Addleton Academic Publishers

Knowledge Cultures 4(3), 2016
pp. 131–156, ISSN 2327-5731, eISSN 2375-6527

FEATURE ARTICLE

INDIGENOUS KNOWLEDGE, METHODOLOGY AND MAYHEM: WHAT IS THE ROLE OF METHODOLOGY IN PRODUCING INDIGENOUS INSIGHTS? A DISCUSSION FROM MĀTAURANGA MĀORI

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ABSTRACT. The emergence of an academic discourse called Indigenous knowledge internationally, and mātauranga Māori in Aotearoa New Zealand, presents some substantive challenges to concepts of knowing and being, of knowledge creation, knowledge work and the making of meaning. These challenges engage us across philosophical, disciplinary, institutional, inter-generational, territorial and community boundaries, presenting an opportunity to imagine this field anew, and the theories and methodologies that inform contemporary Māori or Indigenous Studies. This article raises some discussion about 'research methodologies' being used when discussing mātauranga Māori and Indigenous knowledge (hereafter referred to as IK mātauranga). Research methodologies are often associated with specific disciplines of knowledge and viewed as the primary if not singular way in which knowledge is generated. Arguably, IK mātauranga occupies a different knowledge space from traditional academic disciplines, including their transdisciplinary interstices. This article speaks to a gnawing sense that mayhem is at play, as the academic work around IK mātauranga begins to consolidate and become institutionalised away from its indigenous communities and contexts, where it began and where it still informs identities, ways of living and being.

Keywords: aboriginal studies; native epistemologies; indigenous knowledge; traditional ecological knowledge; traditional knowledge

Introduction

The emergence and expansion of a discrete academic discourse called Indigenous knowledge internationally, and mātauranga Māori in Aotearoa New Zealand, presents some wonderful and substantive challenges to conceptions of knowing and being, of knowledge creation, knowledge work and the making of meaning. These challenges engage us across philosophical, disciplinary, institutional, inter-generational, territorial and community boundaries and present an exciting opportunity to imagine this old/new field and the theories and methodologies that inform contemporary Māori and/or Indigenous Studies. This article raises some discussion on what may loosely be called 'research methodologies' being used when discussing mātauranga Māori and Indigenous knowledge (hereafter referred to as IK mātauranga). Research methodologies are often associated with specific disciplines of knowledge and are viewed by those disciplines as the primary, often singular, way in which knowledge is generated. They provide the rationale for research questions and legitimate critical concepts, and they justify the use of specific methods. Arguably, IK mātauranga resides within a different knowledge space altogether from traditional academic disciplines including their transdisciplinary interstices. The academic literature on Indigenous knowledge identifies a noisy, politicised, historically nuanced, transdisciplinary, epistemological and ontological set of understandings and vocabularies of indigenous knowledge. This article speaks to a gnawing sense that mayhem is at play as the academic work around IK mātauranga begins to consolidate and become institutionalised away from its indigenous communities and contexts, where it began and where it still informs identities, ways of living and being.

Why might it be important to consider the role of research methodologies in IK mātauranga scholarship? In short, because Indigenous Peoples have struggled for the legitimacy of indigenous knowledge and are wary, sceptical even, of academic attempts to over-determine IK mātauranga Māori to ensure that it 'fits' existing academic regimes of control such as research performance measures, publish or perish drivers, and even genuine desires to include mātauranga in the curriculum. Secondly, it is important to recognise the depth of expertise of our own community based knowledge keepers to conduct those extraordinary, metaphysical tasks, such as mediating the material and spiritual world, escorting a spirit on a physical and spiritual journey, binding ancient genealogies with contemporary realities, sustaining relationships while healing collective grief, seeking visions and teachings from our ancestors, or cleansing people and spaces. The knowledge that sits behind these roles and responsibilities is often not recognised, understood or valued by non-indigenous colleagues or institutions, likened more - as it often is - to religious rituals, dogma and ceremonies than to forms of

knowledge production. Historically it has been seen more as the subject matter of research done by outsiders about indigenous cultures than as the creation and application of knowledge conducted by experts and supported by different intellectual traditions.

Thirdly, there is an easy tendency to oversimplify the way IK mātauranga is defined in opposition to western knowledge and science and then to make claims about how IK mātauranga is produced. Hierarchies of knowledge and knowing also re-inscribe false binaries between one form of knowledge and another, and therefore between one kind of indigenous subjectivity and another. Finally, it is important to ask those awkward and critical questions about the kind of IK mātauranga being constructed, produced and authorised through the different methodological approaches to research, including methods that claim to be from IK mātauranga frameworks. In other words, are methodologies simply new technologies of cultural assimilation, of governance and the disciplining of knowledge, or are they expanding the known worlds of IK mātauranga for the well-being of indigenous Māori people?

Increasingly, Māori and other indigenous academics around the world who are exponents of Indigenous knowledge and working in the research domain are having to account for themselves as 'researchers' who can describe their research methodologies in predominantly empirical research terms and can provide evidence of external peer review. As Leroy Little Bear points out:

> Aboriginal peoples are forever explaining themselves to non-Aboriginal peoples, telling their stories, explaining their beliefs and ceremonies, and introducing ideas that have never crossed the non-Aboriginal mind. (Little Bear, 2012, p. 518)

Garrick Cooper sees this as a way in which "Māori are regarded as producers of culture rather than of knowledge" (Cooper, 2012, p. 64). There is a huge expectation that indigenous scholars working from an indigenous paradigm will publish in international peer-reviewed journals that have academic ranking and there is a belief that the world of academic publishing is an equitable, non-racist world in terms of opportunities, peer review culture and publication norms and standards. Both expectation and belief, in this case, lead to disappointment. The norms set by the conservative 'traditional' academic disciplines are unrealistic even for most other disciplines on the borders of, and outside, the sciences, including the social sciences, humanities and creative arts. There is pressure on those indigenous academics now employed in traditional universities to simply 'play the game' and a perception that their commitment to communities, social justice and indigenous rights is a charming aspect of their practice but is

fundamentally irrelevant when it comes to the structure of their academic vita for tenure and promotion (Asmer, Mercier, & Page, 2009). This academic performativity has been characterised as a form of the neoliberal 'enterprise university' where competition between academics has eroded collegiality and the need to publish research that is quantifiable has overridden the importance of teaching and public good knowledge production (Thornton, 2009; Waitere, Wright, Tremaine, Brown, & Pause, 2011). Ironically, those academics, indigenous and non-indigenous, who might study the practices of our colleagues but who would struggle to perform those practices themselves in any credible way, could count our research in, of, and about, IK mātauranga, as legitimate research because it could more easily describe the methods, frameworks and theories by using the terms of research. It is so much easier in the academic publishing context to use strategies that 'Other' Indigenous knowledge, than to undertake research that draws on indigenous methodologies. Those who create and perform the practices of IK mātauranga not only find it hard to relate their research to the norm but by virtue of the values inherent in their scholarship find it difficult, if not impossible, to talk about it in a public forum.

Another reason to consider the matter is in order to ensure that the moves to legitimate and regulate IK mātauranga as an academic field of study do not contain, inhibit or limit its potentiality, its difference, its uniqueness or its connection and belonging to peoples and places (Hermes, 2005; Richardson, 2011). Indeed, Carl Mika says that in current writings "'mātauranga' fixes things in the world that Māori cite that are meant to be mysterious in the self" (Mika, 2012, p. 1081). The term 'mātauranga Māori' is itself applied in a modern way and is one of many Māori terms that could be used to name knowledge. Another well-used term is Tikanga Māori (H. M. Mead, 2003). Mātauranga Māori has been used in the literature since the 1970s and is a word used by Māori in manuscripts collected in the 19th century. Mika (2012) argues that the ways in which mātauranga is defined undermines the notion of 'Being' and of a spiritual relation between 'Being and Knowing'. In the Aotearoa New Zealand context, IK mātauranga and other forms of Being and Knowing have come from, and were the creation of, peoples who navigated and settled the Islands of the Pacific Ocean and eventually settled in Aotearoa. They were developed, evolved, and expanded over thousands of years as people journeyed across what Epeli Hau'ofa (1993) called the 'sea of islands' that make up the Pacific, and continued to develop for a thousand years in Aotearoa. There is a seascape, landscape and mindscape that has informed and constituted the legacies of language, the storying of peoples and the understandings of human endeavour and survival and that is written into the veins of what we now know as mātauranga. Encompassed within IK mātauranga and related terms are theories, practices and protocols for being in the world, ideas about what it means to know

something and how knowledge is organised, about classification systems, about what counts as reality or truth, about education, about power and about how experts are trained and validated. These ideas traverse western philosophical concepts of metaphysical, ontological and epistemological ways of knowing.

Studies of IK mātauranga open up a diverse range of its own '*whare'* (houses or schools), genres, specialisms or 'disciplines' that incorporate the intellectual, spiritual and imaginative world of Māori. Specialisms in carving or **toi whakairo** (Archey, 1993; Jahnke & Tomlins-Jahnke, 2003; S.M. Mead, 1986), weaving or **rāranga** (Buck, 1911; S.M. Mead, 1968; Puketapu-Hetet, 1989; Te Kanawa, 2008), oratory or **whaikōrero** (Rewi, 2010; Salmond, 2009; Temara, 2010), contemporary performance or **kapa haka**, (Sciascia, 2013; V. Smith, 2015; Whitinui, 2007) alongside astronomy (Harris, Matamua, Smith, Kerr, & Waaka, 2013), fishing and gardening practices (Tāwhai, 2013), and other topics are already taught to some degree in school and university curricula. The New Zealand school curriculum has included elements of Māoritanga and Taha Māori since the 1930s if not earlier (Simon, 1998; Walker, 2004). Indeed, all these terms are now being used in conventional and Māori institutions as nomenclature for faculties, as course titles, as topics of study and as descriptors of degree programmes. The critical questions are about what underpins such disciplines as an indigenous philosophy of knowledge, and through what approaches, pathways, methodologies are these forms of IK mātauranga advanced, evolved, contested and applied to result in newly-produced IK mātauranga and global knowledge?

There are also questions that relate to the nature of IK mātauranga expertise in its academic and community forms and expressions. Exponents of IK mātauranga who demonstrate their scholarship in profound ways on and off our cultural spaces such as marae, at national and tribal events, within institutions and beyond the boundaries of the temporal world still struggle to find safe spaces within the academy to name their scholarly work as such. While there may be some tensions simply with research terminology and translation, there are more fundamental issues with the differences in the ideas, philosophy, and sociology of knowledge that inform some modes of IK mātauranga creation. Rather than squeeze out justifications for why giving a whaikōrero, or formal oration, might be considered legitimate research (which can be argued) and why the participants at a gathering might be considered external peer reviewers (which can also be demonstrated), this article suggests that we pause and think about the modes of knowledge creation that are not so easily mapped onto science and traditional academic based methods.

This set of problems applies beyond Aotearoa New Zealand to other contexts where Indigenous knowledge is also expected to 'fit' normative

academic definitions and criteria in terms of the structure, design, significance, approach, methods and impact of indigenous research. As argued by Kovach (2009) there is a lack of recognition of indigenous methodologies as a distinct form of inquiry. Ryen (2000) further argues that the lack of recognition results in a form of discrimination. The specific aspects of methodology addressed in this article relate more to an account of how some forms of indigenous knowledge or mātauranga are generated, created and formed. The article questions how these forms of mātauranga are expressed or 'published' as research or knowledge within cultural events as oratory, as performance, as ceremony or ritual, as participating in a social process such as grieving or celebrating, as the weaving and re-texturizing of relationships, as the re-stating of collective ancient memories, as dreaming and as dialogue with ancestors and the spiritual dimensions of the world.

The Vocabulary of IK Mātauranga

Indigenous knowledge/s as created by diverse Indigenous Peoples predates European imperialism and colonisation. Mātauranga existed in the Māori world prior to the arrival of Europeans in the 17th century. More so, however, mātauranga in the very broadest sense travelled with Māori peoples as they crossed Te Moana nui a Kiwa, The Great Ocean of Kiwa, now known as the Pacific Ocean. IK Mātauranga evolved and expanded in its insights of the world and of humanity and left some of those narratives across the islands of the Pacific. Aboriginal Australians trace a history of knowledge back for thousands of years, 40,000 by some estimates, before Europeans arrived. Other indigenous peoples have not survived imperialism to tell their stories but have left legacies of amazing technological feats including complex city structures, plumbing systems, calendars, classification systems and intricate understandings of the worlds they created. However, indigenous knowledge/s as we have come to understand them now also include global insights and understandings that indigenous peoples have of their collective colonisation and contemporary realities, their survival stories, their stories of change and trauma, of resistance and negotiations with the nation state, of marginalisation and recovery, of development and education, of new tribal governance and cultural revitalisation (Maaka & Andersen, 2006). Indigenous knowledge includes knowledge of imperialism from the West, the East or even from the neighbours, deep knowledge of colonisers and the practices and effects of colonisation, of different religions that were imposed, of nation states formed by different conceptions of a state, western democratic, socialist or communist, and of the institutions of the state (Nakata, 2007; Williams, 2012). Indigenous knowledge exists as indigenous understandings of who

we have become, who we are now, as much as who we once may have been. The universal question “Who am I?” in an indigenous framework becomes “Who are we?”

In the international literature Indigenous knowledge has been described in very diverse ways that crisscross the western boundaries of ontology, epistemology and axiology (Brayboy, 2000, Meyer, 2008). There are three major terms used internationally to describe indigenous knowledge: Traditional Knowledge, Traditional Ecological Knowledge TEK, and Indigenous Knowledge IK. Many indigenous scholars also prefer the plural form of “knowledges” to recognise the diversity of knowledge bases and the peoples who produced them, and to refuse any attempt to homogenise indigenous knowledge as one universal system of knowledge (Little Bear, 2012; Richardson, 2011). Decades of activism in the indigenous rights arena has laid much of the groundwork for a term like Traditional Knowledge especially in recognition of the knowledge of indigenous peoples in the context of defining intellectual property rights (Battiste, 2008; A. Mead & Ratuva, 2007). In a strict sense Traditional Knowledge and Traditional Ecological Knowledge do not necessarily mean knowledge produced and practised by indigenous peoples and can be applied to mean family knowledge, local community knowledge and any knowledge that has been handed down within a community (Harry, 2011). Amongst Indigenous scholars the main interest is in the concept of Indigenous knowledge that is produced, practiced and enhanced by indigenous peoples and their communities or as a product of Indigenous Knowledge Systems IKS (Inspiring Australia, 2016). Indigenous knowledge can be understood as knowledge that is not simply ‘old’ and irrelevant but knowledge and its applications that have had meaning for generations, that have evolved over generations and that are still applied and adapted to contemporary conditions and have meaning for communities.

Indigenous people talk about knowledge in a wide variety of ways. Indigenous knowledge can be spoken about as stories and songs, as visions, prophesies, teachings and original instructions, as genealogies and memories (Basso, 2000; Burkhart, 2004; Cajete, 1994; McGregor, 2004). Many indigenous communities tell their knowledge stories through the lessons of animal characters and the deeds of superhuman ancestral figures. The animal characters may also be the key guardians or moieties of clans.

> Stories remind us of who we are and of our belonging. Stories hold within them knowledges while simultaneously signifying relationships. In oral tradition, stories can never be decontextualized from the teller. They are active agents within a relational world, pivotal in gaining insight into a phenomenon. (Kovach, 2009, p. 94)

The stories may serve to reinforce major knowledge narratives through motifs, morals, principles and values that are accessible and understood by each generation of the community. The storyteller may be as important as the story and can be a key authority of knowledge as well as a transgressor of knowledge in some cultures. Indigenous knowledge is routinely spoken about as objective knowledge, as the seeking and pursuit of knowledge that solves practical and immediate problems (Cajete, 2012).

> Native people do a form of 'science' when they are involved in subsistence activities. They have studied and know a great deal about the flora and fauna, and they have their own classification systems and versions of meteorology, physics, chemistry, earth science, astronomy, psychology (knowing one's inner world) and the sacred. (Kawagley & Barnhardt, 1998, p. 3)

Many indigenous practitioners, the people who fish, hunt, garden, for example, developed technologies such as Hawaiian fish farming long before it became a modern form of production (Costa-Pierce, 1987). Other scholars have begun to document the vast knowledge that indigenous peoples have about weather and climate change and about indigenous knowledge and resilience in the face of extreme weather events (N. T. King, Skipper, & Tāwhai, 2008; Mercier, 2007; Newton, James Paci, & Ogden, 2005).

In many contexts Indigenous knowledge is bound to place, to the environment and deep knowledge of the environment, and is absolutely necessary for human survival (Kawagley, 1995; McGregor, 2004). Indigenous knowledge 'systems include processes for acquiring, verifying and applying empirical data which are reflected in all scientific paradigms' (Coombes & Hill, 2005, p. 48). While it has long been accepted that indigenous peoples knew their environment intimately, their knowledge was often seen as a primitive non-scientific form of knowing, and their knowledge and the way they articulate it are frequently dismissed in environmental cases as lacking any empirical scientific base. One of the strengths of indigenous knowledge of the environment is accumulated observation over long periods of time and across several generations (Gadgill, Berkes, & Folks, 1993).

Many who talk about indigenous knowledge, especially in relation to research, link knowledge production to ethical processes and the sustaining of ethical relationships between humans and humans and between humans and the world (Battiste, 2008; Ermine, 1999; Worby & Rigney, 2002). In other examples, Indigenous knowledge is referred to as a set of values and practices, as what happens as a consequence of knowing or being fulfilled by knowledge. Often the responsibility of having knowledge or knowing is also identified as being linked to leadership, to navigation skills, to warrior skills or to collective well-being. It may also be linked to ethical relationships and

principles of reciprocity and generosity of spirit (Kuokkanen, 2007; McGregor, 2014). In other words, having knowledge is linked to collective responsibility, to notions of group well-being and benefit.

In discussing the idea of a "Tangata whenua philosophy" or indigenous Māori 'people of the place/land' philosophy, Takirirangi Smith (2000) has discussed ideas about how Māori understood rational thought by analysing the term **whakaaro** that is often translated as meaning 'thought'. Smith says that the term whakaaro is the activity of the stomach and the entrails, and as an activity that precedes physical action associated more with the part of the body associated also with emotions and instincts. He suggests that the term 'te whānau a Rua' is the closest Māori notion that relates to the western idea of thought because it is associated with memory and retention of whakapapa kōrero. Smith and others working in and through the Māori language speak to a number of different concepts of IK mātauranga which are important to hold in relation to each other. IK Mātauranga does not stand alone as a concept but works only in relation to other ways of Knowing and Being.

There are many examples where indigenous knowledge has been left without a voice, as images, engravings and painting, as the remains of cities that once thrived and as signs that no one can interpret. This absence is significant and informs what is currently present in the world of IK mātauranga. Indigenous knowledge can also be spoken about as having dimensions or topics and practices that are secret, sacred, highly controlled and pertaining only to certain clans or to women or men, or performed under the strictest of conditions.

> Some of this knowledge is considered as belonging to the clan, band, society, or tribe but is given to individuals or groups to keep for the benefit of the tribe. The Aboriginal public is not privy to this knowledge but is kept for their benefit by 'knowledge keepers. (Little Bear, 2012, p. 521)

Indigenous knowledge is also linked to the continuing existence of Indigenous Peoples, their aspirations to being self-determining and sovereign peoples and their rights to represent their thoughts and imagination themselves and to develop their thoughts and imaginations out of their contemporary experiences (Weaver, Womack, & Warrior, 2005).

The Mayhem of Methodology

There are some problems when thinking about research methodologies as they apply to IK mātauranga. One problem of methodology exists because of the marginalised status of IK mātauranga as a system of knowledge, a way of knowing and being; a further related challenge lies in proving that it exists

as a legitimate, that is proven, knowledge. The problem may also exist because some aspects of IK mātauranga are fundamentally incommensurate with other, established disciplines of knowledge and in particular with science, and are a much grander and more 'mysterious' set of ideas, values and ways of being than science (Mika, 2012). The problem may be more that IK mātauranga is being defined in ways that make it more mysterious as a system of knowledge that is essentially closed to scrutiny from within and without, and that may require highly specialised linguistic and cultural skills to understand. Or, it may be that IK mātauranga no longer exists because the 'authentic' producers of IK mātauranga are no longer alive or no longer serve any useful societal function in a modernist colonised society; and because IK mātauranga has reached its 'used by' date and no longer has social legitimacy. It may also be argued that attempts to 'create' methodologies that lend themselves to the 'science' of IK mātauranga will assert a discipline that will limit the breadth, depth and creative possibilities of IK mātauranga. An interesting argument could be made for each of these conceptual problems, but the main point here is simply that discussing methodology and mātauranga may introduce mayhem to an emerging academic and community discourse that is finding new ground and emerging into a new intellectual space in the 21st century. The prescribing of mātauranga to methodology may be too early to define: our steps in this space still contingent on academic permissions; our claiming of the intellectual space still too tentative, shy and risky.

Methodology can be viewed as the theory and study of the methods used in research to produce knowledge and make meaning in a given field or discipline of knowledge. Not all disciplines use the term 'methodology' in a precise way, with some emphasising more highly theorised approaches for pursuing a form of inquiry. Other disciplines rely very much on the methodology as the indicator of rigour and robustness - two terms used in the academic world to determine the quality of research. Methodologies generally provide the rationale, framework and approaches used to investigate or conduct research as if it were an activity to be pursued 'out there' in the empirical world. Regardless of whether the research is qualitative or quantitative or both, the methodology is what forms the interpretative link between the ways in which knowledge is defined and understood and the practices of inquiry that are used by those who research and conduct scholarship. Not all forms of inquiry are based on empiricism, or the observable world - some are based on philosophical argument and logic, the meanings of ideas and concepts, the analysis of texts, representations and discourses, creative practice and performance and the discussion of cultural constructs. In its simplest form, methodology explains the pathways between knowledge creation and knowledge production – the formation of knowledge. It is important in scientific approaches because of

expectations that knowledge can be replicated and validated by following the exact same pathways to produce the exact same results.

The study of research methodology in the current political and social context is not free from the influence of western disciplines of knowledge that have defined what counts as research within academic institutions, science organisations, publishers, funding bodies and the media. The knowledge economy, knowledge society, and policy links between knowledge and wealth creation are powerful political drivers for how different forms of knowledge production are viewed, supported, rewarded and legitimated and conversely how other forms are not supported. These policy discourses are writ large in the context of globalisation, trade and free market economics. Critics of neoliberalism would argue that the emergence of an academic interest in IK mātauranga in the late 20th century and early 21st century is a neat but dangerous convergence of neocolonialism and indigenous knowledge (Harry, 2011). The link between knowledge and economy in a world that has exploited all its other resources exposes all potential knowledge, including indigenous knowledge, mātauranga, traditional knowledge, local knowledge, as one big, unmapped, and undiscovered resource that can be exploited for economic returns (Shiva, 1999). This is a significant shift away from the old colonial attitude that indigenous peoples had no knowledge whatsoever, could not find their way across a land let alone across oceans, and were incapable of thought or imagination. Current discourses of the knowledge economy hold that knowledge, science and technology is what will transform the world, will create the innovation needed to solve the world's most knotty problems as well as create the wealth that can sustain well-being and standards of living that people in developed countries have come to expect.

It is now possible to trace a geo-intellectual genealogy of indigenous research methodologies that reflect the engagement of indigenous scholars in the institutional world of research (Brayboy, 2005). There are the important early indigenous scholars from the 19th and 20th centuries (earlier in some contexts) whose work in documenting and defending philosophies, ideas, testimonies, accounts and descriptions have left us with powerful legacies to follow. There are the scholars who began the academic programmes of Native American Studies, Māori Studies, First Nations Studies, Aboriginal Studies that have established some of the foundations of Indigenous Studies (Deloria, 1988; Ngata, 1928; Vizenor, 1994). There are scholars who have emerged in diverse academic fields and disciplines, including history, health, education, theology, women's studies and environmental studies, who have contributed to the debates on IK mātauranga and who have developed approaches to research within their own field of study. The call to 'decolonise' research methodologies and the broader institution of research, as well as the design of Māori and indigenous research methodologies, such

as Kaupapa Māori research (Helu-Thaman, 2003; Pihama, 2010), Indigenist research (Rigney, 1999), Indigenous storywork (Archibald, 2008), or Tribal Critical Methodologies (Brayboy, 2005) represent strategies for disrupting the nexus of research-knowledge-colonialism-power to reframe knowledge creation within indigenous frameworks and to talk back to the dominant paradigms of knowledge that were determining what counted as research. This disruptive behaviour is not simply a critique of colonial relations but applies also to ways in which indigeneity is reduced and simplified to binary and oppositional categories that do not recognise or legitimate the complexity and diversity of what it means to be indigenous in the 21st century (Hokowhitu, 2010). The decolonising call remains as an ongoing critique of academic attempts to redefine, appropriate, command and authorise legitimate knowledge and methodologies. The motif of the native Other as an object of study has shaped most social science methodologies; it has helped define the very sense of objectivity. The intellectual work to decolonise methodologies continues, with the next generation of indigenous and critical scholars expanding their reach across many disciplines and professions (Simmonds, 2011; Tuck & Yang, 2012; Yellow Bird & Wilson, 2012).

In the 1990s, Kaupapa Māori research began to be applied as a methodology for Māori researchers working with Māori communities in research. The Kaupapa Māori approach was generated by reconnecting Māori knowledge traditions with contemporary research approaches and by reminding ourselves that our ancient knowledge systems helped our ancestors navigate the Pacific, build ocean-going waka, develop new technologies and meet environmental challenges. The development of many Māori based initiatives in the 1980s such as Te Kohanga Reo and Kura Kaupapa Māori gave urgency to the revitalisation of IK mātauranga so that it would provide the philosophical platform to support and sustain Māori contemporary initiatives. Kaupapa Māori theory research brought together the IK mātauranga required to undertake Māori research that had cultural integrity, met ethical expectations, was positive in purpose, and led to outcomes that were more useful and hopeful for Māori communities. Kaupapa Māori is broader than a method as it asks a number of prior and theoretical questions about research, the framing of research questions, the purpose of research, the relationships with communities, and the design and methods right through to the benefits of research.

More recently, the broad term of Māori methodologies is being used, for example by New Zealand's Performance-Based Research Fund (PBRF), to define the criteria for what creates Māori knowledge or IK mātauranga. Māori methodologies assume that there are several distinctive Māori approaches to research, of which Kaupapa Māori is but one approach. In the 2012 PBRF guidelines, for example, the methodologies are not specified

although a hint of their definitions lies in the expectation that research will 'investigate issues of importance to Māori, with Māori specific measures and processes' (Tertiary Education Commission, 2015). This is an interesting statement as some will see it as providing a wide definition and others as a limiting definition. The use of terms such as **investigate**, **specific measures**, and **processes** implies a describable, objective process that can be validated and is commensurate with other research disciplines and approaches.

Within the Kaupapa Māori or Māori methodology space there are now as many research methods as there are cultural concepts. Some of the methods apply cultural concepts such as **Āta**, a term that intensifies relational practice (Pohatu, 2016), **Te Wheke**, the octopus (Pere, 1988), **Whare tapawhā**, the four sides of a house (Durie, 1994), **pōwhiri**, a welcoming process (Jones, 2005), **Whakapapa**, genealogical mapping and layering (Royal, 1998), to research practice that is conducted in the external world, that is, the empirical world. Other research approaches apply these concepts to a set of ethical values that inform practice (Cram, 2009). Concepts such as whakapapa have been used to argue for a system of logic that structures the way Māori think and formulate ideas (Royal, 1998). Takirirangi Smith (2000) applies the idea of whakapapa kōrero "as discourse about the relationships of people, things, the environment, and the world" (p. 55). In general these applications translate Māori concepts to the ethical and culturally appropriate gathering and interpretation of data, discourse, ideas, experiences, perceptions, attitudes, memories and stories.

Gregory Cajete (1994) has argued that indigenous knowledge is created partly by using approaches that we might call science, such as observation, hypothesising and testing, documentation and experimentation, as well as ways that he has referred to as vision quests, which help communities to gain insight and augment spiritual connections. Cajete has referred to the processes or methods for these latter approaches as the unique aspects of what makes indigenous research different and what links the indigenous research process to the kinds of indigenous knowledge that is produced by such approaches. Vision quests produce knowledge that is insightful, has spiritual clarity and is in balance with other things. Kovach (2009) also refers to this as 'inward knowledge' using methods such as fasting, ceremonies, and dreams. Observation produces knowledge that is empirically able to be confirmed or disconfirmed which is often referenced as traditional ecological knowledge. Indigenous knowledge encompasses both these and other conceptions of knowledge and of coming to know. Jeanette Armstrong, in dialogue with the First Nations architect Douglas Cardinal about the native creative process, also drew attention to the combination of skills needed to deal with the unknown: "physical skills, analytical skills, total spiritual awareness and emotional intuitive sensitivity" that need to be called on to engage in a "deliberate meditative process that

pulls the capacities together and enables oneself to act without hesitation or question" (Armstrong & Cardinal, 1991, p. 35). Perhaps the most commonly written about research method in the international literature that is seen as intrinsically indigenous is story-telling (Castellano, 2000; T. King, 2003), including indigenous narrative memory (McLeod, 2007) and indigenous story-work (Archibald, 2008).

Who Are Our Experts in IK mātauranga, and How Do Their Ideas and Practices Inform Methodologies?

With the identification and naming of a body of knowledge or system of knowledge comes the identification and naming of those who are deemed its experts, practitioners, teachers and students. The naming of knowledge also begins to define the way this knowledge is organised and institutionalised, its organisational vocabulary, its values and its priorities. So, who are the experts in IK mātauranga? How are they recognised? How do their ideas and practices inform methodologies?

It is very clear when listening to indigenous people talk about knowledge that their communities know their own experts and can describe the kinds of roles, functions and responsibilities those experts perform in their communities. Knowledge is often seen to be held by grandmothers, elders, healers, medicine people, seers, artists, builders, weavers, guides, hunters and gardeners and midwives. Specialist knowledge of navigation and canoe building, of whale hunting and eel fishing are held by the practitioners who undertake those activities. Knowledge of genealogies, of historical and political relationships and of everyday practices may be understood by many in the community but the sustaining and teaching of that knowledge is seen as the responsibility of other experts. Many indigenous communities identify very specific places where knowledge was learned and taught, and aspects of their social system where knowledge was protected and passed on to others, for example through lodges, societies and schools. Most of this knowledge was conserved and transmitted through systems of practice that reinforced what was important and the values for sustaining the integrity of that knowledge over time.

The breadth of this kind of expertise across a community reinforces the collective, ethical and ontological nature of what IK mātauranga may have looked like prior to colonisation. The colonisation process actively set out to destroy, suppress and de-legitimate many of the obvious institutions and ideologies that nurtured, protected and enhanced IK mātauranga. The epistemic and cognitive violence to IK mātauranga related not just to the destruction of IK mātauranga as it existed at the time but also relates to the strategies used to replace it with a new religion, language, education and a

political system that excluded indigenous peoples. The current international interest by organisations such as the World Intellectual Property Organisation in identifying IK mātauranga may seem deeply ironic as indigenous communities are now being encouraged to identify the last remnants of their precolonial knowledge systems. In many contexts indigenous knowledge exponents are being recognised as 'elders' - knowledge keepers and experts of a system that has been left in tatters.

There is still the matter to consider of IK mātauranga as a modern system of knowledge that continued after colonisation. It is too easy to define 'traditional knowledge' as knowledge that once thrived but then came to a crashing halt with colonisation and, to also view indigenous peoples as not learning anything new post colonisation. Why would indigenous peoples not adapt what they knew to the traumatic impact of colonisation when their histories are filled with the lessons learned from the cataclysmic events that helped form who they are, where they have come from and what teachings they have for the future? If we ask again, "Who are the experts of IK mātauranga?" we may find that our list of expertise expands to include those leaders who helped their communities survive, who led them across long, forced marches and exile, who helped negotiate Treaties, who navigated the new systems of education and Government, who supported their people through the harshest times of marginalisation and sought to mediate the harsh interface between old ways of life and the challenges of colonisation. If we can envisage indigenous peoples were/are? able to assert their indigenous identity over time, to retain language and many unique aspects of their culture despite everything hurled at them, then we can also envisage indigenous peoples as being able to adapt to even the most traumatic elements of change and to incorporate new ideas and learnings into their world. The list of experts includes men and women, activists, farmers and teachers, nurses and lawyers, policymakers and researchers who have come to know something unique about the indigenous experience as it applies to their specialism. This latter conception of expertise opens up space for understanding IK mātauranga as a very contemporary system of knowledge, of knowing and being, grounded in traditional values, practices and philosophies but also as constantly adaptable and made relevant to the world we live in.

Thinking about IK mātauranga as a continually developing body of knowledge, of knowing and being, will cause some anxiety in those who think indigenous authenticity is about being 'authentically' traditional, as someone grounded in a particular way of life, (that is, as someone who generally lives on the margins of a 'modern' society), who 'looks like' and 'talks like' their ancestors (the precolonial ones) did and who practices life as it was practiced at the time when Europeans arrived. In many indigenous contexts the concept of traditional is much less laden with some ideal of

authenticity and much more at home with the nature of change and timelessness. Some communities have aspirations for living a way of life that continues the legacies and teachings of previous generations and some have aspirations for applying those legacies to new challenges.

In this conception of IK mātauranga academic expertise can and does co-exist with community-based expertise. What does this mean and how does it work? Part of the answer to these questions resides in the work of our earliest indigenous leaders with literacy skills and early scholars who were driven to document our culture before it was destroyed. These nineteenth century Māori scholars not only left a legacy of literary work that included songs, poetry, histories, letters, papers, genealogies, and their prophecies (Ngata, 1928) but they also modelled a set of ethical practices for, and methodological approaches to, IK mātauranga. They had a strong sense of urgency to record knowledge before it was lost so they wrote things down. They were more immediately sympathetic to IK mātauranga and were attempting to find a place for it in the tumultuous context of rampant destruction of Māori culture so they drew on concepts of working with different knowledge systems for our well-being. This idea is embedded in a famous poem by Apirana Ngata known as 'E tipu e rea [Grow up, o tender shoot]' in which he urges a young girl to grasp the tools of the Pākehā (settlers) while holding on to Māori values and trusting in God. They recognised the battle for survival that Māori people were fighting and sought alternative solutions in education, despite its colonial limitations, and in the preservation of cultural elements that would help the people to stay together. They engaged in politics, in health, in education. They travelled far and wide to educate Māori people, give them hope and options for living. The choices were harsh and there is no doubt their roles at this time were complicated and conflicted. They walked the interface of traditional culture and the world of settler society and left Māori people with a legacy of literature and methodologies of hope.

If we consider the community-based IK mātauranga experts, then it becomes obvious that their legacy is just as powerful. Most importantly, throughout the 19th and 20th centuries, wherever they could they continued their practices despite legislation that outlawed practising as a **tohunga** or IK mātauranga expert. They planted, harvested and fished according to the Māori calendar. They drew on IK mātauranga to carve meeting houses, to weave and to mourn. They often carried those traditions to new places, to urban areas, where they established new marae and cultural centres. They continued to fish, to gather Māori food, in drains, in creeks, in the ocean and in the bush. Some of the younger people were still actively educated by their grandparents and parents to continue whānau traditions. Often, a child may have been chosen by a grandparent to learn, both by immersion and by instruction, the customs that were seen as important to pass on to the next

generation. Māori continually attempted to live a collective life. Some practices were pushed underground and became more secretive; some may have lost their appeal and relevance for a period of time and been set aside. The oral traditional knowledge of an iwi (tribe) was retained in whakapapa, inscribed in the names of places and carved into meeting houses. Their territorial jurisdictions and ahi kaa (places of lived occupation) were linked to genealogical accounts, songs and stories and ceremonies as well as to the lived practices of a group. These were often shared or contested by other groups but there were stories about how contention was mediated and peace was brokered and maintained. Many examples of IK mātauranga such as the art of moko (tattoo), carving, weaving, and constructing large meeting houses became fragmented and specialised, with only a few outstanding practitioners available across the country. The available experts taught others. They travelled widely to share IK mātauranga so that others could recover the knowledge.

Methodologies can be understood simply as the systematic or purposeful ways that we seek knowledge or as the paradigms and knowledge constructs that inform our world views and behaviours and help us design methods and tools that best unlock social discourse, social relations and social institutions, and that capture 'reality'. There is much to learn from the practices of how indigenous people live their lives and the roles that knowledge experts had - and continue to have - in communities. Clearly, IK mātauranga experts were valued in their communities and used their knowledge and skills to assist people to live a good life in balance with the environment. In tough times they used knowledge to mediate conditions, to help make difficult decisions and to provide hope. In good times they were expected to ensure that all was in balance in the world, that collective interests were pursued and that the people flourished. They were expected to translate the new knowledge paradigm of colonial settlers and offer ways to find a place within this new knowledge system. Jonathan Lear (2006) refers to this as 'radical hope', or the courageous leadership that offers a way through and beyond the harshness of settler colonization and oppression.

IK mātauranga experts were specialists in particular forms of knowledge, and developed their knowledge through a range of formal and informal instruction, apprenticeships, and mentoring, and even being sent to live in another tribe for further instruction. There were different knowledge requirements for the specialisms; for example, a navigator needed to know how to read the sea and the stars, a weaver needed to know how to source materials, how to dye fabric and how to create garments. Each of these speciality areas developed their own methodologies within the wider philosophies and world views of their communities. Recognition of their expert status was often based firstly on the reputation of the teacher who was training the person, and secondly on how well they were seen to perform

during their 'apprenticeship'. The quality or character of the person was as important as their ability to perform the necessary tasks - their humility and dedication to their role. Performance was important as it was public to the extent that others witnessed the performance and could assess the expertise on display. Achieving the desired outcome was even more important and stakes could be high if the necessary incantations or invocations did not do the job that was expected. Ultimately, the credibility and legitimacy of an expert was based on their reputation to achieve good outcomes.

Methodologies and the Contemporary Production of Scholarly Work on IK mātauranga

The last two decades have seen an emergence and growth of scholarly work, references and citations of IK mātauranga. That growth has escalated in the last fifteen years. As stated earlier in the article, the four terms commonly used in the literature are: Traditional knowledge and Traditional Ecological knowledge which have been in published scholarly use for the longest time, Indigenous Knowledge, and Mātauranga Māori. A Google Scholar search of these terms shows this emergence, represented in the following chart. Traditional Knowledge also brings up articles and citations for Traditional Ecological Knowledge and so only Traditional Knowledge has been used. Similarly, Māori knowledge brings up Māori culture, Māori dancing and Māori games and so the search has been restricted to Mātauranga Māori. Mātauranga Māori publications are likely to also use the term Indigenous knowledge when publishing internationally and so some of these references will be included in the entries for Indigenous knowledge. Nevertheless, even with this crude count the sheer number of references in Google Scholar attests to a growth of published and cited scholarly works covering a diverse array of subject matter and disciplinary interfaces.

Google Scholar entries for Mātauranga Māori, Indigenous Knowledge and Traditional Knowledge

Google Scholar search terms (11 August 2015)	Entries 1980-1990	Entries 1990-2000	Entries 2000-2015	total
Mātauranga Māori/ Matauranga Maori	18	214	2818	3035
Indigenous Knowledge	41,500	187,500	1,401,000	1,630,000
Traditional Knowledge	352,000	778,000	2,260,000	3,390,000

Indigenous academic journals are attempting to define the field of Indigenous knowledge in ways that encompass the diversity of work conducted by IK mātauranga experts. The journal *American Indian Quarterly* (established in 1974), for example, argues for the "best and most thought provoking" scholarship that includes "diverse voices and perspectives" and scholarship that "contributes to the development of American Indian Studies as a field and to the sovereignty and continuance of American Indian nations and cultures" (www.nebraskapress.unl.edu/product/American-Indian-Quarterly,673174.aspx). The *Journal of American Indian Education*, founded in 1961, wishes to "encourag[e] dialogues among researchers and education practitioners through research-based articles elucidating current education issues and innovations" (https://jaie.asu.edu). The *AlterNative* journal of indigenous scholarship (established in 2005) features "interdisciplinary work from indigenous perspectives" and work that addresses "indigenous issues from scholarly indigenous viewpoints" (www.alternative.ac.nz). NAIS, the journal of the Native American and Indigenous Studies Association, established in 2013, sees itself as publishing "interdisciplinary scholarship" that provides opportunities for "extraordinary professional expertise" that is "intellectually rigorous and ethically engaged" (www.upress.umn.edu/journal-division/journals/nais). There are some important clues in these journal descriptions that provide space for the extraordinary scholarship that arises from IK mātauranga. There are many journals that publish articles about indigenous knowledge and about Indigenous Peoples, but many of these journals are discipline-based and focus on studies about indigenous topics rather than on studies that see themselves contributing to a notion of indigenous scholarship.

There is a strong tendency for indigenous scholars to use the term "interdisciplinary" as a descriptor of IK mātauranga scholarship. This raises a few interesting questions. Is IK mātauranga a discipline (Nakata, 2007)? How has IK mātauranga been disciplined? Does IK mātauranga need different academic disciplines to bring it into the world, to give it form and language, in other words to produce it? Are western academic disciplines inadequate on their own as tools for understanding IK mātauranga and is interdisciplinarity therefore the best way to gain insight to IK mātauranga? Similar questions can be asked about the term transdisciplinary which is often seen as the more correct term to describe disciplines working in synergy. The term interdisciplinary sounds more open, but can be interpreted in very narrow ways; for example, scientists may think they are interdisciplinary when a biologist and microbiologist work together. Martin Nakata suggests that 'cultural interface' is a more productive term that captures the dynamic space in which indigenous theory needs to operate, and that the space is one

> of many shifting and complex intersections between different people with their different histories, experiences, languages, agendas, aspirations and responses ... it is also a space that abounds with contradictions, ambiguities, conflict and contestation of meanings that emerge from these various shifting intersections. (Nakata, 2007, p. 199)

Some indigenous scholars very strongly embed IK mātauranga at the interface of science and do not deny the broader dynamics and ontologies of Indigenous knowledge but see the interface as a way to generate good work (Allen, Ataria, Apgar, Harmsworth, & Tremblay, 2009; Mercier, 2007). Others such as Cooper (2012) and Mika (2012) seriously caution against an overly empiricist approach to mātauranga. Gregory Cajete (2012), however, sees Indigenous knowledge as having multiple dimensions, some of which lend themselves well to an engagement with science while others do not. The fluidity and dynamism of the term mātauranga, as Mika argues, should not be 'fixed'.

The Mayhem of Writing from and about IK mātauranga

In the governance and funding of research systems across many jurisdictions there is increased pressure to measure research performance, the impact of research and the amount of money generated by research. This is particularly the case for the New Zealand system and manifests itself in the PBRF that began in 2003, and that assesses every individual academic staff member in research institutions. Critics of this approach situate the ideology behind it in neo-liberal economic policies that foster individual competition, user-pays education and wealth-generating research, which together are intended to accelerate a knowledge-based economy (L. T. Smith, 2008; Thornton, 2009). The growth of assessment exercises has also transformed the publishing of academic peer reviewed articles and books. Impact factors based on publications in top ranked journals, numbers of citations collected and organised by bodies such as the Web of Science and Google Scholar have become the new norm for young researchers beginning their careers.

The dilemma for indigenous Māori researchers working in the domain of mātauranga Māori and also using Kaupapa Māori methodologies has been about how their research is counted and valued (Hobson & Hall, 2010). Research performance exercises are time sensitive in terms of the interval between the beginning of a research and a published output. When explicitly linked to funding research performance they are also a measure of what kind of research is valued by funding bodies that, in New Zealand, comprise the government. The system is stacked against those who work in the IK mātauranga domain at a number of levels, including: the lack of access to

external funding, having to publish in a colonising language, the requirement to publish according to normative academic style, having to be assessed by informed 'peer reviewers', the lack of international journals that value indigenous scholarship, and difficulty accessing the few networks of indigenous colleagues who understand how the academic 'game' works.

Senior Māori scholars have been influential in ensuring that Māori knowledge has its own research assessment panel and that writing in Māori language is valued in the PBRF assessment exercise. We would argue that the new norm, the new performativity of scholarship, suits scholars who can write **about** IK mātauranga as a body of knowledge which they can look at with a sense of critical distance and objectivity than it does for those for whom IK mātauranga is simultaneously a way of Being and a way of Knowing. Much of the expertise of mātauranga scholars is classified as 'service' or as 'contribution' to research rather than as a quality assured output in an international peer reviewed journal. Refusal to 'fix' the meanings of IK mātauranga is an important practical strategy for ensuring we do not imprison ourselves in the hegemony of neoliberalism. Perhaps we, as indigenous scholars, struggle to find the right terms to use to articulate something we know and care for, respect and remember, and that we seek to engage with, knowing that our ancestors might be looking on, and that the next generations will ask us, "What did you do in your time to ensure that our peoples flourished?"

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