal Commission began. It was felt by many **Maori** that, like a whole lot of other Royal Commissions, the government was just going through the motions of appearing as if it was concerned with the introduction of this technology in New Zealand. **Nga Wahine Tiaki o te Ao** were well aware of the failures to consult, the failures to deal with multinational companies, as had happened in the PPL Therapeutics case in **Tauranga**. **Nga Wahine Tiaki o te Ao** was also aware of the **WAI 262** Claim and the way the government was putting the claim on the “back burner.” All of these factors led to the assessment by **Nga Wahine Tiaki o te Ao** that **Maori** communities needed information, informative and critical information that would take into account the **Maori** Treaty rights and **tikanga Maori** knowledge-based assessments of the technology. Jacqui **Amohanga** explains that there was a need for **Nga Wahine Tiaki o Te Ao** to come in to inform our people.

*We had a **hui** in **Turangi** where we were discussing whether or not to boycott the commission or not. What we found out was that we have so many **Maori** that were uninformed on the whole area of **GE** that they might just go along and **tautoko** [support] without realizing what they're getting into. So that's why we decided, **Nga Wahine Tiaki** needed to get involved with that commission process and just use it as an educational method of educating our people on this issue. So we didn't participate in the commission process on the basis that we would believe that the commission would actually stand up and actually do anything about what we said. It was just a good opportunity to educate our own people. Well the commission was getting all the publicity you see, so why not tap into it.¹⁵*

Dr Cheryl Smith talks more about the **hui** held in **Turangi** where **Nga Wahine Tiaki o Te Ao** was formed amongst a group of women who were all concerned about the impacts of genetic engineering.

*I think in this case, why we decided to form **Nga Wahine Tiaki** was because we wanted to have a **hui** with women, and we wanted to talk specifically about the issues for us. We held a **hui** up in **Tuwaharetoa** there. It was a really awesome **hui**. It's really wonderful to get into a room with thirty really on-to-it women. And we started a **korero** from a position of well you all know each other and you already know where each other is at. So you don't need any crap or any grandstanding, we just get on with the talk. And let's strategise how we're going to move this **GE** stuff forward. And that was a thing we*

¹⁵ Jacqui **Amohanga**, research interview with the author, Hamilton, 17 March 2002.

*noticed, there wasn't one ego in the room when we had that **hui**. It was very relaxing and very energizing and very nurturing for us. So it was like a holiday break. But at that **hui** we did a lot of strategizing. We prepared for hosting Debra [Harry] and we mapped out her program. And then we went back to each of our own areas and prepared for her visit. We did a lot of work around her so we did a lot of lead ups, we did a lot of radio interviews, all of us individually have done a lot of media work as well, radio interviews, whatever.*

*I think we [Dr Cheryl Smith and the author] met in 1999. It was 1999 and it was prior to the Royal Commission process. They announced the Royal Commission after Debra's visit. We weren't going to engage them (the commission) at all because we just focused on ourselves, getting our approach clear. We had Debra's visit, and I said to her at the time, "you've made an incredibly powerful impact for **Maori**" because her visit was very timely. The interest was beginning to build.¹⁶*

Royal Commission hui with Maori around the country

Annette Sykes took a critical view of the Royal Commission process and did not have any great faith in the submission made by **Nga Wahine Tiaki o Te Ao** being heard by the commission:

*The Royal Commission's terms of reference weren't about whether it was consistent with the treaty. It was more what were the limits to be imposed if it was to be. The whole terms of reference prevented you from even examining the issue. So when we did our submission, we did it with quite a different focus really. And then as activists we really realized that there's no way in the world that anyone is going to come in and participate in the **hui** around the country run by the Royal Commission. So we boycotted them when they came here. I thought that that was a waste of time going to their **hui**. So we just boycotted them. We had our own **hui**, and we invited Debbie Harry and Brett Lee Sheldon from the Indigenous Peoples Council on Biocolonialism in Nevada, USA, to visit and do a speaking tour. We had them out here the week before the start of the Royal Commission hearings. We had them on the radio station here and speaking to our people all around the country. That for me was a much more effective way of talking to our people.¹⁷*

Dr Cheryl Smith believes throughout the commission process the Treaty of **Waitangi** was given low priority.

*If you read through the schedule of the Royal Commission warrant, you'll see the mandate they were given. You'll find the treaty comes very low on that list of priorities. Very low. So **Maori** are always going to be treated badly. We got a number of regional **hui** around the country. We attended, we told them exactly what we thought. We all said, "no, no, no," one after the other, fifty of us did submissions here in **Whanganui**, and it was all "no." Up at **Turangawaewae** we passed sixteen resolutions. You know, very*

¹⁶ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

¹⁷ Annette Sykes, research interview with the author, **Rotoiti**, 17 March 2002.

clear, no to GE. Matt McMillan, the **Maori** guy facilitating the **Maori** process for the Royal Commission came out publicly after the Royal Commission had finished and said, “**Maori** were not listened to.” And that’s the Commission’s own person saying that. So there were many levels at which this process was totally fraught and flawed.¹⁸

Dr Leonie **Pihama** discusses the inadequacy of the Royal Commission **hui** process on many different levels.

*We were at the first **hui**, also a pre-Commission process about that development of the **Maori** petition process. And there was a good group of us; there was Angeline, myself, Jacqui, you know, and a few others from **Rotorua**, who were down there. And, we were even challenging at that point the notion that the **hui** being an informal hearing. They were treated very differently. The **hui** process, the **Maori** contribution process was seen outside the notion of a formal process. Part of their argument was that although the **Maori** groups had no formal part, they were participating at the **hui**. So immediately they were challenged on their lack of treaty process; that’s not an equitable way of operating with a partner. They came up with an idea, and that’s what they ended up with. The other thing was that we requested more than one national **hui**. One national **hui** in **Ngaruawahia** is not going to get **Maori** attending. But even the regional **hui** were badly attended. People didn’t know about it, you know, unless you had people in the region who knew that the Commission were coming. People didn’t know. The **Maori** contribution was in fact a contribution outside of the formal process. Then you had things like, you know, the Hamilton region, there was no Hamilton regional **hui**. **Ngaruawahia** was the national **hui**. So you had people like Angeline, **Ngati Wairere**, who are very active on their own **whenua** [land] in this issue, having to engage their regional **iwi** issues in a national **hui**. So, there were many levels at which we challenged that process. You know, Angeline and **Ngati Wairere**, a key region because that’s where a lot of the transgenic cow research was happening. They [Hamilton/**Waikato**] should have a regional **hui** not the national **hui**. There was a whole range of other things. We requested hearing on the **marae**, and I believe that **Ngai Tahu** did as well. We ended up in a hotel somewhere in Wellington.¹⁹*

Nga Wahine Tiaki o Te Ao application for Interested Person Status

Dr Leonie **Pihama** describes the submission process for Interested Person status.

We decided that we would make a submission to the Commission. We decided that we would see the Commission and go for special person status. It was sort of a vehicle really for the issue, also that there were women involved in the group who had been in the process for a while, you know it was kind of, we tossed up should we go out of the room or should we go inside.

*Angeline and **Ngati Wairere** went for their own status and we went through separately, with Cheryl and I and a couple of others to the Commission. But neither Angeline nor*

¹⁸ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

¹⁹ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

Ngati Wairere got status at the hearings. *Ngai Tahu [Te Runanga o Ngai Tahu]* was the only *iwi*, and *Muaupoko Co-operative Society* came under a wider umbrella. So those were the only two, just at the *iwi* stage. *Ngai Tahu* was turned back in the first round. I think that they had to go back in the second round, either that or they weren't heard in the first hearing. So there was only like a half a dozen *Maori* people and organizations that got through, National *Maori* Congress, etc. We were one of those. So we put a very solid case for our inclusion. Why are there not more *hapu* and *iwi*? The really key *hapu* and *iwi* weren't included.²⁰

Dr Cheryl Smith further elaborates on the Interested Person Status sought by **Nga Wahine Tiaki**

o Te Ao.

*So we put that on the very last day of making interested person submissions. Leonie filed a late application by email to be what the Royal Commission called an "interested person." We went down to Wellington to speak to it. And what the Commission did was they, at the very beginning, they divided submissions up. You could apply to be what they called an "interested person," which means you had kind of special rights before the Commission. You had slightly higher status and you got more information sent out to you. Now I think out of the hundreds, I think only half a dozen were *Maori*, were accepted as persons having interested person status. As Treaty partners, every *hapu* and *iwi* should automatically have had interested person status. It didn't work that way. You had to apply for it and then they decided whether or not you fell into the category in which you were an interested person, which means you had something different to say from other people. So in one sense us going in on the **Nga Wahine Tiaki** label, because they weren't accepting *hapu*, the fact that you came from a *hapu* didn't make you different from other *hapu*. We put in a national *Maori* women's application and argued our case, as women who wanted to have a particular say on this. So they approved it.²¹*

An interesting incident occurred prior to the formal commission hearings and during the submission stage, as elaborated by Dr Leonie **Pihama**.

*When we applied for interested person status, it was all so fast you know, like you got this huge thing in the mail and you had to have it in by the next week. And then they gave an extension, because people had messed around and that kind of stuff. In that process of doing that, I had emailed the commissioner, and asked to talk with Jacqueline Allan, as the *Maori* representative on the commission. I got an email back from their lawyer, because I sent two emails and I rang. Because she was on the commission and our understanding was that she was a GP [General practitioner – medical doctor] but also was a *Maori* woman. We felt that we had a right to talk to our representative. So I was asked to go ahead and ask her. So I did that. I fielded that very professionally through the commission office. I could have got Jacque's phone number if I tried. But I chose not to. So I got an email back from their lawyer, who was also the Crown lawyer of the **Wai 262** claim, because Cheryl found out because he had cross-examined her brother. Cheryl had told me about this lawyer. So I got this email back from this lawyer, and he*

²⁰ Ibid.

²¹ Dr Cheryl Smith, research interview with the author. **Whanganui**. 1 March 2002.

basically referred to harassment of a commissioner. So of course, like a red flag to a bull really, you know, so I kind of just go, “eh!” Because there are lawyers involved, you know, top legal minds, I just emailed back to the lawyer and challenged his bullying with me on the email. Then left it at that. When it came to the interested person status, we went to Wellington and I just stood up and gave our presentation for us about why we should get it. In the open part of it, in the opening introduction, I raised the issue of the lawyer’s email to me. The people from the commission obviously didn’t know a thing about it. That’s the thing about public revealing of those processes. I think we can reveal a lot in those public forums. So I raised this issue of the email, that I had been trying to contact the **Maori** representative before making the application, and that their lawyer had inferred harassment. And then, we wanted it noted that that wasn’t acceptable. At the end of it, Eichelbaum [Sir Thomas Eichelbaum, Chairperson] gave this summary and he said to me “There is no **Maori** representative on the commission. There are only commissioners.”

(Interesting, because having a **Maori** as one of the commissioners was promoted by the government)

There was no **Maori** representative. So, what that did too was that it really located him. It located him, it located the commission, and it located Jacqueline.

So, from that point on, we did not consider Jacqueline to be there on our behalf. We considered her to be there as a duty. So the way we addressed her from that point on was quite different. We did not consider her to be **Maori**. What she was doing was alienating her best support group, which is the **Maori** involved in this process. If she wanted to take on a big battle, we’re right there to do it, and to make that very clear to her that we will do the battle, that we will battle with her if she set it up to do it, but she never did. The commission did not consider her, the chairman of the commission did not consider her, to be representing **Maori** viewpoints. Well, she’s just another commissioner.²²

Dr Cheryl Smith provides more detail about this “**Maori**” appointment.

There was a **Maori** appointment. There was a woman called Dr Jacqueline Allan, a medical doctor. Very few **Maori** that we knew had heard of her, which is very rare. It is very rare and very difficult not to be heard about if you are a **Maori**. But we made extensive inquiries, a whole lot of us, and we couldn’t find out who she was, except we did hear she was a medical doctor and in fact worked up in South Auckland. On making enquiries in government, we found out she was a Crown appointment. She was appointed by the Crown as a **Maori** representative. She was a cabinet appointment. In the end it came down to cabinet. The **Maori** MP’s were trying to push for someone who was known, who they knew would have a good read on **Maori**, and would represent **Maori**, or try to represent **Maori**. At the end, it came down to a **Pakeha** Crown appointment, because it was made within Cabinet. **Maori** put their candidates up, and it was overridden, and she was it. So you can imagine what she was like. She was very nice, a nice person, medically trained. Not much clue about **tikanga** or **kawa**. Didn’t have a clue what she’d got into. Was surprised that she wasn’t given automatic kudos for her position. She got hammered by **Maori** who made it clear that they really did not think she

²² Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002. When I attended a closed meeting on 24 September 2003 between a group of, predominantly, scientists and the Minister for the Environment, Marian Hobbs, held at the University of **Waikato**, the Minister was actually quite pleased with how the government was able to fill a number of positions in the selection of Commissioners, including a medical doctor, a judge, a **Maori**...

*was up to par. I know she felt a victim in that situation, but she should have been aware that unless she worked with **Maori** communities proactively, they would perceive her as being in the way of the messages that they had to deliver to the Commission. So that appointment was crazy. In the end the **korero** [talk] amongst our groups was, go in there, and treat her as a **Pakeha** because it's easier. And in the end, that's what we did, rather than get complicated by the fact that she was **Maori**. So that's how we approached it.*²³

Submission made to Royal Commission

In Wellington on 26 February 2001 **Nga Wahine Tiaki o Te Ao** was heard by the Royal Commission on Genetic Modification. Presenters were: Annette Sykes, Dr Leonie **Pihama**, **Hariata Pohatu**, Angeline Greensill, Dr Cheryl Smith, Dr Jessica Hutchings, **Tere** Harrison, **Ripeka** Ellison-Orzecki, and Dr Fiona Cram. They were cross-examined by **Paora** Ammunson (for Life Sciences Network), Chris Webster (for **Maori** Congress), and John Upton QC (for RCGM).²⁴

In the Witness Brief submitted on behalf of “Interested Person” **Nga Wahine Tiaki o Te Ao**, **Toroa Pohatu** outlines specifically the position of **Nga Wahine Tiaki o Te Ao** on genetic modification.

It is the position in this brief that all things have their own unique **mauri** and **tapu**. It is furthermore stated that conceptually **Mana wahine** [women's influence/power] places **Maori** women in a position whereby we must act as **kaitiaki** for **tamariki** [children] and **mokopuna** [grandchildren]. We are **nga wahine tiaki o te ao**. **Nga Wahine Tiaki o te ao** will protect **whakapapa**. **Nga Wahine Tiaki o te ao** will ensure the well being of all our relations. **Nga Wahine Tiaki o te ao** will act to protect **whare tangata** [human body] against all forms of violation. Genetic modification is an act of violence against **tangata whenua** [people of the land], it is an act of violence against **Maori** women and therefore against all future generations.²⁵

In the submission made by **Nga Wahine Tiaki o Te Ao** as an “Interested Person,” the point is made that genetic modification is antithetical to **Tikanga Maori**.

²³ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

²⁴ RCGM, Report of the Royal Commission on Genetic Modification: Appendix 1. (Wellington, New Zealand, 2001), 181.

²⁵ RCGM Witness Brief, Executive Summary, by **Toroa Pohatu** for **Nga Wahine Tiaki o Te Ao**.

This submission positions genetic modification as antithetical to **Tikanga Maori**. We hold that **Tino Rangatiratanga** [sovereignty] is guaranteed under **Te Tiriti o Waitangi** [Treaty of Waitangi] and that the Crown in its processes, including this commission process, is operating in breach of **Te Tiriti o Waitangi**. All genetic modification must be stopped. Within **Tikanga Maori**, **Maori** women hold key roles in the protection of **whakapapa** [genealogy], **mauri** [life essence], **ira** [life principle], **tapu** [sacredness], and act as **kaitiaki** [guardian] in relationship to all things. The concept of **Mana Wahine** asserts a fundamental belief that past, current and future generations have the right to **tino rangatiratanga** and that the tampering with genetic material is in direct conflict with that right.²⁶

Dr Leonie **Pihama** explains the ways **Nga Wahine Tiaki** instilled **tikanga** into the formal Royal Commission process at the very beginning.

*I think we had quite a presence at the opening day. At the Commission in Wellington I think we had probably ten to twelve women there from the group. They began the Commission hearing, you know, in a very, it was run like a court. The high court judge, he ran it like court, and so it opened like a court. After the first few minutes of the opening talk we decided, well that we really should intervene, and we opened it in a very **Maori** way. We did **karakia** [prayer], we did **mihi** [greetings], and made it very clear to them there were **Maori** people there. There wasn't a **kuia** [woman elder] or **koroua** [male elder], they didn't arrive until later. We made it very clear to ourselves that we were opening on behalf of ourselves as **Maori** people. We were doing it for our own safety in our own way. So, **Tere** did **karakia**, a couple of them did **karakia**, we did **waiata** [songs], we did **mihi**, and heard the first couple of seconds and then we left. We did our thing and left. Because we wanted them to know that they were being watched, you know, even if we're not there every day. We are aware of what they're doing. And similarly, when we did our submission as a group, on the **Maori** day, you know, when four **Maori** groups were doing their thing. We had fifteen women at the table when we presented. We had three, four, five presenters, that presented parts of each of the group's submission and then we opened it to the whole fifteen to respond to the Commission. Most of the women were participating. We tend not to be a very quiet group; we're pretty vocal. So again we had to re-co-opt the space, because there wasn't enough space, even though it's not my land. The way that we did that was that, because they did all this thing that you go and sit down when the Commission comes in, and all that kind of thing, and stand up, sit down, please have your seat, bla bla. What we decided was that when they were coming in, we left the room. There were some in the other room already. And then we waited for them to sit down and then we went into the room, did three **karanga** [calls, paying respects], one to the **whenua** [land], to the space, and to **Rangi** [sky father] and **Papa** [earth mother]. And that's how we began. It was really important to us that they were aware that we have a process; it wasn't their process. So, where they had three chairs for the table, we put fifteen. You know, we moved them all. We were all a part of what we were doing. We would begin by calling our people in and go from there. And that's basically what we did. It's a very effective thing for us to do. That's very much about making your own place, and that's what we were doing at the Commission.²⁷*

²⁶ RCGM Submission ('Interested Person'), **Nga Wahine Tiaki o Te Ao**, Executive Summary.

²⁷ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

Dr Cheryl Smith explains that things were always tense between **Nga Wahine Tiaki o Te Ao** and the commission, right from the start.

*When the commission had their first hearing, which was down in Wellington, we went there. The security guard at the door said "I hope you haven't come here to protest because (he was joking) I don't want to have to drag you out (he was **Maori**)." He took one look at us, and he knew we weren't happy about things. On the first day, when they opened that commission, we expected that some **Maori** process would be in place. Someone, perhaps **kaumatua** [elders], would be there to open it. Nothing. We occupied the front seats purposely. It was just a whole line of **Maori** women along the front seats. We did that on purpose. They opened the hearings, our women stood up, and one of them said that this should not proceed without beginning with a **karakia** [prayer]. She spoke and then one of the other women stood up and did a **karakia**. So, yea, we interrupted the proceedings. Did it and then sat down once we had finished our part.²⁸*

On the first day of hearings Aventis made a slick submission presentation.

During that first day of hearings, I think one of the first groups making a submission was Aventis. So we saw a multinational company making its presentation before the Royal Commission, arguing all the virtues of BT corn. They were saying how wonderfully safe BT corn is, bla, bla, bla. And, you know, we've kept it out of the food chain, etc, etc. We have good controls, we can control things, bla, bla, bla. The next week, the very next week, in the newspaper we heard that that corn was mixed up. It was only supposed to be fed to stock. It was mixed up anyway. They didn't know where the hell it had got to; it was in the food chain.

But the Aventis presentation really hit home to us too because it told us how much money, when Aventis did their presentation, they'd flown in experts from Canada, Australia. They had the money to really try to convince the commission. And, very flash. We had ourselves, nothing flash, and we couldn't argue billions of dollars, and all of these profits and anything else. So I think that was a very good stark contrast, them and us.²⁹

The group made a conscious decision to interrupt the commission process wherever possible.

*We did make the decision that where possible we would interfere with the Royal Commissions process. That would be our **kawa** [protocol] and our **tikanga** [custom] that would prevail whenever we were there. So we very much operated within that. When the **tikanga** was not present, we made it present. People were challenged, and we also did things around the Commission of questioning in as many places as they would let us question.³⁰*

²⁸ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

²⁹ Ibid.

³⁰ Ibid.

Another area where **tikanga** was instilled was when it was decided to present the submissions in **Maori**.

*Toroa Pohatu did an awesome presentation in **Maori** to the Royal Commission. Totally in **Maori**. So we presented most of our submission in **Maori**, most of it was in **Maori**. As far as we were concerned, that was the language within which to express what we wanted and to get the depth of what we wanted to say.*³¹

In relation to other groups submitting at the Royal Commission process, Dr Cheryl Smith felt they kept their distance from **Nga Wahine Tiaki o Te Ao**.

*We found the **Pakeha** groups who were making submissions on the same day, at the same time, not very friendly. I think none of them particularly wanted to know us or really wanted to talk about the treaty implications. Apart from one who represented GE-Free Nelson who approached us on the day and said “Look, I’ve got question time, is there anything you feel I should include?” And that was the one person in all of those **Pakeha** groups who were there who felt that it was important that the treaty partner participate in this process. The Greens very much took it forward as “This is our fight.”*³²

Although the Royal Commission positioned itself as independent, Dr Leonie **Pihama** describes how **Nga Wahine Tiaki o Te Ao** considered them agents of the Crown.

*From the very beginning we referred to them as agents of the Crown. They saw themselves as an independent commission. We just never bought that line. We always thought that they are agents of the Crown and therefore had obligations to the Treaty of **Waitangi**. We made that very clear from the very beginning. Sort of quite basic things, like why then if you’re an independent commission are you online as .gov.nz? You know, just basic things. Why then are (Dept. of) Internal Affairs doing all your mail-outs if you’re an independent commission? Really fundamental things – like “hello!” In many ways I think we were very painful for them. We challenged the Commission logo as a manipulation, as a modification, engineering of our **taonga** [treasures] - taking the **manaia** [bird-like carved figure] as manipulation. We were told it was done by a **Maori** woman. And that’s meant to make it alright? We just said, well even our people get it wrong.*³³

They seem to be quite small things. If I was doing textual analysis on the commission, that’s what would hit me immediately: how they name themselves, how they PR themselves, their notation on things, how their images are constructed. It’s very

³¹ Ibid.

³² Ibid.

³³ The Royal Commission logo is a version of a very common design used in **Maori** art. The Commission logo is a stylised **manaia**, which is a bird-like carved figure, called **Hei Mataara**, or Be Alert. The Commission describes the logo as “The protective **Manaia**, incorporating the double helix as its backbone, represents ancestral guardianship and the application of wisdom in care and direction for the future.” RCGM, Report of the Royal Commission on Genetic Modification: Report and Recommendations. (Wellington, New Zealand, 2001), inside cover.

*fundamental to how they present themselves to the world, and therefore to the identity of the commission.*³⁴

Nga Wahine Tiaki o Te Ao was considered extreme, and they proved to be problematic for the Commission process, as described by Dr Leonie **Pihama**.

*The submission was basically laying out our fundamental checks for us. What were our clear positions? And of course, you know, our positions were considered extreme. We were considered extreme from the first day we went in to apply for status. So, right from the very beginning I think we were sort of like this pain in the butt really. And in those places, often we didn't sit together, like Angeline and Jacqui would be on one side, and Cheryl would be in the back, and **Mereana** and I'll be over there, so they were getting it constantly from all around the room.*³⁵

Another aspect to how **Nga Wahine Tiaki o Te Ao** approached the hearing was not to engage with the science of genetic modification. When viewed from a **tikanga Maori** knowledge worldview, the reductionist science behind genetic engineering is highly problematic.

*They knew we would not come from a scientific basis, and we would not refute science. We decided not to engage in any of that, and we decided to stay off their ground.*³⁶

Dr Leonie **Pihama** describes the rebuke a paid **Maori** witness for the Life Sciences Network received when challenging key **Maori** concepts in order to promote the acceptance of genetic modification.

*When we go onto processes like the commission, we go into debates with organizations like Life Sciences, or with our own people who partner with Life Sciences, manipulating our knowledge. So the **Paora** Ammunsons and **Tamati** Cairns, those kinds of people that write for multinationals - write about us for the interests of multinationals and pharmaceuticals. And they get paid to do that. The other thing that happened in the commission process was that, I think it was **Paora**, one of them was there, one of the two guys who wrote for Life Sciences was at the commission. He was cross-examining us, but he made a couple of fundamental flaws. One is that he, his question took five minutes, which clearly indicates he likes hearing his own voice. He wanted to show us how knowledgeable he was before he asked his question. It was a really bad mistake to make with the kind of group of women that were there or with anyone generally. A lot of people get **hoha** [fed up] with that. And so people were like, "Can we get to the point! What's your question?"*

³⁴ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

³⁵ Ibid.

³⁶ Dr Cheryl Smith, research interview with the author, **Whanganui**, 1 March 2002.

*And the second thing that happened, which was very **Maori**, was that the two women who responded to him were the two women who were most directly related to him in terms of **whakapapa**. So the first woman [Annette Sykes], from **Te Arawa**, she responded to him by saying to him, all in **Maori**, “You are not supported by **Te Arawa**, your position is not taken by **Te Arawa**, you are not ever to come into these forums and say that you are here for **Te Arawa**.” Now Annette in actuality, as a **Te Arawa**, can say that because a lot of her work is for her people. So, **Ngati Pikiao** [a hapu of Te Arawa] took him out basically. He got a big kick in the pants. But when he thought she was over, **Tere** [Harrison] got up from his **Kahungunu** side, and she kicked him back the other way. He left within about ten minutes.*

*But that was very **tikanga Maori**. And the translator translated it in a very **tikanga Maori** way. His basic translation was that Annette Sykes was challenging the position of his statements and that **Te Arawa** does not support him. And the same with **Tere**, stating also that **Kahungunu** did not support him.³⁷*

Another aspect of the commission process was that none of the expenses for **Nga Wahine Tiaki o Te Ao** members were covered, as opposed to the Commissioners and business submitters.

*That’s the other thing about the commission process, that we as a group carried all of our own expenses. We carried everything, we carried the cost individually and collectively of getting to places, of getting down to Wellington, of trying to get people at the commission. We had people driving from **Taranaki**. We had no resources. We actually had absolutely no resources at all really. And that’s the other thing about the ERMA process, you know, people are spending, traveling up and down to Wellington. The group from **Waikato**, they constantly had to travel. And Cheryl from **Whanganui**, a good group from **Whanganui** went down. And then you get **Pakeha** organizations that have the resourcing, who are not challenging half the amount that we are challenging.³⁸*

Annette Sykes explains that the power point presentation made to the Royal Commission by **Nga Wahine Tiaki o Te Ao** incorporated an alternative.

*We want sustainable organics, so rather than just say what we don’t want, we also put up what we want, which is where **Te Waka Kai Ora** has come out of. We also went for an organic nation, GE Free, we put forward that we wanted to be part of an independent GE-free Pacific.³⁹*

Although totally marginalised, at least one Commissioner admired the determination of **Nga Wahine Tiaki o Te Ao** to be heard by the Commission. Dr Jean Fleming, one of the Commissioners for the Royal Commission on Genetic Modification, stated:

³⁷ Dr Leonie **Pihama**, research interview with the author, Auckland, 13 March 2002.

³⁸ Ibid.

³⁹ Annette Sykes, research interview with the author, **Rotoiti**, 17 March 2002.

Because the GM debate involves reproduction and food it is particularly a women's issue, and we had a group of **Maori** women who made submissions 3 times to be considered "interested persons"; the third time they formed a coalition and succeeded, mainly because they were very focussed. That group of women were some of the most powerful women in the world, and it was a day to remember when they came to speak to the Commission.⁴⁰

An exquisite politeness⁴¹

The Royal Commission process raised the broader issues for **Maori** of being heard as Treaty partners. In a paper summarising the Royal Commission process from a **Maori** perspective, **Moana** Jackson states that,

because the **Maori** consideration of many issues is reduced to a cultural phenomenon the efficacy of the **Maori** intellectual tradition is itself denied. In its place **Maori** are asked to offer a mere "perspective" which easily leads to rejection on the grounds of unreasoned (if interesting) spirituality or minimalisation as something that may be noted but ignored if more compelling scientific or economic reasons can be discovered.⁴²

Government institutions and bodies such as the Royal Commission are ideologically inclined to marginalise any cultural concerns because, fundamentally, such institutions are established to legitimise the status quo; namely scientific and economic "progress." Government approaches to bridging the differences between perspectives are aptly characterised in a statement made by ERMA in their closing submission to the Royal Commission on Genetic Modification: "In the meantime, the Authority and **Nga Kaihautu** will continue to work together to take consideration of **Maori** issues forward, notwithstanding the reality that we will debate issues vigorously, have different views on some matters and sometimes agree to disagree."⁴³ Indeed Dr **Mere** Roberts, **Nga Kaihautu Tikanga Taiao** member, characterises the difficulty as one of dealing with "intangible" matters.

⁴⁰ Buckley, M., "One Jean modified: A Royal Commissioner responds to 'GE Whiz!'" Graduate Women NZ, 2, 1, May 2002), 11.

⁴¹ Jackson, M., An Exquisite Politeness: The Royal Commission on Genetic Modification and the Redefining of the Treaty of Waitangi. (2001).

⁴² Ibid.

⁴³ ERMA Closing Submission, Royal Commission on Genetic Modification (2001: 1).

But when the perceived effects are of non-physical, spiritual or “intangible” nature (e.g. will contravene beliefs concerning the nature of **whakapapa** or **mauri**) then providing “evidence” is much more difficult as such effects are neither readily identified or described, and/or may be long term before being manifested. Because information on the adverse effects posed by GMO’s on **tikanga** currently does not exist, neither do traditional teachings or practises directed at their amelioration. Such aspects will require longer term research and discussion by **hapu** and **iwi** as to how they can be dealt with in a way that is both culturally appropriate and practical.⁴⁴

3. OCCUPATION OF THE ERMA OFFICE

When the findings of the Royal Commission on Genetic Engineering were announced on 31 October 2001, there was a large gathering of protestors in Wellington and a march to Parliament to express disappointment with the decision made by the government. Prior to the march, the **Maori** groups gathered in Wellington decided that an occupation of the ERMA office would send a strong message of disapproval to the government and ERMA and would be an effective form of protest. The Greens however disagreed.

Although there was a large and varied group of people gathered in Wellington to hear the release of the findings from the Royal Commission, the Green Party felt it had rights in making the decisions on what would occur, which did not include occupying the ERMA office.

*When the findings of the Royal Commission were announced, we pretty much knew what was going to happen. They were going to go ahead and put a moratorium on. We already knew all that long before, could’ve predicted that even before they set up the commission. We were all gathered down in Wellington on the day. I think the Greens or someone organized a march on parliament on that last day when they were going to release the report. So all of us **Maori**, of course, we all wander off down there saying “Yay, let’s get together at **Tapu Te Ranga**.” And we go down to **Tapu Te Ranga**. We’re all staying there. And all of the Greens and everyone else are there, and this is pretty typical of our encounters, which is that within a kind of short space of time, we had our **mihimihi’s** [greetings] and everything, the Greens thought they were in charge. They had led the **hikoi** [protest march] down the North Island, therefore they were in charge once we get down there. “We are leading the GE movement,” you know, that was kind of how they approached it. In actual fact, many different groups from all around the country were there, who have been doing much work for a lot of years. And we were gathered there*

⁴⁴ Roberts, M., Genetically modified organisms and **Maori**: A critique of the ERMA process for assessing cultural effects under the HSNO Act 1996. (Report prepared as part of Winston Churchill Memorial Trust Fellowship, 2000), 15.

*because it just happened to be a march on parliament. But anyway they tried to claim ownership at **Tapu Te Ranga**.*

*One of our **Maori** men stood up fairly early on in the piece and said, “just in terms of, you know, how we work our process for plans for the march tomorrow, let’s break into our two groups shall we? Can we put **Maori** downstairs, and we’ll have a **Maori** caucus, just so that we can have a talk amongst ourselves. And you guys can meet up here, and then if we can kind of talk through it, then we can come back and sort of have a bigger **korero** [talk] later on.” So all the **Maori**’s were happy about that, we all ran downstairs happily. There were sixty of us happily downstairs having a good catch up and a good **korero** about where we were at with this GE thing and what was going to happen. Meantime, while we’re down there, the **Pakeha**’s are upstairs crying and upset and bereft because they’ve been abandoned and “oh, you know, we were leading this march and they’ve gone off and...” because they were never taught to share their lollies. Yea, so you know, they’re going into crisis upstairs, while we’re happily having a **hui** downstairs. We’re happily having a **hui** getting on with the business, working out what it is we feel is appropriate for the next day’s proceedings. Right, we go back upstairs.”⁴⁵*

Although the Greens and others did not want to participate in an occupation of the ERMA office,

Nga Wahine Tiaki o Te Ao and their supporters decided to do it alone.

*One of the things that is talked about downstairs is that we want to go to ERMA; we felt that ERMA had got away with a lot. As the body that was supposed to be preventing or doing risk management, monitoring risk management in the country, they were letting every GE application that came in be approved. They were approving it. So we had felt that they had got away with murder. On our way down to parliament at the **hikoi**, let’s call in to the ERMA office. So this suggestion came up, but it was quickly dispensed with by the **Pakeha** group, so we just dropped it. We dropped it, in terms of talk, and said right, “Well our **roopu** [group] will go in,” you know **Nga Wahine Tiaki**, because that follows on our **kaupapa**. It was appropriate for us. **Kei te pai** [that’s fine, everything’s good], everyone else wanted to just do that walk to parliament, that’s fine. That was ok. When we came back to sort of have the **hui** together, it was a disaster. You know, the **Pakeha**’s were so bereft and feeling as if the **kaupapa** had been hijacked, had been hijacked because it was their personal **kaupapa**. You know, they had carried it themselves. So it was a case of us going about our normal business of expecting people to treat us equally. So anyway, that was all right, we just went off to bed, you know it was quite late. The next day our group didn’t join with the **hikoi** [march]. We went straight to the ERMA office.”⁴⁶*

The impetus behind occupying the ERMA Office was to make a statement.

***Maori** occupied the ERMA office to make a statement about the disagreement with what came out of the Royal Commission process. For me, we were forced into an action in Wellington to make a statement. And it got headlines. We went there with a legitimate*

⁴⁵ Anonymous.

⁴⁶ Ibid.

purpose: "We want to know what you've done to our country, and we're not leaving until you tell us. We want to know all the applications you've approved."⁴⁷

From the very beginning of the occupation of the ERMA office, **tikanga Maori** was integral to the process.

*We marched straight in the door. We'd worked out our strategy, and we were women and children. We worked out that we wanted to make some clear statements: we wanted to put some earth, we wanted the four elements there – earth, fire, wind, and water. We took each of those things and placed them down on the **Tino Rangatiratanga** flag. We laid it out there. This was in the foyer of the office. We had a big sign, which said "Hands off our **whakapapa**." And we took that, and we just sat in the office. There was not only **Nga Wahine Tiaki**; there was also some of the men there. But they wanted us to take the lead. Basically, "your **kaupapa** [idea], you fella's go for it." And they sat back and let the women speak, which we did. From the time we got into the office, we only spoke in **Maori**, which meant they had to run away and get a **Maori** speaker.*

*So they ran off and they got **Parekura** White, who is a **Maori** speaker. So he came in and **korero Maori** [spoke Maori]. He was in shock as well. And he started to speak and was told "Come around and **mihi** [greet] first," you know. He got the "come and **mihi** first" so he had to come along and shake all our hands, **hongiri** [greet traditionally by touching noses] us first, you know, due process. We're all, you know, friendly-as. "Ok, how can I help you? What do you need?" this is **Parekura**. So the **korero** starts up. We would've been in there, I think, maybe about an hour. And we've rung the media beforehand, so all we needed was the TV cameras, and they arrived pretty quickly. So you know that was the next thing, coming in and filming. But the **korero** the whole time, we stayed in **Maori**. No English was spoken.*

The first thing we asked for was a list of all of the applications that related to human material and going into any other form of life. And we couldn't believe the number they brought out. They went and got it. They went and got it because they thought that's what we were there for.⁴⁸

Some of the women explained the incident where the applications were handed over and the episode they had in finding a **Maori** speaker:

And so they gave us all these applications, and we thought we had them all. We had about 183 out of 683. They kept 500 of them from us. But that was bad enough for us to actually see that they had gone ahead and closed up, you know.

*This is **Maori** from all over the country. They asked "What areas did you want the applications from?" We go, "Everywhere."*

*Everywhere. All around the country. "Who's your leader?" "We don't have leaders." You know we're all concerned and we're all affected. And "Oh, well, it's going to take us awhile to find it." "Fine, we've got all day. We'll just sit in your office until we get it." But it was all conducted in **Maori**. And there's no **Maori** receptionist. We **karanga'ed** [formally welcoming newcomers to a space] ourselves into the office. It was all done in*

⁴⁷ Ibid.

⁴⁸ Ibid.

the Maori way. And they were totally thrown. They had to go and find a Maori in the department because no one could speak Te Reo Maori. And they found one guy. I felt really sorry for him but he was really good. He came down and he understood exactly where we were coming from. And basically he spoke to all the higher ups and said "Give them what they want or they're not going to leave." But they hid information from us. So we used that too. We said, no these guys have kept it.⁴⁹

Once they received what they had asked for, the applications, another idea came to mind.

They delivered that. Parekura, thinking ok we're going to leave now, said "was there anything else you want?" And a woman spoke up and said "Yes there is. We want you all to vacate your offices because you've done a terrible job. You have failed to do what you were supposed to do, which is protecting the environment, and we'll be taking over your offices. There is the new minister of this, there is the... Show us to our offices please." It's hard to maintain a straight face through all this. And then, "what!" you know. And then so different ones came out and Parekura was translating. And then after a period of time, oh that was another thing, someone put a big sign up saying "The office is closed," "ERMA office is closed."⁵⁰

Another woman further elaborates the closure of the ERMA office.

It was a good strategy because one of the men actually took over the reception, put a sign on the front door saying that ERMA is now officially closed and will no longer reopen. And he started answering the phones and relaying that message.⁵¹

A strong signal was sent to ERMA that "**Maori** are watching you!" After that, the group joined the protest march on parliament grounds.

So we were only in there for about an hour but, again, really effective. We did want to signal to ERMA, "don't you buggers think that you are not accountable, don't give me that bullshit about 'I'm just doing my job' because it's more than that." The laws and the regulations are pretty much the same here as they are in Denmark, I think it is. Denmark, their ERMA, has actually turned down every application. These buggers are approving every one. So they're already a biased outfit who are promoting it, you know, and that's how they've read their job. They've completely ignored every time any Maori has spoken, and the Maori Advisory group [Nga Kaihautu] has rejected every human material application. And they [ERMA] have approved every one. So, they've again treated Maori pretty badly.

So we came out of there, and then we went straight on to parliament, we went straight on to parliament grounds and then we pohiri'ed [welcomed] in the marchers.⁵²

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

The occupation of the ERMA office was effective on a number of fronts, and with some unexpected supporters of the **kaupapa** (cause/purpose) protesting against genetic engineering.

*It was effective to me on several fronts. One is we wanted to say to ERMA, "you guys are responsible as well, and don't think that we think you are immune to this." So it was a shake up call. You're accountable. So, we wanted to send that clear message, which we did. Certain things happened after that. Things like they've had to really rethink how they're going to work with **Maori** communities. But you know, that question has at least come up. Unfortunately, I think what they're going to do is try to pour money into educating **Maori** communities, from people who they approve of. Now to me, that's dangerous.*

*The benefits of GE. "It's not all bad," you know, "there's some good science, there's some bad science," that sort of stuff. So I think some money will be put out there in that way. I think that ERMA will be a facilitator of that. We had meetings with **Maori** MP's as well, and I was pleasantly surprised at their feelings about it, their feelings about GE. They were prepared to put themselves on the line and say "no."*

*They weren't vocal around the communities about it, but when it came to the crunch and they had to vote, and they did have meetings where they made that position clear, and they did express how **Maori** people felt. But to me, I was surprised by that. I thought this would be one of those issues that they trade off. And I think they were pretty aware about ERMA too, about the failures of ERMA. It was last minute, absolutely last minute. They were our last line.⁵³*

4. NGATI WAIRERE & AGRESEARCH

The most visible and controversial genetic research for **Maori**, and indeed the New Zealand public in general, relates to transgenic cow research being conducted by AgResearch, a Crown Research Institute based at **Ruakura** in Hamilton. AgResearch made two separate research applications, one in 1998 and one in 2002, which was an extension of the first. In 2002 blanket approval was given by ERMA to undertake GE research and trials to create calf embryos using synthetic human genes and genes from mice, deer, goats, or sheep. AgResearch hoped to produce therapeutic proteins in the transgenic animals' milk for treatment of diseases such as multiple sclerosis.

You might ask, "Why is medical research being conducted in an agricultural research environment?" A possible answer to this innocent, yet often overlooked, question may be found

⁵³ Ibid.

in a small paragraph embedded in the “Strategic Directions” section of the November 1999 “Medical and Health Industries Strategic Portfolio Outline,” (SPO) which is used by the Foundation for Research, Science and Technology (FRST) to guide investment decisions in research, science and technology.

The interchange between the medical and health industries and the food and fibre sectors is important to the success of this SPO. Much of the technology can find a testing ground in the food and fibre sector where competitive product entry is often less regulatory intensive than the human healthcare market. Conversely, many of the biomedical tools offer new sophistication for novel approaches in the food and fibre areas.⁵⁴

Astounding as this sounds, it is entirely logical for genetic researchers to find the path of least resistance, the “less regulatory intensive” food and fibre sector. It would seem that the Foundation for Research, Science and Technology, in its position as one of the largest public funding agencies for research, helps researchers find the path of least resistance by influencing the direction of research. Biomedical research is seen as a vital area of growth in New Zealand. As this case illustrates, AgResearch is seen as a big player in this development.

In December 1998, AgResearch first submitted an application to ERMA for approval to insert copies of human genes into cows. In August 1999 ERMA heard submissions by the public on the AgResearch application, of which Ngati Wairere was a submitter, albeit last minute.⁵⁵ In July 2000 AgResearch was given approval to proceed with their research by ERMA. Papers were filed by **Ngati Wairere** and other concerned citizens in the High Court in August 2000 to challenge the approval given by ERMA. In May 2001 the High Court overturned the research approval given by ERMA citing some concerns with the application process and security and safety measures surrounding the research. ERMA announced in May 2001 that a “special

⁵⁴ Medical and Health Industries Strategic Portfolio Outline, (November 1999). Foundation for Research, Science and Technology (FRST). Obtainable on FRST website at: <http://www.frst.govt.nz/about/spo/medical.pdf>, accessed on 8 September 2003. Strategic Portfolio Outlines (SPO) are used as investment strategies that set out the Foundation’s investment priorities in order to achieve government outcomes. FRST is one of the main government research funding bodies.

⁵⁵ Angeline Greensill, who made a submission on behalf of local **Maori, Ngati Wairere**, accidentally heard about the submission process the day the call for submissions closed.

committee” would be established to conduct a rehearing, in private, to address the High Court’s concerns with the application process, and the “special committee” would not hear any new submissions. Later in May 2001 ERMA reconfirmed the AgResearch research approval, after AgResearch and ERMA addressed the concerns of the High Court related to procedure and security for a high-level containment research facility.⁵⁶ During this research application process, sixty cows were pregnant with transgenic offspring. In December 2000, of the sixty pregnant cows only six transgenic calves were born, New Zealand’s first genetically modified dairy cattle.

AgResearch made a second submission to ERMA in May 2002 to insert genes from humans, goats, pigs, deer, sheep, mice and other genetic sequences into cows. In August 2002 ERMA held a hearing into the AgResearch application and in September 2002 approved the research application. AgResearch was given ERMA approval to experiment on cows using genes from humans and other mammals as well as move from the laboratory to an outdoor containment facility, which basically consisted of a high-security fence and electronic tagging of the transgenic cows.⁵⁷

Bevan **Tipene-Matua**, who was at the time ERMA’s Senior Policy Advisor on **Maori** Issues, states that this case represented a list of firsts.

This was the first application to be opposed by an **iwi**, the first public submission received from a **Maori**, and the first time an application (or at least the human gene aspect) was deferred for six months. More importantly, the AgResearch proposal to produce a herd of GM cattle raised stakes considerably in determining the nature and extent of the impact on **Maori** of GMOs. **Te Kotuku Whenua**, an environmental group representing Hamilton-based **hapu Ngati Wairere**, consistently argued that the production of GM cattle on their ancestral lands would cause a spiritual imbalance within that community and result in serious adverse psychological impacts on the **Ngati Wairere**. This claim raised the ante on the impacts of GMOs on **Maori**. One participant at a **hui** we held at the time exclaimed, “Is it an animan or manimal?”⁵⁸

⁵⁶ *Waikato Times*, “\$3000 fine for man who sold stolen **Ruakura** meat,” 27 June 2001. It is interesting to note that this incident of a local man convicted for selling uninspected meat from the AgResearch site occurred after AgResearch had assured the New Zealand public that security at AgResearch was more than adequate for high-level containment research.

⁵⁷ Source: *New Zealand Herald* news articles.

⁵⁸ **Matua-Tipene**, B., “A **Maori** response to the biogenetic age.” In Prebble, R., (ed.) *Designer genes: The New Zealand guide to the issues, facts and theories about genetic engineering*. (Wellington, New Zealand: Dark Horse Publishing Ltd, 2000), 106.

Ngati Wairere, along with other submitters from around the country, opposed the research. Key figures in the case against the AgResearch application were Jacqui **Amohanga**, Angeline Greensill and Maree **Pene**. In their own words, they reveal and unravel the AgResearch and ERMA processes from an insider's perspective.

Submission heard by ERMA relating to AgResearch application

Jacqui **Amohanga** pays tribute to Angeline Greensill for instigating opening up the process for **Maori**.

*The first time the AgResearch application that was undertaken in regard to the issues of human DNA and cow DNA came to us, there was only one **Maori** submission. That was Angeline Greensill. What Angeline effectively did was ensure that the Authority came out to the local **hapu**, which ended up being my people. There were two applications going at the same time. That other application, which had nothing to do with human DNA, was manipulating the DNA structure of sheep. Now, as a result of that, those two applications, **Maori** promptly became really, really interested in actually what was happening in the scientific area.⁵⁹*

Angeline Greensill describes what happened when she first found out in mid-1999 about the AgResearch application to create transgenic cows.

*What really happened when they first started this thing, I found out the day the submissions closed that the application was happening at AgResearch, and I rang Jacqui. I said, "Hey, there's this big thing about cows and humans happening down there. Let **Wairere** know." Because I thought, geezzus, two hours to go and I slapped this submission in, which was a doorway in, which meant that they had to go back and try and talk to the people whose land this thing was happening on. And **Wairere** ended up having to be chucked in at the backend on this issue that they had never, ever, been consulted on. And this was after the submissions had closed.⁶⁰*

⁵⁹ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

⁶⁰ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

What was surprising was that there was no public announcement or call for submissions in the local media.⁶¹

*They never advertised anything in the local media. The advertisements were in Otago, in Auckland, and there was nothing in the Hamilton papers. And even today, when they have **hui's** around the country, often, it is advertised in other centres, except Hamilton where the research takes place. They're keeping the people of this town ignorant. So it's a deliberate move to exclude the public from knowing what is happening in their backyard.⁶²*

Another hurdle for submission was the language and terminology used in the application forms for making a submission.

*Both me [Jacqui **Amohanga**] and Angeline [Greensill], we've got really good analytical minds eh. And like it took us awhile to figure out what they were trying to get at in regards to their processes for **Maori** risk assessments. And so Angeline was asked to go down there. So we went down there and we just totally rewrote it. I said, "If you're expecting applications to come back at the **marae** level, following this formula, you won't get a response."*

They're not fulfilling their responsibility under the treaty to make the parties well informed by creating academic, scientific terminology that people can't understand. And they wonder why previously they didn't have many people submitting in opposition to the application. Because they couldn't understand them!⁶³

Presentation of Ngati Wairere submission to ERMA opposing AgResearch application

The process for the **Ngati Wairere** submission involved extensive consultation with the hapu, as Jacqui **Amohanga**, Maree **Pene**, and Angeline Greensill explained.

*Jacqui **Amohanga** – What our process was, basically, we listened to the **korero** [discussion/talk] that happened from the people, and then what we do is we go back to the office and then we identify what we think could be possible issues for **Ngati Wairere**, and then that discussion paper gets circulated around **Ngati Wairere** for them to add comments to, to throw out whatever's not relevant or to alter. So that's the way we did it. The initial research was actually done by me, in identifying the key points associated*

⁶¹ In GE tamarillo trials conducted in **Kerikeri**, there was also insufficient notification. Organic farmer and activist Marty Robinson says, "They [ERMA] say notify apparently in three places, which turned out to be the *Herald* [national paper based in Auckland], the *Dominion* [Wellington based newspaper] and the *Christchurch Press* or *Star* [Christchurch based]. And that's not very relevant to Northland." Marty Robinson, research interview with the author, **Kerikeri**, 6 March 2002.

⁶² Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

⁶³ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

with **Maori** values in general. And then once you've gone through the **Ngati Wairere** process, then that's when it actually came down to the actual **Ngati Wairere** perspective. **Maree Pene** – I didn't have a clue what to do about it in the beginning. I was just a normal housewife.

Angeline Greensill – Like most of us. I mean I looked at it, and I thought it was unbelievable. When they tell you this stuff and when I read up, they can't do this. You know, it's just strange.⁶⁴

Jacqui Amohanga, working as part of **Te Kotuku Whenua** Consultants, the **Ngati Wairere** Environmental Agency, helped **Ngati Wairere** formulate a submission. “*ERMA and AgResearch tried to sidetrack Ngati Wairere right at the beginning. And one of the things that we were told is that, 'oh, we don't need such a long report from Ngati Wairere, we just want to use your name.'*”⁶⁵ The most important thing for AgResearch was to report to ERMA that the local **hapu**, **Ngati Wairere**, were consulted. As part of the ERMA process, research applicants are required to consult with local **hapu** and **iwi**. However, consultation does not mean that those consulted will be listened to. Consultation is just another box to be ticked off in the application process. Alongside these token efforts of consultation are the hostile submission and consultation environments. The whole submission process was hostile to **tikanga Maori** processes.

*And then we had to, this is all the **raruraru** [trouble] that we had to go through, just to go through the **Ngati Wairere** informative process, before a decision could be made by **Ngati Wairere**. So, here's a small group of us trying really hard to applicate with AgResearch, and we can't, our small crew can't make a decision just on our own. We have to collate the information, and then we have a method of actually circulating that information back down to the people as a whole. And they couldn't understand that, and their timeframes didn't allow that to happen.*

*What we wanted all the time was to have a **hui** with the people. We didn't have enough time to actually speak, to contact certain representatives from different **whanau** groups, which is not the right process for **Maori** to go through. You have a **hui**. To make a decision you have a **hui** that's advertised to everybody that belongs there. But for convenience sake, you select certain individuals from different families to kick the process off to advocate for a **hui** of the people. And also to identify some issues. It got to the actual hearing stage where the Authority made a decision on it without that **hui**. And then the **Maori** representatives basically had to argue strongly that a **hui** of **Ngati Wairere** take place. So we did end up having that **hui**.⁶⁶*

⁶⁴ Angeline Greensill, Jacqui **Amohanga**, Maree **Pene**, research interview with the author, Hamilton, 9 March 2002.

⁶⁵ Jacqui **Amohanga**, research interview with the author, Hamilton, 9 March 2002.

⁶⁶ Ibid.

The ERMA review process reveals the inconvenience of a democratic process that allows adequate time for consultation and review by the various publics. This “quick and nasty” ERMA submission style is counter to a **tikanga Maori** process, but it is also inadequate for all citizens of New Zealand. Not only were **tikanga Maori** processes undervalued, but Jacqui **Amohanga** also explains how **Ngati Wairere** were basically sidelined as having spiritual concerns only in the hearing process.

*Now, when it got to the hearing stage, what they did was categorize **Ngati Wairere** as only interested in spiritual values. They took no notice of the physical values and the psychological values.*

*So some of the physical things that we addressed were the intergenerational problems, which is a physical thing. The impact on the underground water table and the potential for organisms to regenerate themselves in the soils and also in the underground water tables with the effluent from the genetically modified cattle. So all those physical things, they didn't address. The physical values that we had a concern with, they didn't address. They turned the whole hearing, the whole argument around, and this is the media portrayal that we came out with too, they turned it into a public perception that **Ngati Wairere** were only interested in the spiritual things.*

The thing is, if they focussed on just the spiritual, it means that they can ignore the physical things. They sidetracked everything to the spiritual side, even through the whole court process.

*The psychological things in regards to, you know, **Aotearoa** and their clean, green image, that's a psychological effect. But the fact was that **Ngati Wairere** were having these types of experiments in their **rohe**, and for the status of their **mana**, as perceived from other people, if **Ngati Wairere** didn't stand up and do something about it? You know, these all go to psychological things.⁶⁷*

Moana Jackson would perceive **Ngati Wairere** as treated as providing a **Maori** “perspective” that can be “noted” but swiftly ignored because the scientific and economic arguments are more compelling in the quantifiable ERMA research application approval environment.⁶⁸ AgResearch and ERMA considered anything else apart from reductionist science of less importance, such as the **tikanga Maori** knowledge issues addressed by **Ngati Wairere**.

What was important for **Ngati Wairere** was to exercise their rights and responsibilities of self-government, with the authority to monitor what happens in their own **rohe** (region/territory).

⁶⁷ Ibid.

⁶⁸ Jackson, 2001.

This **Ngati Wairere** case highlighted for **Maori** around the country the presence of transgenic research being conducted in New Zealand.

*Maree Pene – One thing I will say, with all that’s going on, it’s certainly alerted **Maori** throughout New Zealand, if not probably the world, because of this case...it made other **Maori** people aware of what was happening out here, right in our **rohe** [region/territory], you know. And we had people wanting to know what **Ngati Wairere** was doing about it. Then you get other **hapu**’s and **iwi**’s wanting to come and support you and they all want to go off and do their thing. It certainly made **Maori** aware in some areas what was happening with our genes.*

*Angeline Greensill – Yea, I felt sorry for **Wairere**, the load that they carried in terms of being in the limelight on the issue.⁶⁹*

Pakeha scientists were quick to imply the “public good” aspect of the research to the public, as in a cure for multiple sclerosis, but officially the scientific argument was couched in terms that highlighted the benefit to scientific knowledge.

*The argument that was always used by scientists is that this is for the public good, that this particular case was going to help multiple sclerosis, without any fact or rationale behind it. They promised things and then when it came to the actual case, it was quite evident that they were not promising any medical benefit. They were saying that this experiment was for scientific knowledge itself. No benefit to the public. But the media stance was all the way through, and continues to be, GE is good for you because of the benefits that are going to accrue to all you sick people who are diabetics, who are mainly **Maori**, who are such and such, and such and such. And it’s that emotional blackmail. When they put their case to the High Court [where AgResearch’s research approval from ERMA was challenged], there was no talk about the benefits to medicine; it was about the scientific knowledge, that’s all, because they can’t prove anything.⁷⁰*

AgResearch’s lawyer asked the question, “How do you quantify **Maori** spiritual risk?” Jacqui

Amohanga, Maree **Pene**, and Angeline Greensill explained this incredulously.

*Jacqui **Amohanga** – Who’s defining, you know, like at the hearing AgResearch’s lawyer questioned me on, “how do you quantify **Maori** spiritual risk?” And I said “Well, haven’t I said this all the way, I said this in my evidence, that there’s no way you can quantify spiritual, risk associated with spiritual values. You’ve got so many **Pakeha** religious representatives out there, going blessing all over the place. Do you expect them to go and actually count how many times they go and do a blessing and act with people in areas, and you’re expecting or wanting us to do the same?” And another thing is, a lot of people will do a **karakia** [prayer] in the morning, or because of occasions or issues, how can you count that? The **karakia** is actually part of the process, the spiritual process of protecting yourselves. Ok, how do you quantify that?*

Angeline Greensill – And why should you have to?

⁶⁹ Angeline Greensill, Jacqui **Amohanga**, Maree **Pene**, research interview with the author, Hamilton, 9 March 2002.

⁷⁰ Angeline Greensill, research interview with the author, Hamilton, 9 March 2002.

Maree Pene – Yea, it's a ridiculous question asked.

Angeline Greensill – Yea, they're not quantifying anything.

Maree Pene – We asked them several times to put in writing what are the risks of this experiment? We asked them "what are the risks? Do you know of any risks?" They said the question was irrelevant.⁷¹

Angeline Greensill – And this is the Environmental Risk Management Authority. Their job is to manage risk. If you don't know what the risks are, how can you manage the risk?

Jacqui Amohanga – I can't understand how that application could go ahead without them actually looking at the soil, without them looking at the water table.

Angeline Greensill – And those are all things that you can test.

Jacqui Amohanga – Containment, disposal, there's those two things as well.⁷²

AgResearch publicly advertises that they have a "fail safe" containment system.⁷³ Jacqui Amohanga and Angeline Greensill discuss with me how absurd this position is, as highlighted by Malibu Hamilton, another Maori who worked on the Ngati Wairere submission opposing the AgResearch application. He also works with Jacqui at Te Kotuku Whenua Consultants, the Ngati Wairere Environmental Agency. They also express how shocked they are about some aspects of the research.

Jacqui Amohanga - But it's even like dealing with some of the AgResearch issues using humor, like Malibu's [Hamilton] saying that, you know, part of their containment

⁷¹ When I attended a closed meeting on 24 September 2003 between a group made up predominantly of scientists and Minister for the Environment Marian Hobbs, held at the University of Waikato, I heard a similar comment from an AgResearch scientist saying that the risk of horizontal gene transfer is so minimal that you can forget it. Prior to this, Marian Hobbs asked the scientists present whether or not horizontal gene transfer can occur through cow excrement, where GM DNA leaches into the soil, as that very question had been asked of her by a member of the public. Another AgResearch scientist commented that there is a likelihood of this occurring but the risk was seen as low/minimal. What the scientist was more concerned about was the impact of mosquito's because in a lab or closed containment you could discover the effects, but it is unlikely you would discover the effects of mosquito's in a field experiment. The concern about mosquito's is that they might transfer genes or viral vectors or naked DNA from transgenic cows to other hosts including humans.

Genetic engineering is a specifically designed technology that allows the transfer of genes horizontally between species that do not interbreed, such as the research conducted by AgResearch to create transgenic calves. Horizontal gene transfer is defined as "the transfer of genes to unrelated species by infection through viruses, through pieces of genetic material, DNA, by being taken up into cells from the environment, or by unusual mating taking place between unrelated species." Ho, M.-W., *Genetic engineering - Dream or nightmare? The brave new world of bad science and big business*. (Bath, UK: Gateway Books, 1998), 13.

⁷² Angeline Greensill, Jacqui Amohanga, Maree Pene, research interview with the author, Hamilton, 9 March 2002.

⁷³ Suzuki & Knudtson believe "However carefully lab tests are performed, those studies must eventually be replicated outside if engineered plants or animals are designed for external use. Accidental escapes in the lab or field are inevitable and the ecological consequences cannot be predicted beforehand" Suzuki, D., & Knudtson, P., *Genethics: The ethics of engineering life*. (Toronto: Stoddart Publishing Co. Limited., 1990), 299.

systems that they actually have, part of the containment process for security was for them to ring...

Angeline Greensill – I'll or ring the police

Jacqui Amohanga – the police. Ring the police. But how much experience do the police have in herding cattle? And then another one was, and as for the security firms, ok, because Malibu [Hamilton] runs a cleaning business, the alarms accidentally are set off sometimes by some of his workers, and the security firms don't even turn up. And even if they do turn up, they come about half an hour, an hour, later.

Angeline Greensill – You can get in and out of there very quick.

*Jacqui Amohanga – The other humorous things that Malibu [Hamilton] said was, if you allow this to go ahead, the reputation of the **Waikato** will be that you could go up to anywhere on the paddock and say "**kia ora**" [hello] and they'll say "**kia ora**" back. And then they'll also say, "pull the left teet for milk, and the right one for medicine."*

Paul Reynolds - That's biopharming or something like that.

Angeline Greensill – Yea, it's shocking. They're treating the cows as factories eh. Living factories.⁷⁴

Jacqui Amohanga – But the thing with that, with that first application, is that usually you get a ninety-five percent success rate in a cow producing calves. This one...

Angeline Greensill – There's three living out of sixty. Yea. Three living out of sixty!

That's bad science. Why bother, I don't understand it.

Jacqui Amohanga – Yea. They should've had fifty-five.

Paul Reynolds - That's nature telling them, telling them something, right away.

Angeline Greensill – Why are they even doing it?

*Jacqui Amohanga – Now, we're consistently asking, **Ngati Wairere's** consistently asking, we want the reports on why the calves have died or why the calves have been aborted. They have never given us it.⁷⁵*

AgResearch Update

Dr **Mere** Roberts believes ERMA's decision in approving AgResearch's application for research to create transgenic cows was swayed because

genetic research, including transgenic research, is widely pursued throughout the world and is well established in New Zealand particularly in agricultural research. They consider that "if the Committee were to decline the present application because of **Ngati Wairere's** concerns, all transgenic research – in universities, hospitals, research institutes, and whether in the laboratory or under field test conditions – might have to be terminated."⁷⁶

⁷⁴ "Bioreactors," "biopharming" and "pharming" are terms used by the research scientists and genetic engineers to describe the use of animals as production houses for the purpose of secreting drugs in the animals milk. Dr Mae-Wan Ho, Dr Ruth Hubbard and Jeremy Rifkin are examples of people who have critically discussed this development.

⁷⁵ Angeline Greensill, Jacqui **Amohanga**, Maree **Pene**, research interview with the author, Hamilton, 9 March 2002.

⁷⁶ Roberts, 2000: 19.

As a new technology that is being sanctioned and publicly funded through the implementation of neo-liberal government policies, genetic research will of course be widely pursued by researchers. However, the black and white scenario painted here by Dr Roberts of ERMA's decision-making process makes it very easy for a decision that recommends, "Proceed with caution." Because there is no visible "middle-ground" for ERMA when assessing the merits of genetic research, where the choice was to grant approval or terminate all transgenic research across the country, the decision will more often than not fall on the side of the genetic engineers regardless of what **Maori** or the general New Zealand public think. The result of this thinking by ERMA is that **Maori** concerns about genetic modification are listened to with "exquisite politeness" and then overridden. As Dr **Mere** Roberts states, "In the absence of any known cultural, spiritual or psychological effects of genetic modification, particularly that involving transgenic organisms, the ERMA has increasingly sought to place the 'burden of proof' on affected **hapu/iwi** by requiring them to provide evidence of any adverse effects."⁷⁷

If little or no space is made for alternative worldviews such as the **tikanga Maori** knowledge perspective, approval of this type of research will continue. **Ngati Wairere** has, however, achieved tremendous ground for **Maori** in interrupting this undemocratic and irresponsible decision-making process. **Ngati Wairere** have first of all conscientised **Maori** communities and made them more aware of the importance of monitoring what happens in their own **rohe** (region/territory). Second, **Ngati Wairere** has forced a space in the ERMA decision-making process for **Maori** communities to participate and be consulted. Third, **Ngati Wairere** has re-engaged **Maori** communities in utilising **tikanga Maori** knowledge perspectives and frameworks in the process of analysing research applications. Community engagement with **tikanga Maori** knowledge perspectives as an analytical tool has perhaps lain dormant because some communities have seen that it has not been given legitimacy in processes such as the

⁷⁷ Ibid., 27.

ERMA submission and approval process. With the continued use of **tikanga Maori** knowledge worldviews by **Maori** communities in forums such as the ERMA process, **tikanga Maori** knowledge becomes even more visible, but not yet validated, as an alternate and legitimate worldview.

A second AgResearch submission to extend the already existing research was made in May 2002. AgResearch was seeking to extend their therapeutic protein research by conducting trials for a genetically modified enzyme replacement therapy to treat Pompe disease. Pompe disease is the result of an enzyme deficiency in cells, which can cause respiratory problems in newborn babies or heart failure.⁷⁸ The second submission sought approval to create calf embryos using genes from humans, mice, deer, goats, sheep or cattle. It won blanket approval to undertake genetic engineering research and trials using human material and other mammals. Some of the reasons why AgResearch wanted to make such a generic research application were to refine the technology that produces transgenic animals and to avoid the cost and delays of having to gain approval from ERMA for each new GM organism.⁷⁹ ERMA approved the AgResearch application in the face of eight hundred and fifty-six objections and just seven submissions in support.⁸⁰ Even though the number of objections may seem astounding, when a government, such as New Zealand, has a heavy investment in a new technology, manifest in the promotion of publicly funded research in genetic engineering and in a regulatory body that evaluates an application primarily on its economic potential, then objections to a research application become irrelevant.

The total eight hundred and sixty-three submissions were made by a variety of people and groups, including the Green Party and other organizations opposed to genetic research, such as MADGE (Mothers Against Genetic Engineering) and Greenpeace, and concerned members of the

⁷⁸ *BIOTENZ* News Update, 19 September 2003. To date there has been a dismal record of gene therapy experiments.

⁷⁹ *NZ Herald*, "'Floodgates' warning for ERMA," 14 August 2002.

⁸⁰ *NZ Herald*, "Gene plan meets fierce opposition," 12 August 2002.

public, and those for genetic research, such as the Life Sciences Network, Fonterra (representing the national dairy industry), Federated Farmers (representative of the national farming industry), and the New Zealand Organisation for Rare Disorders.⁸¹ The spectrum of objections ranged from questioning the legal and jurisdictional capacity of the ERMA to make a decision on such a generic application,⁸² to adequacy of containment facilities, to assessment of significant risks of the organism, to concerns of the risks to **Maori** economic, social and cultural well-being. The sheer number of objections is heartening to **Maori** who are also concerned about the applications of this new technology. However, as discussed earlier, working collaboratively with some of these groups is problematic for **Maori** because of the differences in worldview. The variety of groups concerned with these new technologies nevertheless make visible the different issues surrounding genetic engineering technology for the New Zealand publics and make space for the engagement between applicants, ERMA and the public in the decision-making process. In order for the government and its agencies to be perceived by the general public to be operating in a fair and democratic way, concerns need to be seen to be heard, but not necessarily listened to.

Prior to the December 1998 AgResearch application to ERMA, **Ngati Wairere**, the local **hapu** in whose **rohe** the research was to be conducted, was not consulted. In a similar genetic research case in 1994, Pharmaceutical Proteins Limited (PPL) Therapeutics (Scotland-based company that produced Dolly) and Selbourne Biological Services (based in **Tauranga**, New Zealand) were able to say that they had consulted with local **Maori** by convincing one member of the local **iwi** that the genetic engineering research seeking a cure for cystic fibrosis and other such diseases that they were going to do was for the benefit of all of humankind.⁸³ The only reason **Ngati Wairere** were alerted to the 1998 research application was because Angeline Greensill

⁸¹ Environmental Risk Management Authority Decision: Application GMD02028, 30 September 2002.

⁸² ERMA had previously only made decisions on specific descriptions of the organism and not made decisions on applications that were generic in their description of the organism used. AgResearch had also described its application as the “development” of a genetically modified organism in containment (which has less regulatory controls), but some submitters contended that the application was actually a field test, which would require tougher regulatory controls.

⁸³ See Chapter Four for more detail of this case.

discovered on the last day that ERMA was receiving submissions from the public for this application and concluded that she needed to hastily submit something so that the **Maori** view could be heard by the ERMA committee. Since this first AgResearch application, **Ngati Wairere** has made sure they were fully aware of the research AgResearch was conducting in their **rohe**. As a result, AgResearch needed to find ways to “consult” with **Ngati Wairere** as part of the ERMA application process and as part of its own internal research processes. AgResearch, since the first application, has been instrumental in developing consultation processes with different **Maori** groups, after taking advice from PHP Consulting Ltd, legal advisors Russel McVeagh, ERMA and others. In fact PHP Consulting Ltd prepared a consultation and relationship-building planning document that was written by **Paora Ammunson**.⁸⁴ AgResearch has brought **Ngati Wairere** on board in their decision making of new applications and projects by giving them membership in: the **Ruakura** governance structure; the **Ruakura** Institutional Biological Safety Committee (IBSC); key project monitoring groups; and stakeholder consultations in applications.⁸⁵ AgResearch also intends to consult more widely with other **hapu** and **iwi** in the **Waikato** area in its future research applications.

With all the consultation occurring with **Maori** since AgResearch’s first application in 1998 and the consistent opposition by **Maori**, the research projects nevertheless continue and are extended. This sends a strong message to **Maori** generally, as stated by Angeline Greensill in her Statement of Evidence to ERMA for the first AgResearch application, “The approving of this application will serve as a permanent reminder to our people that our cultural and spiritual values and beliefs are still considered insignificant in matters which have the potential to adversely affect us, our future generations and our relationship with our environment.”⁸⁶

⁸⁴ Application No. GMD01194, Form 3, Application for approval to develop in containment any genetically modified organism under section 40 of the Hazardous Substances and New Organisms Act 1996. ERMA generic application submitted 20 December 2001 by AgResearch Limited. (p. 38).

⁸⁵ *Ibid.*, 57.

⁸⁶ ERMA Hearing: Application GMF98009 (AgResearch, Cattle), 25 August 1999, Wellington District Courts, Wellington.

5. SUMMARY OF NGA PUNI WHAKAPIRI: SITES OF STRUGGLE

In conclusion, the objective of this chapter was to conduct an exploration of three sites of struggle over **tikanga Maori**, drawing extensively on conversations held with key figures in the movement who describe the site from the inside. In fact, the last four chapters in this thesis highlight a struggle over the legitimacy of a **tikanga Maori** knowledge worldview and **tino rangatiratanga, Maori** self determination.

The view guiding policymaking by political elites and their academic and corporate advisors in New Zealand is neo-liberalism. The knowledge economy, as an integral part of the neo-liberal agenda, encompasses the expansion of emergent technologies such as genetic engineering. This struggle then involves a confrontation with neo-liberalism. This fight is as much a fight against neo-liberalism as it is about claiming space for the **tikanga Maori** knowledge worldview and **tino rangatiratanga**. For David Groenfeldt, “the most promising avenue for leveraging indigenous identity as a mechanism for supporting indigenous values lies not in attempts to directly block Eurocentric influences, but rather to subvert and reform them, often making use of the Eurocentric legal system...or conventions of discourse.”⁸⁷ Dr Maria Bargh, a **Maori** academic, agrees that using the system to fight the system is effective.

I argue that explicating indigeneity in more complex ways creates problems for neoliberal policies and agendas. It creates problems because the category of Indigenous “culture” which these neoliberal policies and agendas seek to identify, work through and reform is singular and stagnant and by complicating it we subvert re-colonising practices.⁸⁸

This broadening of Indigeneity expressed by Dr Bargh “emphasises daily Indigenous living as countering re-colonisation on multiple levels...Naming Pacific cultures and world views as

⁸⁷ Groenfeldt, D., “The future of indigenous values: Cultural relativism in the face of economic development.” (*Futures*, 35, 2003), 926.

⁸⁸ Bargh, Maria, *Recolonisation and Indigenous Resistance: Neoliberalism in the Pacific*. (Unpublished PhD thesis, Canberra: Australian National University, 2002), 20.

resistance to neoliberalism, re-imagines them as living, capable and continually changing sets of alternatives to neoliberalism.”⁸⁹ Aziz Choudry further believes that the localised, day-to-day struggles are most effective.

If we are truly fighting to win, struggles against neoliberal globalization must be firmly grounded in the day-to-day struggles in our communities, and based on solid community organizing, and not reliant on grand NGO talkfests, trade union or NGO elites' cosy, private chats with politicians and business, or glossy lobby documents. In directly confronting the processes and actors in our own communities which perpetrate injustice we can better identify and understand the mechanics of global capitalism and how to resist them.⁹⁰

In the three sites of struggle over **tikanga Maori** knowledge explored in this chapter, power was made visible, power was interrupted and resisted, and **tikanga Maori** knowledge was applied in these hostile environments. For **Maori, tino rangatiratanga**, or self-determination, is the ultimate goal in all resistance to power.

At the end of the day sovereignty – **tino rangatiratanga** is a key component in the ability to make decisions for ourselves – as Indigenous people, the ability to have the control over our own decision-making, the ability to say what ought to be held in reserve, and the ability to say what is able to be commercially used in a sustainable way.⁹¹

These three sites highlight the vitality, strength and will of the movement to validate and legitimate **tikanga Maori** knowledge in a collective struggle to protect the whenua (land) of **Aotearoa** and the entire whanau (family) of living relatives for whom it is home.

⁸⁹ Ibid.

⁹⁰ Choudry, A., “Satisfaction not guaranteed: WTO in Montreal.” July 30, 2003. *ZNet* online activist journal.

⁹¹ Smith, G., H., “Controlling knowledge: The implications of cultural and intellectual property rights.” In Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two, (Auckland, New Zealand: IRI/**Moko** Productions, 1997b), 21.

CONCLUSION

We are not one people. We are two people together, Treaty partners, that make up a nation: **Maori** and **Pakeha**. The **Hikoi** 2004 contesting the “ownership” of the seabed and foreshore in New Zealand was a tremendous example of the manifestation of a powerful gathering of protest by the **Maori** Treaty partner against the **Pakeha** Crown. This twenty-thousand-strong gathering of mainly **Maori** represents a uniquely **Maori** way of struggle. **Maori** are able to collectively mobilize around a particular issue relatively quickly. This is possible because, although in each **rohe** (regions) the **whanau** (family), **hapu** (sub-tribe) and **iwi** (tribe) manage local struggles, struggles are centered on fundamental issues that affect all **Maori** communities. These fundamental issues relate to the protection of **taonga** (precious treasures), **tikanga Maori** knowledge (**Maori** custom, practice and knowledges) and **tino rangatiratanga** (self determination), all of which were guaranteed protection in the Treaty of **Waitangi** signed in 1840. When there is a need, **Maori** are able to utilize these strong local community networks to be able to mobilize nationally, as was evident in the **Hikoi**.

This thesis examines how the **Nga Puni Whakapiri** movement attempts to protect **taonga** and **tikanga Maori** knowledge. As a result of illuminating the **mahi** (work) of the **Nga Puni Whakapiri** movement, it was possible to observe **Maori** struggle. By observing how the **Nga Puni Whakapiri** movement struggles over the protection of **taonga** and **tikanga Maori** knowledge, a nascent theory of **Maori** resistance emerges.

1. NGA PUNI WHAKAPIRI: INDIGENOUS STRUGGLE AND GENETIC ENGINEERING

There has been a marked transformation in the New Zealand economy, shifting from a largely farming and agriculture-based economy to being a more specialised, technology and knowledge focussed economy. This change in emphasis has been driven by successive

governments implementation of neo-liberal policies. The new emphasis on the “knowledge economy,” as an integral part of the neo-liberal agenda, encompasses the expansion of emergent technologies such as genetic engineering. The government is convinced that great promise is offered by the knowledge economy and the potential for innovation and the protection of innovations through intellectual property laws. This expectation rests largely on an assumed imperative to greatly expand the use of the new biotechnologies in agriculture and medicine.

This thesis has examined this imagined economic imperative to grow the biotechnology sector and the implications for **Maori** of further enclosures via genetic engineering and commodification of life. Particular groups and coalitions of groups drive this industry. Added to this, New Zealand is bound by trade agreements, which make **Maori** as treaty partner invisible. Biotechnology is promoted by the government, which also has responsibility for regulating this new technology. The public, welfare state, **Maori**, the Treaty of **Waitangi**, and public good are token insertions in government policy documents. In reality the public, welfare state, **Maori**, the Treaty of **Waitangi**, and public good are impediments to this vision of progress and the neo-liberal agenda. However, these terms can also be used in such a way as to advance the neo-liberal agenda. For example, the “public good” is an ambiguous phrase that can permit any research to be conducted under the guise of benefiting the public. It becomes important then to ask, “What is the public good?” and “Who defines the public good?”

The neo-liberal environment is sterile and closed to the public. Transparency and accountability to the many publics is often subsumed by a committee (Environmental Risk Management Authority, ethics, Institutional Biological Safety Committees), a weak substitute for the public. These committees become the surrogate for the community. This environment breeds a culture of secrecy, where commercial sensitivity appears sometimes to be used as an excuse to prevent intrusion by the public. However, correspondingly, there is a generated race to proceed, whether it is with caution is debatable, at the expense of due and thorough process and, it seems, with little regard to the risk of the unknowns in this type of research. Laws and regulations are

seen as impediments to the progress of science, of a reductionist, corporatised science, and less regulation, more self-monitoring, and expediency are seen as vital to economic sustainability. This environment also breeds a culture of fear. Some researchers conducting controversial research, such as genetic engineering, are fearful of retribution from an unstable anti-GE protestor or the fear of losing years of research to vandalism. For some **Maori** academics, voicing the concerns of **Maori** communities is not advantageous for receiving research funding or for career advancement or promotion. This is evident in a number of situations. In universities and Crown Research Institutes, it is unlikely that research that critiques biotechnology will be funded because the New Zealand government is promoting and funding biotechnological research. The situation also arises for **Maori** where only “legitimate” voices are heard in the university and government environment. This results in the dichotomy of “good **Maori**,” “bad **Maori**,” “good **Maori**” being those who conduct biotechnological research and those that find ways to obfuscate **tikanga Maori** knowledge, and “bad **Maori**” being those who expose the hazards – cultural, ecological, spiritual, and political.

This thesis has also argued that policy makers, ministers of parliament, ministries and the government are failing to deal honestly with the broad sense of unease that **Maori** communities have with these technologies. They are responding to the “no” response of **Maori** by co-option of **Maori** people and obfuscation of **tikanga Maori** knowledge. As well, the government is strongly promoting more “dialogue” and “education” of **Maori** communities and increasing funding and resources to the regulatory bodies, not for regulation of the new technology but for risk perception management. This activity is ultimately designed to domesticate **Maori** dissent.

There has been a strong and consistent expression of concern by **Maori** about biotechnology and genetic engineering. However, there have been tensions between anti-GE **Pakeha** perspectives on patents on life and genetic engineering and **Maori** perspectives. **Pakeha** groups generally have different reasons and motivations so a single collective New Zealand voice has not been possible. What is possible is a diversity of concern by different groups around these

issues. **Tikanga Maori** and the **Nga Puni Whakapiri** movement heavily emphasise the traditional elements of **aroha** (love) and respect for all things. **Maori** and the **Nga Puni Whakapiri** movement are in a traditional cultural way called to be responsible for the **kaitiakitanga** (guardianship) of all things and for this and future generations. One might also argue that, as the **tangata whenua** (people of the land) and Treaty partner, **Maori** have an inherent right to be heard on these issues.

Patents on life, bioprospecting, and the development of marketable products and processes of genetic engineering are a new form of colonialism, or biocolonialism. **Maori** and other Indigenous people are placed in a defensive position and face a dilemma when their **taonga** are commodified. Once there is an acceptance of some commodification, we enter a very slippery slope where it is extremely difficult to restore either a commons or a public domain. There is a need to restrict property discourse and retain notions of intrinsic value outside the Western conception of “economic value.” What is evident in New Zealand is that there is little room to say “no” to research. Dissent is managed and domesticated by various processes, which include the Royal Commission on Genetic Modification. What is left open for **Maori** in these undemocratic processes of Royal Commissions, consultations and call for submissions is to ask “how can **tikanga Maori** be incorporated into regulation and law?”

Critical understandings of neo-liberalism need to be developed in the community. When confronting injustice in our own communities, it is possible to make visible the impacts of neo-liberalism and to play a part in disrupting, obstructing or even overthrowing relations of power perpetuating this injustice. For this reason **Nga Puni Whakapiri** have to be grounded in their own communities and organizations because knowledge is largely local; it is located in a particular geographic space and housed within the collective knowledge of a particular people.

2. NGA PUNI WHAKAPIRI: THE MOVEMENT

The **Nga Puni Whakapiri** movement employs three main strategies in the struggle over **tikanga**: to educate, to protest through direct action, and to offer alternatives. This connects to the work of Dr Graham Smith on **Kaupapa Maori** transformative praxis and the work of Antonio Gramsci on hegemony. Transformation occurs when three key sites are engaged: the struggle for consciousness; the struggle for knowledge; and the struggle over the state or government, or the “war of position.”

The struggle for consciousness involves a battle to dislodge the hegemony of reductionist natural, social, and applied science. Vital in this battle is the production of counter hegemonic views. Instrumental in this regard are education and awareness resources produced for our communities that provide a critique of hegemonic concepts and perspectives and an explication of an alternative perspective, the **tikanga Maori** knowledge worldview and the need to protect and nourish it.

The struggle for knowledge involves advocating the **tikanga Maori** knowledge worldview by integrating it into everyday practice, resources produced for our communities, and making space for its implementation in the academy. “Organic intellectuals,” such as those involved in the **Nga Puni Whakapiri** movement, work to influence “traditional intellectuals,” who take the current state of dominant power relations for granted and reproduce them in thinking and theory, thereby maintaining the status quo. This thesis and other writing in the academy on this topic are also avenues for making space and legitimising **tikanga Maori** knowledge in the academy.

The struggle over the state or government, or the “war of position” as Gramsci calls it, involves engagement with multiple sites of struggle over policy decisions. As outlined in this thesis, there were some key sites where the **Nga Puni Whakapiri** movement actively engaged with state institutions in order to represent views of **Maori** around new biotechnologies. Any

engagement with the state by **Nga Puni Whakapiri** members, from providing input at public consultations to attaining membership on monitoring or regulatory committees, is an attempt at influencing existing regulation and future policy. As part of this struggle, **Maori** students are being encouraged and mentored by **Maori** academics to complete doctoral degrees in efforts to increase the intellectual knowledge base of **Maori**, as well as developing “Ph.D. credentialed change makers.”¹

3. EMERGING THEORY OF MAORI STRUGGLE

Maori have a coordinated resistance to genetic engineering. This coordinated resistance is focussed in the form of **Nga Puni Whakapiri**, a term meaning broadly “the gathering group.” In this notion of gathering is the knowledge that **Maori** can be working for their own communities but also have the ability to collectivize in shared **Maori** opposition. This resistance connects to the **Maori** Revolution of the 1980s,² beginning with the **Maori** language revitalisation initiatives, the politics of race centred on the 1981 Springbok rugby tour and the structural economic conscientization of **Maori**³ as a result of encounters with the neo-liberal economic formations generalised as Rogernomics.

This resistance is both profound and multidimensional. It is theorised, has practical protest expression and is connected to traditional **Maori** epistemology and ways of thinking. The **kaupapa** of **Nga Puni Whakapiri** is fundamentally centred on the protection of **taonga** and **tikanga Maori** knowledge, Treaty partnership rights and the goal of **tino rangatiratanga** or self-determination. These fundamental core values have the power to mobilize and gather together **Maori** people quickly around a struggle. This gathering is not merely about political agendas, winning or money, but is about the protection of these fundamental core values that have the

¹ Term coined by Dr Graham Smith.

² Smith, G., H. The Development of **Kaupapa Maori**: Theory and Praxis. (Unpublished Doctoral Dissertation, University of Auckland, 1997a).

³ Namely, the conscientization of **Maori** to the extent of institutional racism in New Zealand.

potential to impact the future and future generations of **Maori**. This struggle is supported by networks of local **Maori** communities throughout the country who have the potential to pull together their resources in times of need. **Maori** have a strong capacity to mobilize and support one another with whatever they may have available at the time.

There are unique features about this resistance particularly in the area of processes of resistance that derive from **Maori** cultural elements, for example the ability to collaborate, utilising **whanau** and **iwi** structures, the ability to clearly enunciate a different epistemological base to science, and the ability to employ existing frameworks of resistance embedded in the contestations between dominant **Pakeha** interests and subordinate(d) **Maori** interests. How or even whether **Nga Puni Whakapiri** are organized is peripheral to the impetus for the gathering. People will gather together around a particular **kaupapa** rather than around a particular leader or organiser or organisation necessarily. The **kaupapa** is more important than the actual leader or group that may give visibility to a particular issue of concern for **Maori**. This means that **Nga Puni Whakapiri** is not reliant on an organisational structure or hierarchy. It is **kaupapa** and issues based. This gives **Nga Puni Whakapiri** greater flexibility than a number of other protest movements.

There is a general problematic in the collusion of corporatised science with neo-liberal economics, particularly in the globalised formations which are expressed through the multilateral corporate trade structures such as APEC and GATT. In this sense the **Maori** struggle against the (unholy) alliance between a faulty reductionist science and neo-liberal economics is a small part of a much wider international struggle. Therefore, the **Maori** struggle and what is articulated in this thesis should not be seen as any more important than other struggles in this arena but is one site of struggle in the broader sense. What is unique about the **Maori** situation is the extent to which the New Zealand struggle is also about the defence of **Maori** language, knowledge and culture.

What this thesis has also been concerned with is to show that the **Maori** resistance has been significantly about hegemony – that is, the control over meanings and interpretations in the common sense understandings of the New Zealand public. It is to this end that the work of Antonio Gramsci has been critical to explain what is going on, how it is being sustained, and how it might be challenged and overthrown.

In the end, this thesis hopefully makes a new contribution to not only supporting **Maori** struggle to assert our thoughts and position on these issues in a coordinated way, but it also may well define critical issues and successful strategies in producing a pedagogy of struggle (that is, processes of struggle – how to do it, for example, booklets using **Maori** language and terminology, using **whanau** linkages and networks, and using **Maori** cultural elements such as **kaitiaki**, **tikanga Maori** and **tino rangatiratanga**).

I would like to leave you with the words of Dr Graham Smith who summarises for me the central goal of the **Nga Puni Whakapiri** movement.

At the end of the day sovereignty – **tino rangatiratanga** is a key component in the ability to make decisions for ourselves – as Indigenous people, the ability to have the control over our own decision-making, the ability to say what ought to be held in reserve, and the ability to say what is able to be commercially used in a sustainable way.⁴

⁴ Smith, G., H., “Controlling knowledge: The implications of cultural and intellectual property rights.” In Cultural and intellectual property rights: Economics, politics & colonisation. Volume Two. (Auckland. New Zealand: IRI/Moko Productions, 1997b), 21.

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