The Protection of Indigenous Medical Knowledge: Towards the Transformation of Law to Engage Indigenous Spiritual Concerns

By

Christopher Jones Kavelin

BTheol Hons, Otago University, 1995
MTheol Hons, University of Sydney, 2001

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Healing Rainbow

by John Hunter and Chris Jones Kavelin
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Synopsis of Thesis

This thesis explores the necessity of a paradigm shift in the protection of Indigenous medical knowledge (IMK) that involves several key aspects. It begins with the analysis of the extent and significance of the denial of dependency on this IMK as manifested in spiritual imbalances of economic relationships and health systems in both the international and Australian context. Analysis of the legal and policy systems will conclude that genuine protection of IMK is impossible unless the application of and values inherent in the diversity of Indigenous customary legal systems is enabled.

This suggested paradigm shift firstly deconstructs the jurisprudence and history of Western IP as a local and subjective system rather than a universal objective value. The second element of the paradigm shift is re-engaging aspects of the spiritual dimension in Western law presently devalued. The thesis further explores practical consequences of honoring the spiritual elements of Indigenous customary law and IMK and recommends a methodology to facilitate the evolution of this process. The thesis then deconstructs the university as one of the most significant gatekeepers of the flow of IMK from communities to transnational companies. It explores the history of this development and its close association with the crisis of academic capitalism that has negative consequences for both Western and Indigenous peoples and suggests strategies to transform this context.

One of the possible remedies proposed in this thesis is the repatriation of IMK. It describes four models of repatriation of IMK. It concludes that such a paradigm shift will transform a global system of intellectual property law that will enable a greater valuing of the diversity of the worlds biocultural diversity and transform a profit based health system towards a reciprocity/gift giving model that will ensure greater access, diversity and reduced costs of medicines.
Statement of Candidate

I certify that this thesis has not been submitted for a higher degree to another university or institution.

Christopher Jones Kavelin
Acknowledgements

This thesis was made possible through the contributions of many people over many years that extend beyond the duration of the doctorate. To offer a proper acknowledgement that only involved the thesis writing stage would require listing several hundred people that have made direct contributions to this thesis. However I wish to express my debt of gratitude to a number of people without whom this thesis would not have been possible. At the outset, I express my deepest gratitude to my supervisors, Professor Andrew Buck, Associate Professor Jim Cohen and Terry Widders, for their kind and patient guidance and supervision. I am also grateful to those whose views and thoughts guided my way through the formation of the ideas expressed in this thesis, and they include, Peter Drahos, John Braithwaite, Graham Dutfield, Catriona Mackenzie, Memory Elvin-Lewis, Ann Waters, Richie Howitt, Paulo Morisco, Paul Stevenson, Steven King, Sam Altman, Val Plumwood, the elders of the Ngati Whare Marae, Gerard Bodeker, Nicole Graham, Manuka Henare, Henrietta Marrie, Kevin Locke, Aunty’s Mary Ann Coconut, Carmel and Marlene, William P. Alford, Kelly Tudhope, Gerard Bodeker, Maui Solomon, Linda Tuhiwai Smith, Rigney Lester-Irabinna, Andrew Beattie, Joanne Jamie, Subra Vemulpad, David Harrington, Thomas Dzeha, Terri Janke, Greg Young-Ing, Merle Assance-Beedie, Michael F. Brown, Janet Hope, Suheil Bushrui, Michael Christie, Vito Comar, Michael Davis, Mere Roberts, Uncle Ian, Uncle Lyle Wadda, Ervin Laszlo, Philip Pettit, Marion Maddox, Charles McManis, Ikechi Mgbeoji, Mary Minangall, Kelly Bannister, Clark Peteru, Deborah Bird Rose, Brad Sherman, Tove Skutnabb-Kangas, Brendin Tobin, Joseph Vogel and all the Bachelor of Community Management students.

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My deepest gratitude is to my family who cultivated my values and beliefs that motivated the writing of this thesis. A special debt rests with my wife and her sisters who encouraged me and nourished me during this journey. Last but not least my thanks to Maman Jun for her continual love and constant prayers. Her spiritual support may have been physically distant, but it was deeply felt and resulted in many blessings.
Chapter One

Introduction

Part I

Personal Background and Internal Methodology

Korihi te manu
Takahia mai te ata
Ka Ao
Ka Ao
Kua Awatea
Tihei Mauriora!

Te kupu tuatahi me wehi ki te Atua.
Te Timatanga o te whakaro nui
Me whakahonore ana nga whare kahui ariki nui tonu
Te whare e tu nei, tena koe, te papa e takoto nei, tena koe
Tena korua.
Nga mate o te motu, haere, haere, haere,. Moe mai I roto I te Ariki,
kati ra kia koutou.
E nga mana, e nga reo koutou nga kaumatua, nga tuakana, nga teina,
tena koutou, tena koutou, tena koutou katoa.¹

¹ This “mihi mihi” or Maori introduction was given to me by Huti and Danny Watson, originally from New Zealand, who at the time of writing lived in Alice Springs. I was given this
Translation:

The Bird warbles
The dawn is imminent
The world of being is hither\(^2\)
The world of being is hither
The dawn has broken
'Tis the breath of life!

The first word is given (belongs with) to God,
the Beginner (or Initiator) of all great thought (great things)
And then (I) pay tribute to the (plural) houses of the nobility (kahui ariki, or royalty) throughout (the land)
The house (ancestral) that stands here, greetings to you...
The land that lies here, greetings to you... greetings to you both.
To those of the land (or motu - island) who have passed on, farewell, farewell, farewell, sleep (rest) in the realms of God, stay (stop) to all of you.
To those of mana, those of the language, the elders, the older ones of the families (and genealogical lines), and the younger ones of the families, greetings all, greetings all, greetings all of you together.

\(^2\) ‘Ka’, indicates something that is about to happen. ‘Ao’ literally means the world.

introduction to use in a special Hikoi of Indigenous conference participants, who spent a few days before the conference to consult on the Ngati Whare Marae in the Whirinaki rainforest in June 2005.
I write this as a person trying to build bridges of understanding between my own Western culture and Indigenous peoples. Over my lifetime I have tried to deeply listen to Indigenous peoples, many of whom treated me as part of their family, and I hope to honor the spirit of this in my thought and practice.

This thesis takes seriously the ancient Divine command *Gnothi Seauto: Know Thyself.* Upon discovering that there has been a great injustice in the unethical appropriation of Indigenous medical knowledge in the history of my own Western culture, my reaction is to then ask myself, “What actions or inactions, thoughts or non-thoughts, am I responsible for that contributes to this injustice? And then on a deeper level, questions such as, “What is keeping me from honoring the Indigenous customary laws of the communities that govern the protection and Indigenous custodianship of that knowledge?” In this thesis this means using several strategies such as utilizing standpoint theory\(^3\) to deconstruct the place I stand, deconstructing the cultural relativity of my own Western intellectual property system and finally deconstructing the institution in which I spent the most time writing this thesis, the university itself.

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This PhD has an introduction of two parts. The first part tries to explore and make explicit my personal background, ‘internal methodology’ and bias. This is a combination of an application of standpoint theory and honoring the wisdom of Indigenous styles of introduction. The second part explores the more standard academic background issues and methodology of the thesis. This is symbolic of core issues of Indigenous concern in reconciling relationships such as spirit and matter, heart and mind, culture and law, personal and public, ‘history’ and modernity which this thesis attempts to encourage.

It is not normally perceived as necessary in Western academic research to declare ones background beliefs or underlying intentions contributing to their work. On occasion there may also be an assumption that such discussions are either value free or ‘neutral’. I think this sometimes unspoken presumption (or rather burden) of presumed objectivity is often a fallacy that leads to a less productive and creative exchange of knowledge and more importantly, wisdom.

The objectivity in social sciences is suspect. The only thing that a researcher can honestly do is to make one’s biases explicit.

Our subjectivity or ‘lifeworld’ is the place where our knowledge arises, the place where the abstract finds expression in the practical that makes it meaningful.

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Every theoretical and scientific practice grows out of and remains supported by the forgotten ground of our directly felt and lived experience, and has value and meaning only in reference to this primordial and open realm.  

That moment when we have the flash of insight where all the connections are made and when we deeply know, we feel it in our body. It could be said that we do not know something until we feel it in our body. Until universal truths and principles have become localized in our experience, we cannot really be said to know them. Einstein was able to develop his mathematical model of the theory of relativity because when he was a young man he had a dream or vision of what it felt like to ride a ray of light. He then began to translate that subjective experience into mathematical expressions of the universal. In his own later work, Einstein made explicit the importance of subjective experience as perhaps the most important ground of discovery.

The problematic assumption of objectivity or universal applicability is sometimes representative of a lack of self-awareness of our own individual and cultural

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uniqueness, the unique diversity of others, or a misplaced assumption that faith and reason, spirit and matter, heart and mind, can or should be separated; or perhaps even more commonly, an awkward attempt to respect the mandates of academia that often filters the acceptability of such integrated categories.

We must, as the twenty-first century begins, move beyond the intellect and its attendant cult and acknowledge that the mind, when divorced from the heart, is not a reliable instrument for accurate perception\textsuperscript{10}.

The divorce of heart and mind is reflected in growing concern of an ‘unbridgeable chasm\textsuperscript{11}’ between the humanities and the sciences in Western academia. The methodology of honoring a spirit of reconciliation ‘internally’ may offer contributions to bridging these chasms of thought in academia.

The Indigenous tradition of introducing oneself and acknowledging the custodians of the land upon which we stand, the spirits of our own ancestors, the ancestors of our hosts, the land we come from, the land we stand upon, the elders present and then telling our history and stories of the gifts and burdens


\textsuperscript{11} On this David Harmon comments, "It is often said that any coherence that once may have existed in the Western scholarly tradition is long gone. Gone too, so the reasoning holds, is any hope for a broad, intelligible view of what is going on in this particular region of thought. The few remaining would-be generalists must skulk through a fragmented, fractured intellectual landscape, picking their way on cat’s feet through minefields laid down by increasingly specialized and insular disciplines, moving gingerly so as not to detonate the latest fashionable theory. Erosion, of a kind, is responsible for the dominant feature of this landscape: a chasm between science and the humanities, now grown so wide and deep that it is often given up as unbridgeable. Actually, ‘given up’ is a mild way of putting it. There are plenty of people who positively relish the distance, thankful of any opportunity to dismiss the other side, on guard always against any attempts at bridge building." Harmon, D. (2001). On the Meaning and Moral Imperative of Diversity. On Biocultural Diversity: Linking Language, Knowledge and the Environment. L. Maffi. Washington, Smithsonian Institution Press: 53
that have brought us together, is not just an Indigenous ritual that requires ‘cultural sensitivity’ and occasional acknowledgment when the meeting happens to be about ‘Indigenous issues’. It is much deeper than this. It is reflective of much that needs healing in the metaphysics of ‘Western’ consciousness that is at the heart of many of the individualistic and materialistic ways that are destroying the diversity of life: both ‘biodiversity’ and cultural diversity.

Contained with the spiritual concepts associated with ‘meeting each other’, almost universal to the thousands of Indigenous communities around the world, is an assumption that we are all connected and that we all carry spiritual gifts that require this sacred acknowledgement in order to share such gifts in an appropriate way of exchange. As we meet, our ancestors also meet and the possibility is enabled for us to share gifts, heal wounds, restore relationships and recognise our connections as family again with each other and the land\textsuperscript{12}. This is the theme of the painting which is at the frontispiece of this thesis.

For such a restoration of relationships to become possible it is essential then that we do not just objectify this as an ‘Indigenous ritual’ which is an isolated subjective experience of ‘them’ but not ‘us’. Instead we have the opportunity, no matter what our mix of cultural backgrounds, to participate in this sacred meeting space with each other so that the restoration of relationships can truly occur. If we are to take serious such knowledge, we have to allow the possibility that our own ‘Western’ ancestors also participate in such meetings and relationships. To deny this possibility leaves one section of the family reaching

\textsuperscript{12} I began to become aware of the distinctive and sophisticated layers of meaning in Indigenous introductions while I was living in New Zealand and became increasingly familiar with the experience of participating in such ceremonies. In gatherings I have participated in, where Indigenous peoples from a number of countries participate, these principles are almost universally echoed: honoring the sacred presence of ancestors, land, elders and community and the exchange of gifts, both material and spiritual.
out their hand and the other standing back either dismissing it as superstitious ritual or commenting on the hands significance as a sociological phenomenon. All of us have before us the chance to learn the spiritual art of the embrace and let it reflect in not just that moment, but in our own being and carry that embrace of recognized interdependence with us into how we think and act in every aspect of our life, from thought to action, from our private individual and family life to our public relationships and work. This embrace can carry forward into the very formulation of law and policy itself and the local and international social institutions in education, health, law, business and politics.

For particularly important meetings, sometimes Indigenous introductions can take days, while the actual discussion may take much less time. This is because respectful and loving introductions can establish meaningful spaces of connection by hearing and acknowledging each others burdens, wounds, gifts and hopes. These spiritual introductions also facilitate clarity of intent and purpose that illuminates discernment about ‘why’ we are talking in the first place. This helps develop a shared vision of the essential nature(s) of the relationships in a way that the actual consultation on a specific problem may either take less time than the actual introductions or even no longer be required, as unity in diversity with each other is often the solution to most problems that feel essential in nature. Without such introductions we can get caught up in the problem almost immediately, forget we are relating to people who are in essence spiritual beings who are our own wider family and that we are not there to debate ‘concepts’. Without such introductions we then either take a very long time to establish the unity in diversity necessary to solve the problem, or never
have the unity and therefore are never truly empowered to address the problem under discussion at all\textsuperscript{13}.

Therefore I begin this thesis with an introduction in a style that is not traditionally accepted as part of the main body of a PhD thesis, although in reality it may be the most significant part of the entire thesis. It is an attempt to honor an Indigenous tradition that contains a depth of symbolic philosophical sophistication not capable of being explored in a single thesis, or even a hundred. On another level, the introduction of my ancestors is an attempt to acknowledge and honor the spiritual gifts, knowledge, responsibilities and obligations passed on to me which are also reflected in the origins, methodology and purpose of this thesis.

I was born in Manhattan, New York. Manhattan is the name of an American Indian tribe. Manhattan means ‘the island of hills’. The Manhattan’s are a tribe of the Wappinger confederacy that occupied Manhattan Island and the east bank of the Hudson River and shore of Long Island Sound, in Westchester County, New York.

My mother is Linda Kavelin-Popov\textsuperscript{14}. She is a very special human being who has dedicated her life to serving humanity. She suffered with polio as a child and

\textsuperscript{13} For example many partisan political systems are constructed in an almost inherently adversarial model in which winning a debate over concepts in parliament is the immediate objective of consultation rather than mutual service. This framework itself contributes to a paralysis of political will and prevents achieving unity of action in service to humanity.

\textsuperscript{14} The reflections on my family here make no pretence of being complete descriptions of their characters. My family is entirely human and every individual has their challenges of growth. But here, as in Indigenous traditions, I choose to honor their gifts of spirit that I feel blessed with having encountered.
now suffers with post-polio syndrome as an adult, yet she is rarely resting at home, and is often in a developing country or with Indigenous peoples. Among her many selfless acts of devotion was the co-creation with my step-father Dr. Dan Popov, and my Uncle John Kavelin, of the Virtues Project\textsuperscript{15}, which has been honored by the United Nations as a “model global program for families of all cultures\textsuperscript{16}”. She has written other works of equal merit with one of her books, \textit{The Pace of Grace}\textsuperscript{17}, receiving endorsement from the Dalai Lama\textsuperscript{18}. In spite of a clear ability to become very wealthy because of the potential of that project, I don’t think she has ever had money in her account for long, always subsidising her travels to poorer communities to help them with their education systems. She is honored as an elder in a number of Indigenous communities and a number of Indigenous leaders have commented that the Virtues Project has helped revive the cultural knowledge of their people.

The Virtues Project awakens the spirit in all people\textsuperscript{19}.


\textsuperscript{16} In an award ceremony, the United Nations recognized the Virtues Project as a “model global program for families of all cultures” at the International Year of the Family Conference in Salt Lake City, 1994.

\textsuperscript{17} Kavelin-Popov, L. (2004). \textit{A Pace of Grace} New York: Penguin Books (Plume)

\textsuperscript{18} The Dalai Lama wrote the following endorsement for the book: “\textit{A Pace of Grace} contains vivid examples of how to make our daily lives meaningful. I offer my prayers that those readers who sincerely put them into practice will achieve the inner peace that is the key to lasting happiness.”

\textsuperscript{19} Chief Ann Bayne, Liard First Nation Canada. See \url{http://www.virtuesproject.com/strategies.html}, last viewed July 18, 2006. The virtues project is being used as a model for cultural revival by many Indigenous communities beginning with the
She has been a hospice spiritual care coordinator helping the dying to pass on with dignity and peace. She raised me in the Baha’i Faith. Her mother is Martha Louise Hamilton Kavelin and her father is Borrah Kavelin.

Martha and Borrah met each other at the Julliard School of music in New York in the 1930s, where Martha studied at Julliard as a concert pianist and Borrah was singing as a tenor at the Metropolitan Opera. Martha came from Jackson, Mississippi from a Christian Baptist background, while Borrah’s family immigrated to the United States from Minsk, Russia and came from a Jewish background. His father was a Rabbi in Minsk and the family emigrated from Russia to the United States during the persecution of the Jews shortly after the turn of the 20th century. His father founded a hospital and hospice in Boulder, Colorado and was known as a healer throughout the community. Borrah and Martha both became members of the Bahá’í Faith shortly after marriage in the 1940s. In that period Martha received a number of letters from the Guardian of the Baha’i Faith, Shoghi Effendi. Borrah Kavelin was a very accomplished human being of great capacities in many areas. He had to leave his beloved career in music and love for singing during the depression and became a partner in a small real estate firm in New York and became quite successful, selling famous landmarks such as Evats Field. Shortly after declaring as a Bahá’í he was elected Chair of the National Spiritual Assembly of the Bahá’ís in the United States and then was elected as a Charter member of the world governing body of the Bahá’í

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Nunavut and Cree first nations and is now being used in many schools and communities around the world in every continent.

Faith, the Universal House of Justice, from 1963 until his resignation and the year of his passing, 1988. He was a very noble human being. I remember his living example of absolute faith in God, complete honesty and trustworthiness, touching humility, uncompromising integrity and profound capacity for love and passion for God.

My Father is Dr. Bruce Jones. He is a man with a great compassionate heart. He also has dedicated his life to serving humanity and spent a number of years of his life serving Indigenous peoples, choosing to live with them on the reservation when he had the choice to live like other government staff in finer accommodation. He is a psychologist who has helped many an oppressed person to find strength, often working with battered women, depressed youth and prisoners. For a number of years he was the resident psychologist for Haskell Indian Nations University, at the time, the largest Indigenous University in the world. He also lived on and worked in the Wind River Indian Reservation (Shoshoni/Arapaho) for years. Since I left home, I rarely hear of his great achievements unless I hear it from others or press him for news of his work, finding only coincidently that he has done wonderfully quiet services in the world. Some of these humble acts include converting an abandoned high-school into a youth centre for urban, mostly black youth, using his own resources to arrange taking a mobile computer training lab to Seminole Indian land to train youth in computer skills, and setting up stage productions for disadvantaged youth to act with local celebrities. I am certain that he must have subsidized much of this with his own money which may be why at retirement he has almost no savings of his own. I remember hearing about two of these amazing acts of service over pancakes when, during a visit, I pushed for details about his work.
He has undoubtedly performed other acts of similar service since then without telling me.

My father passed away in the final year of this thesis, in the very hour I was presenting my last oral summary of this thesis to the law faculty. The day before he passed he told me he was proud of this work.

My father’s father is Colonel Leslie E. Jones and his Mother is Beverly Dunbar Jones. Les was an orphan who was not adopted until late adolescence, but went on to become a Colonel in the United States army, and as a soldier during WWII, was much decorated, being awarded the Bronze Star, the Silver Star (twice), the Legion of Merit as well as medals from the Chinese government. His heart went out to other orphans and this was reflected in his professional life as he was a board member of the Family & Children’s Service Society and a founding board member of the local Community Chest in New York (precursor to the United Way). He was a deacon in his church and he was a senior executive with a Fortune 500 company. He was an advocate for civil rights most notably expressed during his period in serving as Associate Superintendent of Schools for Washington D.C.21 until the time of his early and sudden passing and subsequent interment at Arlington National Cemetery. Beverly Jones was an educator/teacher at a Junior High School. She was very active in community service as a professional (social worker) and volunteer. She was a member of the Junior League, and was President of the Beaufort /Jasper Mental Health Association. She was active in her Episcopalian Church with the Altar Guild and a member of the religious order - Daughters of the King. She had a large role in

21 My father told me he accepted the position but made it clear he would only fill the role until they found another qualified candidate who was African American.
raising me when I lived on Hilton Head Island, South Carolina. She taught me about respect, consideration, honor and laughter. She told me that in the mid 1800s one pair of her grandparents were both deaf and dumb, formed their own unspoken language, and together raised Morgan horses and sent all their children to university. That sense of responsibility and determination carried through to Beverly Jones.

My wife of 19 years, Soheila is a 3rd generation Bahá’í originally from Iran. In spite of her keen intellect, she was not allowed to continue her education as a youth because of the systematic persecution of Bahá’ís in Iran and government policy forbidding Bahá’ís from obtaining university education. The call of education was too much and she had to leave, becoming a refugee in the Philippines and then Australia. She has more than made up for a lack of educational opportunity in her homeland from such religious persecution by completing education in medical science, physiology, medicine and law. She has fought many battles in her life and made many sacrifices for her children and I, yet at the same time living the example of the equality of women. More than any other human being she has helped me stay focused on the task of completing this PhD. She gave up her life for six years while I completed this. I dedicate my thesis to my wife and children, May, Martha and Enoch and I honor the sacrifices they have made for this to be written. Of my three children, May and Enoch were born on the land of the Darug peoples, (Ryde, NSW, Australia) while Martha was born on the land of the Ngai Tahu tribe in Dunedin, New Zealand.

The investigation of thought and practice represented in this thesis began perhaps when I was a child through two contexts. The first is that when I was about two years old I was given a Native American medicine bag. Before my
father passed away last November he told me that he thinks I was given it during a trip to the Ontario side of the Great Lakes, which means it may be from Ojibwa peoples. I am not sure of its particular significance or the intent of the person that gave it to me, but I do know that it became my most sacred possession through childhood to early adulthood whereupon I gave it to my wife when I asked her to marry me. It became an increasingly significant gift to me that symbolizes my attempts to honor that gift in the focus of this thesis.

As a young child, I grew up in New Jersey near an Indigenous community. The ‘Jackson Whites’ are a group of mixed Indian, Black and White families living in the hills of New Jersey near a mining area and at the time I remember their meager living conditions. My father has told me stories of their oppression, such as tales of local white high-school students throwing community members down a mine shaft. For a time we had members of their community also staying with us in our home and I was encouraged by my parents to see others as extended family. One of my first memories is from about two or three years of age going from home to home with my Mom in her role in a social welfare agency and at one home being inspired to give my half-eaten peanut butter jar to one of the families we visited.

In her book *Sacred Moments*, my mother records a moment in my childhood where I discovered on a higher level the sense of being connected as one family

[22] “Rather than a simple connection between two imperiled communities, their shared history is the story of a combined quest for freedom, cultural identity, land, and ultimately self-determination….These and other groups are often described as "triracial isolates" because of their infusion of black, white, and Indian heritages and their practice of settling on the fringes of black or white areas.” Melinda Micco, (Seminole/Creek/Choctaw), Encyclopedia of North American Indians, “African Americans and American Indians”, at: http://college.hmco.com/history/readerscomp/naind/html/na_000400_africanameri.htm, last viewed, 30 July, 2005.
with Indigenous peoples and the power of sacrifice in knowing that sense of family:

When he was four years old, my son Christopher was a dedicated miser. He collected money. He hunted for it under couch cushions, on the street, in the park. He unabashedly solicited hand-outs from visiting uncles, showed up at ‘allowance time’ like clockwork, and then, repeatedly and carefully, counted the small weekly sum. He preferred to receive it in the smallest denominations- nickels instead of dimes, pennies instead of nickels – because it was “more”. He did extra chores to add to his booty. He kept it stashed in a blue velvet bag, which had originally contained a gift bottle of cologne. He spent hours counting out his money, announcing each increase in his fortune with great pride. It actually had me a little worried. He refused to spend it and at times went without ice cream or some other treat he really wanted.

One evening, a television documentary came on about a drought in Africa. I got up to change the channel, wondering if this would be appropriate for Christopher to see. He said, “Leave it, Mommy. I want to see.” I thought perhaps it would be valuable for him to learn of the troubles of people across the world. He was mesmerized by the scenes of emaciated children crying in hunger. At the end of the show, there was a pledge campaign. Christopher went running from the room and returned, carrying his blue bag. He placed it on my lap and said, “Mommy, can I send this to those children?” “Yes, Chris, you can.” “Then, send it, Mommy,” he said. “All of it.”

I have not always remained connected to this natural compassion of childhood that we all possess, but I think it is symbolic of moments of consciousness that are essential to connecting to our ‘true selves’. It is also symbolic of the choices on offer to humanity caught up in the throes of filling their ‘blue bags’, treating the earth and others as if the planet was a business in liquidation.

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I lived for a time with my father on the Wind River Indian Reservation, land of the Shoshoni and Arapaho Tribes in Ft. Washakie, Wyoming, where I served as a volunteer firefighter\textsuperscript{24} and paramedic as well as an employed nurses aid in the Morning Star nursing home containing many Indigenous elders. I spent much of my time with the family of Marie and Lyle Wadda. Lyle is Shoshoni and was known by many as a healer or a ‘medicine man’. I also made close friends with Arapahoe people. I was keenly affected in my time there by the deep faith present in the people that nature reflected a spiritual reality\textsuperscript{25} which seemed to be heightened in contrast by the daily suffering of the people on the reservation. I remember going for walks with friends in the forest and mountains and being told the differing creatures represented differing virtues such as courage, freedom or patience. I was elected to my first Bahá’í Local Spiritual Assembly there\textsuperscript{26} and served with my father and seven other Shoshoni and Arapahoe members of the Assembly in my time there. During the writing of this thesis I found that there are strong traditions among the Shoshone honoring that land as the resting place of Sacagawea\textsuperscript{27}, the great Shoshone navigator, diplomat and translator who helped Lewis and Clarke explore the United States. Since moving

\textsuperscript{24} While I served there, all members of the fire station save one were either Shoshone or Arapahoe.

\textsuperscript{25} This insight was absolutely foundational to catalyzing my efforts to explore the spiritual value of nature in my master’s thesis with very similar applications of spiritually valuing culture in this thesis.

\textsuperscript{26} This was the first such Assembly to be formed on the Wind River Indian Reservation.

\textsuperscript{27} There are additional connections considering I lived in Seminole country (Ft. Myers Florida) for several years; my fathers work with the Seminole community and at another time our possible proximity to Sacagawea’s resting place. Therefore it is significant to me that Dr. Anne Waters, a Seminole woman of great spirit and mind, who along with Viola Cordova (Apache), was the first Native American to achieve a PhD in Philosophy, showed me great generosity and love in giving me a necklace from her own neck bearing a coin with Sacagawea on it in April 2004. I wasn’t aware of the connections represented in the ‘meeting of ancestors’ at the time.
to New Zealand and Australia 19 years ago I have had frequent long periods of co-existence every day with Maori, Pacific Islander or Aboriginal people in my daily work.

In my time at Macquarie University I have formed a close friendship and research partnership with John Hunter, an Aboriginal man of the Gamilliroi people. John has completed his Masters concerning the protection of the knowledge of his own people and is now completing his own PhD. John and I have consulted together with an Elder of his community, Uncle Ian, and traveled together to other Indigenous communities in the US and Australia, consulting them and presenting papers at conferences, workshops and lecturing together at university in Indigenous studies. A number of the important ideas in this thesis I discussed extensively with John and some of them arose through the creativity of our brotherhood which I acknowledge in those places.

My Baha’i background has also provided me with gifts that further enable my honoring the unique sacred heritage of Indigenous peoples. One principle that is absolutely essential to this is the Baha’i belief that we all share a common

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28 For example, from 1990-1995 I completed a Bachelor of Theology (Honors) at Knox College, Otago University, in Dunedin, New Zealand. Many of my fellow students there were sent by their home communities from differing Pacific Islands, mostly Samoa, to be trained as ministers in their Christian congregations. The spiritual example of these Pacific Islander Indigenous students in their community focused life, inclusion of children in all activities, and generous spirit in embracing someone of a different culture and Faith as friend and family will not be forgotten. While from 2001 to the present (2006), although in the faculty of law, I have worked on the same floor as the Warawara Indigenous Studies Department at Macquarie University. In acknowledgement for my unpaid efforts in Indigenous capacity building in the university I was designated an Honorary Associate of Warawara in 2003. Currently I am a lecturer in the Bachelor for Community Management, a degree for Aboriginal and Torres Straight Islanders who are flown in from around the country for the course, many of whom are leaders in their own communities.
spiritual history in which God has always sent Messengers or Prophets to educate humanity. One implication of this belief is that the diversity of Indigenous customary legal systems has Divine origins, although they may have evolved and adapted in differing ways over time. This means I take very seriously the need to find ways to honor the diversity of the world’s Indigenous customary legal systems as a way of honoring my own spiritual heritage.

…every Faith has given rise to a culture which flowered in different forms…

The fundamental principle of the oneness of mankind, and the aim of the Faith to promote unity in diversity, underlie the Bahá’í approach to Indigenous peoples. Their rights are inseparable from human rights for all, and the Bahá’í Faith upholds the right of Indigenous peoples to develop and take pride in their own identity, culture and language.

Combining my family background, Bahá’í identity and experience of Indigenous friendships, my world view is most strongly characterized by the belief that no matter what color, religion or culture, we are all one diverse family and all carry unique gifts of ‘spiritual genius’. We all live in one house and cannot be authentically at peace with each other and within ourselves unless we all participate in the creation and sharing of the same feast.

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29 This is not to say that all proposed beliefs and practices claimed to represent Indigenous customary law reflect the spiritual origins of Indigenous customary law. This is well known in Indigenous communities as there are complex processes of contestation of innovative applications whose legitimacy are debated within Indigenous communities.

30 From a letter, 23 December 1942, written on behalf of Shoghi Effendi to an individual Bahá’í

31 25 July 1995, written on behalf of the Universal House of Justice to an individual Bahá’í.

32 This is a concept I have explored elsewhere, but which primarily entails recognizing that every person has a range of different virtues in differing degrees and combinations that give them unique capacities to positively affect positive change in the world if they choose.
Although no-one has said as much to me, I have to acknowledge that there is the possibility to read some of my previous work superficially\textsuperscript{33} and incorrectly conclude that I have an uncritical and naïve ‘noble savage’ complex. I want to clarify that this is not the case. As a paramedic, firefighter and nurses aid working on an Indigenous reservation I witnessed terrible acts of violence and cruelty. I have seen the alcoholism, the despondency, the terrible anger. I have held hands with a close friend, as he convulsed with delirium tremors from alcoholism as he tried to ‘dry out’. I was humbled and felt inadequate as I attended to the wounds of women and children who have suffered at the hands of their husbands and fathers. I have seen the tears and heard the anguished lament of elders. I have felt my own despair as I sat with a blind Shoshone woman over 100 years of age as she lamented to me her life of suffering and prayed to die.

We are all human beings with challenges in our lives, yet it is essential to recognize the unique Indigenous context of hundreds of years of brutal colonization that has afflicted generations of Indigenous people with a living martyrdom, trapping many into a spiral of shame, anger, guilt and loss of self-esteem; struggling for every victory and chance to speak, and more importantly, to be seen and heard.

Yet somehow in that surrounding gloom and struggle that can render the true Indigenous spirit invisible to us, a spark of faith still burns bright. Still the beliefs passed on down from their Prophets and Dreamtime through the elders who survive, and sacred connection to land and spirit continue. Even when separated from their land, the resulting anguish reminds us daily of the sacredness of connection only agonizingly stretched but never broken. This mix and contrast of shadow (negative impacts of colonization) and light (life and spirit maintained in active cultural mind and practice) can dilute and confuse many as to the true story of the great cultural heritage that survives to this day and will never die.

I acknowledge that every culture has elements that need to grow more fully in their expression of what it means to be a spiritual being in this world, and indeed no culture is static and adapts and evolves in many ways. I am aware that personally I will always evolve through and emerge out of continuing levels of unconscious incompetence in my own developing cultural metaphysics and spiritual character. I want to say though that I cannot and do not stand in a place of judgment, merely personal reflection. I used to feel ashamed of being a white male from the United States of America, (Manhattan, New York, no less), even having links to the very icon of Western capitalism, the Empire State Building. Yet recently I realised there are wonderful gifts there for me too. I have the opportunity to strive for courageous humility. This humility can be a gift from my people long overdue, and which is reflected by increasing numbers of people. This humility is not a form of penance required from those born as members of the oppressive culture. It is not a hollow ‘sorry’. It is in order to empty myself of assumed knowledge and be enabled to truly learn from the diverse experiences and wisdom of my Indigenous brothers and sisters. More importantly is to then arise with an increasing appreciation of those spiritual
gifts, in informed action, and respond by keeping my eyes firmly focused on justice for my family of humanity. As we arise we learn to use those gifts in increasingly meaningful ways. But we must arise.

This is primarily an issue of consciousness: consciousness that must then be translated into actions of loving service to others. While this in turn continually and reciprocally develops our own consciousness further and increases our own capacities for such service to others. In this discussion I hope to have given support to the process of becoming conscious of the unity of spiritual and material reality as well as the unity and diversity of the human family…

One element of my own personal ‘research methodology’ is important to acknowledge. My parents and step-parents all have educational backgrounds in psychology and therapy and I myself took two years of psychology at the university level. This may have something to do with a tacit type of ‘internal research’ I have increasingly become conscious of applying. Whenever I encounter an element of injustice such as types of implicit or explicit relationships of racism, sexism or in the case of this thesis, cultural appropriation, I try to first examine within myself how I might be contributing to such injustices. I try to deconstruct my own assumptions and perspectives of relationships that underlie my own behavior. Once I have done this, I then extrapolate the same principles of deconstruction to my own broader cultural relationships and immediate personal relationships to meditate on what virtues are required to mature my own thoughts and practices in the relationships I am

involved in to restore justice. This methodology is often a practice of ‘unconscious competence’ or tacit knowledge on my part and so it would be difficult to continually work through the deconstructions explicitly at each point in this thesis, but it is important to acknowledge that I often first attempt to model these deconstructions within myself.

One last issue in my personal introduction is important to acknowledge as a recently realised bias in my methodology. After having written about two thirds of my thesis I realized that I had unconsciously been clearly applying the five strategies of the Virtues Project that my mother had developed partly through her parenting of me. She developed a degree of unconscious competence in those strategies in her concerns to assist the communities she worked with as a social worker, her later role as a professional therapist and most importantly for me, in her struggles to develop the skills to mother my brother Craig and I. But the beginning of true conscious competence in the five strategies emerged when my Mother, step-father and uncle together after researching the world’s sacred texts discovered ‘something simple and profound’:

At the heart of all spiritual traditions are virtues [such as compassion, truthfulness, respect and dignity], described as the essence of the human spirit and the content of our character. A guide containing fifty-two of these universal virtues was published to help parents bring out the best in their children and in themselves. Five Strategies were developed to restore the practice of virtues in everyday life.

That these strategies were clearly present in my thesis was a startling discovery to make internally, giving me a sense of ‘full circle’. Briefly the five strategies are:

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35 This methodology was further developed when from 2001, Terry Widders asked me to begin teaching a class deconstructing my own Western cultural vision in Indigenous Studies which was taught to about 100 students, most of them American overseas students taking the course.
Strategy 1: Speak the Language of the Virtues

Language shapes character. The way we speak, and the words we use, have great power to discourage or to inspire. The language of virtues helps us to replace shaming and blaming with personal responsibility and respect. It is a frame of reference for bringing out the best in children and ourselves. It helps us to become the kind of people we want to be.

Strategy 2: Recognize Teachable Moments

Recognizing the gifts and life lessons in our daily challenges helps us to cultivate character in ourselves and others. When we have the humility and confidence to learn from our mistakes, every stumbling block becomes a stepping stone.

Strategy 3: Set Clear Boundaries

Virtues-based boundaries focus on respect, restorative justice and reparation to create a climate of peace and safety. Personal boundaries help us to build healthy relationships and protect our time, our energy and our health.

Strategy 4: Honor the Spirit

This strategy begins with respect for the dignity of each person and encourages us to make time for reflection, reverence, and beauty. It is expressing what is meaningful in our lives by participating in the arts, honoring special life events, and sharing our stories. Creating Vision Statements increases unity and morale in our homes, schools and workplaces.

Strategy 5: Offer Spiritual Companioning

By being deeply present and listening with compassion and detachment, we help others 'to empty their cup'. This counselling approach empowers others to define teachable moments and to reflect on their virtues. It supports moral choice, intimacy in relationships, and peaceful conflict resolution. This process is a powerful tool for healing grief, anger, and trauma36.

I realized that these five strategies are reflected in this thesis in the following ways among others:

1.) “Speak the Language of the Virtues” is expressed in my attempts to articulate more clearly and acknowledge the intrinsic spiritual gifts and value of diverse Indigenous cultures;

2.) “Recognize Teachable Moments” is expressed by exploring the crisis of protecting Indigenous knowledge as a ‘teachable moment’ of possible transformation and exploring how this may be an opportunity for a paradigm shift in law, policy, health and Western metaphysics;

3.) “Set Clear Boundaries” is expressed through a focus on restorative justice and the repatriation of Indigenous medical knowledge. It is expressed in seeking ways to honor systems of Indigenous customary law which allows the legal and social recognition of the cultural and spiritual boundaries important to Indigenous communities;

4.) “Honor the Spirit” is expressed by my attempting to honor the ancestors and the spiritual dimensions of Indigenous knowledge with greater clarity as not only possible but essential to the capacity of Western legal systems in their ability to facilitate authentic “protection”;

5.) “Offer Spiritual Companioning” is expressed by a strong emphasis on the need for authentic intercultural consultation processes that acknowledge and hear Indigenous spiritual concerns in law and policy; and on a practical level by acknowledging the function of universities as gatekeepers of knowledge and suggesting institutional forms that facilitates an equality of moral and legal agency for Indigenous communities in empowering the protection of their own knowledge and communities.

This realization in writing my thesis of the above mentioned ‘full circle’ was a moment of epiphany eloquently expressed by the great poet TS Elliot,

We shall not cease from exploration, and the end of all our exploring will be to arrive where we started and know the place for the first time.
Part 2

Academic Background and Methodology

In 2000, while I was writing up the conclusion of my Masters thesis on the environmental crisis, I first found that approximately 77% of the ‘civilized’ world’s plant related pharmaceuticals and herbal remedies have significant origins of contribution from Indigenous communities. This struck me as very significant since it indicated a strong level of cultural dependency, yet this was not generally acknowledged in my own culture other than in specialized literature. The next catalyst was noticing in the government section of the Sydney Morning Herald a very small advertisement requesting submissions for a Federal enquiry into facilitating the bioprospecting industry in Australia. I felt the language used in the ad was such that very few people would either understand the subject matter or end up responding at all. I imagined with concern an enquiry into facilitating an industry that would intensify appropriation processes of IMK that lacked informed public discourse and debate about the issues.

I immediately started calling law schools in Australia to find out if they had courses or centres that focused on the form of law that must regulate this appropriation process. To my surprise, after contacting half a dozen law schools I couldn’t find anyone teaching, much less developing legal regimes to address the

regulation of IMK\textsuperscript{38}. In further correspondence with a variety of experts, I found there were probably no courses on bioprospecting in a legal or multidisciplinary context anywhere in the world. I started my PhD in law in order to address what seemed to be an urgent need at the time.

I began as probably most PhD students do, and started reading as widely as possible in the literature. This was assisted by a great windfall early in my candidature by the generosity of Dr. Graham Dutfield who provided me in 2002 with an extensive annotated bibliography on “Traditional Resource Rights” with over 1500 references current to the beginning of my candidature.

Throughout my candidature I traveled and consulted with Indigenous peoples throughout Australia, the United States and New Zealand. The common denominator which always emerged was a spiritual focus on property issues. As I focused on Indigenous accounts of spiritual appreciations of property which involved sophisticated networks of relationships, I began to become more convinced with each passing day that Western intellectual property law was completely inadequate to protect IMK from an Indigenous perspective. This was reinforced in the following three years as I became further immersed in intellectual property law as a tutor and then lecturer in intellectual property law. Equally as I became increasingly familiar with the international instruments related to the protection of IMK, such as the CBD and WIPO, a sense of critical realism crystallized that made me question the short or medium term capacity of such soft law developments to overcome the opposing trends of economic

\textsuperscript{38} I was later to find that there were Australian individuals with research interests and expertise in the area before 2000 such as Henrietta Marie Fournmille, Terri Janke, Michael Blakney and Michael Davis, but it was still surprising that there were no systematic avenues of regulation, study or research in the area at the time.
rationalism in a global regulatory framework being driven by the agenda of powerful international and corporate actors. Powerful actors that I found out had highly effective strategies of utilizing coercive policy on developing countries and would move in and out of international forums, depending on whether they supported their interests.

A significant shift in my focus occurred upon learning that departments within my own university were engaged in the bioprospecting of IMK and I began to deconstruct the idea of the university as a significant gatekeeper of IMK. The outcome of this was that I made a decision not to spend much time on a detailed analyses of the international regimes related to IMK, such as the emerging discourses associated with the CBD and WIPO which was and is the most popular form of focus in the field, but decided rather to keep the focus of the thesis on deconstructing other issues. I felt that nothing short of a paradigm shift was required in the field. This paradigm shift involved enabling Western IP to become self-aware of its own localness and its own spiritual origins and purpose; developing a capacity to honor Indigenous customary law through engaging the spiritual dimension; illuminating the critical gatekeeping function of universities; and lastly beginning a repatriation of IMK movement. The importance of exploring these issues was reinforced by a literature scan that revealed almost nothing on the gatekeeping role of universities for IMK and a lack of literature that was able to translate spiritual issues of ICL into practical consequences or literature that discussed the repatriation of IMK.

One last decision I made was that my methodology would be to try to provide resources for others to catalyze a paradigm shift according to their unique contexts, rather than propose too narrowly how that paradigm shift should
occur. To explore reasons why the shifts are necessary, that they are beneficial and possible, and then provide practical examples with general discussions of principles that others could use to apply to their own contexts seemed to be the most effective strategy.

The most useful sort of emancipatory politics is therefore not myopically structural; it illuminates the process of struggle available to whoever are the losers from the structures prevailing at any point in history. Conceptual tools to analyze processes of modeling become crucial resources for emancipation.

According to Kuhn, for my analyses to constitute a catalyst for a paradigm shift it needed to be “sufficiently unprecedented to attract an enduring group of adherents away from competing modes of scientific [legal] activity,” and to be "sufficiently open-ended to leave all sorts of problems for the redefined group of practitioners to solve."

Maintaining this open-endedness was also essential if I was going to create resources that were accessible and useful to diverse contexts of Indigenous peoples and their forms of customary law. Reflecting on this further it also became clear that this needed to be a bridge building exercise that would provide a resource for both cultures to feel free to cross over and visit each other, for this would be a paradigm shift that required partnerships by its nature.


During the course of the thesis there were fundamental questions that arose, sometimes quite serendipitously that informed some of the critical investigations I chose. For example, I had a conversation with a NSW Supreme Court Judge. He asked me about my thesis topic and I was explaining why I felt it was important to acknowledge our dependency on the medical knowledge of Indigenous peoples. At some stage he asked with a tone of reservation, “But isn’t Indigenous peoples knowledge of medicine just accidental discoveries because of long term association with nature?” I was surprised at the question, but felt it a highly significant symbolic moment reflecting the ignorance of the judiciary system in appreciating the justification of Indigenous ownership of their medical knowledge as worth protecting. Finding a way to articulately answer his question informed important parts of my thesis, particularly section four of chapter six on the advanced nature of Indigenous medical technology, one of the sections I enjoyed writing the most.

Another such moment was during an invited presentation at ANU’s Centre for the Governance of Knowledge and Development. The presentation was about the limitations of IP law to protect IMK and the spiritual issues involved. At the end Professor John Braithwaite asked me, “So what are your suggestions for addressing this problem?” The nature of the human mind is such that an unanswered question resonates in the mind until you find the answer, even if it takes years or a lifetime.

Towards the final year I had the idea of repatriation occur, but when I shared it with the group of scientists working in the university in bioprospecting, they asked, “What does the repatriation of IMK look like?” Chapter eight was a response to that simple question.
The structure and tone of this thesis was also informed by important ideas that I had to make the difficult choice to not explore in depth. One of these occurred in reading a chapter on modeling in *Global Business Regulation*. It discussed how the construction of alternate models by the relatively powerless is a powerful tool for transforming global business regulation. At one point I fell asleep and then woke up from a dream with the phrase “Regionally based first nation’s pharmaceutical companies” in my mind. I felt a sense of gratitude for having been given the thought and that inspiration was reinforced in finding it was a surprising idea to nearly everyone\(^\text{41}\), and that it had apparently not been raised before in the world.

I had to make a decision whether this idea would change the course of the current thesis or be reserved for later exploration. I ended up deciding to work on it, but leave the written expression and further research for later in my life. This was partly because of political opposition I faced in my personal academic context, but also because eventually I came to feel that deconstructing the reasons for a paradigm shift that engaged the spiritual would be much more useful to a broader range of people. The idea of Indigenous pharmaceutical companies was very important, but it was an example and one particular application of the kinds of ideas that arise from a paradigm shift that focuses on true equality. Justifying a paradigm shift that enabled people to develop hundreds of other unique models useful for themselves was much more powerful. In spite of its absence, the idea informed the rest of the development of the thesis as a powerful symbol of how the ‘benefit sharing’ discourses had

\(^{41}\) There was a contrast in the range of surprise expressed: excitement and enthusiasm about the idea from a scientist with extensive experience in directing ethnopharmacological programs in pharmaceutical companies contrasted with the scoffing dismissal of the idea as impossible from the head of one of the most the powerful law schools in the U.S.
numbed the academic mind to discussing models of genuine and full Indigenous ownership (or custodianship) of their own IMK. I transferred the focus to finding ways to honoring Indigenous customary law which was also part of that same symbolic reality.

**On a definition of “spiritual”**

The term spiritual is used in many ways, partly because one of the aspects of spiritual is that its meaning is relational. In other words, its meaning arises uniquely in each relationship. But it is important not to succumb to the notion that its meaning is incapable of being engaged in a practical way. A discussion of the term could be a thesis in its own right, but it is important to deconstruct some prejudices related to the term, at least on a basic level, for this thesis.

It is often used ambiguously to refer to the deeper cultural beliefs of Indigenous peoples. It may be used as a way of referring to sacred knowledge that is due special treatment, but its use sometimes conveys that it is not accessible to Western knowledge systems and this can cause resentment for applications of this special treatment. Unfortunately it can also be used as another word for superstition which is exemplified by the term being placed in a binary and inferior position to “reason”, “fact” and “observable reality”. The reasons for this prejudice are complex and deeply embedded in the history of Western culture. Some of the important manifestations of this will be deconstructed in various places in the thesis.
In its positive sense, the term spiritual can refer to the life force the links everything, animate and inanimate, living and dead, together in interdependent relationships. It can refer to the inner purpose or ‘why’ something has been created or is evolving through its creation with everything else. Purpose itself has meaning that is dynamic and fluid that will reflect the nature of relationships focused upon.

This thesis will not attempt to provide an impossible and succinct definition of the term spiritual. That would limit the transformative capacity of infinite applications in infinite sets of relationships. But a subtext running throughout this thesis is a theme of deconstructing misunderstanding in Western thought and law and demonstrating the practical relevance of engaging the spiritual for law and policy in relation to IMK.

Although the issues are complex, it is important to say one thing at the outset that sets the tone for the use of term spiritual in the rest of the thesis. Put quite simply, being aware of the spiritual reality of medicine is awareness that the purpose of medicine is to heal. Receiving a means of sustenance through the sharing of medical knowledge can be appropriate if it is a balanced honoring of the spiritual principle of reciprocity. On the other hand, the monopolistic commercialization of vital medicines to make great profit for the few who are already wealthy, in a way that renders medicine inaccessible to entire populations, is a clear violation of that spiritual purpose. It is because spiritual reality is not considered vital for the discourse that this realization does not so naturally arise as a commonly shared view that transforms the current system of law and policy.
On a Definition of Indigenous

In this thesis I most commonly use the term ‘Indigenous’ over alternate possible terms such as ‘traditional’ or ‘local’, although admittedly they are somewhat interchangeable. This is primarily because it is felt that a more consistent use of the term ‘Indigenous’ is supportive of the recognition of the right of self-determination of Indigenous peoples around the world. I choose to capitalize ‘Indigenous’ throughout the thesis on the basis that ‘Western’ is normally capitalized in the literature. In the discourses that contrast Western and Indigenous there can be a subtle determination being made in the comparison that capitalizes ‘Western’ but not ‘indigenous’. In this thesis, they are considered civilizations of equality albeit both having diverse expressions within them.

As is explored more fully in chapter six, Indigenous knowledge or peoples are not monolithic categories of meaning, but encompasses a diverse range of metaphysical paradigms and cultural identities represented in the more than 5000 Indigenous communities around the globe.

You can’t put all Aboriginal people in the same basket; there is diversity in Aboriginal cultures. We are all individuals and have traveled different roads and traveled different journeys.

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Many discussions which attempt to address the protection of Indigenous medical knowledge (IMK) or other types of Indigenous knowledge first offer an exploration of a definition of ‘Indigenous’. Sometimes the definitions are conducted as if they were neutral literature reviews with an attempt at offering a more objective definition agreeable to a greater range of stakeholders. I would like to suggest that some important questions to ask are “Whose interests does the definition serve? What effect will a particular definition have on those it seeks to define?” This can be very important to clarify the cultural boundaries of discussion and can offer a resource for enabling Indigenous self-determination in political frameworks.

With tongue in cheek, reflecting upon the need to define Indigenous in IP discussions, it becomes clear that a tightly specified and universal definition would be a great relief to those attempting to categorize the ever elusive ‘subject matter’ of Indigenous knowledge. Yet, the attempt to define what is ‘Indigenous’ by the ‘non-Indigenous’ can also be a highly problematic exercise. It has historically often been used as a colonizing tool to restrict, control, appropriate, assimilate or destroy what is Indigenous. Most of the Indigenous people I have known are able to trace several if not many differing cultures, both Indigenous and Western in their own families. That they choose to identify with a particular community, or several communities, is a complex process involving personal

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44 For example see Dodson, M. (1994). "The end in the beginning-re(de)fining Aboriginality." Australian Aboriginal Studies: Journal of the Australian Institute of Aboriginal Studies 1: 2-13
responses to fluid social relationships of multiple layers of cultural context experienced on a daily level. This is another reason why the discourse of defining Indigenous identities as polarized against Western is problematic. Not only does it not reflect the fluid reality of the daily lived experience involving innovative cultural choices, but it can also limit the ability of Indigenous peoples to negotiate the structures of cultural and economic imperialism.

When we lock ourselves into positions of binary opposition, we only freeze ourselves, in the same way that certain disciplines and research projects have frozen us into limited, stereotypical representations and modes of analysis. Instead of sharpening our analysis, we constrain and self-sensor it. During this critical time of intensifying neoliberal ideologies and academic capitalism, we need to conduct incisive analyses and put forward equally incisive alternatives. If we can free ourselves from dichotomous thinking, new possibilities will emerge, including a notion of sovereignty that does not require the eradication of all outside influences (an impossible task anyway) but that does claim the right and responsibility to make choices, both individual and collective, regarding issues that pertain to us.

The problematic nature of defining Indigenous is sometimes explored by academics with a fear of “theoretical incorrectness”, while cultural anthropologists have noted the growing global recognition of special Indigenous rights and respect has resulted in some claiming or reclaiming their own

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46 “…too much is at stake in minority and Indigenous assertions of their cultural identity, at stake materially as well as spiritually, for the academic critic to begrudge due recognition on the grounds of some sort of theoretical incorrectness. Such judgment could be charged with succumbing to its own faulty logic of “purity, authenticity, and fixity.” In Robbins, B. and E. Stamatopoulou (2004). “Reflections on Culture and Cultural Rights.” *The South Atlantic Quarterly* 103(2/3): 422
Indigenous identity. The freedom for self expression and self definition is a right of Indigenous peoples essential to honor, even if it is frustrating for academics and politicians seeking to have certainty. For example, the trend of Anthropologists towards suggesting more fluid, complex and evolving concepts of Indigenous identity in the 1980s was sometimes met with conflicting Indigenous politically rhetorical expressions of identity that strategically are more essentialized, primordial and fixed.

In my personal experience living with differing Indigenous communities I have noticed that often Indigenous identity is contested within communities with either explicit or unspoken judgments about who may or may not be Indigenous within their own community, sometimes regardless of skin color or inheritance issues. The reasons for contestation can vary. It may be as simple as having spent ‘too long in the white man’s world’, and upon attempting to return finding friction or resistance to reintegration with the community. Dale Turner (Teme-Augama Anishinabae) offers us a perspective on one aspect of this challenge,

Part of the problem with getting an education, especially one in philosophy, is the issue of whether one can go home at all. The process itself, the way one comes to understand the nature of philosophical inquiry, what counts as rational or sound, becomes deeply embedded in the way one makes sense of the world. In other words, if philosophy is taken seriously, then ones identity comes up for negotiation.

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49 This phenomenon of how categories of Indigenous identity can be ‘fluid’ I first encountered on the Wind River Indian Reservation.
function in a very lonely place. Often, they lie between two cultures, two
nations, and I can imagine at times feeling like they belong to neither50.

Nearly every community I have spent time with had a differing term for a person
who appeared Indigenous on the outside but was seen as non-Indigenous on the
inside. For the Native American’s I knew, the term was sometimes an “Apple”
(Red on the outside, white on the inside), while for Pacific Islanders it was a
“Coconut” (Brown on the outside, white on the inside). Equally there are terms
also spoken with humor such as ‘instant coffee’ to indicate one who has recently
discovered and now identify with their Indigenous heritage but may have been
raised as white (although it is acknowledged they may eventually become
sufficiently ‘percolated’ as to become ‘genuine coffee’).

Issues of identity will vary from community to community with sometimes very
significant differences of approach. When John Hunter and I visited Haskell
Indian Nations University in 2003, some Native American people expressed
genuine surprise that blood quantum was not an equally fundamental criterion
of Indigenous identification for many Aboriginal tribes in Australia. This
differing criterion is highlighted by the fact that Uncle Ian, an Aboriginal
Gamilliroi elder, recognized as such in his own community, is genetically
completely white. In an incredibly rare reversal of historical forces, he was
adopted and raised from early childhood in an Aboriginal community and
speaks several Aboriginal dialects fluently. This is clearly a very rare exception,
but it does highlight the need to appreciate a diversity of definitions of
‘Indigenous’ according to the view of each community.

Thought: Philosophical Essays. A. Waters, Blackwell Publishing: 238
While sometimes there are apparently political issues involved in defining Indigenous, for some it can have more to do more with unspoken spiritual issues of the heart. There are various layers of Indigenous identity, and the deepest ones have to do with the person indwelling their sacred connection to land, spirit and community. This awareness is partly something that ‘seeps into you’ as you spend time with communities, but is also explicitly based on my being allowed to be present while elders would consult on such issues. This kind of tacit communal experience of identity is perhaps impossible to replicate in a specific and universal definition of ‘Indigenous’ in legal regimes, but I suggest it can be meaningfully engaged by reintroducing spiritual principles of engagement in our protocols of legal relationships. These spiritual issues will be more specifically explored at various stages in the thesis.

The issue of defining ‘Indigenous’ clearly has a complex history, much of which has been driven by diverse political agenda and Indigenous responses to such attempts to define the other. I don’t pretend to suggest a definitive answer; but I would like to offer some brief reflections about how appreciation of spiritual considerations may offer insights into such issues. It is suggested that central to this project of ‘definition’ is the right of Indigenous peoples in self-determination, self-identification and the right of verifying the authenticity of representations about such knowledge. It is important to recognize something that seems like common sense but that occurs remarkably frequently in our history. It is that we should avoid objectifying the thousands of unique Indigenous communities or their knowledge systems as monolithic singularities whose nature can be simply categorized into neat definitions.
Due to the great diversity of contexts that Indigenous peoples experience, the qualities that comprise their community identity will vary widely. As well, their knowledge systems are equally diverse and are highly complex metaphysical networks of concepts that manifest themselves in a great variety of methodological applications suitable to the particular ecological contexts in which they dwell. In order to avoid such errors of simplification, misrepresentation and distortion of diverse identities and knowledge systems, it is suggested that development of appropriate IP laws is entirely dependent upon wide ranging consultation with such local communities. This also implies the need for recognizing the importance of Indigenous self-determination in that it is Indigenous peoples who are the experts in advising what Indigenous knowledge is. All too often our laws have sought to inappropriately define what is Indigenous identity as well as devalue and objectify their knowledge as superstitious and subjective tokens of a Neolithic age that merely represent “in situ” museums of a past age of human evolution.

For Western academics this suggests the primacy of humility in acknowledging the right and capacity of the ‘other’ to define their own identity. This requires becoming comfortable with a condition within oneself of vulnerability and ignorance; these are not qualities generally valued in the academic enterprise.

Indeed, different cultures very often open the eyes, minds and hearts of the outsiders who enter into the process of recognizing them. However, this requires an opening up of one’s deeper self to what seems alien in the other. To go through such an experience with a grassroots community, one has to jettison some of one’s most cherished intellectual convictions and to relativise one’s all-encompassing reason. This means abandoning some psychological security, and making oneself vulnerable. The other may then change us. The experts who avoid these challenges by sticking to a mechanistic approach, justified by their claim to use professional tools, will
miss all the enrichment gained by entering into the complexity and the life and "warmth" of a community\textsuperscript{51}.

Lastly I want to suggest that Indigenous self-determination is fundamentally a spiritual process of growth connected intimately to the Indigenous right to aspire to become ‘more’ and to reach for ones own unique noble destiny. If by some miracle we were able to comprehensively define the nature of an Indigenous person at a given moment (impossible I suggest), we would immediately fall into error as that person in the very next moment had moved beyond our definition. A common parallel analogy in quantum physics is available which states that theoretically we might be able to ‘define’ where a photon of light may be at any given moment, but not without sacrificing the precise knowledge of where it will be as we state where it was.

In his eloquent treatment of self-determination, Native American legal scholar, James Anaya wrote

\begin{quote}
The concept of self-determination derives from philosophical affirmation of the human drive to translate aspiration into reality, coupled with postulates of inherent human equality\textsuperscript{52}.
\end{quote}

Here we see the right to aspire is fundamental to self-determination and self-identification. And it is important to note that ‘aspire’ means to ‘to seek to reach’, ‘to breath’ and in one of the earliest recorded definitions of aspiration it is the ‘earnest desire for something above one’. Any realistic account of what it means to be Indigenous would have to acknowledge this transcendent spiritual


dimension of identity and self-determination. This has been obscured by the highly politicized contexts in which the legal concept of self-determination is debated and often unfortunately doubted as a possible social reality. Some of the more specific theoretical implications for IP ontology will be explored in chapters five and six.

Structure of thesis

The rest of the thesis will be structured as follows: Chapter two will explore the international context of the appropriation of IMK. It will discuss the extent and significance of the denial of dependency on this IMK as manifested in spiritual imbalances of economic relationships and health systems. Chapter three will continue that methodology but narrow the focus to the Australian context. Chapter four will analyze the current state of affairs in law and policy in Australia related to the protection of IMK and concludes there are very significant limitations in the capacity for genuine protection unless the overall system finds a way to enable the application of and values inherent in the Indigenous customary law. Chapter five will suggest a paradigm shift in Western law that is required for this to occur. This paradigm shift involves a deconstruction of the jurisprudence and history of Western IP to appreciate and demonstrate that it is a local and subjective system rather than a universal objective value. The second element of the paradigm shift is re-engaging the

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53 “As a positive legal norm, the doctrine is best characterized by the ambivalent position it occupies in international thought. Self-determination stands simultaneously as the centerpiece of efforts to restructure the relationship between peoples and centers of power, extant polities and their constituents, and as a subject of skepticism when considering the conceptual possibility of its existence as a positive feature of statehood doctrine.” Morgan, E. M. (1988). "The Imagery and Meaning of Self-Determination." New York University Journal of International Law and Politics 20
spiritual dimension in Western law. Chapter six explores the importance of honoring the spiritual dimension of Indigenous customary law and IMK. It outlines the practical negative consequences of not doing so, suggests a methodology for enabling that honoring process, and then suggests positive consequences for honoring that spiritual dimension. Chapter seven deconstructs the university as one of the most significant gatekeepers of the flow of IMK from communities to transnational companies. It explores the history of this development and how it is associated with a crisis of academic capitalism that has negative consequences for both Western and Indigenous peoples and suggests strategies to transform this context. Chapter eight expands upon one of these suggested strategies, the idea of the repatriation of IMK. It draws upon lessons available from the movement of the repatriation of tangible property and suggests what the future may hold for a similar movement in repatriating IMK. It describes 4 models of repatriation of IMK and offers cases for analysis. Chapter nine concludes the thesis by summarizing implications of the arguments contained within and then suggests what the future holds in the application of the suggested paradigm shifts.
Chapter Two

The International Context of the Appropriation of IMK: Treating the Earth as a Business in Liquidation

Minister, it is not fundamentally about policy, it is about how you value Aboriginal people as human beings.

There is no patent. Could you patent the sun?

[A patent] may include anything under the sun that is made by man

Introduction

This chapter will explore aspects of the international context of the appropriation of Indigenous medical knowledge. This will include a focus on the both the extent and significance of this appropriation. It will be argued that underlying

1 Dodson, Patrick, quoted by Jeff McMullen, “The Children of the Sunrise”, Speech to a national education conference at the Australian Catholic University in Sydney. 25/6/07


Edward R. “Murrow: Who owns the patent on this vaccine?”

Jonas Salk: “Well, the people, I would say. There is no patent. Could you patent the sun?”

the appropriation of IMK is a commercialization process whose reductionistic materialism is increasingly impairing the ability of science and law to reflect more realistic models of reality that value interdependent relationships, an essential spiritual principal. The consequences of this are not just abstract philosophical or theological considerations, but have practical negative consequences for people of Indigenous and Western backgrounds. It will be shown that this contributes towards the extinction of both cultural and biological diversity and has impaired the development of effective medicines which has likely resulted in extensive loss of human life.

This reductionistic materialism and narrow definitions of technology have contributed towards contemporary society not being aware of how the effectiveness of Indigenous medicines is not merely based on one particular ingredient but upon sophisticated and advanced knowledge systems that are a lived experience. This effectively excludes any holistic spiritual principles of Indigenous knowledge from consideration or value. As the Indigenous knowledge systems themselves are not valued, it also exacerbates the ability to value the intrinsic worth of Indigenous peoples themselves. This has wider consequences in the objectification of Indigenous peoples as ‘primitive peoples’ which impacts the development of inappropriate government policies that fail to engage this spiritual value of the Indigenous person and community as humans of dignity and worth. This leads to the creation of policies that impair the capacity for Indigenous self-determination, and which reinforce inappropriate models of Indigenous dependency on Western governments. In a powerful irony, the reverse is true when it comes to the Western health systems. There has been a substantial denial of Western dependency on Indigenous medical knowledge which has powerful symbolic meanings. This chapter exposes the
reality that Western peoples are largely dependent on Indigenous peoples for their health systems. This acknowledgement is a pre-requisite for creating new appreciations that transform these unhealthy denials of dependency towards cultural relationships of true equality and respect.

Defining Biopiracy and its variations

The ‘appropriation’ of Indigenous medical knowledge (IMK) has often been referred to as ‘biopiracy’.

Graham Dutfield offers the following definition:

“Biopiracy” has emerged as a term to describe the ways that corporations from the developed world claim ownership of, free ride on, or otherwise take unfair advantage of, the genetic resources and traditional knowledge and technologies of developing countries.

While Ikechi Mgbeoji suggests

Accordingly, biopiracy may be defined as the unauthorized commercial use of biological resources and/or associated traditional knowledge, or

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the patenting of spurious inventions based on such knowledge, without compensation⁶.

Continuing he refers to Rosemary Coombe’s statement that

this process is characterized by the non-recognition of the intellectual contributions of holders and practitioners of traditional knowledge towards the improvement of the plants or TKUP [traditional (Indigenous) knowledge of the uses of plants] in question.⁷

Recent developments in Australian representation at the CBD as well as in policy institutions have seen attempts to define biopiracy in more narrow and extreme forms as theft and forcible removal of property⁸ which is quite different than ‘mere’ non-recognition. It then becomes possible to use such a definition to suggest that it rarely or never occurs. Another development that diminishes claims of biopiracy is the evolution of terms used to describe the process of appropriation.

The other most commonly used term to describe such potentially appropriative processes is ‘bioprospecting’. This may or may not include reference to Indigenous people’s knowledge as one of the common categories of ‘data collection’. In Australia one of the first primary definitions was suggested in a recent major government report:


⁸ More expansive discussions of this are noted in the section of this chapter on the ‘denial of dependency’ as well as in a discussion of Australian representation at CBD meetings offered in chapter three.
The search for valuable chemical compounds and genetic material from plants, animals and microorganisms⁹.

While there have been recent attempts to put an even more ‘positive’ focus on such activity with the construction of the term ‘biodiscovery’ as seen in the recent Queensland ‘Biodiscovery’ Act 2004 and again as a term preferred in the federal governments Nationally Consistent Approach For Access to and the Utilisation of Australia’s Native Genetic and Biochemical Resource¹⁰.

There are important and complex issues in determining simplistic uses of terms such as biopiracy or biodiscovery. It should be considered that there are many people involved from the local to the international and most of the humans involved in the relationships do not consider themselves to be ‘biopirates’. Many of them, such as the high percentage of postgraduate students used at the coalface, if educated as to positive alternate options would likely align themselves with more equitable long-term processes of partnerships that reinforce Indigenous self-determination. Labels can be powerful agents of constriction or empowerment. It is suggested that the potentially objectifying quality of the term ‘biopiracy’ as a blanket description of the relationship in the research process can dispossess people from the full potential transformations of

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trustworthiness and justice that are within their power to effect. This applies not only to the individuals, but to the corporate entities that recognise it is essential to be perceived as trustworthy by the public. A very recently CBD secretariat commissioned first stage analysis of biopiracy performed by the IUCN Canada confirms this:

In terms of impact, many corporate representatives and researchers interviewed indicated that the impact of an informally asserted claim (through news, internet, and other media) can have a very serious impact, which can be very long-lived. Negative publicity impacts (being labelled a ‘biopirate’) are difficult to repair, even after the company has altered its behavior. News stories rarely address such actions, or promote them with the same intensity as the original claim. Although indicating a high potential impact of some claims, this point also raises a concern. Companies which might have been willing to resolve ABS claims through benefit-sharing negotiations are less inclined to do so where claims has been made public\(^\text{11}\).

Equally though it is essential for a full and frank discussion about the contexts of injustice to be conducted so that appropriate responses of justice can become goals which we learn to adopt. But this must be done in a way in which every person in the chain of the process can feel encouraged to ‘own’ the goal of justice and equity as a process they are capable of participating in and contributing to.

In this thesis the appropriation process symbolizes an even deeper need to value the intrinsic value of Indigenous peoples and their knowledge systems with humility. Chapter five will explore some of the deeper levels of metaphysics of this intrinsic value. But first it is important to document some of the examples of

appropriation to provide evidence it is a significant social phenomenon not isolated to only a few cases.

**Hiding the global value of Indigenous medical knowledge**

It is important to appropriately acknowledge the great value of the knowledge of Indigenous peoples around the world for many reasons. On the deepest level this can assist in appreciating both the intrinsic value of Indigenous cultural diversity as well as increasing the depth of our appreciation of the intrinsic value of the biological diversity (‘the land’) such knowledge is almost unfailingly intimately associated with. This is reflected in a number of ways including appreciating the unique and sophisticated Indigenous epistemological narratives and metaphysical frameworks, methodological applications in health, ecology, art and a variety of technologies. This can be contrasted to government narratives that claim ‘they never even invented the wheel’ or similar statements that prejudice the public in being able to appreciate such sophisticated and valuable knowledge systems. In the colonial history of the past 500 years there has been a concerted effort to deny the intrinsic value of both Indigenous peoples and their knowledge as well as that of the environment. This denial of dependency of the dominant culture on both Indigenous peoples and nature has

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often been a strategic mechanism to reinforce a justification for the ongoing maintenance of hierarchical oppressive power structures.\(^\text{13}\)

One might think the widespread acknowledgement of colonial oppression is sufficient to no longer require such a preface at the threshold of the 21\(^{\text{st}}\) century. However, neocolonial forms of a denial of the value of Indigenous culture continue on both implicit structural and explicit policy levels that require a strong and clear response. This is manifested on both the local and international levels in various ways that have many negative consequences for both Indigenous communities and the human community in general. One example of a basic structural manifestation of this is a lack of meaningful engagements between public primary schools and their own local Indigenous community’s traditional knowledge systems which, as I argue in chapter six, is important for the biocultural health of the planet as well as a basic starting point for enabling genuine engagement with the diversity of Indigenous customary legal systems.

The Denial of Biopiracy

Bioprospecting is one of the oldest industries in the history of civilisation. Every civilisation has been dependent upon the extent to which they developed knowledge of their biological resources and to what degree they sustainably used that knowledge in supporting their needs of agriculture, medicines, and other industries. Equally so, unsustainable bioprospecting practices and the manner in which those resources were unsustainably exploited played no small

\(^{13}\) For sophisticated arguments about the mechanisms of this denial of dependency see Plumwood, V. (1994). Feminism and the Mastery of Nature, Routledge.
part in the demise of a number of great civilisations and is a watershed moment upon which our own civilisation now faces.

The appropriation of such resources from Indigenous peoples by the dominant cultures has also been an ancient part of this industry. It has been said that Christopher Columbus was, among other things, an archetypal bioprospector\(^\text{14}\) in search of the East Asian “Island of Spices” who instead found a Caribbean island and began a familiar process of transferring the countless genetic resources from Indigenous peoples to the developed nation states of Europe\(^\text{15}\). Christopher Columbus wrote in his journal,

> There are trees of a thousand types, all with their various fruits and all scented. I am the saddest man in the world because I do not recognize them, for I am sure they are of great value in Spain for dyes and as medicinal spices. I am bringing specimens of them to your highness\(^\text{16}\).

Accompanying this “transfer” of intellectual property is something far more sinister than mere issues of ownership and theft.

> Within decades after the ‘discovery’ of America, whole nations which had thrived there for centuries had been reduced to nothing. Millions of men, women and children were massacred. Those who survived suffered untold misery and deprivation. The conquerors, while eliminating the Indigenous people, also introduced African slavery on the continent. History can be re-

\(^\text{14}\) Cecil Jane, The Journal of Christopher Columbus, 1989. Full reference to be given.


written. It cannot be undone...five centuries after Columbus, [Indigenous peoples] cause [is] still not being taken seriously\textsuperscript{17}.

This is not an appeal to historical injustice to garner moral appeal for more comprehensive intellectual property rights as a manner of restitution for past injustices. The value of acknowledging this in current IP discussions is for a number of reasons. First it is to remind us of the accompanying contexts of Indigenous genocide that inevitably become associated with such “transfer” processes. While such appropriation may not in itself cause the cultural genocide, it is symptomatic of the overall objectification and devaluation of the subordinate Indigenous cultures by the dominant cultures which is the primary cause of such cultural genocide. Such historical patterns of genocide are not footnotes in an elementary school-book but are very real present-day realities. UNESCO reports that 4,000 to 5,000 of the 6,000 languages in the world are spoken by Indigenous peoples\textsuperscript{18}. 2500 of those Indigenous languages are under immediate threat of extinction in the present generation, and it is also estimated that 90% those Indigenous languages that make up the majority of the worlds cultural diversity will become extinct in the next 100 years\textsuperscript{19}. While such studies help us appreciate the very current and active destructive forces of colonization, I think it is important though to caution against these kinds of studies leading to assumptions of the inevitable extinction of Indigenous languages. One has to acknowledge that there are many successful enterprises of Indigenous initiated


\textsuperscript{18} UNESCO (2003). Language Vitality and Endangerment, UNESCO Intangible Cultural Heritage Section’s Ad Hoc Expert Group on Endangered Languages

cultural and linguistic revival programs in the world\textsuperscript{20} that are counteracting these negative forces of assimilation.

Acknowledgment of the interdependence of the link between cultural appropriation and cultural genocide is important to IP because ultimately it reminds us of the true gravity and importance of our discussion in that the implications of a wise focus include not just the protection of unique knowledge, but the very protection of human lives and communities. This naturally leads to the second value for IP discussions in the recognition of integrated Indigenous needs. Such recognition supports the movement towards legal regimes that don’t just protect the knowledge of Indigenous peoples, but protect the Indigenous communities themselves and allow the capacity for self-determination that ultimately facilitates the preservation of such knowledge.

One of the foremost scholars of the history of Native American medicine has clearly demonstrated that early American settlers significantly relied upon the medical knowledge of the local communities.

“In the days of our sickness,” wrote Hector St. John de Crevecoeur in the eighteenth century, “we shall have recourse to their [the Indians’] medical knowledge.”

\textsuperscript{20} The Maori language nests of New Zealand are one of the most successful examples with similar developments in Australia and other countries. In July 2006 Aunty Margaret, an Aboriginal elder of North Stradbroke Island related to me that although her own community had lost most of their own language, they were beginning to reclaim it. The very next day, while I was still on the island, a gathering of elders from neighbouring tribes met to create resources of language revival. Aunty Margaret explained to me that this is possible because there are overlaps of similarity in the language in the tribes of the region, and by comparing their remaining knowledge of their languages they can help revive each other's depth of language.
knowledge, which is well calculated for the simple diseases to which they are subject.”

This was not an isolated and unusual tribute to the efficacy of Native American medical knowledge. This is clearly seen when eventually almost half of the U.S. list of Pharmacopoeia consisted of Native American medicines.

The first U.S. Pharmacopoeia (1820) listed 296 substances, of which 130 were drugs used by Indians...altogether about 220 substances used by Indians were listed in the USP and National Formulary between 1820 and 1965.

On the national and international level this denial of dependency is also a diverse phenomenon but specifically in the context of this thesis is the denial of the value of biocultural diversity.

It is truly surprising and disturbing to discover coordinated efforts by powerful and influential stakeholders to influence public opinion in denying both the value of Indigenous knowledge and biodiversity, as well as the dependency of the developed world upon such resources reflected in patterns of biopiracy. For example, the Australian APEC (Asia-Pacific Economic Cooperation) Centre at Monash University is a major policy institution. A recent report from their centre written by their chair attending the CBD COPMOP 8 meeting is entitled ‘Two


Unsupport by facts
There is no evidence that Brazil or anyone has massive undiscovered lodes of “Green Gold” or that there is one case of illegal removal of genetic resources from any country.

The number of instances where great financial benefits have flowed from commercialization of natural genetic resources are small. Science can now create almost any compound and engineer any gene in the laboratory.

Research by the Australian APEC Study Centre at Monash University revealed that there are virtually no cases of biopiracy (defined as forcible and illegal removal of property) as claimed by the Secretariat to the Convention on Biodiversity, UNEP and non-governmental organizations like the Third World Network.

Note the reliance on a fairly extreme definition of biopiracy as ‘forcible and illegal removal of property’ in order to justify their argument. If a more realistic definition of biopiracy includes broader definitions of misappropriation that includes concepts such as use of Indigenous knowledge without prior informed consent a different story unfolds. Considering the volumes of evidence to the contrary, it is surprising that such an eminent institution at a major university in Australia could publicly assert such opinions as fact. The mystery becomes somewhat clearer upon investigating the background of the chair of the centre as well as the source of funding for this policy statement. The chair was a former chair of GATT which led to the formation of the WTO whose interests are clearly against acknowledging Indigenous and environmental concerns in the interests of the multinational business community. This is further reinforced by the fact

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that APEC’s work is funded by no less than PhRMA\textsuperscript{24}, the advocacy organization of the world’s pharmaceutical companies\textsuperscript{25}. It is contexts such as this that make disclosure of background and purpose in introductions mentioned in chapter one so fundamental. Originally this thesis did not intend on spending two chapters giving examples of the true extent of bioprospecting/biopiracy of IMK, but such a context of powerful and systematic denial of evidence warrants its necessity.

The true economic value of Indigenous medical knowledge

A widely accepted estimate in the literature indicates that a full 77\% of all plant related pharmaceutical products\textsuperscript{26}, or roughly 25\% of the entire pharmaceutical market\textsuperscript{27} contains significant elements of direct contribution from the appropriation of Indigenous knowledge. The figure of 77\% becomes even more significant when one considers that a World Bank report recently estimated that plant related medicinal products would reach a global value of \textbf{US $5 Trillion dollars} by 2050\textsuperscript{28}. In 2003 WHO estimated the global herbal remedy market to be

\textsuperscript{24}http://www.phrmafoundation.org/ last viewed 27 November 2007.

\textsuperscript{25}It is of no small coincidence that identical arguments are offered in papers written by senior PhRMA staff. For example see a paper written by Associate Vice President for Intellectual Property, PhRMA. Finston, S. K. (2004). Relevance of Genetic Resources to the Pharmaceutical Industry. \textit{International Expert Workshop on Access to Genetic Resources and Benefit Sharing, Specific Issues for consideration in the elaboration of the IR} viewed at http://www.canmexworkshop.com/documents/papers/III.5d.1.pdf last accessed 14 June, 2006.


\textsuperscript{28}WIPO-UNEP Study on the Role of Intellectual Property Rights in the Sharing of Benefits Arising From the Use of Biological Resources and Associated Traditional Knowledge, (2004), p.44
worth US $60 billion\textsuperscript{29}; while the US alone experienced a growth of more than 50\% in one year (1998) in herbal medicines\textsuperscript{30}. Apart from modern pharmaceutical usage, traditional systems of medicine and alternative and complementary medicine represent up to 50\% of use in many industrialised countries and up to 80\% in many developing nations\textsuperscript{31}. Between three and four billion people worldwide utilize plants for their primary healthcare\textsuperscript{32}. Combining the Indigenous contribution to pharmaceutical medicine with its traditional use world wide indicates that Indigenous knowledge may be responsible for over 60\% of medical treatment in developed nations and 85\% in developing nations.

Professor Lewis lists several hundred plants currently used in modern medicine and pharmacy that have also been used medically by Indigenous peoples\textsuperscript{33}. Historically there are a number of famous medicines that have origins centuries ago in Indigenous communities such as quinine\textsuperscript{34} and aspirin. Most sources attribute aspirin as associated with Greek physician Hippocrates in 400 B.C. from his use of the bark and leaves of the Willow Tree. However Native American

\textsuperscript{29} WHO (2003). Traditional medicine fact sheet. fs134/en, World Health Organization
\textsuperscript{30} Blumenthal, M. (HerbalGram (American Botanical Council)). "Herb Market Levels After Five Years of Boom." HerbalGram 47(64)
\textsuperscript{34} Rocco, F. (2004). Quinine: Malaria and the Quest for a Cure that Changed the World, Harper Perennial
physicians were documented not only using extracts from the White Willow tree, but also from several other plants containing salicin, the basic bioactive compound basis for salicylic acid in modern day aspirin. Early American colonists began widely using this pain killing knowledge of the Native Americans, although history books tend to cite the pharmaceutical company of Bayer in Germany as the modern developer of Aspirin. The prevalence of the Greek over the Native American citation as the origin of aspirin is a demonstration of the dominance of written over oral accounts of history that often effectively remove the Indigenous voice from our Western historical narratives.

There is a conspicuous absence in schoolroom textbooks in acknowledging the true scope of Western civilizations dependency on the advanced nature of Indigenous medical knowledge. From various feminist arguments from such authors as Val Plumwood this is no surprise as the ‘denial of dependency’ is one of the mechanisms which a dominant masculine/'Western' culture utilizes to legitimate the hierarchy of political relations and colonization. The rich narratives of Indigenous peoples in contributing vital knowledge to Western civilization translates as nameless, placeless and timeless objects whose value is that they encountered the named heroes of Western exploration and colonization.

...Indigenous guides did impart their knowledge concerning the specific plants and animals encountered along with information concerning how these specimens fit within their cultural, political and economic institutions.


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If this knowledge was shared and encountered why does it, and those who shared it, remain hidden, or as Pratt describes, ghostly presences in the accounts of these explorers?\textsuperscript{37}

Students might gain respect for the advanced nature of Indigenous knowledge systems if they were conveyed the truth of such dependency. At times when Western medicine was largely based on superstition many Indigenous communities had effective and relatively comprehensive bodies of traditional medical knowledge. For example, malaria treatment in medieval times was based on ineffectual brews that were grounded in Western European superstitions. One complicated treatment involved transcribing mystical words on a piece of paper, then tying the paper to a young virgin with a long string and chanting prayers in honor of the Holy Trinity\textsuperscript{38}. It wasn’t until the gift of quinine from Indigenous peoples in South America that the populations around the swampy marshes of the Vatican began to finally have some respite from the plagues of malaria.

In the past twenty years there has been a heightened interest in the capacity of IMK to contribute to the effectiveness of the Western medicinal enterprise. However the extent of appropriation and the implications of this have yet to filter through to the general public or general education discourse. It is suggested this is essential as a mechanism for promoting a vision of cultural equality and diversity in contrast to the homogenous civilizing force that is presently erroneously conveyed as the hope of humanity.


\textsuperscript{38} Rocco, F. (2004). Quinine: Malaria and the Quest for a Cure that Changed the World. Harper Perennial
The process of bioprospecting in modern times has been dominated by mechanistic and reductionistic methodologies which assume that the effectiveness of traditional or Indigenous medicines can be identified by isolating one particular bioactive compound. Bioprospecting involving traditional knowledge “entails isolating and identifying the pure active principle of a traditional medicine”[39]. Within traditional Chinese medicine (TCM), there has been a similar shift in focus in the past fifty years towards mechanistic centered approaches to research and development[40]. This is partly because, on a positive note, in China there is a political will to integrate conventional and traditional forms of medicine where 80% of Western-trained doctors also use TCM in their practice[41]. However, the mechanistic aspects are reinforced as this synthesis tends towards a progressive integration of TCM into conventional medicine frameworks. It is likely that the assimilation of TCM will accelerate, resulting in less recognition of those spiritual aspects of TCM which are not recognized by Western law. This globalization process, which is influenced by multi-national pharmaceuticals, may result in the exclusive preservation of those types of knowledge capable of appropriation as marketable drugs. The Pharmaceutical Business Review Online wrote in 2006:

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Chi-Med believes that traditional Chinese medicine is a major, under-exploited reservoir for the development of novel drugs for the global pharmaceutical market\textsuperscript{42}. Similar principles apply to Indigenous communities around the world\textsuperscript{43}. The materialistic and reductionistic focus of this scientific enterprise is reinforced by an associated commercial purpose within a legal framework that is increasingly legislated to facilitate commercialization and mass production that requires such simplistic reductions of value.

It is important here to contrast, Indigenous and western methodologies of bioprospecting. Indigenous bioprospecting is ancient and acknowledges both the sacred intrinsic value of nature and its interdependent web of spiritual relationships. Its scientific methodology is the long term result of humility in the recognition of human dependency on nature and how that interdependency is manifested in a diverse relationality. Whereas modern bioprospecting in the west is primarily governed by a metaphysics incorporating an instrumental rather than intrinsic valuing principles that include individualistic ethics that confer value only in relation to the immediate perceived value to our economic and short term physical well being. Such modern forms of bioprospecting result in the fast track fabrication of monocultures which are more vulnerable and which


\textsuperscript{43} There tends to be a fairly separate treatment of TCM and IMK in the literature. I would suggest that there are underappreciated similar spiritual principles in Ancient Chinese civilization acknowledging ancestors as the origins of such medicine, arising fiduciary obligations of transmission in customary law and more holistic considerations of spiritual balance in health than in Western medicine and which make it more comparable to many forms of Indigenous medical knowledge and customary law. This will be touched on briefly in chapters four and five.
lack a context of balanced spiritual relationships. To emphasise the essential differences again: the methodology of IMK fosters a relational understanding of bioprospecting and conserves the environment in which it is produced. Whereas western bioprospecting methodology has little concern for the environment from which treasures are found, often damages the environment due to clumsy extraction methods and finally produces isolated monocultures which are applied irrespective of their original supportive interdependent network.

While spiritual valuing principles are not explicitly taught within scientific methodology there is room for an expansion and transformation of western scientific methodology in response to dialogue with IMK, particularly as related to issues such as bioprospecting.

This contrast may intentionally emphasise the differences between IMK and western science, but it is acknowledged that there are varying degrees of how this is manifested in sometimes more integrated ways on both sides. Nonetheless the differences do create significantly different methodologies in how we relate to ecological contexts.

For example, within certain American Indian tribes, a selection of corn seeds is done that is intentionally representative of the full range of each harvest. Not

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44 “The collection of 2400 kg of an Indo-Pacific sponge gave rise to less than 1 mg of a potent anticancer chemical, which was barely sufficient for the full structure of the chemical to be determined.” Garson, M. (1996). “Is Marine Bioprospecting Sustainable?” Search 27(4): 115

45 The contrast of how cultures relate to technology is fundamental to this and is explored in depth at the end of Chapter five.
just the largest healthiest ears of corn but also the small, less productive ears are chosen for harvesting seeds. This is done out of the motivation of a number of spiritual principals, but is ultimately a sign of respect and gratitude to the Creator for all gifts received, not just the ones we appreciate at the time. The wisdom of this as a principal in ecologically sustainable development is seen when one considers that today’s apparently weak strain of corn is possibly tomorrows strong strain when environmental conditions change that suit its own morphology, whereas at that same period of change, yesterdays strong strain may become the weakest. Such relational understandings are not found in modern methodologies which in this case would seek to develop the best strain of corn for our current environmental conditions. So while we may have years of incredible harvests of corn, at some point a new bacterial pest arrives on the scene which exploits its unseen weakness and suddenly an entire global crop is devastated in one year due to the nature of its monoculture. This has already happened with a number of crops such as the great watermelon blight in the United States in the last decade, although most would fail to link this with any form of spiritual principles.

Before 1980, physical phenomena, laws of nature, and abstract ideas were not patentable subject matter. A watershed moment occurred in 1980 the United States Supreme Court in *Diamond v. Chakrabarty*\(^47\) which held that microorganisms produced by genetic engineering are not excluded from patent protection. The test which the Court set down for patentable subject matter in

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this area is whether the living matter is the result of human intervention. The trends towards science and law serving interests of commercialization have been reflected in a further relaxing of these requirements. For example in patent law, there is a trend towards recognizing patents fulfilling the requirement of human intervention based merely on the process of extraction and purification of already existing natural substances. This is the case even though such increasingly reductionistic methodologies and legal principles don’t represent the most realistic models of more advanced science that recognize greater levels of interdependency in biological and natural relationships. This has serious negative repercussions for the successful development of medicines, the valuing and preservation of the cultural and biological diversity in which such medicines originate, as well as blinding contemporary society to how the effectiveness of Indigenous medicines is not merely based on one particular ingredient. This effectively excludes any holistic spiritual principles of Indigenous knowledge from consideration or value.

**Cases where IMK was essential to the development of important medicines:**

Eminent experts in medical botany and ethnobiology, Walter Lewis and Memory Elvin-Lewis, have convincingly demonstrated cases in history where lack of consultation with traditional healers impaired the success of clinical trials. They have comprehensively given examples and argued that utilizing such Indigenous knowledge can be a significant determining factor for successful results of the effective development of medicines.48

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Sometimes a medicine will proceed through clinical trials and it may be determined that while there may be compounds that show strong bioactivity that effectively destroy a particular virus, clinical trials are ceased because it appears the compounds are too toxic. There are precedents for negating the toxicity of plant usage through engaging in more thorough consultation and respect of IMK. For example Acacia tree seeds can be used to make very nutritious flour that is an alternative to wheat based flour. It has been found that this Acacia flour contains elements that assist in preventing diabetes\(^9\) and in reinforcing other aspects of physical health that mere Wheat flour does not. Because of toxicity issues, this potential may have been neglected, but consultation with Aboriginal communities revealed preparation methods that prevent the problems of toxicity. In a project involving Acacia trees to provide food in countries with arid conditions:

The Australian Tree Seed Centre of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Division of Forestry is heavily engaged (in a number of African dry-land countries) in trialing various acacia species to suit a range of needs (soil conservation, firewood, food)\(^50\). Aboriginal knowledge was instrumental in identifying 44 of the 49 species of acacias traditionally used by central Australian Aboriginal communities as potential food species for planting overseas. Also critical to the project is knowledge of traditional techniques for food preparation as the seed of a number of these species is toxic to humans unless properly prepared. As Devitt concluded, *With respect to food potential, what is currently known about the food value of acacias has been largely the result of*

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\(^50\) In particular in the drought and famine prone areas of countries such as Senegal, Niger, Burkina Faso, Somalia, Kenya, and Zimbabwe: see H Fournile-Marrie, ‘Developing a Regime to Protect Indigenous Traditional Biodiversity – Related Knowledge’ (2000) 1 *Balayi: Culture, Law and Colonialism* 165.
tapping into Aboriginal knowledge. And yet Aboriginal people are not involved in the subsequent research, development and application processes regarding these overseas projects.

In addition to IMK enabling the elimination of the toxicity, there are cases where IMK is necessary to enabling the effectiveness of the bioactive compound. Research on one diabetes medicine would have halted had the researchers not respected the IMK of the local peoples which included sophisticated preparation processes that enabled the bioactive compound.

Together with his staff Dr. Wiedenfeld has tested different natural preparations on diabetic rats. "Initially without much success," he recalls. This changed when his assistant Ivan Pérez was allowed to look over the shaman’s shoulder for several months in the highland village of Xochipala. "The key often lies in the preparation," Dr. Wiedenfeld explains. The healer in Xochipala mixes the medicinal plant with maize, for example, or other ingredients, and allows the mixture to stand for some time. "Molecular scissors" in the maize then cut up the component substances of the anti-diabetes plant into smaller fragments. "And one of these fragments is effective against diabetes."

The bioactivity of prostratin, a powerful drug in the fight against AIDS, is dependent upon harvesting only one of two types of Mamala tree and the tree must be harvested within a particular stage of growth. Unless the traditional


52 H Fourmile-Marrie, ‘Developing a Regime to Protect Indigenous Traditional Biodiversity – Related Knowledge’ (2000) 1 Balayi: Culture, Law and Colonialism

healers had shown ethnobotanist Paul Cox the requirement to harvest at a certain growth stage, this potential wonder drug would never have been found.

While millions of lives might have been saved had the traditional knowledge of Chinese healers been valued. An effective malarial medicine was delayed by 50 years because of this lack of honoring the source of IMK.

In a separate presentation to the British Association, Gerry Bodeker of the University of Oxford, described the failure of US scientists in the 1940s to develop an anti-malarial drug from a traditional Chinese remedy based on extracts of the plant *Dichroa febrifuga*. The apparent problem with the drug was that it induced such violent nausea that patients refused to take it. But the US researchers were unaware that, when used as a malaria treatment in China, the remedy was administered with other ingredients such as ginger and liquorice root, both powerful anti-emetics. As Bodeker pointed out, a less reductionist approach that had taken such information on board might have saved millions of lives in the intervening period.

**CBD Report: “Analysis of Claims of unauthorized access and misappropriation of genetic resources and associated traditional knowledge”**

This study examining misappropriation was discussed at the Eighth Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity, 20 - 31 March 2006. The report summarised its findings of the extent of misappropriation:

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Regarding the extent of claims, several persons have suggested that there are very few claims\textsuperscript{55}. Upon investigation, this comment is usually addressed at claims asserted in formal lawsuits before courts, patent agencies and similar bodies, and as such, tallies with the results of this study’s inquiry into public claims, of which only a small number of formal claims were discerned and, relatively speaking, only a small number of informal public claims, as well. \textbf{In general, however, the number of informal claims and complaints that have not been broadly publicised at national and international levels, as well as claims asserted through source country administrative agencies and processes, appear to be relatively numerous in all developing countries in which ABS processes are authorised.} It has also been suggested that the number of claims increases proportionally with the increased awareness of NGOs, Indigenous groups and others with regard to ABS issues and genetic resources\textsuperscript{56}. [Emphasis added]

The table listing the various TK cases investigated for evidence of misappropriation is extracted below.

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\textsuperscript{55} The text of the report includes this footnote: “This point is based on discussions of ABS issues in COP-7, including Working Group 1, and the ABS Contact Group meetings throughout that Conference. A review of recent literature will turn up numerous articles regarding the paucity of actual ABS-related claims.”

\textsuperscript{56} IUCN-Canada. (2005). Analysis of Claims of Unauthorised Access and Misappropriation of Genetic Resources and Associated Traditional Knowledge. UNEP/CBD/WG-ABS/4/INF/6
Table 1.1

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<th>#</th>
<th>Genus, Species and other identifiers (as appropriate)</th>
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<th>Claimants</th>
<th>Traditional Knowledge (comprehensive and/or specific)</th>
<th>Type of data</th>
<th>Time Period</th>
<th>Current Status</th>
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<td>71</td>
<td><em>Nipa</em> <em>inflata</em></td>
<td>India</td>
<td>W. R. Stuart Corp. (USA), U.S. Department of Agriculture</td>
<td>RITEC India NGS, Goss Peary (EU Parliament), FOAM</td>
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<td>International NGS (Global Exchange and ETC Group)</td>
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<td>Disclosure; possible other actions</td>
<td>1996 - access to TK and G</td>
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<td>Saba Viva (Switzerland), Mundipharma (UK)</td>
<td>Gov. of Brazil, through Dep. of Health, Ministry of Agriculture and Animal Husbandry, University of São Paulo</td>
<td>G</td>
<td>Formal claim</td>
<td>1996-1998 - research agreement; 2000 - patent granted</td>
<td>No longer active</td>
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<td><em>Swartzia</em> <em>madagascariensis</em></td>
<td>Zimbabwe</td>
<td>Univ. Lusamente (Switzerland)</td>
<td>The Swiss NGS (University Tech. Zurich) and Zimbabwe Traditional Medicine Research Trust (ZIMTRUST)</td>
<td>G</td>
<td>Formed</td>
<td>1995 - access through research agreement; 2000 - patent granted</td>
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<td><em>Euphorbia</em> <em>ciliosa</em></td>
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<td>Univ. Mangrove Medical Centre (USA)</td>
<td>Gov. of India, through Center for Scientific and Industrial Research, Dept. Science &amp; Technology</td>
<td>G</td>
<td>Formal application</td>
<td>1999 - patent granted, 2008 - application abandoned</td>
<td>2008 - patent expired</td>
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<td>Argentina</td>
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<td>AECO; Commission for &quot;Agrigento, La Zona&quot;</td>
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<td>Public declaration of patent</td>
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<td>Time Period</td>
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- Sample obtained/removed 1995: positive assay, parent obtained, patent unspecified
- Sample obtained/removed 1995: positive assay, parent obtained, patent unspecified
- Sample obtained/removed 1995: positive assay, parent obtained, patent unspecified
- Sample obtained/removed 1995: positive assay, parent obtained, patent unspecified
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- Sample obtained/removed 1995: positive assay, parent obtained, patent unspecified
- Sample obtained/removed 1995: positive assay, parent obtained, patent unspecified
- Sample obtained/removed 1995: positive assay, parent obtained, patent unspecified
Another recent detailed report on biopiracy details more than 36 additional cases of possible biopiracy in Africa with associated patents documented. ‘Out of Africa: Mysteries of Access and Benefit Sharing’ was released at the recent CBD associated 4th Meeting of the Working Group on Access and Benefit Sharing in Granada, 30 January - 3 February 2006.

The list of patents includes natural products providing material useful for a range of unique antibiotics, vaccines, appetite suppressants, cancer

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fighting medicines, powerful anti-fungal medicines and a variety of other industrial, agricultural and cosmetic applications.

Mariam Mayet, Executive Director of the African Centre for Biosafety, speaking at a panel discussion during the CBD meeting said: "In just one month of searches of various databases including the website of the US Patent and Trademark Office, we discovered these cases across the African continent. It was a shock to see the number of patents given or being claimed."

Co-panelist Dr. Ossama El Tayeb, head of the Egyptian delegation at the meeting, called the report the tip of an iceberg. There were five possible cases of biopiracy involving Egypt in the report. Reports such as this emphasised the urgency for a legally binding global treaty to prevent biopiracy. 

One of the most notorious cases of biopiracy that actually went to court, and one of the only successful court actions, involves the use of turmeric (Curcuma longa) in Indian communities for healing sores, a common knowledge held for hundreds if not thousands of years. The University of Mississippi Medical Centre obtained a patent (US Patent 5401504,) on turmeric for the same purpose. However this patent was successfully challenged by the Council of Scientific and Industrial Research India on the basis of published prior art and

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was successful in a reversal of the patent registration\textsuperscript{62}. CSIR commented that there is a ‘wide gap in the availability of information for patent examination purposes pertaining to traditional knowledge-base from third world countries\textsuperscript{63.’} They suggested as a strategy that such knowledge should be documented and put into the public domain to discourage the granting of patents on centuries old uses of natural product related traditional medical knowledge. This particular case may help explain an observable policy shift from India around the same time from keeping TK out of the public realm, to active programs to document as much of it as possible as proof of prior art in the public domain.

It is important to acknowledge that one of the reasons for the success of this case was the strong resources available through CSIR. This is by far the exception rather than the rule and most other Indigenous communities do not have the same level of legal resources available to them. It is suggested that this is the primary reason that many more communities have not attempted similar challenges of establishing the existence of prior knowledge in the art base as a valid defense against patents of their IMK. In contrast, there are many Indigenous communities that prefer to keep their knowledge out of the public domain. This particular case may suggest that if Indigenous communities had greater resources to challenge claims and defend their knowledge and maintain control over it with certainty, they might also shift towards a strategy of documenting at least some of their knowledge in the public domain. Faced


with the reality of little resources and legal capacity to challenge appropriations of their knowledge, it is more common to find Aboriginal communities in Australia preferring to keep their secret medical knowledge out of the public domain. This demonstrates why it is important to allow each community to determine the application of their own customary laws and that these can evolve as circumstances change.

There are many other examples of current research involving the IMK of plants for potential commercialization in Western medicine, or at the very least which reinforce the value of local Indigenous therapies as viable complementary therapies or even potential alternatives to current expensive pharmaceutical treatments. A scan of recent literature turns up literally hundreds of examples. Stem extracts of bark of the Limba tree (aka Afara and Fraké tree, Latin *Terminalia superba*) as well as the Aiele tree (*Canarium schweinfurthii*) located throughout a number of African countries, and traditionally used to treat various ailments, including diabetes mellitus, has been found to contain potent compounds. These compounds “can reverse hyperglycemia, polyphagia and polydipsia provoked by streptozotocin, and thus, they have anti-diabetic properties.” While *Maytenus ilicifolia*, commonly called in Brazil “espinheira santa” (holy spines), is a native plant from southern Brazil, Paraguay, Uruguay, and northern Argentina. It is used as a contraceptive and an emmenagogue in Paraguay, particularly among rural and Indigenous populations, as an abortive, an emmenagogue and an anticancer agent in Argentina and as a treatment for a variety of other

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ailments in other South American communities. Current Western studies are focusing on its potent capacity to facilitate vasorelaxation\(^66\), as an anti-ulcer agent\(^67\); anti-inflammatory agent\(^68\) and other uses. There are currently at least 27 patents based on *Maytenus* in the US alone\(^69\).

The US Cancer Institute database, current to 2005, lists over 150 natural products from which they have identified molecular compounds\(^70\). An analysis of how many of these are also used by Indigenous communities, or sourced from their knowledge, has not been done, but may prove significant. Referring to this list the National Cancer Institute at Frederick comments:

> Over the years, a significant number of bioactive compounds have been identified, isolated, characterized and in some cases, developed from the NPR by NCI scientists. These compounds and their sources include the antiviral (HIV) compounds prostratin (Samoan tree), calanolides A and B (Malaysian tree), michellamines (Cameroon plant), conocurvone (Western Australian plant), and cyanovirin-N, scytovirin and griffithsin (antiviral peptides from cyanobacteria). Antitumor compounds include taxol (Pacific yew plant), halichondrin (New Zealand sponge), halomon (a Philippine marine alga), and the vacuolar-ATPase-inhibitory compounds, salicylihalamides and chondropsins (from Australian

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\(^69\) In a search in the USPTO database using the term *Maytenus*, June 2006.

One of the most famous international cases of biopiracy is that of ‘Hoodia’ cactus. Originally used by the San people to stave off appetite and increase their energy, it was patented, initially with no Indigenous prior informed consent, by the CSIR\textsuperscript{72} in South Africa and licensed to Phytopharm in the UK. Phytopharm brought in Unilever in 2004 after Pfizer gave up its rights\textsuperscript{73}. Unilever did not expect to have a drug based on P57 on the market before 2008 or 2009\textsuperscript{74}. It was found to be a very effective appetite suppressant with little of the negative hypertensive related side effects of current amphetamine based appetite suppressants. It was therefore seen to be a potential ‘blockbuster’ drug with anticipated profits of billions of dollars.

During May 2001, and as a result of groundwork by a local activist NGO\textsuperscript{75} and uncompromising investigative journalism, the facts of the registration and prospects of this exciting future product were exposed to the world. Possible future sales of many billions of dollars of a derived “blockbuster drug” were confidently predicted. When asked whether the San peoples, from whom the traditional knowledge on the product had been derived, had been properly consulted with or were to be financially compensated, the head of Phytopharm was quoted as saying that to the

\textsuperscript{71} (2005). ”NPR Bioactive Compounds Identified.” The National Cancer Institute at Frederick Poster, June:25

\textsuperscript{72} Patent \texttt{6,376,657 ”Pharmaceutical compositions having appetite suppressant activity.”} Also see related patents on Hoodia, \texttt{6,808,723 ”Gastric acid secretion.”} and \texttt{6,488,967} also titled “Gastric acid secretion.”

\textsuperscript{73} Interview with Owen Hughes, Senior Counsel, Pfizer, March 19, 2006


\textsuperscript{75} Biowatch, based in Cape Town, South Africa.
best of his knowledge, the San tribe that had provided this knowledge was unfortunately extinct, the implications being that no form of benefit sharing agreement was appropriate! 76 This unfortunate comment was later placed in more acceptable context, but at the time the San were far from amused. The San peoples, numbering about 100 000 in Southern Africa, had since 1996 begun to organise themselves with the formation of WIMSA (Working Group of Indigenous Minorities in Southern Africa), and the scattered populations of San had become progressively united under a collective leadership77.

Of particular note is that the particular tribe of San in South Africa who managed to secure the benefit sharing agreement with CSIR decided to choose a system of community based sharing which would see the benefits shared among all the San peoples in other countries in which they live.

Very recently, particularly intensifying in 2005, an unfortunate situation has arisen in which scores of companies have flourished selling products they claim contain the Hoodia extract. This has been exacerbated perhaps by prominent US shows like ‘60 minutes’ and the ‘Today Show’ airing segments with titles like, “Can a cactus plant be a magic bullet for dieters? Prickly bush in the Kalahari Desert could be key to weight-loss success”78. The Today Show video interview which is archived on the web discusses the great success of Hoodia for nearly seven minutes, showing ultra-thin


77 Chennells, R. (2003). Ethics and practice in ethniobiology, and prior informed consent with Indigenous peoples regarding genetic resources. Biodiversity and Biotechnology and the Protection of Traditional Knowledge, St Louis, Washington University (Forthcoming in 2006 to be published by Earthscan)

models strutting down fashion catwalks, and accompanying commentary, but with no mention of the San people as a legal entity with related rights of benefit sharing. Rather the San are buried as an easily disregarded source of a diet pill:

It's the look everyone wants — a body to diet for. They’re on the beaches, in magazines and all over Hollywood. How far will we go to get one? How about thousands of miles and deep into a distant culture?...dieters are hopeful a hunger-busting plant will deliver one of those glorious, how-did-they-get-it bodies that are seemingly everywhere — except in the mirror79.

There have recently been attempts by the San to cope with this enormous rise in biopiracy which effectively disrupts their original legal rights, yet it does not look hopeful.

A second agreement was signed last month with the South African Hoodia Growers Association, which undertook to market products with a logo showing that the San received some benefit from growing the plant. No products have yet been sold with this logo.

While these two agreements are expected in future to bring revenue for the San, the community says sales outside of these two agreements should be stopped. Chennells said that many of the products currently being sold as hoodia are fake80.


Often IMK in relation to IP is examined in its origin in identifying specific plants with bioactive compounds useful for a variety of potential pharmaceutical category of medicines. But it should also be noted that IMK provides a variety of therapeutic remedies as well as sophisticated herbal remedies with holistic therapeutic effects on the human system that may not end up as a pharmaceutical medicine. Essiac is an example of a herbal therapy for cancer widely used by Western herbalists (who are often simultaneously practicing clinical medical doctors) particularly in North America and Australia. While clinical trials have yet to demonstrate the conclusive efficacy its therapeutic capacity\textsuperscript{81}, it arguably remains the most popular alternative/complementary cancer treatments in the world\textsuperscript{82}. Essiac was originally appropriated from the Ojibwa community. An expanded discussion of Essiac in the context of providing a case study of repatriation will be offered in chapter eight.

*Taxol* generated over 10 billion dollars (US) between 1993 and 2005. Taxol comes from the bark and needles of the Pacific Yew. This is well known in the literature. However something not commonly appreciated in the current biopiracy/bioprospecting literature was that Pacific Yew was also a well known *Native American source of medicine*\textsuperscript{83}. Not only that, but that it was used by several

\textsuperscript{81} ACS (2005). Essiac Tea, American Cancer Institute, \url{http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Essiac_Tea.asp?sitearea=ETO}, last viewed March 27, 2006

\textsuperscript{82} \url{http://www.cancer-info.com/essiac.htm}

\textsuperscript{83} While there is mention of Taxol in IP literature dealing with Indigenous knowledge, it is not directly linked as being sourced from an Indigenous community. For example see Chacko, Sunil, and Sambuc Henri-Philippe. 2003. "Blockbusters, Traditional Knowledge and Intellectual Property." *Indigenous Law Bulletin* 5. While this linkage has not emerged in a significant way in IP literature, the recognition has emerged in the health related fields. For example see: Borchers,
tribes to treat cancer prior to its ‘discovery’ of anti-cancer properties. An expanded discussion of this case study will be offered in chapter eight.

In Samoa traditional healers use the mamala tree (*Homalanthus nutans*) to develop a variety of medicines. Recently researchers worked with those healers to develop prostratin\(^8^4\), an anti-AIDS compound derived from the same tree. Prostratin provides a dual role in treating AIDS. Firstly it inhibits HIV infection and secondly it enables the targeting of latent HIV.\(^8^5\) Normally HIV can lie dormant in reservoirs in the body, escaping detection and preventing anti-retroviral drugs from attacking the virus. These reservoirs can later become active sources of the virus in the body. Prostratin forces the HIV out of these reservoirs\(^8^6\), enabling the anti-retroviral drugs to eliminate them\(^8^7\).

The bark of the *mamala* has been used by traditional healers to treat hepatitis, among other medicinal uses of the tree. This traditional

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"Some pharmaceuticals were originally discovered in the course of investigations of botanicals that were used by Native Americans for medicinal purposes. Examples are taxol, obtained from *Taxus brevifolia* (Pacific yew tree)..."

\(^8^4\) US Patent 5,599,839 “Antiviral composition”, Filed April 1995, Inventors Boyd; Michael R. Cox; Paul A, et.al; Assignee: The United States of America as represented by the Department of Health and Brigham Young University.


\(^8^7\) For a general background on Prostatin see [http://www.phytomedical.com/Plant/Prostratin.asp](http://www.phytomedical.com/Plant/Prostratin.asp)
knowledge guided researchers in their search for valuable therapeutic compounds. Reportedly, revenues from the development of prostratin will be shared with the village where the compound was found and with the families of the healers who helped discover it. Revenues will also be applied to further HIV/AIDS research. It is also proposed to license the prostratin research to drug makers so that the resultant drugs are made available to developing countries for free, at cost, or at a nominal profit\(^88\).

Some of the interesting features of the benefit sharing elements of the prostratin case is that contracts were negotiated several times at differing stages which demonstrates that there is no fixed model that parties are stuck in once they decided on a first stage. Additionally the Samoan government was in a position to assert its national sovereignty over genetic resources which may have assisted in the strength of their negotiation capacity. The ethnobiologist who initiated the research as well as the benefit sharing agreements has explored in detail the negotiation processes and his attempts at pioneering new ethical models\(^89\). Some of these features will be revisited later in the thesis.


Conclusion

In 200390 John Hunter and I suggested that the ability to access and benefit from IMK globally, and in Australia in particular was in jeopardy due to both a perception of untrustworthy IP regulatory systems as well as seemingly increasing costs and a lack of contractual certainty between corporations and Indigenous peoples. We later found we were not alone in such a position with a variety of others91, voicing variations of such issues,

the problem is that there’s been so much noise about this that, I think, it frightens some companies off that might be, and I emphasize might be, willing to do things the right way. You have a lot more emphasis on bioprospecting for natural products that are not used by Indigenous or local cultures because, frankly, corporations don’t want the headaches of dealing with them92.

This is partly confirmed by Sampath’s recent work93 in which she describes how nearly every major pharmaceutical company has shut down their

90 Biodiversity and Biotechnology and the Protection of Traditional Knowledge, Washington University, April 4-6, 2003, http://law.wustl.edu/centeris/index.asp?id=1836


ethnopharmacological projects and divisions in recent years. However it would be deceptive to think this represented a halt in the appropriation of IMK. Rather the big biotech corporations now leave it to the medium sized companies and university based research institutions to do the coalface work with Indigenous communities and then step in when the discovery of bioactive compounds appear to warrant further development for economic gain. This is partly a cost saving exercise by the multi-nationals, but it is also an accountability strategy in removing any direct relationship with the communities. To all intensive purposes they can then say, “Hey, all I did was buy the patent off the university, if you’re worried about biopiracy, talk to the researchers who took it from the community in the first place.” While the university will then refer to its ethics committee guidelines for justification in approving the project which meet the minimalist national ethical and legal standards, regardless of how inadequate they might be from the perspective of the Indigenous community concerned that just had its IMK effectively appropriated.

This recent development has two immediate implications of import. First it offers evidence of the need to create trustworthy regulatory mechanisms that are responsive to the needs of Indigenous communities as determined by them. This is part and parcel of IP incentive theory related to creating certainty for Indigenous communities that their knowledge cannot be stolen and they can retain control and maximum benefits from their own knowledge. The second implication is that clearly the current exclusive international/multinational focus needs a rethink and ethics and protocol development needs serious attention for both universities and the medium sized biotech companies often working with them.
However, as will be more comprehensively outlined in chapter seven, there is an unexpected positive irony on the practical level of engagement with Indigenous communities. Increasingly, communities and elders who are consulted express that there is an inappropriate fixation on the issue of the ‘protection’ of IMK by concerned researchers and ethics committees. A paradigm shift has been explicitly requested by some elders where the value of the knowledge itself, or perhaps, one might say the wisdom, of the communities is respected and valued to the degree that it transforms the researchers and their project outcomes in response to that engagement with Indigenous wisdoms. As the researchers begin to appreciate the Indigenous sacred valuing aspects of IMK, protection will emerge as a natural by-product of trusting relationships. Simply put, what we value we protect. As researchers begin to learn to appreciate and value the broader set of relationships responsible for producing IMK, they become aware it is not just the patentable information that needs protection and become partners with Aboriginal communities in seeking innovative ways to offer broader and more meaningful forms of protection of the communities, their environment and the knowledge systems those relationships produce.

This chapter has primarily maintained an international focus on cases of appropriation. The following chapter will continue this pattern but narrow the focus to the Australian context.

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94 From 2002-2005 I served on the Macquarie University Human Research Ethics Committee. In 2003 we had a workshop with Indigenous representatives including Dr. Sandra Eades, who was among the first graduating class of Aboriginal Doctors in the country. She commented that in her capacity in advising on the new national ethical guidelines for research they consulted with a number of elders and this was a central message that was voiced.
Chapter Three

Review of Australian case studies and trends in the appropriation of IMK

This chapter continues the methodology of chapter two which focused on the international context of the appropriation of IMK, but narrows the focus to the Australian context. It will be demonstrated that although there is little accessible evidence, it appears that prior to the colonization of Australia, Aboriginal peoples expressed a degree of sovereignty in the form of regulated trade relationships with both Macassan (Indonesian) and Indian (sub-continental) traders that exchanged goods, including IMK, often it appears, upon mutually agreed terms. Upon the colonization of Australia by Britain, there is some evidence that some colonists continued respectful relationships or reciprocity in learning about IMK. It wasn’t until the processes of commercialization began to develop that the unethical appropriation of IMK began to become an issue of note. In the past few decades, this commercialization focus has intensified and the appropriation of IMK has been documented extensively. The ethical standard of the research relationships in each case have depended upon the goodwill of the institutions involved and the cases have sometimes appeared isolated. However a federal drive to facilitate the bioprospecting industry along with the establishment of national centres of research specializing in this has seen a very recent movement towards potential nationally systematized patterns of appropriation. Appreciating this lays the ground for recognizing how important
addressing the industrial regulation of the commercialization of IMK is. It also reinforces the importance of the recognition of Indigenous customary IP law as a potential response to this dependency on the goodwill of institutions to protect and respect Indigenous people’s medical knowledge.

Bioprospecting in Australia: The unregulated gold rush

Chapter two noted the significant contribution traditional knowledge has made to systems of global health including the bioprospecting of plant related medical knowledge found of value to the pharmaceutical and herbal remedy industries. Against this global context it is important to note that Australia possesses greater potential for productive bioprospecting than any other developed nation in the world. This is due to its high levels of endemic biodiversity that make it the only ‘megadiverse’ developed country in the world. It is 1st among developed nations and 6th globally on the National Biodiversity Index,¹ while this biodiversity is 90% endemic.² Combine this with its equally high level of Indigenous cultural diversity, and the potential for the exploitation of IMK in facilitating the bioprospecting industry becomes apparent. Statistics such as these are highlighted in government reports³ which encourage the national development of the bioprospecting industry. Other factors that are reinforcing the rapid development of this industry in Australia in the 21st century include:

¹ UNEP, Global Biodiversity Outlook, UNEP, Montreal, 2001: 249.
the confluence of funding paradigm changes to universities, increased reliance on patenting for academic success, increasing dependency of universities on forming partnerships with industry partners including biotech companies, legal changes making it possible for universities to benefit from the commercial exploitation of their knowledge production: all of these factors have contributed to a strengthening of the natural products industry and the industry of bioprospecting. These factors as they apply to universities becoming increasingly significant gatekeepers of IMK will be extensively explored in chapter seven.

**Bioprospecting cases in Australia**

Aboriginal people had/have extensive oral pharmacopeias that were passed on through the generations. I say “have” because even today, there are members of the Aboriginal communities in the area first colonized in New South Wales, (and arguably the most affected by the negative processes of cultural destruction imposed by colonization) that still can identify hundreds of plants and their associated medicinal uses. Upon the colonization of Australia in 1788, colonists encountered unique diseases and poisonous flora and fauna.Combining this with sometimes depleted stores of their own medical supplies, colonists depended upon Aboriginal people to teach them alternative and new forms of medicine appropriate to this new environment. Cribb and Cribb provide dozens of examples of such plant related medicines the colonists utilized, often emerging out of their dependency on their

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relationships with Aboriginal people\textsuperscript{5}. At that time the study of herbal medicine was still a central part of Western medical training and education for doctors, although it quickly thereafter faded from the mainstream\textsuperscript{6}. An example of colonists herbal knowledge being appropriated in modern times is the recent clinical trials being conducted on \emph{Euphorbia peplus} also known in Australia as the milkweed or radium weed. This was most likely brought to Australia by European colonists early in the 1800s for its medicinal value\textsuperscript{7}. It was used to treat skin cancer among other ailments\textsuperscript{8}. This has been taken up by the pharmaceutical company Peplin\textsuperscript{9} and the molecule that has made the plant effective against skin cancer has been isolated\textsuperscript{10}. They have had success in clinical trials stage two in treating basal cell carcinoma and other clinical trials are also under way for other diseases.

The appropriation of medical products and knowledge of Indigenous people in Australia has a long history that predates British colonisation. One of the earliest

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\textsuperscript{6} See Pearn, J. (2001). \textit{A doctor in the garden: Australian flora and the world of medicine}. Brisbane, Amphion Press


\textsuperscript{10} For a video about this medicine see \url{http://media.peplin.com/Peplin-Skin.wmv}. Interestingly it acknowledges there have been traditional sources of this knowledge. Traditional knowledge of this plant being used for various medical treatments can be seen in various Indigenous communities including Africa. It seems likely that the original British doctors discovered its uses through contact with Indigenous peoples in their colonies.
examples that we have goes back to at least the early 1600s, with the trade in Trepang (also known as Sea Cucumber). Macassan fishing boats from Indonesia brought fishermen to the northern coastline of Australia searching for Trepang.

Macassans at Victoria, Port Essington, 1845, by HS Melville

This was traded with Indonesian merchants who would then sell this delicacy to the Chinese market. Among other uses, it was dried and used for its numerous medical properties, including reduction of athralgia, atrophy of the kidneys, impotence, and many other medical uses. Most recently Japan has patented a compound from the Sea Cucumber, chondroitin sulfate for HIV therapy.

Modern researchers are also focusing on its anti-inflammatory and anti-cancer

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11 ‘Our illustration is made from the sketch drawn on the spot; the only departure from the original being the introduction of two of the aborigines, with whom the captain of the prahu is parleying.’


13 Subhuti Dharmananda, Sea Cucumber: Food and Medicine, Institute for Traditional Medicine, http://www.itmonline.org/arts/seacucumber.htm, last viewed 24, December, 2005

properties. The trade relationships involved between the Macassan and Aboriginal communities appears to have often been mutually agreed and this long term mutuality is reflected in the adoption of Indonesian words in Aboriginal languages of the far north. In a keynote presentation at the 2007 Indigenous Studies and Indigenous Knowledge conference held at UTS, Sydney, Professor Marcia Langton showed the audience various pictures including one from the 1800’s. This picture was of a group of Aboriginal people in the far north with a Macassan, with white robes and Muslim turban, sitting on the ground with them, while the Australian land holder stood off to the side towards the front. Their physical positions indicated a community acceptance of the Macassan in equality, while the Australian land holder maintains his distance and power position.

In a relatively unknown case there is evidence that there was international trade in medicines conducted in Western Australia between Aboriginal peoples and traders of the Indian sub-continent, possibly extending before the period of British colonization.

Indian traders traveled everywhere picking up plants and methods of use from Aboriginal people. Their presence was reported in the 1940’s by a government officer to the head of his department, the Department for Industrial Development:

‘For some years Indian hawkers have paid well for [plant medicine]…they do not say what they do with it except it is ‘good medicine’. It is believed to be consigned to India. White people were unaware the hawkers were purchasing it.’

The Indian traders collected more than plants. One of their main objectives was to acquire ‘Black Substance’, a product they refused to discuss with the officer, at first denying all knowledge of it. After
some persuasion, they admitted it was shipped to India where it was made into a cure for kidney trouble. In India it had great value\textsuperscript{15}.

Reference to this is also made in Ellen Reid’s thesis,

Formerly bought by Indian hawkers who paid as much as forty pounds in cash for 4 x 50lb sacks of the material. Resembles bitumen. The material was said to be placed in water, and left to stand for 24 hours, after which the water is drained off, and the residue drained. The liquid becomes thick during a second boiling. The liquid is believed to be used for some kidney complaints and back-ache\textsuperscript{16}.

Chapter two has already referenced how early colonists relied heavily upon Aboriginal medical knowledge\textsuperscript{17}. Additionally, the case of the Acacia tree was also discussed, and so will not be repeated here. One of the most notorious examples of post-colonial bioprospecting activity that developed into significant commercialization is recorded from the 1870s when

Dr Bancroft, a Brisbane surgeon, used the knowledge of the Aboriginal peoples to substitute extracts from the \textit{Dubosia} plant as a substitute for atropine in ophthalmic cases. The plant was also found to contain hyoscine, used as a sedative, in the Second World War, a local

\textsuperscript{15} Cunningham, I. (2005). \textit{The Land of Flowers}. Otford, Otford Press. She is citing Athol Monck, (1946) \textit{Medicinal uses of Plants in Western Australia}, a report he was commissioned to write for the Western Australian Department of Industrial Development.

\textsuperscript{16} Citing personal comments from Athol Monck, Reid, E. (1977). \textit{The records of Western Australian plants used by Aboriginals as medicinal agents}. Perth, WA, Graduate Diploma in Pharmacy, WA Institute of Technology: 194

Dubosia industry was developed, as imports of these drugs were unavailable. By the 1970s there were some 250 farmers growing Dubosia in northern New South Wales and southeast Queensland, with an export industry worth more than Aus$1 million annually.\textsuperscript{18}

It was also used to treat diarrhea, congestion, motion sickness, a pre-anesthetic for surgery and was found to be a very effect treatment for counteracting nerve gases. It was also used as a truth serum. The leaf was collected and exported to chemical factories in Japan and Germany and in 1976 900 tons of dried leaf was exported\textsuperscript{19}. Other than employment related to harvesting, the traditional users who were the source of the original knowledge of the medicinal properties of the plant have received no benefits.

In 1938 an Aboriginal patient, Albert Neebrong (or Nibberong), in Western Australia presented himself to the Dalwallinu hospital where he was tentatively diagnosed with cancer of the tongue. When he found out that the treatment was surgical removal of all or part of his tongue he left the hospital. Several years later he visited the hospital again and it was found that the cancer was completely gone.

Neebrong claimed to have been cured by an Aboriginal medicine man who used an infusion of a mixture of Scaevola spinescens and the ashes from the Desert Poplar Codonocarpus cotinfolius\textsuperscript{20}.


Kerr goes on to discuss how Athol Monck, a policeman, became aware of this case and lobbied the government and various institutions to begin testing of this cancer medicine. *Scaevola spinescens* is also known as the Prickly Fanflower, Maroon Bush or Currant Bush. There were a number of patients given aqueous extracts in the following decades in WA. There is anecdotal evidence to support both the efficacy as well as the non-efficacy of the medicine. However, there were never appropriately systematic professional clinical trials of this medicine and Dr.Kerr is confident that further research on this plant, *Scaevola spinescens*, may yet still produce a viable cancer medicine for society. His own clinical testing of the plant has led him to conclude

A wide range of biological activities for the major identified compounds detected and/or isolated from the various extracts of *Scaevola spinescens* was noted. This factor, together with the observed anti-tumorigenic behaviour of a number of the plant constituents, lends definite support for the anecdotal reputation of the plant which has been used as a medicine for a wide range of afflictions - including cancers.\(^{21}\)

More recently, in the 1980s the United States National Cancer Institute was granted a license to collect plants for screening purposes by the Western Australian Government.\(^{22}\) A healing plant traditionally used by the Nyoongah people, the Smokebush (*Genus Conosperum*), was found to contain the bioactive compound of Conocurovone, which is capable of destroying the HIV virus in low concentrations.


The NCI sought further samples and a license to collect more samples in Western Australia. The Department of Conservation and Land Management (CALM) attempted unsuccessfully to negotiate a contract with the NCI.

“When after four months or so had gone by and there was no contract agreed between Western Australia and the NCI, the collector attempted to leave the country with the samples. He was found at Tullamarine airport with two of his three cases full of smokebush and other plants.”

Evidently this same collector subsequently had an Australian warrant issued for his arrest and has taken up residency in a country in Africa, not returning to either Australia or the United States due to the diplomatic problems this series of events has presented to his freedom of travel.

The claims of biopiracy and the negative publicity for the NCI that followed these events led ultimately to the NCI granting Victorian pharmaceutical company Amrad an exclusive worldwide license to develop Conocurvone. An agreement was made between CALM and Amrad for Western Australian scientists to be involved in the research on production and preparation of Conocurvone and a provision for royalties from any commercial drug development.


where the leading compound is Conocurione, to come to Western Australia\textsuperscript{26}.

The license to develop the patent on this "discovery" was awarded by the US National Cancer Institute to Amrad (now Zenyth) who paid $1.5 million to the Western Australian Government in order to obtain access to the Smokebush and related species. Amrad has subsequently become Zenyth\textsuperscript{27} which was acquired in November, 2006 by CSL, a multinational biopharmaceutical company whose headquarters are now based in Melbourne\textsuperscript{28}.

It was initially estimated that successful commercial exploitation of this plant would have represented over $100 million per year in royalties to the WA Government\textsuperscript{29}. "Indigenous people are concerned that they have not received any acknowledgement, financial or otherwise, for their role in having first discovered the healing properties of Smokebush."\textsuperscript{30}

It is interesting to note that subsequent information in 2005 appears to indicate that this particular medicine was ‘shelved’ under the claim that clinical trials


\textsuperscript{27} http://www.zenyth.com.au/

\textsuperscript{28} http://www.csl.com.au/


found it to be neurologically toxic in the oral method of treatment developed by AMRAD.

Dr Gregg Smith, an Australian biotech scientist at AMRAD, who after expensive phase one testing and scientific dead-ends, was forced to shelve research with Smokebush’s synthetic compound concoverone. Known as a clunky compound, Smokebush’s concoverone is apparently too robust and cannot be broken down or ingested safely by humans infected with HIV.31

This discontinuation of development was later confirmed in a drug development journal. It is reported that an executive in AMRAD has admitted that at no time did they consult with the original community to discuss Nyoongah preparation methods or drug application and did not want to listen to any information related to demonstrating the indigenous source of the medicine when offered a description by the interviewer. In this case one could surmise it may have not only assisted in appropriate benefit sharing protocols, but possibly made a significant difference to the success of the HIV medicine as the Nyoongah people utilized the plant through unique harvesting and preparation processes.

The Smokebush case highlights the lack of consultation processes between the bioprospectors, government institutions, pharmaceutical representatives and the indigenous community members and the possible loss to society this may have caused through the perhaps premature abandonment of the development of a potent AIDS treatment. It seems from initial interviews in 2005 that the local

31 Williams, C., (2005) Personal communication

community members are completely unaware there were even major research and development projects involving their original plant knowledge\textsuperscript{33}.

This is hardly the end of the Smokebush story, for although Amrad discontinued its research, the potential development of conocurvone as an HIV drug continues through research by the US National Cancer Institute in partnership with the Department of Biological, Chemical and Physical Sciences, Illinois Institute of Technology, the Life Sciences Operation, IIT Research Institute, Chicago, and the Department of Chemistry, University of Illinois at Chicago\textsuperscript{34}. Their research continues to confirm that conocurvone is still considered one of the most effective inhibitors of HIV-1. Although at this stage that is still only in \textit{in vitro} and has yet to be clinically trialed in humans. The Smokebush samples for their research were provide by Dr. Jonathan Coates of AMRAD whom the research group thanks “for the gift of an authentic sample of conocurvone.\textsuperscript{35}”

Another case is the Muntries plant which is like a miniature apple:

\begin{quote}
Muntries is a native plant that’s well-known to local Aboriginal people; they ate the fruits and dried them to trade with other tribes. In 1996 provisional plant breeders’ rights for muntries were granted to a company called Australian Native Produce Industries. By taking this native plant and breeding it, the company obtained the exclusive right
\end{quote}

\textsuperscript{33} Williams, C., (2005) Personal communication


to use this cultivated species of the plant in commercial products. Muntries chutney is now sold at Coles supermarkets, part of the range of indigenous food products that has generated over half a million dollars in sales in its first year on the market. Some suggest the company never actually undertook genuine plant breeding but simply submitted an ‘original’ version of the plant. It is interesting to note that according to IP Australia’s database the application for Plant Breeders Right of the Muntries was withdrawn in September 2004. Research on the Muntries continues and has recently identified that it contains very high levels of antioxidants, while “Studies to identify additional antioxidant compounds as well as clinical trials for testing the fruits bioactivity in vivo, are in progress.”

There are many other examples of Australian Indigenous medical knowledge reflected in scientific research that cannot be necessarily linked as specific examples of appropriation. Sometimes there is a genuine parallel and separate research ‘discovery’ that coincidentally was already known to Indigenous people. For example recent international patents were granted related to a process of utilizing powerful anti-biotic compounds secreted by the metapleural gland of

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39 CISRO (2007). ”Native Australian fruits very high in antioxidants.” Medical Science News, 5 August
the Red Bull Ant (*Myrmecia gulosa*)\(^40\). This was a recent discovery by Australian scientists. However, Aboriginal Australians have known about the anti-biotic property of this Bull Ant secretion for generations.\(^41\) Professor Andrew Beattie related to the author how an Aboriginal woman in Central Australia heard an interview of his on the radio about the anti-biotic properties of the bull ant and phoned him with excitement to confirm her mother used to treat her and her siblings. She described a process where they would stir up a Bull Ant nest, wrap a cloth around a stick, push the cloth into the nest until it was covered with ants, pull it out and shake off the ants, and then bind a wound so that it would not become infected in the hot desert sun. She was excited because the radio interview confirmed the knowledge of her mother and ancestors about the antibiotic properties of the ant secretions used for generations by her community.

In sharing this information with biologist Associate Professor Jim Kohen, he advised he recalled seeing this same antibacterial quality of the Bull Ant described in Australian scientific literature dating from the 1880’s. After checking the status of the patent application with Access Macquarie, (the commercialization branch of the university), their contact wrote back saying:

> it seems that this application was abandoned before it reached national phase. …we were unable to find a commercial partner who would have been interested in licensing the technology or developing it any further. Generally, if we are unable to find industry partners for University inventions, we do not take the application through to the national phase due to the cost involved in these applications. The cost for provisional and PCT applications are only a few thousand dollars

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but since national phase applications are quite expensive, and if we cannot find a partner who is willing to pay for a national phase application, then the University will not pursue the application but offers it back to the inventors if they wish to commercialise the invention themselves\(^42\).

This case will be further discussed in chapter eight. It may be possible that although this may have been a lost opportunity for the researchers, it could prove to still be of potential benefit for the Indigenous community that also holds the knowledge. Since a majority of the world’s patents lapse before potential expiration for a variety of reasons\(^43\), it is valuable to consider this as a case study of repatriation, even though it is a case of parallel development, rather than appropriation.

It is worth noting that a significant amount of Australian bioprospecting involves Indigenous communities’ knowledge in other countries, mostly from neighboring Pacific countries, being relocated to Australia for scientific research and at times commercial development. For example one Queensland pharmacist who used to live in the Solomon Islands observed that the local people benefited from the medicinal qualities of the Ngali nut. He then took out a very broad patent\(^44\) on Ngali nut oil, potentially involving every Ngali tree\(^45\) in the pacific, in

\(^{42}\) Access Macquarie, Oct 2007, Personal Correspondence on file with author.


order to develop and market his new arthritis medication which does not appear
to involve a genuine inventive step as the product merely involves the extraction
of the oil and the addition of sorbelene cream for topical use. Arguably the
patent may be contestable on the grounds of existing ‘prior art’ if such
knowledge has been recorded by the local communities. Although considering
the possibility it was an oral tradition rather than written one, as required by the
USPTO this may be problematic. The applicant, Peter Hull indicates he noticed
the community members didn’t suffer arthritis and made the connection that
they happened to also use the Ngali nut. In a website the new Queensland
company discussed their product “Arthrileaf”:

Ngali nuts have been known for many years in the Solomon Islands,
and have formed an important part of the local diet for hundreds of
years. However no-one had realised until recently that arthritis was
not a problem there. (it is very difficult to recognise the absence of
something).

Peter Hull - The Apothecary - owned & ran The Pharmacy in Honiara
(the S.I. capital) from 1981 to 1985, & during his time there noticed
that arthritis was virtually nonexistent among the local population.

Thinking that this was possibly due to diet, it was apparent that one
big difference in the local diet was the Ngali nut, a local native tree
that in season produces large amount of nuts, which are not found
anywhere else (PNG & Vanuatu do have different varieties, known as
galip & nangai nuts).

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45 Ngali Nut Oil is the oil obtained from the nuts of several varieties of Ngali Nut Trees grown in the
Solomon Islands, Vanuatu Papua New Guinea and the Philippines. The three most common varieties of
Ngali Nut Trees are *Canarium* Indicum, *Canarium* Solomonesis and *Canarium* Harveyi.

46 Originally this was viewed at [www.shop.pacifichealthproducts.com/arthrileaf.htm](http://www.shop.pacifichealthproducts.com/arthrileaf.htm) however it is
now only viewable in the ‘cache’ form at:
companies with websites beginning to sell similar treatments involving the Ngali Nut are emerging.
It seems likely that the traditional healers of the Solomon Islands would have been well aware of some of the medicinal qualities of this particular nut that was a common part of the local diet. In a major Australian Centre for International Agricultural Research project in 2005 the potential commercialization of this nut was initially explored. The preliminary report from their findings, not surprisingly indicates:

Discussions with elders in indigenous communities showed mixed interest in such developments, with considerable concern expressed about the protection of traditional knowledge and intellectual property rights.\(^\text{47}\)

The last case to be discussed is perhaps the most significant and reflects current best practice standards of bioprospecting with Indigenous communities. It involves the patenting of several powerful analgesic compounds isolated from the *Barringtonia acutangula* species. This is a freshwater mangrove tree also known as the Kandu Almond or Indian Oak found throughout southeast Asia, but in this case accessed in the Kimberly region of Western Australia. The story begins with Aboriginal stockman John Watson having a finger bitten off by a small crocodile and then treating it by applying a paste of chewed up bark from

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the *Barringtonia* that relieved his pain\textsuperscript{48}. This information was conveyed to Paul Marshal, a friend of the local community. In 1987 after consulting with the community, he sought advice from a QC and a patent attorney before approaching Professor Ron Quinn of Griffith University in 1989 to discuss commercialization possibilities. Professor Quinn commented that this was a unique case because he was approached by a representative of the community and asked to investigate the bioactive potential of the tree bark. In a newspaper article interview shortly afterwards he commented,

> You never know, there could be a whole range of valuable medicinal compounds which are sitting under our noses which we haven’t bothered to find out about. I just hope that there are enough people like John Watson around who still know about these things\textsuperscript{49}.

In the same article, Professor Quinn indicated he had promised John Watson and the Kimberly Land Council not to reveal the name of the tree since there may be potential commercialization resulting.

Paul Marshal advised in a personal communication that originally the community formed the Jarlmadangah Buru Aboriginal Corporation and there were investigations into the idea of developing their own herbal remedy company. However a number of issues led to the community choosing the


partnership with the university and a pursuit of a further partnership with a pharmaceutical company. These included financial considerations of the estimated cost of developing such a company (which Mr. Marshal said they expected would involve millions of dollars) as well as a lack of local expertise and capacity for individuals to drive such a complex project. Mr. Marshal is referring back to the community to get permission to share more details. Eventually a patent was taken out naming Griffith University and the Jarlmadangah Buru Aboriginal Corporation as joint applicants\textsuperscript{50}. Mr. Marshal related the agreement is 50/50 with the University to split any profits received from commercialization of the pain killer. Currently they are in negotiations with an unnamed pharmaceutical company to take the drug through clinical trials and commercialization. They expect to complete negotiations by February 2008.

Although there are confidentiality agreements which prevent them naming the percentage being haggled over with the pharmaceutical company, when I indicated that precedent indicates multinational pharmaceutical companies offer about 4%, it was indicated this was in the same ballpark of expectations. This would ultimately mean the community would receive a total of about 2% of any commercial profits from the pain killer. I have offered, on a volunteer basis, to attempt to network resources for the community to develop their own herbal remedy company should negotiations fall through. This would allow them to keep control of their knowledge more fully.

In a conversation with one of the researchers at Griffith working on the project, Rowan Davis, it was related that the analgesic is possibly more powerful than

\textsuperscript{50} Australian Patent # 2004293125, WIPO Number WO2005/051969 Title: Novel analgesic compounds, extracts containing same and methods of preparation (2006.01)
morphine. He indicated that the interesting thing about *Barringtonia* is that the plant contains several compounds that work together to address painkilling in different ways. The team has yet to publish anything on the matter in scientific literature other than the patent specifications (which are fairly comprehensive), although Davis indicates Professor Quinn just recently (Oct 2007) asked him to begin preparing their first publication on the matter.

The last two examples to be discussed highlight that these cases are moving away from being merely isolated examples of appropriation of varying degrees of ethical engagement. There are centres being established to systematically harness Indigenous knowledge for commercial development, and Indigenous medical knowledge is part of their focus.

One of the largest institutions in Australia with intentions to form commercial development relationships between universities and Aboriginal communities is the Desert Knowledge Centre CRC\(^51\). One of their programs that directly involved partnerships with Aboriginal communities in researching IMK was called “Plants for People"\(^52\). In August 2007 I contacted Dr Craig James the General Manager of Commercialization and Communication for the Centre to ask about IP protocols and he advised me to contact Dr Sarah Holcombe who was organizing a review of their current IP protocols. In a lengthy discussion she advised that their model, similar to the Griffith University case, is a 50/50 model of partnerships, with the Aboriginal community remaining in control of the IP


\(^{52}\) For a case study of this project see Minangall, M. (2005). *Sharing the Benefits of Biotechnology*. Department of Medical Biotechnology, Flinders University: 127-131
process, involving prior informed consent and mutually agreed terms. I advised her that while this may appear to be best practice and can be equitable in commercialization of certain kinds of ecological knowledge, a different set of circumstances apply to potential drug development. This situation often results in an end result of about 2% going to the Aboriginal community. She wasn’t aware of this scenario and commented it seems that knowledge of that should mean a different set of protocols should be developed in those circumstances. I suggested that the best commercialization model is possibly a long term focus on Government funding, private industry and pharmaceutical company pro-bono support and university researchers involved in capacity building towards completely Indigenous owned pharmaceutical or herbal remedy companies.

From 2003 to 2004 the Rural Industries Research and Development Corporation conducted a project “Developing a herbal medicine primary industry”. This project was based in Queensland University Technology. The objective of this project was

To develop and implement a strategy to advance medicinal herb production and processing and capitalise on commercial opportunities to advance the complimentary medicine industry as a significant export sector in a structured and systematic manner by 2007.

Towards the end of the project a company was established, Healing Power (CM) Ltd. and was listed on the stock exchange (ASX HPLU). One of the employees

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53 See chapter 7 for a more detailed examination of this.

working within that company advised that the company folded in 2005\textsuperscript{55}. The reasons for this were unable to be shared due to confidentiality agreements. She advises the company had relationships with universities in China but not with the actual communities or individual traditional healers who were the origins of the knowledge. I queried the extent of their work on IMK and the reply was that “We didn’t work directly with IMK, we only worked with proven remedies”. I then paused and said, “So once the IMK has been shown to be effective that’s when you start working with it? The reply was “yes”. This highlights how the regulatory chain of drug development tends to obscure the relationships of dependency on the original Indigenous communities even by the time IMK makes it to the middle sized biotech companies.

Although the start up company part of the project seems to have fallen through, individuals in the project were instrumental in raising awareness of a national herbal medicine primary industry. The primary researcher, Dr Phillip Cheras became the deputy director of the Australian Centre for Complementary Medicine Education & Research (ACCMER). The most recent significant development in this capacity building of a national system of herbal medicines occurred in June 2007 with the establishment of the National Institute of Complimentary Medicine (NICM)\textsuperscript{56}. The NICM has started with funding of about $4.6 million.

The NICM initiative complements the announcement in late 2006 of $5 million in National Health and Medical Research Council Special Initiative Research Grants for complementary medicine and the

\textsuperscript{55} Personal communication Oct 25, 2007.

\textsuperscript{56} http://www.nicm.edu.au/
inclusion of complementary medicine in the new National Health and Medical Research Council (NHMRC) triennial strategic plan. The special initiative funding has drawn an overwhelming response with 141 applications from 37 institutions demonstrating the high level of interest in complementary medicine research\textsuperscript{57}.

The mandate of developing a national complimentary medicine industry is broad and requires many different types of development pathways. The development of a integrated national herbal medicine system is one of those pathways. The NICM will achieve this by giving seed funding to a variety of institutions to encourage research and networking in the various areas necessary to build the capacity of complementary medicine research across Australia, effectively connecting complementary medicine researchers and professionals with the broader research community, industry and other stakeholders, to provide strategic focus and foster excellence in research... which provides positive benefits to the health of Australians through evidence based research in complementary medicine and integrated healthcare delivery.

One of the features of this process clearly involves the utilization of IMK. The interim director of NICM Professor Alan Benoussan advised,

> There are indigenous medicines available all around the world, and what we need to do is look at some of the claims around these medicines, so we can see how they might be incorporated into conventional healthcare\textsuperscript{58}.

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Upon speaking with NICM’s administrative officer, it was advised that their protocols for research are still in development, so it is premature to analyze where on the ethical continuum of the IP of IMK they will be.

While it may be too early to tell how advanced their ethical protocols will be, these developments are significant enough to highlight that Australia is developing more systematic and comprehensive institutions which are interested in utilizing IMK. For this reason it becomes even more important to understand the current legal context of IP in Australia. The following chapter will suggest that in spite of positive national and international legal developments, the ethics of research that use IMK will still largely depend upon the goodwill of the institutions utilizing that knowledge. It will then become essential to deconstruct how the various institutions are gatekeepers of IMK and raise awareness of what ethical responsibilities arise upon that knowledge. Additionally, to offset this dependency upon the goodwill of institutions to protect and respect IMK it will be suggested that enabling Indigenous customary IP law to be respected is one of the best ways to ensure trustworthy relationships.
Chapter Four

Trends in policy and legislation related to IMK in Australia

This chapter will demonstrate that the current national system of policy and law in Australia is insufficient to protect IMK. There are signs that a process of recognition of the value of IMK has begun in policy, however it has yet to institute legislative *sui generis* mechanism for its genuine protection. Recent permit systems regulating access to Indigenous property have more to do with ensuring economic certainty than they do with ensuring genuine protection. It will be shown that at its foundations this lack of protection is largely due to the inability of the courts (and arguably the public at large) to engage what the spiritual aspects of Indigenous customary law are with clarity of meaning that convey its deep rationality. This is reinforced by a hierarchy in native title law that places English based law and physicality above Indigenous customary law and spiritual appreciations that is prejudicial to recognizing Indigenous rights in IMK.

In this chapter it is particularly important to begin by listening to Australian Aboriginal voices and their concerns regarding Indigenous intellectual property. An appropriate starting point is the Julayinbul Statement on Indigenous Intellectual Property Rights, originating from an Australian Indigenous conference in Jingarra.

*Indigenous Peoples and Nations share a unique spiritual and cultural relationship with Mother Earth which recognises the inter-dependence of the total environment and is governed by the natural laws which determine our perceptions of intellectual property.*
Inherent in these laws and integral to that relationship is the right of Indigenous Peoples and Nations to continue to live within and protect, care for, and control the use of that environment and of their knowledge.

Within the context of this Statement Indigenous Peoples and Nations reaffirm their right to define for themselves their own intellectual property, acknowledging their own self-determination and the uniqueness of their particular heritage.

Within the context of this Statement Indigenous Peoples and Nations also declare that we are capable of managing our intellectual property ourselves, but are willing to share it with all humanity provided that our fundamental rights to define and control this property are recognised by the international community\(^{1}\).

It is valuable for persons from western contexts of law to become concerned with the building of bridges between cultures that is required in such a process. Enduring bridges appropriate to such a relationship require the infusion of a number of spiritual virtues including humility, integrity, patience, transparency, respect, and trustworthiness. As determined by the Indigenous peoples who share such IMK, these spiritual principles must be applied in a framework honoring the sacred obligations associated with becoming a custodian of particular forms of knowledge.

On a material level, those concerned with building economic bridges through which valuable transfers of knowledge can occur should be ultimately concerned with ensuring such spiritual concerns of Indigenous people are considered and applied. The degree to which this is authentically engaged will determine the degree to which Indigenous communities feel confident in sharing their valuable

\(^{1}\) The Julayinbul Statement on Indigenous Intellectual Property Rights (1993), originating from an Australian Indigenous conference in Jingarra
knowledge across that bridge. Alternately, many Indigenous peoples often feel a sacred obligation to respect the sources of that knowledge to the degree that they would prefer letting it ‘return to the earth and the spirit world’, rather than be misused and denigrated. For Indigenous people the apparent physical loss of such knowledge does not mean it is gone forever. Such knowledge will continue to exist in the invisible world, hidden from the eyes of all, until people of respect and wisdom are found worthy enough to be given its gift again.

The ultimate benefit of a genuine engagement with Indigenous peoples and their knowledge represents a great gift to humanity. It is argued that this represents the greatest opportunity for the creation of a legal and social culture that manifests a true ethic of embracing the intrinsic value of biocultural diversity, and is essential for the survival of the human species.

For IMK to be protected on a deep level requires the virtue of honoring the diverse forms of sacred Indigenous customary law which are concerned with protecting that diversity which IMK depends upon for its creation, maintenance, development and application. The central feature of these forms of customary law is a spiritual focus that enables the honoring of the interdependent relationships between land, communities, ancestors and the spiritual realm. Currently Western IP law has largely excluded such considerations from its discourse. In Australia this is no less true and the current legal system is largely ineffective in enabling the

\[2\] It is almost universally acknowledged that the survival of humanity is dependent upon maintaining a certain degree of biological diversity on the planet. In recent years there has been an increasing recognition of the inextricable link between biological and cultural diversity. When this inextricable link is considered, this bold statement of survival above can be justified as reasonable. The final section of chapter six will explore this further.
honoring of those interdependent web of relationships required for true protection from most Indigenous perspectives.

This chapter will provide a brief descriptive review of the trends in policy and legislation in Australia regarding the protection of IMK. These trends will show that while there are signs of acknowledging the importance of the protection of IMK, largely stimulated by international developments such as the CBD, the national interests in stimulating economic growth have subdued the potential benefits of more proactive implementations of provisions within international law to that would encourage more authentic forms of protection. This is not just a case of economic rationality dominating the environmental and Indigenous rights discourses. Nor is the lack of positive legislation and policy in this area due to technical difficulties in recognizing the unique qualities of Indigenous intellectual property. The challenges facing intellectual property protection for some of the new technologies such as computer software requiring unique interpretations of the idea/expression dichotomy were contentious, yet the political will in Australia

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was manifested to create *sui generis* forms of intellectual property recognition. Yet when it comes to IMK there appears to be a current climate that is actually hostile towards supporting positive international instruments or developing equally unique forms of *sui generis* IP that protect Indigenous rights. This is exemplified by the recent passing of the Declaration on the Rights of Indigenous Peoples. It was passed by the UN Human Rights Council in 2006 and only two countries opposed it, Australia and Canada. In 2007 the Draft Declaration went before the UN General Assembly and it received overwhelming support except from four countries, the U.S, New Zealand, Australia and Canada who each opposed it. Within that declaration are very strong statements regarding the rights of people to the protection of their own intellectual property including IMK.

Article 29 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.

While Article 24 states:

> Indigenous peoples have the right to their traditional medicines and health practices, including the right to the protection of vital medicinal plants, animals and minerals.

This highlights the fact that this is largely an issue of a current lack of political will in Australia to utilize existing positive opportunities to protect IMK. Historically it
has been demonstrated that political will and public awareness has transformed what were previously seen as seemingly intractable situations in the recognition of Indigenous rights. The 1967 referendum and various positive land rights developments beginning in the 1970s were enabled because of growth in public awareness, associated political agendas engaging those shifts, emerging academic attention and the sustained voice of Indigenous peoples.

The complex demands of political movements influence the future direction and action of government and individuals. Recognizing Indigenous legal rights and the importance of land-rights legislation changed the face and direction of Australian legal history. For on one level, the changes in governmental policy relating to Indigenous people necessitated a reconceptualization in legal and political discourse of the relationship between many Indigenous people to land and the importance of cultural imagery expressed in artistic forms. However, while the development of land rights and native title disrupt traditional jurisprudence on property ownership and rights, such legislation remains inseparable from such jurisprudence. This is because the dominant paradigm of property remains the central node through which such jurisprudence depends and from which new jurisprudence develops.

This chapter will show that Australia has been traversing a period of history in the past decade that has minimized some of those gains. Yet awareness of how those social periods of transformation have occurred which are dependent on political will offers hope that equally apparent intractable situations related to the protection of IMK will be transformed when the social awareness and political will moves through a more positive cycle of valuing Indigenous knowledge and peoples.

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Nationally uniform legislation that positively and directly protects Indigenous medical knowledge in Australia does not exist. Access to biological diversity is governed by individual states, while the export of genetic resources is controlled federally. Overall, Australia has yet to develop national standards of trustworthy IP with Indigenous communities. There are a number of inhibiting factors to overcome for this to change, while equally there are positive signs that such a capacity is developing.

The tensions between the objectives of stimulating national economic growth and preserving biocultural diversity are reflected most dramatically in the contrast of two of the most influential international agreements implemented in the last decade of the 20th century7.

The first agreement is primarily concerned with stimulating economic growth through strengthening the global regime of intellectual property rights and trade is the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). This bundle of agreements arose out of the Uruguay Round of Multilateral Trade concluding in 1993. TRIPS is administered by the World Trade Organization (WTO) comprised of member countries of the predecessor General Agreement on Tariffs and Trade (GATT). A series of Free Trade Agreements (FTAs) have since arisen between a variety of countries, most often initiated by the United States whose interests are in protecting and stimulating their export of intellectual property to the world. For this reason the FTAs are not just about harmonizing countries IP systems, but about ratcheting up the strength of IP standards of

protection built into them. This is done, for example, by extending the duration of copyright and patent terms of protection as well as extending the range of patentable subject matter. In 2004 an FTA was signed between the United States and Australia and went into effect in early 2005.

The second agreement is the United Nations Framework Convention on Biological Diversity (CBD), concluded at the 1992 “Earth Summit”. The CBD is primarily focused on international standards for the conservation, sustainable use, and guaranteed access to genetic resources in the developing world in exchange for a fair and equitable sharing of the benefits arising out of the utilization of those resources. The most important article related to the protection of IMK in the CBD is article 8(j) which states that

Each Contracting Party shall, as far as possible and as appropriate:

(j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices.

This is reinforced by Article 10(c) which states:

Each Contracting party shall, as far as possible and as appropriate:

(c) Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.
One of the Indigenous criticisms of the CBD is its focus on national sovereignty of resources and the option of nation states to implement related legislation. Indigenous peoples are potentially excluded from both of these. For example after the CBD, in 1993, the Western Australian Government amended its Conservation and Land Management Act 1984 to include a clause specifically designed to encourage state control over biological resources. These amendments favour state and industry interests and disadvantage Indigenous peoples who have no legislative recourse to claim rights to their knowledge of plant related IMK in Western Australia\(^8\). The application of this legislation in the Smokebush case as discussed in chapter three is clear example of this bias in practice.

In 1992, the Commonwealth’s ‘National Strategy for Ecologically Sustainable Development’ affirmed the value of indigenous ecological knowledge. Objective 22.1 states the principle that it is necessary:

> To ensure effective mechanisms are put in place to represent Aboriginal and Torres Strait Islander peoples’ land, heritage, economic and cultural development concerns in resource allocation processes,

and in order to fulfill this objective, states that:

> Governments will encourage greater recognition of Aboriginal People and Torres Strait Islanders’ values, traditional knowledge and resource management practices relevant to ESD\(^9\).

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In 1996 a policy document was released, the National Strategy for the Conservation of Australia’s Biological Diversity which was supported by the Commonwealth, State, and Territory Governments. Objective 1.8 of this Strategy relates to traditional ecological knowledge, being to ‘Recognise and ensure the continuity of the contribution of the ethnobiological knowledge of Australia’s indigenous peoples to the conservation of Australia’s biological diversity’. In implementing this objective, Action 1.8.2 is to:

Ensure that the use of traditional biological knowledge in the scientific, commercial and public domains proceeds only with the co-operation and control of the traditional owners of that knowledge and ensure that the use and collection of such knowledge results in social and economic benefits to the traditional owners.

Of significant note is that section 7.1.1.b of the document outlines the goals for the implementation of the strategy and indicates a commitment within four years to developing ethnobiological programs that not only ensure cultural continuity but results in benefits of social and economic development to Aboriginal and Torres Strait Islander peoples:

By the year 2000 Australia will have:

b. implemented cooperative ethnobiological programs, where Aboriginal and Torres Strait Islander peoples see them to be appropriate, to record and ensure the continuity of ethnobiological knowledge and to ensure that the use of such knowledge within Australia’s jurisdiction results in social and economic benefits to Aboriginal and Torres Strait Islander peoples;

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In May 1994 Australia established a Commonwealth State Working Group on Access to Biological Resources to investigate options for a national approach to access to biological resources in Australia. The goal of the Working Group was to identify the benefits of a national approach for the Australian community, to develop principles to be applied in the assessment of mechanisms and in negotiations concerning the grant of access, and to develop mechanisms that may be employed to govern the access to and the collection, processing, development and export of Australia’s biological resources. The Working Group then produced a draft discussion paper which considers arrangements for managing access to Australia’s biological resources, and proposes a nationally consistent approach11.

In 1999 the Australian Government passed the *The Environment Protection and Biodiversity Conservation Act 1999*. This replaces and repeals a number of Commonwealth Acts such as the *Environment Protection (Impact of Proposals) Act 1974*; *Endangered Species Protection Act 1992*; *National Parks and Wildlife Conservation Act 1975*; *World Heritage Properties Conservation Act 1983*; and *Whale Protection Act 1980*. It implements a range of international agreements to which Australia has obligations including Article 8 of the CBD. There was significant criticism from Indigenous organizations that there had not been appropriate consultation processes involving Indigenous input into its construction with a

result of almost no recognition in the Bill of the role of Indigenous peoples in biodiversity conservation\textsuperscript{12}.

One of the objectives of the \textit{EPBC Act} is ‘to promote the use of indigenous peoples knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge’\textsuperscript{13}. To fulfill this objective the EPBC seeks to:

promotes a partnership approach to environment protection and biodiversity conservation through … recognising and promoting indigenous peoples role in, and knowledge of, the conservation and ecologically sustainable use of biological resources\textsuperscript{14}.

Section 305(6) requires that when making a conservation agreement under section 305(5) of the act with Indigenous people with ‘usage rights’\textsuperscript{15}, the Minister must take into account Articles 8(j), 10(c) and 18(4) of the CBD, and objective 1.8.2 of the National Strategy for the Conservation of Australia’s Biological Diversity. There is no other section that specifically refers to Article 8(j) of the CBD.

On December 1, 2005, part 8A of the EPBC Regulations 2000 came into force which details the regulatory framework for controlling access to biological


\textsuperscript{13} \textit{EPBC Act}, s3(1)(g).

\textsuperscript{14} \textit{EPBC Act}, s3(2)(g)(iii).

\textsuperscript{15} A ‘usage right’ is defined in s350(7) of the \textit{EPBC Act} as ‘an estate or a legal or equitable charge, power, privilege, authority, licence or permit’.
resources under s301 of the Act. S301 covers the control of access to biological resources, the setting of terms for granting such access, and the promotion of equitable sharing of subsequent benefits arising from such access. The national administrative regime created under Part 8A includes a purpose of protecting access to Indigenous peoples knowledge. This includes access to plants for the purposes of research in general which covers research about IMK. A permit system has been implemented which is required to gain access to biological resources in a Commonwealth area. If there are commercial purposes to the access, a benefit sharing agreement must be provided to the Department, along with the application for the permit. The agreement should include all the details of the proposed activity, including the recognition and valuing of all Indigenous knowledge that is or will be used. The agreement must also include reference to:

- the quantity of the resources that can be removed;
- purpose of the access;
- details of the labelling of samples;
- ownership in samples and details of any proposed transmission of samples to third parties;
- a statement regarding the use of indigenous people's knowledge (if relevant), including details of the source of the knowledge, benefits to be provided for such use and copies of any relevant agreements; and
- details and proposals of any benefits accruing to the biodiversity conservation in the area and to the access provider of the area, if access is granted.

If the area of access to biological resources is on Indigenous land, informed consent must also be obtained from the Indigenous people of that area. Records of any biological material must be given to the Department. If a benefit-sharing agreement impacts on native title rights, then Indigenous land use agreements under the *Native Title Act 1993* (Cth) should also be considered. Permit applications are assessed by the Minister and must be advertised for public comment. The fee for permits is only a maximum of $50 for commercial permits.
and they can be applied for online\textsuperscript{16}. The online site includes a register of permits although disclosure can be withheld if it is demonstrated that it could damage a parties commercial interests. The penalties for a breach of the permit system are set at $5500.

This is definitely a positive step in encouraging benefit sharing with Indigenous peoples, however it has significant limitations in actually protecting IMK. Regarding some of these limitations, Mathew Rimmer writes:

First, the regime draws a false distinction between research and commerce in the field of natural drug discovery. Second, there is a danger that the requirement for informed consent might be diluted. Third, there is an ongoing debate about the value of Indigenous Land Use Agreements, which seek to share benefits over the exploitation of natural resources. Finally, there is a potential for conflict between the federal regulations and state schemes - such as that set up by the Queensland Government under the Biodiscovery Bill 2003 (Qld)\textsuperscript{17}.

For the category of commercial research to be the only trigger for a benefit sharing agreement is potentially misleading. As Henrietta Fourmile noted the boundaries between ‘pure research’ (or academic research’) and research that has a commercial purpose is a false dichotomy and the ‘the boundaries between the two are often blurred\textsuperscript{18}’. Chapter seven provides a detailed exploration of this phenomenon and concludes that universities have become the gatekeepers of the IP of IMK through the industrial partnerships they must rely upon to survive.

\textsuperscript{16} \url{http://www.environment.gov.au/biodiversity/science/access/index.html}


Rimmer elaborates on the danger of a diluted application of informed consent. He comments that if it is diluted to a minimized right of negotiation or consultation, Indigenous people become dependent upon the benevolence of the government of the day to protect their interests. The right to control access to their genetic resources as a feature of informed consent should be enshrined in the legislation or else it can just become a mechanism to facilitate biopiracy\textsuperscript{19}.

There are additional limitations such as the penalty for breach of the permit system ($5500) is hardly sufficient to deter those who potentially may commercially benefit in many millions of dollars from ignoring the requirement of such permits and benefit sharing agreements. This also does not cover situations where third parties access the research for commercialization independently\textsuperscript{20}. The ability to utilize Indigenous Land Use agreements\textsuperscript{21} for research taking place on Native Title land is acknowledged by Regulation 8A.01 (3) provides that “an agreement may be both a benefit-sharing agreement, if it complies with these Regulations, and an indigenous land use agreement within the meaning of the Native Title Act 1993 (Cth).” However this option is somewhat diluted when the reality of bioprospecting patterns is examined. Since 80% of IMK

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appropriation occurs through the use of databases\textsuperscript{22}, and this Act only covers plant material gathered from either Commonwealth or Native Title land, this does not effectively regulate the appropriation of IMK. For example, last year (2006) research was recommenced on the Smokebush in the United States which has been detailed in chapter three, however the biological research material was provided by a staff member of AMRAD. The US Cancer Institute has indicated it is perhaps the most powerful antiretroviral compound yet found to eliminate HIV, and if a drug is developed there are potentially billions of dollars involved. However part 8A of the EPBC failed to trigger any permit or benefit sharing agreements with the Nyoongah peoples from which the material originally came.

In 2002 the Federal government’s released its most recent policy paper in the area, ‘\textsuperscript{23} It’s preamble expresses Australia’s commitment to respect responsibilities under the CBD. This includes the recognition of the need to “ensure the use of traditional knowledge is undertaken with the cooperation and approval of the holders of that knowledge and on mutually agreed terms” and that this should “be developed in consultation with stakeholders, indigenous peoples and local communities.”

Related to this, the Convention on Biological Diversity has established national reporting processes to monitor nation states implementation of the CBD principles.


\textsuperscript{23} See: http://www.deh.gov.au/biodiversity/publications/access/nca
The objective of national reporting, as specified in Article 26 of the Convention, is to provide information on measures taken for the implementation of the Convention and the effectiveness of these measures\textsuperscript{24}.

It is interesting to note that in late 2004, the Australian Government released its third report\textsuperscript{25} to the Convention on Biological Diversity. This report contains a series of responses to mandatory questions. The themes of those questions require information on the status of the protection of the rights of Indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit sharing. It also asks each country to report on whether the country has “endeavoured to facilitate access to genetic resources for environmentally sound uses by other Parties, on the basis of prior informed consent and mutually agreed terms,”

What is of particular note here is that the NCA is offered in this report of compliance to the CBD as an example of policy that has created an environment where

Individual Australian jurisdictions are progressively rolling out legislative and administrative measures to implement this Agreement. For example, the Australian State of Queensland introduced the \textit{Biodiscovery Act 2004 (QLD)}\textsuperscript{26}

As is more fully explored below in this chapter, the Biodiscovery Act 2004 (QLD) is a significant example of ignoring Indigenous rights or obligations to international agreements such as the CBD, particularly regarding such issues as equitable

\textsuperscript{24} CBD Secretariat, UNEP, National Report Guidelines, \url{http://www.biodiv.org/reports/default.asp}

\textsuperscript{25} \url{http://www.biodiv.org/doc/world/au/au-nr-03-en.pdf}, last viewed March 23, 2006

\textsuperscript{26} \url{http://www.biodiv.org/doc/world/au/au-nr-03-en.pdf}, last viewed March 23, 2006
benefit sharing. The drafters of the bill originally included reference to a questionable level of benefit sharing with Australian Indigenous peoples, but withdrew any reference at all prior to it being accepted as legislation. In that context, for it to be offered as an example of Australia fulfilling its CBD obligations, particularly in the context of ‘prior informed consent’ and ‘mutually agreed to terms’ with indigenous peoples brings into question the actual effectiveness of the NCA in effecting positive change in actual legislation.

Similarly there is a gap of IMK protection in IP laws in Australia. Intellectual Property Law as it stands now within Australia has generally not developed out of consultative frameworks of policy or principles that rely upon the positive resources of international conventions. (Such as the CBD, ILO 169, Human Rights Conventions, the UNESCO Convention of Cultural Property, Ramsar Convention on Wetlands, CITES and the Convention to Combat Desertification.) The standard of policy development has been an ad hoc basis that has resulted in a less than satisfactory context, particularly in regards to the protection of Indigenous Knowledge and the potential implementation of appropriate national standards.

While Australia is a signatory to both conventions [Berne & Paris], our intellectual property laws do not accord protection to all the subject-matter referred to in these definitions. Nor do they extend protection on the basis of some wider general principle that may be readily and immediately applied to new kinds of subject-matter as they come into existence. Our approach has been piecemeal, giving protection on an ad hoc basis as new claimants have been successful in pressing their cases before the courts or legislature.27

There is a clear danger of developing IP for the protection of Indigenous knowledge upon such an ad hoc basis. Courts are tending towards formalizing and naturalizing

the bundles of rights classified as property interests. This is done within a materialistic context that discriminates against Indigenous spiritual appreciations of property and which has not been effectively balanced by human rights considerations. This allows corporations to rely on technical arguments to legitimate ownership and appropriation, yet it leaves Indigenous communities no recourse to utilize evidence of cultural and social inequality and oppression. As will be discussed later, these same patterns of bias towards physicality and inequality in valuing the spiritual aspects of Indigenous customary law are fatal to native title applications.

An additional danger to this ad-hoc basis IP law development is that such a context correspondingly results in an uncoordinated application of protocols of access to Indigenous knowledge that will vary in their level of ethical standards.

The two primary IP regimes associated with the protection of IMK are Patents and Plant Breeders Rights. In 2002 in Australia the Plant Breeders Rights Act (PBRA) was amended partly in response to international obligations arising from the 1991 revised International Convention for the Protection of the New Varieties of Plants (UPOV). This arises from TRIPS requirements of regulation in stimulating trade and economic development. There was significant debate in the parliament about including amendments that would acknowledge Indigenous rights and reflect obligations arising from the Convention on Biological Diversity (CBD), in particular article 8j. There were detailed proposed amendments drafted28 by Senator Cherry which was discussed that included adopting a requirement of prior informed consent. In fact most his proposals were not adopted. Section 64

28 The proposed amendments can be seen at:
(1)(f) was the only significant amendment adopted, other than a definition of ‘indigenous’ inserted in s3. Section 64 (1)(f) allows for a member on the National PBRA Committee who “represents” Indigenous interests. They may or may not be Indigenous. The member for most of the duration of this thesis was Professor Roger Leakey who is not Indigenous, nor have any Indigenous people been consulted in his appointment. The committee can only advise the Minister upon his request. Originally Professor Leakey writes that he

applied to join PBRAC as an individual interested in helping indigenous communities to domesticate Bush Tucker and to protect their cultivars. I was then appointed as the member representing Indigenous Interests. As I did not have the support of indigenous communities or any official mandate to do this, I was somewhat concerned about this and insisted on an amendment of the minutes of the first committee meeting that I attended, to clarify my position29.

This example of recent amendments to the PBRA demonstrates that the international agreement of TRIPS and associated FTA’s have more influence in amendments that ensure commercial certainty and potential economic growth as opposed to the obligations to protect Indigenous interests arising from other instruments such as the CBD.

A more comprehensive discussion of the jurisprudence of IP law will be conducted in the following chapter.

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Trends in Native Title:

Lastly it has been argued that the most comprehensive remedy for the protection of IMK are the positive developments for Indigenous land rights. The first recognition of native title in common law was established in 1832 in the United States case *Johnson v McIntosh.* The foundation of this recognition of native title was based on a 1537 Papal Bull:

[T]he said Indians and all other people who may later be discovered by Christians, are by no means to be deprived of their liberty or the possession of their property.”

The 1832 decision of *Johnson* formed the foundation of jurisprudence in New Zealand and Canada, while the Privy Council has long acknowledged its authority.

Only since the 1992 High Court decision of Mabo has the Common law principle of Native Title been recognised. Yet the form that Native Title has taken thus far is

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30 *Johnson v McIntosh* (8 Wheat 543; 5 L Ed 681)


32 See: *R v Symonds* (1847) NZPCC 387; *Te Runangao Muriwhenua Inc v A-G* [1990] 2 NZLR 641 (CA)

33 See: *Calder v A-G (British Columbia)* (1973) 34 DLR (3d)145 at 151 per Judson J; at 169 per Hall J (SC(Can)); *Guerin v R* (1985) 13 DLR (4th) 321 at 335 per Dickson J (SC(Can)).

34 See: *Nireaha Tamaki v Baker* (1901) NZPCC 371 at 384; *St Catherine’s Milling and Lumber Co v R* (1888) 14 App Cas 46 at48; *Amodu Tijani v Secretary, Southern Nigeria* [1921] 2 AC 399 at 403
very limited in its scope in comparison with other common law countries with almost no practical focus in Australia of resulting issues of internal sovereignty.

The Native Title Act 1993 (NTA) arose after the High Court’s decision in Mabo that overturned the concept of terra nullius, and recognized Indigenous rights to land and waters. The explanation of the range of that content and interests is up to the Courts. The NTA explicitly includes hunting, gathering, or fishing rights and interests (s223(2)). Some have argued that, based on an interpretation of s223(2) that these rights and interests include provision for protecting customary use of biological resources in accordance with traditional practices. A number of scholars have explored the idea of judicial or legislative recognition of Indigenous customary law extrapolated beyond the context of Native Title to recognize Indigenous intellectual property. That there are intangible or spiritual aspects that are important features of native title was emphasized by the majority in the case of Yanner v Eaton:

30 Mabo v Queensland (No 2) (1992) 175 CLR 1


And an important aspect of the socially constituted fact of native title rights and interests that is recognised by the common law is the spiritual, cultural and social connection with the land\textsuperscript{38}.

While the argument that native title rights could include a right to the protection of cultural knowledge was given some credence by Justice Lee in \textit{Ward v State of Western Australia}\textsuperscript{39} where he held that the native title rights held by the Miriuwung Gajerrong People included ‘a right to maintain, protect and prevent the misuse of cultural knowledge’, this judgment was subsequently overturned by a majority of the Full Court of the Federal Court on appeal\textsuperscript{40}. The case then went to the High Court which upheld the Full Court in acknowledging the right to ‘maintain, protect and prevent the misuse of cultural knowledge of the common law holders associated with the claim area\textsuperscript{41}’ was not a right capable of protection under the NTA. The majority of the High Court held, in relation to cultural knowledge:

\begin{quote}
The first difficulty in [holding that cultural knowledge is a native title right] is the imprecision of the term ‘cultural knowledge’ and the apparent lack of any specific content given it by factual findings made at trial. In submissions, reference was made to such matters as the inappropriate viewing, hearing or reproduction of secret ceremonies, artworks, song cycles and sacred narratives\textsuperscript{42}.
\end{quote}

\textsuperscript{38} \textit{Yanner v Eaton} (1999) 166 ALR 25 at 270.

\textsuperscript{39} \textit{Ward v State of Western Australia} (1998) 159 ALR 483.

\textsuperscript{40} \textit{State of Western Australia v Ward} (2000) 170 ALR 159. Justices Beaumont and von Doussa formed the majority, Justice North was in dissent.

\textsuperscript{41} \textit{State of Western Australia v Ward} (2002) 191 ALR 1.

\textsuperscript{42} \textit{State of Western Australia v Ward} (2002) 191 ALR 1 58.
This determination implies that if ‘cultural knowledge’ could be framed in more precise ways that clarified such matters such as ‘sacred narratives or ‘song cycles’ in ways that demonstrated their inextricable link to native title, perhaps it may open the door to holding that cultural knowledge is a native title right. That the courts are at a loss to appreciate the sophistication and rationality of the spiritual aspect of Indigenous customary law is evidenced by the following quote:

We, therefore, need express no view, in these matters, on what is the nature of the ‘connection’ that must be shown to exist. In particular, we need express no view on when a ‘spiritual connection’ with the land (an expression often used in the Western Australian submissions and apparently intended as meaning any form of asserted connection without evidence of continuing use or physical presence) will suffice43.

To refer to the term ‘spiritual connection’ ‘as meaning any form of asserted connection without evidence of continuing use or physical presence’ is a gross misunderstanding of the sophistication of the spiritual elements of ICL, as well as the inextricable link between the physical and the spiritual, and demonstrates the inherently inferior place such knowledge is given in the Western legal system.

In Mabo the High Court created a hierarchy of rights, with property rights granted under English-based law remaining superior to native title. That hierarchy is also maintained by the NTA. This arguably creates an inherent fragility in native title as the bundle of rights approach means each individual right is more likely to be gradually extinguished due to this inequality of

43 State of Western Australia v Ward (2002) 191 ALR 1 184
application\textsuperscript{44}. So even if IP rights in IMK were recognized by native title law, they would remain as fragile as other native title rights.

This inferiority of native title is reinforced by an evidentiary burden for native title claimants that relies on demonstrating connection through physicality. The requirement of the claimants to present a case that enables the courts to translate “the spiritual or religious...into the legal”, requiring the “fragmentation of an integrated view of the ordering of affair into rights and interests which are considered apart from the duties and obligations which go with them\textsuperscript{45}.” This fragmentation reflects the overall bias within Western systems of reductionist and materialist applications of law which are antithetical to ICL in which relationships cannot be meaningfully broken into separate constituent parts. This is also antithetical to the relational models increasingly adopted by other sciences.

Rimmer writes:

The majority argued that native title rights were limited to tangible property, and did not extend to intangible property because of a cultural materialism and a legal pragmatism. Arguably, there is a need to take a more expansive view of the relationship between native title rights, customary law and spiritual custodianship\textsuperscript{46}.

\textsuperscript{44} Arcioni, E. (2003). "Defining native title (Indigenous Australian cultural knowledge and the Native Title Act 1993 (Cth))." Southern Cross University Law Review 7: 50-88

\textsuperscript{45} Western Australia v Ward (2002) 213 CLR 1 at 64-65 [14] (Gleeson CJ, Gaudron, Gummow & Hayne JJ).

This is one of the reasons why the explorations offering greater clarity and precision to the sacred aspects and legal significance of this cultural knowledge are engaged in chapters five and six.

It is worth noting that in his dissenting opinion in *Ward* Justice Kirby made the suggestion (among a range of suggestions) that s116 of the Constitution has the potential to provide protection as a right of religious freedom to be applied to cultural knowledge as it is dependent upon the spirituality of Australia’s Indigenous peoples. This suggestion has room for further development and exploration, but perhaps because the High Court has utilized a fairly narrow interpretation and has never upheld a claim based upon s116 of the Constitution such an idea has not been explored with sufficient confidence.

Since 1996, further exacerbating such minimal recognition of Indigenous land rights, and any Indigenous intellectual property rights arising, is the abandonment of Federal commitment to self-determination of Indigenous peoples. This former official policy of self-determination has been replaced by a policy of ‘self-management’ in consultation with government agencies. Equally the policy of reconciliation that had gained such momentum until 1996 was abandoned and replaced with a policy of ‘practical reconciliation’. This effectively focuses on equality and unity (which some have criticised as guises for assimilationism) but

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47 *“The Commonwealth shall not make any law for establishing any religion, or for imposing any religious observance, or for prohibiting the free exercise of any religion.”*


effectively ignores or minimilizes historical contexts of unique discrimination. ‘Practical reconciliation’ policy seems to be also set aside with a new kind of policy labelled ‘New Paternalism’ which, has been suggested as the new Federal solution. This involves ‘sending administrators to run struggling Aboriginal communities’ because ‘allowing Aborigines to manage their own affairs had in many cases failed’50. In this political climate, the creation of positive discrimination instruments for Indigenous peoples through the development of any special rights in a system supporting self-determination is no longer an option in such a policy51.

It is this context in which Australia “won” the highly uncoveted “Captain Hook” award from the NGO RAFI in 2000, for the country engaged in the greatest levels of biopiracy in the world52. This was awarded "for over 118 dubious claims and possible piracies and for refusing to address its intellectual 'meltdown'”53. An independent investigation into these claims by the President of the Heritage Seed Curators Australia, confirmed that 'In fact I quickly found that the situation was far worse. Over the course of 5 months investigation we discovered over 100 illegitimate PBR grants. In addition to Plant varieties from poorer overseas countries, there are many Aboriginal plant varieties that have been appropriated

51 The recent developments in the Northern Territory in 2007 continue this trend with the removal of the land permit system for access to Indigenous lands. These developments are too recent to be included for significant discussion in this thesis however.
via the PBR grant process." Generally, this context of ‘biopiracy’ is not symptomatic of an institutionally organised attempt at such appropriation nor any particularly conscious malicious intent. Rather it is primarily representative of a largely unregulated industry that has resulted in a number of parties seeking genetic resources from Indigenous communities, whether directly or through accessing public knowledge, without reference to a much needed set of nationally standardised ethical guidelines that ensure appropriate IP protocol. Additionally balancing this story, it should be noted that RAFI has not always had a reputation for objective and reliable information.

Although rhetorically powerful in their criticisms, the Rural Advancement Foundation International is a rather unreliable source of information. The study conducted by the group does not display a particularly good understanding of the plant breeder’s system that exists in Australia. An alternative explanation could be provided of the controversy. A business manager, Vince Logan, comments that the filing of the plant breeder’s rights applications was not the result of some conspiracy. Rather, the problem arose as a result of a lack of communication between researchers and seed banks. As soon as the issue was identified, the applications were withdrawn. The Plant Breeder’s Rights Office subsequently tightened its administrative practice in dealing with such established plant varieties.

While one is hopeful about the potential for the CBD and other positive international forms of soft law to offset the conditions that led to the endemic condition of biopiracy recognised in 2000, one can anticipate a time lag in the implementation of the development of such national policies on the local practical

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level where such appropriation continues to occur. This positive potential is also mitigated by the commercial interests of the nation in developing the bioprospecting industry, as seen in the recent parliamentary inquiry: Bioprospecting: Discoveries Changing the Future, (Inquiry into development of high technology industries in regional Australia based on bioprospecting), August 2001. This document offsets CBD concerns by emphasising the need to attract investment by reducing any appearance of restrictive protocol or benefit sharing ‘barriers’. The arising permit system in the EPBC which was amended in 2005, discussed earlier, is a reflection of that.

Current government interest is primarily upon the facilitation of the biotechnology sector in order to potentially achieve rapid economic growth. This is accompanied by both a national campaign to develop biotechnology infrastructure, as well as aggressive international marketing campaigns designed to attract multi-national interest in investment. Protection of the environment is seen as necessary to the degree that it facilitates this commercial activity. Ensuring correct protocol with Indigenous communities is seen as necessary to the degree that it facilitates the flow of commercially valuable knowledge from Indigenous communities to the bioprospecting sector. Yet even this minimalist economic instrumental approach is undervalued when legislation such as the Biodiscovery Act 2004 (QLD) is brought to the table with no mention of appropriate Indigenous protocols or benefit sharing.

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56 Section 3.49 acknowledges that no provisions exist for benefit sharing arising from use of resources.

57 For example a former New South Wales Minister for Planning and Environment referring to the NSW EPA act indicates the priority of job creation over environmental protection, "One would be blinkered if it were not appreciated that because of the current economic climate, the Government has chosen to place a good deal of emphasis on job-creation." Cited by Boer,B., (1984), Social Ecology and Environmental Law,1 Environmental and Planning Law Journal 233
However, even from a purely economic instrumental approach, there are good regulatory arguments for reform that have not seen much discussion in Australia. For example on the purely economic side of intellectual property and incentive theory, there are at least two incentives to having special (*sui generis*) protection for Indigenous intellectual property.

1) The incentive effect to reveal the knowledge, (Because the Indigenous communities feel assured by the special protection afforded their knowledge) thereby reducing the cost of acquiring it, and

2) the incentive effect to keep the knowledge pool in its entirety.

According to these economic principles, a trustworthy IP regime for Indigenous peoples would result in both an increase in the sharing of their IMK, a reduction in the costs of the development of medicines, and perhaps most importantly an increased ability of Indigenous communities to preserve the entirety of their knowledge systems that has arguably been diminished through having to rely on secrecy because of untrustworthy IP systems.

A full and frank consultation about these regulatory principles would possibly be fruitful, however anything less than a wide ranging and public consultation process can prove to not only be ineffective but possibly harmful. For example, John Henry Vogel examines the *Queensland Biodiscovery Policy Discussion Paper* (Queensland Government 2002), [where] the word “bioproSpecting” has been replaced with the seemingly less odious term “biodiscovery.”

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criticisms of this discussion paper Vogel examines the effective benefit sharing equation 0.003 or 0.3% on offer. While this is considered unreasonably inequitable in light of the CBD, it also only applies to landowners upon whose land a ‘biodiscovery’ is made. This removes Indigenous people from such considerations of benefit sharing even further unless they have native title in the land concerned. Of great significance is that the disclosure by Vogel of this ‘backfired’ and the Queensland Government ended up removing altogether any reference to benefit sharing with Indigenous peoples rather than reform the policy to meet the growing international standards\textsuperscript{60}.

The description of the evolution of terms from bioprospecting to biodiscovery could be argued as intended to put a more positive spin on the appropriation process. This intention to minimize the appearance of harm in appropriation was reflected on a national level in the fifth meeting of the Ad Hoc Open-ended Working Group on Access and Benefit-sharing (ABS) of the Convention on Biological Diversity (CBD), meeting on October 10, 2007, where the Australian delegate raised concerns about defining misappropriation, noting that it should focus on theft and exclude breach of contract and good-faith use of improperly obtained genetic resources\textsuperscript{61}.


\textsuperscript{61} Appleton, A. et.al. (2007). “ABS 5 Highlights.” Earth Negotiations Bulletin 9(391)
And the Australian delegate also challenged delegations to demonstrate why existing enforcement and dispute settlement mechanisms under private international law are insufficient to ensure compliance under any ABS regime.\(^6^2\)

There has been an explosion of biotech companies formed in Australia in the past five years. In 2002 there were only about 180 biotech companies while by 2004 there were over 400. An increasing share of them are dedicated to human therapeutics, the biotech field that includes the bioprospecting industry, with a growth from 43% of the biotech sector to 46% in February 2005.\(^6^3\) Nearly all of them are small to medium sized companies. Those companies specialised in bioprospecting are focused on the screening of flora and fauna for bioactive compounds. However they generally do not continue to the final commercial stages of product development, marketing and sales to the public. Once the isolation of the bioactive compounds has been completed, the rights are sold to multi-national pharmaceutical companies, usually based in the U.S.. Thus, although there is a national intention to facilitate the biotechnology sector for its development as a significant economic resource base of the country, in reality the current state of affairs is enhancing the flow of genetic resources from the “South to the North”, making fulfillment of the nations concern for truly long-term sustainable development practices on a national level very problematic. Due to the current awareness of economic loss associated with benefit sharing and the potential undesired complexities associated with Indigenous protocol issues, bioprospecting companies in general prefer to develop and rely upon existing ex


situ databases that do not impose such requirements. As Indigenous knowledge that has already been appropriated by such pre CBD ex situ collections is not protected, this also makes it expedient as a valuable resource.

80% of all companies that use ethnobotanical knowledge...rely solely on literature and databases as their primary source for this information. This fact has significant implications for benefit-sharing, and suggests that academic publication and transmission of knowledge into databases - rather than filed collections on behalf of companies - are the most common route by which traditional knowledge travels from a community to the commercial laboratory. Companies therefore have access to knowledge in ways that do not trigger benefit-sharing.64

It is also suggested that a significant amount of undisclosed direct in situ appropriation of Indigenous knowledge is occurring in Australia. This assumption is justified for a number of reasons. The first reason has already been mentioned, that of the year 2000 RAFI “Captain Hook” award for the greatest level of biopiracy of any country. This assumption is also due to the awareness of the cost savings associated with bypassing much of the pre-screening processes associated with more random methods. Currently there is little recourse for Indigenous communities and without well-designed pre-screening contracts, no penalties for unethical appropriation are imposed upon corporate appropriation. The assumption of continued ‘black market’ bioprospecting is further reinforced by the examination of the statements of randomly selected bioprospecting company policies, quarterly shareholder reports and annual reports which usually fail to mention any Indigenous participation whatsoever. Given that previous analyses have shown that 77% of the bioprospecting of plant-related pharmaceuticals finds its origin in Indigenous communities, it is contrary to common sense to assume that such a pattern has altogether ceased.

There is a growing consensus among Indigenous communities that IP as it currently exists in Australia does not sufficiently provide effective protection for Indigenous knowledge. As such one can anticipate that *in situ* bioprospecting activities involving Indigenous communities will slow in coming years until Indigenous confidence in the effective capacity of IP is restored.\(^{65}\) Essentially, current IP regimes are severely limited primarily because they do not reflect Indigenous concerns of trustworthy partnerships.

**Building trustworthy IP regimes through respecting Indigenous customary law:**

**focusing on protocols of consultation rather than protection of products**

To the extent indigenous peoples have been denied self-determination by virtue of historical and continuing wrongs, they are entitled to remedial measures. These measures must, at a minimum, implement contemporary norms as they have developed with particular regard to indigenous peoples, including prescriptions of nondiscrimination, cultural integrity, control of lands and resources, social welfare and development, and self-government\(^{66}\).

\(^{65}\) Such indigenous sentiments are widespread and represented in numerous international indigenous declarations. An example is found in the *Mataatua Declaration on the Cultural and Intellectual Property Rights of Indigenous Peoples* (1993):

2.6 Indigenous flora and fauna is inextricably bound to the territories of indigenous communities and any property right claims must recognise their traditional guardianship.
2.7 Commercialisation of any traditional plants and medicines of indigenous peoples must be managed by the indigenous peoples who have inherited such knowledge.
2.8 A moratorium on any further commercialisation of indigenous medicinal plants and human genetic materials must be declared until indigenous communities have developed appropriate protection mechanisms.

There are a number of changes required in order for such trustworthy relationships to be established. A more holistic and relational approach to IP with Indigenous communities is required. Western systems must find ways to acknowledge and respect frameworks of ICL as relevant contexts of legal engagement. Indigenous peoples have their own systems of IP protection which are largely ignored in the current international arena. This lack of regard has deep challenges of metaphysical engagement that are central to such a process. A global or national system of IP that seeks a homogenous approach is destructive to building such a capacity for respect.

Commenting on the Nationally Consistent Approaches in general, a government officer working for 25 years in the areas of Indigenous affairs and the environment personally advised in early 2006:

An NCA that is "positive" means everything to everyone, like motherhood and apple pie. I regret to say that some aspects of the current NCA discussions are actually retrograde rather than positive. Anything that forces a Western cultural norm on indigenous people against their will, requires careful examination. Forcing a "One-size-fits-all" Western cultural norm is now the policy norm, supported by a societal mood that is less tolerant of differences than 20 years ago. Policy directions also favour immediate individual benefits rather than stored/reserved communal benefits.

Even lumping all indigenous people across this continent together is a potentially false premise. It is like saying the requirements of the Saami of Finland are the same as for the Turks in Edirne (a comparable range of cultures in a comparable sized continent)

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67 This government officer wishes to remain anonymous, due to policy within his department, but is happy for his comments to be shared.
To me the degree of "lumpability" (aggregation of indigenous concerns) is proportional to the level of abstraction up the hierarchy of issues - the higher the abstraction the more relevant an NCA is, e.g. principles of equity and access to resource benefits can be agreed as an NCA but how it is applied in Central NSW and Arnhemland may be entirely different.

The only sure principles [are] where every individual matters (with their own specific requirements), ever community matters (with its own local, environmental requirements) and people matters (with their culturally-specific requirements).68

These comments reaffirm that the social conditions which led to major shifts in the recognition of Indigenous rights 20-30 years ago have changed for the worse. They are also significant in affirming that principles that recognise the diversity of community contexts is essential to good policy and law. Finding ways to recognise and respect the diversity of local Indigenous customary law systems is in harmony with such principles. In order for this to occur a deeper engagement with the differing epistemological narratives of Western and Indigenous ways of knowing is necessary. This is undermined by one size fits all policy systems.

In virtually all cases, ways of knowing have correlation to the ways of protection, transmission, legitimization and evaluation of knowledge. An acceptable sui generis mechanism for the protection of local knowledge must be rooted in indigenous episteme. Western IPRs’ inability to address the epistemic dichotomy between Western and indigenous ways of knowing is at the root of its failure to meet indigenous peoples’ yearnings and aspirations for the preservation of their knowledge and its cultural integrity. This is the basis of the “crisis of legitimacy in the intellectual property system.”69

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68 Personal correspondence on file with author, January 3, 2006

Acknowledging the diversity of such customary law contexts is one of the challenges to Western IP regulations. One of the most important solutions is to engage in consultation processes with local communities that acknowledge the local contexts of customary law through respecting Aboriginal protocols.

Janke and Quiggan offer some suggestions for meaningful ways to respect Indigenous customary law,

While Indigenous people generally support development of important medical treatments, they should not be disadvantaged by such work. Indigenous people’s customary law should be respected and complied with.70

They suggest this can occur through seeking consultation with Indigenous peoples to determine their customary laws71, compliance with those customary laws, provision of comprehensive information to communities of all related issues associated with the research and potential commercialization, the use of prior informed consent, ethical conduct, mutually agreed terms during all stages of the process, equitable benefit sharing and public acknowledgement of Indigenous peoples contribution.

The experience of the Western Australian government and Indigenous people in relation to smokebush is proof of the need for regulation of biological resources. Such regulation would acknowledge Indigenous people’s rights over land, biological


71 In Western Australia v Ward (2002) 191 ALR 1 in Justice Kirby’s dissenting view his honour emphasized that cultural knowledge could be defined by recourse to how it is described by customary law.
resources and related knowledge, as well as respect for Indigenous customary laws. For Indigenous people, lack of recognition, consultation, participation and benefit-sharing has made the smokebush case synonymous with biopiracy. Strong regulation is needed to provide recognition, respect and enforcement of Indigenous customary law72.

Perhaps the most significant barrier to acknowledging and respecting ICL is the metaphysical challenge of engaging its core spiritual origins, operation and purpose. This challenge presented to western IP regimes is primarily due to a impaired visual capacity inherited from the enlightenment period where spirit and matter, faith and reason and other such categories experienced a split and entrenched duality in western metaphysics. This has presented an inner challenge to being able to contemplate more relational forms of knowledge that include spiritual considerations. Chapter five will explore some of these challenges and will demonstrate the unnecessary nature of this handicap so that ways forward can be more consciously explored in respecting ICL. The following chapter attempts to demonstrate the cultural relativity of Western IP by examining principles of jurisprudence and in the context of emergent trends of globalization.

Eddie Mabo’s legacy has yet to be completely realised. If some property rights survived colonial acquisition, why not others? To limit Mabo’s reasoning and the principles that underpin it to land and associated tangible rights is to unnecessarily restrict what it has to say about principles of property generally and the reception of the common law. It is a failure of imagination.

The challenge is to discover the true nature and extent of Indigenous customary law as it applied to culture and intellectual property as it was understood by Indigenous people. This will not be an easy task. The answer may not be a uniform one. However, it

is a task which, when completed, will deliver significant long-term dividends for Australia’s Indigenous people⁷³.

Chapter Five

The Model of Western Property Law:
Towards a Paradigm Shift

The land owns you and you have to look after it. And that just goes on for generations. It’s passed on. And it’s in your heart. It’s in every Aboriginal person’s heart.1

Mary Darkie

Introduction:

The previous chapter concluded by suggesting that a fundamental aspect of any solution to the appropriation of IMK must enable a respectful engagement with Indigenous customary law. This thesis suggests that the most essential features of ICL, as well as the most neglected elements of the academic discourse, are a range of spiritual principles. It is argued that in order for this engagement to take place, something akin to a paradigm shift in the Western legal discourse needs to occur. The first element of this paradigm shift is the development of a kind of humility in appreciating the cultural limitations and relativity of Western property law. The second element is recognizing the importance of a (re)integrated material and spiritual epistemology. It is argued

these elements are pre-requisites of a global system that enhances rather than diminishes biocultural diversity. This chapter will primarily engage the first element of that suggested paradigm shift while the following chapter will engage the second.

This chapter will utilise several strategies to demonstrate the cultural relativity of Western IP law. The first method will deconstruct aspects of Western property law, and more specifically intellectual property law, through examining a selection of relevant elements of its jurisprudence. The second will narrow the focus to regulatory policy and demonstrate how current policy principles exacerbate the ability to engage the spiritual aspects of ICL. The third method will be to suggest an impending paradigm shift in IP law. This will be reinforced by briefly demonstrating that other fields of thought, such as environmental ethics, economics, particular fields in science and development theory have begun to acknowledge paradigm shifts which arguably involve growing engagements with spiritual principles. It will be suggested that IP law is lagging behind other disciplines in this consciousness.

This will set the stage for chapter six which will more specifically demonstrate the need for a paradigm shift in Western property law through exploring in greater detail selected spiritual aspects of Indigenous IP and IMK.
Jurisprudence of (intellectual) property

This land is my life. This land is me and I am the land and so it is too with all our people and I don’t think that will ever die.\(^2\)

Iris Lovett-Gardiner

Without the land we'd be lost people. It's a spiritual thing. That's where you're born, that's very sacred. That's your spiritual home 'til the day you die.\(^3\)

Banjo Clarke

One might say that the Aboriginal voices above are beautiful songs of intimacy and love expressing a deep indwelling connection between the human heart and the land. One might also generalize that such songs generally fall upon deaf ears in the Western property discourse. Within Western culture, the concepts of the land owning us; of self-identification with land; of intimate connections to all beings as family; the essential concept of the sacred spiritual home; fiduciary obligations to the ancestors that entails a reciprocal and active relationship with the deceased who continually pass on knowledge to us; intellectual property as a relationship, as a creative spiritual gift from the next world: these ideas generally represent radical reversals of what is normally considered the typical Western mindset\(^4\).


\(^4\) This is not to say these spiritual concepts represent some antithetical territory that the Western mind can never indwell. Many of Western background have empathy and even experience of
There is a radical difference of Indigenous appreciations of property here, on a level that questions the Kantian assumptions of a universal ontic. To offer a brief appreciation of this, one cannot merely say that places (or things) ‘are’, it is more accurate to say that places ‘happen’. But even that is only a partial engagement with the depth of meaning. This is because English does not have verb forms that convey a continual past tense to appreciate this, but it means an event/creation that happened/unfolded in the long ago past and is still happening/unfolding in the present and will continue to happen/unfold in the future. This is also not entirely accurate, as although there is an aspect of an ‘ancient happening’, the Dreamtime is beyond the confines of the tenses of time. There are ways to participate in the ancient aspects of the Dreamtime through prayer, meditation, song, dance and other rituals. Acknowledging the spiritual dimension allows a simultaneous indwelling of the past, present and future which are all interwoven. But perhaps one simplistic way to allude to the paradigm shift of an Indigenous ontology of property is that to visit a place is not to just to ‘go there’ but to engage in a relationship of the ‘happening’ of the place.

This applies not only to land but to communities of people. The Aboriginal communities that lived on that land thousands of years ago are still connected to current generations. This is not just a symbolic connection of long term social

such metaphysics such as generations of farmers who experience a deep and intimate connection with their land and an obligation to ancestors who have tilled the land before them. Yet as the law now stands, the authors above remain aliens in their own land. Some of the implications of these concepts and others will be expanded upon in Chapter Five.

memory, but is a lived experience that permeates all aspects of Indigenous life. For example, while artwork on cave walls can represent different things to different communities, it can include a multidimensional aspect that transcends time and connects current generations with generations from thousands of years ago. One Wiradjuri man commented that communities that created the handprint artwork on a cave wall were thinking of, and had an intentional message for current generations which they projected thousands of years into the future. The handprint symbolizes, or rather is a portal to the spiritual dimension where the hands of past, current and future generations of communities intimately touch with meaning and through which communication occurs in an active way in the present.6

Through consciousness of an Indigenous nations history and heritage comes the ultimate responsibility of being the link between one’s ancestors and future generations – a cultural precept that has been referred to as the “time-space continuum.”7

This lived consciousness of responsibility to past and future generations adds a depth of meaning to the Indigenous customary law of fiduciary obligations to ancestors. Our ancestors have gifted us with our medicines, whether through handing it down as received forms of cultural knowledge, or whether through actively influencing our present processes of creativity and knowledge development.

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6 Personal conversations with Graham Davis King. I had similar conversations with Chris Tobin a Darugh man.

For most Indigenous communities, medicine is first a gift from the Creator. The knowledge of the medicine originates through the great creator Ancestors, is unfolded and revealed through relationships of land, community and spirit and is carried down through the ancestors. Speaking from the land of Minjerripah (North Stradbroke Island) we are told about a Quandamooka ontology that includes the origins and sustaining relationships of Indigenous medical knowledge.

God gave our Yulubirribi (salt and sand people) nation nutritious food supplies and miraculous medicines and the ability for our people to utilise these gifts by listening to his messages for management from weather, flora, fauna, environment, heavens and each other. After creation, he then gave our ancestors knowledge to pass on through learned and natural expression the ways and means of existence without having to defeat his gifts. This expression is enjoyed by the Koenpil, Noonuccal and other nation’s form of education for some hundreds of thousands of years.

This (ongoing) gift of intellectual property, as a relationship to be sustained by listening to the Divine voice expressed in the interface between the natural world, spiritual realm and community of people is radically different to what Western property law has come to accept as intellectual property capable of

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8 The term ‘Ancestors’ is used in different ways by different communities. Often context of use will determine meaning. While it is impossible to give an exact definition, in general there are at least two categories of ancestors. The first category is the Great Spirits who are seen as the archetypal creator beings, founders of culture, religion, community and land. The second category refers to the generations of those humans who have passed away to the spiritual realm, (but are still intimately connected with community and place). The appreciation of two general categories of ancestors can be seen in Langton, M. (2005). An Aboriginal ontology of being and place: the performance of Aboriginal property relations in the Princess Charlotte Bay area of eastern Cape York Peninsula, Australia, Unpublished PhD Thesis. Human Geography. Sydney, Macquarie University

protection. It is contexts such as this that help appreciate how Indigenous ontologies of property represent inalienable relationships and that it is problematic if not inappropriate to talk about a period of time that a patent or copyright term effectively offers protection even if they could be adapted to recognize the subject matter of IMK.

While the range of these Indigenous beliefs about property find to lesser and greater degrees occasional correlation in the minds and hearts of ‘Western’ people and thinkers, at least since the enlightenment and the development of the current legal culture, they do not find significant ‘resonance’ within the normative legal conceptions of property as they now stand.

Beyond the irreducible constraints imposed by the idea of excludability, “property” terminology is merely talk without substance – filling of empty space with empty words. When subjected to close analysis the concept of “property” vanishes into thin air just as surely and elusively as the desired phantom with which we began10.

In particular the sophisticated webs of spiritual connections between people and land fundamental to most forms of Indigenous customary law are excluded by the dominant models of Western property law. Graham argues that this ‘placelessness’ of Western property law faces tensions of incommeasurably with reality for all people and such a crisis provides an occasion for a ‘retooling of the law’.

the dominant notion in Australian property law that place is irrelevant, is both central to law’s legitimacy, but increasingly unsustainable and undesirable. The paradigm of modern law, a paradigm of placelessness, is not meaningful or viable as a prescriptive theory and practice of relationships between people and place in Australia11.

We begin this section with a brief overview of some of the general concepts in property and more specifically intellectual property law, followed by a brief overview of the historical cultural context in which such concepts developed. This will be done to prepare for a more specific and extensive investigation of the nuances of incongruence between Aboriginal and Western appreciations of property. It is hoped that this will enable a respected space of legitimacy for Aboriginal voices about the spiritual nature of their medical knowledge and the central concept of Aboriginal property law, ‘the Dreaming’, to be ‘sung’ with resonance. My personal hope is that we, as members of Western culture are not merely enabled to listen with humility to such Aboriginal voices, but that we listen with such a depth of respect and valuing of the gifts others cultures that our own social and cultural norms are recreated in the process. Additionally, such a depth of listening offers gifts of transformation back to the one listened to\(^{12}\).

From where, then, could recreated social/cultural norms come from \([?]\) Part would flow on from the proposed [Aboriginal] initiation and control of culture, and cultural exchange, and the other could only come from a direct, hard look at differences between Western and Aboriginal concepts - legal and social... To alter, and recreate social and personal relationships,

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12 There are similar concepts echoed in mainstream psychology as a normative practice of ‘reflective listening’, a concept developed by Carl Rogers that focuses on empathetic understanding. However the form of listening that is being suggested here is a deeper one that assumes true listening results in transformation of the one listening as well as the one listened to. This may not be an entirely appropriate cross disciplinary model to apply here as it does not reflect relationships of equality important to such a model of cross cultural listening. In psychology the importance of the listener (the psychologist) being transformed is usually qualified in psychological models as the psychologist has a particular role to perform which also entails avoiding too much personal involvement that may result in types of counter-transference that could complicate the therapeutic relationship.
(inter- and intra-), requires being oneself, having dialogue with others on that basis, and maintaining relations at that level. Anything more, or less, is the ‘boss-servant’ relationship. The question here is one of ‘doing it’. A re-created order of life in man’s mind re-creates the outside order of life through action. These, then, are the two areas I see as achievable alternatives to the present restrictions (through law and attitudes) on Aborigines in Australia.\footnote{Widders, T. (1975). Black Alternatives: Aborigines in the Seventies and Beyond. The Way Out - Radical Alternatives in Australia. M. Smith and C. D. Melbourne, Lansdowne Press}

A rarely asked but significant question arises from Widders comments above. “Is the current legal system allowing a ‘being oneself’ on a cultural level of exchange?” It is suggested that Indigenous peoples are unnecessarily obliged to significantly adapt their cultural expressions to be ‘heard’ in our system. The degree of adaptation required results in much of the core cultural values underlying their ‘true self’ to be sacrificed in the communication process. This dilemma of cultural incongruence has real negative consequences in creating a legal system of inequality. In 2002 a study commissioned by the Intellectual Property Policy Directorate of Industry Canada and the Canadian Working Group on Article 8(j) concluded:

> There is little in the cases found to suggest that the IP system has adapted very much to the unique aspects of Indigenous knowledge or heritage. Rather, Indigenous peoples have been required to conform to the legislation that was designed for other contexts and purposes, namely western practices and circumstances.\footnote{Quoted in Young-Ing, G. (2006). Intellectual Property Rights, Legislated Protection, Sui Generis Models and Ethical Access in the Transformation of Indigenous Traditional Knowledge. PhD Thesis Educational Studies, Vancouver, University of British Columbia:62-63}

Anderson highlights that law only accommodates differences when presented in the form of its own categories and terms of reference and that ultimately “law
mediates a space that does not destabilize its own narrative of internal cohesion.\textsuperscript{15} This internal cohesion increasingly fails to reflect the reality of biocultural diversity in which it is situated. It therefore faces an inevitable paradigm shift as the disparity between the commitment to a monocultural internal cohesion and the fluid dynamics of an evolving set of diverse global relationships faces increasing tensions.

In order to address this, as people of Western cultural backgrounds, we must learn to be aware of the relativity of our own legal and social values. Western science and law do not represent a universal truth that the rest of the world’s cultures are ‘evolving towards’. Rather, such Western systems are themselves localized and culturally relative, but they have achieved a position of power that gives the appearance of universality. This equality of localness must be recognized for fair and reasonable comparisons of legal and scientific systems to be made.

A necessary condition for fully equitable comparison is that Western contemporary technosciences, rather than being taken as definitional knowledge, rationality or objectivity, should be treated as varieties of such knowledge systems. Though knowledge systems may differ in their epistemologies, methodologies, logics, cognitive structures or in their socio-economic contexts, a characteristic they all share is their localness\textsuperscript{16}.


Additionally we should foster a humility that allows Aboriginal voices authentic resonance rather than adapted translations relevant to our own metaphysics and jurisprudence, but possibly only partially relevant to theirs.

Why not deny the authority of terra nullius in its applicability in the first place, rather than quibble about whether or not Aboriginal systems invite definitions of legal systems? As we approach Aboriginal society in our quest to find ‘property,’ we inevitably name practices and customs in a way previously not done. Hence, we set out on a dialogical excursion that is neither invited nor welcomed by Aboriginal peoples. This is because to re-describe native reality is to actually change native reality: changed descriptions create new webs of meaning, and hence practices, identity, and worldviews will all be affected.17

The requisite adoption of humility is not only necessary to precipitate and galvanize a paradigm shift. It is suggested that humility is itself an essential feature of the new paradigm we can move towards, as it enables respect and the honoring of the spiritual and intrinsic value of other cultures gifts and wisdom.

To only offer the option of culturally inauthentic translations can have grave consequences. Castan and Kee suggest the recent failure of Native Title claimants in the *Yorta Yorta* case rested on a range of issues. They highlight the particular significance of the courts reliance on a historical document that arguably misrepresented the Indigenous claimants intimate relationship to their land. It had the effect of filtering out the details of the richness and depth of their affinity with and maintenance of culture and traditions....They were required to communicate their

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aspirations in a language other than their own, and which they were only ‘permitted’ to learn at the behest of missionaries and government policies. This inability to demonstrate the maintenance of culture and traditions because the court relied so heavily on a document that arguably represented a distortion of the Indigenous claimants ‘true self’ ultimately proved fatal to their Native Title Claim.

The Place That We Stand: The Western Tradition of Property

Our histories of intellectual property are histories of some of European modernity’s greatest artifacts. But as we become aware of how profoundly ideological and historical these purportedly universal phenomena are, we need alternative histories that trace the cultural significance of legal forms in a fashion more fully sensitive to their social functions within multiple realms of meaning and power.

One of the central arguments of this thesis is the cultural relativity of legal frameworks. Justice is not merely some abstraction that exists in some invisible plane of reason. While it may be successfully argued that justice is an absolute that we evolve towards, in practice it arises both out of personal experience and in the application of that experience in relationships. Our appreciation of justice evolves in the growth of those relationships. Our culture provides us with frameworks of assumptions through which we perceive the elements of justice. We personally choose, consciously or not, to adopt these legal frameworks of meaning, and we dwell within them. Michael Polanyi discusses how we indwell

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such conceptual frameworks, the epistemological presuppositions that we personally commit ourselves to and rely upon to interpret relationships.

When we accept a certain set of pre-suppositions and use them as our interpretive framework, we may be said to dwell in them as we do in our own body\(^20\).

In this context then we can appreciate how the framework, the ‘body’ of Western intellectual property law, is something that we learn to indwell as our own personal body. Appreciating this aspect of relativity, of a highly personal commitment to frameworks of interpretation, offers resources for humility in appreciating the diversity of Indigenous customary legal frameworks. While there must be a consultation between cultural frameworks that allows each to grow in appreciation of the others gifts, it would be arrogance to forcibly tell another to indwell our own ‘body’ as the only ‘universal’ alternative. Such arrogance may impose adoptions of inauthentic experience upon others, but it may be a very subtle experience for the dominant culture, as we are often blind to the relativity of the place within which we stand. What is required is a paradigm shift of denying what our senses tell us, however difficult that may be. Our senses tell us that we are standing in a place which is the centre and which the rest of the universe revolves around. Yet in reality, the Copernican shift entails a rejection of that which our ‘body’ is telling us. In reality we are standing on one of many planets, moving in relationships of orbit that require more dynamic and sophisticated appreciations of diverse relationships, and require

our eventual acceptance of the relativity of our own centrality and importance in the universe.

Approaches to an understanding of ‘property’ are as numerous as the backgrounds and metaphysical lenses of the authors themselves. Many voices are excluded by attempting what must always be a too brief introduction into the theme of property. But for the purposes of this thesis a great liberty with generalizations is made in order to offer some simplicity and clarity in appreciating the ‘story’ being told. While there is a great diversity of voices about property in the world, a culturally ‘Western’ dominant discourse of property has come to form the basis for the law. Perhaps more important to appreciate are the attendant values in which that Western legal system is situated that determines how that instrument of law is applied. Therefore a brief appreciation of those concepts and their basic limitations which contribute to the current legal paradigm is essential. This allows for a deconstruction of the Western legal understanding of property as a culturally relative construct rather than the assumption of it as a universally applicable truth21. This deconstruction facilitates the creation of space where a diversity of voices, in this case Indigenous voices, is

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able to resonate with coherency and integrity. This may contribute to enabling appreciation of the diverse expressions of intrinsic cultural values. Having empowered a global cultural conversation we greatly enrich the evolution of a mature property law which can account for the reality of global biocultural interdependence essential to the survival of this planet.

If property has social origins, then property law is about shaping the contours of social relationships. This is where we should properly focus our attention.

In the Western liberal tradition of law the focus has usually remained upon theorizing about property as a ‘bundle of rights’. While it may seem counterintuitive to common sense, property law, as it has developed, is not really about a relationship between people and the land or between people and ‘things’. Property law, as it has been received and developed since the enlightenment period, is seen primarily as a relationship between people and a bundle of rights and obligations associated with various types of property. Legal scholars have emphasized that property is a relationship between people ‘with regard to things’. Traditionally these bundles of rights relate to a person’s right to control use, benefit from, transfer or sell the property and exclude others from the property. Intellectual property tends to deal with those rights between people often associated with abstract objects such as the expression of ideas including for example algorithms, models of business methods, genetic information,

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22 This concept will be expanded in parts of the following chapter, but the relationship of property law in diminishing cultural and biological diversity is explored by an increasing range of scholars. For a recent examination of this, see Mgbeoji, I. (2006). Global Biopiracy: Patents, Plants, and Indigenous Knowledge. Vancouver, UBC Press.

publications and inventions. Indigenous medical knowledge is one such ‘abstract’ object which arguably falls within the domain of intellectual property but has intimate ties to ‘real’ property as well24, although this interdependence is generally not recognised in the Western legal system. Some of the metaphysical elements of these more interdependent models of abstract and real property will be more fully explored in the following chapter.

One of the reasons this discussion is so important is because it has serious consequences for the jurisprudential principles that courts use in their application of property law. Courts have increasingly attempted to formalize and naturalize the bundles of rights classified as property interests. This reflects a trend of moving further away from the normative question of whether a regulation imposes an unfair distribution of social obligations25. The naturalization of the bundles of rights approach increasingly legitimizes one cultural norm as a global standard. This obscures and devalues the diversity of Indigenous customary legal frameworks that have managed to successfully regulate their own intellectual property between themselves and other communities for thousands of years. The Court interpretations that increasingly


favor formalizing the intellectual property classification system allows corporations to rely on technical arguments to legitimate ownership and appropriation, yet it leaves Indigenous communities no recourse to utilize evidence of cultural and social inequality and oppression.

By denying the social origins of property, the Court has attempted to avoid directly confronting the value choices involved in making these judgments. Instead of articulating reasonable bases for its decisions, perhaps in policy or underlying values, the Court has relied on the Justices’ intuitive conceptions of the meaning of property26.

The ‘Justices’ intuitive conceptions’ are not communions with some hidden but universal human wisdom, but are interpretations specifically arising from and filtered through their own cultures and epistemologies which is arguably predominantly Western/European contexts of individualistic, materialistic and capitalistic conceptions of property. Additionally, the Justices are immersed in a professional legal culture that includes a trend of categorization and systematization in order to facilitate legal certainty. Understanding property in terms of the unique sets of social relations in which it arises in diverse ways is antithetical to this methodology27.


Justifications for intellectual property

There is an enormous amount of literature concerning the justification for property rights, and in this case, intellectual property rights. Justifications tend to branch into either moral or economic arguments. Legal systems which have their origins in the British legal tradition tend to favor instrumental economic justifications. Within the patent discourse these are usually variations of the claim that IP stimulates technological innovation. Three justifications offered in an early copyright case *Millar v. Taylor* include ‘the justice’ justification, ‘the incentive’ justification and ‘the natural rights’ justification. Variations of all three are present in modern day theory.

There were influential justifications in the form of spiritual rights that have been advanced to support propertising intellectual works. Two important thinkers were Hegel and Kant who asserted that creations are dependent upon the inextricable link between human spirit and creative endeavour which is an embodiment of the human personality.

The intellectual work becomes part of the creator because it represents an extension of one’s self. The spiritual embodiment between the creator and the work justifies the recognition justifies the recognition of a natural property right vesting in the author.

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The contemporary discourse has primarily adopted an economic incentive justification, suggesting that such rights are justified because they protect the link between a person's labor and his property and necessarily facilitate innovation. Foundational Western property theorists such as Locke and Bentham contributed to the mainstream capacity to assume that property rights are partly necessary to counter the 'natural aversion to labor' and that without such property rights there would be a 'deadening of the industry'. Nelson and Mazzoleni offer a description of four economic theories that claim to explain how patents stimulate innovation. These are variations on responding to the problem of "Free Riding". This is the well known situation where a person is more likely to copy another's hard work rather than engage in innovation himself unless there is a disincentive otherwise. This reduces the economic motivation of the original innovator as he potentially loses his dominance in the market.

The moral justification argument with the greatest influence is arguably justification linking a person's labour to rights in the result of that labour. This originates from John Locke and has strong spiritual foundations. The current materialistic framework in which this justification is widely used has obscured the original spiritual foundation of this argument. The silence in the modern discourse of these foundations is a dramatic symbol of the loss of appreciating


the spiritual dimension in intellectual property law in general. Locke’s justification, arguably the foundation for the modern intellectual property system is entirely dependent on his deeper assumption that *humanity is made in the image of God*. Locke claimed that God as the creator of humanity had proprietary interests in His ownership of us. Because spiritually we are made in God’s image, we are also creators who have proprietary interest in that which we create through the association of our labour in that property\(^{33}\). Locke’s argument can still be used to justify the accumulation of great wealth and he leaves the regulation of equitable relationships in society to the governments. However, this relegated spiritual dimension gives rise to numerous arguments related to additional obligations associated with our being made in the image of God and the duty of care for others, particularly the poor, that this strongly implies. It almost demands that this theory of labour be situated in a context of facilitating caring relationships, yet this was not developed by Locke as such, and future jurists entirely dropped the Divine linkage closing the door on such developments. The science of theology within which Locke based his property arguments, similar to other sciences, has moved towards much more relational models of ontology. This evolution would likely have facilitated the mainstream emergence of such arguments had the spiritual and material aspects of Locke’s arguments not been fractured and the spiritual degraded.

While the labour theory may have great rhetorical force, it faces additional challenges in the reality of types of production that require the contributions of

many individuals and in which there is difficulty in defining the layers of separate contributions to the final product. This is one weakness of the modern property moral argument which faces significant tensions in relating to more communal and sophisticated paradigms of knowledge production as is understood by many Indigenous communities\textsuperscript{34}. Yet even in our own Western paradigms, these tensions are beginning to highlight the limitations of such individualistic property models when applied to such types of knowledge production such as software and biotechnology. Often networked communities of scientists are involved in the creation of these types of property, rather than only one individual genius. “This moral argument would justify an ownership distribution of IPRs that was much more dispersed and collective in nature than the more concentrated distribution of ownership that currently prevails in many markets\textsuperscript{35}.”

Bradley Bryan discusses how the concept of property has been a metaphor of social relations that has evolved through the feudal period in England first as a signifier of moral bonds, then as a symbol of a specific vision of natural rights, then to representative of contractual relationships and finally as a signifier of asset value. The representation of morality implicit in the contemporary property model has shifted from representing more complex social relations, where such Indigenous collective ontologies of property have greater resonance. It has shifted to an individualist model where the person is an atomistic transaction


maker and in which rights are presented within a universalistic rhetoric that assumes truths are demonstrable and individuals are free agents. This results in an exclusive model that claims to be the essential fundamental reality through which all legal arrangements that use the term ‘property’ must conform.

The exclusion of all other ways occurs because the language of the transaction allows for a variety of different types of social relations to be classified as transactions among agents while existing within a framework of moral verity that can only comprehend truth-claims that fit the transactional model. This results in the problematic practice of requiring all assertions of verity to be couched in that language, just as all assertions of obligation with respect to tenure need to be ensconced in the language of ownership and possession. Thus, the metaphysical understanding that underlies and informs, indeed may have given birth to, the English conception of property is rooted in a particular understanding of truth and morality that is necessarily concomitant with a rather general understanding of rationalization.

In the modern period, the originally separate meanings of proprietary entitlement, (which entailed moral obligations of relationships in the feudal system, even if those relationships were not entirely equitable) and the concept of wealth have been conflated. The rationalistic ontology of property in the Western model is now based within a technological view of society where property is understood in terms of its ability to be transformed into something consumable of transactional value.

Any way that our society chooses to navigate the course must challenge the grip that technology has over the Western worldview.

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In order to challenge this ‘grip’ we need to appreciate the relativity of this worldview. One method for this already engaged in this chapter is to start with our own history and to appreciate that the way things are now is not how they have always been and that notions of property have evolved as social relationships in which that notion is embedded have changed. A more challenging method, is to appreciate our own relativity by respectfully listening to others speak on their own terms, giving their paradigm the benefit of the doubt. In listening to their differing worldviews this may provide us with fundamental questions we have not encountered before and whose answers lead us to accept the partiality of our own positions. This is because the answers to those questions cannot be found within our own paradigms and force us to even more deeply respect the answers found in the others worldview. As Einstein said, *no problem can be solved from the same level of consciousness that created it.*

Both of these methods require an initial kind of humility. One method to encourage this humility is to find other ways to deconstruct the place we stand.

**A Brief History of IP**

That [people] do not learn very much from the lessons of history is the most important of all lessons that history has to teach.

-Aldus Huxley

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There are at least three good reasons for addressing historical issues of international IP development. First, it highlights that the historical context of Western IP development has produced a culturally relative instrument. The jurisprudential principles discussed above did not arise in a vacuum, but developed in specific places and times characterized by unique needs and legal relationships in which those principles formed. Secondly a brief overview of the process of the globalization of IP is important to appreciate as

The capacity of all communities to determine a regulatory structure for the intellectual commons is in the process of being taken away from them. It is being taken away because the regulation of abstract objects is progressively shifting from the territorial and the international to the global.

Thirdly, the transition to the age of IP globalization and an increased recognition of the inadequacy of current regulatory systems to protect TK has seen a tremendous response of suggested alternate sui generis regimes. Literally thousands of books and articles have been written since the the United Nations Conference on Environment and Development, or ‘Rio Earth Summit’ of 1992 on these issues. This third reason to briefly explore the historical narrative is significant on two levels. On the descriptive level it is obviously important for understanding the current trends of suggested solutions. More significantly, on a metaphysical level, this thesis argues that this exponential social/legal reaction reflects a response to tensions preceding an impending paradigm shift.

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39 Drahos, P. (1997). “Indigenous Knowledge and the Duties of Intellectual Property Owners.” Intellectual Property Journal 11(2): 180. This is not to suggest that globalization is inherently flawed in this manner, but rather that the current principles of IP regulation that have developed within the current globalization process, in association with a dominating trade agenda, have resulted in a framework that, overall, diminishes rather than enhances expressions of cultural diversity.
This is highlighted by the tensions in ‘dealing with’ Indigenous knowledge systems. An outline of the historical elements of this emerging paradigm shift reinforces the argument of this thesis that a fundamental shift in consciousness is required. But it is not a shift that can entirely occur from within the same culture that created the problem in the first place. Perhaps more accurately it can be said that the vision of the solution cannot depend upon the particular lenses of metaphysics which are at the root of the perceptive problem in the first place. The solution is found in consultation processes that respect the intrinsic spiritual value of all cultures and can raise our collective level of consciousness and open our eyes to a new dimension.

Three historical levels of development

Braithwaite and Drahos demonstrate that the evolution of the regulation of abstract objects and the development of IP on an international level can be generally divided into three periods\(^4\). These three periods are the territorial, the international and the global. The territorial period was characterized by the development of IP regulation that operated relatively independently within each sovereign territory. The international period saw the beginning of harmonization processes between groups of nations highlighted by the Paris Convention for the Protection of Industrial Property 1883 as well as the Berne Convention for the Protection of Literary and Artistic Works 1886. The current global period has seen the formation of the World Trade Organization and the linkage between IP and trade, primarily driven by the United States, emerging on a multilateral level in the Agreement on Trade Related Aspects of

Intellectual Property Rights 1994 (TRIPS). Of the three periods this section will pay greatest attention to discussing the IP regulatory processes at work in global period in order to highlight solutions, challenges and gaps to the protection of IMK.

Intellectual property rights began life as tools of censorship and monopoly privileges doled out by the king to fund wars and other pursuits. In some respects not much has changed\textsuperscript{41}.

It is reasonable to say that the foundations of both copyright law and patent law have their origins in the prerogative-based privilege system of mediaeval Europe. Scholars diverge in crediting the exact source of the patent system. Some have suggested England whether medieval\textsuperscript{42} or post-medieval\textsuperscript{43}; some suggest German or Bohemian origins\textsuperscript{44}, while Florence and Venice, Italy\textsuperscript{45}, are offered by others. It might be fair to say that, relatively speaking, historically there was a parallel process of patent development in Europe in the Middle Ages. The specific term “patent” is derived from the Latin verb *patere* meaning “to be open”. In medieval Europe royal letters closed with a seal were called


“litterae clausae” while those stamped with a royal seal but left open were called “litterae patentes” or “open letters”. Later this was shortened to a popular usage of “patents”. These royal open letters granted particular privileges, rights, franchises, status, titles and offices to individuals or groups of people. These were increasingly employed as a means of creating royally controlled monopolies on a variety of goods, crafts and the regulation of trade. Because each nation in Europe had differing needs and conditions, a diversity of patent laws arose as they employed legislation as a means of regulation in each country. Drahos observes that the national patent systems which arose from this system of sovereign based privileges had three fundamental characteristics. Firstly the patents granted by a sovereign functioned in relation to the territory of the sovereign. This principle of territoriality still operates today as can be seen in Australia in subsection 13(3) of the Patents Act 1990.

The second characteristic is that patents were used as instruments for specific political purposes. These included strengthening specific categories of manufacturing by attracting skilled labour from other countries; encouraging domestic investment in different industries; and eventually to protect these industries from competition of foreign cartels or to maximize profits from


47 “(3) A patent has effect throughout the patent area.” While in schedule I of the Act “patent area” means:
(a) Australia; and
(b) the Australian continental shelf; and
(c) the waters above the Australian continental shelf; and
(d) the airspace above Australia and the Australian continental shelf.
The third characteristic was that patent law was linked to a normative ideal of public benefit. In England, the Statute of Monopolies of 1623 ended the indiscriminate awarding of monopolies with the exception of the ‘true and first inventor’ of a ‘method of manufacture’. The patent principles of England’s Statute eventually spread through most of the rest of Europe. Eventually the granting of privileges and patents became acceptable only if it could be demonstrated that they benefited the public somehow. The drafters of the US Constitution assumed this connection of public benefit. By 1788 James Madison writes

1. A power "to promote the progress of science and useful arts, by securing, for a limited time, to authors and inventors, the exclusive right to their respective writings and discoveries."

The utility of this power will scarcely be questioned. The copyright of authors has been solemnly adjudged, in Great Britain, to be a right of common law. The right to useful inventions seems with equal reason to belong to the inventors. The public good fully coincides in both cases with the claims of individuals. The States cannot separately make effectual provisions for either of the cases, and most of them have anticipated the decision of this point, by laws passed at the instance of Congress 49. [Emphasis added]

Regarding these three features of the territorial period, Drahos writes that they represent a conception of patent law in which a sovereign regulates the granting of patents in ways that are consistent with the public good of those who reside in the territory of the sovereign 50.

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This historical context is important to appreciate for a number of reasons. A primary consideration that arises in the context of this thesis is that it reinforces the rationale for respecting the diversity of Indigenous customary law. This is particularly so when it is appreciated that the diversity of ICL’s reflect the diversity of social and natural relationships of these communities and therefore defining the ‘public good’ requires an appreciation of the localness of these contexts in order to be effective. The pattern towards global models of IP regulation that fail to recognize this diversity of contexts in which such definitions of public good necessarily arise means that only those types of public good that the global system recognizes will be preserved.

The current IP system of patents and copyright was initially developed during a European feudal age of humanity and was designed to give preference to particular elite groups favored by monarchies. In turn this favoritism was seen to enhance the power of the sovereign state by allowing the control of, often family run, centralized business through creating monopolies and additionally attracting inventors from other countries with a promise of protectionism through the patent system. Although there has been much change and diversification in subsequent centuries of IP development, the system as a whole has not met with any radical paradigm shifts from such origins. Two modern examples suffice to demonstrate this historical continuum of the use of an IP model designed in a feudal context of competing nation states. Firstly this is demonstrated by the favoritism given by powerful governments to particular transnational pharmaceutical companies in designing the provisions of modern day free trade agreements (FTAs). Further one may note the universally experienced ‘brain drain’ of educated citizens from developing to developed countries.
IP regulation is now effectively governed by the modern institution of the World Trade Organisation (WTO) through its treaty Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) as well as the emerging series of FTAs which in recent years have included IP as a central issue of regulation. The most powerful nation states in the Western world tend to have the greatest control of this ratcheting up of IP regulation through strategic bi-lateral negotiations reflected in the many FTAs. The interests of powerful nation states in increasing the extent of IP regulation is based on self-interests as primarily exporters of IP to the rest of the world. Simply stated, FTAs increase the ‘rent’ money received on IP which is mostly generated and controlled by the most powerful nation states. For example this occurs through lengthening the duration of copyright protection from a normative standard of 50 to 75 years; by making it easier to patent living organisms through reducing the barriers to register living organisms as property; and by strengthening IP pharmaceutical standards that increase monopolies and undermine the competitive nature of the generic pharmaceutical industry. This is having an effect of widening the extremes of wealth and poverty between the most developed nations and the rest of the world. Regardless of whether they live in a most developed nation or not, all Indigenous peoples are effectively, when it comes to such IP appropriation, part of the ‘rest of the world’.

Recent historical processes have made the process of recognizing cultural relativity a greater challenge for those of Western legal traditions.

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In 1989 when the Berlin wall collapsed I recall the jubilation that many experienced of feeling hopeful that this historical moment represented an evolution towards greater freedom for the peoples that climbed the wall in victory with arms upraised. I also remember pausing in that moment and feeling an apprehensive thought emerge. This symbolic moment historically represented for many the inevitable defeat of communism by capitalism. The problem that made me worry was in anticipating that somehow a great debate of values may be diminished as the ‘winner’ claims their values are triumphant and vindicated by destiny. My concern was that an opportunity for self-reflection and humility had been diminished and triumphalism and a license to practice a new form of ‘manifest destiny’ may emerge. Now nearly two decades later when I contemplate that moment of reflection and attempt to relate it to the subject matter of this thesis, some interesting realizations arise. Is it possible that the discourse of a universal standard of IP rights as defined by TRIPS and the FTAs which facilitate ever strengthening standards of IP protection that benefit the net exporters of IP was significantly amplified by this ability to entertain a kind of IP ‘manifest destiny’? With the fall of the Soviet Union there was a great increase in countries that turned from state controlled economies towards market based economies, with the World Bank developing a position known as the “Washington consensus” in international economic development terms. This policy can be simplified as the approach of “stabilize, privatize, and liberalize”. These factors combined to stimulate patterns of the global harmonization IP.

As an example,

Sixteen years ago in Berlin, the world was re-born. The global economic liberties and investment opportunities that followed only
seemed inevitable in retrospect. Investment optimism remains the only realism. And you ain’t seen nothin’ yet52.

One of the most widely quoted reflections on this is an extract from Thomas Friedman’s *The World is Flat*, where he writes that the fall of the Berlin wall tipped the balance of power across the world toward those advocating democratic, consensual, free-market-oriented governance, and away from those advocating authoritarian rule with centrally planned economies53.

It seems reasonable that he is correct about the political balance of power being tipped at that moment, but the simplification of a black and white contest of values having been decided is somewhat worrying. This is echoed to varying degrees in other widely discussed works such as Fukuyama’s *The End of History*54. While the system of communism itself may have largely resulted in destructive forms of authoritarian rule and centrally planned economies, there were also accompanying sophisticated value discussions. Some of these discourses passionately engaged concern over the disparities of wealth and poverty in the world, the fetishism of commodities, and critiques of the

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54 “What we may be witnessing in not just the end of the Cold War, or the passing of a particular period of post-war history, but the end of history as such: that is, the end point of mankind’s ideological evolution and the universalization of Western liberal democracy as the final form of human government. …the victory of liberalism has occurred primarily in the realm of ideas or consciousness and is as yet incomplete in the real or material world. But there are powerful reasons for believing that it is the ideal that will govern the material world in the long run.” Fukuyama, F. (1989). “The End of History?” *The National Interest*. One of the most widely discussed alternative discussions to this hypothesis is found in Huntington, S. P. (1996). *The Clash of Civilizations and the Remaking of the World Order*. New York, Simon & Schuster.
mystification of labour. Might the sophistication of this discourse have been diminished in such a triumphant simplification? Thereby causing a loss of the transformative potential of that clash of differing opinions?

The “less state” and “more market” rhetoric has become so dominant that anyone who questions it is considered “analytically unsound”.

There have been other consequences of the fall of the Berlin Wall, symbolizing the end of the cold war, that are significant for this thesis, particularly upon stimulating academic capitalism and strengthening reliance on intellectual property in universities.

Intellectual property scarcely existed in the vocabularies of U.S. academic researchers and administrators even 15 years ago. Now it is an ever-present part of discussions on research policies and directions. This new importance of intellectual property in academia reflects a changing view of the relationships of research universities to the surrounding society. Until recently, research at universities has been relatively isolated from demands of economic utility, and education of graduate students has emphasized a career in academic research as the final goal. The university’s contentment with this relative isolation was affected by two major events of the late 1980s and early 1990s: the fall of the Berlin wall, leading to an expected decrease in military funding of research, and the emphasis on balancing the federal budget--both producing a fear of a decline in federal funding of university research. The reaction on the part of the university has been to emphasize the benefits of taxpayer funding of research and to seek increased research support from industry. Intellectual property plays an important part in both of these efforts.

55 These concepts will be discussed more fully later in this chapter.

While this last issue of the intensification of academic capitalism will be more deeply discussed in chapter seven, the emphasis of this section was primarily to reinforce the importance for members of Western culture to be vigilant in self-reflection and humility in order to appreciate the gifts of the diversity of Indigenous intellectual property systems. In pursuing that it is important to acknowledge the aspects of history just described may have made this enterprise of humility a greater challenge.

Further limitations

Adam Smith is credited with contributing the influential ‘invisible hand mechanism’ theory\textsuperscript{58} associated with enlightened self-interest which provides important reasons for relying on property rights and markets. Basically he suggests that pursuit of the individual good in markets will benefit the public good. This was an adaptation of Stoicism and Calvanism that saw God’s will acting through natural law. It is important though to qualify that the nature of this ‘self-interest’ for Smith is not equivalent to ‘selfishness’, rather it is a form of enlightened self-interest that assumes as essential to this the development and practice of sympathy for others as part of that self-interest. This essential

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\textsuperscript{58} Every individual...generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Smith, A. (2003). \textit{The Wealth of Nations}, Bantam Classics, Book IV Chapter II
association of the spiritual quality of sympathy is often missing from IP justifications that rely upon Smith’s invisible hand theory for justification. Without the development and application of sympathy, it is arguable that the quality of enlightened self-interest necessary for the invisible hand theory to work is not met.

This theory is subject to further important qualifications. Drahos observes that once ‘property rights take the form of privileges in abstract objects the invisible hand mechanism may cease to be a reliable guide to the collective good’⁵⁹. This is partly because of the increasing ability of powerful factions to manipulate the regulation of IP out of opportunistic self-interests⁶⁰. So the very system itself is altered to serve their individual interests. This power increases as the scope and strength of IP laws increase. Institutionally this is most clearly observed through the creation of TRIPS and the resulting Free Trade Agreements initiated by the United States that are increasing in scope and range. The international instrument which has the greatest influence on regulating IP relationships is TRIPS, yet an incredibly small group of influential people, representatives of the ‘Fortune 500’, devised its creation.

Fewer than 50 individuals had managed to globalize a set of regulatory norms for the conduct of all those doing business or aspiring to do business in the information age⁶¹.

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⁶⁰ Examples of this are given in following pages.

Because of the more abstract nature of this property the full dimensions of this manipulation and cost to society is not yet fully realized.

It is important to again emphasize that property law is primarily about the rights between people. This is because an important implication arising is that as there are strengthening of the rights of exclusion and control, one is arguably allowing one person/company a type of increased domination and sovereignty over others. This is compellingly argued by Morris Cohen by illustrating that the dominant feature of property is the right to exclude others\textsuperscript{62}.

But we must not overlook the actual fact that dominion over things is also imperium over our fellow human beings\textsuperscript{63}.

Interestingly in the same article Cohen raises the issue of the then recent end of U.S. slavery when humans were legally the property of others. The issue of compensating both the former owners for their ‘lost property’ and the slaves for their experience of institutionalized injustice was still a current issue. One might conjecture this heightened Cohen’s ability to perceive the true issues of sovereignty over others contained in notions of property\textsuperscript{64}. While this view is


\textsuperscript{64} This relationship between property laws, sovereignty over fellow humans and slavery remains with us in the present in more ways than one. The fifth amendment of the US Constitution concludes with the ‘takings clause’: \textit{nor shall private property be taken for public use, without just compensation}. Within an individualistic understanding of property ownership it has been sometimes suggested that this clause applies to the regulation of all kinds that may inconvenience an owner financially. However the moral basis for this argument is somewhat undermined with the disclosure that this clause largely arose in the context of slavery due to
not so commonly explored 80 years later, it is a perceptive insight that is no less relevant today.

The same principles that result in ‘imperium over our fellow human beings’ is not just confined to property, but is also applicable to the relationship between nature and culture.

The fact that there is a direct reciprocal connection between the domination of nature and of humans is a truly important historical revelation as it directly contradicts the “progress narrative” of western civilization which teaches us that the historical domestication of the wilderness by civilization has been a process of human liberation.

Arturo Escobar demonstrates that ‘biodiversity’ is clearly a constructed discourse in recent history. Although it may refer to concrete physical referents it has generated networks of actors each with their own sets of agendas and accompanying discourses of meaning which they generate. He offers four main views of biodiversity generated by these networks which are centered on global resource management, national sovereignty, biodemocracy, and cultural autonomy. The first category is of particular relevance to the current argument as it demonstrates that biological diversity is effectively given meaning in a set of

“the outrage of the American colonists over the way the British, during the Revolution, provided sanctuary for escaped slaves, and then paid no compensation afterwards. The slave holders lost what they considered their property, and they did not forget.”


powerful global relationships that enable its linkage to primarily commercial interests. In this discourse the salvation of the planet becomes partly linked to regulating biodiversity through intellectual property systems. He describes the biodiversity discourse category “Resource Management: Globalocentric perspective”:

This is the view of biodiversity produced by dominant institutions, particularly the World Bank and the main northern environmental NGOs (e.g., World Conservation Union, World Resources Institute, and World Wildlife Fund), and supported by G-7 countries. It is based in a particular representation of the “threats to biodiversity” that emphasizes loss of habitats, species introduction in alien habitats, and fragmentation due to habitat reduction, rather than underlying causes; it offers a set of prescriptions for the conservation and sustainable use of resources at the international, national, and local levels; and it suggests appropriate mechanisms for biodiversity management, including scientific research, in-situ and ex-situ conservation, national biodiversity planning, and the establishment of appropriate mechanisms for compensation and economic use of biodiversity resources, chiefly through intellectual property rights.

Within this discourse IMK is seen as a biological, and perhaps more importantly an economic resource to be ‘conserved’, ‘managed’, ‘used’, and ‘appropriately compensated for’. In reality, the ‘northern’ alliance of political and transnational powers almost exclusively emphasizes the commercial nature of such a subset of biodiversity and exclusively focuses on intellectual property as the way to ‘protect’ (read ‘legally appropriate and commercially exploit’) such resources. Through this ‘doorway’ of the biodiversity discourse, the global actors of IP manage to suggest that strengthening IP regulation will benefit the environment and here IMK arguably becomes abstracted from the communities in which it

arises. Escobar suggests the cultural autonomy discourse offers a viable alternative to the other dominant frameworks. Chapter six explores in greater detail the inextricable link between Indigenous culture and nature, or biocultural diversity as some have termed it. When the intimacy of these relationships is appreciated, it becomes clearer that the commercialization of genetic resources in nature has significant negative consequences. For it diminishes the sovereignty of communities of people who are inextricably associated with what is being appropriated, and fractures the relationships necessary for the preservation of both cultural and biological diversity. This theme will be revisited in differing ways throughout this thesis.

This appreciation that intellectual property rights are really about relations between people is essential to appreciate. This is because as we have moved towards very mechanistic and reductionistic applications of IP law, the commodities become the focus rather than the relationships they represent. This is one of the reasons for a lack of a more common engagement between intellectual property law and human rights law. As Max Weber, a contemporary of Cohen, so eloquently stated, in such a market driven materialistic economy we do not look toward the person of each other, but only toward the commodity; there are no obligations of brotherliness or reverence, and none of those spontaneous human relations that grow out of intimate personal community. They all would just obstruct the free development of the bare market community...Such absolute depersonalization is contrary to all elementary forms of human relations68.

Reintroducing the concept of human interdependence into intellectual property may help mitigate the negative materialist consequences of this dominant culture

of IP reductionism. At the moment IP culture, particularly in patent law, relies on older models of mechanistic and reductionsist technology that do not reflect trends in modern science. Even within biology, the reductionist science paradigm shift towards increasing appreciation of interdependence is occurring.

We have now discovered what is perhaps the most important feature of genes and is most overlooked by molecular biologists: the biological meaning of genetic information is context-dependent – each part depends on all the others, just as the words in a dictionary, looked at in purely linguistic terms, are all defined in terms of one another. No gene in and of itself is the carrier of a single isolated trait. Any trait, like the occurrences of any word in a dictionary, is in fact a set of relationships between a large number of other traits, all of which coexist in a relationship of interdependence. (emphasis in the original)

This has important consequences when IP tends to technically utilize reductionist models of biology that ignore this paradigm shift of interdependence. It means that Intellectual Property law is relying on materialistic models of scientific reality that even Western scientists decreasingly subscribe to. This reliance on outdated models of reductionist technology is likely linked to the strong cultural mandate within Western IP law to facilitate simple formulas that ensure legal certainty. This is in spite of the actual reality of a complex set of interdependent relationships in modern science which is perceived by IP jurists as an inconvenient truth.

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Intellectual property rights are sometimes referred to as ‘monopoly rights’\textsuperscript{70}. This may seem strange since monopolies were generally condemned by the \textit{Monopolies Act}\textsuperscript{71} as evil manifestations of avarice and opportunism which caused damage to communities by reducing the quality and choice of goods as well as increasing costs to basic necessities like food. While it is difficult to find anyone who would suggest monopolies should be encouraged, there is a complicated acceptance of their relative economic usefulness in modern times\textsuperscript{72}. Nobel Prize economist Milton Friedman has said, ”there is only a choice among three evils: private unregulated monopoly, private monopoly regulated by the state, and government operation."\textsuperscript{73} I would suggest that the strong moral emotions against monopolies are not as widely or intensely explored in contemporary society as they were at the time of the \textit{Monopolies Act} when social issues of sovereign favoritism in creating monopolies were somewhat more black and white and more obvious to the common person. This may be partly because of the complexity and intangible layers of the systems involved in demonstrating the monopolies of multinationals; the political filtering processes through which such information is diffused and made (less) available for public awareness; combined with the lack of effective forums for such diffuse public interests to concentrate and vocalize such concerns. Habermas is well known to have successfully argued that the media has become the dominant forum where the

\textsuperscript{70} Nearly all textbooks acknowledge this, for example see Reynolds, R. and N. Stoianoff (2005). \textit{Intellectual Property Text and Essential Cases}, Sydney, Federation Press: 271

\textsuperscript{71} Statute of Monopolies of 1623 (21 Jac. 1, c.3)


discourse of values is determined. This passive forum of observation rather than participation has diminished the individual’s capacity for the independent investigation of truth. It has also meant that the complexity of issues related to such IP monopolies is ill-suited to coverage in a medium that lends itself to simple and dramatic bytes of presentation.

The stimulation of innovation through IP creating limited monopolies is sometimes seen as necessary because it is argued that a free enterprise economy will under-invest in invention and research ‘because it is risky, because the product can be appropriated only to a limited extent, and because of increasing returns in use.’ It is also important to appreciate that in order to correct this market weakness, governments can regulate in two ways. Intellectual property is not the only way. Governments can invest in public research funding and/or they can regulate through intellectual property policy incentives. A combination of the two is generally used. Within the genre of public research funding, Governments can also employ strategies of venture capital, tax concessions, procurement policy, export development grants, tariffs and bounties. However in modern times governments are tending to reduce public funding of research (controversially reflected in the reductions of funding to universities) and are increasingly relying on the intellectual property alternative to stimulate the private sector to make up for such free enterprise market weaknesses. Since the


76 A more detailed investigation of the effect of this on research in universities will be explored in chapter six.
1980s in particular, such a policy culture has enhanced an explosion of patent applications and approvals\textsuperscript{77}. In economic terms intellectual property laws provide incentives for creation and innovation by solving the special problem of non-excludability of creative works, assuring inventors and authors an opportunity to recoup their initial investment in creation\textsuperscript{78}.

In the contemporary Western culture of IP usage there is arguably a dominance of proprietarianism in which property rights are given a fundamental and entrenched status over other kinds of rights and interests (such as various human rights), an assumption of the ‘first connection thesis’, and a belief in a ‘negative commons’. The first connection thesis is basically the assumption that the individual who is first able to economically benefit from a form of property has the right of ownership. The negative commons idea is the assumption that no one owns the commons of knowledge and therefore it is open to appropriation by individuals. This is in alternative to the concept of ‘positive commons’, the idea of knowledge being owned by everyone. There are other models of the relationship between knowledge and communities\textsuperscript{79}. ‘There are as many kinds of community as there are moral traditions, shared understandings and ways of

\textsuperscript{77} It is questionable whether the enormous increase in the volume of patent applications in recent decades can be used as a reliable benchmark for assessing economic stimulation. This is particularly highlighted by recent data that indicates that more than 53\% of patents expire on account of failure to pay maintenance fees. See Moore, K. A. (2005). "Worthless Patents." Berkeley Technology Law Journal 20(4): 1521-1552.


life.  

For example, it is interesting to note that Imperial China, arguably one of the most innovative and creative civilizations on earth, arguably did not possess an intellectual property rights system of any similarity to contemporary Western IP law.  

Additionally, similar to types of Indigenous customary law, the imperial Chinese linked their intellectual knowledge and innovations to an ancient and active relationship with their ancestors.

‘The Master [Confucius] said: I transmit rather than create; I believe in and love the Ancients’. (The Analects of Confucius Book VII, Chapter 1)

Expanding this Alford writes:

Lying at the core of traditional Chinese society’s treatment of intellectual property was the dominant Confucian vision of the nature of civilization and of the constitutive role played therein by a shared and still vital past.

While there were laws prohibiting unauthorized copying, this had more to do with preserving the purity of sacred ancient texts. Additionally there were also censorship laws in order to prevent any negative effect on Imperial authority. Yet neither of these categories were part of an attempt to stimulate innovation or offer monopoly rights of exploitation.


Although contemporary China has experienced a very significant change and development in religious, social, political and cultural conditions since Imperial China, Alford writes:

The experience of China in recent years suggests that massive growth is possible without a deep commitment to IP protection83.

Another alternate model to conventional IP recently arising are the variations of ‘open source’. Traceable back to the 1950s with the collaboration of scientists sharing the source code used to develop the first computer operating systems. This model of sharing source codes was integral to facilitating the birth of the internet. IBM and others moved towards more traditional proprietary models of IP in the ensuing boom of the commercialization of such knowledge. In reaction to this proprietary shift in software development, groups of scientists developed a subculture84 reaffirming the value of open source models that have led to developments such as Linux.

in open source software licensing, anyone, anywhere, and for any purpose must be allowed to copy, modify, and distribute the software (either for free or for a fee) and, therefore, must be allowed full access to the software’s source code85.

Even more recently scholars have increasingly suggested that open source models can be extended and adapted from the realm of software to other realms of knowledge, including biomedicine and agriculture86.

83 Alford, W.P., Personal correspondence with author June 2006


Appreciating that there have been alternate and successful models of intellectual property may make it easier to engage in authentic cross cultural exchange of knowledge on an intrinsic and not just instrumental level of value. An examination of Indigenous models of community and knowledge offer a variety of alternate epistemological and ontological appreciations. In particular the spiritual aspects are rarely explored in the IP discourse. Some of the spiritual features of these models are that knowledge is often a type of relationally developed spiritual endowment or bequest of the ancestors. This knowledge is shared in a network of kinship relations in the community with respectful honoring of sacred fiduciary obligations to the ancestors. Though ‘deceased’, they are seen to maintain an active relationship of guidance and communication through our integrated spiritual life and ecological relations which also possess agency. In this active relationship, prayer, art, song, dance, meditation, rituals


89 Since the early 1970’s and Rachel Carson’s Silent Spring there has been a very diverse and significant discourse on exploring how Western philosophy can reconcile the fact that nature has an intrinsic value of its own, and that it possesses its own agency. Some of the important elements of agency are the unique creative capacity of all things and the dynamic force of influencing the development of others through their intrinsic value. For one a recent exploration of the concept of the agency of the natural world in a Western philosophical context see Cloke, P. J. and O. Jones (2002). Tree Cultures: The Place of Trees and Trees in Their Place, Berg Publishers.
that ‘care for kin’ among other internal and external actions renew these relationships. This facilitates ongoing creative knowledge production and guidance from the ancestors within the community. Other aspects of this model will be expanded upon in detail in the following chapter.

Returning to the contemporary Western model of IP law, the proprietary model of rights based focus arguably present a number of weaknesses. These include but are not limited to various forms of individualism, anthropocentrism and an instrumentally materialistic approach of ownership. The capacity for greed to influence legal development of IP is an extremely significant deficiency. Drahos commenting on Hegel indicates, “Civil society, once it comes to realize the pecuniary advantages of intellectual property rights, presses the state to build ever more elaborate intellectual property systems, systems which ultimately become a global system.” In fact some argue that there is such an essential interdependence between trade and intellectual property that the distinction between trade policy and intellectual property is an artificial one.

In their influential work Dialetic of Enlightenment, Adorno and Horkheimer make a similar observation.

A browse through journals such as Environmental Philosophy and Environmental Ethics demonstrates numerous articles on such subjects.


On one hand, the growth of economic productivity furnishes the conditions for a world of greater justice; on the other hand it allows the technical apparatus and the social groups which administrate a disproportionate superiority to the rest of the population. The individual is wholly devalued in relation to the economic powers, which at the same time press the control of society over nature to hitherto unsuspected heights.  

This described process is clearly present in the relationship between the strengthening and extension of IP through Free Trade Agreements which has been heavily influenced by the lobbying of political representatives with personal interests and powerful transnational companies in Washington.


93 For example the US Copyright Term Extension Act of 1998 was initiated by Congressman Sonny Bono (Also known as the Sonny Bono Copyright Term Extension Act or pejoratively as the Mickey Mouse Protection Act) and was supported by intense lobbying by Disney, the estate of George Gershwin and Congresswoman Mary Bono. This extended copyright for both individuals and corporate authorship from the term of the life of the author plus 50 and 75 years to become extended to life of the author plus 70 years and 95 years respectively. Originally Congressman Bono wanted the extension of copyright to be eternal with no expiration. Australia implemented this extension through the US Free Trade Implementation Act 2004. There are a number of social costs such as decreasing capacity for building on the work of others, reducing the ability of library’s to collect works because of increased costs etc. On the level of economic costs alone, it is clear that this strengthening of copyright will cost Australia hundreds of millions of dollars as it is primarily an importer of copyrighted works.

When combined with increasingly comprehensive sets of intellectual property rights in regards to abstract objects in a global system, this produces relations of separation, fragmentation of community, restricts freedom and locks up knowledge previously held as the commons\(^95\). Some have criticized the TRIPS framework by suggesting it is failing as a global standard for several key reasons\(^96\). The first is a disparity of values between West European/North American appreciations of intellectual property and alternate values historically and currently held in China. The second is the inadequate protection rendered to Indigenous knowledge under TRIPS. The third is seen in the differing intellectual property strategies required by developing countries, particularly seen in their public health crisis. This is exemplified by the history of AIDS medicine availability in South Africa. These three major issues represent significant reasons for modification of the system which may allude to a necessary paradigm shift\(^97\).

In the current globalization period, the diversity of Indigenous customary legal frameworks is increasingly being rendered powerless to apply the legal


\(^{97}\) In the final chapter of this thesis aspects of the interdependence of these three paradigmatic tensions are highlighted.
principles they consider important in protecting their own traditional medical knowledge.

The capacity of all communities to determine a regulatory structure for the intellectual commons is in the process of being taken away from them. It is being taken away because the regulation of abstract objects is progressively shifting from the territorial and the international to the global.\(^98\)

The Permanent Mission of India noted related issues in a submission to the WTO:

International IPR regimes recognize formal systems of knowledge only. Informal systems e.g. the shrutis and smritis in the Indian tradition and grandmothers’ potions all over the world get scant recognition. To create systems that fail to address this issue can have severe adverse consequences on mankind, some say even leading to our extinction.\(^99\)

Additionally, in such a global regulatory context the current climate of increasing the strength of intellectual property and the range of subject matter that can be considered property (e.g. recently expanded to include human genetic information and living organisms) encourages opportunism in the appropriation of the commons by individuals and corporations as well as diminishing the remaining sense of the sacredness of life as we begin the path of even commercializing ourselves.\(^100\)


Another important criticism of both real and intellectual property is the abstraction, externalization and alienation of people divorced from the various forms of property including land and the mental and spiritual creativity of the individual and community. One aspect of this divorce is seen in the arguably false, if not essentially ambiguous, dichotomy of the protection of the expression of ideas rather than the ideas themselves. For example, ideas are only protected when they are reproduced in a material form in copyright. This potentially compromises the recognition of thousands of years of human thought expressed in the oral traditions of Indigenous communities. This also affects patent law, where, for example, the United States Patents and Trademarks Office has yet to recognise prior art in oral traditions101, although there are many other countries that do102. The individualistic and dichotomous aspects of intellectual property also diminish the recognition of creativity as a form of relationship between the individual, community and inherited common traditions, a concept sometimes referred to as holistic individualism103. This is strongly supported by current


101 Sub-sections 102(a) and (b) of the US Patent Act (35 U.S.C.):A person shall be entitled to a patent unless—
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States,

102 See for example the European Patent Convention: Article 54(2) of the EPC defines prior art (the state of the art) as comprising “...everything made available to the public by means of a written or oral description, by use, or in any other way, before the filing of the European patent application.

research in the realm of social psychology and the cognitive science of creativity. These sciences convincingly demonstrate Western models of IP contain overly simplistic and unrealistic ideas about creativity. These models contain inappropriate assumptions of an ‘individual romantic conscious actor model of creativity embedded in the IP regime’\(^ {104}\) that are largely inadequate while the assumptions underlying the TK model are a better reflection of the nature of creativity...[which is] fundamentally collective, cooperative, informal, cumulative, and often spiritual.\(^ {105}\)

Marx offers a strong criticism that the fetishism of commodities in a framework of capitalistic economics separates intellectual property from the reality of social relations upon which it is actually based\(^ {106}\). In notebook VI of *Grundrisse* Marx argues that,

> The crude materialism of the economists who regard as the *natural properties* of things what are social relations of production amongst people, and qualities which things obtain because they are subsumed under these relations … imputes social relations to things as inherent characteristics, and thus mystifies them\(^ {107}\)


Marx later argues in his third volume of Capital that this mystification of the connection between social relations and the commercialization of their labour, corresponds to the interests of the ruling classes by proclaiming the physical necessity and eternal justification of their sources of revenue and elevating them to a dogma.  

Commenting on the implications of these ideas in Marx, Christopher May writes,

The commodification of things into forms of property removes them from the sphere of social interactions, and places them in the realm of marketised interactions where they can be bought and sold with little reference to their production (or the interests of their direct producers).  

This ‘mystification’, a denial of dependency on social relations, allows for the peril of ignoring the negative effects of an overly materialistic/capitalistic system of intellectual property in the social fragmentation of humanity. This fragmentation largely occurs because of the fostering of extremes of wealth and poverty caused by the increasing appropriation of the commons by those in power. This is reflected in a significant pattern of economic disparities mirrored in the standard feminist and Indigenous critiques of socially unjust objectification of a hierarchy of relationships. Bioprospecting is seen by some as a process that reflects the principles of these inequitable relationships for both women and Indigenous peoples. Some research suggests that when combined with trade liberalization trends some aspects of these disparities are diminished,  

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110 In particular see the proceedings of the Comparative perspectives Symposium: Bioprospecting/Biopiracy in (2007) *Signs: Journal of Women in Culture and Society* 32(2).
while others are increasing. A recent United Nations report on the phenomenon concludes that

as women’s vulnerability to adverse shocks is exacerbated by existing inequalities, any negative impact of trade liberalization and attendant adjustment costs is likely to be felt more by women than men. In addition, international trade and investment often have a significant impact on labour markets and working conditions, affecting women in particular because of their generally lower skills and weak bargaining power.111.

These increasing extremes of wealth and poverty find their greatest contrasts between developed and developing countries, sometimes generalized as the ‘north-south’ divide enhanced by the location of multinationals in the ‘North’112.

Even more telling, for the purposes of this thesis, these extremes of wealth and poverty can be seen between white and black, male and female or more specifically the dominant Western culture and Indigenous cultures. This does not necessarily prove that intellectual property law is sexist or racist itself, although there are many who argue it has aspects that are113. It is not uncommon to see statements by Indigenous peoples that IP represents


112 This ‘North/South’ divide is a generalized somewhat symbolic geographic division that cannot be taken literally. For example there are a number of developed countries in the South such as Australia and New Zealand. More importantly, this symbolic geographical divide is not helpful for identifying the many Indigenous communities, more appropriately associated on the level of social and economic development scales as ‘South’ but located as dependent nations/communities within the borders of developed ‘North’ countries.

a new form of colonization [and] a tactic by the industrialized countries of the North to confuse and to divert the struggle of Indigenous peoples from their rights to land and resources on, above, and under it\textsuperscript{114}.

In the very least the legal cultural framework allows for an instrumental use of intellectual property that can enhance its function as a tool that can reinforce these disparities of economic injustice from the local to the global level. But is it a neutral tool whose effects are dependent on the values of the wielder of the tool? Is it only because often the powerful elite that hold the tool may have selfish values (at least in seeking to give their own national, cultural or corporate identity economic superiority) that the tool of IP is labelled by some as racist itself? Or is it that there are intrinsic aspects of Western IP that reinforce such disparities? This is a question which needs to be seriously considered.

Before dismissing the Indigenous claim above as an exaggerated expression of minority radicals, (a dismissal categorized by some as a quality of institutional racism itself\textsuperscript{115}) it is important to acknowledge more sophisticated critiques of racism. Individuals within a system may consider themselves to be firmly committed to the principles of equality and would be offended at the charge of racism. This may lead to their premature rejection of an examination of the racist qualities of the system they must work within. This examination would likely involve an uncomfortable process for even the most equality committed


individuals as they would experience moments of strong cognitive dissonance, anxiety and frustration in coming to terms with being immersed in a racist system they don’t want to be complicit in supporting.

A closer examination of scholarship on the qualities of institutional racism reveals the more subtle nature of how this may be manifested in IP systems. Firstly, this can include a denial of dependency on marginalized Indigenous cultures in providing the medical knowledge of IP. This is an extension of the mystification of labor argument spoken of earlier that IP systems often facilitate. The arguments to develop certificates of origin in patent law have partially been developed in response to this context. Secondly, the IP system may have congruence with the dominant white Western culture but not with many others. This involves the IP system being committed to the exclusive dominance of one type of epistemology which subtly filters out the voices of all others in its unchallenged claims of universality. This requires a more sophisticated understanding of racism as not just relating to discrimination based on the color of a person’s skin, but a disempowerment of the sharing of unique epistemological gifts differing cultural groups carry. This is a system that may not selectively discriminate against one particular cultural epistemology, but which discriminates through a broader mechanism of a jurisprudence that powerfully and effectively renders the Western model the only model. Because that model fails to engage spiritual aspects of Indigenous customary law it excludes the over 5000 Indigenous cultures that all have their own unique legal epistemologies that include integrated spiritual and material elements.

An analysis of this discrimination requires a detailed exploration of how such exclusion of the spiritual dimension has seriously negative consequences for
Indigenous peoples. The following chapter addresses more specifically the negative epistemological consequences as well as exploring potential solutions and then projects the potential positive consequences of empowering true epistemological equality in IP. However, first it is important to demonstrate that even within the Western model itself, there are paradigmatic tensions that are resolved by including spiritual considerations. This is not just about acknowledging the diversity of Indigenous customary law, but about resolving an internal crisis in Western IP. Arguably, conscious paradigm shifts are occurring in other disciplines that address crises with similar elements, yet IP is yet to reach a similar degree of conscious engagement with this paradigm shift. One of the most useful locations to examine this is in the integration of IP and trade that has occurred in the past few decades. This is the most useful location to explore because in the realm of economic development theory, of which trade is a component, the importance of acknowledging systems diversity, although a very recent consideration, is arguably becoming fundamental to the discipline. This can be considered a shift towards a spiritual epistemology because the ability to engage diversity is arguably an essential feature. Since trade is inextricably linked with IP, strong arguments arise that IP must also consciously facilitate systems diversity in recognizing Indigenous customary systems.

Are we at the threshold of a paradigm shift in IP?

Although this is a highly complex evolutionary process, a reasonable generalization can be made of the nature of these shifts as moving from reductionism to holism. This is a conceptual movement towards recognizing the importance of emergent value in the interface between a systems diversity and
interdependent unity. In a recent major scientific work the summaries of the paradigm shifts are listed:

Since the sixties a scientific paradigm shift has been underway towards a Theory of Evolutionary Systems. During the last two decades an increasing body of scientific literature on topics of self-organisation has emerged that taken together represents a huge shift of focus in science:

- from structures and states to processes and functions
- from self-correcting to self-organising systems
- from hierarchical steering to participation
- from conditions of equilibrium to dynamic balances of non equilibrium
- from single trajectories to bundles of trajectories
- from linear causality to circular causality
- from predictability to relative chance
- from order and stability to instability, chaos and dynamics
- from certainty and determination to a larger degree of risk, ambiguity and uncertainty
- from reductionism to emergentism
- from being to becoming

One might suggest that these shifts also reflect inherently spiritual or increasingly relational ways of knowing. The ability to perceive a universe that has an integrated spiritual and physical nature is being enhanced through the process of this paradigm shift.

It is suggested that this paradigm shift is facilitated by a maturation of consciousness in appreciating the greater complexity of the ‘object’ or relationships of consideration. This is developed in parallel with a recognition of the relative in/appropriateness of the ‘instruments’ designed to observe, relate to and manipulate the qualities of that object. For example this applies to physical

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instruments evolving from optical telescopes to other optical instruments capable of discerning the variety of other types of energy and frequencies previously ‘hidden’. But more essentially the creation of the physical ‘instruments’ are preceded by the development in science of metaphysical lenses which enable an ‘internal’ ability to see relationships in such a way that these previously unknown intangible aspects of physical reality can be anticipated with greater accuracy. The physical instruments are then created which reinforce the accuracy of the metaphysical shift that preceded their construction. It would be a mistake, often made, to believe that the physical instruments themselves ‘discovered’ these hidden aspects of reality.

It has been said that the ‘nature of the object will prescribe the method of knowing’. In this case it is suggested that IP law, and indeed most forms of law, has lagged behind the other sciences in appreciating that the objects with which it is concerned are also ‘spiritual’ in the sense of having a more sophisticated relational nature.

To appreciate how IP may more consciously participate in the paradigm shifts which the other sciences are experiencing it is first necessary to deconstruct particular assumptions of legal reality.

At the moment the general discourse of IP reform tends to focus on how it might extend to additional forms of subject matter. For example in recent years this has resulted in expanding its applicability through legislation to matter such as circuit layouts, plant breeder’s rights, business models, genetic information and living organisms. While in the context of this thesis the focus is on the debate about extension to Indigenous medical knowledge as another ‘object’. It is
usually concluded that the IP instruments possess limitations which require additional \textit{sui generis} instruments to enable IMK be brought within the mainstream of IP as an object capable of protection.

This is equivalent to a scientist beginning to have a growing appreciation of the increasing complexity of the physical world and the inability of his current paradigm to account for the unfolding discoveries of new phenomenon. At first, similar to early astronomers, instead of allowing that the paradigm itself may be wrong, they develop additional micro-theories, that are awkwardly tacked on as a solution. In this case he remains attached to his creation of the optical telescope and is trying to figure out ways it can be used to see other aspects of reality. This is in spite of what is actually required which is the expansion of complexity and maturation of his metaphysics which would then result in more appropriate forms of creativity to address the newly appreciated tensions in his model. This internal paradigm growth results in more effective instruments to measure and observe entirely different dimensions of reality which are responsible for the effects his current paradigm was not able to explain. A telescope cannot measure gravity.

It is suggested that IP is a culturally relative product that is being portrayed by powers in the dominant culture as a universal value of common good. There is a need to deconstruct the assumption that conventional IP has a purpose of facilitating innovation which performs a neutral and universal public good. It is suggested that once this deconstruction is applied the concealed but effective purposes are exposed of the model. One such central purpose is for those in power to control the regulatory models to control flows of information and to enhance particular commercial interests of large corporations and developed
nation states who are the primary exporters of intellectual property. This clearly may not be appropriate for every other cultural context and the reality of social evolution requires an ongoing reflection of adequacy. At one stage in its historical development as a nation state the local condition of the United States as a net importer of IP warranted commitment to a weak form of IP, the opposite of its current position\textsuperscript{117}. A number of other developed countries in Europe likewise benefited from the flexibility to adopt relatively weak IP models. Models that contributed to their eventual status as developed countries, but are now champions of strong IP rights\textsuperscript{118}. These developed countries are now forming groups to lobby for the international harmonization of strong patent standards. Standards that benefit these developed exporters to a greater extent than the developing countries that are net importers. The historical record demonstrates that countries benefit from being able to adapt their IP regulatory frameworks according to their evolving needs. For example in the modern context India at one stage was firmly opposed to strong IP protection, seeing it as an appropriative mechanism, but has recently shifted its policy stance to a more sophisticated position in the face of the realities of globalization, the need to protect the depth of its valuable resource of traditional medical knowledge and the need to still provide affordable medicines to its own population. Australia itself may appear to be a developed country and therefore a net exporter, but in reality, in comparison to the United States and other strong exporters of IP, Australia is predominantly an importing country. There have been a variety of conflicting studies, but a significant number have estimated substantial losses to


Australia because of committing to strong IP standards as required by the FTAs recently signed with the U.S. Appreciating the importance of encouraging diversity in models of IP not only benefits Indigenous communities ability to regulate their knowledge systems, but would also benefit Australia in general.

Other disciplines have begun consciously engaging this reality of cultural relativity for policy relevance for some time, but it is yet to enter the mainstream of IP discourse. For example development theory is increasingly acknowledging how policy effectiveness is largely determined by its capacity to facilitate local expressions of identity authentically:

Development, the Mexico City World Conference noted, is an infinitely more complex, comprehensive and multidimensional process than the process of economic growth as measured by such standard indicators as GNP. Indeed, development only proved effective ‘if it was based on the independent will of each society and if it truly expressed its fundamental identity.’

One might question whether a ‘tweaking’ of the current system is sufficient, or whether an entire paradigm shift is required in order to enable a global system which facilitates authentic expressions of cultural diversity. This tension is touched upon in Thomas Kuhn’s exploration of the process of paradigm shifts within the scientific community. Kuhn is primarily concerned with the development of science in its epistemic sense or the theoretical and cognitive patterns as seen, for example, in the contents of scientific journals. For Kuhn, the

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The constant investigation of physical reality by the scientific community produces anomalies which do not fit accepted theories. Eventually the burden of these anomalies requires a significant shift in the basic paradigm in order to logically explain them. This shift is most famously symbolised by the Copernican revolution which enabled us to realise that the earth is not a fixed point at the centre of the universe. This opened the door to appreciating the relativity of perspective and motion and such paradigm development continued from Galileo onwards to Einstein’s application of relativity to the nature of light itself. These ongoing “scientific revolutions” are more common on small scale revisions of sub-theories rather than an entire world-view such as the Copernican revolution; however it does still occur on the level of large scale reconstructions of scientific world-views. Some have criticized Kuhn’s statement of incommensurability between newer and older paradigms. One might suggest a softening of the ‘incommensurability’ thesis between paradigms is warranted and that there is more organic overlap in the evolutionary process. This is partly because a number of popular accounts, perhaps artificially, accentuate the boundaries between paradigms in Kuhn’s thesis for polemical reasons of being able to use Kuhn to argue for a complete abandonment of a current paradigm they are dissatisfied with. Yet Kuhn’s thesis of paradigm shifts still represents a valuable contribution towards understanding the contextual process of scientific discovery. It represents a form of critical realism that has insightful applications relevant for not only the scientific community but also for many fields of human endeavour including legal theoretical enquiry.

It is has to be acknowledged that a strict application of Thomas Kuhn's theory of paradigm shifts was not originally meant to be applied to the social sciences. His focus was rather upon the hard sciences, with a unique context of a commonly shared experience and set of assumptions largely held in common by a group of scientists which eventually face crises of various degrees. These crises either evoke minor adjustments to a shared thesis, or stronger revolutions of values. One aspect of this uniqueness in the hard sciences was a kind of logical positivism in which the unity of shared assumptions meant that systemic crisis could occur which was precipitated by the inability to explain new phenomenon using these values. Repeating this experience of a shared crisis and search to find new values that help resolve responsible tensions in the social sciences is more problematic. This is because the social sciences generally have a less unified set of assumptions about reality and there are a variety of competing discourses. This means there is generally a greater diversity of world views within a social science discipline which makes a shared crisis of values a less likely experience. Discussing paradigm shifts and social sciences, Kuhn indicates that while the natural sciences involve similar types of interpretation to social sciences, there is a difference in that social sciences include an essential process of hermeneutical re-interpretation, a search for new and deeper interpretations. This generally differs to natural science where established traditions and fixed interpretations is a precondition of normal science. The active hermeneutical reinterpretation of social sciences is resisted rather than actively sought in the natural sciences and occurs rather through scientific revolution when theses encounter data that cannot be accounted for by the current paradigm.

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The diversity of positions in social sciences as well as their more natural affinity for exploring contestable models of hermeneutical engagement means there is less capacity for a collective experience of a shared crisis of values. Without a shared crisis there is no shared paradigm shift. However I would suggest there are at least two things that mitigate this consideration. Firstly, there is a shared crisis of values that is almost universally experienced by social scientists which can be termed academic capitalism. This academic capitalism is strongly influenced by the model of IP in this era of globalization. Secondly, the discipline of intellectual property law itself tends to be taught and practiced with greater similarity to the hard sciences than to the social sciences and more strongly reflects a culture of logical positivism similar to the hard sciences. Western IP law is taught as if it is THE law and the thousands of other competing cultural discourses are at best minimally acknowledged as falling outside the scope of the real discourse. On a personal note of teaching IP law for three years, in most text books I have been asked to use and in the material I was asked to cover, brief references and shallow analysis of *sui generis* regimes are offered as the means to deal with such crises of incommensurability. This form of logical positivism in turn is exacerbated by the process of academic capitalism in which IP is sculpted and taught in a black letter fashion to a growing group of professional students as a technology meant to be applied in their work upon completing the course rather than an exercise in the independent investigation of thought.

Upon acknowledging the different contexts between hard and social sciences, it is still arguable that the majority of social and physical sciences have to greater or lesser degrees experienced significant paradigm shifts in previous decades. For example, in environmental philosophy it could be argued that a paradigm shift of great significance occurred with growing critiques of Anthropocentrism as
causally linked to the environmental crisis. This was particularly because of a perceived essential inability of anthropocentric models to appreciate both the interdependent and intrinsic value of the diversity of life. Equally so, as mentioned earlier, a paradigm shift is occurring in development theory with a movement away from a ‘culturalcentric’ model of ‘us’ helping ‘them’ to ‘be prosperous like us’ to one of empowering local expressions more appropriate to appreciating the intrinsic value of every culture. In international economic development theory one can see this reflected in the move from an assumption of universally applicable values reflected in the ‘Washington consensus’ of “stabilize, privatize, and liberalize” to a growing acknowledgement of impending paradigm shifts in these values.

It is increasingly acknowledged that the spiritual virtue of humility is an essential requirement for enabling this shift of engagement of development with the diversity of the world’s cultures. This is highlighted in a recently released report of the World Bank reviewing their own development policy: ‘The World Bank’s Economic Growth in the 1990’s: Learning from a Decade of Reform’. Referring to the findings of this report, Harvard economist Dani Rodrik writes:

> The emphasis is on the need for humility, for policy diversity, for selective and modest reforms, and for experimentation. “The central message of this volume,” Gobind Nankani, the World Bank vice-president who oversaw the effort, writes in the preface of the book, “is that there is no unique universal set of rules…. [W]e need to get away from formulae and the search for elusive ‘best practices’…."

123 “The new perspectives also have implications for behavior—in particular the need for more humility. And, last but not least, they highlight the need for a better understanding of noneconomic factors—history, culture, and politics—in economic growth processes.” In Nankani, G. (2005). Foreword. Economic Growth in the 1990s: Learning from a Decade of Reform, World Bank: xiii
… Taking these conclusions at face value, what they entail is nothing less than a radical rethink of development strategies. … the mere fact that such views have been put forward in an official World Bank publication is indicative of the changing nature of the debate and of the space that is opening up within orthodox circles for alternative visions of development policy. … It warns us to be skeptical of top-down, comprehensive, universal solutions—no matter how well-intentioned they may be. And it reminds us that the requisite economic analysis—hard as it is, in the absence of specific blueprints—has to be done case by case.\textsuperscript{124}

While director of research for the International Monetary Fund, Raghuram Rajan, writes:

If there is anything that more than 50 years of modern development economics has taught us, it is humility about how little we really know\textsuperscript{125}.

More explicitly linking this humility with the need for a broader engagement with spirituality, former managing director of the World Bank James Wolfensohn explains:

… They said this guy has come from Carnegie Hall and something else, he is elitist, but why the hell is he talking about culture. Why is he talking about values. And now when I talk about spirituality they think I have gone mad. But they are issues which are starting to be, which are at the core of human development and you have to deal with those sorts of questions\textsuperscript{126}.


\textsuperscript{125} Raghuram Rajan, Foreword, (2005). World Economic Outlook September 2005, International Monetary Fund: xii

These corresponding limitations in IP law are reflected in its inability to accommodate the true sophistication of the dynamics of the interface and synergy between biocultural\(^{127}\) diversity and globalization. This represents the greatest challenge to a largely homogenous IP system that has equally homogenizing effects upon both cultural and biological diversity and plays no small part in effecting the extinction of both.

There is another, more fundamental, although less obvious tension warranting a more radical paradigm shift on a metaphysical rather than just structural policy level. That level is the ability of IP law to acknowledge the spiritual dimension of knowledge considered essential by most of the world’s cultures as the source of the inspired\(^{128}\) creativity producing the knowledge. Intellectual property from many Indigenous perspectives has an origin in the spiritual realm and is often considered a gift or inspiration from the ancestors (for Aboriginal people expressed in the concept of the ‘Dreamtime’). Therefore carrying the knowledge appropriately requires an acknowledgment of the spiritual relationships through prayer and spiritual principals of honoring the knowledge in a holistic cultural framework. Such knowledge is supratemporal\(^{129}\) and becomes alive and present

\(^{127}\) This is shorthand for ‘biological and cultural diversity’. The term itself refers to their ‘inextricable link’ which has growing acceptance as a mainstream concept. This concept can be traced with some significance to the Declaration of Belem in 1988 where it finds its first major reference by a prominent gathering of ethnobioiologists. Darryl Posey, fondly remembered by many as a champion of Indigenous human rights played a significant role in raising consciousness about this inextricable link of health between Indigenous culture and biodiversity.

\(^{128}\) It is interesting to note that the etymology of the word ‘inspired’ links both the concepts of intellectual creativity and spiritual influence, in Latin meaning literally ‘to be filled with breath’ and is also the origin of the English word ‘spirit’.

\(^{129}\) As in ‘above time’ or not being limited by the dimension of time. An experiential way to apprehend the term is the common experience of dreams. In our dreams the story that unfolds
in each day when those spiritual relationships are honored through various cultural expressions. In this context knowledge is seen as relationships of emergent value rather than merely isolated products for commercialisation (Although there are aspects of knowledge that are entirely appropriate to benefit from commercially).

Conclusion

...the system which is producing our current problems is not the system we ought reasonably to rely on to get us out of it.

Deborah Bird Rose

It is suggested that the characteristics of much of the current discourse on IP and IMK predominantly reflect the qualities of the system in which the problems arise themselves. This is highly problematic if Einstein, Rose and others are correct, and the values of the system which is the cause of the paradigmatic tensions are the same constructive tools of most proposed solutions. For example there are critiques which suggest primarily economic policy adjustments to solve what is seen as primarily an economic problem of appropriation and flow of valuable knowledge. Yet one of the most fundamental qualities of Indigenous

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customary law, the reciprocity of gift giving, finds little resonance in such systems of construction:

For many Indigenous peoples knowledge of the natural world, especially medicinal and agricultural knowledge is only properly construed as a gift\textsuperscript{132}.

It is suggested that reconciliation between apparently antithetical property systems is possible, and the requisite consciousness shifts can occur through consultation with other systems, in this case Indigenous cultures. A seminal resource for this was edited by the late Darryl Posey, \textit{Cultural and Spiritual Values of Biodiversity}\textsuperscript{133} a collection of hundreds of contributions. Many of the voices within, both Indigenous and non-Indigenous acknowledge the spiritual dimensions of the associated issues. Posey was an acclaimed champion of Indigenous human rights who made many contributions to the field. Perhaps most notoriously he raised the concept of the ‘inextricable link between biological and cultural diversity’\textsuperscript{134} to the status of a widely accepted principle in many fields, to the point where it is often cited as a standard principle in a


\textsuperscript{134} In 1988, Posey was instrumental in organizing the First International Congress of Ethnobiology which met in Belém, Brazil. The emerging document from the Congress included in its preface: “native peoples have been stewards of 99% of the world’s genetic resources, and that there is an inextricable link between cultural and biological diversity;”. The declaration contained recommendations for respecting and protecting that link. It is still accepted as a fundamental document by the International Society of Ethnobiology. See the Declaration on their website at: \url{http://ise.arts.ubc.ca/declareBelem.html}, last viewed 11 December 2006.
growing number of fields\textsuperscript{135} including textbooks on environmental law. Posey suggested that this inextricable link was underpinned by an even more fundamental principle, the inextricable link between the spiritual and the material, or the secular and the sacred\textsuperscript{136}.

It remains to be asked, how can IP acknowledge and honor the ancestors and the spiritual realm considered essential to the creation and preservation of knowledge in most of the worlds cultures? This more radical aspect of the paradigm shift will be addressed in the following chapter.


Chapter Six

Honoring the Spiritual Dimension of Intellectual Property Law and Indigenous Medical Knowledge

We have something they do not know about — we have our teachings, our value systems, our attitudes, our clan systems and on and on and on….Let’s educate them.

Right now, they think they do not want to know about us. They look at us in a mystical way. They think we worship smoke. They think we are in a dream world. They fund us so they can continue to look at us as unreal. They educated us to a point where we almost forgot who we are. Now it is time we educate them, people to people.

We are different. We have a different perspective on life and all creation. We have many wonderful things to share. We have different and wonderful teachings to share that are simple to live by, reasonable, sensible, for the good of all within the community, full of respect. These have remained a mystery to mankind until now.

Merle Assance-Beedie\(^1\) (Anishnabe)
Barrie Area Native Advisory Circle
Orillia, Ontario
14 May 1993

This thesis has so far explored the commercial exploitation of IMK and has discussed some of the fundamental limitations of Western forms of IP both in general and more specifically in the context of Australia. This current chapter

\(^1\) I shared a draft of this chapter with Aunty Merle and consulted with her several times to ensure she was happy with both the context of using her quote as well as the content of the chapter in general.
continues in four parts. The introduction will identify that Indigenous knowledge has an integrated spiritual and material ontology. The second part of this chapter will more explicitly explore the negative metaphysical and practical consequences of ignoring meaningful engagements with the spiritual aspects of IMK, with a particular focus on neglected elements of Indigenous customary law. Once this task is complete the chapter will begin to explore some of the essential, but unnecessary barriers to accomplishing this, particularly a lack of integrated metaphysical vision. Next, through analogy, I will suggest appropriate methodologies for re-engaging the spiritual dimension. Lastly, as a reverse mirror to the first part, I will conclude by suggesting some of the positive consequences to principles underpinning IP jurisprudence and policy when appreciations of the spiritual concerns of Indigenous communities are enabled. The discussions in this chapter will form a foundation for the last section of this thesis which will then explore practical consequences for applying these principles in the specific context of acknowledging Australian universities as the primary gatekeepers of the IP of IMK in their research with Aboriginal communities.

Intellectual property law (IP) is the principle discipline associated with the discourse of protecting IMK. IMK has proved to be a ‘difficult subject matter’ to define and categorize in Western models of IP, most particularly, I suggest, because of its spiritual elements which by nature involve a holistic framework of relationships rather than a model of isolated objects capable of neat definition and consequently protection in the narrow legal sense of commercial value. However, while there has been recognition that the spiritual nature of Indigenous knowledge is an essential dimension of IMK to consider, to date the term ‘spiritual’ has not been explored with much clarity or in a way that allows for discussing practical consequences for law and policy of such consideration. Often the term ‘spiritual’ is
briefly mentioned as significant or essential to Indigenous peoples, and is related to more ‘communal’ types of knowledge, but overall is still characterized by both ambiguity and tokenism in most discussions.

Indigenous customary Law (ICL) is not a monolithic set of ancient laws, nor is it static and unchanging. It may contain core spiritual principles of law which are eternal and honored with special sacredness, yet it is a dynamic system of knowledge that evolves and adapts in response to the diverse relationships experienced. It is important to acknowledge that we should avoid attempting to retrospectively objectify ICL as a closed system.

The multiplicity of existing customary law regimes would make it impossible to identify a specific body of rules, which could apply to all cases. The Four directions Council, a North American indigenous organization, states:

Indigenous peoples possess their own locally-specific system of jurisprudence with respect to the classification of different types of knowledge, proper procedures for acquiring and sharing knowledge, and the rights and responsibilities which attach to possessing knowledge, all of which are embedded uniquely in each culture and its language. Rather than trying to establish a one size fits all IP regime to protect traditional knowledge the Four Directions Council proposes that governments agree that traditional knowledge must be acquired and used in conformity with the customary laws of the people concerned².

As Cunneen and Schwartz suggest, the best approach is to facilitate the legal agency of Indigenous peoples for self-determination in self-governance and law-making powers³. It is suggested that appreciating some of the spiritual aspects of

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ICL can help facilitate this agency. Before beginning it is important to acknowledge that this discussion is by no means meant to be comprehensive in exploring the complexity of Indigenous customary law (ICL).

[I]t would be the height of absurdity for anyone but an Aboriginal to attempt to understand the complexity of customary law: I know this as an Aboriginal … For we are not talking about reams of parchment that hold the wisdom of a few hundred years of British justice but about a complex philosophical and religious way of living that has been carefully preserved and passed down through countless generations

If the above is true, then how do we meaningfully engage each other as cultures? As earlier stated in this thesis, it is essential to acknowledge not only the Indigenous right to self-representation but to the right to verify the authenticity of replications of Indigenous knowledge. In this thesis I have attempted to go back to Indigenous sources and allow this verification process to occur. However in the end, I can only speak for myself and my own evolving understanding of those I listen to.

It is important to appreciate that this is not just a protocol issue between Western and Indigenous cultures but is a well understood protocol principle operating between differing Indigenous communities themselves. Indigenous communities usually have a very good appreciation that each differing community will have its own spiritual and social laws that need to be respected, due to their unique

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relationship with the land and ancestors, and so honoring the right of each community to speak for itself is considered vital.

Only the people of that land can speak for that land

The acknowledged complexity of ICL requires the above verification process if non-Indigenous people are to begin to respectfully explore ICL. When combined with other limitations of confidence in valuing the spiritual elements of ICL, this lack of protocols of engagement has prevented people from having certainty that there can be clarity of engagement between cultures. This thesis suggests that clarity of fundamental spiritual principles can be expressed in meaningful ways and that confidence in the ability to truly respect the deep rationality of Indigenous ways of knowing is possible. The process in which this can occur begins with a necessary deconstruction of the relativity of current Western IP ontology. The previous chapter attempted to offer a deconstruction of some of the historical aspects of Western IP and more specifically deconstruct aspects of the regulatory structure of IP in the age of globalization. This chapter continues that ontological deconstruction by examining the ability of Western IP to engage the spiritual dimension. As part of the background methodology, I continually attempt to deconstruct my own metaphysical vision and apply that to my own Western culture.

While in modern times Western law is characterized by a strongly secular culture, it has to be acknowledged that Western law has deeply religious foundations. In

5 Personal communication to the author from Aunty Mary-Ann Coconut, senior Aboriginal elder of the Napranum community, July 2006
fact, originally it was only the clergy and priests that could practice law. Through a complicated, and seemingly necessary, divorce between religion and state, our internal integration of faith and reason, heart and mind, spiritual and material vision also faced strong forces of divisions which are arguably not authentic to the human experience. In spite of this divorce, in common law countries it is still tradition for barristers to wear the ‘wig’ and ‘gown’, which can be traced back to when it was only clergy that could practice law and the ceremonial dress was adopted to demonstrate their clerical position and legitimacy as legal practitioners. While the separation of church and state occurred for very legitimate reasons, and while it is important to ensure the potential corruption of ecclesiastical and political power do not unduly influence law, the baby has been thrown out with the dirty bathwater. Our cultural capacity for appreciating methodologies where spiritual and material vision is integrated and whole has been impaired. This has affected the ability of Western law to engage and meaningfully respect the deeply spiritual and religious elements of Indigenous customary law which remain integrated systems of knowing. Whether there has truly been a full separation of spiritual and material vision in Western law or whether in reality it is merely suppressed institutionally and reinforced by an increasingly materialist culture is another matter altogether.

This chapter will suggest that this acquired impairment in Western law is both unnecessary and capable of repair, primarily through cross-cultural engagement and training. This would acknowledge the unnecessary nature of the split between spiritual and material reality that occurred from the Enlightenment, and affected our (in)ability to discuss the intrinsic value of both nature and culture. We can also focus on ways Western culture may have maintained tacit forms of integrated knowledge which are increasingly becoming expressed more explicitly.
in ‘legitimate’ areas of modern thought. After applying these deconstructions it is suggested we can develop a concurrent focus on how the retraining of a restored capacity for an integrated epistemological vision can occur through cross-cultural collaboration. It is suggested that such an approach opens up doors to new solutions for protection in a broader and more acceptable manner to Indigenous peoples than compared to the narrow approaches of what is currently found in the mainstream legal discourse.

This enterprise of metaphysical reconciliation is not just a matter of creating capacity for cross-cultural respect within law. It is arguable that the diversity of Indigenous epistemologies is interdependent with the maintenance of biocultural diversity whose maintenance is a matter of the survival of current human civilization.

Neo-classical economics (which trade and IP is intimately related to) often times reflect a dominant economic rationalism of treating the earth and the diverse Indigenous cultures supporting her as a ‘business in liquidation’. A growing number of voices in all cultures suggest that a radical change to this model is required if humanity is to survive the coming decades. The protection of IMK is one important representative place where there is a convergence of issues demonstrating the inextricable link between biological and cultural diversity. The tensions reflected in the inadequacy of the current ‘paradigm’ in law to protect IMK offer a valuable opportunity to explore this ‘teachable moment’ in a paradigm shift of relationships. The primary shift is moving from mere engagement with instrumental commercial aspects of IMK subject matter towards engaging the

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intrinsic spiritual aspects of IMK. This shift enables a valuing of the interdependent relationships of land, community and spirit that develop and maintain the IMK in the first place. These same principles of Indigenous customary law apply not just to isolated bioactive compounds that can be made into pharmaceutical drugs, but more importantly apply to preserving the biocultural diversity upon which the future survival of humanity is dependent.

Section One: The spiritual nature of Indigenous customary law

Some have commented that it may be impossible to make a genuine distinction between real and intellectual property in Indigenous customary law\(^7\). This is partly because Indigenous epistemology is a very relational epistemology that links human intellectual creativity to land, spirit and community in a dynamic interactive and interdependent framework, where meaning is generated in the relationships, rather than the component parts, while the epistemology that underpins Western IP and Property law is much more atomistic and allows for the fragmentation of such relationships. In ICL they are so intimately related that ‘as the anthropological discussion demonstrates, Aboriginal art is clearly a ‘nature or incident’ of land ownership: the two in fact are quite inseparable if not actually the same\(^8\), they are ‘two sides of the same coin’\(^9\); “knowledge is indistinguishable


from land and culture. Some have criticized too simplistic an assumption of the inseparable and indistinguishable nature of land and knowledge; however at least the case for a very intimate relationship seems irrefutable. The interwoven nature of the spiritual, physical and artistic has also been acknowledged in legal scholarship reflecting on IP and ethnobiology:

[spiritual knowledge] is probably the least protected and explored by the Western legal regimes, although its significance and interrelatedness with the other two categories [physical and artistic] is striking...the development towards a satisfying protection of indigenous interests in ethnobiological knowledge heavily builds upon the outcome of the evaluation of the nature and intrinsic value of ethnobiological knowledge.

This interdependence is a reflection of a spiritual understanding of property in Indigenous customary law. Real ‘property’ is a spiritual geography, a ‘sentient landscape’ a kinship of ancestors, land and creatures that is founded in the ‘Dreaming’. In a recent gathering of Indigenous representatives from across Australia, a report was written for the Secretariat of the Convention on Biological Diversity in which they indicated that the term ‘Traditional Knowledge’ was more completely represented from an Aboriginal perspective as the ‘Dreaming’. Rather


than give a comprehensive summary of the concepts they provided a sketch of the inter-related issues:

This abstract looking figure is a raw reproduction of the visualisation that was developed through negotiation by Indigenous peoples from across the continent of Australia. As it is developed by way of consensus, many of the terms used...are generalised, such as the word “dreaming” in the centre, which can be given in this sense to mean the origin of people, country, culture, law and knowledge, and has replaced the term “traditional knowledge” in this conceptualisation....The next matter to note is that as a device, this diagram is a conceptual tool that provides a foundation for further discussion, and shouldn’t be regarded as a definitional instrument. This is the case as there is too much diversity within Indigenous Australia for a small group of people to provide a ‘definitive’ definition of TK from an Australian Indigenous perspective. This was a matter that was discussed and fully acknowledge by the group...the word “dreaming” in the centre, in
replacement of the term “traditional knowledge” provides a strong cultural context for knowledge14.

On the following three pages extracted from a paper co-written with the author, John Hunter offers this description of Indigenous knowledge from an Aboriginal (Gamilaraay) perspective. I offer this in its full text as it would be inappropriate to attempt to paraphrase it in my own words.

Traditional knowledge is diversely represented, but from an Australian Aboriginal perspective there are some common themes:

1) Spiritual and religious relationships
From a traditional Aboriginal perspective, traditional knowledge was and is given to the people from the Dreamtime or spiritual world. Knowledge connects humans and all other living things through its source. The source of all traditional knowledge is derived from our spiritual interaction with each other, the Great Creator, creator beings and the spirits known as the ‘Dreamtime’15.

2) Roles and responsibilities
The establishment of human roles and responsibilities is derived from kinship. Kinship is a term that relates to the way Aboriginal people traditionally interact with one another. From a traditional perspective, all living things are related through the Dreaming and the totem system. People were classed through a totem system that connected community into extended family relationships. Even people that were not necessarily related by blood ties could be related through the traditional kinship system. The expectations and obligations instilled by the Aboriginal kinship systems still influence contemporary

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Aboriginal relationships. It is these relationships that bring together extended families in communities\textsuperscript{16}. Traditional kinship systems are believed to be given to the people through the Dreamtime and enforced by traditional law. Reciprocal obligations and expectations are connected to spiritual and religious relationship to spirits, the spirit world, humans and other living things. Today, roles and reciprocal responsibilities are being continuously eroded by the imposition of western society, assimilation and integration. However, those people who are custodians of traditional knowledge predominately follow the ‘rules’ set out by religious tradition to pass on and retain traditional knowledge. Breaches of those ‘rules’ degrade and erode the framework in which traditional knowledge is passed on, resulting in a loss of knowledge to those in the physical world. Elders are expected to pass on knowledge in the same manner as it was taught, the role of an ‘elder’ or ‘teacher’ is governed by religious expectations or ‘rules’\textsuperscript{17}.

3) Belonging to knowledge
The establishment and affirmation of a sense of community is established through kinship and country. Different tribes are geographically related to different parts of Australia. The understanding of a specific community will dictate who is included within any specific tribal group. Knowledge is connected to ‘country’ in a spiritual way. A person’s connection to ‘country’ and ‘community’, as well as their kinship relationships through totems, gives them the ability to access, use and pass on traditional knowledge. Country is understood to be someone’s homeland. A homeland is a place or area in which a person or group of people have a spiritual connection and a genealogical history\textsuperscript{18}. When the people of a community use traditional knowledge in a culturally accepted manner, they do it for the benefit of the community and the country. If the community is ‘sick’ (physically or spiritually), the country becomes


‘sick’ (ecologically). If the country becomes ‘sick’ the people become ‘sick’ (physically or spiritually). So, there is a special relationship or balance that is kept in check by the ‘good’ use of traditional knowledge and the interaction of spiritual and the physical forces.

4) Men’s and Women’s Business
The use and understanding of traditional knowledge is influenced by gender. Knowledge is passed on and used in gender specific ways that relate equally to the roles of men and women. The division of knowledge into gender related categories is influenced by religious rules from the Dreamtime. These formal ‘rules’ or customary laws specifically relate to how men and woman have the right to access and carry certain knowledge, visit certain places and participate in ceremonies.

5) The passage of knowledge
There are protocols that are derived from the Dreamtime that influence people in all facets of their lives. The maintenance and passage of knowledge throughout the community and the forthcoming generations is influenced by these protocols. The loss and erosion of these protocols hinder the maintenance of knowledge. These protocols are underpinned by respect for the natural world, the spiritual world and for human kind as a part of the ‘living’ world (spiritual and physical).

6) Knowledge is animate

From a traditional Aboriginal worldview there is a notion that knowledge has an animate nature, due to the characteristic way it is carried and passed on from the spirit world into the physical realm and back again. ‘What comes from the earth can return to the earth, what is given can be taken back, what is lost can be found’.

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This last point emphasizes the nature of traditional knowledge being something that is carried not owned, being a gift given for the benefit of the ‘whole’ community (human and non human) to be used in a very specific way dictated by the definition of respect forged by the framework established by Aboriginal religious knowledge (Dreamtime) and spirituality passed on via the spirit world. If traditional knowledge is not respected it will be returned to the spirit world until it can be received by those who will carry it in the appropriate way.

Therefore, knowledge will be lost if it is not respected. It is respected by understanding (learning/observing) the appropriate cultural protocols (actions/impacts). These protocols are not strictly confined to the observance of respect within the human community but also to the Aboriginal world as seen through Aboriginal eyes (The spirit world, the physical world, all other living things) as they are inextricably connected via creation.

Although there may be Indigenous appreciations of proprietary interests in property, it is fundamentally seen as a spiritual bequest from the ancestors.

Intellectual property is therefore primarily a spiritual gift from the spiritual realm.


and carries with it obligations of recognizing and respecting the ancestors who gave it to us\(^2^4\).

Taking seriously that IP has an integrated material and spiritual reality has significant implications for the jurisprudence of IP law. Thomas Aquinas made the enlightened comment: ‘Things known are in the knower according to the mode of the knower.’ (Summa Theologiae, II/II, 1). In other words, *the nature of the object prescribes the method of knowing*\(^2^5\). This means then that we should be more conscious of IP law as a science that should be ‘developing its distinctive modes of inquiry and its essential forms of thought under the determination of its given subject-matter\(^2^6\).’ The relevance for this case is that a reductionist and materialistic framework of IP law is not a sufficient instrument to perceive or relate to more complex relational ‘objects’. Materially and spiritually integrated objects require materially and spiritually integrated methods of knowing to be known.

Before exploring what such methodologies might look like, the next section will describe some of the negative consequences of excluding the spiritual dimension of IP in protecting IMK. This will be done in order to offer support to the argument of the essential need to honor the spiritual aspects of knowledge in IP law.

\(^2^4\) Such an understanding is not altogether alien to the ‘Western’ mind. One look at Paul Cezanne’s painting “Kiss of the Muse” clearly evokes a sense of the spiritual creativity of the author at the height of inspiration as his forehead is kissed by an angel. It is interesting to note that the etymology of the word ‘inspired’ links both the concepts of intellectual creativity and spiritual influence, in Latin meaning literally ‘to be filled with breath’ and is also the origin of the English word ‘spirit’.

\(^2^5\) I am indebted to Professor Alan Torrance who conveyed this insight to me early in my education.

Section Two: Negative consequences of excluding the spiritual dimension of IP in protecting IMK.

*From the material point of view everything is set to go, but the symbolic engine is missing*.27

*For what profit is it to a man if he gains the whole world, and loses his own soul?*28

While spiritual reality is much more than just a symbol, it is symbolic in the sense of providing an inner implicit purpose and meaning to externally visible objects and relationships. If Western IP is considered as a body, then without the spiritual it is a hollow construction, a body without a soul, lacking intrinsic compassion or a spirit of service to humanity, built by the vanity of the powerful to serve their own interests. Without the story of the soul and bereft of a ‘symbolic engine’, the body of IP becomes a ‘Frankenstein’.

We do not realize that this Western body of law is really a ‘Frankenstein’ in our own house partly because Western legal systems, as part of Western culture, are characterized by materialism. This materialism results in a narrow focus on the instrumental value of culture and nature as it relates to humans. It therefore


28 Matthew 16:26 (New King James Version)
largely lacks a policy language that can acknowledge the spiritual issues or appreciate the intrinsic values of our own or each others cultural knowledge.

The problem, when we try to talk about cultural diversity, is that we do not really have a coherent policy language for expressing its real value as a functioning social system… Yes, let us talk about specific policy proposals for preserving culture. But it just may be that significant progress will first require us to develop a new story about why culture is valuable. It’s a powerful story29.

Representative of the need for this vision of intrinsic value is the most recent policy document from UNESCO on the subject, the 2005 Convention on the Protection of the Diversity of Cultural Contents and Artistic Expressions. Clearly there is an intention to acknowledge the intrinsic value of culture, yet the materialistic framework and lack of an integrated and cohesive vision for the policy makers renders the language vague and ineffectual.

Perhaps more than anything else, contestation over the terms of this new convention has made it clear that little consensus exists among cultural policymakers about what kind of diversity we currently live with, let alone should seek to promote30.

Because of this materialistic framework, attendant lack of language skills, clarity of meaning about spirit and the ‘symbolic engine’ of the ‘story’ which gives meaning and purpose to the ‘body’, we face significant challenges to articulate the negative consequences of this soullessness. In the following pages of this section I suggest


examples of ten particular negative consequences which are chosen from a much greater range of possible examples.

1.) The loss of the capacity for reciprocity, a fundamental Indigenous law

One essential aspect of Indigenous customary law related to knowledge is ‘reciprocity’ or sharing. This reciprocity is a law of relationship not just between humans and communities but between the human, natural and spiritual world.

The maintenance of dynamic balance and harmony with all relationships to nature is the foundational paradigm of Native science. Reality is based on mutual reciprocity, the rule of “paying back” what has been received from nature. The world operates on a constant flow of give-and-take relationships.

To elaborate this with greater clarity the Healing Rainbow painting from the beginning of this thesis arises from such a ‘story’ which is an example of a powerful ‘symbolic engine’ available to us in cultural dialogue. This tradition may be over 2000 years old and originates with the Lakota prophet, Buffalo White Calf Woman. This painting expresses an appreciation of spiritual aspects of Indigenous knowledge fundamental to most forms of Indigenous customary law, yet which is largely rendered voiceless in the Western IP ‘monologue’. In this painting the story is told of how humanity was divided by the Creator into different colored peoples


who were given custodianship over differing types of knowledge. For a time they would be separate peoples while they learned how to be custodians of each form of knowledge. Later there would come a time when the different races would be called together again by the Creator to exchange and share that knowledge with each other, (which includes knowledge of how to carry it appropriately and honor its origins) and become one diverse family again and renew their relationship with each other, the earth and the spirit world. According to the teller of the story Lakota elders believe there are signs that the time for reconciliation and sharing have been upon us for some time now. The story continued that if we chose to ignore the signs reminding us to come together again to share, the Creator would take the earth into His hands and shake it, up to three times, to make us remember the call to share together again. Humanity would still have a choice upon each shaking of the earth until the third and largest shaking, accompanied by great suffering which would force us to realize our interdependence as family again.

This is a spiritually symbolic story that has very significant practical consequences for appreciating the challenges we face in acknowledging the spiritual concerns of Indigenous peoples in protecting IMK.

Traditionally, Indigenous knowledge is often expressed in ways that identify its origins of community, land and spirit. One positive result of this is the capacity for other communities to maintain an ongoing acknowledgement of where the knowledge and gifts they received came from, their purpose and method of appropriate use. Most importantly for this discussion, this allowed a reciprocal honoring of sharing knowledge and gifts back to that community. In Australia the dreaming tracks that form a web across the continent are not just mythical pathways of the archetypal Ancestors that created the landscapes, but are also
networks of spiritual relationships of exchange between communities. On the level of intellectual and cultural property they form paths which enable the sharing of gifts between communities. Berndt & Berndt comment on how these pathways formed exchanges of property:

[F]rom the Kimberley coast come pearlshells of various kinds, plain and incised, also bamboo necklaces, and certain types of boomerang. They are passed along, on one track, through the eastern Kimberleys: and back from the east come shovel-bladed spears with bamboo shafts, hooked spears, a variety of boomerang, wooden coolamon dishes, dilly bags, and red ochre. The Lungga say they cannot make boomerangs properly: they prefer to import them from the east, west or south-west. The Walmadjeri trade their shields to the east, and Central Australian shields find their way into the Balgo camp near the head of the Canning Stock Route, just as do the typical Western Desert spearthrowers – into an area where the local throwers are quite differently designed. Kimberley pearlshells travelled right across Australia: one road down to Eyre’s Peninsula in South Australia. Through the Great Victorian Desert and Ooldea: another also to the Great Victorian Desert and Eucla, but via the Gascoyne and Murchison.

As discussed in earlier chapters, Western IP tends to alienate the knowledge from its origins in community, land and spirit which is antithetical to ICL.

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The right to alienate likewise is qualified, and I suggest, almost entirely absent in Aboriginal tenure systems. I have not found in the literature on Australian Aboriginal societies any examples of alienation of land,…

This alienation process of Western IP effectively destroys the capacity for knowledge to be exchanged and continually honored between communities as well as to honor the land and spirit it came from. Additionally, not accepting a gift, or misusing it has possibly dangerous spiritual implications for the person that dishonors the gift giver. This is a principle appreciated within the paradigm that in Aboriginal society “good health has ultimately to do with good social relations”. In fact, dishonoring the obligations of reciprocity is a source of ill health according to some Indigenous health systems. In appreciating this principle it is clear that inappropriate models of IP law can actually cause ill health to people, society and land. This is not just about issues associated with access to medicines, but is primarily because it fragments the flow of spiritual relationships that maintain balance necessary for our health.

The Western model of IP symbolically represents one people refusing to recognize their calling to share knowledge in an honorable way of spirit, only to break it up, turn it into money and take it for themselves. This prevents the differing peoples from exchanging and sharing with meaning. It is useful to ask ourselves - What do

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we see when we walk through our own home? Do we just see objects we purchased for our instrumental use? We might see a stereo, a TV, a table, a book, a painting, the food in our fridge and on our table, the bottles of pills in our medicine cabinet. What if we could touch them and see not just instrumental objects to be consumed and used, but recognize gifts we could identify as having been created with the sacrifice and work of hands, minds and hearts of specific people in a specific land in relationship with spirit? Might then a greater sense of interconnection arise between cultures and help us develop a capacity for a sense of sacred responsibility, or opportunity to honor an exchange of our own gifts back to them? This does not entirely rule out a system with commercial elements, but speaks of an added depth of spiritual connection.

In this ‘story’ spoken of above, denying the spiritual connections is the cause of the extremes of wealth and poverty, the world wars and the degradation of the environment. Such dire circumstances will only stop escalating when we either make a conscious choice as peoples to respond to the above call to share, or when there is so much suffering we are forced to reconcile and share again with spirit as family.

The ability to share knowledge requires systems that acknowledge and empower the right of Indigenous self-determination to define and control that knowledge, otherwise knowledge cannot be shared, merely taken. Freedom and self-determination are fundamental to both the capacity to love and to share. Both of the words ‘love’ and ‘sharing’ lose their meaning unless they are freely chosen.

38 The Indigenous willingness to share linked to the importance of self-determination issues is reflected in the Julayinbul Statement on Indigenous Intellectual Property Rights (1993) which is quoted in full at the beginning of chapter four.
2) Confusion over “protection” or “Protection”?

Further symptomatic of this divide between the materialistic reductionism and spiritual holistic approaches to knowledge in Western law is the misunderstanding in international discussions of the meaning of ‘protection’. ‘Protection’ in the IP sense means that the owner of a patent, a copyright, a trademark or some other kind of IP has a legal right to exclude or alienate others from using or reproducing it. It is only that specific piece of property which is protected, and thus there is no protection for collective and therefore Indigenous knowledge. Here, ‘protection’ could loosely be described as finding ways to legally alienate Indigenous knowledge so that it can be made commercially profitable. This materialistic understanding of protection is very different from the spiritually based assumptions of protection which Indigenous communities usually assume. In forums such as WIPO, this contrast between a Western instrumental/individualistic focus and an Indigenous spiritual/communal focus has led to serious misunderstandings of the meaning of terms and the purpose of the meetings. Indigenous groups in the consultation process often understand ‘protection’ in a broader sense of ‘protection of communities’, which produce the knowledge and the maintenance of the integrity of their knowledge systems, when that is not the meaning understood by the IP policy makers.

As repeatedly pointed out by indigenous peoples’ Organizations, this necessarily implies protecting the whole social, economic, cultural and
spiritual context of that knowledge, something which simply is not possible to achieve with IPRs\(^{39}\).

This misunderstanding has hindered the development of a shared vision of solutions beginning with the original discussions in the early 1990s and the Convention on Biological Diversity, and to date still represents a significant breach of understanding between cultures that needs to be bridged.

3) Widespread recognition of legal inadequacy, but replaced by ambiguous *sui generis* proposals

Symptomatic of this lack of clarity about Indigenous spiritual appreciations of the protection of property and IMK is the form of argument that many academic studies take.

A typical article on law and intangible heritage goes something like this. The author notes the injustices arising from the ability of outsiders to alienate elements of traditional knowledge or expressive culture at will, largely because folklore is legally defined as residing in the public domain, where it is accessible to all. There is then a review of ways that existing intellectual property law might be modified to encompass folklore and traditional knowledge...This is followed by a systematic survey of other areas of law that might offer additional protections...The prototype article closes by observing that none of these legal strategies fit the circumstances of intangible heritage particularly well and that it probably makes sense to create new *sui generis* regulatory regimes to meet the specific needs of traditional communities, especially indigenous ones\(^{40}\).

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[Yet d]espite more than a decade of calls for *sui generis* alternatives, relatively few proposals have been laid out in a detailed way, I suspect because when committed to formal language their many flaws are readily apparent\(^4\).

I suggest that the current lack of clarity and appreciation about the spiritual aspects of these ‘intangibles’ is a significant contribution to both the assumption of legal inadequacy of current regimes, and the often equally ambiguously suggested requirement of *sui generis* regimes; suggestions that are often not accompanied by practical suggestions of how they might effectively work. If the specific elements of a *sui generis* regime are explored, it is usually prefaced that it can only address a limited range of Indigenous concerns, and not necessarily the most fundamental ones at that.

One of the reasons there is a lack of confidence in the capacity of Western law to develop effective *sui generis* models is because of the deeply entrenched materialistic and reductionist epistemological limitations that seem essential to the jurisprudence of IP inherited at least since the Enlightenment. This is also significant in the struggle to offer clarity about what does Indigenous spirituality mean for law because the basic capacity for integrated vision of material and spiritual matter does not seem to be present in current Western systems of thought.

4) Inability to include a focus on the ancestors and other core concepts of Indigenous customary law

This lack of confidence in the Western capacity for reintegrated material and spiritual vision is reflected in a number of ways. First this is reflected in the lack of specific or detailed discussions about particular core Indigenous spiritual beliefs in the IP discourse, yet which are essential to the Indigenous understanding of knowledge. For example one might ask “where are the extensive discussions about the real and active relationships with the ancestors as foundational to the transmission and ongoing custodianship of IP?”

Aboriginal customary law “connected people in a web of relationships with a diverse group of people; and with our ancestral spirits, the land, the sea and the universe; and our responsibility to the maintenance of this order.”

The majority of the world’s Indigenous cultures believe there are fiduciary obligations to the ancestors in relation to the custodianship of both land and knowledge. For example we see it in First Nations people of Canada where

Hul’qumi’num people’s fiduciary trust to their Ancestors establishes reciprocal social relationships between the living and the dead that persist over many generations “even after they’re long gone”. This relationship with the dead strongly affects Hul’qumi’num customary laws associated with their archeological heritage,

while UNESCO acknowledges that for most African tribal peoples,

Typically, society is conceived of as having a sacred unity, which is comprised of its living members, its dead (who survive in less substantial forms) and its future generations of unborn children. Through complex

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42 Participant at the Manguri consultation. See Law Reform Commission of Western Australia (LRCWA), Project No 94, Thematic Summaries of Consultations – Manguri, 4 November 2002, 3

systems of kinship and spiritual connection, the living are in constant communication with the dead.

Within these systems, each class of members is credited with distinct privileges and responsibilities. The shades of the dead are credited with clear vision because of their knowledge of the past, wisdom because of their selflessness and their solicitude for living generations, and prophetic powers because of their diachronic insight into the future. Ever watchful, they admonish and rebuke the living who, alone, have the right of decision. The shades of the dead are revered for their perspicacity and the succor that they are able to give; often they are invoked as a group, and the most distinguished among them are celebrated by name

Why is this common Indigenous aspect of customary law rarely engaged in much depth? Can we begin to speak about the agency of the spiritual realm in the production of knowledge?

If the dead can be spoken to, what is death?

Death merely marks the passage of the human spirit to another state of being.

What are the legal and policy implications of that essential but neglected belief in Indigenous customary law? One particular negative consequence of excluding recognition of the spiritual dimension and recognition of fiduciary obligations to ancestors is the breakdown of Indigenous social networks and the fragmentation of balanced and equitable relations in the extended family. This can manifest in a


number of ways, but the religious beliefs in ancestors can serve as a ‘formidable deterrent to violations’ of the fiduciary trust of land and knowledge by the heads of families and clans. Degradation of this belief can lead to social deterioration, as Asante has noted in his discussion of traditional customary law in Ghana.

A new economic order, replete with opportunities for self-aggrandisment, now obtains, while contact with Western ideas has seriously undermined the fabric of traditional social and ethical values. One incident of this social change is the practice of installing “educated” persons as heads of families. Far from bringing enlightened administration in its wake, this practice often saddles families with heads who are contemptuous of traditional restraints and who exploit their fiduciary position in their own interests

There are other similarly essential spiritual beliefs which are equally neglected, related to the spiritual agency of the land and fellow beings as co-creators of knowledge. In conversations with Indigenous people I have had, it is more frequent to hear that the land owns us rather than we own the land or one might hear that ‘we are the land’; as previously mentioned, Indigenous communities can see land and knowledge on one level as a spiritual bequest from the ancestors. How do we begin to talk about such things in a meaningful way that Western law can engage? How does this affect regulatory policy that manages IP?

5) Suggestions of two laws: “separate but equal”

This lack of confidence for meaningful connection between cultures and integrated epistemologies is reflected when scholars suggest the respectful but separate coexistence of two legal systems, Western and Indigenous, linked by formalities of

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protocols. This is a good starting place of respect for human rights and equality, but can we have hope for more than this respect of respectful distance? This kind of respect can empower tolerance, but not a deep valuing of the truth of the ‘Other’ as carrying unique gifts to be deeply respected.

A shallow form of respect through separation also tends to break down when a crisis of critical contests of values occurs, such as in particular native title cases, or in the appropriation of commercially valuable knowledge, and the dominant power ends up winning the contest by default. It has to be asked, “How can one really expect the other to deeply respect something if they essentially consider the object of respect a superstition,” particularly when that ‘superstition’ represents the core beliefs that defines knowledge from an Indigenous position? As an example, the practical difficulty of more shallow forms of respect being applied can be seen in the issues of trust and respect in the Hindmarsh Island case, where the secret ‘women’s business’ was treated by many much too easily as a superstitious fabrication or an act of dishonesty and largely resulted in the loss of the case. There are clearly critical consequences of a lack of genuine and meaningful engagement of true respect for Indigenous spiritual beliefs in such cases.

6) Indigenous peoples feel forced to develop a second artificial language style

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49 For example in Barnett WA v Ward (2000) Beaumont and von Doussa JJ conclude that common law cannot protect spiritual relationships that indigenous people have with land and that it only protects physical enjoyment of rights that are ‘empirically proven’. While in the majority native title is a bundle of rights that does not include spiritual rights. Ward (2000) 170 ALR 159, 188.
In personal discussions held with various Indigenous community members, an important point arises. The language that Indigenous communities feel comfortable using to communicate in Western bureaucratic, academic and legal processes is restricted by the categories of knowledge they are told are acceptable as well what they personally feel comfortable with sharing, partly because of assumptions their deepest beliefs won’t be heard with respect. This is not just a modern concern of Indigenous communities to avoid disrespect, but can be traced back historically to intensely traumatic experiences of genocide, often partly legitimized by the colonists as responses to ‘inappropriate expressions’ of Indigenous spiritual beliefs. As a famous example among a score of others, in 1890 nearly 400 Lakota, many of them women and children, were massacred in what became known as the Wounded Knee massacre. This massacre was justified by the Government as a response to the Ghost Dance movement, a Native American spiritual movement that was becoming popular at the time. This type of historical event is repeated in the colonized histories of all Indigenous peoples and importantly is still very much alive in the memory of the people today, with the children and grandchildren of those witness to the massacres still carrying the direct memories of those experiences.

The result of this historical context of genocide and modern context of backgrounding, derision and exclusion of core Indigenous spiritual beliefs, means communities feel obliged to develop two language ‘styles’. The first language style is the private language of the community that allows the true depth of spiritual values and their core identity of kinship relations and knowledge to be discussed. The second language will have a diluted or filtered expression of spiritual issues and is what they feel will be heard in grant proposals, native title
submissions and public policy forums50. This clearly indicates that finding a way for Western systems of law and policy to value and respect the diverse expressions of the spiritual nature of Indigenous knowledge becomes fundamental to enabling authentic agency and in empowering the ‘voice’ of Indigenous communities. This is not privileging one cultural group over another. Rather this touches the very core of the democratic spirit of enabling the diversity of the world’s cultures a place where they can sing from their most authentic selves. Awareness of this issue is increasingly reflected in the development discourse. Referring to the International Development Research Centre report by William F. Ryan, a scholar comments that

One of the interesting findings of his study was that, almost invariably, those interviewed felt that development strategies and planning had not taken into account the culture and spirituality of the people of the world. There seemed to be uniform agreement that development had been too materialistic in its approach. But they had something else interesting to say. They confessed that, within their own organisations and in their own lives, they recognised the importance of spirituality and tried to incorporate it into their actions; however, knowing that such words and concepts were not welcomed by international aid agencies in project proposals and reports, they had developed two languages – one internal for their own work and the other external, used in making presentations to their donors so that they could get support. This is quite an interesting confession, and it came not from ten or twenty, but from many of those who are running large development programmes around the world51.

7) Exclusion of Aboriginal women from the IP discourse on IMK


51 Unpublished discussion paper from the Institute for Studies in Global Prosperity, paper on file with author.
Law has recently begun to recognize a principle called *intersectionality* in which discrimination can no longer be fragmented into categories of discrimination such as race, sex, economic status, religion, sexual orientation and other genres. Intersectionality is the acknowledgement that individuals and groups will suffer from a compounded effect of discrimination by being afflicted by several layers of discrimination at the same time, and the combined effects will be greater than the sum of their parts. Thus Aboriginal women face discrimination on at least several categories at once and on at least one more significant level than Aboriginal men\(^\text{52}\). It is important to note the compound increase in discrimination this causes and has only recently become a subject of debate within law reform discussions in Australia. This discrimination is essentially a spiritual issue because it represents a lack of honoring the equality, dignity and nobility of every human regardless of their physical form or social status. It is a spiritual principle relevant for IP and the protection of IMK for at least three important reasons that are also ‘compounding’ in nature. First, it is often the women who primarily maintain the social fabric of their traditional societies. Secondly women are often, although certainly not always, the primary ones who carry the knowledge of seeds and plants related to medicinal knowledge.

Women are as important, if not more so, in providing the link between the Western medical system and the traditional system – at least on the practical side in the distribution and application of medicines\(^\text{53}\).


In another example in one of India’s official submissions to the WTO, instead of using the term “traditional medical knowledge”, they chose to use the term “grandmothers’ potions”. A recent interview with a scientist about a new AIDS drug from Samoa offers another example of a less than frequently appreciated reality that IMK is often the domain of women’s knowledge:

Patent papers were shipped to me…..I really had a difficult time signing these, because they wanted me to assert that I’d invented this stuff, and my thought was, I didn’t invent anything; I learned this from two old ladies. They told me they learnt this from their mothers, who learned it from their grandmothers, who learned it from their great-grandmothers, so I felt in some way that I was holding intellectual property that belonged to the entire Samoan people

In Indigenous societies medicine and food often have significant overlap and the ‘recipes’ for both are preserved by the women in their daily performance of the knowledge in observing and nurturing the health of their families and communities. Thirdly, women are often the elders in their communities, and may often represent the majority, or even all of the elders in a community. This is for many reasons which are beyond the scope of the thesis to explore, but include issues such as significant difference in lifespan between women and men as well as other social issues. As an example, in the Australian Aboriginal community of Napranum, there is an Aboriginal elder’s council, the “Twal (Eagles) council”.

54 Communication from India (1999), Review of the Provisions of Article 27.3(b), IP/C/W/161, Council for Trade-Related Aspects of Intellectual Property Rights: sec II, para 6

This council is open to both women and men and is the official elder’s council of the community. However, as of July 2006 it is comprised of eight women and no men. Yet in spite of this context, when people in Western cultures think of Indigenous elders, they often think of it as a male category in itself. These patriarchal assumptions also apply to the predominant use of the term ‘medicine man’. How often do we hear the term ‘medicine woman’?

As an important exception, it should be noted that in the realm of ethnobiology, the role of women as healers is increasingly acknowledged in recent years. For example a Medicine Woman training program was funded in India in collaboration between a number of agencies. The location of the program was the same as the location of the Fourth International Congress of Ethnobiology.

The pilot project was located in India because it was the site of the Fourth International Congress of Ethnobiology, which the students also attended. The purpose of the course was to increase and diffuse the knowledge of basic technical skills in ethnobiology; to promote discussions on related ethical issues; to promote the establishment of a network and professional dialogue among indigenous people or those associated with ethnobiology worldwide.

However this same recognition of the central role of women has yet to be reflected in the discourse of intellectual property law and even in health.

The role of women in the domain of health in Aboriginal Society has been rendered almost invisible...

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On a representational level this is reflected in the discriminatory practice of over selection of Indigenous men in western legal forums as well. More importantly, the male voices of elders tend to be heard over women elders in representing aspects of ICL. Knowledge of this context should strengthen the necessity of empowering the effective agency of Aboriginal women in self-determination and self-representation. On a practical level one way of enabling this female agency is ensuring at least equal representation, creating special places where women feel safe and comfortable to speak, as well as consciously monitoring if there are filtering processes removing their voices that need to be deconstructed in existing institutions and processes. On a personal level it is useful to ask, “Do I see them? Do I hear them? Am I responding?” Aboriginal women’s voices must be given additional appreciation of value in contributing to discussions in all areas, and in the case of the focus of this thesis, the discourse on IP and IMK.

8) Detrimental effect on capacity for self-determination

Out of the love that you have for your children, it is important that you not only speak to them in your own languages, and teach them your cultural knowledge, but that you earn and keep their respect. It is from love of you, that your children will keep your heritage alive. Without this love and respect, there is nothing that the law can do to preserve your histories, your oral literatures, your sciences, or your artistic traditions.

58 In attempting a practical application of this principle, I intentionally decided to select women for 8 of the 11 keynote speaker positions for the international conference I convened and organized “Indigenous Knowledge and Bioprospecting” held April 21-24, 2004 at Macquarie University. See http://www.ocs.mq.edu.au/~cjone005/keynotes.htm

The disregard for the intrinsic value of IMK has one effect rarely discussed in IP circles. It contributes to oppressive contexts which impair the ability of Indigenous communities and families to maintain cultures of self-respect and self-esteem for their children. As noted in Anaya’s definition of self-determination\(^{60}\), this capacity for ‘aspiration’ is a key spiritual element. This is perhaps the most essential, and most neglected, feature of true ‘protection’ of the heritage of IMK.

Oppressive contexts can lead to the loss of the imaginative capacity to ‘imagine oneself otherwise\(^{61}\)’ in a positive way. This psychological function of imaginative ability is essential to the capacity for self-determination\(^{62}\) and agency in pursuing lives of spiritual depth and personal fulfillment\(^{63}\). Self-esteem is critical to this capacity\(^{64}\). The denial of the value of IMK and the backgrounding of its importance in education contexts operates as part of an oppressive context that destroys these capacities. The removal of children’s capacity to positively imagine themselves


\(^{63}\) “there is a great deal of research which shows that the self-concept is, perhaps, the basis for all motivated behavior. It is the self-concept that gives rise to possible selves, and it is possible selves that create the motivation for behavior.” Franken, R. (1994). Human Motivation. Pacific Grove, CA, Brooks/Cole Publishing: 443

otherwise can be deeply impaired from an early age\textsuperscript{65}. Children from the earliest age first see others as an extension of themselves. They then grow and hopefully recognize their own unique identity, but still tend to internalize the immediate and sometimes extended relationships around them as a consequence of their own existence. Even in a ‘normal’ family, children as old as 12 will often internally blame themselves for the divorce of their parents and have to be reassured it was beyond their control. Now transplant this reality into the effects on a child of intensely oppressive social contexts. Imagine the effects of constantly hearing about and seeing first hand terrible social problems again and again (rarely effectively identified as arising from a history of oppression and colonization) on a child’s imaginative capacity of their future; alcoholism, child and wife abuse, chronic health problems, poor levels of education and employment... as if they were inherent and intrinsic deficiencies of Aboriginal identity. Human psychology is such that Aboriginal children cannot help but to internalize a sense of their own self being the cause of the constant news and discourse about the negative aspects of colonization. Now couple this with the racist narrative in our education and political discourse “you never even invented the wheel\textsuperscript{66}” “you are Neolithic preservations of who we used to be. But you are dying, your languages are dying. Soon you will be no more...unless you finally let go of your superstitions and

\textsuperscript{65} To ‘imagine oneself otherwise’ is a psychological concept explored by Mackenzie in the reference above and refers to the ability to imagine the possibilities of alternate positive futures for oneself.

\textsuperscript{66} For example see recent comments by Australian Federal minister Phil Ruddock: “We are putting in an enormous amount of work to improve the conditions of our indigenous people,” Ruddock said. “But we are starting from a very low base. We’re dealing with an indigenous population that had little contact with the rest of the world. We’re dealing with people who were essentially hunter-gatherers. They didn’t have chariots. I don’t think they invented the wheel.” Chandrasekaran, R. (2000). Australia’s ‘Stolen Generation’ Seeks Payback; Aborigines Want Apology for Kidnappings. The Washington Post: A01; For an extensive discussion of this and related comments see: David, B., M. Langton, et al. (2002). “Re-inventing the Wheel: Indigenous Peoples and the Master Race in Philip Ruddock’s ‘Wheel’ Comments.” PAN: Philosophy Activism Nature 2
merge with us.” A child won’t even ask themselves “what do I want to be when I grow up?” It has been decided for them. In this reality there is no value in preserving their cultural heritage, of which IMK is a part.

Now contrast this with an Aboriginal child in class being able to hear her teacher speak on how her people are acknowledged as the most enduring civilization in the world; that they are a noble people; that they have tenaciously survived every adversity; they are widely recognized as the foremost cultural experts in sustainable development; perhaps holders of the key to the very survival of the planet in preserving the world’s biodiversity and that they are responsible for much of the world’s most important medicines and have saved the lives of many people in the world. Imagine the teacher encouragingly asking the child to share her own cultural experiences in the class or bringing in her parents or grandparents to guest lecture the class. Imagine the child seeing it in her textbook, hearing it spoken by the teacher, made real, in front of her white friends, that the medicine that saved another child’s mother in the class from ovarian cancer originally came from her community. They can then say with pride, “my community!”

This is not an attempt to merely evoke emotion, but a reflection on an existing psychological implication of self-determination rarely discussed in the discourse on IP and IMK. Here we can clearly see another spiritual layer (the capacity to aspire) of acknowledging the true value of IMK which is at the core of either empowering or destroying the capacity for self-determination critical to preserving that knowledge.
9.) Devaluation of the technological mastery of Indigenous civilization

Due to the reductionistic and materialistic aspects of our Western appreciation of both intellectual property and medicine, the loss of the spiritual element renders invisible the true depth, sophistication and value of Indigenous IMK. Seen through the two dimensional lens of a materialistic Western metaphysics, Indigenous medicine represents accidental artifacts of a primitive culture, rather than powerful examples of the advanced nature of the technological mastery of Indigenous civilization which is enabled by a relational epistemology and metaphysics in which the spiritual and material are integrated. The sophistication of these integrated ways of knowing is explored by many Indigenous authors.67 These offer significant resources for the healing of the ‘disjunction between nature, culture and place.’ It is almost impossible to abstract the negative consequences of this denial of sophistication, without discussing some of the ways in which these dimensions of IMK are sophisticated and rationale. This will be offered in section four of this chapter that investigates positive consequences of engaging the spiritual dimension for IP and IMK.


10.) Representations of Indigenous spiritual knowledge are distorted, decried as irrational, or misappropriated.

When the white man asks God a question he doesn’t expect an answer. You call that prayer. When Aboriginal people ask God a question they know God will answer back. You call that schizophrenia.\(^{69}\)

The incapacity to understand Indigenous spiritual knowledge is deeply affected by the ‘deep-seated secularism’ and positivism of Western law.

According to Marion Maddox, there are a number of ways that a deeply secularized culture with little to sensitize it to the needs of religious minorities is likely to react to Indigenous peoples religiously-based claims. She mentions four of these including ignoring the religious features of a tradition, subsuming them under a categories such as ‘culture’ and ‘custom’; cherishing unfamiliar religious forms for their apparent strangeness; decrying unfamiliar religious forms for their perceived irrationality; interpreting unfamiliar religious forms filtered through frameworks of inappropriately reinterpreted familiar forms.

Regardless of the response, a further feature of a highly secularised society is likely to be unease and imprecision in the use of terms which refer to the religious elements of a tradition. The tendency in both legislation and commentary referring to Indigenous heritage has been to use the terms ‘the spiritual’ (or, occasionally, ‘spirituality’), ‘the sacred’, ‘custom’, ‘culture’ and ‘tradition’ somewhat interchangeably. Such imprecision goes hand in hand with a reluctance to define ‘spiritual’ or ‘sacred’. Yet the meanings which are implicitly ascribed to these concepts

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may have substantial consequences for the ways in which claims are resolved. In particular, the common usage of 'spiritual' inappropriately implies, for Anglo-Australian readers, a realm opposed to, and superior to, the 'material'.

Moreover, Maddox enumerates the consequences of not appropriately understanding Indigenous spiritual knowledge or ignoring it. This ignorance may result in serious misrepresentations of the tradition. Such unfamiliarity may lead to caricatures of the knowledge as strange and can also foster an attitude of voyeurism. Furthermore, criticism regarding apparent irrationality of Indigenous religions judges them on criteria which is alien to the nature of their religion. Lastly, prejudices are reinforced when the dominant culture interprets the unfamiliar by familiar categories thereby disadvantaging members of the Indigenous community because of the traditions failure to match assumed frames of reference.

These challenges faced by Indigenous people means that they are forced to carry a psychological burden where they 'must process cognitive dissonances that do not equally arise for secular citizens'.

As long as the secular citizens perceive religious traditions and religious communities as archaic relics of pre-modern societies that continue to exist in the present, they fall prey to what I will call a “secularist” view, secularist in the sense that they can understand freedom of religion only as the natural preservation of an endangered species. From their viewpoint, religion lacks any intrinsic justification to exist.

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It is suggested that IP law is particularly afflicted with this ‘deep seated secularism’ that tends to objectify, devalue, distort and ignore particular elements of Indigenous spiritual knowledge that are unfamiliar both in form and orientation. In order to repair such vision the following discussion of the origins of such a process is offered.

Section 3: Healing the impaired vision in Western culture to re-engage the spiritual dimension.

I am an invisible man...I am invisible, understand, simply because people refuse to see me...It is as though I have been surrounded by mirrors of hard, distorting glass. When they approach me they see only my surroundings, themselves, or figments of their imagination--indeed everything and anything except me....That invisibility to which I refer occurs because of a peculiar disposition of the eyes of those with whom I come in contact. A matter of the construction of their inner eyes.

A number of factors greatly impair the capacity of Western IP law to understand and protect Indigenous spiritual knowledge. Understanding these factors is essential in the development of a long-term comprehensive discourse about the nature of Indigenous spiritual knowledge and how it is best protected. The following introduction to the subject intentionally simplifies and generalizes the nature of Western culture in order to make clear a particular observation about a

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common perceptual incapacity, due significantly to such an objectification in varying degrees.

Effective vision sometimes requires new glasses, the removal of cataracts from the eyes, or even a retraining of the mental capacity to process vision. Sometimes blindness creeps up on us so imperceptibly that our impairment is not recognized until we are specifically tested or diagnosed. On a cultural level, if the incremental nature of such impairment is extended over generations, then the chance of recognizing the impairment is further reduced.

In some ways, in attempting to define and protect Indigenous spiritual knowledge, Western observers are squinting at a multi-dimensional object trying to make a determination or judgement that is made impossible by an impairment, or rather a lack of perceptual skills and training that we do not even anticipate as necessary to acquire.

One might suggest that our Western culture suffers from two types of myopia in relation to spiritual knowledge: loss of clarity and loss of depth. In addition, we have, through much practice, trained our inner visual processing capacity to see the world as comprised primarily of objects rather than relationships. Reinforcing this, our metaphysical vision is intimately related to language, and since IP legal regimes must be constructed in a language, and English is the dominant language used, this has relevance for the ability of the developed system to relate to other cultures spiritual appreciations of IP. It is of great significance that a comparative linguistic analysis between English and a selection of Indigenous languages confirms this differing primacy of object vs. relationship foci that is a manifestation
of inner cultural visual orientation. David Turnbull speaks of how Aboriginal culture is spatialised linguistically and epistemologically. He observes that Aboriginal ontology is one of ‘spatialised activities, of events and processes, of people and places. To talk of things is to speak of the relationships of processes at names sites. It is to consider the connections between actions of the Ancestral Beings and humans'. While Helen Verran speaks of her shock at finding out that the Kantian assumptions of a universal ontic underlying languages was a false premise in her work with Yoruba children.

One of the reasons...is that we are so used to the story that there is a single universal ontic domain—the one Kant described some two hundred years ago, and of course that is an ontics that goes along with the grammars of Indo-European languages. The suggestion that many children who are bilingual in radically different languages must appropriate and deal with different ontics in their learning, is at first quite shocking.

Are we missing out on Mozart?

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I can’t hear your Indian song, Mrs. Johnson. I’ve got a tin ear. Most of us non-aboriginal Canadians also wear a tin ear…We are not even aware of the significant sounds we cannot hear.

Social scientists have provided useful models that explore how there are types of social training involved in developing the visual skills to perceive different types of multi-dimensional objects which may be comprised of complex relationships. A useful and simple way of appreciating this is the popular stereogram ‘magic eye’ composite images which ‘activate’ if we hold the image at a close range and very slightly cross our eyes, a 3-D image ‘pops out’ of the original two dimensional picture. But without the knowledge to anticipate that the ‘pop out’ exists or the visual training that is required, it is unlikely we would ever know of the extra dimension of the image. The same is true for a sheet of musical notes. A trained musician will look at the piece of paper, and ‘hear’ sophisticated music in her mind and be able to reproduce that with an instrument or her voice. However, a person not so culturally trained in music would not have any way of naturally anticipating that the marks on the paper actually represent music. A conversation might ensue where a musician may show someone a sheet with Mozart’s greatest music upon it, yet the person unfamiliar with what music is and not aware of the training required may very well say, “This person is mad. Music does not exist. I

77 Judge McEachern in the Supreme Court of British Columbia Delgamuukw v. the Queen No. 0843. Here J. McEachern objected to Indigenous witness Mary Johnson requesting to sing her limx’oy in court.


cannot hear it when I look at that paper.” Again, the same musical score rendered into braille would be transmitted through the touch of the blind person’s fingertips into an internally audible symphony, but again would not be accessible to the greatest musician who can ‘see’ but who isn’t aware of how to ‘read’ Braille.

A genius in one cultural medium may be incompetent in another. It is suggested these are reasonable analogies for our differing cultural capacities to perceive metaphysical categories, such as particular spiritual relationships. It is as if a person of Western background sees an Aboriginal painting and is willing to concede the aesthetic qualities of the art, but will claim that the spiritual ‘song’ of relationships the painting describes are a superstition. He possesses neither the training, nor the knowledge to anticipate the ‘pop out’ of a third dimension which such training would enable. A specific Aboriginal example is ‘x-ray’ style paintings of the Kunwinjku people. First there is the obvious ‘outside’ representational meanings, and then there are the many layers of ‘inside’ meanings that represent a ‘complex array of relationships’ including spiritual relationships between the community, their ancestors and land. But these are not self evident, and training is required to appreciate the depth of the dimensions of reality the paintings represent.

The controlled revelation of knowledge, which is an aspect of the artistic system, is integrated with the child’s socialization to other realms of cultural knowledge. Thus, for example, the knowledge of the meanings of songs or dances performed in ceremony or the understanding of the ancestral associations of features of clan landscape may condition the child’s ability to fully understand the logical consistency of metaphors developed in the art.

This touches upon a level of practical relevance for IP discussions. Aboriginal artworks, including paintings, are not just aesthetic expressions of spiritual or ecological relationships and they are not just ritual expressions honouring the ancestors and the dreamtime. On another level, besides honouring the spiritual source of the intellectual property received from the ancestors, sometimes they contain scientific statements about their medicinal knowledge, containing stories related to the epidemiology of the diseases associated with the medicines, although they may not be self-evident, and may require cultural training for the ‘text’ to be ‘read’. This has significance in further developing arguments that such IMK exists in a published form which would fulfill the enhanced ability of Indigenous communities to argue for excluding appropriative patents based on the existence of ‘prior art’.

One last example of this multi-dimensional ‘pop-out’ phenomenon is important to acknowledge. Recalling the ‘sentient landscape’ referred to earlier, this is a rich metaphysical and ontological construction of place beyond the capacity of this thesis to explore fully, but it important to touch upon it as IMK is seen to emerge from the entwining relationships of this ‘sentient landscape’. In Western metaphysics, the landscape is often the ‘backdrop’ upon which we conduct our activities81 and for many Indigenous communities there is an intimate and active embrace between ancestors, kinship relations and landscape. This interdependence is recognized by UNESCO in its World Heritage Convention as “Cultural

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Ingold emphasizes the intergenerational act of remembering that is a feature of such cultural landscapes:

…the landscape tells – or rather is – a story. It enfolds the lives and times of predecessors who, over the generations, have moved around in it and played their part in its formation. To perceive the landscape is therefore to carry out an act of remembrance. And remembering is not so much a matter of calling up an internal image, stored in the mind, as of engaging perceptually with an environment that is itself pregnant with the past.

Here there is an emotional depth of engagement with the land, an aspect of intimacy that often seems so inaccessible and ambiguously explored in Western accounts of the Indigenous spiritual connection to land. It may help to further clarify the depth of relationships and their implications for enhancing intimacy with the landscape if we personally engage in a recollection. Imagine a time in your life when you fell in love with another human. In this memory you will probably recall that the places you journeyed together later became sacred places of recollection where your heart seemed to resonate with an indwelling sense of propinquity. If you expand this understanding of connection between love and place from one person to generations of remembering loved ones, it is possible to imagine the landscape accumulates layers of living memory in which the human heart then indwells. The Indigenous depth of memory and sacred communal perspective allows this rich connection of memory and the heart with the landscape to occur. Now imagine that there was a way to not only indwell the memory of the love of the other, but a way to actively


experience the presence of the loved one in the landscape. This is where the
‘pop-out’ primarily occurs on this level. Through the art, song, dance, prayer
and other rituals, the presence of loved ones in the landscape caresses us in the
present but it is a vision usually seen with the heart, not with the eyes. Another
useful cross-cultural resource for appreciating how this is not just an
experience only accessible to Indigenous peoples is the concept of pilgrimage.
Nearly every world religion has a pilgrimage to visit the ‘holy places’ of the
founding ancestors of their religion. People journey to pray, mediate and
perform rituals, hear stories, and communally celebrate the intimate embrace
between themselves, the sacred landscapes and their beloved ancestors
memory and some say active presence. For many such a pilgrimage is the
single most important event in their spiritual life.

Returning to appreciating the Western perceptual challenge, it can be described on
one level as the challenge to perceive the extra dimensions of the ‘objects’ of
Indigenous knowledge. However this capacity of perception is affected through
lack of anticipation, or faith in the expected ‘pop-out’ of relationships. Combine
this with inadequate visual training further exacerbated by linguistic categories
that naturally filter relationships into categories of objects, and we end up
rendering the multi-dimensional nature of such spiritual knowledge effectively
into two-dimensional categories. While those challenges are significant enough,
they are not insurmountable as appropriate processes of education can create the
requirement of anticipation and provide the visual training by shifting the focus
from object to relational categories necessary to more fully appreciate the multi-
dimensional aspects of Indigenous knowledge systems. It is suggested however
that this training cannot itself arise, unaided and alone, within the Western
scientific or technical paradigm at the moment because the academic culture is still predominantly materialistic in metaphysics.

I think that there are good arguments for analyzing many such phenomena... and for believing that if the physical terms on which the world operates are fixed, then the psychological will have been fixed as well. But I do admit that there are many sneaking intuitions that suggest it cannot be so. My response is to suggest that those backsliding intuitions simply come of the fact that in the cases in question we lack the capacity to habituate ourselves in the connections alleged and to recognize their effects. Habituation in these cases — habituation in deriving recursively representational states of any kind — can develop only by virtue of being able to experiment with the effects on the represented-ways-things-are of variations in the physical conditions of the brain. And as science and technology currently lie, that sort of tutoring is denied us.

If we are blind to our own fixed perceptual position, then how can we experiment or be tutored otherwise? First it is suggested we continue the deconstruction of the history of the false and unnecessary separation in our own Western sciences, and then consciously acknowledge the patterns in the recent century of holism and interdependence that are emerging in all fields as the potential healing of this vision. The capacity for utilizing that ‘tutoring’ skill is one that can be developed more consciously and may be enhanced by a genuine consultation process between science, or in this case legal science, cultures and faiths, engaged in a way that begins with humility and respects the intrinsic value and agency of each participant. Reduced to the most simple this means we must make space within ourselves for the other; make time in everyday life to spend with persons of other cultures and faiths that have differing perceptual skills and metaphysical gifts, fully anticipating growth in

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our own learning empowered by our growing capacity for humility. As we learn to acknowledge the gifts of others, those gifts become enabled in ourselves. Our ‘tutoring’ is enabled through the growth of such friendships.

There is yet another challenge of metaphysical perceptive capacity for Western viewers perhaps even more difficult to overcome in the short term. Western legal and scientific systems of knowledge analysis tend to reverse engineer Indigenous knowledge into two dimensional categories no longer capable of offering the ‘pop-out’ effect even if anticipation and training were present. Arun Agrawal calls this process ‘scientisation’ to ‘refer to three processes of particularisation, validation and generalisation’. The processes for selecting only those elements of knowledge ‘relevant’ for consideration for IP protection as well as the processes of filtering the Indigenous knowledge as it is partitioned into databases reflect similar processes of rendering the knowledge and wisdom into information that is two dimensional so that:

the practical effect of databases of indigenous knowledge must be to flatten precisely that diversity of knowledge supposed to be characteristic of indigenous forms.

It is suggested that both the instrumental nature of IP and such database collections similarly represent inappropriate mechanisms of knowledge filtration that seriously distort the representation of Indigenous knowledge itself. The IP academic debates have reduced a sophisticated network of Indigenous spiritual


kinship relations that intimately link land, community and ancestors, known as ‘traditional knowledge’ or “TK”, into a round peg, and then try to fit that peg into a square hole of ‘scientific and economic reality’. Being astute observers, the legal experts declare the round peg does not fit their standard square hole. It is now announced that they need a new *sui generis* ‘round hole’ to fix the problem. They then convene international conferences of experts and form international institutions to manage the debate on the dimensions of the round hole required. They then focus on whether an international system can be developed to systematically produce round holes that are flexible enough so they can be applied universally to every Indigenous community. They write many papers and books to address this problem, making a good living from it and are promoted within their departments as they manage to attract grants and publish their findings. It is believed that inevitably, the manufacture of such round holed definitions of Indigenous subject matter will be successfully developed and mass produced for export to the world’s legal systems (where it will at last become recognized as one universal system); whereupon the Western legal community can relieve itself of this distraction and the capitalist community can get back to the business of business as usual.

There is more to this IP challenge than technically determining how flexible a two dimensional hole has to be to encompass a third, fourth and fifth dimension; particularly in relation to dimensions that many of the legal technicians don’t believe in. Meanwhile the question remains: who is sitting down with the local communities affected and listening to their practical yearnings and aspirations to preserve the lives and social integrity of the very communities which develop and carry the sacred knowledge in the first place?
In order to address this need for this deep level of ‘training’ and development of anticipation and corresponding instrumental creativity in our own Western cultures, we have to start with humility. This is an acceptance of “I don’t know”, rather than beginning with the more common feeling of “I know better” or “informed skepticism”. We can’t start with “I am willing to believe you if you prove me wrong first.” We need humility for a true culture of learning. Such humility precipitates and catalyses paradigm shifts. Historically scientists acknowledged the limitations of their vision. “We know there must be invisible things in the world we cannot see due to spectrums of light, frequencies of sound and the size of objects”. Through such humility they were enabled to develop tools of investigation such as the microscope, telescope, radioscope and many other instruments that revealed new previously unimagined layers of reality. In this new discourse, by embracing such humility about spiritual issues as well, we are offered the chance to develop new tools for seeing the spiritual truths of many cultures. This is not just about politically correct acknowledgement of other cultures beliefs. Even more importantly this addresses a dimension of our own Western spiritual heritage which is fundamental to restoring our own compassionate nobility (and our ability to perceive the nobility in all others), our creativity reconnected to childlike wonder (rather than mere economic rationalism), and some say our very survival.

Such impairment in Western culture began through the willful devaluation and closing of one eye and the subsequent general deterioration of vision that has occurred through neglect. To clarify: many Indigenous peoples consider that spiritual and material reality forms a unity. To deny one to the other is to completely lose a dimension in our vision. The balanced, coordinated use of both eyes is required to enable the shift from two dimensional perception to three
dimensional vision. Such two dimensional vision impairs our capacity to recognize the depth of relationship and perspective between objects which is fundamental to the relational quality of Indigenous spiritual knowledge.

Western culture has experienced such an unnoticed gradual impairment of ‘metaphysical vision’, most significantly in the period since the Enlightenment, that particularly relates to the incapacity of IP to adequately relate to Indigenous spiritual knowledge.

The discipline of law is generally not well designed to conduct such an examination. However, it is only by adequately diagnosing the mechanisms of such impairment in the history of the formulation of our legal system that we are enabled to formulate potentially appropriate remedies. In order to engage such a diagnosis of mechanisms other disciplines must be called upon in order to provide law with the resources necessary to construct such adequate remedies. Among the necessary disciplines are included legal anthropology, ethnobiology, historical criticism, sociology, comparative religion, and scientific philosophy among others. This chapter hopes to demonstrate the need and value of such collaboration in the long-term process, so those members of the discipline of law are encouraged to invite these other disciplines into specific collaborative projects of consultation and diagnosis. Most importantly, Indigenous people must be included in this consultation process and the diversity of customary IP norms respected and empowered to participate in the global flow of legal development.

Describing the four symbols presented graphically in the context of a medicine wheel Elder George Courchene writes:
When the Creator made two people at the beginning of time the Creator gave them Indian law to follow. He gave them four directions. He gave them sweetgrass, the tree, the animal and the rock. The sweetgrass represents kindness; the tree represents honesty; the animal, sharing; and the rock is strength\textsuperscript{87}.

From some points of view, an essential and often neglected intrinsic feature of culture is that it is the social manifestation of unique sets of spiritual virtues formed in the long-term relationship between a specific community and the ecological context in which they exist. In other words, our relationship with the land in which we dwell forms our culture\textsuperscript{88}.

Many Indigenous communities see the biodiversity of their ecological contexts as representing forms of spiritual diversity. Each creature reflects an attribute of the ultimate sacred reality, sometimes referred to as the Creator. These infinite sets of attributes, such as patience, nobility or courage are manifested by each individual plant and animal in an entirely unique way. The spiritual realities of these creatures exist in a completely interdependent web of relationships that form our environments. From such a web of spiritual interdependence our own being is formed, and evolves. In that sense, we are the land. This is why you hear many Indigenous voices say that we do not own the land, the land owns us\textsuperscript{89}.

\textsuperscript{87}Elder George Courchene, Sagkeeng First Nation, Fort Alexander, Manitoba, 30 October 1992 http://www.ainc-inac.gc.ca/ch/rcap/sg/sg56_e.html

\textsuperscript{88}This is a position reflected in a co-authored paper with John Hunter, Hunter, J. and C. Jones (2003). Bioprospecting and Indigenous Knowledge in Australia: Implications of Valuing Indigenous Spiritual Knowledge. Biodiversity and Biotechnology and the Protection of Traditional Knowledge, Washington University in St Louis. It is also reflected in similar statements in our previous Masters dissertations.

\textsuperscript{89}Chance, C. (2003). Wisdom Man: Banjo Clarke as told to Camilla Chance, Penguin
Instead of the individualistic Cartesian ontology of abstraction, where thought alone justifies our existence “I think therefore I am” our existence is a spiritual embrace of kinship “We are, therefore I am”.

This is a relational understanding of culture that has been largely lost in the west. In western theories, often culture is seen as the subjective experience of collections of individuals, and therefore the value of such culture is objectified as the domain of personal opinion. The value of culture is therefore degraded to having no real value in itself other than it’s aesthetic value, as if it were a piece of artwork that can be bought, sold, or destroyed if its value is not recognised.

Under the combined influence of what might loosely be described as post-modern philosophy and an anthropology informed by both principles of modernity and post-modernity, an epistemology of culture has become something of a vain hope. The result is that making credible knowledge claims about the culture of others or even about one’s own culture is close to impossible. Universal structural truths about culture are out. Particularities, perspective, localism and contingency are in. So in an era where we have more information about culture than ever before, currently fashionable metaphysical theories tell us that we know and understand less than ever before90.

The imbalanced and fractured perspective of culture and civilisation, spirit and matter in Western consciousness can be traced historically back to the enlightenment period in which European philosophers, politicians and scientists developed what has often been called a dualistic metaphysics or world-view91. This period has often been caricatured as a war between science and religion, with

science the ultimate victor. However this fracturing of metaphysics is due to a somewhat more complex history\textsuperscript{92}. Such a fractured worldview was the product of over-reactions to the tyranny of knowledge enforced by both political and religious leaders at the time. Such tyrannical assertions of absolute truth resulted in such great injustices as the thirty-year war and the grand inquisition. The cultural trauma upon Europe of these events cannot be underestimated. In some parts of Europe, fully a third of the population was killed in such conflicts. I suggest this is an unhealed trauma that the West still carries as a deep unconscious wound in our metaphysics.

The philosophies and political reactions to this injustice that were largely perpetuated by religious institutions, resulted in the removal of the “tyrant God” from the centre of modern thought. This process of the removal of the Divine was gradual but effective. This has affected our ability to engage some of the spiritual origins in IP law such as the justifications of spiritual creativity found in Hegel and Kant and theories that are still foundational to modern IP law, the invisible hand theory of Adam smith, John Locke’s labour theory of property and the importance of a common Christian identity in Europe that led to common social assumptions such as the importance of honoring contracts\textsuperscript{93}. This process has also given us a very narrow materialistic definition of technology which effectively excluded Indigenous forms of technology, that have essential spiritual elements, from legal consideration.


\textsuperscript{93} “Honoring contracts was a Christian thing to do, and it obtained specificity of meaning in the informal context of this shared merchant identity rather than as a result of canon or state law, which followed business custom more than led it.” Braithwaite, J. and P. Drahos (2000). \textit{Global Business Regulation}. Cambridge, Cambridge University Press: 5.
Ironically most of the central figures considered responsible for this process all believed in God, and some of them quite strongly. For example Descartes, who has been often vilified for having contributed many of the more dualistic and materialistic elements of Western culture, believed he was justifying God. Newton had more books on theology than science in his library and considered his treatise on a book in the Bible as his greatest work. Yet the fashion in which many of these great thinkers were interpreted by radical secularists is largely to be blamed for the fracturing effect. The ‘Galileo Affair’ was one such story popularly interpreted as closed minded religion vs. open minded science, yet Galileo himself was a strongly religious person.

Here is a representative summary of some of the forces at work in Western history:

Newton’s success in explaining the operations of the universe through mechanistic principles was often equated with seeing the physical order as a machine. Newton actually encouraged this metaphor in that it alluded to Divine intelligence behind the design. Later science would adopt the concept of universal principles and law explaining all physical relationships, but lose the idea of design and God. This was enabled as the “machine” gained the principle of independent internal momentum, through Descartes and others; and finally when the machine acquired a random, 

94 Forbes, R. J. (1949). "Was Newton an Alchemist?" Chymia II
purposeless evolutionary force of its own, through Darwin. The machine had once been a marvel of genius in its sophistication, elegance and universal intelligibility that alluded to an infinitely virtuous Creator. However through a distorted interpretation of both the processes themselves, and the intentions of their authors, it became a self-winding, self-operating, and self-designing machine, as it were. The result is our currently predominantly materialistic and positivistic world-view. Associated with these developments grew the assertion that truth is completely relative to the individual. Such an idea was developed so that tyrannical forms of injustice could not assert their hold on the minds of entire populations. While such a goal is a noble one, the over-reactive nature of the philosophies that developed out of such a context created a kind of spiritual neurosis in the west in which it is impossible to assert that there are universal truths that are relational to us all. Such a process resulted in the splitting of reality that has formed unnecessary dualities that usually incorporate a hierarchical objectification of matter and spirit, male and female, objective and subjective, humanity and nature, civilisation and culture among many other categories.

One particular example of how this affected our ability for a spiritually and materially integrated vision of IP is useful here. The connection of the Divine as a source of inspiration for IP was widely acknowledged in Western society, however it was unfortunately also linked to the authority of the King to determine and 


control what was true inspiration. Speaking of the period in the late 1700s of France, Hesse observes that

Employing the doctrine of divine revelation and a long tradition of medieval thought, the king’s ministers argued that ideas were a gift from God, revealed through the writer. They were not owned by the author and could not be sold by him. The power to determine what was truly God’s knowledge, and who could enjoy the “privilege” of its “enjoyment” (literally, “jouissance”), belonged not to the author but to God’s first representative on earth, the king, and by extension his administration.¹⁰⁰

With the religious wars in Europe, the widespread public aversion to the corruption of both ecclesiastical and political authority, and in the above case, the immediately following event of the revolution in France, the European mind cast out the appreciation of spiritual value of knowledge largely because of its unfortunate associations.

This historical process alienated the spiritual nature of reality and transformed our vision into seeing the world as a complicated machine. The machineline approach to knowledge has carried over and is clearly reflected in the way Western IP filters knowledge in mechanistic categories of subject matter.

Such a summary does not properly represent the complexity of the historical and philosophical elements that contributed to such a process. But it may provide an adequately brief example of one of many valuable approaches towards examining the relative causes of our lack of capacity to recognize a unity of spiritual and material reality that is at the heart of Indigenous customary law.

Through the fracturing of metaphysics has the objectification of culture and nature become possible in western thought\textsuperscript{101}. It is only possible to assert such theories as the patenting of life-forms when one divorces human existence from nature, so that one may possess it as if it were a dividable commodity and not an interdependent web of relationships. This is why many Indigenous people\textsuperscript{102} feel so uncomfortable being forced to answer the question imposed by the west, such as “Which person can sell this land?” It is not an appropriate question to address their understanding of their unique communal relationship to the land and can only be asked by someone who has been afflicted by the spiritual neurosis inherited from the European enlightenment\textsuperscript{103}. It is like asking someone: “Do you own your mother? If you answer no, then I will own her.” In the Aboriginal Yolngu language, the term ‘Yothu-Yindi’ affectionately identifies the human relationship with the land as the same as the love between child and mother\textsuperscript{104}. At first the Indigenous answer comes back, “No one owns our Mother”, whereupon


\textsuperscript{102} It has to be acknowledged that individual or family based custodianship is not entirely absent from Indigenous systems. The success of the Mabo case was partly due to an ability to demonstrate a more individualistic or family based form of land relations in the Torres Straight Islander culture.

\textsuperscript{103} “How Native people look at the land is that no one person owns that land. The Creator owns that land. How can our forefathers, our grandfathers, give away something that they didn’t own in the first place? The spirit and intent of the treaty from which we want to work with the two levels of government is based on how our elders wanted to base that treaty. That is to live in peaceful co-existence with the white man and to share the bountiful gifts of the Creator.”; Chief Frank Beard Muskrat Dam First Nation, Speech at Big Trout Lake, Ontario, 4 December 1992, viewed at: http://www.ainc-inac.gc.ca/ch/rcap/sg/sg56_e.html, last viewed Feb 25, 2007.

she is divided and taken by the newly arrived colonists. Eventually the “catch 22” is realised by communities who become increasingly familiar with the theft, alienation and genocide that accompanies this situation, and the lesser of two forced evils is adopted, “I own Her. She is mine and you cannot take Her.” However, even when the Aboriginal ontology of belonging to land is (superficially) recognized, it is no guarantee of improved Native Title conditions. In the case of Millpirrum, a degree of recognition occurred:

...it seems easier on the evidence, to say that the clan belongs to the land than that the land belongs the clan.\textsuperscript{105}

Yet this acknowledgement made no difference to the success of the Aboriginal claimants. The Indigenous realisation of these appropriative process affecting trust and communication processes apply not just to land, but to knowledge itself, knowledge that was often freely shared at first, until the insidious nature of IP as an appropriative mechanism that alienates the knowledge from the community is discovered.

Law itself was subject to these processes of a splitting and fracturing of the spiritual and material in metaphysics and jurisprudence. Justifiably so, the dogma of religion and the associated trappings of power that can be abused were apparently removed from the domain of law, however the benefits of spirituality and ethics, were impaired by this process. This has negatively impacted on our ability to appreciate the diverse forms of Indigenous customary law where law and religion are not separate, and where spiritual and material issues of legal relationships are still integrated in varying degrees.

\textsuperscript{105} Millpirrum and others Vs Nabalco Pty Ltd and the Commonwealth of Australia 1979: 271
Anthropologists have made strong advances in demonstrating that law and politics are not isolatable, and we are now reaching the understanding that religion and law are not separable. The morality of disputing processes is now everywhere heavily influenced by ideologies of a religious nature. Law and religion may have been officially separated in Western legal systems, but in former colonies of the Western world they are not. It follows that from these observations that a new range of questions will centre on contemporary disputing as an epiphenomenon of controlling processes that will continue to cycle into the next century\textsuperscript{106}.

Increased consultation processes with Indigenous cultures where the spiritual and material has not experienced this separation to the same degree will partly contribute to the (re)training of metaphysical vision in Western culture.

There is an asymmetry of justification that is deeply embedded in the relationship between Indigenous ways of understanding ownership and Western European legal and political discourses that define political sovereignty, rights and title. Ownership in the Indigenous context, involves understanding Indigenous peoples’ profound connections to their homelands. The notion of a “homeland” is not simply lands, but everything around one’s world: land, air, water, stars, people, animals, and especially the spirit world. Understanding the balance in one’s world takes a long time, and one cannot hope to learn these relationships without being guided by people who posses, and practice, these forms of knowledge\textsuperscript{107}.

I want to briefly mention two other causes for the devaluation of the spiritual in the secular world that can be addressed by becoming conscious of them. One barrier to respecting the spiritual aspects of ICL is confidence in the secular world that there is a spiritual dimension to existence in the first place. It might help to appreciate that physicists have been free to explore tentative models


descriptive of 'invisible' forces and processes in an experimental framework and to discuss as a community their findings in respectfully contestable ways. A number of Indigenous scholars have commented that ‘spirit’ is actually a word imposed on Indigenous thought and replacing the word ‘spirit’ with ‘energy’ offers some degree of reconciliation between Western Scientific thought and Indigenous thought\textsuperscript{108}.

In separating art from science, the modern West institutionalized the separation of subjective (spirit) and objective (material) that it had inherited from Greco-Roman philosophy. In this view, spirit, and its expression in sentiment and values, cannot elucidate our physical reality, nor can physical means detect, measure, or illuminate the spirit. Indigenous peoples would reject the cosmological dualism of spirit and material as fervently as a contemporary physicist would dismiss strict dichotomization of energy and matter - and for the same reason: spirit and material, like energy and matter, are interchangeable\textsuperscript{109}.

By maintaining a cultural model which is largely a fragmentation of independent subjective realities we deny the possibility in sharing the exploration of potentially universal spiritual forces that may manifest themselves in infinitely diverse ways. We also exclude the possibility of beginning to develop respectful frameworks of contestation where we can co-evolve in our spiritual sciences that each culture and faith contribute to. Most importantly, we exclude the possibility of a unity of purpose in using those gifts to alleviate the suffering of humanity. This barrier for confident sharing of cultural and spiritual values in secular society is exacerbated in at least two


ways. Firstly, both religion and culture are studied and described in a ‘phenomenological’ subjective approach which leads to the assumption of ‘separate but equal’ blocks of experience. Secondly, those of religious faiths often give the appearance of claiming that true spirituality requires (at least on the ultimate level for many of us) eventual conversion to our own respective Faiths. This often unconscious sense of superiority is one of the most significant barriers to the secular public feeling comfortable in exploring the spiritual aspects of their own being and experience or that of others, or in this case Indigenous knowledge.

The eminent philosopher, Jurgen Habermas, in one of his most recent discussions, offers us an additional useful resource in appreciating how this can begin to occur, even within a deeply secularized society. First he explains the liberal conception of democratic citizenship emerged out of the historical reality of the religious wars and confessional conflicts in early Modern Times. He explains how the ‘assumption of a common human reason is the epistemic base for the justification of a secular state which no longer depends on religious legitimation. This allows for the separation of church and state on the institutional level. He then explores the separation of church and state and how this has inappropriately been projected onto the expectations of internal metaphysics of human beings, concluding that:

...many religious citizens do not have good reasons to undertake an artificial division between secular and religious within their own minds, since they couldn’t do so without destabilizing their mode of existence as pious persons. The objection appeals to the integral role that religion plays in the life of a person of faith, in other words to religion’s “seat” in everyday life. A devout person pursues her daily rounds by drawing on her

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belief. True belief is not only a doctrine, believed content, but a source of energy that the faithful person taps performatively. Faith nurtures an entire life.

Quoting Nicolas Wolterstorff\textsuperscript{111} to reinforce this, Habermas continues by highlighting the reality that many religious people in our society feel they must base their decisions related to fundamental issues of justice on their religious convictions and do not feel doing otherwise is an option. He suggests that the state cannot protect religious freedom one the one hand, and then expect citizens to justify their political statements independent from their foundational religious convictions or world views.

The liberal state must not transform the requisite institutional separation of religion and politics into an undue mental and psychological burden for all those citizens who follow a faith. It must well expect of them to recognize the principle that any binding legislative, juridical or administrative decision must remain impartial with regard to competing world views, but it must not expect them to split their identity in public and private components as long as they participate in public debates and contribute to the formation of public opinions\textsuperscript{112}.

The current ‘democratic’ culture expects an internal separation of spiritual and material, faith and reason, heart and mind, placing legitimate focus on only the material, rational, mental categories of knowing. This creates a cognitive dissonance not just for Aboriginal people whose law and religion is more consciously integrated in ICL, but for ‘white’ people as well. A recent extensive study conducted from UCLA of over 40,000 academics from a broad range of disciplines in over 120 universities demonstrates that over 80% consider


themselves a ‘spiritual person’, while nearly half (more than half of women) believe it important to integrate this spirituality into their everyday life\textsuperscript{113}. They made similar findings in a study involving over 100,000 university students\textsuperscript{114}. This study was conducted in the United States and it should be acknowledged that this cannot be applied as a universal indicator of Western culture and there may be some significant differences if a similar study were conducted in other countries like Australia. However preliminary surveys conducted by Macquarie University with students from a broad range of disciplines and cultures indicate similar trends of spiritual identity and concern among the student population\textsuperscript{115}.

If we were to encourage such a legal, academic and political culture where Indigenous peoples could with confidence speak of their spiritual beliefs, anticipating deeply respectful listening, and meaningful responses, what might be the effect upon the maturation of Intellectual Property and the protection of IMK?

\textsuperscript{113} Higher Education Research Institute (2006). Spirituality and the Professoriate: A National Study of Faculty Beliefs, Attitudes, and Behaviors. Spirituality in Higher Education. Los Angeles, Higher Education Research Institute, Graduate School of Education and Information Studies, University of California.

\textsuperscript{114} This study was conducted in the United States. It should be acknowledged that this cannot be applied as a universal indicator of Western culture and there may be some significant differences if a similar study were conducted in Australia. However preliminary surveys with students at Macquarie University from a broad range of disciplines and cultures indicate similar trends of spiritual identity and concern among the student population. This preliminary research arises out of a colloquia ‘Spirituality and Social Transformation’, which I am the convener of and which is currently offered to approximately 1500 students in the ‘Global Leadership Program’ and available to all students in the university.

\textsuperscript{115} This preliminary research arises out of a colloquia ‘Spirituality and Social Transformation’, which I am the convener of and which is currently offered to approximately 1500 students in the ‘Global Leadership Program’ and available to all students in Macquarie University.
Perhaps most importantly, it is suggested that this would promote the effective agency of Indigenous communities which is perhaps the best way of protecting the spiritual aspects of their IP. The following final section of this chapter will explore a sample range of some of these potential positive consequences further.

Section 4: Understanding the advanced Indigenous technological mastery of IMK through engaging the spiritual dimension

In the last part of this chapter I want to provide some examples of how we can appreciate the intrinsic value of Indigenous knowledge in ways that can build bridges of meaning and deep respect for the spiritually relational aspects of IMK that are important to Indigenous communities, but which currently fall outside the ambit of what is usually focused upon in discussions of its protection. The next section will in particular attempt to engage a positive response to the negative consequences mentioned in point 9 in the first section of this chapter.

We may assume that the ability of biotechnology to engineer new medicines is a sign of the advanced nature of Western culture in contrast to Indigenous culture which doesn’t appear to possess these technological capacities116. The colonial and modern social forces that have generated severe disparities of health between

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116 This assumption has important consequences for the manner in which courts interpret the appropriation of IMK. On an anecdotal level, I had a conversation in 2005 with a Justice of the NSW Supreme Court who expressed surprise that there was injustice in the appropriation process expressing, “But don’t they [Aboriginal people] just accidentally discover these medicines because of their long term association with the wild?” This kind of common and erroneous assumption, among other problems, can lead to a lack of appreciation for the elements of true justice/injustice in the appropriation by multinationals and is why this discussion is so important.
Western and Indigenous cultures\footnote{117} also serve to obscure the advanced nature of Indigenous medical technology.


[People] recognize the ways in which social forces generate disparities, yet they yearn to attribute them to irresistible forces of religion or race. They may accept responsibility for creating conditions that allow epidemics to exist, yet they are willing to exploit the ensuing opportunities for social, economic and political gain.\footnote{118}.

It might cause the unconscious question that demonstrates our bias “How could someone who is so sick have advanced knowledge of medicine?” However a reassessment of this assumption needs serious reconsideration. An honest appraisal of the degree of biopiracy, as demonstrated earlier in this thesis, already illustrates this on a commercial level of appropriation. The appropriating culture has yet to engage in a serious examination of the sophistication of IMK underlying the production of such valuable ‘commodities’. Indigenous knowledge possesses complex laws of interdependence and has been shown to have a depth and range on par with modern quantum physics\footnote{119}. Obviously to explore such a model would

\footnote{117} “What one looks for determines what one sees. Doctors, nurses or health planners tend to focus on medical services, nutrition, housing, public utilities or preventative health measures. Anthropologists note the attrition of the authority structures, religious life and social controls, which gave form and integrity to traditional Aboriginal society, the alienation of land, and the stresses of life on crowded missions and settlements. Historians explain the health troubles of the present in terms of the insults of the past: the early introduction of diseases such as smallpox and measles, which decimated some populations, the massacres (which continued well into the 1920’s), the relocation of healthy, independent people on to ill-serviced settlements, and the confused and conflicting interests that have shaped policy towards Aborigines.” Reid, Janice, ed. 1982. Body, land and spirit: social perspectives on health and healing in Aboriginal society. St. Lucia; New York: University of Queensland Press, xii.

entail an entire thesis in its own right, however I will touch briefly upon only several points here. This can be addressed through focusing on several neglected dimensions of Indigenous knowledge that demonstrate its advanced nature such as tacit knowledge\textsuperscript{120}, knowledge as performed, knowledge as renewing relationships and an appreciation of how Indigenous culture potentially enables an ‘\textit{indwelling}’ of the natural world in a much more relational and sophisticated way than does Western culture. Appreciating this indwelling aspect of Indigenous technologies in creating IMK reinforces awareness of the anthropogenic quality of ecosystems.

Recognition of anthropogenic landscapes has important implications for ownership, and consequently, IPRs. ‘Wild’ species are products of nature and, presumably, human societies have no special claim to them. Species or landscapes that have been moulded or modified by human presence, however, are not automatically in the public domain and, consequently, local communities may claim special rights over them\textsuperscript{121}.

To be able to appreciate the anthropogenic nature of IMK it is necessary to address the relationship between knowledge, land and experience in Indigenous epistemologies. Before exploring this further it is important to acknowledge a prejudice in Western epistemology that has trouble equating a relationship between experience and knowledge.


\textsuperscript{120} “\textit{We can know more than we can tell}” Polanyi, M. (1966). The Tacit Dimension. London, Routledge and Kegan Paul;

In contrast, in much of academic discourse, it is considered suspect to regard such experience as knowledge. The general view is that to treat experience as knowledge can only lead to solipsism and reactionary self-referentiality. Poststructural theories in particular have been quick to point out that the notion of knowledge grounded in experience assumes a unified subject that has a direct access to “reality.” At the same time, ideas about experiential knowledge have been used to discriminate against marginalized groups in the academy.

Setting aside for the moment, some of these biases of Western epistemology, we can explore ways in which this relationship between Indigenous experience and knowledge can lead to descriptive models of epistemology that possess integrity and deeply rational forms of understanding. It may be helpful to first illuminate that in spite of this explicit bias of denying categories of experience as knowledge, it is in fact essential to our own Western ways of knowing as well.

Extension of the self through technology and nature

_The entire content of science is nothing other than man exteriorizing himself and returning to himself._

There is a significant range of scholarship that explores how modern technology is an extension of the self. Enrst Kapp was one of the first Western scholars to

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develop a philosophy of technology that explored this, with one of his most significant contributions to the discussion being an exploration of how technology is a form of what he calls 'organ projection'. He suggests this technological development of the extensions of the human body often originate unconsciously, yet later becomes a more conscious process as examination reveals the obvious similarities. Writing in the 1800s Kapp notes the curved finger becomes a hook, the outstretched arm becomes a pole, axe and club, the eyes become optical lenses in telescopes and microscopes. Modern scholars have continued their reliance on the cognitive logic of Kapp's model and have extended it to explore how the more recent technologies including computers and new forms of biotechnologies are also extensions of the human body. This does not just include the concrete hard technologies but even the more intangible products of more abstract science. Some scholars have commented that even the discipline of physics is an extension of the human form. John Desmond Bernal defines the discipline of physics as concerned with

a limited subject of heat, light, sound, electricity and magnetism, with a small allowance of atomic physics...the reason why we can block out this particular part of knowledge and experience and call it physics is because it deals primarily with what might be called the extension of the human sensory-motor arrangement.

125 Also see Ralph Waldo Emerson., “Man is a shrewd inventor, and is ever taking the hint of a new machine from his own structure, adapting some secret of his own anatomy in iron, wood, and leather, to some required function in the work of the world.” Emerson, R. W. (1856). English Traits, “Wealth”, Boston: 169

There is a significant enough base of reputable scholarship in the Western tradition for this view of science and technology as the extension of the human form to be considered relatively orthodox. The paradigm shift comes in appreciating that Indigenous people consciously apply spiritual principles to this capacity in ways Western law has not appreciated. Rather than just the hard technology that we are used to, their extension of self embraces and indwells relationships with nature. What does it mean to indwell a mountain as an extension of the self? Or a river, a tree, an eagle? More difficult still, how does this occur on the level of a whole human community simultaneously indwelling their ecological\textsuperscript{127} environment as an extension of self, or perhaps more appropriately understanding the self as being defined in relationship?

For indigenous peoples, the many ‘components’ of nature become an extension, not just of the geographical world, but of human society. This is fundamentally difficult for Western society to understand, since the extension of ‘self’ is through hard technology, not nature\textsuperscript{128}.

Gregory Cajete writes that the human body is a metaphor for the landscape and demonstrates how native language embodies this understanding of relationships between nature and the human body\textsuperscript{129}. This is echoed in Australian Aboriginal knowledge and language with parts of the landscape representing organs of the

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\textsuperscript{127} It is significant to note the etymology of ‘Ecology’ which comes from the Greek \textit{oikos} (house) and \textit{logiā} (Study of). This etymology provides that one could logically offer an alternate translation of ecology as “learning to indwell ones own house”.


\textsuperscript{129} Cajete, G. (2000). Native Science: Natural Laws of Interdependence, Santa Fe, New Mexico, Clear Light Publishing
great original ancestors while our own human body provides us with a connection to these bodily maps of the landscape.

This key organic symbol provides a framework for encoding a complex array of relationships involving many different realms of Kunwinjku experience of their world. In learning to see, and eventually extend, the homology of relationships through this symbol, young Kunwinjku experience the value of knowledge relating to their ancestral beings130.

Rituals with paintings of the body that identify these relationships 'sing' these dreamtime connections131. In personal reflection the rationale of this is more deeply appreciated when one combines the incredibly long cultural memory of Indigenous peoples, their humility in continually honoring their interdependent relationships with nature, and the fact that the human form evolved, both in the womb and in the broader evolutionary sense through the stages of the mineral, vegetable, and animal kingdoms132. Our body, in the long term perspective, was/is dependent on those natural relationships for our very structure. In that sense, we


131 “Kunwinjku learn to see how such diverse realms of experience as that of food division and sharing, human mortality, the relationships between social groups, and the topographic relations of the sites of their clan land can all be structured in terms of images of bodily disintegration and reintegration.” Taylor, L. (1989). Seeing the “Inside”: Kunwinjku Paintings and the Symbol of the Divided Body. Animals into Art. H. Morphy. London, Allen & Unwin: 386

132 This is not just an Indigenous appreciation but is also reflected in Western thought, “But humanity includes all previous stages in the evolution of the inorganic and organic worlds – stages which Kapp notes in his references to the theory of evolution. Human technology therefore includes analogies to these early stages of evolution, since they remain part of reality.” Huning, A. (1985). Homo Mensura: Human Beings are Their Technology - Technology is Human. Research in Philosophy & Technology. P. T. Durbin. Greenwich & London, Society For Philosophy & Technology. 8: 11 Whereas Martin Heidegger suggests the human being “is the point of access to all the other beings contained within himself.” Ibid, 13
are the rock, the tree and the animal. The 'practical' benefit of honoring these relationships between body and nature become clearer when one realizes that this both enables the maintenance of biocultural diversity as well as an emergent appreciation of the balance of relationships. This appreciation of balance is fundamental to Indigenous medical knowledge, and therefore the 'biocactive compounds' are in fact recognized aspects of restoring balance between nature, the spiritual realm and the human body. The development of effective IMK remedies in restoring balance within the human body is heightened because of conscious appreciation of how the body is a reflection of these broader ecological relationships.

**Indwelling the extension**

It may be problematic to use the term 'metaphorical' or 'symbolic' to describe the correlation between body and technology/nature. This is because this correlation is not just an abstraction or a representational fabrication. For Indigenous peoples this is not just a coincidence of appearance or form. Additionally it is not merely an extension of self that is instrumental and self-centred. Cajete writes that

> Native science acts to mediate between the human community and the natural community upon which humans depend for life and meaning. This intimate and creative participation heightens awareness of the subtle qualities of place\(^{133}\).

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This correlation can often involve a deep ongoing connection between the human and the relevant technology or natural relationship. We have seen how Western and Indigenous scholars have emphasised that both technology and nature represent ‘extensions’ of the human body. But these are not just representational extensions, but are forms in which the human body, mind and spirit tacitly ‘indwell’. Take for example someone who has recently lost their vision. When the blind woman is first given a walking stick, her usage of it is clumsy and unnatural. Eventually however, through prolonged usage of the walking stick her senses become accustomed to translating the signals traveling down the stick as she taps it back and forth, and a mental map of the ground in front of her appears in her mind as she walks. Finally, without thought, she tacitly indwells the walking stick, and it becomes an extension of her eyes and mind and she can ‘see’ with the stick. She would not be able to explain how this occurs, it just ‘is’. The walking stick forms part of ourselves, the operating persons. We pour ourselves out into them and assimilate them as parts of our own existence. We accept them existentially by dwelling in them.

The same principles apply to an athlete as they practice with their golf clubs, cricket bats, bow and arrow and tennis racquet. To become professional is to become one with the racquet so rather than thinking about form and movement, one just uses one’s will to make the ball or arrow land where you want. But again, this indwelling cannot be taught in a book or in normal language. Polanyi also reminds us that this kind of knowledge is not just an accidental discovery, but requires a personal commitment on the part of the person to be

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experienced. It must be experienced through the development and maintenance of the relationship. As Japanese Archery master Kenzo Awa told one of his archery pupils who happened to also be a philosophy professor,

*How should I explain what you can understand only through your experience*?135

David Gegeo, speaking of pacific island epistemology, is in the process of developing ‘enfleshment theory’. He quotes the Kwara’aue people of the Solomon islands. “T’ea saena fasi ‘aku’ “I feel it in my flesh”. He says further that one does not understand something until the body feels it136. Gegeo’s work refers to the groundbreaking work of Lakoff and Johnson’s theory of knowledge as embodiment137. Their work deflated long-held positions in Western Epistemology on the mind as being soley responsible for the production of knowledge.

The tacit experience of indwelling is not just a physical and mental experience, but is a spiritual one as well. Thinkers as early as Aristotle have suggested that this capacity for indwelling is a function of the soul expressed in relationship with the mind and body.


Once again we can engage in a paradigm shift and apply this not just to Western technology but to the Indigenous interdependent relationship with nature and Indigenous technology. While Polanyi’s concept of indwelling is very helpful in illuminating the rationality of the concept, one might make another important qualification to emphasize a difference in an Indigenous concept of indwelling. In appreciating the intrinsic spiritual value of the ‘other’, it is not merely an indwelling of the other, but a creative relationship in which there is a mutual indwelling of each other in which both are continually transformed in the relationship. Cajete observes that

Indigenous peoples projected the archetypes that they perceived in themselves into the entities, phenomena, and places that were a part of the natural environment they encountered…They experienced nature as part of themselves and themselves as part of nature.139

Expanding on this, Jay Johnson writes,

138 Aristotle, *Eudemian Ethics* Bk. 7 1241b12-1241b24 p. 1967; Also see the works of Abdu’l-baha, “In order to seize the actions of the rational soul, we need the mediation of the body; but the soul can act directly without this intermediary…In the same way when we study an object, sometimes we observe it with the help of some optical instrument and sometimes with the naked eye.” Abdu’l-Baha, (1918) *Abdu’l-Baha on Divine Philosophy*, Tudor Press, New York.: 126-127

This embodied relationship…is one in which the act of dwelling creates meaning for Indigenous communities and through which these communities invest meaning into the landscape.  

This applies to both advanced Indigenous technological tools such as the Maori Tooka Tooka\footnote{Johnson, J. (2006). Re/placing Native Science: Indigenous Voices in Contemporary Constructions of Nature. Human Geography Departmental Seminar, Macquarie University, paper on file with author.} as well as the actual indwelling of natural relationship of land, creatures and community. The act of indwelling these relationships is a personal commitment akin to love, an appreciation which is not altogether absent from Western scientists. Einstein said,

> The supreme task of the physicist is the search for those highly universal laws... from which a picture of the world can be obtained by pure deduction. There is no logical path leading to these...laws. They are only to be reached by intuition, based upon something like an intellectual love of the objects of experience\footnote{Einstein, A. (1918), Address on Max Planck’s 60th birthday, cited in Popper, K. (1959 English ed., 2002 reprint). The Logic of Scientific Discovery. London, Routledge Classic: 9.}.

While Polanyi, former Fellow of the Royal Society of England and Professor of Physical Chemistry at Oxford writes,

> Yet personal knowledge in science is not made but discovered, and as such it claims to establish contact with reality beyond the clues on which it relies. It commits us, passionately and far beyond our comprehension, to a vision of reality. Of this responsibility we cannot divest ourselves by setting up objective criteria of verifiability – or falsifiability, or testability, or what you will. For we live in it as in the garment of our own skin. Like love, to which it is akin, this commitment is a ‘shirt of flame’ blazing with passion.
and, also like love, consumed by devotion to a universal demand. Such is the true sense of objectivity in science...

The mastery of Indigenous science is illuminated in appreciating their indwelling these natural relationships which involves their own sense of inalienable connection, and just as the most eminent of Western scientists, it involves an intuitive, passionate love, that for them abides in the relationships with land and ancestors. The conscious honoring of the spiritual dimension is one of the aspects of Indigenous Knowledge that enables a type of indwelling that balances instrumental and intrinsic value in the relationships. To clarify and simplify the difference, Western technology, because of its individualistic and reductionist focus, although arguably engaging the spiritual dimension on a tacit level, has a tendency to emphasize individual connections between the user and the tool. While Indigenous technology which is based in a much more interdependent appreciation of relationships also has such capacity but has mastered to varying degrees consciously indwelling relationships that involve entire communities, natural environments and spiritual realities.

One could suggest that a conversation between Western and Indigenous peoples in this realm might facilitate a reconciliation of knowledge that is of great need and benefit for modern day science and medicine.

If human beings violate “peace with nature” by their technological actions, then they become the victims of their own aggression. In our time, therefore, the philosophy of technology has the task of once again regaining the unity of the human which we have lost, and which is part of a unity with nature in which human beings must make their home.143

Knowledge as relationships honored

One of the reasons the advanced nature of IMK is obscured is that the value of such knowledge arises as applied knowledge that honors living relationships between community, land and spirit. The recent colonial oppression of their culture and removal from lands which is essential to the application of such knowledge has further masked the advanced nature of their knowledge systems. I wish to briefly touch on one final resource that demonstrates the deep rationality and advanced nature of IMK within the context of biocultural diversity and heritage. In the 1980s the inextricable link between Indigenous and biological diversity became increasingly accepted, catalyzed greatly by the efforts of Darryl Posey, and is now widely stated as fact in most environmental law text books and the text books of other related disciplines. There have been a growing number of studies that explore the reasons for this link. Eric Smith suggests three main hypotheses that have emerged in the debate:

1) Indigenous cultures conserve or enhance biological diversity.
2) Biological diversity directly enhances cultural diversity.
3) Large-scale social systems reduce both cultural and biological diversity\textsuperscript{144}.

While not being able to engage a full scale discussion of these hypotheses, it is valuable to touch upon a recent theoretical development which offers a resource

for appreciating how the intimate and creative link between Indigenous communities, spirit and land facilitates biological diversity\textsuperscript{145}. One of the most influential recent developments has been the emergence of Actor Network Theory (ANT). It should be acknowledged that its development and application has hardly been uniform, yet one if its valuable insights for this discussion explores how nature and culture are intertwined and how human and non-human agents participate in a mutual construction of nature\textsuperscript{146}. It questions the traditional subject-object dichotomy and suggests interdependent relationships of intersubjectivity where non-human actors are agents in generating meaning in the network of relationships. It is a rejection of a simplistic positivist view and leads to explorations of a relational epistemology where meaning and value emerge in the relationships rather than just being located in the isolated objects.

While acknowledging the sometimes contradictory ways this is explored by ANT theorists, it may be helpful to attempt a simple example of how this illuminates the value of Indigenous knowledge as performed interdependent relationships with nature. On a popular level one might suggest that most Western people would say that a hospital is an object that once constructed exists independently. However ANT explores how a hospital is dependent on the relationships that sustain and


evolve its meaning each day, from the architectural structure, to the staff that arrive at work each day and perform their tasks, to the computers and the software that enable the communication networks and the great variety of other actors, both human and non-human that must renew their relationships each day in dynamic ways that give meaning to the concept ‘hospital’. If the relationships fragment at nearly any point in the chain of the network, the function of the hospital is disrupted. Similarly, focusing in parallel ways on ‘nature’ allows us to see how it is not just an independent ‘thing’ in itself, but is an interwoven web of relationships of both human and non-human actors. This is also fundamental to appreciating the arguments about how collective human behavior has induced climate change and global warming.

Indigenous knowledge as a performed renewel of relationships each day becomes easier to appreciate as essential to the maintenance of biocultural diversity when aspects of ANT are applied. ANT also illuminates how important cultural maintenance of memory and performed knowledge is for sustaining institutions\textsuperscript{147}, in this case the ‘institution’ of biocultural diversity. The alienation of Indigenous communities from their lands fractures this network of relationships and contributes to the erosion and loss of both cultural and biological diversity.

Applying this discussion more specifically to IMK, one can see that the bioactive compound which IP is seeking to ‘protect’, is part of a network of relationships that require the valuing and protection of a much broader set of relationships. This reinforces the importance of recognizing self-determination and the enhancement of native title on a deeper level in order to sustain the relationships that produce

the medicine in the first place. One aspect of these relationships considered essential by nearly all Indigenous forms of ICL is respecting the ancestors. As already explored, this includes being open to not only their received traditions but their active and ongoing guidance. This involves honoring fiduciary obligations to them, and respecting their role in the ‘discovery’ and maintenance of the IMK. It is suggested that there are reasonable and beneficial aspects of honoring this spiritual dimension for members of Western culture as well. Learning to begin with humility and respectfully engage these aspects of ICL may mature Western law in a variety of ways but I want to suggest three that have room for further exploration.

1) Respecting fiduciary obligations to ancestors strengthens the depth and range of the precautionary principle.
2) Respecting that purpose accompanies gifts of knowledge from the ancestors adds a new dimension to the set of current internationally accepted categories of intergenerational and intra-generational equity.
3) Finding ways to honour the spiritual connections between Indigenous knowledge, land and spirit enables and encourages a global culture of sharing and reciprocal development and reduces the drive towards commercialisation and creation of extremes of wealth and poverty. To the degree we can find ways to revive the reciprocal aspect of Indigenous customary law, it may enhance the availability of medicines, increase the diversity of local alternative treatments as well as significantly reduce the costs of medicines and eliminate the negative effects of multinational pharmaceutical monopolies which create monocultures of expensive medicines.

On a structural level of IP regulation there are two primary implications of spirituality: recognising the intrinsic value of interdependence and the unique intrinsic value of every individual component in that web of relationships. The relationships between the parts (local communities) and the whole (global
community) result in an infinitely complex system that generates value in a unique way between every component part. A mistake is to assume the current IP regime is a universal system of value rather than a particular tool developed in a cultural context, albeit of the dominant culture. Attempting to overlay a ‘one size fits all’ IP norm, particularly one that is moving towards global regulatory models of stronger levels of exclusion and control, will increasingly face tensions as it fails to match the reality of diversity in human and ecological relationships and the many ways in which knowledge is generated and shared between communities.

The structural implication is that we must consciously develop consultative mechanisms between cultures, in this case Western and Indigenous customary legal communities on local as well as international levels. If such consultation processes are engaged in the right spirit, for example, beginning with humility and empowering the agency of each actor, this will enhance the synergetic flow of information and value between the local and global in IP regulation in order for knowledge generation, respect and protection to occur. Linked to enabling this spirit of consultation and purpose, as Drahos has suggested, we must also consciously attend to the other element of spirituality, the moral value system in which the IP instruments are used.

This consultation process between cultures, religions and differing epistemic communities will also enhance the maturation of a conscious and effectively empowering set of moral principles. This has been generally left to a representational level at the international level of discourse while I suggest we need a fundamental shift to increasing our engagement of the local. The more fundamental paradigm shifts of appreciation of beliefs in the ancestors and a
spiritual dimension of existence will also be enhanced by such consultation processes. The culturally based visual training mentioned earlier for enabling the perception of 3 dimensional objects is an analogy of the capacity development that may occur through such heightened intercultural consultation processes.

The next chapter will explore practical consequences for applying these principles in the specific context of acknowledging Australian universities as the primary gatekeepers of the IP of IMK in their research with Aboriginal communities. It is suggested that metaphysically over the past decade or so, we have been stuck in an ‘us/them’ model of how to facilitate ‘benefit sharing’ in the international discourse. It is suggested that the idea of facilitating full Indigenous ownership of their own medical knowledge arises when one takes the spiritual principles of interdependence seriously. Additionally the suggestion of repatriation processes of IMK will be explored. Similar to experiences of enhanced reconciliation between archaeological and Indigenous communities, it is suggested that developing a routine process of repatriation would strongly enhance this reconciliation process in IP relationships as well. Most importantly for the focus of this chapter, repatriation is an important process that it is suggested will restore a balance of spiritual relationships, stimulate processes that enable the application of ICL and most particularly enable a reconnection to the ability of Indigenous communities to honor the fiduciary obligations to their ancestors.

Finally one last suggestion will be explored that is a response to the spiritual awareness of our interdependence as a human family and the unique intrinsic value and agency of Indigenous communities. Universities should each establish research and policy centres in these areas, directed by Indigenous
people, strongly involving the participation of local Indigenous community members, to engage the issues of ethically regulating ‘gatekeeping’, finding ways to engage the local customary law meaningfully, facilitate capacity building and meet whatever needs arise from their local context. This is effective in ensuring the above processes can enhance the self-determination capacity and social capital of the communities affected by the research of the universities working with them. Finally, this model of universities as gatekeepers with Indigenous directed IP centres embedded within them is also perhaps the best context for the realization of the first point in our conclusion. This will enable local consultation processes with Indigenous customary legal systems to interact with the legal ‘circulatory system’ of the world and allow for a flow of knowledge, development of cultural perceptual skills and integration of material and spiritual vision (in the university system as well), and empower diverse legal appreciations of IP to embrace globally in a more meaningful manner.
Chapter Seven

Universities as the Gatekeepers of the Intellectual Property of Indigenous People’s Medical Knowledge

Be the change that you want to see in the world.

Mohandas Gandhi

Introduction:

The previous chapter suggested that the ability to engage particular spiritual qualities of Indigenous customary law is critical for appreciating the ‘subject matter’ of Indigenous medical knowledge. This was done by exploring a select range of often neglected spiritual principles that have direct legal implications in considering the ‘subject matter’ of Indigenous medical knowledge which are arguably fundamental for Western law, and in particular intellectual property to engage. It explored some of the negative and positive implications for ignoring or engaging the spiritual dimensions of intellectual property and Indigenous medical knowledge. It also offered through metaphysical analogy and historical analysis examples of epistemic methodologies which can enhance confidence in the potential capacity to transform Western law to develop deeply respectful
engagements with the spiritual dimensions of Indigenous customary law. It recommended that facilitating the effective agency of Indigenous communities in a framework that empowers a deeper valuing of each others gifts is perhaps the best way of respecting the spiritual aspects of their IMK as well as “protecting” their IP. Finally it highlighted the importance of maintaining Indigenous custodianship of land because of the underappreciated sophistication of Indigenous technology that enables an indwelling and renewing of ecological relationships which is necessary for the maintenance of biocultural diversity that produces and sustains IMK. This is also a response to the spiritual awareness of our interdependence as a human family and the unique intrinsic value of the diversity of Indigenous communities and their knowledge systems.

While the inadequacy of IP to protect IMK from appropriation is a standard analysis emerging over the past two decades, there has been almost no investigation of the roles of universities as perhaps the most significant gatekeepers in the appropriation process of that knowledge. Why is it important to acknowledge Universities as such gatekeepers? In examining the seminal work of ‘Global Business Regulation’ Braithwaite and Drahos offer “five strategies for NGO’s to intervene in webs of regulation to ratchet-up standards in the world system.” One of those strategies is

- targeting gatekeepers’ within a web of controls (actors with limited self-interest in rule-breaking, but on whom rule-breakers depend)\(^1\);
If we replace “NGO’s” with “Indigenous peoples organisations”, we begin to see a principle that can be part of a strategy to increase the ethical standards of the world system of health in acknowledging in meaningful ways the contribution of Indigenous peoples. This is done by targeting the universities as key points in the regulatory chain of appropriation and illuminating important ethical obligations that arise in identifying them as significant gatekeepers.

While *Global* does not discuss universities specifically in these terms, it is suggested that the answer to the question is a clear “Yes. Universities are IP gatekeepers, perhaps the most significant IP gatekeepers of all between Indigenous communities and transnational companies.”

Universities are gatekeepers to this kind of knowledge in at least two fundamental ways important to the discussion of this thesis. Firstly they are arguably the most significant link in a chain of regulatory actors in the intellectual gatekeeping processes. Universities are the primary institutional location through which flows the medical knowledge of Indigenous communities to the transnational corporations who eventually appropriate that knowledge and transform it into commercially valuable products. The features of this gatekeeping role are profound in their effect of enabling appropriation from Indigenous communities, yet this aspect of biopiracy remains largely unexplored in the academic discourse. The second gatekeeping function relates to the filtering mechanisms in universities that determine the relevance and value of cultural models of epistemology; in this case the spiritual aspects of IMK. Essentially universities largely act as the social centres of the legitimation of particular types of knowledge systems. In the current university system, the
spiritual aspects of the IP of IMK can largely only find token forms of engagement.

Dr. Sandra Eades, among the first graduating class in 1990 of Aboriginal medical doctors in Australia\(^2\) conducted a workshop in 2003 for the Macquarie University Human Research Ethics Committee\(^3\). The workshop was about her work in consulting with Aboriginal peoples to assist in the drafting of a new set of Indigenous guidelines for the National Health and Medical Research Committee. She commented that Aboriginal elders she consulted with made an interesting point about the protection of Indigenous knowledge. She indicated that the elders consulted felt that there was a Western preoccupation and overemphasis on legal and ethical protection of knowledge. They said they wanted to see a shift towards learning to value Indigenous beliefs and wisdom and letting that deeper respect transform the Western ways of knowing and research. It wasn’t that protection isn’t important, but they said that it must start first with this deeper level of valuing Indigenous culture and that this would eventually lead to a more authentic form of protection\(^4\).

I value the gift of those wise comments and hope that the previous chapter demonstrated some positive ways of engaging that wisdom. While the previous chapter attempted to enhance a ‘metaphysical place of humility’ in Western

\(^2\) In speaking together after the workshop we were both surprised to discover the connection that my wife Soheila Kavelin (nee Eshraghi) went to medical school with her and was not only in the same class but also in the same study group as Dr. Eades.

\(^3\) I served on the University Human Research Ethics Committee as representative Baha’i chaplain from 2002-2005.

\(^4\) She also mentioned that the subject area of this thesis was one important gap in the national guidelines that her group was aware of but was beyond the terms of their mandate to explore.
thought and particularly legal culture where this could occur, the current chapter will hopefully offer some practical explorations of creating ‘institutional space’ for protecting IMK and valuing the spiritual aspects of that Indigenous knowledge. This inability to honor some of the issues discussed in the previous chapter, or as some refer to it, “epistemic ignorance” of the university, has dire and significant consequences on a number of levels that should be of great concern to all those within it. It has negative consequences for the health of the institution itself as part of the disease of academic capitalism: a phenomenon of growing concern among many academics. It is the cause of the experience of ‘cultural discontinuity’ facing Indigenous staff, students and communities working with and within universities. While thirdly, in the specific focus of this thesis, it creates inappropriate models of intellectual property that encourage the appropriation of Indigenous medical knowledge. This impairs rational investigations of models of genuine Indigenous ownership, or rather full custodianship. It will be suggested that engaging this epistemic ignorance with courageous humility will have very rewarding outcomes, not just for Indigenous peoples, but will offer the universities more effective and attractive alternatives to the model of academic capitalism.

Such rational investigations would arguably enable sustainable Indigenous economic and legal models, and correspondingly positively influence the worlds systems with their essential focus on the principles of respect, responsibility and reciprocity. Within the context of this thesis there is potential to enhance positive paradigm shifts in Intellectual property as well as health systems. It is ultimately argued that this will greatly benefit the wider public in a paradigm shift in health systems reducing the costs and increasing the range of available medicines as well as maturing our understanding of health in general.
A shared crisis

I would argue that there is an opportunity to appreciate this as a major crisis that may serve to unite Western academia and Indigenous peoples in the overlap of negative consequences of academic capitalism for both communities. Academic capitalism not only intensifies the appropriation consequences negatively affecting Indigenous communities, but is impairing the ability of students and academics to connect to the freedom of their own creativity and the integrity of their own conscience, capacities which are arguably essential in enabling the purpose of the human soul. Paul Tyson in an eloquently spoken paper voices his concerns for the implications of this academic capitalism when he found out that as of 2007 the Queensland University of Technology executive was considering eliminating the humanities altogether, a disturbing pattern increasingly being considered by other universities⁵.

It seems that I and the university’s executive have very different beliefs about what the “core business” of a real university should be. The “old” view is that a university’s “core business” is to facilitating the pursuit of true knowledge, and in so doing, to cultivate the human soul. Formation in sapientia (wisdom) is necessary for those who wish to gain the responsibility and power of scientia (knowledge) or else the powerful will have no understanding of truly good and inherently humane ends, and will perpetrate stupidity and evil with their power. Indeed, the smarter the unwise are, the more evil and stupidity the powerful will inflict upon us. Does our QUT executive know that Western universities historically arise from the church and find their substantive values from theology? If they haven’t read Weber and Honnfelder, they probably have no idea that their “modern” disinterest in traditional university values also arises from the theological degradation that produced formal rationality⁶.

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This sentiment is similarly reflected by a diverse range of Indigenous voices both in academia and in the community\(^7\). I also suggest it is particularly urgent that there is a concerted effort to respond by exploring paradigm shifts necessitated by this crisis and implementing practical strategies of transformation.

**There is a unique opportunity to address this in this generation.** Why? As will be shown this crisis has primarily intensified since 1984. The majority of academics in tenured positions are experiencing varying degrees of cognitive dissonance over the change of circumstances they increasingly find themselves in as a result. Many prominent academics are writing about this crisis, and some are resigning early in protest\(^8\). Butterworth and Tarling conclude their analysis of this crisis by highlighting that universities are being privatized on the assumption that the citizen is just a consumer and that this capitalistic process undermines the very idea of society\(^9\). This dissatisfaction presents an opportunity of openness to exploring alternate models that alleviate this cognitive dissonance. However this opportunity will, and is perhaps already, beginning to diminish as those most affected by the disparity of experience between their early career contexts and the current one begin to retire in increasing numbers.

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Already universities are replacing their senior executives, vice-chancellors and deans, with professional technocrats and business managers. Some of these young managers are quite comfortable with the move towards entrepreneurialism, a focus on productivity as defined by economic output and other features of academic capitalism that will be explored further in this chapter. This crisis will only become more entrenched as a newer generation of academics eventually replaces the majority of staff. Then we will have a context of staff that may still feel uneasy with the demands of academic capitalism, but who will not have the empowering vision of remembering that it has not always been this way and therefore transformation is possible. It will just be ‘the unfortunate way it is’.

This general context is an opportunity for a range of scholars to collaborate. Within the context of this thesis I will be maintaining a somewhat more narrow focus on the implications for transforming the context of the appropriation of IMK, but is still important to appreciate the general history that has contributed to this crisis.

Universities have to varying degrees evolved as embedded instruments first of religion, then increasingly the state and now as instruments of both state and industry, performing various functions including legitimation of the ideology of the state. The nature of how that ideological legitimation has evolved and correspondingly affected the research agenda of universities has been complex. However the current ideology is largely an economic legitimation in demonstrating the capacity of the government to improve the economic conditions of the state in partnership with industries and this is increasingly affecting what is considered legitimate research in modern universities. It is
suggested that both of these gatekeeping functions facilitate a weakness in the recognition of the intrinsic value of Indigenous knowledge systems and culture. This imbalance of intrinsic and instrumental value is seen when Indigenous knowledge is usually only valued instrumentally in its ability to meet the needs of the dominant Western culture or whose rationality is judged by the standards of shallowly defined Western scientific models of knowledge.

Gerard Delanty provides a valuable study of the sociological and historical development of the university. Originally European universities were founded as appendages of monasteries, but they were born at a time which saw the gradual decline of the Church and the rise of the nascent nation state. Eventually they became an ally of the secular authorities but still maintained strong ties to their ecclesiastical origins. Chapters four and five demonstrated how the secularization of law resulted in a diminished capacity to value an integrated spiritual and material epistemology. This was related to this historical period of social fatigue from religious wars and revolutions of the state. Similarly the university was affected by these historical processes and the cognitive models of universalism, neutrality and objectivity were called into question. However, while the nineteenth century witnessed a university held in tension between the authorities of the church and state, there was still a predominant adherence of the “overriding belief in the possibility of truth and the spiritual mission of knowledge.” The monastic origins of the university, even today, are still reflected in the cultural aspects of the university such as the conferring of degrees, rituals, ceremonial dress and the idea of faculties of knowledge. Yet the epistemological unity of spiritual and material reality has been altogether

fractured by the historical forces mentioned and this has been exacerbated by the increasing focus on economic rationalism and academic capitalism of the modern university. In this modern university one can hear academic voices saying “we have been carefully trained not only to separate religion from civic life but also to dismiss the spiritual”\textsuperscript{11}.

The historical forces separating the material from the spiritual and increasingly degrading the spiritual have moved through the thirty year war and the enlightenment to intensification in the current modern period of academic capitalism. These forces combine to create a current state of affairs where the centrally important spiritual values of Indigenous knowledge fundamental to both Indigenous medicine and law find only a token resonance in university culture. It is suggested that this diminished capacity for valuing a balanced material and spiritual epistemology in the university is not a necessary or absolute state of affairs but rather an unessential consequence of historical forces. These forces have also resulted in the privileging of one cultural and economic section of society over a great diversity of others. Appreciating the evolution of this process affords us a resource for a conscious engagement with renewing an integrated epistemological capacity as both possible and beneficial to the production and enhancement of knowledge in general, and more specifically creating a more appropriate space for Indigenous knowledge to be valued.

The next section of this chapter will provide an overall historical and sociological background to the more recent globalization trends which have intensified this

process and as well as strengthening the intellectual property gatekeeping roles of universities.

The Modern Period: Background of the Increasing Role of University as Gatekeepers

The first gatekeeping function, IP IMK regulation, has been greatly strengthened in the previous century for a number of social and historical reasons. However the last 25 years have seen an intensification as universities have shifted towards models of ‘academic capitalism’ which increasingly depend on private industry partners for funding and which strongly influence what kinds of knowledge are valued as relevant for those commercial relationships12.

On the level of how this is reflected in regulation, this is partially a result of significant changes in the role and function of universities that has evolved in the previous century. Slaughter and Leslie in a widely acclaimed study13 suggest four important effects of recent trends in neo-liberalism for higher education in their study of Australia, Canada, the UK and the USA. The four implications are:

1.) the “constricting of moneys available for discretionary activities such as post-secondary education”.

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2.) “the growing centrality of technoscience and fields closely involved with markets, particularly international markets”.

3.) “the tightening relationships between multinational corporations and state agencies concerned with product development and innovation”

4.) an “increased focus of multinationals and established industrial countries on global intellectual property strategies.”

This is confirmed in a recent report by the Group of Eight, a consortium of some of Australia’s top universities:

A fact often overlooked in discussions about the funding of Australia’s universities is just how ‘commercial’ they now are compared to twenty-five years ago... in 1981 Australian universities received almost 90 per cent of their income from government sources, yet by 2003 this figure had declined to less than 43 per cent14.

While a recent report by Macquarie University “The innovative university” highlights their central priorities which reflect the significant findings in Academic Capitalism:

With regards community engagement, and particularly commercialisation of research, as an example at Macquarie over the last five years the University has:

• Established the Macquarie Institute of Innovation – committed to providing education in innovation and entrepreneurship to produce

14 Go8 (2005). Group of Eight submission to the House of Representatives Standing Committee on Science and Innovation inquiry into pathways to technological innovation.
graduates and staff with skills and insights needed to launch new ventures, lead the development of new economically significant enterprises, and drive transformational change.

- Established an Office of Business Development (OBD) charged (in cooperation with the Office of the Deputy Vice-Chancellor (Research) (“DVCR”) and the University’s Research Company, Access MQ), with the protection of the University’s intellectual property, and, where appropriate, its commercialisation
- Revised its Institutional Intellectual Property Policy
- Established new processes for attracting and evaluating Invention Disclosures from staff and students by way of a working group (the Intellectual Property and Commercialisation Management Committee – made up of members from OBD, DVCR and Access MQ) which meets fortnightly. This group monitors all activities from invention disclosure to eventual sale/licensing/spin-off
- Established an Awards Night – where University staff and students receive awards in acknowledgement of outstanding achievements in the invention/commercialisation process. This is designed to change the university culture so as to publicly value commercialisation as an academic activity
- Promoted research interaction with local government and industry
- Established an R &D Park on campus, including incubator facilities

Many suggest that this dependency on facilitating industry partnerships and commercially profitable research has had disturbing effects on the traditionally

more disinterested research positions of the university. Prior to 1981 almost all publicly funded technology and medical research arising out of a university would be owned by the government or released into the public domain through publication. 1981 is symbolic as a historical marker because that is when the Bayh-Dole act went into effect in the US and gradually found similar manifestations in other developed countries like Australia. This act allowed universities and small businesses to own patents in inventions that they had developed with federal funds\textsuperscript{16}. Combine this with the previously mentioned reduction of Federal funding for 90% to now less than 43% and you create a dependency on patent generation and industry partnerships for university survival. Increasingly in this period there has been a rush to commercialise research in universities as well as a transfer process of biotechnology from the public sphere to being ‘locked up’ in the private sphere\textsuperscript{17} and this has had a consequence on the kind of research in medicine that is engaged. For example, although funds spent on global research and development of pharmaceutical drugs has more than tripled since 1986 (from $US30 Billion in 1986 to 150.9 Billion in 2006), 90% of this money is spent on the health problems of less than 10% of the world’s population\textsuperscript{18}. This “90/10” equation has remained relatively constant in that 20 years regardless of the dramatic increase in funding levels overall. While an analysis of the 1,035 new drugs approved by the US Federal Drug Administration between 1989 and 2000 demonstrated that “less than 1%  


addressed diseases that primarily afflict the poor and for which new treatments would have the greatest effect on world healthcare”. We live in an age where we have set aside funds to produce and patent medicines that treat separation anxiety in dogs yet have not set aside funds to research or produce any medicine to treat the fatal disease of sleeping sickness which 60 million people in developing countries are at risk of contracting.

Returning more specifically to the process of ‘Academic Capitalism’ described earlier, this has arguably manifested in a more general impairment of the democratic function of universities. University administrative culture in Australia has undergone significant changes since the mid 1980’s, including reductions in government funding, decreasing job security, a relative decline in salaries, more constricting government control over teaching and research budgets, the expansion of managerial authority at the expense of academic collegiality, as well as the already discussed growth of ‘marketing’ activities by universities in an attempt to gain more finance.


Some of these features have arguably reduced the potential role of universities in acting as a public discourse which enables the mediation of different modes of knowledge (including Indigenous modes that can include a focus on spiritual and material integration), a disinterested forum for respectful contestation between such modes, the articulation of cultural models and corresponding institutional innovation\textsuperscript{24}.

While the process of academic capitalization has been largely linked to the economic realities of globalization\textsuperscript{25}, commercialization is not necessarily the only possible future for universities and in fact is only one, albeit perhaps the currently dominant, feature of the globalization process influencing higher education and universities. There is a tension between unity and diversity in the globalization process and the flourishing of diversity is a strong element of globalization often minimalized in the face of the hegemony.

While I am intentionally simplifying trends and processes of globalization in consideration of space in this thesis and for the sake of clarity of argument, it is important to acknowledge that the discourse on globalization in education has a significant positive ‘bottom up’ potential which is often neglected in studies so far. Santos and Rodriguez-Garavito, although referring to the specific hegemony discourse on law and globalization make insights which are completely transferable in relevance to the education and globalization context:


First, despite its call for realist descriptions, the reality grasped with its analytical lenses is a highly partial one. Since its entry point of choice into global legal processes is the world of transnational elites, the description it offers is as revealing as it is limited. Missing from this top-down picture are the myriad local, non-English-speaking actors from grassroots organizations to community leaders – who, albeit oftentimes working in alliance with transnational NGO’s and progressive elites mobilize popular resistance to neoliberal legality while remaining as local as ever. From Bolivian peasants resisting the privatization of water services to Indigenous peoples around the world resisting corporate biopiracy, these subaltern actors are a critical part of processes whereby global legal rules are defined…26

Continuing their critique of an often overly simplistic hegemonic discourse they highlight another essential consequence of ignoring the reality and potential of the grassroots community base:

…this partial picture, far from being a non-prescriptive description, has a normative connotation. Collapsing highly diverse actors and organizations into a generic category of elites and very different agendas into a catch-all category of global orthodoxies yields a politically demobilizing picture of law and globalization. If hegemonic structures and discourses are so pervasive as to absorb and dilute counter-hegemonic strategies (which renders the latter undistinguishable from what they oppose), we are left with a deterministic image of globalization in which there is virtually no space for resistance and change. Resistance goes on happening and alternatives continue to arise nonetheless…corporate dominance of the global regulation of intellectual property rights and labor have not prevented activists, human rights lawyers, workers, and marginalized communities in South Africa and the Americas from successfully pushing for new legal frameworks allowing the production of affordable antiretroviral drugs for AIDS patients….27

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In Habermas’s epistemological terms, the university must reconnect knowledge with human interests\(^{28}\). It is partly a question of enabling meaningful engagements between these differing cultural models and modes of knowledge so that Indigenous medical knowledge can be valued and then protected in more meaningful ways to Indigenous communities. If this occurs I suggest that the resulting relationships of trustworthiness could potentially revolutionize the health and pharmaceutical industry globally and offer alternative yet effective models of diversely expressed community based health. This may potentially open a new discourse on sustainable Indigenous economies as well as contribute towards the transformation of the global intellectual property system in recognizing and valuing the diversity and wisdom of Indigenous intellectual property systems\(^{29}\).

I would suggest that this particular challenge offers a case study involving the illumination of principles associated with a paradigm shift in university culture.

The university cannot enlighten society as the enlightenment model of the university assumed, but it can provide the structures for public debate between expert and lay cultures. Could this be the chance for the university to evolve a new identity in the global age\(^{30}\).

We cannot and should not return to the age in which university systems partly served to legitimate the ascendency of particular political and ecclesiastical

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29 Some of these principles have been discussed in chapter 5. However, by the end of this chapter I will suggest further possible positive influences on global intellectual property system particularly related to medicines.

ideologies. Yet there is the opportunity to engage the world’s diversity in the location of the university which might offer a unique type of second Enlightenment in which deeply honoring the intrinsic value of the worlds cultural diversity offers respectfully contestable spaces for exploring diverse cultural modes of knowledge. This may also enable diverse investigations of a more integrated appreciation of the material and spiritual dimension of human existence. Strengthening the already existing spiritual principles of compassion to alleviate suffering and service to humanity as fundamental to the purpose of research is one example which is a variation of Habermas’s exhortations.

Narrowing the focus of gatekeeping:

Let us now more specifically turn to the question: *Do universities function as gatekeepers of the IMK IP flow between Indigenous communities and transnationals?*

Upon a review of literature and interviews with leading academics in related fields, it appears that this question has not been explored directly before. However there are other related studies which when placed together create a reasonable linkage of evidence to support the conclusion. One of the consequences of the shift towards academic capitalism in the past 20 years has been a proliferation of technology company ‘spinoffs’ from universities. This is particularly so in the case of biotech and pharmaceutical companies. An examination of the data\(^{31}\) of spinoffs from three universities in the UK demonstrates that there is a clear spike in biotech spinoffs from 1996 onwards to 2005 with 40% of 114 technology based spin-off companies being specifically in

\(^{31}\text{Smith, H. L. and J. Glasson (2005). Excellence in new venture creation: the Oxfordshire model. eGov Monitor, Oxfordshire Economic Observatory} \)
the biotech and pharmaceutical company sector. **These are firms which have been formed by a member of staff or a student.** In 1998, describing the impact of the Bayh-Dole act on students, the director of the Technology Licensing Office at MIT writes,

> The biggest impact of university technology transfer on students comes from the success of start-up companies based on university licenses. The process tends to be very visible on campus, providing role models for many students. At the Massachusetts Institute of Technology, for example, the annual student business plan contest elicits 75 to 100 entries, a large fraction of which are based on plans that the students fully intend to turn into businesses. Of the six semifinalists each year, more than half achieve venture capital financing, and many who do not make the semifinals nevertheless go on to form successful companies.\(^{32}\)

Additionally, it is important to note that these start up companies formed by staff and students do not generally remain companies attached to or controlled by the university. Particularly in the UK and Australia, the university may benefit from the initial licensing of the patent to the industry partner, but eventually the core products of the business is acquired by a multinational company, the most successful of which are based in the US.

> Two recent trends are mergers and acquisitions and serial entrepreneurship. The first, which has resulted in changes in ownership of the Oxfordshire economy, particularly since 2000 and especially in biotech, is that of acquisition or merger by foreign companies...all but one biotech have been acquired or merged.\(^{33}\)

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These trends are reflected in most developed countries including Australia. As of 2006 there were over 420 biotech companies in Australia\textsuperscript{34}.

Human therapeutics makes up the majority of these companies, [62\% as of August 2005]\ldots Australian universities, medical research institutes and government laboratories continue to be the major source of the technologies that support the Australian biotechnology industry\textsuperscript{35}.

As early as 1999 a trend was emerging where 40\% of Australia’s biotech companies were spinoffs from research institutions, including universities. New South Wales is responsible for 1/3 of these, with Sydney having 75\% of the countries venture capitalist managers and 85\% of the finance pool responsible for funding these\textsuperscript{36}.

Similar to the trends mentioned in the Oxfordshire report, Australian biotech companies also experience significant multinational and foreign investment, merger and acquisitions and this is strongly encouraged by federal government agencies.

Robert Hunt, Invest Australia’s Senior Investment Commissioner for the US, said Australian biotech firms are by nature born globally focused, making them ideal investment and licensing partners for US investors. "The Australian and US legal and cultural commonalities, and Australia’s number one ranking for intellectual property protection makes deals with biotechs from down under even more appealing.\textsuperscript{37}"


\textsuperscript{36} Thorburn, L. (1999). "Biotechnology in NSW." \textit{Asia-Pacific Biotech News} 3(25)
In 2005 there were 384 partnerships announced with Australian biotechnology companies. Most significantly, 72 per cent were with overseas companies or agencies.

This background clearly creates a situation where universities are almost obliged to commercialize research that may have such potential. The IMK of Indigenous peoples is clearly one such potential resource.

It is also important to appreciate the IP policies of universities as they relate to Indigenous peoples. Most universities have IP policies which are geared towards encouraging commercialization and protecting the ownership of IP by the university. Additionally some universities have special clauses within that context that mention special considerations in relation to Indigenous knowledge.

For example the University of Queensland IP policy clause in relation to Indigenous peoples reads:


8. Indigenous Cultural and Intellectual Property Rights

8.1 “Indigenous Cultural and Intellectual Property Rights” refers to Indigenous Australians’ rights to their heritage, and consists of the intangible and tangible aspects of the whole body of cultural practices, resources and knowledge systems developed, nurtured and refined by Indigenous people and passed on by them as part of expressing their cultural identity.

8.2 The heritage of Indigenous people is a living one and includes items that may be created in the future, based on that heritage. Indigenous Cultural and IP Rights are increasingly being recognised internationally through treaties and standard setting developments by the United Nations and its agencies. The University recognises and will protect Indigenous Cultural and IP Rights to the fullest extent permitted by Australian law.

The difficulty with this is that one of the reasons there is such a flood of literature on the appropriation of IMK is that the law has clearly not been adequate in protecting it in the first place. While the law can be skillfully used to offer some types of protection, even this is limited and insufficient by most Indigenous standards. But more importantly, the law in itself does not look after the interests of Indigenous owners of IMK. It is a tool that can be used to make knowledge commercially viable by ensuring the proprietary rights of whoever registers it first is protected. In a world where the corporations are the ones with the legal resources vs Indigenous communities with nothing, it becomes a tool to serve their appropriative capacity rather than an active mechanism of protection for Indigenous people. With universities increasingly becoming not only partners with corporations and pharmaceutical companies, and in fact becoming corporate in structure themselves, the reassurance of ‘fullest extent permitted by Australian law’ becomes almost a threatening phrase. Additionally, even if universities in partnerships with Indigenous communities do allow IP ownership
to be vested with the Indigenous community it does not generally address the fundamental spiritual Indigenous understanding of protection. These limitations have already been discussed in earlier chapters.

Turning to Macquarie University again, the current IP exception clause (6.3) in relation to Indigenous Knowledge is possibly even weaker than the University of Queensland:

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**Macquarie University Intellectual Property Policy**

**Version 3.1 Approved by Council - 20 October 2006**

### 6.3 Respecting third party rights

Under this Policy, all members of the University community (University Employees, Students and/or Associates) are required to respect the rights of third parties in relation to Intellectual Property, and members may be required to provide necessary information, and otherwise co-operate in this process.

Respect for the rights of third parties may involve:

(a) correctly identifying the ownership of underlying material (or rights therein) for any new development;
(b) correctly acknowledging the contribution of third parties, including previous employers of University Employees, current employers for Students or other third parties;
(c) not infringing the Moral Rights of third parties; and
(d) not impinging upon the cultural, spiritual or other interests of Indigenous peoples.
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This is a fairly soft policy approach which only indicates respect for the rights of Indigenous peoples “may” involve not impinging upon the cultural, spiritual or other interests of Indigenous peoples. This is a very brief and diluted expression that effectively may have no real consequences of protection. This is particularly so when the dominant theme of the university policy is to ensure successful commercialisation that leads to spin off companies in partnerships between the university and corporations.

This chapter has provided reasonable arguments that Universities function as gatekeepers in a fundamental way. This means we can now ask the all important question “What responsibilities of transformation arise for the university because of that regulatory role?”. In the struggle to answer questions arising from this realization we may begin a unique process of social transformation in the university. A useful tool for catalyzing this process is becoming aware of the levels of the ethical continuum of benefit sharing models that universities and other institutions have participated in. This allows a more informed debate about precedents of the applications of justice in this gatekeeping process.

Six levels in the ethical continuum of benefit sharing models

Having explored the background to academic capitalism as well as the IP policy contexts it is important to examine some actual cases that demonstrate a range of ethical standards.
One can trace a number of levels in IMK IP relationships that begin with outright biopiracy and no IP acknowledgment. We have only just started to move beyond this stage, while the recent CBD report discussed in chapter two demonstrates it is still a very current modus operandi in many places.

In what one might call the next level we then move towards very minimal and generalized acknowledgements of the source of the knowledge ("I would like to thank the many Aboriginal people that have assisted me") then to a range of categories of ‘benefit sharing’ that can be limited to including the name of community members in publications for co-authorship and copyright ownership, to employment opportunities as assistant researchers, to various capacity building processes.

Regarding actual examples of recognizing actual ownership of TMK, in Australia, as recent as 1993 it could still be said, referring to a discussion in a published article:

> What is pertinent to this discussion is that the researchers have promised not to reveal the tree species so that Aboriginal people who informed them of its medicinal properties could share in any resultant commercial development. This is the only comparable instance of recognition of ownership of knowledge to date and indicating that other similar ventures could prove mutually beneficial. [emphasis added]

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The next level that emerges is the first step of a variety of possible ‘partnership models’ where the Indigenous communities will have little effective involvement in the research of the project but are offered a “50%” share in any profits that emerge. This partnership model does not usually include any short or medium term categories of benefit sharing. However this stage is deceptive in that because universities or medium sized biotech companies are not in a position to actually ‘carry the knowledge all the way’ or in economic terms, take the bioactive compound from plant to pharmacy shelf, they are obliged to sell the IMK IP to a multinational or large pharmaceutical company who may offer on average 4% total of any profits that might emerge. This means the “50%” promised to the Indigenous community then translates into around 2% of profits. The case study of Griffith University discussed in chapter three is an example of this ethical level. Similar policies in the University of Illinois provide another example⁴⁰.

A further deceptive problem is that in not too rare a case, a pharmaceutical company will purchase the patents on the product, not with the intention of commercialization and benefit sharing, but with the intention to shelve the product as a mechanism of protecting another existing product niche in the market⁴¹.


⁴¹ This was confirmed in confidential conversations with academics with patents pending engaged in negotiations with pharmaceutical companies.
Another level is also within the ‘50/50’ model, but will include short and medium term capacity building and may involve an attempt at genuine partnerships and co-management of the project. The Indigenous community may even be enabled to determine the IP protocols in the project. However the effective final result still applies of having to split the 4% payout of profits from the multinational that acquires the eventual patents and other IP.

Another level can be seen potentially in a model pioneered by Shaman Pharmaceuticals with similar adoption by PS/Napo pharmaceuticals. These are pharmaceutical companies with existing capacity to commercialise IMK through all the stages of ‘bush to pharmacy shelf’ who choose to work with Indigenous communities. In this model, Shaman attempted to implement short, medium and long term strategies for benefit sharing. There is a strong qualification to this, in that Shaman and Napo have not disclosed their level of benefit sharing percentage yet. This could potentially reduce or increase the ethical maturity of this model when the final percentage is revealed.

Because of the nature of the pharmaceutical industry, there is a long lead time before a drug is actually on the market, and the company thought it inappropriate to delay reciprocity until this happened. Short and medium term methods address this time issue. Short term reciprocity, which we will focus on in this paper, devotes 10-15% of the field research funds to immediate community needs, as defined directly by the community. Reciprocity can be in the form of services, or of supplies which are lacking in the community, but is decided on by the group, not by Shaman.

Medium term reciprocity are projects that transpire in several months or years, and include major parts of the CBD, technology transfer and sustainable development goals. This involves working with local universities, governments, Traditional Healers Associations, Federations, and other groups to benefit the community. These intentions are stated in Article 10 (e) of the CBD, which calls “for the encouragement of
cooperation between government authorities and private sector in developing methods for sustainable use of biological resources (CBD 1992).

Long term benefits are those that are distributed after a product reaches the market. Compensation was to be returned by The Healing Forest Conservancy (HFC), a non-profit founded by Shaman Pharmaceuticals, to develop and implement methods to deliver long-term compensation back to the communities with which the company has worked. The overall philosophy is that a portion of company profits will be returned to all communities and countries in which Shaman had worked, regardless of where the plant or information that lead to it’s discovery was encountered.

This model is an excellent example of a pharmaceutical company interested in developing the highest ethical standards in this evolutionary process. However it is unfortunate that Shaman Pharmaceuticals became insolvent drawing unnecessary comment from academics that such a model does not work. In reality the collapse of the company had much more to do with everyday business issues and nothing to do with the high standards of their ethical engagements or the capacity for ethnobioprospecting to provide useful medicines for civilization. This is important to document in order for the ethical lessons of this model not to be dismissed.


43 Graham Dutfield writes, “The best-known company to adopt this approach in developing new drugs was Shaman Pharmaceuticals. Facing the threat of closure, however, the company left the pharmaceuticals sector and entered the market for botanical medicines. Consequently, the economic case for ethnobioprospecting has been notably weakened.” Graham, D. (2001). ”TRIPS-Related Aspects of Traditional Knowledge.” Case Western Reserve Journal of International Law 33(2), p.245.
In a personal email from Steven King, previous VP of ethnobotany and conservation for Shaman pharmaceuticals, he outlined the issues surrounding the collapse of Shaman. He states that they essentially ran out of funds and were not able to raise further funds. He believes this drop in available funding was largely due to the timing of the immense shift of investment from biotechnology into IT during the ‘dot com’ boom. In August 2004 Shaman raised about $US 14 million towards the completion of their Phase III single pivotal clinical trial in HIV/AIDS to complete their new drug application (NDA) for the FDA which was necessary to get a manufacturing partner established. Shaman was fast tracked for expedited review and they were further advised by the FDA that if there were positive results from their one pivotal trial they could file their NDA. The FDA usually requires two pivotal trials. Shaman was confident that the trial would be positive enough to file the NDA necessary for their business model to survive which relied on subsequent on finding a partner to sell and manufacture the drug. The FDA concluded that their trial looked very good, but suggested they might want to do one more clinical trial on a subset of patients. They did not make this mandatory to proceed, but because as a public company they had to disclose this recommendation of the FDA in a press release. Shaman stock then started to be traded in a “death spiral preferred” and the price kept going down and down each hour whereupon it became impossible to raise any money as a publicly traded stock which now had no value compared to the day before. In response to this they had to lay off about 70% or 65 people from their company the next day and shifted their strategy to the dietary supplement industry which ultimately did not succeed which is why they filed for a chapter 11 (bankruptcy). They did file a reorganization plan but it did not succeed.
So you were correct, business and finance and [the] tough nature of drug development is what caused our demise not our approach to benefit sharing, research collaboration etc.

Subsequently, many of the same medicinal and social relationships were maintained and re-emerged in the new business venture of PS Pharmaceuticals, now part of Napopharma. Steven King, (now the Vice President Ethnobotany & Conservation of Napo Pharmaceuticals Inc) wrote,

Napo has adopted the previous commitments and obligations of benefit sharing that Shaman had in place. The Healing Forest Conservancy will, as before, manage that process when we get to market and have product profits, which we hope will be in 2007 or early 2008\(^{44}\).

Of interest is that Napo currently has 4 clinical trials with Crofelemer (a medicine for treating diarrheal diseases) with two of these clinical trials occurring in lesser developed nations.

The 4 trials are:

1. Phase 2 trial for Cholera induced diarrhea. Clinical trial being done at the International Center for Study of diarrheal diseases in Dhaka, Bangladesh.

2. Phase 2 for treatment of Infectious diarrhea in several cities in India, being conducted Napo’s partner Glenmark Pharmaceuticals.

3. Phase 3 pivotal trial for HIV/AIDS diarrhea in United States being

\(^{44}\) Steven King, March, 2006, personal correspondence on file with author
conducted by Napo.

4. Phase 2b trial for diarrhea predominant Irritable Bowel Syndrome in United States by partner Trine Pharmaceuticals.

One significance of this that it highlights a pharmaceutical company utilizing IMK derived new therapies “being made available in similar time frames in multiple regions and socioeconomic levels for diseases and symptoms that cause death and suffering in many parts of the world”45.

Perhaps the next stage on the continuum of acknowledging the intrinsic value of IMK IP is where governments invest funds to empower the Indigenous peoples in a long term capacity building process. This is done with the explicit goal that they will own their own medical knowledge and develop the expertise to commercialise it themselves with the freedom to apply their own Indigenous customary economic and legal principles in the model arising. Furthermore they are given the knowledge and skills to understand how to enhance their own medical knowledge systems and integrate them as they choose with Western paradigms. Dr. Paulo Morisco was the Director of EU sponsored Development Projects for Bhutanese Traditional Medicine and helped set up and develop the National Institute of Traditional Medicine. This project initiated a process using such principles and sought to develop a national system that integrated the best of both Western and Traditional forms of medicine as a unified national system. Interestingly Dr. Morisco moved to Australia with the intention of helping facilitate similar processes with Aboriginal peoples but has not found the

45 Steven King, December 2007, personal correspondence on file with author.
support yet for this to occur. He is currently working as a GP for the Townsville Aboriginal and Islander Health Service.

Another example of an application of this higher ethical level is the Indigenous Knowledge Systems (IKS) Policy developed and maintained by South Africa. This was passed by the Minister for Science and Technology for South Africa on February 2, 2006. Greg Young-Ing explores this model in his recent PhD thesis.66

Under apartheid, IKS and its Indigenous practitioners were suppressed and ridiculed and became severely disadvantage. The IKS policy was passed to partly address the residual inequalities between Indigenous and mainstream health systems remaining after apartheid as these disadvantages have the potential to increase and further entrench the disparity between Indigenous and other sectors of society over the coming decades, unless greater effort is made now to redress the ongoing inequalities, not least of which is in respect of the knowledge systems of indigenous communities and specific knowledge traditions within these, such as guilds of traditional healers and specific knowledge traditions held by women within communities.47

The Department of Health developed Traditional Health Practitioner’s legislation that mandates the creation of a regulatory body, the Traditional health Practitioner’s Council that will preside over the activities of approximately 200,000 South African traditional healers. The Department of Science and Technology (DST) established a programme to facilitate research on medicinal


plants and IKS at the National Research Foundation. The policy acknowledges a broad approach is required and therefore a coordinating mechanism was established through an Inter-Departmental Committee on IKS chaired by DST.

Complementary and contributory initiatives in other sectors are under active development and contribute to a fuller picture of the South African IKS environment. Clearly, it will not be possible to prescribe in detail to sectors that have unique features of their own. Nevertheless, it will be necessary to create several new cross-cutting functions to underpin the optimal performance of IKS in South Africa. The purpose of this aspect of the Policy is to affirm, promote and debate IKS, and to create a sense of community across a diverse range of practitioners. These functions are as follows:

- A high-level advisory function to Government on IKS matters reporting to the Minister of Science and Technology;

- An IKS development function, including scholarship, research development, the maintenance of a record system for IK and the promotion of networking structures among practitioners, to be located in the DST;

- Legislation and administration capacity to protect intellectual property associated with indigenous knowledge, to be administered by the Department of Trade and Industry;

- Establishment of an IKS Fund to support institutions that will assist Indigenous and local communities in the categorization and characterization of their biological resources, innovations, practices and technologies;

- A formal system to record IK must be created.

It is important not to too strictly try to define the boundaries of the six stages offered here as examples. There are clearly more than six levels, but these have been offered in order to provide contrasts and a sense of evolving models of
ethical applications. In reality there are many more models. Some other cases would be difficult to fit into one of these six levels and in reality may combine several levels. In fact some cases show that there are opportunities for renegotiation of the ethical levels of benefit sharing with the model changing several times in the course of negotiated relationships. The prostratin case in Samoa is a good example of this48.

These examples of six stages of ethical engagement provide resources for universities to engage in critical self-examination of where on this continuum their own gatekeeping policies place them. Currently most universities would fall within the bottom half of that continuum, but exploration of models that have worked elsewhere may stimulate a raising of that bar. In contemplating the application of the last integration examples of Bhutan and South Africa it would be important to recognize that the Australian context is very different and would require different approaches. One reason for this is the greater dominance of the Western system and lack of support for Aboriginal self-determination. If South Africa had attempted an integration of IKS before apartheid had ended, clearly the inequality of power would have resulted in very different and possibly tragic results. Attempting a system of integration at this stage in Australia may very well result in assimilation and the further erosion of culture instead of enabling the sharing of gifts between cultures in equality. Taiaiake Alfred cautions that economic development approaches potentially involve integration into the consumer culture of mainstream capitalist society and that this represents the

defeat of possibility of ways of life associated with Native cultures⁴⁹. With this qualification in mind, the idea of regionally based Indigenous owned herbal remedy/pharmaceutical companies may represent another ethical level and model worth exploring. An appropriate model would ensure Indigenous peoples maintained an extent of control that made it possible for them to introduce spiritual elements of reciprocity and other Indigenous economic principles rather than having to rely entirely on fitting into a capitalist framework. A proper discussion of this potential model is another thesis in its own right, but the final chapter of this thesis will highlight some questions and possible benefits of exploring the idea for the future, while the focus on repatriation in chapter eight may help encourage processes that lead towards such possibilities.

Personal experience in the gatekeeping process

It is important here to diverge from traditional academic analysis and share some personal experience that occurred in my attempts to wrestle with developing positive responses to my emerging awareness of my own University’s gatekeeping roles. As I mentioned in the introduction of this thesis, one of the first steps in my methodology is to always ask, “How do I contribute to this injustice?” The answer can include particular patterns of behavior, but is more often related to types of inaction. An example is not questioning where my medicine comes from and how this contributes to a denial of dependency on the Indigenous peoples who are custodians of that knowledge. These inactions of behavior are based on inner limitations of understanding and vision. In extrapolating what these may be I then applied this to both my own Western

legal tradition in deconstructing its jurisprudence and also involved examining what biases on my own part may be preventing me from honoring Indigenous customary law. The next stage is to then extrapolate this personal realization and seek to find innovative ways to apply it to my immediate context of the university in which I am situated which is in a sense an extension of my own cultural context. Therefore some discussion of this personal experience is important to include in this chapter.

The need for establishing a process of recognizing certain elders as equivalent to university professors was brought home to me personally in an almost overwhelming moment where I was honored and humbled to be asked by a group of elders to be their tutor in the Bachelor of Community Management in 2005. At one point I was ‘tutoring’ Aunty Mary Anne Coconut in a unit on Mediation and Negotiation. She turned to me and sincerely said, “Wouldn’t it be wonderful if we could start studying our own ways?” Here was a woman that had established a women and children’s healing centre, was a respected elder on the Twal (Eagles) council in Napranum, routinely mediated complex disputes between large families, is on the board of directors of the Cape York Partnerships, one of the most important regional Indigenous organizations, and was her community representative in negotiating land rights with the executives of billion dollar mining companies. While knowing this I found myself in the position of tutoring her about a hypothetical session in mediation and negotiation about two people involved in a fairly simple conflict. Yet here she was eminently qualified to teach me much more sophisticated approaches about how it really works in her own community. This apparent farce: me a young, white, Western tutor ‘teaching’ an experienced, wise and incredibly knowledgeable elder about matters she had much greater knowledge about in
her own cultural context gave me a severe case of cognitive dissonance that leaves me still questioning the foundations of my educational institutions. In response to contexts such as this I co-authored a grant designed to establish a process that can give recognition of elders as equivalent to professors at Macquarie University as well as enabling them a place to mentor Indigenous students. It wasn’t successful, however the official response to the grant suggested there was political will to do this later. Since several years have passed since then, it will be worth attempting a reapplication of this grant.

A critical historical moment midway through my thesis that illuminated many of the issues occurred in early 2004. I was invited by a group of scientists consisting of Joanne Jamie of Chemistry, Jim Kohen of Biology and Subra Vemulpad of Health and Chiropractic to their meeting with the Deputy Vice-Chancellor (Research) of Macquarie University, Jim Piper. In this meeting they were applying for a $500,000 innovative research grant to fund their work in research of IMK with several Aboriginal communities in Northern New South Wales. An innovative research grant is meant to result in a new type of research model that gives the university a reputation as innovative in the academic community. I had sought the advice of one of my supervisors, Terry Widders, who had suggested I tell them to pause in their research until a trustworthy legal model was in place. This is because I had explained that even if the researchers are absolutely trustworthy, the system they have to work within is not.

Upon my invitation to this meeting I advised I would attend only in observer status and would report back to Warawara what I observed in the meeting with the DVC. In a pre-meeting, agreement had been reached that the model combine both scientific research and ethical benefit sharing development. At some point
in the meeting the DVC was questioning whether the research proposed was truly innovative and that it might not be appropriate for that funding category as researching IMK in itself was not in itself innovative and that he felt the scientific and ethical components were separate and could not go hand in hand in one project. At one point when it appeared his body language was becoming negative, one of the researchers, Joanne Jamie spontaneously turned the meeting over to me. I remember feeling an eternal moment where many thoughts coalesced as I weighed up the potential consequences of anything I might say. My response was to suggest that if the university wants to be famous for an innovative research model, then they should become known as trustworthy with Indigenous communities. If Indigenous knowledge ended up being appropriated, it is likely the university would be blacklisted by the oral network of Aboriginal communities. Equally the opposite was true, and if the university proved itself trustworthy, that reputation would spread through the same oral network and many communities would want to work with the university. I said that in my research I hadn’t come across any model that explored developing true Indigenous ownership of their own IMK. I also mentioned that no one was talking about regionally based Indigenous owned herbal remedy/pharmaceutical companies anywhere in the world and this would be pioneering the field to develop a long term ethical model that resulted in Indigenous economic control of their own IMK. This would mean that other communities would seek out the university for collaborative relationships, because of its reputation for trustworthiness rather than appropriation. At that point the DVC indicated he would be happy to consider funding a project that developed this ethical model and that he wanted us to build into the plan a centre of research in that area in the university. He invited us to apply for a $100,000 Vice-Chancellors grant. We were all surprised by this turn of events. The group of scientists asked me to
write the first draft of the grant, titled Development of Ethical Protocols for Cross-Cultural Biodiversity Research and Benefit-Sharing with Indigenous Peoples. Eventually it was approved for $90,000 in April 2004 with 10 university departments listed as participants. It’s beyond the limits of this thesis to discuss all of the research directions and processes that have occurred in that work but in the last workshop the grant funded, in September 2004 a very productive consultation process occurred with a number of Northern NSW Aboriginal communities and the Indigenous Bioresources Group (IBRG) from Macquarie University. In that meeting the community made it clear that their real needs at the moment had more to do with the education of their youth and the barriers of prejudice they faced in local schools. They asked if the group could focus their efforts on this. This resulted in a significant shift away from a focus on intellectual property as the scientists earnestly arose to respond to the requests of the communities. The IBRG (led by Joanne Jamie, Jim Kohen, Subra Vemulpad and senior researcher David Harrington) has subsequently had high levels of success in working with these communities and others in capacity building work that is highly unusual and meritorious to see in a scientific community. Particularly when one considers promotions are usually based on other considerations than this spirit of service. The following is an extract from the IBRG webpage that details their success up to 2006.

The education program which has arisen from the broader, five-year, bush medicine project was developed in collaboration with several Local Aboriginal Land Councils (LALC) from the NSW North Coast. At the workshop 'Research Partnerships in Indigenous Knowledge' held in September 2004, LALCs from Bundjalung and Yaegl country met to discuss intellectual property rights issues, the establishment of cooperative


working relationships with Macquarie University and the establishment of in-kind support strategies aimed at providing recompense for the transmission of customary information. This workshop was very successful and led to both the establishment of a formal cooperative relationship and a commitment by Macquarie University to collaborate with the local communities in providing educational outcomes to local Indigenous youth.

Since September 2004 the IBRG has seen significant success in satisfying the key goals defined at this meeting:

- to engage with Aboriginal students and encourage them to complete high school
- to consider further education
- to experience university life and develop an interest in science
- to promote positive images of Indigenous youth in rural communities by publicising all activities in the local press.

**Future plans**

In 2006 the IBRG will be continuing to develop new education initiatives with our partner communities in NSW and the Kimberley region of WA and establishing new partner communities other LALCs and High Schools. One of our key goals for the year is to facilitate an exchange between Indigenous youth from northern NSW and the Kimberley, centring [sic] on a range of on-campus activities at Macquarie University. An exchange of this kind is eagerly sought by our partner organisations. We will be:

- encouraging a new group of students to attend the Siemens Science Experience in 2007
- taking the Travelling Chemistry Show back on the road
- visiting high schools and engaging in Science Week activities in rural NSW
- developing locally specific Aboriginal Studies curricula using video recordings of local elders
- assisting our partner Land Councils with youth at risk groups
- facilitating cultural revival
• developing sustainable economic activities using traditional resources\textsuperscript{52}.

The ongoing projects arising from this resulted in the IBRG group becoming a national finalist in the 2007 Eureka Prizes – Australia’s premier science awards\textsuperscript{53}. They were finalists in the category of Promoting Understanding in Science. On November 17, 2007 the university announced that the Science Education Program: Engaging Indigenous Students\textsuperscript{54} had won the university’s Innovative Partnership Award\textsuperscript{55}.

An even more significant victory will be when the university begins to transform its own scientific education models so that the emerging Indigenous students that obtain official degrees in science are not just adapting to Western models of science, but see there is institutional respect for Indigenous epistemology and experience and are enabled to form unique expressions of their own scientific models.

\textsuperscript{52} http://www.science.mq.edu.au/muibrg.htm Also see http://www.pr.mq.edu.au/events/index.asp?ItemID=2999 last accessed November 22, 2007


\textsuperscript{54} http://www.pr.mq.edu.au/events/index.asp?ItemID=2999 last accessed November 22, 2007

\textsuperscript{55} For the university press release about the award see http://www.pr.mq.edu.au/events/archive.asp?ItemID=3198 last accessed November 22, 2007
Recommendations for Transformation of the Gatekeeping process

Awareness of the contexts of academic capitalism which are increasing the role of universities as the gatekeepers of the IP of IMK has very significant implications for consciousness of the role of universities in the appropriation process and corresponding obligations of policy reform. It is suggested that this focus results in dramatic paradigm shifts of IP policy in universities, primarily related to reinforcing the need to recognize the rights and facilitate the agency of Indigenous communities to regulate this gatekeeping process as well as focus on processes that ensure Indigenous control of their own knowledge from the beginning to the ‘end’ of the research relationships. This is additionally important when considerations from the last chapter are introduced in considering those communities that wish to pioneer.revive economic/spiritual models of reciprocity where alienation of knowledge, land, community and spirit is essential to avoid.

This not only involves ‘making space’ for Indigenous control of their own knowledge and resources, but for policy reform that recognizes an often significant overlap of Indigenous custodianship issues in traditionally non-Indigenous disciplines that may be conducting research on Indigenous peoples or policy affecting Indigenous peoples. The specific ways policy within the university is potentially affected will depend on the unique relationships and needs of the Indigenous communities with which the universities engage. However I will offer ten specific examples of possible paradigm shifts in university IP policy related to TMK. Some of these have been adopted officially
by Macquarie University as a direct response to the research of this thesis. Those ten examples are:

1.) Begin to promote equality in research relationships by recognizing Indigenous peoples as ‘Industry Partners’ of the University (rather than objects of study) who maintain control of their own IP. This is a policy tool for implementing processes of equality and not an end in itself. It should be recognized as a preliminary stage that will lead to more authentic types of equality as the very nature of research becomes transformed in relationships. While it is a step in the right direction, it is a pragmatic application limited by the political context of how research is defined and regulated in current models.

2.) Establish Indigenous Knowledge centres run by and for Indigenous peoples. Performing a number of functions, including monitoring of University gatekeeping.

3.) Begin processes of the repatriation of Indigenous medical knowledge to Indigenous communities.

4.) Promote awareness in university culture (eg ethics committees) that research has development consequences for communities and concern for preventing harm to communities is not enough.

5.) Begin looking internally at various departments like law and science and begin transforming those educational contexts so they make specific spaces for Indigenous students and staff, and their epistemologies.

6.) Begin the more challenging question of asking “How does the unique reality of Indigenous peoples and knowledge call upon us to decolonize and improve our education curricula so that Indigenous knowledge has
resonance in the broader University and Western academia (and not just in “Indigenous Studies”)?

7.) Recognize selected Elders officially as equivalent to professors within the university (Not just in tokenistic ceremonies, with no real ongoing relationship, but making space in the university for them to be part of its daily life). This has its own intrinsic value as an initiative, but will also greatly enhance the effectiveness of points 5 and 6.

8.) Develop long term processes of capacity building so that the IMK doesn’t get transferred to transnational pharmaceutical companies, but rather remains in control by the Indigenous communities. If communities feel it appropriate they should have the choice to develop their own herbal remedy/pharmaceutical companies, perhaps regionally based, facilitated by collaborations between the universities they work with, federal government funding and private pro bono assistance from established Pharmaceutical companies.

9.) Develop ethical and legal guides written in plain language that assist both the university and communities to have resources to accomplish these goals and make it clear to both the boundary conditions they can expect from each other. (Such a guide was written during the course of this research.)

10.) Develop active collaboration between local Indigenous communities, various university departments such as science, education and Indigenous studies with the goal of developing relationships and resources with local schools that emphasize and translate the unique and valuable knowledge held by local communities into the primary school curriculum.
It is suggested that transforming traditional university IP and ethics models presents a critical step in contributing to a thriving sustainable economic opportunity for Indigenous communities as well as greatly enhancing Indigenous capacity building and educational models on all levels. It is also proposed that fundamental to this evolution is engaging with Aboriginal communities as industry partners. This can be enhanced by something like a National Centre for Indigenous Knowledge and Biodiversity directed by Indigenous peoples and their needs which focuses on evolving and monitoring IMK IP policy and which facilitates a more co-coordinated national process of capacity building in this area. In September 2005 I successfully initiated a meeting that was held with Macquarie University’s then Vice-Chancellor, Di Yerbury, Deputy Vice-Chancellor John Loxton and Henrietta Marrie (nee Fourmile) in September 2005 to plan the strategy for developing such a national centre. It was proposed that it be physically housed at James Cook University in Cairns due to the diversity of Indigenous communities and the extent of biodiversity in the area. While Macquarie University is clearly well in position to partner in such a Centre, James Cook University has quickly responded to the proposal and has subsequently joined in partnerships with a number of institutions and levels of government to form a national Centre for Sustainable Indigenous Communities. Five years of funding have been committed and it was launched in July 2007. I believe the main reason for the slower uptake by Macquarie was a lack of political will in certain key sectors because of the natural pause of activity that occurs when a change in Vice Chancellor occurs as well as a change in the head of Indigenous Studies. However I firmly believe it is probable that Macquarie University will shortly join in partnership with that Centre.

The next chapter will explore the concept of developing policies on the repatriation of Indigenous medical knowledge as a way of stimulating the evolution of acknowledging Western dependency on Indigenous peoples knowledge and honoring their right and responsibility to act as custodians of that knowledge.
Chapter Eight

The Repatriation of Indigenous Medical Knowledge

Introduction

The last chapter concluded by suggesting a range of potential remedies to the challenges of gatekeeping in universities. This chapter will narrow the focus to one of those and suggest the repatriation of IMK as a potential remedy to a number of the broader range of challenges discussed in this thesis. These include the problems of appropriation; the cultural denial of dependency; the limited ability of Western IP to protect IMK or engage the spiritual dimension in meaningful ways; the lack of honouring the legitimacy and diversity of Indigenous customary legal systems; and the unregulated and unethical gatekeeping by universities. Repatriation may also enable a paradigm shift from mere benefit sharing to models of genuine and full equality characterised by Indigenous ownership/custodianship of their own knowledge and more sustainable Indigenous legal and economic models of empowerment.

This chapter will begin by introducing how the idea of repatriation arose in this thesis. It will then focus on the precedent of the development of legislation and policy to repatriate tangible property to Indigenous peoples and will briefly explore how this may provide insights into the principles of how a similar process might evolve with IMK. A number of arguments will be explored that support a jurisprudence of the repatriation of IMK. Several case studies of the
repatriation of IMK developed during this thesis will then be discussed to highlight that there are differing approaches to repatriation that can be taken in meaningful and practical ways.

The Idea of the Repatriation of IMK

The idea for the repatriation of IMK occurred to me after working with John Hunter on a community guide¹ arising out of the grant previously mentioned. We were discussing his own evolving work in reviving knowledge of medicinal plants in his own community in culturally appropriate ways of painting and storytelling. He was recreating culturally rich expressions of the knowledge of medicinal plants which may only be currently known by their Western taxonomy or have limited culturally relevant expressions remaining in the community. It was in contemplating the nature of John’s work in cultural revival that I asked myself and the scientists we were working with “Why not start repatriating IMK to communities?” If knowledge that may have been lost or is now fragmented can be revived using culturally appropriate principles why not establish a protocol for scientists to start assisting in that by repatriating knowledge to communities from which it had originally been taken? It was an exciting but undeveloped idea at the time, with the scientists asking “How do we repatriate knowledge? What would that look like?” I wasn’t sure myself and hadn’t yet read any literature about repatriation at the time, but started seriously contemplating those questions, feeling that looking for answers may lead to a very important social evolution of justice. A breakthrough came when in an unanticipated situation I ended up initiating the process of repatriating the

¹ See appendix for the guide.
knowledge of a cancer medicine to an Ojibwa community in the United States. It was less than an ideal model, but it assisted me in thinking through further issues. Combining this case study with focusing on the already well developed discourse of the repatriation movement of Indigenous ancestors and their sacred objects has provided me with enough to begin to tentatively explore a model that Indigenous communities, scientists and their institutions may benefit from contemplating and developing further.

The precedent of the repatriation of tangible property

A brief review of the repatriation movement dealing with tangible property is perhaps useful in illuminating principles that may have relevance for anticipating some of the challenges and benefits of an intangible repatriation movement.

What is repatriation? The word repatriation literally means to ‘return to ones native land’ or ‘to return to ones father land’ from the Latin re ‘back’ and patria ‘native land’. To date, the repatriation movement has predominantly focused on tangible property, albeit with strong intangible elements of spiritual value associated. In the colonising histories shared by nearly all Indigenous communities, the bodies and sacred objects of their ancestors were exhumed from their graves, with many thousands of bodies being placed in museums and sacred objects being sold. Beginning in the early 1800s in particular there was a strong demand among relatively small and isolated scientific circles for the remains of Indigenous peoples to use in the budding science of phrenology. The
acquisition of Aboriginal bodies was not just limited to older graves, but to the very recently deceased. In Tasmania it was reported by George Augustus Robinson that in a meeting with Governor and Lady Franklin at Wybalenna in January 1838 they “... solicited me for curiosities, also the skull of an aboriginal.” The Governor’s secretary Captain Maconochie also asked him for a skull. The day after Mitaluraparitja (Christopher) died of pneumonia in February 1838 at Wybalenna, the surgeon cut off his head for Robinson to have it “masticated” and then sent to Maconochie. (bold emphasis added)

The extent of the exhumation of Native American remains is widely contested. Congressional documents conservatively estimate 200,000 Native American remains held in museums and Federal agencies. This does not include other institutions and private collections. There are a range of estimates. While the highest estimate (including museums, Federal agencies, other institutions and private collections) stands at 2.5 million. While most experts consider the

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4 Other estimates have been as low as 100,000-150,000 (Hass), 300,000-600,000 (Moore) more than 1.5 million (National Congress of American Indians) and 2 million (Deloria). For these range of estimates see Harris, David J. 1991. "Respect for the Living and Respect for the Dead: Return of Indian and Other native American Burial Remains." Washington University Journal of Urban and Contemporary Law 39

highest estimate unlikely, even the lowest conservative estimate is shocking. James Riding In referred to this as a ‘spiritual holocaust’.6

In the past several decades there has been a flood of literature concerning the repatriation of Indigenous human remains and sacred artefacts. The repatriation movement recognises the injustice and breach of human rights implicit in the forceful exhumation of the deceased and their sacred objects. This previously institutionally endorsed practice was supported for many years by the lack of legal recognition of Indigenous people’s rights of equality. In a sense this extensive grave looting symbolised a lack of recognising Indigenous people’s intrinsic or spiritual value as human beings with dignity. The concept of repatriation has strong spiritual foundations in the recognition of the spiritual importance of honouring the deceased and the importance of the unbroken connection between land, community, ancestors and the spiritual realm.

The repatriation movement arose in the United States in the late 1960s7. In both the United States and Australia the 1970s civil rights movement galvanised the repatriation movement. The discourse on this subject reached a watershed moment in 1990 when legislation was enacted8 in the United States that enables


8 The Native American Graves Protection and Repatriation Act Pub L No 101-106 1990 (NAGPRA)
protocols of repatriation of human remains and cultural property from museums to the original communities. Nicole Watson writes that while this legislation goes some way towards removing the historical shackles, it has been compromised by a lack of government commitment to implementation, and judicial reluctance to place traditional knowledge on a par with science....the objective of legislation may be undermined by governmental apathy, [and] it may also be diminished by narrow judicial interpretation9.

With these important qualifications in mind, such legislation is certainly a significant step in the right direction in moving towards uniform expectations of certain standards of justice.

Perhaps the most fundamental issue raised by the enactment of the NMAI Act and NAGPRA is the absolute need for repatriation legislation. The legislation provides a uniform set of rules that all parties must abide by. While this may seem an obvious point, it is clear that without legislation repatriation would most probably be governed by a patchwork of unenforceable institution specific guidelines, subject to change at the discretion of individuals and governing boards. Repatriation is being successfully implemented in the United States because of the laws10.

Almost in parallel, Australia developed a discourse on repatriation through the active involvement of Indigenous community leaders, NGO’s and members of museums and institutions who were sympathetic and sensitive in varying degrees to growing public support for the principles of repatriation11.


While the United States has developed strong supportive legislation on the matter, Australia has yet to adopt similar specific legislation on repatriation. The most important Federal legislation that is indirectly supportive of repatriation is the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, which has provisions for the protection and restitution of objects and human remains. However it is significantly limited in that it is designed to operate in conjunction with state legislation, and is considered to be an option of last resort. Additionally, “protection under the Act is a matter for ministerial discretion, and therefore, decisions may be tempered by the political hue of state and commonwealth governments.”

Repatriation in Australia is an increasingly supported policy among a growing list of institutions; yet it still relies primarily on the goodwill of those

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14 “Australian Museum’s have had a growing commitment to repatriation. This was most explicitly realised with the release of the “Previous Possessions, New Obligations:” report in 1993, which promoted museum policies recognising continuing Indigenous rights in cultural heritage collections and the right to repatriation. While the policies may not have been adopted word for word, the sentiments were, and continue to be, endorsed by most Museums and the document has guided Museum policy development.” Pickering, M. (2001). *Repatriation, Rhetoric, and Reality: The repatriation of Australian Indigenous human remains and sacred objects*. Australian Registrars Committee Conference, Melbourne. Melbourne, accessed at [http://archive.amol.org.au/arc/papers/S&LMichael_Pickering.pdf](http://archive.amol.org.au/arc/papers/S&LMichael_Pickering.pdf), last viewed 22 May 2007.
institutions to develop sympathetic policy in response to the international climate\textsuperscript{15}.

It is important to understand that repatriation is not an \textit{event}, but is a \textit{process}, and that there are various levels and stages in that process. There is a common simplistic assumption that the physical return of remains and objects is the culmination of a successful repatriation. Michael Pickering, Repatriation Program Director at the Australian National Museum qualifies this assumption:

\begin{quote}
Although governments, institutions, and individuals are increasingly committed to repatriation, there is a simplistic idea of what identifies a successful repatriation event. The assumption is that success is only measured in the hand-over of the remains or the object. This, however, should \textit{not} be seen as the primary measure of success; rather success is first achieved in engagement with, and empowerment of, the indigenous community, identified as the appropriate custodians for materials\textsuperscript{16}.
\end{quote}

He continues commenting that successful repatriation should not be restricted to the physical return of items alone. The more important outcome of the repatriation process may prove to be the repatriation of \textit{authority}. What this may look like and what it may mean will be further discussed in the case study section on the repatriation of IMK.

\footnotesize
\begin{itemize}
\item[\textsuperscript{15}] For one of the most recent cases of repatriation see Mansell, Michael. 2006. "Tasmanian Aboriginal Centre Submission to the Trustees of the Natural History Museum for the repatriation of the Tasmanian Aboriginal Human Remains." Tasmanian Aboriginal Centre. Accessed at \url{http://www.nhm.ac.uk/about-us/corporate-information/assets/nhm-hrap-tasmanian-submission.pdf}, last viewed 23 May 2007.
\end{itemize}
The repatriation process can be complex, involving competing claims of differing stakeholders, and it may involve unexpected burdens on communities who have little in the way of resources to respond to the invitation or opportunity of repatriation. However the positive spiritual force of repatriation has been expressed by communities that experience it. In Palm Island, a community composed of many different Aboriginal language groups and often having competing political interests, the act of the repatriation of an Ancestor of one of the groups, Tambo\textsuperscript{17}, positively affected the whole of the community, not just his specific descendents. Tambo’s great great nephew writes,

Everyone felt it was an important event that an ancestor had come back from overseas. I was surprised there were so many people involved. It was unprecedented. There was a strong sense of unity in the community and the Palm Island people felt a powerful sense of belonging: affirmation of their identity as Palm Island people. Participating in the event gave people confidence because for many the history of Palm Island had up to now eroded and confused their sense of identity….Tambo’s return showed that our language and our stories are important to us and that our belief system is still strong….Tambo is important for teaching other people respect for our traditions…Tambo provides a way of opening the door for our children to learn about their own history and identity\textsuperscript{18}.

\textsuperscript{17} Tambo was of the Manbarra people, traditional owners of Palm Island and surrounding areas in Northeast Queensland, Australia. He was among a small group of Manbarra that were taken in 1883, by Barnum and Bailey’s Circus “the Greatest Show on Earth” to the United States, never to return home. They were used as part of the Circus’s “Ethnological Congress of Strange and Savage Tribes”, billed as “ranting man eaters” and “the lowest order of mankind”. Tambo died of Pneumonia in 1884 and his companions attempted to bury him properly, but the agent of the Circus arranged for Tambo’s embalment and he was put on display in a local dime museum for decades. See Palm Island, Walter. 2002. "Tambo." Pp. 222-228 in Fforde, C., J. Hubert, et al., Eds. (2002). The Dead and Their Possessions: Repatriation in Principle, Policy and Practice. London, Routledge

This thesis suggests that the same positive forces described here are similar to what can be achieved from repatriating IMK as well. This can be done by using a process oriented protocol of repatriation, culminating in the repatriation of authority to Indigenous peoples. It is perhaps in the restoration of relationships between peoples and in honouring our (Western) dependency on their knowledge that the most positive outcomes will occur through this process of repatriation. The repatriation of IMK is likely to be initially viewed in some quarters as potentially disastrous for private companies that heavily depend on the revenue generated from the patents on such knowledge. It is anticipated that there will likely be claims that such a legislated process of repatriation would even be detrimental to decreasing the availability of medicines, even though the opposite is more probable. But it is likely that over time the benefits of equity in relationships will emerge in a fruitful restoration of relationships and even greatly benefit the health systems of society in general. Historically, there are similar principles of initial resistance and eventual enthusiastic acceptance by some in the current repatriation movement.

The implementation of this legislation, which imposed substantial administrative burdens and was in some quarters regarded as disastrous for the future of American museums, has now become a routine part of museum practice. In fact, many curators hail it as the first step in a historic reconciliation between native peoples and museums, a process that may lead to new and rewarding partnerships19.

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The  Repatriation of IMK

There are growing signs that an active discourse on the repatriation of intangible property will soon develop and may also lead to the adoption of policy and legislation.

[Repatriation]Issues related to intellectual property have been less prominent, although trends in other fields suggest that this will soon change.20

....there is a growing recognition that there are non-tangible items worthy of repatriation – not the least is the return of authority21.

There are international agreements and policies of institutions that mention the ethical principle of the repatriation of intellectual property. The recently adopted UN Declaration on the Rights of Indigenous Peoples expresses that Indigenous peoples have the right to restitution of cultural and intellectual property taken without their free and informed consent.

Article 11

1. Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature.


2. States shall provide redress through effective mechanisms, which may include restitution, developed in conjunction with indigenous peoples, with respect to their cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs.

Article 28

1. Indigenous peoples have the right to redress, by means that can include restitution or, when this is not possible, just, fair and equitable compensation, for the lands, territories and resources which they have traditionally owned or otherwise occupied or used, and which have been confiscated, taken, occupied, used or damaged without their free, prior and informed consent.

2. Unless otherwise freely agreed upon by the peoples concerned, compensation shall take the form of lands, territories and resources equal in quality, size and legal status or of monetary compensation or other appropriate redress.

The International Society for Ethnobiology contains a reference to the right of repatriation in its official ethical protocols statement. Section 10 of the practical guidelines of their Code of Ethics, adopted 8 November, 2006 reads:

10. All existing project materials in the possession, custody or control of an ISE member or affiliated organization shall be treated in a manner consistent with this Code of Ethics. All affected communities shall be notified, to the extent possible, of the existence of such materials, and their right to equitable sharing, compensation, remedial action, ownership, repatriation or other entitlements, as appropriate. Prior informed consent shall not be presumed for uses of biocultural information in the “public domain” and diligence shall be used to ensure that provenance or original source(s) of the knowledge and associated resources are included and traceable, to the degree possible, in further publications, uses and other means of dissemination. (bold emphasis added).
A literature search has not revealed any detailed discussions specifically about the repatriation of Indigenous medical knowledge. This lack of discussion about the repatriation of IMK is significant in itself and is based on a number of probable causes. This includes a culture in Western IP that assumes (within a narrow paradigm of reasoning) that intangible and tangible properties are too dissimilar in nature to be treated the same. There is also the assumption in the Western discourse that the best IP can do is to provide a limited form of protection for IMK not already appropriated and that IP already released into the public domain is nearly impossible to protect much less to repatriate. For example, one of the only studies to mention the issue of ethnobiological IP repatriation suggests that with regards to knowledge already in the public domain, it is ‘doubtful’ that it ‘can be realistically ‘repatriated’22.

While on a technical level, within the current legal paradigm, the repatriation of IMK is indeed an apparent impossibility, some would have argued the same state of affairs for other types of repatriation two decades ago. While Western law has developed separate legal systems to deal with tangible and intangible property, the intimate and arguably inextricable connection between the two in Indigenous customary law has already been demonstrated in chapter six. In Indigenous epistemologies it is impossible to separate the material and the spiritual and this is reflected in how knowledge is produced. IMK is predominantly seen as a gift from the ancestors entailing fiduciary obligations and which must be honoured in the daily renewal of relationships between

community, land and the spiritual realm. In this context the protection of IP related to IMK becomes a human right to practice ones religious beliefs. Additionally, within Western contexts, there are available arguments that suggest the protection of the IP of IMK is a human right based on the International Covenant on Economic, Social and Cultural Rights.

Part I

Article I

1. All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.

2. All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.

Arguably, the appropriation of IMK by multinationals creates a violation of these basic human rights by largely eliminating the capacity of Indigenous communities to pursue their own economic, social and cultural development by depriving them of an important opportunity for subsistence based on their own natural resources. Currently the argument that pharmaceutical companies purify and develop processes of extraction and isolation of the bioactive compounds associated with such knowledge represent the technical but critical Lockean link between labour and knowledge which enables their right over Indigenous peoples to claim ownership. This is dramatized by the claim that it costs
hundreds of millions of dollars to do this\textsuperscript{23}. In reality, these projections of claims of high costs are deceptive as they include the subsequent many failures of drug development that don’t make it through all the stages of clinical trials. So one successful drug may have only cost several million dollars to develop, however the costs of all prior drug failures as well as the costs of marketing the new drug are included in these claims of great expense involved in drug development. This is particularly significant when Indigenous knowledge may lead to higher rates of success in developing a medicine and thereby making such equations less relevant in application. Additionally, this argument of the right of pharmaceutical companies to such property because of its association with their labour is strongly diminished when, as was shown in chapter six, the long term technological mastery of Indigenous science to indwell natural relationships has enabled their recognition and maintenance of IMK. The generations of accumulated labour of entire communities far outweighs the relative contribution of the corporations in ‘extracting’ ‘purifying’ and ‘synthesizing’ that medicine for Western markets that may take as long as 15 years; not even one generation. Appreciating this reinforces the recognition of Indigenous labour linked to such property has greater weight than claims of pharmaceutical companies.

A feature of spiritual methodology is the assumption of interdependence between communities as well as the intrinsic dignity of the human being. These spiritually based principles resonate much more strongly in human rights law and had a significant impact on validating the importance of the earlier

repatriation movement with regards to tangible property, and in particular human remains. Once the spiritual importance of human remains as ancestors to be honoured is recognized, the storage of millions of such ‘objects’ in institutions around the world changes from a potentially valid scientific exercise to being recognised as a ‘spiritual holocaust’. The recognition of the spiritual value and dimension associated with IMK also enables a shift from legally justified systematic appropriation of ‘subject matter’, to recognition that this is a dishonouring of relationships to land, ancestors and the communities to which such knowledge was entrusted to be preserved and to which custodianship belongs. Honouring the intrinsic dignity of the human being in this case also entails recognising that members of our own extended family should have the right preserved to enjoy their own economic, social and cultural development based on the preservation and use of IMK as reflected in Indigenous customary laws but also supported by a variety of international instruments.

The negative influences of materialism and nationalism are very significant and have diminished our capacity to honour Indigenous customary law. The spiritual qualities of interdependence and intrinsic spiritual value of humans and knowledge are diminished in such frameworks of meaning. The CBD on the one hand clearly supports the sustainable use of Indigenous knowledge within their eco-systems, however it is also stated within the context of emphasising national sovereignty. For Indigenous peoples dependent upon the goodwill of governments within the country they reside it may be more pragmatic to engage in negotiated agreements and policy development that encourages relationships of reconciliation and Indigenous self-determination in the use of their own IMK resources.
We agree that our indigenous knowledge and biodiversity should be shared with the rest of the world because we have always believed in sharing and in common property. However, we would like to ensure that we will be the ones who will determine how these will be shared based on our own conditions and our own terms. We cannot buy the argument that we have to play with the field of existing patent and copyright laws to be able to protect our resources and knowledge. We will surely lose out on this game because we do not have any control over the global market economy which is the whole framework for patenting and intellectual property rights. 

It is suggested that this is best framed as a process of the spiritual restoration of relationships. It is anticipated that this will have significant consequences for the current model of benefit sharing and at a particular point in the process will elicit important policy changes among multinational pharmaceutical companies and their partners who are often universities.

Interdependence: a moral justification for repatriation

While there are a variety of additional moral arguments that could be made, one of the spiritual principles foundational to this thesis is the assumption of the interdependence of humanity as one family. Shifting our vision from the currently dominant ‘us/them’ paradigm of benefit sharing towards recognising this interdependence has profound consequences for legal relationships governing IMK. Alejandro Argumedo articulately illuminates one aspect of the ‘us/them’ model of benefit sharing associated with the appropriation of IMK through analogy:

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24 Tauli-Corpus, V. (1993). “We are Part of Biodiversity; Respect our Rights.” Third World Resurgence 36:: 26
Contractual benefit sharing is like waking up in the middle of the night to find your house being robbed. On the way out the door, the thieves tell you not to worry because they promise to give you a share of whatever profit they make selling what used to belong to you25.

While this visual analogy simply but powerfully illuminates elements of injustice, ironically it still is stated using ‘us/them’ categories which complicate the ability of both ‘sides’ to visualize positive futures of reconciliation and justice. I suggest that this visual analogy may be more powerfully and realistically reinforced by shifting the story being told to one household (earth) in which we both live as one family, albeit with great levels of disparity between family members. This then enables us to ask questions that connect us more meaningfully to the story and which enable a sense of filial responsibilities to recognize and empower the rights of each family member towards self-determination. Rather than members of one household robbing a different household, it may be more helpful to visualize the earth as one house, our own house. Here the variety of family members are representatives of cultural diversity and their living conditions the associated social and economic extremes of wealth and poverty, and disparities of health and education. In this model we have a more intimate appreciation of our personal accountability in restoring equality and honoring the rights of each family member as our own. Here it is easier to see how the practice of appropriating IMK from our own family members diminishes our own humanity26.


Repatriation may necessarily involve the return of objects or ‘pieces’ of information, but the true importance of such repatriation may rest in the restoration of relationships which the objects may symbolize. Our recent history of policy has impaired a spiritual relationship based focus on repatriation. For example, this has occurred through a predominantly essentialized object oriented form of protection of cultural heritage which is only recently beginning to shift towards intangible property through, for example, UNESCO’s Convention for the Safeguarding of the Intangible Cultural Heritage 2003. Additionally the required demonstration of continuity of cultural heritage, associated with the legal ownership of essential cultural objects, has been tied to the ability to demonstrate valid claims for native title, self-determination and the sovereignty of nation states. While prior to this imposition of interpreted understandings of cultural value, many affected Indigenous communities may have naturally placed more emphasis on the balance of equity in relationships the exchange of gifts empowered. Yet current policy means Indigenous communities feel obliged to shift more importance onto the objects themselves rather than the relationships they symbolize or empower. This imposed and arguably distortional materialistic model of repatriation has particularly negative consequences on Indigenous communities. It can cause unusual fragmentation of social relationships through the heightened contestation of ownership claims over cultural heritage.

In this arguably distorting model of cultural heritage, instead of being valued as gifts that can be exchanged to balance relationships, or as gifts of the ancestors with attending fiduciary obligations, or as signs of the evolving and adapting creativity of Indigenous culture, these are now seen as fixed examples of a static culture to be used as powerful symbols of Western political power that can
justify only one cultural groups claims for native title or sovereignty, but not both. A second and no less significant result of this materialist model means that an act of repatriation, the return of cultural heritage, can act to sever the obligations of the powerful to address the inequality and injustice the object was a symbol of27, for once the ‘act’ of repatriation of the object has occurred, technically, their legal obligation has been fulfilled even if the inequalities and injustices underlying its original appropriation are still perpetuated. This is one of the important reasons why a spiritually and materially integrated understanding of repatriation is vital to appreciate.

There are clearly significant differences between the repatriation of human remains and sacred cultural artifacts which are classified as tangible properties, and the repatriation of IMK which is largely an intangible form of property. Considering the reality of the information age, once knowledge is in the public domain, in nearly all cases it would be impossible to erase all records of such information and ensure it was exclusively stored and controlled by the original community or communities that it came from. There are also very significant differences between the ownership disputes over the remains of human beings and ownership disputes over medicines which have been successfully developed and patented using IMK. In the current legal model these are almost always indisputably the legal property of the corporations which successfully patented them. While this may be the technical reality in the current legal system of IP, its moral legitimacy is not clear.

We have witnessed how indigenous seed varieties and medicinal plants which our women and healers have preserved and developed, were

appropriated by international and national research institutes and transnational corporations...Without our knowing, these seeds and medicinal plants were altered in laboratories and now we are told that the companies have intellectual property rights over these genetic plant materials because they have improved on them. This logic is beyond us...we, indigenous peoples...have developed and preserved these plants over thousands of years\(^28\).

The following examples of repatriation of IMK may help to illuminate how processes of repatriation can occur in spite of the apparent insurmountable barriers faced in the current IP framework. Arguing about who has greater rights in the property of IMK that has already been developed into medicines would likely have little chance of effecting change in existing IP regimes in the short term. However, focusing on how this is essentially a spiritual issue about honoring Western dependency on IMK assists in shifting the focus to restoring relationships between cultures which may enable a variety of types of repatriation that eventually lead to real changes in policy, law and legislation.

Case Studies of the Repatriation of IMK

Case 1: The repatriation of Essiac to an Ojibwa community

After finding out through John Hunters’ work that IMK that may have been lost or diminished can be revived in culturally appropriate ways, I started trying to find a way to answer the scientists question, “What would repatriation look like?” Ideally I imagined it should arise from the scientists own work and that

\(^{28}\) Tauli-Corpus, V. (1993). “We are Part of Biodiversity; Respect our Rights.” Third World Resurgence 36:25
when they discover IMK in the literature they would then track down and contact the communities from which it was sourced. At the very minimal level it would start with providing them with information about how their medicine had been used and its value to the wider community so that the community could consult about how and if they wanted to respond to such information.

In my own research for chapter two, I came across a report for the Australian Senate, “Herbal Medicines and Herbal Medicine Practice and Cancer: Report prepared by National Herbalists Association of Australia, Submission to the Senate Community Affairs References Committee: Inquiry into Services and Treatment Options for Persons with Cancer.” In reading that report I came across a reference to a popular Cancer treatment called Essiac.

Essiac is an example of a herbal therapy for cancer widely used by Western herbalists (who are often simultaneously practicing clinical medical doctors) particularly in North America and Australia. While clinical trials have yet to demonstrate the conclusive efficacy its therapeutic capacity, it arguably remains the most popular alternative/complementary cancer treatments in the world.


31 http://www.cancer-info.com/essiac.htm last viewed 27 Nov. 2007
Essiac is a herbal formula that was [sic] used by the (Ojibwa) Native Americans in Canada and passed on to a nurse Rene Caisse in the 1920s who named the formula Essiac. The original formula contains the herbs burdock root (Arctum lappa), Sheep sorrel (Rumex acetosella) and slippery elm bark (Ulmus fulva). It was traditionally used as a blood purifier and balancer. There have been claims that Essiac strengthens the immune system, improves appetite and improves quality of life.

Essiac has persisted as an extremely popular cancer remedy, especially in North America and Australia....

The constituents of the herbs (flavones, anthraquinones, polysaccharides) have been reported to have antioxidant, immunomodulating, antimutagenic and cytostatic effects.

One might question the use of the past tense "that was used" as a perhaps non-intentional, but effective dismissal of the living culture which still preserves and carries this knowledge and has not ‘passed it on’ just prior to ‘extinction’ in the ‘1920s (effectively when their participation in this ‘story’ of Essiac concludes). Some accounts indicate Caisse did not receive the knowledge direct from a medicine man but second hand from another patient he had treated 30 years later.

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32 This individual effectiveness of the various compounds in these herbs is verified by the National Cancer Institute, however the effectiveness of their combination is not clinically verified. See: NCI (2005). Essiac/Flor•Essence: Health Professional Version, National Cancer Institute, http://www.cancer.gov/cancertopics/pdq/cam/essiac/HealthProfessional Last viewed 27 November 2007.


34 See: Olsen, C. (1998). Essiac: A Native Herbal Cancer Remedy, Lotus Press. However no accounts seem to properly identify the Ojibwa medicine man that shared the knowledge. The Ojibwa, with a population circa 200,000 in North America are represented in sub-tribes and peoples throughout the US and Canada and are the “largest federally recognized Indian Tribe in the state of Michigan” http://www.ojibwa.com/. Ojibwa is a thriving language in their
Upon researching the Essiac case I contacted the president of one of the main Ojibwa tribes cultural council in Michigan. I passed on the information about Essiac gathered in this thesis. The president of the cultural committee has subsequently consulted with several Ojibwa traditional healers and has advised they were not aware of the renaming (which was a slight variation of a reversal of the name Cassie) and subsequent appropriation of their herbal remedy. In further research I have found that there are hundreds of companies selling Essiac or ‘Ojibwa Tea’. A search using the key terms ‘buy essiac’ results in over 349,000 hits35. One can only estimate the income these hundreds of companies are communities. See Nichols, J. D. and E. Nyholm (1995). A Concise Dictionary of Minnesota Ojibwe. Minneapolis, University of Minnesota Press

As regards to the preservation of their traditional medical knowledge, a systematic organisation of cultural preservation is still maintained.

The record of the long migration has been preserved in maps drawn on birch-bark scrolls used by leaders in the ceremonies of the Midewiwin, a physically and spiritually healing medicine society that originated among Ojibwa people….Membership in the Midewiwin involved many years of dedicated study. To enter the society, the initiate has to undergo a long period of instruction to master the herbal knowledge and philosophy handed down by elders. Fasting and a vision quest are part of the preparatory ritual for admission to the first level. At one time, there were eight degrees of training in the Midewiwin…The Midewiwin today has a significant membership in the upper Great Lakes region and has spread from the Ojibwas to neighbouring Indian people. The philosophy of the medicine society stresses the importance of maintaining balance in one’s personal life, and respect for other forms of life, both plant and animal, with the goal of achieving harmony within the social order.


making from the TMK of the Ojibwa people. Considering that Essiac is the most popular alternative cancer treatment in the world, the comparable most popular mainstream drug, Taxol generated over 10 Billion dollars (US) between 1993 and 2005.

This case was simply one of a postgraduate student providing information to a community that was not aware of the appropriation of their medical knowledge and use of their tribal name in association with that medicine. The community is now in a place to begin to consult about any response they may wish to make to this context. As is the case with many Indigenous communities, they may not possess the resources to take any legal action, or to introduce the information into local educational materials or even begin correspondence with companies involved. For similar reasons NAGRPA included funding for communities to be able to have resources to respond to the opportunities of repatriation. Finding ways to provide similar types of funding may be an important step in the repatriation process of IMK.

The fact that this medicine has been popular for a number of decades and still managed to escape the attention of this community is perhaps an indication that there is likely many other Indigenous peoples equally unaware of their medicine being appropriated, renamed and commercialized.

Case 2: Taxol: another repatriation opportunity?

In a serendipitous coincidence, upon researching Taxol (purely for its model of tenuous economic correlation to Essiac) for this thesis, a number of fascinating facts came to hand. Taxol comes from the bark and needles of the Pacific Yew. This is well known in the literature. However something not current in the IP literature dealing with bioprospecting/biopiracy was that Pacific Yew was also a well known Native American source of medicine. Not only that, but that it was used by them to treat cancer prior to its ‘discovery’ of anti-cancer properties.

In the northwestern U.S., Native American tribes such as the Quinault, Multnomah and Nez Perce utilized the Pacific yew’s bark as a disinfectant, an abortifacient and a treatment for skin cancer [emphasis added].

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36 While there is mention of Taxol in IP literature dealing with Indigenous knowledge, it is not directly linked as being sourced from an Indigenous community. For example Chacko, S. and S. Henri-Philippe (2003). "Blockbusters, Traditional Knowledge and Intellectual Property." Indigenous Law Bulletin 5(22). While this linkage has not emerged in a significant way in IP literature, the recognition has emerged in the health related fields. For example see: Borchers, A. T., C. L. Keen, et al. (2000). "Inflammation and Native American medicine: the role of botanicals." The American Journal of Clinical Nutrition 72(2): 339-347 “Some pharmaceuticals were originally discovered in the course of investigations of botanicals that were used by Native Americans for medicinal purposes. Examples are taxol, obtained from Taxus brevifolia (Pacific yew tree)...”

Additionally, the Southern and Coastal Tsimshian tribes of British Columbia also used the Pacific Yew for various medicines and considered it a source of potent treatments particularly for internal ailments and Cancer\(^{38}\). A number of other Native American tribes are listed as using the tree for a variety of other health needs in other sources. Did the original botanist or the three of his other colleagues with him who collected the sample of the Pacific Yew know that it was used by dozens of local Native American Tribes? It seems highly likely. Hardly a medicinal botanist can be found that doesn’t recognize the importance of local Indigenous knowledge for their work, and the team of four botanists would have felt it important to be aware of the local IMK important to their work. In a somewhat melodramatic piece in Life magazine, this connection to IMK is alluded to:

One day back in 1962, a USDA botanist named Arthur Barclay stood staring at a small twisted tree in an Oregon forest. He was finishing a long tour of duty and he was tired, dreaming of going home. The tree in front of him was once revered and used as an anti-inflammatory medicine by Native Americans, but Barclay didn’t care; he just knew he was supposed to collect every species he came across. So he stuffed some bark, needles, roots and berries from the Pacific yew tree into his bag and moved on, a step closer to home. That’s how the yew tree and modern medical science met, the first tiny favor of fortune in the development of taxol\(^{39}\).

The program of the National Cancer Institute called for collecting many samples from many species to screen for bioactive compounds useful for cancer

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\(^{38}\) Compton, B. D. (1993). *Upper North Wakashan and Southern Tsimshian Ethnobotany: The Knowledge and Usage of Plants*. PhD Dissertation, University of British Columbia: 189. (Note the Tsimshian use of cancer is acknowledged in the University of Michigan’s Native American Ethnobotanical database: [http://herb.umd.umich.edu/](http://herb.umd.umich.edu/). However it cites Comptons thesis page 187, however the actual reference to use for cancer is on page 189. “Yew apparently was employed more commonly among the Southern and Coast Tsimshian who regarded it as a potent medicine, especially for internal ailments and cancer, or what was perceived as cancer.”

treatment. That Dr Barclay was employed within that program does not necessarily mean that his own methodology for collection was entirely random and without strategy. Barclay was a very intelligent man who was encouraged by his PhD supervisor to consider a broad range of knowledge at his disposal and use it to achieve his ends. Barclay never published anything about his work on the Pacific Yew, however there is strong circumstantial evidence involving his previous publications and those research relationships which he acknowledged as most important to him which involved methodologies incorporating Indigenous knowledge and peoples.

That Arthur Barclay would have had a respect for the Indigenous knowledge of the plants he is collecting is further reinforced by a number of facts. In a phone interview with his widow, Janet Barclay, she advised he did his PhD in 1958 at Harvard on *Datura*, a plant with psychoactive properties known to be used by Indigenous peoples throughout South America and the southern part of the US. When I asked her for a contact for any close colleagues that might still be alive from his collection days, she advised me to contact Professor Robert Bye who was a close colleague of his. Professor Bye also did his PhD on *Datura*, and according to Mrs Barclay, they did their PhD’s about the same time. Interestingly, Robert is an ethnobotanist, was on the board of the Society of Ethnobiology for a number of years and has a strong involvement with research on the Convention on Biological Diversity and benefit sharing with Indigenous peoples in his work. I was unable to interview him as he did not return any of my correspondence. However, I procured a copy of Barclay’s PhD and the

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41 May, 2006
evidence continued. He acknowledges as his mentor and person that inspired his choice of PhD as none other than Richard E. Schultes, who was a

renowned expert on medicinal uses of plants, ...considered by many the father of modern ethnobotany - the study of native people's uses of locally available plants. He was known for his wide travels through the Amazon collecting plants and talking with local people42.

Barclay states that Schultes was also someone he had the 'privilege of accompanying during my field investigations...43' Is it not logical to deduct that his mentor whose explicit methodology of collection was ethnobotanical in nature may have strongly influenced Barclay? Yet Barclay doesn’t appear to have developed the same passion for explicitly acknowledging the Indigenous contributions to his research. His own PhD briefly acknowledges the extensive research on the Indigenous use of the plant he is researching, but he doesn’t go into it himself.

The literature of economic botany and ethnobotany is replete with information relative to the use of Datura by peoples of both the New and Old World, and an adequate treatment of this subject is a dissertation in itself and will not be treated here44.

Barclay then cites several works for the reader interested in further reading in that area. Interestingly in his Thesis there are two photos of Indigenous persons


standing and sitting under different species of *Datura*. However the captions of
the photos merely name the species of the plant and the geographical location of
collection. The Indigenous people in the photos are not named or mentioned in
his thesis, and it appears they are merely there for perspective.

*Datura candida* (Pers.) Safford (cultivated in town of Sibundoy, Comissary of
Putumayo, Colombia)⁴⁵.

Mass.: Harvard, 28-29
The circumstantial evidence that Arthur would have gotten his lead on the Pacific Yew from awareness of its use by Native Americans seems overwhelming, although never discussed in the literature. Indeed, there is other important information upon which the literature remains silent. According to Mrs. Barclay, Arthur was the first person to isolate and determine the bioactivity of the Yew in the lab on behalf of the National Institute of Health, but that is also a reality that is lost in the reconstruction of history which states:

On Aug. 21, 2002, in the state of Washington, a historical marker was unveiled to commemorate the collection of the original samples of Pacific yew (*Taxus brevifolia* Nutt., Taxaceae), which led to the eventual discovery of the anti-cancer compound Taxol by Mansukh Wani, Ph.D., and the late Monroe Wall, Ph.D., at Research Triangle Institute (RTI)^47.

Dr. Barclay is not named in that plaque, but is listed as from a group of ‘botanists’ who merely ‘collected’ the plant. A deconstruction of this historical event leads us to see he had a much greater role in the discovery of the bioactive compound and that his lead was likely if not potentially informed by his ethnobotanical knowledge. Why would the modern discourse have such a significant gap? For one thing, recreating such an alternative history of RTI chemists making the ‘discovery’ reinforces the undisputed patent ownership by the pharmaceutical company Bristol-Myers Squibb (BMS). It is suggested that another reason this alternate construction of history denying dependency on both the genuine scientific work of Dr. Barclay and the Native American peoples exists because of the need of BMS to diffuse the appearance of the dependency on the US National Institute of Health (NIH) as there are ongoing contestations of profit sharing between these institutions worth billions of dollars. A report for the government to the US Senate complains that the NIH (who employed Dr. Barclay) performed a disproportionate amount of the clinical work in getting Taxol to the market compared with the little financial reward it received:

The financial success of certain drugs that have benefited from government funded research has raised concerns about whether the federal government is getting a fair return on its investment in the research leading to these products. An example of pharmaceutical technology transfer is Taxol (paclitaxel), which by 2001 had become the best-selling cancer drug in history. Taxol was commercialized by the Bristol-Myers Squibb Company (BMS). Through a collaboration with NIH, BMS benefited from substantial

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investments in research conducted or funded by NIH. In this instance, the NIH research examined the safety and effectiveness of this naturally occurring compound for the treatment of cancer and resulted in techniques for administering the drug. NIH transferred its research results and discoveries to BMS for its use in seeking approval from the Food and Drug Administration (FDA) to market the drug.

Although NIH estimates that it has invested heavily in research related to paclitaxel [Taxol], its financial benefits from the collaboration with BMS have not been great in comparison to BMS’s revenue from the drug.48

One can see how the popular history surrounding the discovery of Taxol becomes very important to ‘construct’ when such powerful actors with competing interests and such enormous amounts of money are involved. Clearly neither NIH nor BMS are interested in emphasizing the original contributions of either Arthur Barclay or Indigenous custodians of this knowledge when it diffuses the property claims of both the political and commercial actors in this story.

Initiating processes of repatriation of the knowledge of Taxol is not dependent upon finally determining whether Barclay had consciously utilized the knowledge of Indigenous peoples in his own contribution to developing Taxol, although it would strengthen the moral case for such repatriation. It is sufficient that there is clear evidence that there were a number of communities already in the position of custodians of the knowledge of the Pacific Yew as a medicine to treat cancer for generations prior to its commercialization in recent decades. According to Indigenous customary law, the communities are custodians of the knowledge of the medicines because they were chosen by the spiritual realm and

have a particular intimate relationship with the land within which the knowledge arises. They have corresponding fiduciary obligations to continue respecting that knowledge and utilizing it in a way that honors those obligations. This may include not only honoring the natural relationships in which the knowledge arises, but may involve obligations in alleviating the suffering of all those who need such medicine. On the most minimal level of repatriation, there would be spiritual value in members of the Western community approaching those communities who are custodians of such knowledge and acknowledging the value of their knowledge in front of their youth and children. It is possible that a variety of unanticipated parallel processes of reconciliation would occur between cultures. As Pickering noted in his comments on the process of the repatriation of tangible property, success is measured in first engaging with the Indigenous community, and then empowering them. This is accomplished initially by identifying and honoring their role as custodians of that knowledge.

The definition of a successful repatriation event must not restrict to the physical return of items alone. *The repatriation of authority may prove to be the greatest outcome of the repatriation process.* The first stage in the process of repatriation is the recognition that an applicant group has cultural and moral rights in the materials under consideration. In this capacity indigenous people are recognised as having the right to make enquiries, be consulted, and to provide advice, about the management and use of collections, this moral empowerment is in itself one act of repatriation. When the process is concluded, and it is formally recognised that the applicant group is the legal owners of the materials, another successful act of repatriation has occurred⁴⁹.

This could happen in many ways, but may best be achieved in forming new relationships with the communities, involving ceremonies or ritualized acknowledgment of gifts rather than just an email or phone call. It is a good idea to initiate communication with the communities involved first and just see what emerges and how they feel. If it is something important to them and they have the resources and time to follow this up, their own customary laws will provide some of the principles which may guide the process. However, it is likely to be a new process for everyone and innovation will be required. Just as for some communities there were no traditional laws existing for how to rebury a stolen body, there are likely to be no specific customary laws for protocols on the repatriation of intangible knowledge. The repatriation process can be initiated by anyone, although it should ultimately and eventually involve representatives of those institutions which currently claim ownership. This could involve current stakeholders in Taxol, scientists that may have been involved in the process, postgraduate students discovering information of interest to communities, or even descendents of people such as Arthur Barclay. Additionally, it may just involve education experts who wish to work with the local community in acknowledging the value of their knowledge in local educational materials for their own community and surrounding schools. As the process of repatriation grows, it is likely to expand to involve wider sets of relationships that may eventually involve the pharmaceutical companies themselves as public opinion becomes increasingly informed by the process a positive engagement for everyone.
Case Three: Antibiotics from the Australian Bull Ant and repatriating lapsed patents

The case of the antibiotic from the Australian Bull Ant has already been discussed in chapter three. This category could be referred to as knowledge either appropriated or developed in parallel, that has been patented, but in which case the patent has lapsed. The suggestion here is to repatriate the knowledge to the Aboriginal communities who were custodians of that knowledge, and as part of that allow them to renew the patent that has lapsed in their name. This may likely require some pro bono collaboration from Macquarie University, a willing law firm and economic assistance from philanthropic organizations or available grants associated with community development that are available from the government. The potential to develop sustainable economic pathways from this may peak the interest of outside moral interest in more effectively following up the development of this drug.

The category of this case may involve more cases than many might at first suspect. The majority of patents lapse after failure to pay maintenance fees before the end of their term. In the U.S. for example between 55% and 67% of issued patents lapse and the percentage that lapse increases each time a new fee is due\textsuperscript{50}. Not all of these lapse because they are considered worthless patents or not capable of commercial exploitation. Diane and Nelsen interviewed a range of stakeholders in the Australian medical biotechnology industry involved in the patenting process. One of their conclusions involved analyzing why academics

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might let patents lapse. This is often because academics are too busy with a variety of research projects and don’t have the savvy to sell their discoveries to overseas companies.

Where patent holders did not exploit patents, they resolved this nonexploitation in some instances by either letting the patents lapse or licensing them out. One problem appeared to be that it wasn’t often that licensing opportunities were sought, or available. In the case of many academic institutions, potential licensees had so many research opportunities, that many patents were not taken up and exploited. Marketing technology and products to overseas companies is difficult. If a potential licensee approached the patent holder, often this led to some sort of negotiated arrangement. If not, often the patents stayed on the books of the patent holder. It may be the case in this instance that these patents were not worth working in any case in the sense that a commercial outcome was unlikely. Alternatively, it is possible that they were simply not on the radar of potential investors, or that the patent holders did not actively seek licensing opportunities.

When I personally queried one of the patent holders associated with the antibiotic from the Bull Ant, his lack of certainty about the status of the patent would seem to indicate a lack of enthusiasm in having sought licensing opportunities.

Research commissioned into searching for and examining patents that have lapsed in this category that may have utilized Indigenous knowledge may reveal a significant number of repatriation opportunities.

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Case Four: Turning databases on their head

It has already been mentioned that 80% of the appropriation of IMK occurs without any direct contact with Indigenous communities; rather it is enabled by utilizing exiting databases\(^{52}\). For example, one of the largest is NAPRALERT which requires a paid prescription and has a heavy focus on IMK with over 200,000 scientific papers in the area searchable within that database.

NAPRALERT is described in the following,

NAPRALERT\(^{sm}\) is a relational database of all natural products, including ethnomedical information, pharmacological/biochemical information of extracts of organisms in vitro, in situ, in vivo, in humans (case reports, non-clinical trials) and clinical studies. Similar information is available for secondary metabolites from natural sources.

**To date more than 200,000 scientific papers and reviews are included in NAPRALERT**, representing organisms from all countries of the world, including marine organisms. About 25% of the database is derived from abstracts and 75% from original articles.

We believe that our coverage of the literature is comprehensive from at least 1975 through and including 2003. Due to budget problems we only include ca. 15% of the literature from 2004 and 2005, but articles are being collected and we hope to be up-to-date eventually\(^{53}\).

Once IMK is identified in these databases, there is still no need to visit existing communities to obtain samples as the worlds botanical centres have vast collections and even if not held there, the location of the plants growth may


extend beyond the areas of Indigenous habitation. The recent revival of research into the Nyoongah people’s Smokebush for an AIDS medicine is an example of how it was not necessary to procure new samples of material from the original community. There are multinational projects involving a range of resources facilitated by powerful institutions to find ever more innovative ways to create databases that will utilize IMK to create new medicines. For example the Mayo Clinic has networked a variety of researchers to create a sophisticated bioinformatics system that scans ancient literature and utilizes a variety of experts to develop medicines from IMK. “Mayo Clinic researchers demonstrate the feasibility of using sophisticated data mining techniques on historical texts to identify new drugs.”

One of their recent projects identified a unique Mayo Clinic collaboration has revived the healing wisdom of Pacific Island cultures by testing a therapeutic plant extract described in a 17th century Dutch herbal text for its anti-bacterial properties. Early results show that extracts from the Atun tree effectively control bacteria that can cause diarrhea, as claimed by naturalist Georg Eberhard Rumpf, circa 1650. He documented his traditional healing methods in the book Ambonese Herbal.

The range of experts involved in this project are described:

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Global involvement

Scientists and others in the Mayo Clinic collaboration included:

- in the Independent State of Samoa, shamanistic healer.
- in Rochester, Minn., a Mayo Clinic neuroscientist, a physician, laboratory analysts and a bioinformatics text-mining expert, who oversaw a vocabulary server concept-indexing application to closely examine the text for detailed and relevant information.
- in Kalaheo, Hawaii, ethnobotanists (persons who study the plant lore of a race or people) at the Institute for Ethnomedicine, National Tropical Botanical Gardens, to validate the correct botanical specimens.
- in Boston, Mass., experts in technology to digitize the text so names, symptoms or ailments associated with a given plant could be extracted.
- in New York, N.Y., a botanist at the New York Botanical Gardens to reconcile ancient plant names with modern plant names.
- in Chicago, Ill., experts using a natural products database to compare the therapeutic plants identified by Rumphius with modern botanical healing agents in use. Plant names found in Rumphius' text — but not found in the database — were considered promising leads to investigate.
- in Amherst, Mass., a professor of Germanic languages who translated the work written in Dutch and Latin by Rumpf (1627-1702)

As part of this project, in 2005 Dr Beunz visited Samoa and ‘accompanied a shamanistic healer’ to Atun tree groves. Leaves and nuts of the tree were picked and brought back to the United States to be analysed in Mayo Clinic laboratories. The ‘Shamanistic healer’ is not identified in either the Mayo report or the associated publication in the British Medical Journal\(^56\). The recent article announces that a patent application has been filed on the arising medicine with the Mayo Clinic as the applicant and that Eric J Buenz and Brent A. Bauer are named on the patent. There is no indication that either the Samoan government or the ‘Shamanistic healer’ are named on the patent or that there are any benefit sharing arrangements or contracts in place.

It is suggested that these same databases of knowledge, including this recent bioinformatics project at Mayo can be utilized in a way not envisioned by their creators, to reverse the knowledge flow from local communities to multinational pharmaceutical companies and provide an opportunity of resources to establish projects of repatriation back to the local Indigenous communities. These databases are valuable as nearly all the world’s medicines that have been appropriated from IMK and redeveloped into commercial products de-identify the origins of their source. Projects can be established that search through databases combined with patent searches to enable a reconnection of this identity which enable an opportunity for repatriation processes to begin.

Future legislation and policy that may trigger repatriation cases

In June 2007 claim 262 made under the Waitangi tribunal finished its hearing which had lasted more than 15 years. The claim involved all the flora and fauna of New Zealand within Maori custodianship. The determination may take another year or so to be handed down. It is possible that if there is a positive result that this may be an opportunity to stimulate a variety of repatriation responses. The Declaration of Indigenous Rights was passed by the UN General Assembly in June 2007 and voluntary application of Articles 11 and 28 may also stimulate further cases of repatriation. Lastly, the recent version of the Code of Ethics for the International Society for Ethnobiology includes in section 10 of its practical guidelines a provision for repatriation where appropriate. This version was approved in 2006 and the voluntary actions of its worldwide members may see cases of the repatriation of IMK arising.
Lastly, there is a trend for Indigenous peoples to begin developing their own databases that they control and use to maintain custodianship of their own knowledge. The case of India developing this has already been discussed in this thesis\textsuperscript{57}. Another case of Indigenous controlled databases utilizing holistic networks of knowledge revival that has great promise is the Traditional Knowledge Revival Pathways (TKRP) developed in Australia since 2001\textsuperscript{58} with the collaboration of Kuku-Thaypan Elders, Dr George Musgrave Snr and Dr Tommy George Snr. in collaboration with Victor Steffensen. This project has recently begun to network with a variety of Indigenous communities internationally such as Ojibwa in the United States, Moriori from Rekohu (the Chatham Islands) and Maori in New Zealand. John Hunter is also working with a variety of other scholars on this project in stimulating it as an international Indigenous movement of cultural revival. This TKRP project is a promising project of cultural revival that may eventually provide a model of how repatriation can involve innovative ways to frame that knowledge in culturally appropriate ways. Such developments offer hope that the repatriation movement may heavily involve the direction and guidance of Indigenous peoples themselves rather than it being dependent on processes initiated by members of the ‘Western side’.

A repatriation movement clearly would assist in reversing the history of colonial appropriation; in healing the wounds caused from the cultural denial of dependency; would bypass the limited ability of Western IP to protect IMK by a

\textsuperscript{57} For a list of such databases see WIPO’s website: \url{http://www.wipo.int/tk/en/databases/tkportal/} last viewed 28 November, 2007

\textsuperscript{58} See the homepage at \url{http://www.tkrp.com.au/} last viewed 27 November 2007.
process of a broad social movement; would assist in engaging the spiritual
dimension by returning the ability of communities to honour their fiduciary
obligations to their ancestors, land and spiritual realm; would assist in
transforming the direction of the flow of knowledge which is often in the hands
of universities as gatekeepers. It would also enable an honouring of the
legitimacy and diversity of Indigenous customary legal systems. Repatriation
may also enable a paradigm shift from mere benefit sharing to models of genuine
and full equality characterised by Indigenous ownership/custodianship of their
own knowledge and more sustainable Indigenous legal and economic models of
empowerment.

Clearly there is already a strong latent potential to begin an IMK repatriation
movement. The international communities of Indigenous scholars and partners
in other cultures have a timely opportunity to now catalyze this process.
Chapter Nine

Conclusion

To recognise the sacred means that we must first learn the lessons of humility, of tofa sa’ili. In the Samoan indigenous reference this is founded on the lessons of understanding equation and affinity between all things, animate and inanimate, living and dead.

Nevertheless, what the indigenous reference can offer the world is a re-appreciation of the rightful place of the spiritual, sacred and tapu (implicit in indigenous cultural rituals) in ethical debates. The indigenous reference also gives weight to what English physicist Stephen Hawking eventually came to understand, i.e. that “our search for understanding [our tofa sa’ili] will never come to an end” because “we will always have the challenge of new discovery”.

- His Highness Tui Atua Tupua Tamasese Ta’isi Efi, Head of State of Samoa

The crisis of the protection of Indigenous medical knowledge is a shared crisis among cultures. It is fundamentally an imbalance in legal, social and spiritual relationships. Returning to the theme of the painting on the cover of the thesis, this is a story about differing cultures having been apart for a long time and becoming custodians of their own unique forms of knowledge. In their generations of custodianship, each of these cultures has developed unique ways of carrying and applying that knowledge in ways appropriate to that knowledge. Their customary legal systems reflect the spiritual origins of their traditions and the wisdom of those ways developed over the generations. According to the

story in that painting, the Creator has given signs that it is time for the differing peoples to come together again and share their gifts they have developed in that custodianship. Regardless of whether one believes that the Creator is orchestrating these elements of our destiny, there is wisdom in this story. Globalization as a process of recognizing our emerging interdependence as nations and peoples is inevitable but there are many choices in the tensions that arise in the continuum of unity in diversity.

The imbalance is that the current system is dominated by a particular culture suffering from materialism and the ability to honor the diversity of each others gifts and stories is diminished. We must learn to share the gifts of our differing custodianships in ways that honor each other. To develop a global system that enables appropriation of the gifts of another, turns it into money and then shares the profits back to that culture is a violation of the spiritual purpose of those gifts. It ignores the sacred responsibilities of respecting our diverse relations in our time of meeting again. The global system must be informed by a new form of intercultural ethics characterized by respect and reciprocity and must be concerned with empowering each member of the global family to use their own gifts and fulfill their aspirations in self-determination. It is only then, when each of us stands in a place of equality and dignity, that the freedom for true sharing will be enabled. To prevent Indigenous peoples from maintaining relationships with their own land disrupts this capacity and reinforces the need to ensure stronger applications of native title in enabling Indigenous custodianship of their own land and resources.

The spiritual nature of this crisis is manifested in the dominant culture’s denial of dependency on Indigenous peoples and their IMK, the crisis of
academic capitalism and a profit based health system. It is further manifested in a Western intellectual property law system disconnected from its own spiritual origins, lacking intrinsic compassion or a spirit of service to humanity. This is exacerbated in the age of globalization witnessing an IP system refashioned by the vanity of the powerful to serve their interests.

The current age of globalisation is characterised by trends in extending this IP model arising out of one cultural context, primarily designed to consolidate, protect and improve upon the interests of the powerful and wealthy. This process is moving towards global regulatory models of stronger levels of exclusion and control and is increasingly facing tensions as it fails to match the reality of diversity in human and ecological relationships and the many ways in which knowledge is generated and shared between communities.

This thesis has argued that we can address this imbalance in a number of ways. It began with acknowledging the Western dependency on Indigenous medical knowledge and analysing some of the deeper levels of significance of this dependency which are not just economic but epistemological dependence. We then move on to appreciate some of the limitations of Western IP in protecting IMK.

This thesis has argued for a paradigm shift in intellectual property law that includes two important elements.

The first is a shift that requires a deconstruction of the jurisprudence and history of Western IP to appreciate that it is a local and subjective system rather than a universal objective value. This opens the door to appreciating
the importance of honouring the diversity of Indigenous customary legal systems as equally local subjective applications. These are systems which embrace the uniqueness of their own contexts of biocultural diversity and which therefore enhance it rather than destroy it. It also highlights that applying one locally developed system (the Western model of IP) on all other diverse contexts has been a destructive force in causing the loss of both cultural and biological diversity. This enables humility which is a pre-requisite for true innovation and learning that engages the sacred.

The second element of the paradigm shift is re-engaging the spiritual dimension in Western law. This is both to enable a reconnection to some of the fundamental spiritual origins in Western law as well as to be able to honour the spiritually based epistemology of the diversity of Indigenous customary systems. A global system that honours the diversity of these cultures would be impossible without this enterprise as this spiritual dimension is at the core of many of these cultures.

Why is Western culture dependent upon Indigenous peoples to help revitalize and reconnect the spiritual aspects and origins of Western IP law? As His Highness mentioned in the opening of this chapter and explores further in his address, Indigenous peoples have remained connected to the spiritual origins and purpose of their own customary legal systems and this is still a lived daily experience for many Indigenous peoples. There are many people in Western culture who are also deeply religious, but as Habermas has commented we suffer a type of neurosis in having to limit our spiritual identity to the home (whether religious or not), or similarly safe enclaves, and are not currently liberated to explore the rationality of our spiritual
dimension in the formulation and growth of Western law and policy\textsuperscript{2}. A number of Indigenous peoples, such as the Maori, have sophisticated consultation processes which allow for spaces of respectful contestation about the validity and best practice of applying spiritual principles to newly emerging legal contexts. Western culture lacks these legitimate spaces of respectful contestation and the skills to negotiate them. When there are arguments involving spiritual issues, the default response is to retreat and say “You are entitled to your view and I am entitled to mine” in order to avoid further conflict. But the conflict arises because there is no confidence in the ability to rationally explore in a scientific way the consequences of the application of certain spiritual principles over others. A system that allows such exploration means that we can then make respectful decisions about which gifts may be more appropriate to particular needs and contexts. Western peoples forming partnerships with Indigenous peoples who are experts in such skill sets has obvious and great potential to transform Western capacities to heal and reconnect to their own spiritual identity in forming law and policy.

It is important to take seriously elders advice that Western culture is preoccupied with protection and should be focused on valuing the wisdom of the culture it is trying to protect. What we value we protect. We value the commercial elements but we do not value the people or their differing spiritual epistemologies. This deficiency enables a denial of dependency on a deeper level. We are dependent not just on their medicine but upon their epistemologies which have sustained biocultural diversity upon which our survival depends. Being able to honor these

epistemologies is no easy task as it requires Western culture and law to come to terms with how our own epistemologies suffered unnecessary fracturing of the spiritual and material in our own traumatic histories. However difficult this task may prove to be, it is invaluable as it will enable the ability of humanity to honor the intrinsic value and gifts of each others diverse cultures. This thesis has attempted to offer resources for this task, but it will require the collaboration and research of many others to sufficiently heal this internal fracture.

The spiritual quality of trustworthiness is an essential feature of a global system concerned with protecting Indigenous people’s medical knowledge. The international trends in moving towards a treaty that may include the principles of Prior Informed Consent, Mutually Agreed Terms, Equitable Benefit Sharing and certificates of origin are positive developments but in a relative sense. The international regulatory system needs to realistically involve the university level which is the primary interface between local communities’ knowledge and transnationals. Unless this gatekeeping function of universities is addressed, and framework of academic capitalism in which it is situated, we cannot adequately develop a trustworthy global IP system.

The trustworthiness of the overall system is dependent upon the goodwill of each nation state in exercising their national sovereignty in ways that support these developments. At the moment the U.S., is in the driving seat of the worlds IP regulatory system more than any other country and for some time has explicitly indicated that it does not support such developments. When forums the U.S. is participating in start to move in a direction of support for some of the above mentioned principles, it withdraws and moves to, or even
creates a different, forum that will be seen to support their national position and influence the future development of policy and law that protects their interests\(^3\). Similarly Australia has shown a clear lack of support and antagonism to a number of the above mentioned *sui generis* principles being developed in international forums.

Furthermore, national sovereignty itself is being eroded by the influence of powerful multinational companies who are using sophisticated tactics to influence the global regulation of business, trade and IP. As was noted earlier in the thesis, fewer than 50 representatives from fortune 500 backgrounds designed the world’s most influential regulatory mechanism, TRIPS, that regulates global business, trade and IP.

While these are hardly reasons for abandoning international consensus building, this context does provide good reasons for reconsidering effective strategies that engage the local and mid level gatekeeping processes rather than encouraging a model of dependency on the goodwill of sovereign nation states. Particularly since this is a goodwill that can fluctuate with each new party that comes to power and which often swings from one end of the spectrum to the other because of the partisan framework of adversarial politics. The question remains will such developments enable true justice of realistic social and economic equality for Indigenous peoples? It may result in a patchwork of benefit reaching some communities but will it empower true equality and justice? Empowering a global system that honors the diversity of Indigenous customary law is essential

to offset the weakness of this dependency in the international model. There are positive signs of the importance of respecting ICL emerging in international fora, such as working groups of the CBD, but it may be unrealistic and unwise to only rely upon that process for ensuring that happens. Universities as a place where the honoring of ICL can occur is an important location of transformation that can not only regulate gatekeeping but provide a bridge for the valuing of ICL to move from the local through to the international.

As a final recommended remedy to this situation, this thesis has suggested a range of strategies to address the gatekeeping function of universities and has more extensively introduced the idea of initiating a repatriation of IMK movement. Returning to the story of the painting, the process of repatriation is also recommended as it potentially restores the spiritual balance of relationships that has impaired the capacity to build a global community of equality.

What does the future hold?

The commercialisation process of IMK applies a reductionistic materialism that reinforces destructive patterns that degrade systems diversity. Associated narrow definitions of technology exclude from consideration the reality that the effectiveness of Indigenous medicines cannot be encompassed by merely identifying a bioactive compound, but in reality are sophisticated and advanced knowledge systems that include a spiritual dimension as a lived experience.
On a practical level the worlds health systems have suffered because Western culture has not honoured the gifts of Indigenous peoples. We have been slow to recognize that the holistic nature of IMK is valuable, not just the specific bioactive compounds associated. Oftentimes IMK enables medical methodology that negates toxicity and enables bioactivity that may be isolated to narrow and unique contexts. This includes IMK of the molecular level of breaking down and isolating the right components to specific knowledge of when and how to harvest a plant that may only produce such bioactivity, or may have peak bioactivity at certain times and under certain conditions. This IMK also includes knowledge of the use of other compounds to balance the effects on the human form. Millions of lives may have been lost in the fight against malaria because of how long it took to respect such elements of IMK while the development of new AIDS drugs would have been impossible without it.

These are examples of the practical negative consequences of not valuing the material aspects of the knowledge of IMK. What of the spiritual aspects? This thesis has explored how medicine is seen in most systems of Indigenous customary law as a gift from the spiritual realm meant to offer healing rather than provide a commercial resource to make one group wealthier than another. When their knowledge is appropriated and then de-identified in the commercialisation process the vital law of honouring the fiduciary obligations to the ancestors that gave that gift is disrupted. A repatriation movement would begin to reconnect the ability of communities to honour those fiduciary obligations to their ancestors.
Furthermore I have suggested that there are good reasons to explore the development of regionally based herbal remedy/pharmaceutical companies for the same rationale as well as initiating sustainable economies that will decrease a reliance on morally ambiguous requirements to exploit casino developments and unsustainable mining opportunities.

What would that mean on a practical level for the world? Beginning to explore that question is another thesis in its own right, but a powerful example is available to us that illuminates what such a future may look like.

In recent decades there has been uproar about the fact that the Western model of IP combined with health systems based on profit created a model that meant some drugs were more expensive in African countries than in developed countries. This was because of marketing principles which meant it made more economic sense to have a smaller market that appealed to the elite rich in such countries. This model meant the drug was even more expensive in these poorer nations than in the United States or other developed nations. While this situation has changed somewhat after intense public scrutiny by NGO’s and other developing countries it highlights the Western health system does not naturally look after the interests of the poor and destitute.

While the prostratin case of benefit sharing between Samoa and the University of California Berkley may not be ideal in an absolute sense, it is fairly high in the continuum of ethical examples available in the world. However, that is not what is being debated here. What illuminates the future is that one particular feature of Indigenous customary law stands out.
"Prostratin is Samoa’s gift to the world,” said Hans Joseph Keil, Samoa’s minister of trade and tourism.

Samoa asked that if the AIDS drug is successfully developed that whatever pharmaceutical company ends up developing it must promise to distribute the drug at low or no cost to developing countries suffering from the AIDS epidemic.

This concern for the suffering of those who are unable to acquire their own medicine arises, not as a random act of kindness, but as a fundamental feature of most forms of Indigenous customary law in seeing all as relations and the nature of medicine as a sacred gift. If the freedom to apply such principles was granted to Indigenous peoples in the process of repatriation, or in developing their own pharmaceutical companies, or through other approaches that effectively empowered ICL, the world would be illuminated with a new economy of health as gift giving that honors our fiduciary obligations to our ancestors to ensure the health of all.

Further studies in this area would provide additionally strong argument for the importance of ensuring such a future. Other arguments include providing a counter to the negative practice of pharmaceutical companies attempting to ensure a monoculture of medicines to maintain market share. Honoring the diversity of Indigenous customary law would likely create a health system that had a greater diversity of medicines available for particular diseases, rather than

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being concerned in getting the next ‘blockbuster’ drug. Lastly, as the world approaches peak oil, studies have shown that pharmaceuticals are one industry that will be adversely affected in the ability to manufacture and transport medicines\textsuperscript{6}. Prices are expected to dramatically rise and accessibility to some medicines may become impossible in some cases. The negative consequences of this will likely be felt first by developing countries dependent upon the importation of drugs from countries in the US and Europe. Developing a global system that focuses on the diversity of natural occurring medicines in plants and their methods of local application means populations will have greater ability to utilize existing local natural renewable resources rather than be dependent upon the synthesized versions of some of these very same plants being shipped back to them in pill form from a factory overseas or interstate.

Undoubtedly, there are many other good reasons for developing applied models that honor the diversity of Indigenous customary legal systems and health, but that must be left for future research and practice.

The beauty of such idealism is that it can effect real change. It is true that the balance of power in the world is unequal and the powerful use strategies such as coercion and forum shifting to determine the direction of the global regulation of intellectual property law. Yet the relatively powerless Indigenous communities around the world can also strongly influence the development of the world’s systems through the powerful mechanism of creating alternate models\textsuperscript{7} that possess the appearance of integrity and beauty. Even when such ideas as


regionally based Indigenous pharmaceutical companies may not come to pass, exploring their very possibility in ways that illuminate their attractiveness as alternate models will elicit change in the global system. The powerful have to respond to the potential that the models being developed may actually work, particularly as they gain wider social recognition as attractive alternatives to the dominant system. This elicits strategic compromises which manifest as lifting of ethical standards in the sharing of power and resources to placate the growing social consciousness which may eventually result in true equality which would be disastrous for the powerful.

Either way, the pathway to equality and justice for Indigenous peoples inevitably unfolds.
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