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INDIGENOUS KNOWLEDGE

TE TAUIHU O NGĀ WĀNANGA

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Special thank you to the tauira at the Porirua Campus for allowing us to photograph their Kete.

A WORD FROM THE EDITOR

Kia ora, Greetings.

Welcome to this inaugural edition of the WINHEC Journal. It is with pleasure that I present this publication on behalf of the Editorial Board and the members and organisations that collectively form the World Indigenous Nations Higher Education Consortium.

The WINHEC Journal is an online publication dedicated to exploration and advancement of issues related to Indigenous education, culture and language faced by WINHEC nations and members. This important resource comes as a result of past discussions amongst members of the WINHEC Research Working Party. I would like to acknowledge those early members for instigating such a worthwhile project that has led to the development of this first edition of a journal that we hope will grow over the coming years.

Much of the hard work pertaining to this publication has fallen on the shoulders of the Editorial Board. I would like to thank each member for the time they have contributed, voluntarily, to ensure that this publication is of a standard that appropriately appeals and speaks to the intended audience.

The theme of this edition is Indigenous Knowledge. In the development and planning of this edition it seemed appropriate that in this journey of exploration of indigenous issues that we first discuss the foundations of Indigeneity.

This publication takes the reader on an educational voyage from Canada to Aotearoa. Our five authors lend their thoughts on Indigenous knowledge from their particular tribe, people, situation or perspective.

Our edition begins with a paper by Dr Marie Battiste (First Nations, Canada) who introduces us to Indigenous ways of knowing, the conflict with Eurocentric ways of knowing and the role of the education system in Canada in affirming, or indeed, recognising the importance of Indigenous knowledge.

For those readers unfamiliar with the role of WINHEC, two writers provide perceptions of WINHEC in relation to quality assurance and accreditation at a higher education level.

Dr Manulani Meyer (Native Hawaiian) destructs and reconstructs the meanings of quality and assurance within an Indigenous paradigm. Her paper presents the role of WINHEC in affirming native control of indigenous higher learning on an international level.

Emeritus Professor Ranginui Walker proposes a Māori definition of quality that can be located and determined by Māori values and worldviews. His overview of accreditation and quality assurance is framed within the efforts of Māori-controlled higher education institutions and WINHEC.

Practitioners will appreciate the paper by Teresia Teaiwa (Kiribati) and her discussion of the role of the classroom in the reclamation, affirmation and revitalisation of Indigenous knowledge. Using the metaphor of a canoe, Teresia reconceptualises the classroom, emphasising the journey of learning.

And finally, the relatively contemporary issue of genetic modification is explored by Dr Mere Roberts who presents Māori traditional principles, values and beliefs that arose in the development of a framework for the assessment of research applications involving genetic modification. This paper is a must for Indigenous peoples who find themselves challenged by the morals of modern science, yet wishing to retain indigenous knowledge systems and values.

The cover of this issue features three *kete* or woven baskets. Our Māori people of Aoteroa New Zealand refer to the three baskets of knowledge; Te Kete Tuauri, Te Kete Tuatea, Te Kete Aronui. A central figure of Māori mythology, Tāne, ascended the heavens and retrieved these kete to benefit all mankind. They symbolise the foundation of Māori knowledge.

This journal is a contribution to a global indigenous knowledge basket.

Enjoy!
Danica Waiti, Editor, Aotearoa New Zealand

2005 EDITORIAL BOARD MEMBERS

Mr Tom Davies - Continental USA

Mr Tom Davies is a representative of Turtle Mountain Community College (North Dakota, USA), a member organisation of WINHEC. Tom is a member of the WINHEC Executive Board and initiated the development of this journal over several years. Tom has lent much expertise and guidance to this inaugural edition and continues to be very active in initiating many of the activities of WINHEC. Tom's love of poetry and creativity is evident.

Dr Peter Hanohano - Hawai'i

Dr. Peter Hanohano is the Executive Chair of the Native Hawaiian Education Council, based on the island of O'ahu, Hawai'i. Peter is also a member of the WINHEC Executive Board. Peter received his Ph.D from the University of Alberta in Edmonton, Canada, as one of the first two doctoral graduates in the pioneering First Nations program, which encourages aboriginal scholars to develop research from within aboriginal perspectives. Peter is originally from Punalu'u on the island of O'ahu. He now lives near the shores of Hau'ula with his beautiful family.

Mr Tama Potaka - Aotearoa New Zealand

Tama Potaka is of Ngāti Hauiti, Whanganui, Ngāti Whitikaupeka, Ngāti Toarangatira, Ngāti Raukawa, and Ngāruahinerangi descent. Tama is publişhed in New Zealand, Pacific and North American legal journals. He worked for several years as an Attorney in New York before returning to New Zealand to realise his passion for Māori development. Tama is an independent consultant and is active in tribal land management and committees. In this capacity, Tama represents Te Wananga o Aotearoa, a member organisation of WINHEC.

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Associate Professor Boni Roberston has held the position of Director of the GUMURRII Centre for Aboriginal and Torres Strait Islander Research, Teaching and Student Support at Griffith University, Brisbane, Australia, since 1995. Boni is a member of the WINHEC Executive Board and the Deputy Chair of the National Indigenous Higher Education Network. As a writer, reseacher and advisor, Boni has contibuted significantly towards social policy and community development, health, law, child protection and justice for Aboriginal and Torres Strait Islander peoples.

Mr Turoa Royal - Aotearoa New Zealand

Turoa Royal is affiliated to Ngati Raukawa ki te Tonga, Tama Te Ra Hauraki and Ngāti Wharara. Turoa is the current Executive Chairperson of WINHEC and was one of the founding members of WINHEC. Turoa resides in Wellington, Aotearoa and is very involved in Māori-controlled higher education organisations (Wānanga). He is the Chairperson of Te Tauihu O Ngā Wānanga (the National Association of Wānanga). He is also the Chairperson of the governing body of Te Wānanga-o-Raukawa at Ōtaki. Turoa has a large family, located in places all over the world. He enjoys watching rugby and spending time with family.

Mrs Danica Waiti - Aotearoa New Zealand

Danica Waiti is of Ngāti Pikiao and Te Rārawa descent. Danica is the Editor of the WINHEC Journal and a member of the WINHEC Research Working Party. She resides in Aotearoa with her husband and two children. Danica is an experienced researcher in the fields of Indigenous education and health. She runs a small company offering indigenous research advice. Danica is passionate about indigenous issues, travelling and politics. Her role as Editor is a new and exciting challenge.

Contents : Perspectives on Indigenous Knowledge

Indigenous Knowledge: Foundations for First Nations

Dr. Marie Battiste
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Abstract
This essay seeks to clarify the theoretical frameworks that have been developed to understand Indigenous knowledge, to provide some insight into the reasons for the tensions between Indigenous and Eurocentric ways of knowing, and to point out the challenges these conflicts bring to educational systems. It is part of a study that responds to the Government of Canada's working partnership with First Nations to improve the quality of Aboriginal life and education in Canada through research conducted with the Education Renewal Initiative.

Introduction
Indigenous knowledge is a growing field of inquiry, both nationally and internationally, particularly for those interested in educational innovation. The question "What is Indigenous knowledge?" is usually asked by Eurocentric scholars seeking to understand a cognitive system that is alien to them. The greatest challenge in answering this question is to find a respectful way to compare Eurocentric and Indigenous ways of knowing and include both into contemporary modern education. Finding a satisfactory answer to this question is the necessary first step in remedying the failure of the existing First Nations educational system and in bringing about a blended educational context that respects and builds on both Indigenous and Eurocentric knowledge systems.

Whether or not it has been acknowledged by the Eurocentric mainstream, Indigenous knowledge has always existed. The recognition and intellectual activation of Indigenous knowledge today is an act of empowerment by Indigenous people. The task for Indigenous academics has been to affirm and activate the holistic paradigm of Indigenous knowledge to reveal the wealth and richness of Indigenous languages, worldviews, teachings, and experiences, all of which have been systematically excluded from contemporary educational institutions and from Eurocentric knowledge systems.

Through this act of intellectual self-determination, Indigenous academics are developing new analyses and methodologies to decolonize themselves, their

communities, and their institutions (see Martin Hill, 2000; Womack, 1999; Cajete, 2000a, 2000b; Kawagley, 1995). This essay adds to the empowerment of Indigenous peoples by offering a review of literature that addresses why Indigenous knowledge has been eluded in Western knowledge systems, how Indigenous knowledge is understood, and what protections are available within Canadian systems.

Strategies for Maintaining Eurocentric Thought

Eurocentric thought asserts that only Europeans can progress and that Indigenous peoples are frozen in time, guided by knowledge systems that reinforce the past and do not look towards the future (Blaut, 1993). Several strategies have been used to reinforce the myth that regions outside Europe contribute nothing to the development of knowledge, humanities, arts, science, and technology. These strategies include the blind reliance on and citation of Greco-Roman references despite the fact that the Greek alphabet is largely of Syrian/Lebanese origin; the manipulation of dates and demotion in importance of non-European knowledge such as Mayan, Hindu, and Arabic numerals, the concept of zero and algebraic notations, the use of decimals, and the solution of complex equations; the Europeanization of the names of outstanding scientists and their devices, scientific documents, and processes to undermine equal and fair assessment of the global history of knowledges (for instance, a comet identified by the Chinese as early as 2,500 years ago is attributed to Haley); and the classification and trivialization of non-European science and technological innovations and invention as "art" (Ascher, 1991).

These strategies have caused Indigenous peoples to be viewed as backward and as passive recipients of European knowledge. Indigenous knowledge became invisible to Eurocentric knowledge, to its development theories, and to its global science. Consequently, Indigenous knowledge was not captured and stored in a systematic way by Eurocentric educational systems. Indeed, in some cases there has been a concerted push to erase it. The persistent and aggressive assimilation plan of the Canadian government and churches throughout the past century, the marginalization of Indigenous knowledge in educational institutions committed to Eurocentric knowledge, and the losses to Aboriginal languages and heritages through modernization and urbanization of Aboriginal people have all contributed to the diminished capacity of Indigenous knowledge, with the result that it is now in danger of becoming extinct.

Indigenous Renaissance and Transformations in Value of Knowledge

The reversal of this process by Indigenous scholars was and remains a direct

consequence of their extended experience of and learning in the condescending Eurocentric educational system. For as long as Europeans have sought to colonize Indigenous peoples, Indigenous knowledge has been understood as being in binary opposition to "scientific," "western," "Eurocentric," or "modern" knowledge.

Eurocentric thinkers dismissed Indigenous knowledge in the same way they dismissed any socio-political cultural life they did not understand: they found it to be unsystematic and incapable of meeting the productivity needs of the modern world. Yet, Indigenous scholars discovered that when they tried to use European knowledge to unravel the challenges faced by their people, they met with contradiction and failure, and they began to question the supremacy of Eurocentric thought.

In their quest to help their people, Indigenous scholars and professionals turned to ancient knowledge and teachings to restore control over Indigenous development and capacity building. They sought answers within the rich treasure that has played such an important role in building their unity and dignity: the neglected knowledge and teachings of the elders.

Indigenous scholars discovered that Indigenous knowledge is far more than the binary opposite of western knowledge. As a concept, Indigenous knowledge benchmarks the limitations of Eurocentric theory -- its methodology, evidence, and conclusions -- reconceptualizes the resilience and self-reliance of Indigenous peoples, and underscores the importance of their own philosophies, heritages, and educational processes. Indigenous knowledge fills the ethical and knowledge gaps in Eurocentric education, research, and scholarship. By animating the voices and experiences of the cognitive "other" and integrating them into the educational process, it creates a new, balanced centre and a fresh vantage point from which to analyze Eurocentric education and its pedagogies.

A generation of Indigenous graduate students has successfully exposed the Eurocentric prejudices against Indigenous ways of knowing and the Eurocentric biases that associated Indigenous thought with the barbaric, the primitive, and the inferior. Along with Indigenous undergraduates, these graduate students have activated a renewed interest in Indigenous knowledge in every Eurocentric discipline and profession. For example, in Canadian law the courts' acceptance of concepts of Aboriginal rights and title are directly related to Indigenous students' and peoples' respect for Indigenous law. In the arts, sciences, and education, these same concepts are categorized into Indigenous knowledge and pedagogy.

Since the 1970s, international and national fields of enquiry and innovation have validated the usefulness and significance of Indigenous knowledge. In Canada, the Royal Commission on Aboriginal Peoples, building on many studies that preceded it (see Assembly of First Nations 1988, 1992), has unequivocally stated the importance of Indigenous knowledge. Since the Royal Commission released its reports in the early 1990s, more and more literature has challenged the suppression of Indigenous knowledge and has underscored the importance of bringing it into the mainstream to establish a body of knowledge that can be drawn on for the common good.

In the last decade of twentieth century, the acceptance of Indigenous knowledge by scholars and policy makers generated an explosive growth in the number of publications on the relevance of Indigenous knowledge in a variety of policy sectors and academic disciplines. International policy makers developed principles and guidelines for protecting Indigenous knowledge from predators and biopiracy (see Shiva, 1997 and Gollin, 1999), and Indigenous knowledge and its pedagogies have generated a decolonizing and rethinking of education for Indigenous peoples (McConaghy, 2000). The new theoretical and methodological paradigms that have been created to understand Indigenous knowledge have illustrated its role in creating shared capacities that can alleviate poverty and create sustainable development (Clarkson et al., 1992; Canadian International Development Agency, 2002).

Today, the literature animates the fundamental theory and methods of Indigenous knowledge as a means to accord its protection and to raise its social value and its status as a system of knowledge, while Indigenous scholars generate the necessary intellectual space to create a conceptual and analytical framework for its development (see Battiste & Henderson, 2000; Cajete, 2000, 1995; Kawagley, 1995; Alaskan Native Knowledge Network, 1998).

All this activity has made Indigenous education a highly contested terrain. The traditional Eurocentric view of Indigenous peoples and their heritage as exotic objects that have nothing to do with science and progress now competes with a developing intellectual nexus of postcolonial and poststructural theories that underscore the importance of Indigenous knowledge and languages.

The renewed interest in Indigenous knowledge has sparked a reconsideration of the universal value of Eurocentric knowledge, which requires a reformulation of the legitimate conditions for Indigenous education (McConaghy, 2000). Such rethinking of education from the perspective of Indigenous knowledge and learning styles is of crucial value to both

Indigenous and non-Indigenous educators who seek to understand the failures, dilemmas, and contradictions inherent in past and current educational policy and practice for First Nations students. The immediate challenge is how to balance colonial legitimacy, authority, and disciplinary capacity with Indigenous knowledge and pedagogies.

Indigenous Knowledge: Roots and Routes

Indigenous knowledge has been exposed as an extensive and valuable knowledge system. According to the categories used by Eurocentric knowledge, it is a transcultural (or intercultural) and interdisciplinary source of knowledge that embraces the contexts of about 20 percent of the world's population. Indigenous knowledge is systemic, covering both what can be observed and what can be thought. It compromises the rural and the urban, the settled and the nomadic, original inhabitants and migrants. Other names for Indigenous knowledge (or closely related concepts) are "folk knowledge," "local knowledge or wisdom," "non-formal knowledge," "culture," "indigenous technical knowledge," "traditional ecological knowledge," and "traditional knowledge."

The standards for respecting Indigenous knowledge are better developed internationally than they are in Canada. The international standards include the United Nations' *Principles and Guidelines for the Protection of the Heritage of Indigenous Peoples, Convention on Biological Diversity* (and the continuing efforts of its secretariat), and *Science for the Twenty-First Century: A New Commitment.* All of these instruments are central to helping to formulate Canada's agenda in First Nations education.

Indigenous scholars and human rights experts in the United Nations Sub-Commission on the Elimination of Discrimination and Protection of Minorities have elaborated and ratified the *Principles and Guidelines for the Protection of the Heritage of Indigenous People.* These principles provide a holistic context and related research agenda for Indigenous knowledge. They acknowledge that the heritage of an Indigenous people is a complete knowledge system with its own concepts of epistemology, and its own scientific and logical validity. They also acknowledge that diverse elements of an Indigenous people's heritage can be fully learned or understood only by means of the
pedagogy traditionally employed by these peoples themselves (Daes, 1993).

Indigenous knowledge comprises all knowledge pertaining to a particular people and its territory, the nature or use of which has been transmitted from generation to generation (Daes, 1993). This knowledge includes "all kinds of scientific, agricultural, technical and ecological knowledge, including cultigens,

medicines and the rational use of flora and fauna" (Daes, 1993).

The principles elaborated by the UN sub-commission have been incorporated in the International Labor Organization Convention 169, by the educational sector of UNESCO, in the *Indigenous Treaty on the Declaration of Indigenous Rights*, in the proposed *American Declaration on the Rights of Indigenous Populations*, and in the *Quebec City Summit of Americas Action Plan* (2001).

In the scientific arena, Indigenous scholars and advocates have stimulated an interest in the contribution of Indigenous knowledge to a better understanding of sustainable development. The United Nations Conference on Environment and Development, the Canadian International Institute for Sustainable Development (CIISD) and the Canadian International Development Agency (CIDA) have all entered this dialogue (Clarkson et al., 1992).

Knowledge of the environment is being lost in communities around the world, and there is an urgent need to conserve this knowledge to help develop mechanisms to protect the earth's biological diversity. The United Nations *Convention on Biological Diversity* recognizes the importance of Indigenous knowledge to the conservation and sustainable use of biological diversity, acknowledges the contributions of Indigenous knowledge as innovative approaches to environmental studies, and recognizes the validity of Indigenous science. It also recognizes the value of Indigenous knowledge, innovations, and practices to scientific knowledge, conservation studies, and sustainable development (Clarkson et al., 1992).

In 1999 the World Conference on Science, assembled under the aegis of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Council for Science (ICSU), urged governments to promote understanding of Indigenous knowledge systems. Conference participants requested the sciences to respect, sustain, and enhance traditional knowledge systems and recommended that scientific and traditional knowledge should be integrated into interdisciplinary projects dealing with links between culture, environment, and development (UNESCO, 1999).

Challenges for Indigenous Knowledge in the Academy

Canada has participated in, ratified, and affirmed most of the international obligations. However, Canada's educational institutions have largely ignored, and continue to ignore, Indigenous knowledge and pedagogy. In the educational crisis that has been articulated over the past thirty years, First Nations peoples have drawn attention to the value and importance of Indigenous knowledge in their Aboriginal and treaty right to education.

The failures of the past have exposed the shortcomings of the Eurocentric monologue that has structured modern educational theory and practice. In forcing assimilation and acculturation to Eurocentric knowledge, modern governments and educational systems have displaced Indigenous knowledge. It is clear, however, that the exclusive use of Eurocentric knowledge in education has failed First Nations children (Schissel and Wotherspoon, 2003). Indigenous knowledge is now seen as an educational remedy that will empower Aboriginal students if applications of their Indigenous knowledge, heritage, and languages are integrated into the Canadian educational system.

Despite this realization, few universities across Canada have made Aboriginal education a mission or a priority. Few teacher training institutions have developed any insight into the diversity of the legal, political, and cultural foundations of Aboriginal peoples, often treating Indigenous knowledge as though it were a matter of multicultural and cross-cultural education. Consequently, when educators encounter cultural difference, they have very little theory, scholarship, research, or tested practice to draw on to engage Aboriginal education in a way that is not assimilative or racially defined, as opposed to being legally and politically shaped by constitutional principles of respect for Aboriginal and treaty rights.

Canadian courts have responded to the issue of Aboriginal rights by drawing on constitutional principles to reaffirm the right of Aboriginal people to have their rights respected and protected. It is time that educators did the same. The task, then, is to sensitize the western consciousness of Canadians in general and educators in particular to the colonial and neo-colonial practices that continue to marginalize and racialize Aboriginal students and to the unique rights and relationships Aboriginal people have in their homeland. If Indigenous knowledge and pedagogy are to be integrated effectively into the national and provincial curricula, educators must be made aware of the existing interpretative monopoly of Eurocentric education and learn how the fundamental political processes of Canada have been laced with racism.

Recognizing the interpretative monopoly that Eurocentric thought reserves for itself is the key to understanding the new transdisciplinary quest to balance European and Indigenous ways of knowing. This academic effort seeks to identify relations between the two generalized perspectives of Eurocentric modernism (and postmodernism), and Indigenous knowledge (and postcolonialism). The contradictions, gaps, and inconsistencies between the two knowledge systems suggest that the next step needed in the quest is a deeper understanding of Indigenous knowledge.

To date, Eurocentric scholars have taken three main approaches to

Indigenous knowledge. First, they have tried to reduce it to taxonomic categories that are static over time. Second, they have tried to reduce it to its quantifiably observable empirical elements. And third, they have assumed that Indigenous knowledge has no validity except in the spiritual realm. None of these approaches, however, adequately explains the holistic nature of Indigenous knowledge or its fundamental importance to Aboriginal people.

The Quandary of Defining Indigenous Knowledge

In Eurocentric thought, Indigenous knowledge has often been represented by the familiar term "traditional knowledge," which suggests a body of relatively old data that has been handed down from generation to generation essentially unchanged. Taking the immutability of Indigenous knowledge as a given, much Eurocentric research has focused on identifying knowledge, practices, and techniques used by Indigenous peoples, recording their local names, and cataloguing their reported uses (Barsh, 1997).

In this taxonomic approach, it is the categorizer who decides whether a teaching, technology, or practice is Indigenous and unique to a given heritage or society, adopted from Eurocentric knowledge, or a blend of local and introduced components. Using these taxonomic studies, Eurocentric scholars provided definitions of Indigenous knowledge based on their partial framework, methodologies, and perspectives. Much effort was expended highlighting the differences between Eurocentric and Indigenous knowledge in terms of their respective ideological underpinnings, substance, methods, and so forth. In the literature, these differences were highlighted by underscoring the superiority of Eurocentric knowledge and its classifications and the inferiority of Indigenous knowledge.

The taxonomic studies, however, did not generate any generally accepted definition of Indigenous knowledge. Many attempts were made, but most were confusing (or at least led to confusing applications) since not only did they tend to cast too wide a net, incorporating into the definition concepts that would not be considered part of Eurocentric knowledge, such as beliefs and value systems, but they also failed to recognize the holistic nature of Indigenous knowledge, which defies categorization.

Indigenous knowledge is an adaptable, dynamic system based on skills, abilities, and problem-solving techniques that change over time depending on environmental conditions, making the taxonomic approach difficult to justify or verify. Most Indigenous scholars and educators have noted the practical and conceptual limitations of taxonomic categories posing as Indigenous knowledge. The subject is controversial, however, and cannot be resolved in

this paper. What can be said is that focusing on the similarities between the two systems of knowledge rather than on their differences may be a more useful place to start when considering how best to introduce educational reform.

The second approach to Indigenous knowledge is illustrated by the Eurocentric definition of Indigenous knowledge as "the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men Indigenous to a particular geographic area." (Grenier, 1998). There is no doubt that the commercial value of Indigenous knowledge to modern scientists is its empirical content, but to treat local knowledge as merely empirical trivializes its significance to Indigenous peoples. It is an increasingly common approach, however.

Some relatively recent work by scientists and conservation biologists has employed Indigenous people as a source of quantitative wildlife population data (Ferguson & Messier, 1997). This approach assumes that Indigenous or First Nations people are good field observers of biophysical phenomena—that is, that they can be reliable data collectors for modern scientists. Indigenous knowledge is presumed to have been assembled a long time ago by a process of trial and error, and is now reduced to an unwritten canon that can be elicited from any capable local informant.

Another modern example of this second approach to Indigenous knowledge can be found in the Netherlands Organization for International Cooperation in Higher Education for Indigenous Peoples, which has created a "dossier" on Indigenous knowledge to provide news and information about the contribution of science and technology to the needs of developing countries. This dossier is part of a series of in-depth guides that focus on key topical issues at the science-development interface with Indigenous knowledge and present the experiences and perspectives of those working in the field through analytical policy briefs and topical opinion articles. The organization also monitors the collection, application, and dissemination of Indigenous knowledge, ensuring the full participation of the local people involved. Although the aims of the organization are commendable, they are not evaluative.

A third approach to Indigenous knowledge has gone in the opposite direction, abandoning any concern for the empirical validity of Indigenous knowledge systems and treating them as purely normative or spiritual (Nazarea et al., 1998). This approach, like the second approach discussed above, ignores the fact that within any Indigenous nation or community people vary greatly in what they know (Biggelaar & Gold, 1995). There are not only differences

between ordinary folks and experts, such as experienced knowledge keepers, healers, hunters, or ceremonialists, there are also major differences of experience and professional opinion among the knowledge holders and workers, as we should expect of any living, dynamic knowledge system that is continually responding to new phenomena and fresh insights.

Unfortunately, this third approach to Indigenous knowledge includes many Indigenous scholars, who seem afraid that critical empiricism will somehow disprove or de-sanctify Indigenous knowledge and its pedagogy. Often, the argument is cloaked in the concept that Indigenous knowledge is "sacred," thus in some sense immutable and inviolable. This approach can be self-defeating. Donning the protective cloak of sanctity and religious freedom is an admission that Indigenous people are the hapless victims of biophysical forces that they can endure only as awesome mysteries. In other words, they are as ignorant and superstitious as Eurocentric observers have long maintained.

These three approaches illustrate the challenges of placing Indigenous knowledge within Eurocentric frameworks and disciplines. None of these Eurocentric perspectives acknowledges the extent to which Indigenous communities have their own knowledge holders and workers.

Indigenous peoples have their own methods for classifying and transmitting knowledge, just as they have Indigenous ways of deriving a livelihood from their environment. Information, insight, and techniques are passed down and improved from one generation to another. Knowledge workers observe ecosystems and gather eyewitness reports from others so that they can continually test and improve their own systematic, predictive models of ecological dynamics. In the real world of changing ecosystems and changing diseases, knowledge holders and workers must adapt rapidly or lose credibility and status. To presume otherwise is to imply that the clients of such knowledge systems are either ignorant or very submissive: they are either incapable of recognizing an erroneous wildlife forecast or unsuccessful medical treatment, or they are unable to criticize their knowledge keepers.

Indigenous knowledge is also inherently tied to land, not to land in general but to particular landscapes, landforms, and biomes where ceremonies are properly held, stories properly recited, medicines properly gathered, and transfers of knowledge properly authenticated (see Morphy, 1995; Basso, 1996). Ensuring the complete and accurate transmission of knowledge and authority from generation to generation depends not only on maintaining ceremonies, which Canadian law treats as art rather than science, but also on maintaining the integrity of the land itself.

Protecting Indigenous Knowledge

Indigenous knowledge is constitutionally protected in Canada law as Aboriginal and treaty rights (Battiste & Henderson, 2000). Indigenous knowledge is inexorable linked to Aboriginal and treaty rights under s. 35(1). As such, to ensure the continuity of Aboriginal customs and traditions, the Supreme Court of Canada has determined that a substantive Aboriginal right will normally include the incidental right to teach such a practice, custom and tradition to a younger generation. Similar reasonable incident rights exist in treaty interpretation that would apply to education provisions. Federal and provincial educational law, regulation, and practices have yet to implement or reconcile with the constitutional rights to teach Indigenous knowledge.

Indigenous knowledge is best protected under sections 35 and 52 of the *Constitution Act, 1982*. It cannot be adequately protected under Canadian copyrights and patents for intellectual or cultural property laws, which distinguish sharply between artistic works (with copyright and "neighboring rights" to artistic performances), commercially valuable symbols (with trademarks), and useful scientific knowledge (with patents). For example, a patent, a trademark, or a copyright cannot adequately protect a ceremony that uses striking sacred-society symbolism to communicate empirical knowledge of medicinal plants. The medical knowledge may be patented, but the patent will expire in a matter of years. The text and music for the ceremony can be recorded (or "fixed") and copyrighted, but only the recorded version will be protected and only for the lifetimes of the performers plus fifty years. The symbols can be protected as trademarks forever, but their significance will be diminished when they are taken out of context.

Indigenous knowledge thus embodies a web of relationships within a specific ecological context; contains linguistic categories, rules, and relationships unique to each knowledge system; has localized content and meaning; has established customs with respect to acquiring and sharing of knowledge (not all Indigenous peoples equally recognize their responsibilities); and implies responsibilities for possessing various kinds of knowledge.

In the context of the Education Renewal Initiative, the dissemination of Indigenous knowledge should be targeted towards current First Nations students and to the next generation, ensuring that the study and development of Indigenous knowledge and the skills of their ancestors are valued and available in both the sciences and the humanities. Young students must feel that it is rewarding to pursue careers based on the traditional knowledge of their forebears and on the ancient and dynamic ancestral

languages.

Conclusion

Most Canadians, both Aboriginal and non-Aboriginal, have long accepted some of the fundamental assumptions underlying modern public school education. We have assumed that knowledge is a kind and necessary form of mind liberation that opens to the individual options and possibilities that ultimately have value for society as a whole.

At one level, knowledge and education appear beneficial to all people and intrinsic to the progress and development of modern technological society. But public schooling has not been benign. It has been used as a means to perpetuate damaging myths about Aboriginal cultures, languages, beliefs, and ways of life. It has also established western knowledge and science as dominant modes of thought that distrusts diversity and jeopardizes us all as we move into the next century.

After nearly a century of public schooling for tribal peoples in Canada, the most serious problem with the current system of education does not lie not in its failure to liberate the human potential among Aboriginal peoples, but rather in its quest to limit thought to cognitive imperialistic policies and practices. This quest denies Aboriginal people access to and participation in the formulation of government policy, constrains the use and development of Aboriginal cultures in schools, and confines education to a narrow view of the world and its knowledge foundations that threaten the global future.

Cognitive imperialism is a form of cognitive manipulation used to disclaim other knowledge bases and values. Validated through one's knowledge base and empowered through public education, it has been the means by which whole groups of people have been denied existence and have had their wealth confiscated. Cognitive imperialism denies people their language and cultural integrity by maintaining the legitimacy of only one language, one culture, and one frame of reference.

As a result of cognitive imperialism, cultural minorities have been led to believe that their poverty and impotence is a result of their race. The modern solution to their despair has been to describe this causal connection in numerous reports. The gift of modern knowledge has been the ideology of oppression, which negates the process of knowledge as a process of inquiry to explore new solutions. This ideology seeks to change the consciousness of the oppressed, not change the situation that oppressed them.

What is apparent to Indigenous peoples is the need for a serious and far-reaching examination of the assumptions inherent in western knowledge, science and modern educational theory. How these assumptions create the moral and intellectual foundations of modern society and culture have to be studied and written about by Aboriginal people to allow space for Aboriginal consciousness, language, and identity to flourish without ethnocentric or racist interpretation.

References

Ascher, M. (1991) *Ethnomathematics: A Multicultural View of Mathematical Ideas.* California.: Brooks/Cole.

Alaskan Native Knowledge Network. (1998) *Alaskan Standards for Culturally Responsive Schools. Adopted by the Assembly of Alaska Native Educators.* Fairbanks, Alaska: Alaska Native Knowledge Network.

Assembly of First Nations. (1998) *Tradition and Education: Towards a Vision of Our Future. Vol. 1.* Ottawa: Assembly of First Nations Education Secretariat.

Assembly of First Nations. (1992) *Towards Rebirth of First Nations Languages.* Ottawa: Assembly of First Nations Language and Literacy Secretariat.

Auditor General of Canada. (2000) *Chapter 4 in Report to the House of Commons. Indian and Northern Affairs Canada: Elementary and Secondary Education.* Ottawa: Minister of Public Works and Government Services Canada.

Barsh, Russell. United Nations Seminar on Indigenous Peoples and States. *American Journal of International Law 83* (3) (1989). 599.

Basso, Keith H. (1996) *Wisdom Sits in Places: Landscape and Language Among the Western Apache.* Albuquerque: University of New Mexico Press.

Battiste, M., & James (Sa'ke'j) Youngblood Henderson. (2000) *Protecting Indigenous Knowledge and Heritage: A Global Challenge.* Saskatoon: Purich Publishing.

Biggelaar, C. den & Gold, M. A. The Use and Value of Multiple Methods to Capture the Diversity of Endogenous Agroforestry Knowledge: An Example from Rwanda, *Agroforestry Systems 30* (3) (1995): 263-275.

Blaut, J. M. (1993) *The Colonizer's Model of the World: Geographical Diffusionism and Eurocentric History.* New York: Guildford Press.

Cajete, G. (1995) *Look to the Mountain: An Ecology of Indigenous Education.* Durango: Kivaki Press.

Cajete, G. (1999) *Ignite the Sparkle: An Indigenous Science Education Model.* Skyland, N.C.: Kivaki Press.

Cajete, G. (2000a) *Native Science: Natural Laws of Interdependence.* Santa Fe, N.M.: Clearlight Press.

Cajete, G. (2000b) Indigenous Knowledge: The Pueblo Metaphor of Indigenous Education. In *Reclaiming Indigenous Voice and Vision*, edited by M. Battiste, 192-208. Vancouver: University of British Columbia Press.

Canadian International Development Agency. (2002) *The Human Development Division. Draft—CIDA Policy on Indigenous Knowledge & Sustainable Human Development.* Ottawa, ON: CIDA.

Clarkson, L., V. Morrisette, and G. Regallet. (1992) *Our Responsibility to the Seventh Generation: Indigenous Peoples and Sustainable Development.* Winnipeg: International Institute for Sustainable Development.

Daes, E. *Study on the Protection of the Cultural and Intellectual Property Rights of Indigenous Peoples.* Paper presented at the Sub-Commission on Prevention of Discrimination and Protection of Minorities, Commission on Human Rights, United Nations Economic and Social Council, 2/1993/28.

Ferguson, Michael A.D. & François Messier. (1997) Collection and Analysis of Traditional Ecological Knowledge About a Population of Arctic Tundra Caribou, *Arctic 50*(1): 1-28.

Grenier, Louise. (1998) *Working with Indigenous Knowledge: A Guide for Researchers.* Ottawa: International Development Research Centre.

Gollin, Michael A. (1999) Legal Consequences of Biopiracy. *Nature Biotechnology 17.*

Henderson, J. (1995) Treaties and Education. In *First Nations Education in Canada: The Circle Unfolds*, edited by M. Battiste and J. Barman, 245-261. Vancouver: University of British Columbia Press.

Henderson, J.Y. (2000) Ayukpachi: Empowering Aboriginal Thought. In *Reclaiming Indigenous Voice and Vision*, edited by M. Battiste, 248-278. Vancouver: University of British Columbia Press.

Kawagley, A.O. (1995) *A Yupiaq Worldview: A Pathway to Ecology and Spirit.* Prospect Heights, Ill.: Waveland Press.

Marlor, Chantelle P., Russel L. Barsh, & Levita Duhaylungsod. (1999) Comment on 'Defining Indicators Which Make Sense to Local People', *Human Organization 58*(2): 216-220.

Martin Hill, Dawn. (2000) Indigenous Knowledge as a Tool for Self-Determination and Liberation. Paper presented at the National Association of Native American Studies Section, Houston, Tex.

McConaghy, Cathryn. (2000) *Rethinking Indigenous Education: Culturalism, Colonialism, and the Politics of Knowing.* Flaxton, Qld: Post Pressed.

Morphy, Howard. (1995) Landscape and the Reproduction of the Ancestral Past. In Eric Hirsch and Michael O'Hanlon, eds., *The Anthropology of Landscape: Perspectives on Place and Space*, Oxford: Clarendon Press.

Nazarea, Virginia D., Robert E. Roades, Erla Bontoyan, and Gabriela Flora. (1998) Defining Indicators Which Make Sense to Local People: Intra-Cultural Variation in Perceptions of Natural Resources, *Human Organization 57*(2): 159-170.

Royal Commission on Aboriginal Peoples. (1996) *Report of the Royal Commission of Aboriginal Peoples, 5 vols.* Ottawa: Canada Communication Group.

Schissel, B., and T. Wotherspoon. (2003) *The Legacy of School for Aboriginal People.* New York: Oxford University Press.

Shiva, Vandana. (1997) *Biopiracy: The Plunder of Nature and Knowledge.* Cambridge, Mass.: South End Press.

UNESCO. *Declaration on Science and the Use of Scientific Knowledge, Science for the Twenty-First Century,* Budapest, Hungary, June 26-July 1, 1999 at http://www.unesco.org/science/wcs/eng/declaration_e.htm

Womack, Craig S. (1999) *Red on Red: Native American Literary Separatism.* Minneapolis: University of Minnesota Press.

Remembering our Future: Higher Education Quality Assurance and Indigenous Epistemology

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Uniformity in us...deadens the essence of the infinite.
-Rabindranath Tagore

Abstract
This article introduces the World Indigenous Nations Higher Education Consortium - WINHEC - a multi-nation effort to accredit, empower and thus affirm native control of indigenous higher learning. The unfixed meaning of *quality* and *assurance* with regard to higher education systems is deconstructed and reconstructed within an indigenous paradigm. Three WINHEC ideals, *Language, Culture* and *Spiritual Beliefs*, are outlined and contextualized within WINHEC's initial accreditation efforts in Aotearoa. Finally, a discussion of the Triangulation of Meaning, an ancient way to exhibit an embodied epistemology extending into spiritual acumen is brought forth to invigorate indigeneity and its role in world awakening.

World Indigenous Nations Higher Education Consortium: WINHEC
Welcome to the remembering of our future. This article begins to frame questions and offer solutions within a philosophical context of a world-wide movement to re-think and thus expand what *higher* education means. It is timely as environmental ethics accelerates into decay, blatant disregard for a balanced economy turns mainstream, and new ways to engender violence and ignorance are the outcomes of policy think tanks. The time has arrived to stand up for specific ways to encourage minds back into ancient expressions of rigor and intelligence found in rhythms, dialectic understanding and proper relationship to all beings and to all of life.

Enter the World Indigenous Nations Higher Education Consortium - WINHEC - a multi-nation effort to accredit, empower and thus affirm native control of indigenous higher learning. We are here to detail our epistemological right to exist in ways specific to place and people. It is linked with the tide of courage rising throughout the globe made arid with unconsciousness, greed and

disregard. It is a reclaiming of right relationship to self, others, land, sky and ocean. It signals a return to the logic of wholeness.

This paper begins with political hermeneutics pausing to shed light on the unfixed meaning of *quality* and *assurance*. It then outlines three main ideas WINHEC is empowered to affirm as the mainstay of indigenous identity found in spaces of practice and knowing: *Language, Culture* and *Spiritual Beliefs.* Finally, we will close with a discussion of the Triangulation of Meaning. Detailing ways to dimension reality back into a frequency of *truth that recognizes itself* allows for the expansion of consciousness, the ultimate field of study now entering world awareness. It serves as a template to invigorate renewal and right relationship we have had and will have again with information, facts and reason on its way to understanding, wisdom and right action.

Quality Assurance: Doorway to Hermeneutics

The very language we use is now in question. Every word, it turns out, is a symbol of another's consciousness. A statement of culture, objectified subjectivity, a belief structure—all there in black strokes on paper. Here is the point of hermeneutics and the illuminating epiphany of this *philosophy of interpretation*: all ideas, all text book renditions of history, all laws and expressions of reason, even objectivity itself, are simply *interpretations.* The fact that all interpretations are not given equal authority brings politics into philosophy and validates the inevitability of this discussion.

What then is *quality assurance?* What do these words really mean? To whom? How do we reconcile the hermeneutic paradox that sees all facts, theories, and words as distinct interpretations in a world slated for standardization? A different rendition of truth left uncritically examined becomes our own. As we bring an indigenous interpretation to ideas of quality and assurance, we begin to notice something unique. *We differ.* It is the nature of humanity to live in specific ways. With this living comes distinctness. Human beings with unique ideas will often differ, especially from mainstream society caught in a worldly cosmology heralding money and accumulation as the pinnacle of life's goals. Here is the point of tension. Here is the place of liberation. To be clear about what it is we value is to be truthful about how we differ. And yes, odd as it sounds, living and honoring difference inevitably leads us into Great Sameness, a deep goal and personal experience for myself and for my twin sister.

Land is not a metaphor of our mother. Land is our mother.
-Leroy Little Bear, Blackfoot

For example, indigenous thoughts on land are not simply places for disagreement or satisfying anthropologic curiosities. They are now becoming hotbeds of scientific redefinitions, places for meaning-making and inter-connective ethics for *all* peoples on this planet. The lesson here can become a dialectic one that honors what distinctness is as it inevitably becomes the pathway to universal principles that have endured the test of time. The seeming contradiction of collective excellence flowering as individual expression is an ancient way of developing unity. When quality is expressed in this manner it is distinct to place, people, and culture.

We are All Cultural People

Kia eke ki tōna taumata
That it may attain to the excellence of its being
-Māori Expression

In this process to affirm quality in indigenous higher institutions we must begin to focus the conversation on how quality sees and thus defines *itself.* It is the nature of quality to recognize its own expression and it is the nature of culture to develop how that quality is exhibited. Contrary to the idea that expressions of quality are found in what is mostly measurable, indigeneity posits a wider evaluation methodology that extends from what is seen to what is also not seen but felt, experienced, and understood. Sir Karl Popper (Wilbur, 2000) writes of this process as objectivity advancing toward subjectivity and inevitably toward *culture.* The process of quality and excellence, then, advances toward *cultural* standards unique by their very nature.

Abstract rational thought and empirical methods cannot grasp the concrete act
of existing which is fragmentary, paradoxical and incomplete.
The only way lies through a passionate, inward subjective approach.
- Rev. Māori Marsden

Although cultural standards of excellence shape themselves through space/time, we have been taught that advancement in this modern era is found in standardized mechanisms. This is often found in templates of measurement set up to gauge the quality of a program: graduation rates, aggregated data, test scores, student grades, alignment of conceptual

framework with syllabi, etc. These data points do not begin to debate real issues of improving teacher quality and student learning within a context of real-world needs. Written summaries and data charts assume uncritical reflection of such fundamental ideas as success, excellence and meaning. It is at these sites of reflection where indigenous epistemology is activated.

A potential battle ground exists when multiple cosmologies square-off on how one views knowledge and excellence. The question then becomes: *How does culture alter our gaze?* Are we *looking* or *seeing* because when you see another in the way they wish to see themselves, the difference between the two is clear. This was evident during the first accreditation visit WINHEC reviewers did of three programs in Māori centers of higher learning (Wānanga) in Aotearoa New Zealand in the summer of 2004.

Accreditation experience

A rangatira carries the people, not the other way around.
Te Wānanga-O-Raukawa belief on leadership
-Ani Mikaere, Instructor of Māori Law and Philosophy

It was clear to WINHEC and to those hosting us that the very first accreditation experience in Aotearoa was not simply a red carpet affair. It was our waewae-tapu, our first sacred walking on the idea that we can now be of service to each other and to the world that asks for our awakening. It was an event that was *culturally* driven and as we were all from unique nations, the experience enriched, educated and inspired. Because indigenous epistemology recognizes the value of what is specific to place, all seasoned evaluators breathed into an older way of "seeing" programs, ideas and graduates. We did not offer templates of comparison or review aggregated data, rather questions probed into understanding how language, culture and belief systems were strengthened with course-work, community and collaborations with global cousins.

Indigenous accreditation then is no longer about overseeing well-intentioned ideals, but rather it became a way to *bear witness*. Seeing infers recognition of what is present, a value-conscious discernment of a moment that cherishes distinctness and questions for understanding. It was this way because evaluators knew that quality which encourages itself to reflect will continue to evolve. Here-in lies the difference between intrinsic/ enduring value systems that engage in being and meaning, and extrinsic/temporary value systems that engage with comparison and judgment. Here is the frequency of indigeneity fined tuned into WINHEC.

WINHEC Triangulation of Meaning: Language, Culture, Spiritual Beliefs

A'ohe pau ka 'ike i ka hālau ho'okahi
All knowledge is not taught in one school
-Hawaiian Proverb

Every person experiences quality differently. We are radical empiricists who rely on body, mind *and* spirit to locate our place in this world. This *triangulation of meaning* evolves when we include our *own* interpretation of the world. It is evident in the *mauri* or life force of the Hawaiian word *na `auao* or daylight mind. Na`auao is also the word for science, feeling, and wisdom. Na'auao reflects the triangulation as one word often holds multiple meanings that extend beyond fundamental empiricism. Our knowing is like that. It is placed in contextual continuity that encompasses three elements WINHEC is prepared to protect and enhance: *Language, Culture* and *Spiritual beliefs.*

Language

My language thrusts me into the thought world of my ancestors.
-Oscar Kwagley, Yup'iuk

Our many ways to describe an object or idea matters. As if our breath shapes how the world is understood. Meaning-making ritualized through oracy and literacy both formal and informal has been a garden of rejuvenation for indigenous peoples world-wide. It is how we are defining our freedom, with sounds that hold distinct ideals shaped by scores of generations living in a specific place. The WINHEC priority of language is itself a reminder that what has birthed our world view is held in ancient symbols, codes and energies that we are returning to for meaning and joy.

'ike
to see; to know; to be given revelations
-Hawaiian inference to body, mind, spirit

WINHEC encourages the use of indigenous language in all facets of programming. Language that describes a program's mission, goals, or purpose need not be translated into English. We experience the vision of a program in the descriptions of what students learned, we feel it in the songs, we witness it in the projects discussed and its impact in the community. Such is the difference between ho'olohe (listening) and ho'olono (hearing). We want to *hear* what has inspired students, in whatever language they choose

because we know that hearing changes us. This is an indigenous ideal, to honor deep culture as it is expressed in language and song.

Culture

Diversity strengthens a tribe. Homogeneity kills it.
-Linda Tuhiwai Smith

Culture can be described as best practices defined by a group of people. WINHEC exists to bring these best practices to light in relation to systems of higher learning. It is a significant and enduring principle to not impose one culture on another. Our indigenous cultures have survived the on-going impact of the belief that one way of thinking will rule the day. This is why WINHEC began and why it must be clear specific to issues of culture.

Hoa `e ka 'ike he `enalu i ka hokua o ka ale
Show your knowledge of surfing on the back of a wave
-Hawaiian proverb

Indigeneity, a way to describe the qualities of ancient culture, by its very structure works toward strengthening the people it embodies. This can be found in how education responds to the community's quest for wellness, quality leadership, restorative justice, land stewardship or economic sustainability. Culture defines what excellence looks like in these five areas. Quality assurance is guaranteed when culture *specific to place clarifies how they wish to be seen.* Cultural beliefs and practices clean the lenses in which we gaze. Critique then becomes witnessing that offers guidance, solidarity and encouragement. WINHEC exists to uphold, clarify and honor the many distinct cultures alive on this planet.

Spiritual Beliefs

The great consciousness exists in my mind.
-Oscar Kwageley, Yup'iuk

This third point in the triangulation of meaning within indigenous communities is the animating principle of the first two. To honor spiritual beliefs is to first be lead by them. Indigeneity is based on this one clear principle. Spiritual beliefs are not confused with religion. They may be embodied in religious rituals but they are not bound to them.

Ulu a'e ke welina a ke aloha
The growth of aloha is the essence within the soul
-Hawaiian Proverb

WINHEC supports spiritual beliefs and practices found in indigenous centers of higher learning. This is accomplished by the very nature of WINHEC's vision: *Indigenous people of the world united in the collective synergy of self determination through control of their higher education.* Spirituality exists as the collective synergy of self determination. It is an ancient ideal that distinctness of life-forces---self determination---linked with other life-forces endures and is heightened and advanced by positive interconnection. We cannot predict the outcome until it is expressed but know it will be greater---collective synergy---than our initial dreams. This idea is spirituality in action. It is a trusting of enduring principles that keeps us awakened, connected to our elders, and grateful for the work at hand. WINHEC encourages both process and product of accreditation efforts that are accomplished and supported within a framework that honors all spiritual beliefs, practices and expressions.

Triangulation of Meaning

If knowledge is power then understanding is liberation
- Manulani Aluli Meyer

Indigenous people have endured a "Quiet Title" effort for the lands of our imagination. What is becoming clearer in the world is a need to exemplify systems of imagination and culture that bring meaning to our lives. There is recognition that interdependence, care and compassion heighten our understanding of why we exist. These simple ideas are embedded in the truth that knowledge must be developed in a way that helps us find meaning, usually to benefit others and to uplift our communities.

Wilderness education teaches that if you wish to find your location on a topographical map, one needs only to locate two geographical distinctions on land and with the use of a compass and pencil, the third and final spot, your location, can be found. The use of three points to discover ones location in both two and three dimensions is the art and science of "triangulation" and I have always thrilled to its utility and implication. Thus the metaphor of *triangulating our way to meaning* with the use of three points: Body, Mind and Spirit.

The idea that three points combined bring us to a meaningful life is more than simply a poetic stretch: it is an example of fact, logic *and* metaphor. In every

ancient system that has endured and flourished throughout the world there is a recognition and use of these
three categories to describe the complexity of life in a fluid and beautiful manner. They exemplify the outside world of data, the inside world of thought, and the trans-spatial world of being: empiricism, rationalism, transcendentalism. They are found in *every* philosophy in the world and can be summarized in the following fashion—

Body	Mind	Spirit
Facts	Logic	Metaphor
Exterior	Interior	Transpatial
Empiricism	Rationalism	Transcendentalism

The triangulation does not ignore the fullness of what it means to exist in the world. It does not blindly assume that a perfect score on a national standardized exam means the test-taker is intelligent in the ways that make us fully human. Nor does it posit that those who use metaphor in art or poetry are more intelligent. All three points on the body, mind, spirit continuum are vital within an enduring epistemology that brings us deeper into the ideals of quality assurance found in institutions of higher learning. The following is an example of an epistemological triangulation as found in the Māori tradition—

Mātauranga	Mohio	Māramatanga
Knowledge	Knowing	Enlightenment

Here is the idea that knowledge/fact/information is only one third the process of knowing that leads to enlightenment, a goal for education within an indigenous world-view. This idea is eloquently expressed by Hawaiian elder and healer, Halemakua—

> The whole goal of the future and of the present effort is to bring humanity to the point where it, occultly speaking, "enters into the light." The entire trend of the present forward, which can be noted so distinctly in the race to acquire knowledge, to transmute it into wisdom by the aid of the understanding, and thus to become "fully enlightened." Enlightenment is the major goal of education.

Thus clarifies a Hawaiian ideal for why higher learning is attempted: knowledge *begins* the process of enlightenment. Higher learning is more than simply gaining qualifications for a job---it is a way to become that which we are. The triangulation of meaning and consciousness is best described in ancient traditions in the following ways:

True *(Plato)*	Good	Beautiful
Information *(Aluli)*	Knowledge	Understanding
Emotion *(Spinoza)*	Feeling	Awareness
Instinct *(Halemakua)*	Intelligence	Intuition
Objective *(Sir Karl Popper)*	Subjective	Cultural
Life *(Upanishads)*	Mind	Joy
Perception *(Patanjali)*	Conceptualization	Remembering
Truth *(Habermas)*	Sincerity	Rightness

Here is a comprehensive and wider listing of what quality assurance looks like. Facts then become one/third of the process of evaluation. They point us to the journey toward subjectivity which leads us into the world of understanding. Here is how we differ, here is how we enter the world of Great Sameness, a place where specificity leads to universality. It is of course, a place of excellence.

Ha'ina ia mai ana ka puana: The Story is Told

Universality is found in the specifics.
-Leesa Robertson

Vedic mystic/scholar Patanjali described the hermeneutic triangulation as: *word, meaning, interpretation.* Knowing the difference between the three deepens the potential of *quality assurance* in relation to self-reflection and external evaluation. He offers us a stunning view of why WINHEC began: *Indigenous peoples must interpret our systems of higher education embedde in our own triangulation of meaning.* We must shape our own qualities of excellence found in our languages, our cultures and in all expressions of spirit We must help each other by helping each other. We must bring to bear what is unique about cultural beliefs that synergize *and* completely differ from mainstream society. We must remember the excellence of our being through literacy, oracy *and* silence.

It is vital to voice indigenous qualities of higher learning as mainstream knowledge no longer guarantees care for land or other. This is fundamentally not an exclusive movement, it is a *necessary* one as we believe it is essential to be educated by beauty once again. Beauty after all is harmony inspiring itself through interpretation, specificity, and the One that is many. Language. Culture. Spirituality. These must have expressions at all levels of life if we are to evolve together on this planet.

The world indigenous nation's higher education consortium are people who honor knowing that ultimately leads us all into understanding, liberation and joy. We encourage the transformation of chaos into coherence, justice into healing, and individuation into interdependence. A tall order indeed. A task worth beginning.

References

Halemakua (2004) Unpublished writings and talks. Kumukahi, Moku O Keawe, Hawai`i Island.

Marsden, M. (2003) God, Man and Universe, a Māori view. In C. Royal (Ed.). *The woven universe: selected writings of Rev. Māori Marsden* (pp. 2-23). Masterton: The Estate of Rev. Māori Marsden.

Patanjali. (2003) *The Yoga Sütra of Patanjali.* Boston: Shambhala.

Pukui, M.K. (1983) *'Ōlelo No'eau: Hawaiian Proverbs and Poetical Sayings.* Honolulu: Bishop Museum Press.

Tagore, R. (2004) *Sadhana.* New York: Three Leaves Press.

Wilber, K. (2000) *Sex, Ecology, Spirituality-The Sprit of Evolution.* Boston: Shambhala.

WINHEC (2004) *World Indigenous Nations Higher Education Consortium Guidelines.* A working document for the WINHEC Accreditation Teams visit to Aotearoa New Zealand.

Quality assurance in tertiary education from a Māori (Indigenous) Perspective.

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Abstract

The Concise Oxford Dictionary (1976, p.909) defines the word *quality* to mean 'possessing a high degree of excellence, concerned with maintenance of quality (quality control)'. What is not made explicit in this definition is the fact that the idea of *quality* is located and determined within a western European cultural tradition. The aim of this paper is to explore what Māori people (the indigenous people of New Zealand) require by way of quality in higher education. The cultural historical context of the education of Māori will be examined. This paper will then explain the two-stage approach adopted by Māori. First, the efforts towards the inclusion of Māori knowledge in mainstream education, and second, the development of an alternative higher education system for Māori. Finally, this paper will describe the requirements of New Zealand law relating to accreditation and quality assurance, its shortfalls when applied to wānanga, and introduce the steps that wānanga are taking towards an autonomous system.

Introduction

In the nineteenth century, education in the west European tradition was presented to Māori by the colonising Pākehā (settlers of European descent) as a civilising and politically neutral enterprise. But the question of whose knowledge and what constitutes knowledge for inclusion in the curriculum was inherently ideological and political (Apple, 1979, p.vii). Māori knowledge being 'subjugated knowledge' in Foucault's (1980) terms was disqualified as inadequate, naïve and located low down on the hierarchy of knowledge, beneath the scientific level of cognition. The consequence of that disqualification was the erosion of Māori language and culture to the point of immanent Māori language death identified by Benton (1979). Loss of language, culture and identity in the face of the invading culture was socially debilitating for Māori. The alternatives were assimilation or a 'return to knowledge' through local criticism outside the established regimes of influence and power (Foucault, 1980, p.81).

Many Māori rejected assimilation and opted for a return to knowledge whereby quality in education meant the reproduction of their own language, culture and social usages. But in doing so, they also accepted the need to

function effectively in the invading and dominant culture. Thus, Māori who were committed to their identity as Māori are by definition bicultural (Apple, 1979, p.6).

In opting to maintain their own culture, Māori developed a two-stage strategy. The first stage involved proposals for ameliorating the alienating effect of mainstream education by pressing for the inclusion of Māori knowledge in the curriculum. This task preoccupied Māori intellectuals for eight decades of the twentieth century. Although largely accomplished, it is still a work in progress. The second stage, begun in 1980, was marked by Māori initiatives to take control over their own education from pre-school through to the tertiary (post compulsory) level. This too is work still in progress.

Incorporation of Māori Knowledge in the Education Curriculum

The efforts of Sir Apirana Ngata

New Zealand schools were established in the nineteenth century. The Native Schools established in 1867 were artefacts of colonialism designed to 'process people' as well as to 'process knowledge'. They served as 'agents of selective tradition and cultural incorporation'. Sir Apirana Ngata, farmer, politician and the leading Māori intellectual of the twentieth century drew that conclusion long before it was penned by Apple in 1987. Ngata (1928, p. xiii) wrote—

> There are Māoris, men and women who have passed through the Pākehā *whare wānanga* (highest school of learning) and felt shame at their ignorance of their native culture. They would learn it if they could, if it was available for study as the culture of the Pākehā has been ordered for them to learn. ...It is possible to be bicultural.

In 1923, Ngata translated that insight into transforming action by persuading Parliament to support the publication of research into Māori culture. He clearly understood the nature of power and knowledge - that is, the ability of the state to generate 'truth' through research activity and thereby manage the social and political economy. Ngata's efforts culminated in the establishment of the Māori Ethnological Research Board to publish the work of Best, Buck and Skinner. Ngata adroitly used the imprimatur of the Board to persuade the senate of the University of New Zealand to include Māori language as a subject of study for B.A. To placate potential opposition, Ngata compromised. He pleaded that Māori be admitted into the curriculum among the foreign languages. The senate stonewalled the request on the grounds that there was no literature to support a teaching programme (Walker, 1990, p.195). Ngata overcame that objection by citing the work of Sir George Grey,

Nga Mahi a Nga Tupuna, (Māori myths and traditions) the Māori translation of the *Bible* and *Ngā Moteatea* (songs, chants poems).

Ngata's own collection of songs, chants, poetic laments and lullabies was published in 1924 as supplements to the Māori newspaper *Te Toa Takatini. Ngā Moteatea,* with translations and annotations, was subsequently published in three volumes by the Polynesian Society, with the first volume appearing in 1959. As the epitome of quality and scholarship, preparation of the materials subsequently used in Ngā Moteatea earned Ngata the award of a Doctor of Literature from the University College of Canterbury in 1948.

The Senate's agreement to admit Māori language as a degree subject took a further twenty five years to translate into action, but not without prompting from Ngata. At the Young Māori Leaders Conference that he organised at Auckland University College in 1939, Ngata asked the delegates to consider whether Māori language, traditions, history and literature should be taught in schools at the secondary and tertiary level. He also pressed the university to establish a chair in anthropology in the hope of luring his colleague Dr Peter Buck back from Hawai'i. The conference recommended the establishment of a Māori social and cultural centre for adult education through Auckland University College, Auckland Teachers College, the Workers Educational Association and the Auckland Technical College (Peters, 1990, p.p.190-191).

Māori penetration of the Academy

The outbreak of World War II delayed Māori penetration of the academy until 1949 when Maharaia Winiata was appointed as a tutor in Māori adult education at Auckland University. He was augmented by the appointment of Bruce Biggs as lecturer in Māori language in 1951, and Matiu Te Hau in 1952 as a tutor in adult education. The pedagogy of the adult education tutors concentrated on what might be termed cultural reconstruction, validation and incorporation of Māori knowledge into the academy, albeit in the marginalised Department of University Extension. Biggs, domiciled in the Anthropology Department, provided academic respectability to the enterprise with his emphasis on quality research in Māori and Polynesian linguistics. The breakthrough made at Auckland was emulated over the next thirty years by the establishment of Māori studies at all teachers' colleges, polytechnics and universities.

In this early period of Māori penetration of the academy, students invariably found the university alien and intimidating. They tended to major in Māori Studies and Anthropology where they felt culturally comfortable. In order to increase recruitment and spread Māori students across all faculties, Māori academic staff decided to establish marae (Māori meeting and learning

places) on campus to make the university more user-friendly and culturally welcoming to Māori. It was a protracted ten-year struggle. Victoria University of Wellington opened Te Herenga Waka Marae in 1987 and Auckland University opened Waipapa Marae the following year. Other tertiary (post-compulsory) institutions did likewise. The modification of tertiary (post-compulsory) education provision to accommodate the two founding cultures of the new nation was extended to incorporate the cultures of Tangata Pasifika (people of Pacific descent) with the opening of the fale (Pacific meeting and learning space) at Auckland University in 2004.

Although Māori staff and cultural symbols had the desired effect of increasing Māori participation in tertiary education, the university was still an intimidating institution for students from schools located in low-socioeconomic areas, or low decile schools as described by the Ministry of Education. Their sense of cultural alienation was heightened in faculties with competitive and limited enrolment. Students who enrolled in medicine, law and engineering under MAPAS, the Māori and Polynesian Admission Scheme, were particularly vulnerable to criticism of debased entry standards. To ensure their survival, students formed their own study networks and support groups for their preferred mode of group learning.

Legal Requirements relating to Quality Assurance

The Māori effort to make tertiary education more responsive to the indigenous culture of New Zealand, and by extension the Pacific, was complemented by the Hawke Report 1998. Hawke advocated the decentralisation of post-compulsory education and training, and also recognition of Māori claims to education under the 'principles' of the Treaty of Waitangi.' Education was subsequently aligned with the government's treaty settlement policy by an amendment to Section 181 (b) of the Education Act 1989 requiring University Councils to 'acknowledge the principles of the Treaty of Waitangi'. The law required tertiary education institutions to take account of the Treaty in their defining documents, including mission statements, charters and profiles (Walker, 1990, p.346).

Initially, universities made a ritual bow to the Treaty by acknowledging its principles but little else. In the first cycle of university audits by the New Zealand Universities Academic Audit Unit in 1995, the inclusion of a treaty section obliged universities to develop their understanding of the treaty and its place in the life of the nation. David Woodhouse, Chief Executive Officer of the academic audit unit, helped them with an extensive paradigm of 'Audit Factors Relating to the Treaty of Waitangi'. The salient features of treaty compliance pioneered by Woodhouse (1992, p.20) include—

- Māori participation in decision-making at all levels
- regular consultation with Tangata Whenua (the indigenous people of the land)
- Iwi (tribal) input into charters and profiles
- visible symbols of Māori culture in an institution
- staff development courses on treaty awareness
- support mechanisms for Māori students
- relevant courses dealing with Māori knowledge and culture
- support for research projects relevant to Māori.

Treaty compliance was new territory for tertiary education institutions. Following the first round of general audits, two universities, one polytechnic and the Royal New Zealand College of General Practitioners commissioned their own audits on treaty compliance. The reviews by Walker (1998a, pp.3-4; 1998b, pp. 12-26; 2001a, pp.3-5; 2001b, pp.8-10) show that they were interrogated on measures taken to—

- increase recruitment, retention and graduation of Māori students
- provide learning support for Māori students
- recruit Māori staff
- identify students with academic potential for induction as junior staff; and
- increase Māori participation in governance and management.

The emancipatory thrust of treaty audits was sanctioned by the Ministry of Education's Tertiary Education Strategy released in 2002. The Tertiary Education Commission optimistically looked forward to 2007 when, according to the Strategy (Ministry of Education, 2002, p.29)—

- Māori will exercise greater authority and responsibility within the tertiary education system
- Māori communities will increasingly engage with a tertiary education system that is more supportive of the Māori world view, and which is inclusive of Tīkanga Māori (customary practice).

These statements by the commission define the end point of the two-stage strategy initiated by Māori intellectuals to make mainstream tertiary education more user-friendly to Māori students. As indicated earlier, it is still work in progress.

An alternative for Māori in Tertiary Education

The Establishment of Wānanga

The second stage of Māori taking control over their own education at the tertiary level was initiated by Professor Whatarangi Winiata of Victoria University of Wellington. On his return from Canada in 1978, Winiata was horrified to learn that his own tribe was facing Benton's dire prognosis of Māori language death. He launched the Generation 2000 project, Whakatupuranga Rua Mano, with the objective of quadrupling the number of Māori language speakers in his tribe by the turn of the century.

Between 1978 and 1981, Winiata made four submissions to the Government on behalf of his tribe, the Raukawa Marae Trustees, to fund a Māori institute of learning. Notwithstanding that the teaching of courses in Māori language, customs, and hapu (sub-tribal) and iwi (tribal) history had been started by voluntary staff, they were rebuffed. Undeterred by the unfavourable response, the Raukawa Trustees established Te Wānanga-o-Raukawa, their centre of higher learning at Ōtaki.

In 1984 the Wānanga began offering its first degree-level programme, a Bachelor in Māori Administration. Although the degree had no official recognition, the Raukawa Trustees had confidence in the ability of their own people to deliver quality teaching to the students. The objective was to produce bilingual and bicultural administrators capable of working for their own people or in the public service.

Winiata's vision of establishing a wānanga to satisfy Māori educational and cultural aspirations, not adequately met by mainstream tertiary institutions, was validated in 1988 by the educational reforms under the Ministry of Education's *Tomorrow's Schools* policy. The provision for 'special character schools' and Hawke's recommendation recognising Māori claims to education as a treaty right, were incorporated in the Education Amendment Act 1990. The act allowed for the establishment of colleges of education, polytechnics, universities and wānanga (Walker, 1990, p.346). The act states—

> A wānanga is characterised by teaching and research that maintains, advances and disseminates knowledge and develops intellectual independence, and assists the application of knowledge regarding *ahuatanga* Māori (Māori tradition) according to *tīkanga* Māori (Māori custom).

Three wānanga were accredited by the New Zealand Qualifications Authority (NZQA) under the legislation; Te Wānanga-o-Raukawa (based in Ōtaki), Te Wānanga o Aotearoa (based in Te Awamutu) and Te Wānanga o Awanuiārangi

(based in Whakatane). Although these three institutions have much in common in terms of their pedadgogy for *ahuatanga Māori* (Māori tradition), they have their own distinguishing characteristics.

At Te Wānanga-o-Raukawa, Professor Winiata focuses the pedagogy on Iwi/Hapu studies, the socio-political organisational groupings of Māori culture that was subjugated and damaged by the colonial enterprise of the nineteenth century. Much of the research at this wānanga is concentrated on the recovery of suppressed knowledge on Iwi and Hapu as a contribution to redefining *ahuatanga Māori.* The prodigious research outputs of the students are lodged with their own tribal archives.

For Dr Rongo Wetere, the Chief Executive Officer at Te Wānanga o Aotearoa, one of the fundamental objectives for the institution is increasing Māori participation in tertiary education. With 10 campuses and an enrollment of over 33,000, Te Wānanga o Aotearoa is the largest tertiary institution in New Zealand. It is the most successful institution at bringing in second-chance adult students and stair-casing them on to higher education.

Dr Garry Hook, the new Chief Executive Officer at Te Wānanga o Awanuiārangi, has in the space of two years redefined the objective of the Wānanga to become one of the elite providers of tertiary education in New Zealand. As a scientist, Dr Hook has dedicated the Wānanga to increase the output of Māori scientists, a gap that was until recently neglected by mainstream universities.

Accreditation and Quality Assurance of Wānanga

Degree proposals from wānanga are subjected to a rigorous process of scrutiny and approval by the NZQA. Wānanga have to convince a panel of stakeholders in tertiary education, including polytechnics, colleges of education and universities, that they are capable of teaching degree-level programmes. The degree requirements laid down by the NZQA (2003, p.1-13) include—

- capacity to support a degree-level programme in terms of facilities, resources, and quality management systems
- qualified staff who are engaged in research
- the title aims and learning outcomes of degree proposals are coherent
- appropriate delivery and learning methods
- assessment procedures that are fair, valid and consistent
- student guidance and support systems
- provisions for evaluation and review of programmes; and
- provision of facilities for research and support for staff engaged in research.

Although all three wānanga have had their degree proposals accredited by NZQA, they do have a problem arising out of their special character regarding *'ahuatanga Māori'*. In this respect wānanga are boutique providers of tertiary education. Their core programmes are Māori language, culture and customary usages. Accreditation panels have no problem measuring these against existing degrees in universities. But with the extension of the field into iwi/hapu (tribal) studies and whakapapa, (Maori epistemology, equivalent to Foucault's genealogy of knowledge) accreditation by NZQA becomes problematic. The problem is compounded when a proposal is submitted in the Māori language complete with cultural values such as wairua, (spirituality) aroha, (love, compassion) whanaungatanga (kinship, relationships) and manaaki (care for, support, hospitality). In this case NZQA has to rely on the expertise of an all-Māori accreditation panel.

As the wānanga expanded their degree-level programmes into education, science and business, the NZQA requirements became a straitjacket constricting the expression of *'ahuatanga Māori'* in these domains. In attempting to meet the requirements of NZQA in a degree proposal for a Bachelor of Māori Business for example, the proponents often end up with a 'me too' look about their degree. But as Māori extend *ahuatanga Māori* into these domains, as they are doing in teacher training and pre-school education, then it becomes apparent that the NZQA paradigm for assessing wānanga degrees is outmoded. Consequently, Te Tauihu o Nga Wānanga, the national association representing the three wānanga, is proposing that NZQA devolve power to accredit degrees to a Wānanga Qualifications Validation Authority. A precedent has already been set for that to happen by the devolution of quality assurance functions in polytechnics to APNZ, the Association of Polytechnics in New Zealand (NZQA, 2003, p.51).

Legislation for a Wānanga Qualifications Validation Authority is currently in draft form, pending an appointment with the Minister of Education. In the meantime Te Tauihu o Nga Wānanga is pressing ahead through WINHEC, the World Indigenous Consortium on Higher Education, to establish an international indigenous system for quality assurance and degree accreditation. To this end, a panel from America, Hawai'i, Australia and New Zealand was convened in July 2004 at the three wānanga. The panel considered the draft document Guidelines for Accreditation of Indigenous Higher Education Programmes. The panel interrogated three programmes, one from each wānanga using the guidelines. A pre-school training programme, derived entirely from Māori (indigenous) epistemology received the highest rating.

Conclusion

Quality in higher education for Māori (indigenous) people means the inclusion and reproduction of their own language, culture and whakapapa (epistemology) in both mainstream and wānanga (indigenous) tertiary institutions. Implicit in this project is matching quality assurance requirements as defined by NZQA.

Wānanga have successfully met quality assurance criteria set by NZQA in the delivery of higher education. But, in the development of wānanga since their inception in 1992, they have outgrown the NZQA framework. The next stage in their development is the delivery of quality assurance in terms of indigenous epistemology in the international arena. The establishment of WINHEC is a step in that direction.

References

Apple, M.W. (1987) *Ideology and Curriculum.* New York: Routledge.

Benton, R.A. (1979) *Who speaks Maori in New Zealand?* Wellington: NZCER

Foucault, M. (1980) *Power/knowledge: selected interviews and other writings.* Sussex: Harvester Press.

Ministry of Education. (2002). *Tertiary Education Strategy 2002-2007.* Wellington: Ministry of Education.

New Zealand Qualifications Authority. (2003) *Approval and Accreditation of Courses Leading to Degrees and Related Qualifications 2003.* Wellington: NZQA.

Ngata, A. T. (1928) *Ngā Moteatea: he maramara rare no nga waka maha Part 1.* Hastings: E.S.Cliff and Co.

Peters, M.A .(1999) *After the Disciplines: the emergence of cultural studies.* Connecticut: Bergin & Garvey.

Sykes, J.B. (1976) *The Concise Oxford Dictionary.* Oxford: Clarendon Press.

Walker, R. (2001a) *Review of Manukau Institute of Technology Compliance on Treaty of Waitangi Obligations.* Auckland: University of Auckland.

Walker, R. (2001b) *Treaty Audit: Royal New Zealand College of General Practitioners [sic].* Wellington: Royal New Zealand College of General Practitioners.

Walker, R. (1998a) *Review of Maori in the University.* Auckland: University of Auckland.

Walker, R. (1998b) *Treaty of Waitangi review of the University of Otago.* Dunedin: University of Otago.

Walker, R. (1990) *Ka whawhai tonu mātou: Struggle without end.* Auckland: Penguin.

Woodhouse, D. (1992) *Audit Factors Relating to the Treaty of Waitangi.* New Zealand Universities Academic Audit Unit in-house unpublished paper. Wellington.

The Classroom as a Metaphorical Canoe: Co-operative learning in Pacific Studies

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Abstract

In this article I use the "canoe" as a metaphor for re-conceptualizing the university undergraduate classrooms in which I teach Pacific Studies. The canoe metaphor emphasizes the idea of "a journey", or a process of learning, over "the destination" or product. Given the immensity and diversity of the Pacific Islands region, with approximately 20% of the world's languages spread across islands in the world's largest body of water, it becomes absurd for any lecturer in Pacific Studies to be positioned as an authority on the region. In Pacific Studies, lecturers must be prepared to navigate into unfamiliar waters. The canoe metaphor thus also allows for a cooperative approach to learning, and fosters shared responsibility between lecturers and tutors on one hand, and students on the other. Referring to Joseph Lowman's classic text, *Mastering the Technique of Teaching* (1984), I review fundamental aspects of teaching practice in the light of the particular imperatives of Pacific Studies.

Introduction

I accidentally drifted into teaching. As a younger woman, I was trying to deliberately voyage somewhere else; to a career that I thought would be more exciting and adventurous. I have now been a teacher at university for ten years, and in that time, some of the lessons I learned in the beginning of my career have helped to sustain me.

In the field I work in, Pacific Studies, it is impossible to know everything about the 1200 distinct cultural groups among 7-10 million people living in and around the world's largest and oldest ocean, in some of the world's most vulnerable and precious ecosystems. There are many different ways of learning about the Pacific; travel, dwelling, and conversational exchanges, are some of the most enjoyable.

But Pacific Studies programmes, offered at universities around New Zealand, in Hawai'i, and increasingly around the world, are another way of learning about the Pacific (see Firth, 2003; Wesley-Smith, 1995; Crocombe, 1987). The university is undoubtedly part of our colonial heritage in the Pacific. But the paradox of colonialism is that it offers us tools for our liberation even as it attempts to dominate us. Education is the perfect example of this colonial paradox. I value my "colonial" or "Western" education, even as I attempt to use it to help myself and others discover more about our pre-colonial heritage, and fashion futures for ourselves that are liberating.

The classroom as we have inherited it is undoubtedly a colonial space. It is extremely difficult to indigenize the colonial classroom. I have friends and colleagues who have tried to indigenize the classroom in different ways; decorating it with a Pacific flair, asking students to bring in photographs and collages of their families, running tutorial sessions around a kava bowl, and of course taking their students outside of their classrooms to talk, think and learn on the grass, under the sky, in the sun, under the stars, and most magically, on a canoe!

Unfortunately, not all of us who teach in Pacific Studies are favoured with conducive outdoor options. I have taught Pacific Studies at Victoria University of Wellington in New Zealand for five years. The city is famed for its blustering wind throughout the year and a particularly biting winter. Our urban campus is distinguished by having one of the smallest patches of green grass I've ever seen at a university. Our lectures tend to be held in buildings of massive 1960s and 70s era brick and concrete. Our tutorials are held in an early twentieth century wooden bungalow with bay windows and a miniature English garden in the front. There have been many times when I have felt it supremely ironic that I was teaching a subject that felt so alien in the landscape. It is very different from teaching Pacific history at the University of the South Pacific Laucala Campus in Suva, Fiji, which is where I had taught for the five years before I came to Wellington.

Pursuing a career in Pacific Studies in Wellington requires the exertion of students' and teachers' imaginations. I have found it useful to conceive of my classrooms as canoes, and our task as students and teachers as fostering cooperative learning. This article begins with reference to Joseph Lowman's classic text, *Mastering the Technique of Teaching* (1984) and finds a route from it to my work in Pacific Studies classrooms.

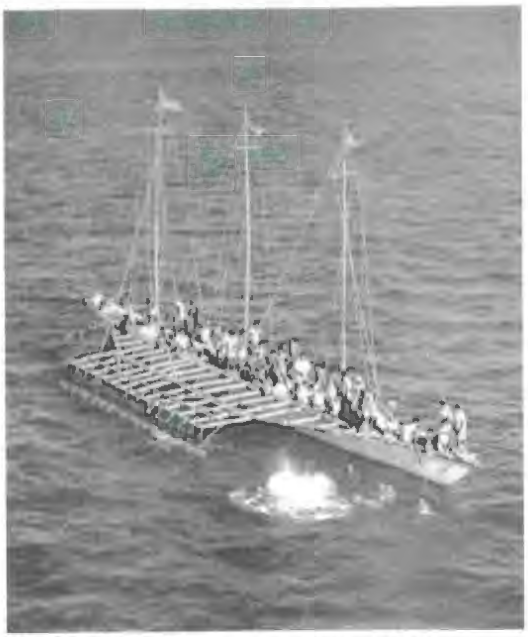

Photo: Kiribati ocean-going canoe.
Source: Dame Dr. Jane Resture, with permission, http://www.janeresture.com/canoes/main.htm

Expectations in/of the Classroom

In Lowman's discussion of classroom dynamics he talks about some common sense things; student and teacher expectations, and the fluctuations in classroom climate (Lowman, 1984, pp.23-44). As students and teachers, we expect to be both intellectually challenged by the course material and personally affirmed by our learning companions. As students and teachers we also know that our moods change with the pressures of assignments and the varying pertinence of course material to our lives. Keeping these common sense aspects of classroom dynamics in mind helps us realistically embark on our journey.

Re-conceptualizing the Classroom

After reflecting on Lowman's assertion that success in the classroom depends on moving beyond the performer-spectator model (Lowman, 1984, p.24), I have conceptualized the classroom not as a static space but as a vehicle on a journey. This conceptualization creates the opportunity for interactive learning to generate the energy for the journey.

Let's imagine our classrooms as various canoes of the Pacific. While there are certainly canoes in the Pacific that can be maneuvered successfully by one person alone, the model I am interested in exploring is one in which a collection of people with different roles board the vessel. Lecture theatres would thus be like large ocean-going canoes. The lecturer (or professor, in American terms) could be either the chief standing regally in the stern, or the

navigator lying on the bow to better assess the vicissitudes of the wind and ocean currents. Tutorial rooms would be like smaller outrigger canoes. The tutor (or teaching assistant) is the coxswain who steers as she rows with her crew of students.

Photo: Kiribati ocean-going canoe.
Source: Published in "Pacific Islands: War finds its way to Gilbert Islands" by Arthur Grimble in National Geographic Magazine for January 1943, Volume 83, pages 71-92.

Such models require a certain level of mutual commitment from the 'traveling' companions to cooperation, communication and coverage. Metaphorically, if the chief or navigator of the ocean-going vessel is not at peak performance, the coxswain and crew of the outrigger canoe have to work harder on maintaining their morale as they row away from their familiar island into open seas that their vessel is not the best to handle.

In reality, if the chief or navigator of the ocean-going canoe is unfit, the lives of his crew are endangered. The life-and-death urgency and survival humility that featured in pre-colonial Pacific societies is clearly lacking in most of our post-colonial education systems and pedagogies.

Coverage

Although this 'voyage' is more about exploration (process) than discovery (product), it is a reality of modern teaching that there is a syllabus to cover, and students are expected to read books (or multilith course readers), produce essays and answer questions. As both lecturer and tutor for my Pacific Studies courses, I fulfill my commitment to coverage by helping students through the exploratory process. To keep myself "fresh" while going over course material that might not change all that much from year to year, I try to relate our regular readings and texts to current events in the community and internationally. While I find it useful to allow course material a

period of "sedimentation", it is also important to periodically reassess course materials in light of new scholarship, and reassess pedagogical strategies in light of new technology and changing student demographics.

It is possible that material presented to students in your course is not entirely new. In Pacific Studies at Victoria University of Wellington, we have students who may have come across some of the ideas we discuss or material we assign in other courses like Anthropology, Art History, Geography, History, Māori Studies, or Samoan Studies. But there is not enough overlap in our course materials, and there is enough variety in our pedagogical strategies to make each learning journey unique for our students.

In any event, preparation and punctuality are the most important factors for coverage of course materials. For both teachers and students, preparation involves reading the assigned readings. For the teacher it may mean reading them at least twice, drafting a lesson plan, rehearsing introductory comments and checking multimedia equipment before class. When I first started as a teacher, I tried to arrive at the classroom at least 15 minutes early to write an agenda on the board and give myself time to mentally relax. I could greet students as they came in and then I would always start on time. This set the tone for the students and they were rarely late to class; punctuality helped us make the most of our time together.

As the years progressed, I found myself getting slack on time, and arriving a few minutes late to my lectures. Needless to say, this had unsatisfactory results, not the least of which was falling behind in coverage. "Island time", that is a casual approach to the strictures of modern schedules, is not good enough when our Pacific Studies students are burdening themselves with debt to gain tertiary education, and I have recently renewed my commitment to punctuality.

The process which has been most helpful to me in achieving maximum coverage in tutorials is the "conceptual overview". By reviewing the previous readings and discussions at the beginning of tutorials, previewing the forthcoming readings at the end, and demonstrating their conceptual relationships in between, we become more familiar with the material ("territory"), yet open to the new perspectives which each reading lends to an other.

Co-operation

There is a general assumption of shared responsibility in any tutor-student or "coxswain-crew" relationship, but in the field of Pacific Studies it is often the case that the lecturer-student relationship is also one of shared responsibility, as lecturers can never claim omnipotence over this vast region. Sometimes, this idea of shared responsibility has to be specified for the students, who tend to think that the lecturer and/or tutor should be able to carry the project entirely.

To emphasise the interdependence that underlies any voyage in Pacific Studies, guest lecturers are often invited to share their particular knowledge and expertise. In some senses, this is a bit of a departure from the model of some lived canoe cultures of the Pacific, where the primacy of a navigator (lecturer) would be jealously guarded, and rival navigators would be held at bay. In Pacific Studies, however, the invitation to guest lecturers does not undermine the authority of the course coordinator or regular lecturer: like the canoe navigator, the regular lecturer has the final responsibility in setting or charting the course of the voyage.

The co-operative relationship between lecturer and tutor, can usefully be seen in parallel with the master-apprentice model of navigation. The tutor should ideally be guided by the lecturer, and should be able to learn how to successfully navigate the course from the lecturer. The tutor gets to practice navigating, as coxswain of a smaller canoe in the sheltered waters of tutorials; but if required, the tutor should be able to stand in temporarily for the lecturer.

Photo: Banaban outrigger canoe.
Source: Raymond A. Dillon.

Nevertheless, even with a navigator, and a trusty coxswain, without a crew there would be no major or ocean-going canoe voyage. As higher education

becomes more and more commercial, and the students are encouraged to think of themselves as clients or customers, it is important that lecturers and tutors remind students of some of the fundamentals of education. Today's students do not always want to share responsibility for their learning, but even though it can be burdensome, it will be more productive for them in the long run.

Facilitating small group discussions in tutorials is one way to demonstrate shared responsibility, thereby increasing students' stakes in learning. Dividing the class into groups of four or five students and giving each group the task of discussing in depth one of the major themes from the readings, they are instructed to designate a discussion facilitator and a person who would report back to the larger group. This format makes it difficult for individuals not to participate, for they are held accountable to small groups.

At the same time, this format makes it easier to participate because many students do not feel comfortable talking in a large group. After twenty to thirty minutes of group discussion, the students reconvene and share reports of their discussion with the large group. Once, a student made a suggestion that the reconvening be conducted in a circle rather than with the students all facing me; this showed that he had begun to take on his share of responsibility for the course

Another format for sharing responsibility is giving students the opportunity to make individual or group presentations or performances. This is especially appropriate where students are engaging media like music, literature or art. These are occasions when students are asked to put themselves at risk by taking the floor - metaphorically taking the helm or steer - and the lecturer or tutor affirms their efforts from an audience position. Most of all, such presentations and performances are occasions of "cooperative learning", which encourage students to relate to each other mutually as resources.

In Pacific Studies at Victoria University of Wellington, we have tried to impress upon our students the value of shared responsibility and cooperative learning. Students in their first year of study have the option of doing a performance or creating art as a major part of their assessment, and by the middle of the term just under a half in a class of 60-80 are willing to risk taking the helm themselves.

Students in their final year of study are required to make public presentations of their research work in seminars held off-campus in local communities. This experience helps them realize that the reading and research they do for university grades may be of relevance and interest to wider audiences, and

therefore they need to be thorough and thoughtful in the preparation and presentation of their work.

A Climate for Communication

As for the ocean-going canoe, climate is very important in the classroom. Coverage and cooperation set the scene for a good classroom climate, but communication is what fills the gaps. Through verbal and written channels of communication it is possible for both students and teachers to share our expectations and constructive criticisms.

Having a personal interest in a course helps to establish a good climate. Most students who come to Pacific Studies have a personal interest in this area of study. Many hope to discover more about the histories and cultures of their migrant parents or grandparents. Some hope to learn more to strengthen relationships with neighbours and friends. And most say they want to learn more about themselves through our courses. Knowing students have such high expectations can be daunting for a lecturer or tutor, and part of our role is to prepare them to enjoy the exploration even if they do not discover what they initially set out to.
It is also important to get to know each student. Tutorials are more conducive to this than lectures. Requiring or encouraging students to schedule appointments with lecturers and tutors to go over their progress in the course helps to maintain a favourable classroom climate. (This is not to say, however, that there will not be tense moments in the classroom, but in the way a stiff wind or choppy seas can test and challenge a canoe crew's skills, such moments in a classroom can generate intellectual and emotional growth.)

The most valuable communications skill for anyone in education on either side of the classroom, is listening. In the first few tutorials of a term it is apparent that students do not pay attention to each other and seem to value only the comments of the lecturer or tutor, and their own individual responses to readings or concepts covered in lectures. In these days of short-attention span television, and permanent background music, active interpersonal listening is not a common skill. It is therefore crucial that students have good role models for listening, and their lecturers and tutors should be ready role models for them. The lecturer, if she were to imagine herself as a navigator of an ocean-going vessel, would need to be supremely attentive to all the elements of her environment. The tutor, as coxswain of an outrigger-canoe, similarly needs to be attuned to the environment as well as her crew's strengths. If lecturers and tutors are good listeners for their students, students still need to be given the opportunity to practice active listening themselves.

A key to active listening in the classroom is knowing and caring about the identity of your classmates. At the beginning of the term, I tell the students that one of my benchmarks for a successful term is whether the students in a tutorial know each other's names by the end of it. I tell the students that if I have to learn all eighty of their names, the least each of them can do is learn the fifteen or so names of the other students in their tutorial groups. I remind them that in the days of the ancients, people remembered whole genealogies. The great Polynesian ethnologist, Peter Buck, took note of one man in the Cook Islands being able to recite 90 generations of his family tree (Buck, 1938). In our times, we leave remembering up to books, notes, and digital technology, and meanwhile our brains are atrophying. I tell students that remembering each other's names is a small way to begin exercising the most important muscle in their body - their brain!

Learning to actively listen is another way of exercising our brains. I try to model a listening exercise at least once a term in class. Along with a student volunteer, I emphasize the listener's focus on the speaker, the listener's clarification of understanding, and the pair's keeping to task. In pairs, then, the students engage over an assigned question (having to do with the topics needing to be covered in the session) with one person speaking and the other listening.

At the first interval I asked them to describe the process of listening and identify its problems and possibilities. They usually raise issues of interruption and body language. I then ask them to switch roles, having the person who previously spoke as the listener. At the second interval they are asked to describe their new double-consciousness of process as well as content. They are usually able to label aspects of the process, but I might have to intervene and clarify some of the categories we are working with such as writing/reading in and for the classroom; speaking/listening interpersonally; comprehending/interpreting language and world-view interculturally.

The students are then quite adept at showing the interrelationships among categories. Students usually agree that the listening exercise has challenged them to think more critically about their responsibilities as writers, readers, speakers and listeners, and not to make assumptions about their own or another's knowledge. To participate most effectively in a classroom, one must listen to the elements, as successful canoe-voyagers know to listen to the wind, the ocean and each other.

My use of this metaphor here has undoubtedly been theoretical. I make no claims on mastery of practical canoe knowledge, and stand in admiration of my colleagues, students, and cousins who do.

Pacific Studies and Indigenous Knowledges

I consider myself an indigenous person of the Pacific. I have roots and claims to land on three islands; Banaba and Tabiteuea in the Republic of Kiribati, and Rabi in the Sovereign Democratic Republic of Fiji, as it is officially known. I also have roots outside of the Pacific; in Washington, DC, Oklahoma, Pennsylvania, Georgia, and various other parts of the USA. According to my father's Banaban culture, however, no one can ever be "part-Banaban". You either are or you are not Banaban. So I am.

What makes me a Pacific person most is not so much the blood in my veins, but my experiences of growing up and living in and traveling around these islands. I was born in Honolulu, Hawai'i, and raised in the Fiji Islands where I completed high school. After a few years in the continental U.S.A doing an undergraduate degree, I returned to Honolulu to pursue a Masters in Arts degree in Pacific History. During this time I traveled to Nauru and Kiribati for the first time, and also to Guam.

These trips became the first of what has been a most exciting adventure for me, and while completing a PhD at the University of California, Santa Cruz, my work in Pacific Studies took me to Solomon Islands, Vanuatu, New Caledonia, Tonga, Niue, Samoa, Cook Islands and French Polynesia. These trips have been good for grounding the bookish knowledge I have acquired over the years about these places and their peoples. I do not assume, however, that I know a place after having spent a few days or weeks there. The truth is, I cannot even claim to know my own family histories in full. Learning is a process, not a product that ever comes to us whole or complete.

Pacific Studies is necessarily always an exercise in stepping outside one's own experience of indigeneity and one's own knowledge base. One can never be an "insider" all of the time in Pacific Studies. As such, the classroom provides a potentially neutral space for students, who may feel overwhelmed and occasionally disoriented by the enormity and complexity of the field and their companions in it.

A Cook Islander student cannot claim to know the experience of a West Papuan any more than a *popa'a* or *palagi* (European) student can; a Niuean-born Niuean may have less in common with a New Zealand-born Niuean and more in common with a Tuvaluan; a 55-year old *palagi* (European) student

may have more in common with a 60-year old Samoan student than either of them would have with their younger classmates. And as a thirty-something woman of Banaban/Kiribati and African American heritage born in Hawai'i and raised in Fiji, I cannot dream of teaching any of my students anything about themselves. But it is my responsibility to impart my knowledge of academic and non-academic methods of enquiry, criticism and documentation.

Conclusion

Indigenous knowledge is not always transparent or accessible to all, nor is it meant to be. Pacific Studies can only treat indigenous knowledges partially, because our classrooms, our metaphorical canoes, cannot be expected to carry cargo for which they were not designed. The Pacific Studies classroom, however, can begin to take each of its "passengers" on a journey of cooperative learning towards alternative spaces where indigenous knowledges can be more fully reclaimed, affirmed, and revitalized.

Ki mua! Let us go forward!

References

Peter Buck. (1938) *Vikings of the Sunrise*. Philadelphia: Lippincott.

Ron Crocombe. (1987) "Studying the Pacific", in Antony Hooper et al (eds.), *Class and Culture in the South Pacific*. Suva and Auckland: Centre for Pacific Studies, University of Auckland and Institute of Pacific Studies, the University of the South Pacific, 115-138.

Firth, Stewart. (2003) "Future Directions for Pacific Studies", in *The Contemporary Pacific*, 15(1):139-148.

Joseph Lowman. (1984) *Mastering the Techniques of Teaching*. San Francisco: Jossey-Bass.

Terence Wesley-Smith. (1995) "Rethinking Pacific Islands Studies", *Pacific Studies*, 18(2):115-137.

Walking backwards into the future: Māori views on genetically modified organisms.

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Abstract
This paper presents the results of research conducted among Māori people in New Zealand concerning their views on genetically modified organisms (GMO's). Participants invoked a number of traditional principles, values and beliefs that were used to assess and evaluate the risks and benefits posed by GMO's to Māori culture. Suggestions for a decision-making framework incorporating these principles and capable of being used by both Māori and scientists to assess intended GMO research applications are also included. If successful, this framework and process may help avoid, remedy or mitigate any adverse cultural effects and just as importantly, maximize any potential benefits of the research for Māori or other indigenous peoples.

Introduction
Few recent issues better characterize the historical tension between science and society than do debates about genetic engineering. In New Zealand, this issue has engendered considerable public concerns about genetically modified organisms or GMO's (new organisms created in a laboratory by the transfer of genes between different species), particularly their presence in foods, in field trials, and their possible release into the environment.

Māori concerns (in addition to being pragmatic) were notably political and spiritual. The former focuses on rights conferred by the Treaty of Waitangi. Signed in 1840 this important document provides the basis for debate relating to guardianship and authority of Māori over natural resources and taonga (valued possessions) and the concept of partnership between the Crown (the New Zealand Government) and Iwi (Māori tribes). Spiritual concerns related to those values, beliefs and practices that constitute a Māori world view and which are perceived by many as being threatened by GMO technology.

Modern society however, is increasingly secular and reliant upon scientifically based decision making, involving quantifiable, tangible and objective evidence. Not surprisingly, a clash of cultures has emerged from the interaction of

these disparate world views in terms of the assessment, evaluation and decision-making processes surrounding applications to genetically modify organisms.

Applications are administered by the Environmental Risk Management Authority (ERMA) under the Hazardous Substances and New Organisms Act 1996 (the Act). In addition to scientific assessment and evaluation of the risks and benefits of a GMO application to the ERMA, Section 6(d) of the Act requires applicants (i.e. scientists), the ERMA and the decision making group (the "Authority," a group of eight independently appointed persons) to take into account Māori culture and traditions.

But when the Authority has attempted to do so, a number of difficulties have arisen. One example concerned an application to insert a copy of a human gene into cows in order to produce a human protein in their milk that might benefit sufferers from multiple sclerosis. Ngati Wairere, the sub tribe on whose traditional land the research was being conducted, strongly objected to this experiment on the basis of spiritual values and beliefs, in addition to more tangible concerns such as disposal of carcasses.

In its decision, the Authority queried what constitutes evidence, and what reliability might be placed upon spiritual or intangible concerns compared to physical, empirically-based evidence. In over-ruling Ngati Wairere's concerns they commented—

> "the Act itself does not provide a sufficient framework within which to address the concerns raised by Ngati Wairere... . It is not surprising that Ngati Wairere and the applicant were unable to reconcile the issues involved. They do not lend themselves to point-in-time decision making...a broader approach is required to provide the context in which the HSNO Act can operate in dealing with these kinds of issues..." (Māori Law Review, 2000, p.5).

The need for a broader approach to weighing and balancing the perceived risks and benefits associated with GMO's was again voiced by Māori during hearings held by a Royal Commission (2001) established in response to public concerns about GMO technology. At the same time, several research projects were funded by the Foundation for Research, Science and Technology aimed at identifying the values and spiritual beliefs that might constitute elements of a culturally-based decision-making framework.

In this paper the results of two such projects involving the author are presented. Project 1 investigated the perceived effects of different GMO

applications on Māori culture, values and beliefs, with the aim of developing a culturally grounded decision making framework for evaluating the risks and benefits to Māori posed by this technology.

Project 2 investigated perceptions of the risks and benefits to Māori of various forms of biotechnology including GMO's, xenotransplantation, cloning, stem cell research and bioprospecting. This paper presents the fundamental principles or values identified by Māori in both projects as being of importance in the assessment and evaluation of GMO's, along with suggestions on how they might be incorporated into a culturally-grounded decision making process.

Project Methodology

Project 1, undertaken among Māori people in the North Island in 2001-02, involved three separate rounds of interviews and focus groups with a total of 90 participants. Examples of actual and theoretical applications, including their scientific risks and benefits were provided as a context for discussion. These included cows or sheep containing human copy genes, frost-resistant strawberries containing copy genes from flounder fish, and pine trees (introduced) containing copy kauri (native) tree genes.

Each example outlined key aspects of GMO research considered to be influential in decision making e.g. the *purpose* of the research (for medical, food, environmental, conservation, economic or pure research purposes); its *location* (in a laboratory, a field trial, or released into the environment); the *species* involved as donor and recipient and whether they were native/non native, human/nonhuman; and the proposed *benefits* (for Māori, for New Zealanders, for international companies).

Scientific risks were discussed before inviting participants to share their views on the perceived cultural effects (positive or negative) of each example. A report on these interviews (Satterfield et al., 2005) is available from the second author.

Project 2 was conducted among South Island Māori, primarily of the Ngai Tahu tribe. This iwi is alone in having a tribal policy concerning GMOs, and their tribal authority gave support for this project as part of a review of this GMO policy. A total of 16 interviews and 7 focus groups involving 47 participants were held in 2003, following a similar procedure to that above. A published report of this research (Roberts & Fairweather, 2004) is available from the first author.

Results of the Projects

1. Key principles or values

Prominent among the key values are spiritual concepts thought to be threatened by the genetic modification of organisms e.g. *whakapapa, mauri* and/or *wairua, tapu and mana.* Decisions about whether the research was *tika* (right) or wrong included consideration of the *kaupapa* or purpose of the research; of *kaitiakitanga* (the obligations and responsibilities placed on Māori to care for the environment), and of Treaty of Waitangi guarantees and principles e.g. *tino rangatiratanga* (the rights of Māori to self determination and control over their own resources) including partnership with the Crown. Further explanations of some of these values are provided below.

Whakapapa

When applied to humans, this word refers to genealogies or family trees, with the implication of shared genetic relationships and descent from a common ancestor among all persons named in that *whakapapa.* But when applied to non-human things (e.g. plants, animals, rocks and stars), it is clear that other factors such as habitat and morphology (shape, appearance) provide an important rationale for each grouping (Roberts et al., 2004). For these reasons the term *tātai taiao* will be used to describe non-human whakapapa.

For example, one participant referred to a *whakapapa* of the flax plant that included the *tuna* (eel) fish. In her view, because they lived together in the same habitat they were "related" and this might therefore make it acceptable to transfer a gene from one to the other. She further suggested that many Māori who learnt biology at school had their thinking "colonised" by scientific classifications, and this "affected their views on *whakapapa.*" Another person, noting that each tribal grouping has their own tribal variations of plant/animal *whakapapa*, asked "so whose *whakapapa* is right?" (Roberts & Fairweather, 2004, p.64).

In general, a majority of participants believed it is wrong to move genes between species that in nature did not interbreed, and the wider the perceived 'gap' between the species e.g. between toads (Animal Kingdom) and potatoes (Plant Kingdom) the more unacceptable the GMO. This widespread perception among Māori of a 'species barrier' reinforces the suggestion above of the influence of scientific classification including concepts such as "kingdoms" and "species" which appear to have replaced more traditional teachings on tātai taiao. Interestingly this influence was often overlooked when applied to the insertion of a human gene into bacterial cells to create a GMO for the manufacture of human insulin. In this case it

seems that factors such as the purpose (aimed at saving human lives) was more influential in decision making.

Another aspect involved opposing views on the exclusive or inclusive nature of *tātai taiao*. Advocates of the former exclude things unknown to pre-European Māori and hence unrecorded in traditional *tātai taiao*, which are perceived as fixed in time, "closed" constructs. Hence applications to transfer genes from introduced species such as pigs, sheep or cows are considered a 'contamination' or violation of existing tātai taiao. An alternative view holds that *tātai taiao* are open, dynamic and capable of incorporating introduced species into appropriate traditional groupings. Hence all things visible and invisible are actual or potential members of a particular tātai taiao, because all things are ultimately descend from the same spiritual ancestors Ranginui (sky father) and Papatuanuku (earth mother) all things are related.
Understandably, supporters of this view were in general more open to organ transplants and cross species transfers.

Regardless of the above views, most participants saw humans as deserving of special rights and were generally opposed to their involvement in gene transfers as either donor or recipient.
Finally, because *tātai taiao* provide the origin, history and relationships of a thing, this construct was considered an essential 'tool' for deciding the appropriateness or not of GMO research.

> "If you know these things, the history, the *whakapapa,* it grounds you. Knowing the *whakapapa* provides the framework for making decisions about the rights and wrongs of a thing. It can tell you whether it is natural of unnatural, appropriate or inappropriate" (Roberts & Fairweather, 2004, p.15).

Mauri

This concept is one of the most commonly invoked principles in discussions by Māori about GMO's. Definitions include life-essence, life force or vital principle originally possessed by Io, the Primary Life Force or Supreme Being. *Mauri* is intimately related to other metaphysical qualities such as *tapu, mana* and *wairua,* each of which endow a thing with its special character. In the words of one participant—

> "Our belief is that there's *wairua* and *tinana*...*wairua* is the spiritual part of the person and *tinana* is the physical side. Now you need something to join them together. And what is that something that joins them together, it's the *mauri*" (Satterfield et al., 2005, p.28).

One participant defined *mauri* as the spiritual aspect of *whakapapa*, which protects and reflects the *tapu* and *mana* of the organism.

> "*Mauri* warns us to be careful when we attempt to interfere with a *whakapapa*; to be respectful, to know when we have done right or wrong. In its role as a "spiritual gatekeeper" it can be interpreted as a form of indigenous 'risk management' to be applied by those skilled in these things" (Roberts & Fairweather, 2004, p.20).

It was generally believed that transgenics (the movement of genes between different species) resulting in the "mixing" of *mauri* is detrimental. For example, "... this sort of technology... flouts all the rules of nature. That's why there are spiritual effects. Spiritual effects result from the fact that the genome has been "broken" in order to insert the foreign gene construct. This break disrupts the mauri of the intact genome which is what gives the organism its own unique spiritual identity. Putting in a foreign gene destroys that unique identity and creates something else, which has flow on effects on the whole organism and the environment. Scientists just see the result as a new protein in the milk or something, they don't see the spiritual effects. They don't know where and how to look. So the field trials just look for adverse physical effects but there is no monitoring of any psychological or spiritual effects on the animals, the earth (Papatuanuku) or on humans" (Roberts & Fairweather, 2004, pp.32-33).

Participants also debated whether a part of an organism, e.g. a gene, has a *mauri*, or whether *mauri* is the property of the whole organism. And if genes do have a *mauri*, is it the same or different from that of the parent organism? Where would the *mauri* come from if the new organism was created artificially in a laboratory? One response was that "we are the only people in the world who can put the *mauri* into something. For example, we put the *mauri* into this house (mentions the name of his ancestral house). So we are able to transfer the *mauri* of one thing to another and in so doing combine the spiritual with the physical. We have that power. But it depends on the purpose. The purpose has to be good" (Roberts & Fairweather, 2004, p.11).

He tangata, he tangata.

This expression, meaning "it is people, it is people", comes from tribal leader Meringaroto in response to her own question "what is the greatest good in the world?". It expresses a belief in the intrinsic value of human beings, individually and collectively. Conceptually, it's one of a cluster of principles which includes *whānaungatanga*, an ethic of belonging (usually in a kinship group) and *manaakitanga* which demonstrates caring and support, as in displays of hospitality.

In the GMO context, *he tangata* emerges as a dominant theme. Firstly, because it expresses an imperative to help those who are sick (especially family). Secondly, it helps explain the place of humans in the world, especially in relation to non human organisms. Rather than emphasising the relatedness between human and non humans, some interpret this principle as emphasising the distinction between them, including, in many situations, the primacy of humans (Satterfield et al., 2005, p.37). This has important implications for decision-making concerning GMO's and other biotechnologies.

Tika / tikanga /kaitiakitanga

Tika refers to the nature and ethos of things, whereas *tikanga* is acting according to what is considered ethically right, correct and socially appropriate. Many participants considered *tikanga* an essential part of wise decision making because it maintains cultural integrity.

> "In all things there are *tikanga*, principles, process and guidelines [for] preventing and managing that which is desired or good...Violation [can] come about when [this] does not happen — because stages are rushed [or] the truth is not revealed..." (Satterfield et al., 2005, p. 70).

Tikanga is inherent in the related concept of *kaitiakitanga*, a philosophy and practice which expresses the spiritual and physical rights and obligations of Māori to care for, protect and guard their environment (Roberts et al., 1995).

2. Other issues

In addition to the values identified above by Māori participants (for the full list consult the original reports), a number of other important issues were raised.

Anti-science/scientists views were strongly expressed by a majority of participants, who perceived science and scientists as inherently unprincipled and unmindful of societal and especially cultural concerns.

GMO cows and sheep containing copy human genes raised concerns about "scientists playing God" and "tampering with nature" (Roberts & Fairweather, 2004, p.14). Another participant thought modern science has "ceased to be respectful because it has no spiritually grounded values, instead is proud of being value free." In their view, GM technology is short-sighted and intellectually bankrupt, motivated by quick financial returns to the parent companies. Furthermore,—

> "It imposes on nature, instead of working with nature. In this regard it is a form of intellectual and technological colonization by scientists. It's not empowering - it's overpowering" (Roberts & Fairweather, 2004, p.20).

Another participant observed that there were too few Māori scientists to "walk the talk, that if more were employed in the research institutions and could influence the sort of science being done, have more control over it, and also get out around the flax roots and communicate with their people, maybe Māori wouldn't be so distrustful." (Roberts & Fairweather, 2004, p.38).

3. A values- based framework for cultural risk assessment of novel biotechnologies

In both projects the need was expressed for a risk assessment, evaluation and decision making framework based on Māori principles, values and beliefs. What follows is one such framework grounded in the principles and values identified by participants, along with a procedure for applying these in the context of GMO research.

Evaluation of the proposed research using cultural principles/key values.

This involves assessing the potential risks to culturally grounded principles/values, then evaluating (weighing and balancing) these in the light of the proposed benefits to people, environment and economy. *Whakapapa, kaitiakitanga* and *tino rangatiratanga* form the basis of the Ngai Tahu policy on GMO's (Te Runanga o Ngai Tahu, 2000), *Tapu, mana and mauri* (the 'spiritual gatekeeper' of *whakapapa*) were also of importance. *Tino rangatiratanga* and *kaitiakitanga* are particularly important for tribal groups directly engaged with GMO research in on their land in their tribal area.

Each of these principles constitutes a benchmark against which cultural risks and benefits can be evaluated by tribes and scientists within the context of the *kaupapa* (purpose) of the research including who or what benefits. In turn, the *kaupapa* invokes values such as *"he tangata", maanakitanga* and *whanaungatanga.*

For Māori, scientists had to have the "right reason in their hearts as well as their minds" for any of these technologies to succeed (Roberts & Fairweather, 2004, p.63). One participant group felt GMO's might be acceptable if the purpose was good, and if there were appropriate processes and principles attached (Roberts & Fairweather, 2004, p.11). Together, these principles and values form the 'skeleton' against which potential risks can be assessed, and upon which is placed the 'flesh' that comes from discussion and evaluation of the risks and benefits to Māori.

One outcome of this process might be a decision to decline support for an application because the benefits appear minimal and the risks to cultural values so serious and unable be mitigated. Another decision might be to give conditional support to an application in which there appear to be considerable benefits, and any risks are able to be mitigated. In the latter situation, provided that the scientific risks are also considered to be minimal. the application might receive conditional support from tribal groups subject to certain conditions being agreed to by the applicant. Conditions might be both scientific as well as cultural (i.e. based on tikanga).

Incorporating tikanga

Conditional support could include a range of values and practices designed firstly to avoid, remedy or mitigate any potential adverse effects. Foremost among these were *karakia* (invocations or prayer) advocated by traditional knowledge experts and Māori theologians as a means by which spiritual balance, safety and well being and a successful outcome could be achieved. In the context of GMO research this includes clearing the way for a new object or organism by bringing into existence its physical and metaphysical properties, and setting them in order in terms of their relationships with each other and surrounding things, thereby enabling them to function correctly in the world. As one participant explained—

> "*Karakia*, first and foremost, is the invocation or prayer through which permission for the transfer of genetic material might be sought from the realm of the *Atua* [Gods].... If you go back to our cosmology or our creation stories, almost everything is created through *karakia*" (Satterfield et al., 2005, p.73).

Others suggested this step was also necessary to ensure the spiritual safety of the scientists engaged in the research.

Secondly, in addition to cultural measures aimed at minimising adverse effects, it was suggested that conditional support might also include measures designed to maximise benefits to Māori. Involvement of tribal groups in the actual research, as guardians in monitoring and ensuring compliance, in maintaining the *mauri* of the organisms and land, and as recipients of some of the commercial and other benefits that might arise from the research was also considered.

A major function of the above process was considered to be in pre-application (to the ERMA) dialogue between scientists and Māori. One advantage of this for scientists is that by considering Māori values prior to

embarking on the research, it may be possible to accommodate cultural concerns by changing the suggested design and/or by incorporating *tikanga* practices and potential benefits to Māori into the programme and thereby adding value to the project outcomes.

Pre-application dialogue benefits Māori by providing the opportunity to engage in a more constructive way with scientific institutions. *Kanohi ki te kanohi* (face to face) discussion of cultural values likely to be most at risk, ways in which they might be ameliorated, along with identifying possible benefits to Māori not considered by the applicant enables tribal groups to participate more equitably in the research and to make more informed decisions concerning the acceptability or not of the research.

Conclusion

It is often said that Māori are a people who "walk backwards into the future," an aphorism which highlights the importance of seeking to understand the present and make informed decisions about the future through reference to the past. Traditional stories were often invoked during this research, particularly those concerning the demi-god Maui. One cautionary tale relates how Maui, emboldened by his success in accomplishing many daring feats, tried once too often to tempt fate, and through his own death brought mortality into this world (Grey, 1969, pp. 43-44).

Among the lessons learnt from these traditions is that risk-taking is an inherent part of the search for new knowledge and benefits; and efforts aimed at risk avoidance or mitigation may involve unpalatable tradeoffs. It is therefore not surprising to find that support by Māori for a new technology like GMO's was seldom unconditional, and necessitated consideration of the moral principles and values exemplified by the deeds of ancestors.

Mead (2000) and Durie (2003) are two Māori scholars who have suggested *tikanga*-based frameworks for the assessment of cultural risks and benefits posed by GMO's. Mead (2000) outlines four cultural risk assessment and evaluation "tests" which include values identified by the participants of the research described in this paper.

Durie (2003) also identifies many of the same values but his framework shifts the focus from risk identification and aversion to describing how these values and concepts can provide a basis for assessing the relevance and potential benefits of the research to Māori. His framework is based around three domains; environment, people and process, each of which contain a series of desired outcomes or benefits. Rather than the imposition of cultural controls on the research, he suggests the setting of performance targets or indicators

against which the desired outcomes can be measured.

The principles and processes outlined above by participants in our research support those espoused in the frameworks developed by Mead (2000) and Durie (2003). Taken together, all three demonstrate that the values and beliefs of the ancestors are very much in the minds of their descendents. But in embracing and affirming the importance of traditional values, living generations of Māori also need to accept the challenge of applying them to present and future issues raised by new technologies such as GMO's so that they continue to be of relevance and utility to their people. This challenge is not unique to Māori; it applies equally to all indigenous peoples.

Bibliography

Durie, M. (1988) *Whaiora: Māori health development.* Auckland: Oxford University Press.

Durie, M. (1999) Te Pae Mahutonga: A model for Māori health promotion. *Health Promotion Forum of New Zealand Newsletter* 49:2-5 December 1999.

Durie, M. (2004) Mana tangata: culture, custom and transgenic research. In *Reflections on the use of human genes in other organisms: Ethical, spiritual and cultural dimensions* (pp.20-25). Bioethics Council, P.O. Box 10362 Wellington.

Grey, G. (1969). *Polynesian mythology and ancient traditions and histories of the Māori as told by their Priests and Chiefs.* Christchurch: Whitcombe & Tombs Ltd.

Hazardous Substances and New Organisms Act 1996. Wellington: New Zealand Government.

Mead, H. (2000) Nga Ahi e Ngiha Mai Nei: the fires that flare up. Unpublished manuscript.

Māori Law Review August. (2000) Application by AgResearch to the Environmental Risk Management Authority concerning genetically modified cattle (GMF98009).

Roberts, M., Norman,W., Minhinnick, N., Wihongi, D. & Kirkwood C. (1995) Kaitiakitanga: Māori perspectives on conservation. *Pacific Conservation Biology* 2(1): 7-20.

Roberts & Fairweather. (2004) South Island Māori perceptions of Biotechnology. *Research report* No.268. Lincoln University.

Roberts, R. M., Haami B., Benton, R., Satterfield, T., Finucane M. L and Henare, M. (2004) Whakapapa as a mental construct of Māori, and its implications for genetic engineering. *The Contemporary Pacific* 16 (1): 1-28.

Royal Commission on Genetic Modification. (2001) *Report of the Royal Commission on Genetic Modification.* Wellington: Royal Commission on Genetic Modification.

Satterfield,T., Roberts, M., Henare, M., Finucane, M and Henare, M. *Culture, risk and the prospect of genetically modified organisms as viewed by tangata wheua.* Research Report No.1. Faculty of Science, Te Whare Wananga o Awanuiārangi, Whakatane, New Zealand.

Solomon, M. (2000) *IPR and IPRO: Intellectual property rights and indigenous peoples rights and obligations.* Paper presented to the Global Biodiversity Forum 15 UNEP, Gigiri, Nairobi, Kenya, May 12 - 14, 2000.

Solomon, M. (2001) *Processes for recognizing, protecting, developing and strengthening existing customary law systems.* Paper delivered at the UNESCO Pacific sub-regional experts workshop on indigenous science and traditional knowledge. 2-7 September, 2001,Victoria University Wellington.

Te Runanga o Ngai Tahu. (2000) "Interested persons" submission to the Royal Commission on genetic modification, Wellington New Zealand. http:/www.gmcommission.govt.nz/