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Indigenous Knowledge and the Cultural Interface: Underlying issues at the intersection of knowledge and information systems

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Introduction

I am aware as I begin this plenary paper that members of the library profession that are drawn to a presentation slotted under the theme, *Indigenous Knowledge*, are most likely interested in the systems and issues for managing information in that area.

And as soon as I presume that, the breadth of the issues spring to mind – the classification of information about Indigenous peoples¹, collection, storage, retrieval, access, copyright, intellectual property, the sensitivities of culturally different clients and communities, the politics, funding, distance issues, networking issues, the concerns about historical texts – and the list can go on (e.g. Edwards, 2000). This paper is not a discussion of these issues although I hope, from what I say today, you can draw some broad implications.

Libraries and the information profession, particularly those in academic or other scholarly institutions, occupy an interesting position in relation to Indigenous Knowledge² and information. As depositories, collectors, organisers, distributors and mediators of information, librarians play an enabling role to those who produce or who want to use Indigenous Knowledge and sources of information (Francoeur, 2001). But being on the peripheries of knowledge production often means that the underlying issues, debates and contestations surrounding Indigenous Knowledge production most often would not be evident. It is to these issues that most of this paper is directed.

What I want to do today is discuss emerging concepts in recent trends across the globe to document and describe Indigenous Knowledge and how they are being integrated generally as well as in formal education processes. I

¹ The use of the term, Indigenous peoples, in the plural, is used throughout this paper to refer to the fact that not all Indigenous people are the same, although we share a common experience with colonialism.

² In this paper, the use of Indigenous Knowledge with 'K' in the upper case is to identify with an epistemological understanding of knowledge systems. Indigenous knowledge with 'k' in the lower case is to identify fragmented articles of a knowledge system - items of knowledge that is described and documented without any view to an epistemological context.

then want to introduce the Cultural Interface as an alternate way of thinking about Indigenous and Western domains and before discussing the changing perspectives and the many opportunities that information technologies will provide for new agendas. I hope that by discussing Indigenous Knowledge and the underlying issues in these ways you will gain a better understanding of recent as well as future trends in this field of study.

Concepts of Indigenous knowledge

The whole area of Indigenous knowledge is a contentious one. From what constitutes 'indigenous' to whose interests are being served by the documentation of such knowledge there lies a string of contradictions, of sectorial interests, of local and global politics, of ignorance, and of hope for the future.

One might suppose that Indigenous knowledge refers to Indigenous peoples' knowledge but this would not reflect current usage of the term. Indigenous peoples' knowledge could be considered a subset of what is more broadly referred to as 'Indigenous Knowledge'. But even then it is an overlap rather than all encompassed. In colonial times, and residually in so-called postcolonial times, the knowledge of Indigenous peoples occupied the realm of the 'primitive', an obstacle to progress along the path to modern civilisation and was largely ignored or suppressed; and in many places, because of dislocation from our land and way of life, much of it was lost. Until the 1980s Indigenous knowledge surfaced in very few academic disciplines, for example, "anthropology, development sociology and geography" (Warren, von Liebenstein and Slikkerveer, 1993, p. 1). Understanding of Indigenous peoples in the human sciences was largely within cultural frameworks, formerly as primitive and inferior cultures and in more contemporary times celebrated as part of the diversity of cultures in the world – no longer inferior just different.

Indigenous Knowledge now surfaces in academic and scientific circles,

...in the fields of ecology, soil science, veterinary medicine, forestry, human health, aquatic resource management, botany, zoology, agronomy, agricultural economics, rural sociology, mathematics, management science, agricultural education and extension, fisheries, range management, information science, wildlife management, and water resource management.
(Warren, von Liebenstein & Slikkerveer, 1993, p. 1)

Whilst Indigenous peoples might welcome the elevation of status that comes with increased recognition of their Knowledge systems after centuries of dismissal and disintegration, nothing comes without a cost (Eyzaguirre, 2001). Like colonisation, the Indigenous Knowledge enterprise seems to have everything and nothing to do with us.

This interest is overwhelmingly driven by research into sustainable development practices in developing countries (supported mainly by UN programs and NGO's) and the scientific community's concern about loss of biodiversity of species and ecosystems and the future implications of that for the whole planet (Myer, 1998). The disciplines noted above reflect these two areas of humanitarian and scientific concern. In the human sciences the elevation of Indigenous knowledge has been driven more by the academic interrogation of dominant discourses and the recognition and valuing of social and cultural diversity (Agrawal, 1995b).

Within the humanitarian and scientific areas, a number of other interested parties emerge (see special issue of the Indigenous Knowledge and Development Monitor, 1993). These include scientists who recognise that Indigenous knowledge needs to be recorded or validated if any of it is to be incorporated into the scientific corpus and utilised. Also interested are the agencies operating in developing countries who realise the importance of 'local' knowledge in solving problems at the local level. These two lead to the interest of researchers and those professionals involved in documentation and communication systems. Conservationists have developed a special interest in the environment and species degradation and the disappearing knowledge base of societies under pressure from development and industrialisation. There is increasing overlap between conservation and scientific interests as bio prospecting and gene-harvesting assumes greater priority. In response

to much of this interest, political advocates interested in the tensions between North and South have emerged (e.g. Saw, 1992). This advocacy is carried out by various people and means, including activism from Indigenous peoples themselves and different bodies and mechanisms within the United Nations. Overarching all these interests is the capitalist interest. To capitalist interests Indigenous Knowledge is merely another resource for potential profit.

Out of these sectorial interests, we see the conceptualisation of Indigenous Knowledge becoming detached from holistic notions of 'culture' in the human sciences, and to be more reflective of the humanitarian, practical, environmental and scientific interests that are promoting its use and documentation in developing countries. It has become an umbrella term, not limited to Indigenous peoples but inclusive of those in the developing countries who struggle to survive and who still rely on traditional forms of knowledge whether they be Indigenous within developed and developing nation-states, formerly colonised, or distant or recent migrant groups in developing countries. One estimation of this group of people is some 80% of the world's population who rely on Indigenous Knowledge for either medicine or food (Rural Advancement Foundation International (RAFI) cited in the United Nations Development Programme's (UNDP) Civil Society Organisations and Participation Programme (CSOPP), 1995). At the same time, Indigenous Knowledge has become more fragmented and specialised as scientists and humanitarians pick at the bits and pieces that fit with their interests and disciplines.

Excepting the role of political advocates but not their presence, all these interests illustrate how totally a Western interest this interest in Indigenous knowledge is. The documentation of such knowledge by scientists, the storage of information in databases in academic institutions, whether they be gene banks or electronic networks, all looks remarkably similar to former colonial enterprises which co-opted land, resources, and labour in the interest of their own prosperity through trade and value-adding. According to documentations at the United Nations Development Programme:

Indigenous knowledge fuels multi-billion dollar genetics supply industries, ranging from food and pharmaceuticals in developed countries to chemical product, energy and other manufactures. (United Nations Development Program's (UNDP) Civil Society Organisations and Participation Programme (CSOPP), 1995, p. 9)

Yet developing countries and Non-Government Organisations (NGOs) struggle to find ways to ensure the disadvantaged of the world have access to sustainable supplies of clean water and basic food staples, and international bodies struggle to enact and implement mechanisms for ensuring Indigenous peoples' knowledge is protected and recompensed (e.g. UN Development Programme, UN Food & Agriculture Organisation, UN Convention on Biological Diversity, etc.).

One thing is certain, in all of this. Indigenous knowledge is increasingly discussed by all as a commodity, something of value, something that can be value-added, something that can be exchanged, traded, appropriated, preserved, something that can be excavated and mined. Or, as Douglas Nakashima and Paul de Guchteneire (1992) put it, "another information set from which data can be extracted to plug into scientific frameworks" (p. 2).

The brief discussion so far has illustrated that Indigenous knowledge is different things in different places to different people. There is contention about some of its characteristics. However, a quick and crude distillation of some of its elements from various sources gives a reasonable picture of how it is conceptualised broadly. As a system of knowledge it is understood in terms of its distance from 'scientific knowledge'. What is many, many systems is currently and variously recognised from Western perspectives, as 'local knowledge' – knowledge that is 'unique to a given culture or society' (Warren, 1991, 1993), and as being 'oral, rural, holistic, powerless, and culturally-embedded' (Indigenous Knowledge & Development Monitor, 1993; von Liebenstein, 2000). It is the result of 'dynamic innovation' although informal and unsystematised (United Nations Development Program's

(UNDP) Civil Society Organisations and Participation Programme (CSOPP), 1995); and is ‘continually influenced by internal creativity and experimentation as well as by contact with external systems’ (Flavier, J., de Jesus, A. & Navarro, C. 1995). An African perspective reminds us that, “an understanding is required of Indigenous knowledge and its role in community life from an integrated perspective that includes both spiritual and material aspects of a society as well as the complex relations between them” (Morolo, 2002, p. 1). A number of terms also are used interchangeably: local knowledge, traditional knowledge (TK), Indigenous knowledge (IK), traditional environmental or ecological knowledge (TEK), or Indigenous technical knowledge (ITK). An important aspect of Indigenous Knowledge that is overlooked in some definitions is that Indigenous peoples hold collective rights and interests in their knowledge (Casey, 2001; Davis, 1997, 1998). This, along with its oral nature, the diversity of Indigenous Knowledge systems, and the fact that management of this Knowledge involves rules regarding secrecy and sacredness (Davis, 1997, 1998; Janke, 1997, 1998) means that the issues surrounding ownership and therefore protection (see Hunter, 2002) are quite different from those inscribed in Western institutions. Western concepts of intellectual property have for some time been recognised as inadequate (Casey, 2001; Janke, 1997, 1998). This is a most complex area for many reasons (see also work by Ellen & Harris, 1996; Ellen, Parkes & Bicker, 2000). Much work is being done in the UN (e.g. United Nations Conference on Trade and Development (UNCTAD), 2002) and by Indigenous groups (e.g. Aboriginal and Torres Strait Islander Commission’s sponsorship of delegates to UN forums to lobby on Indigenous Australian interests, Australian Institute of Aboriginal and Torres Strait Islander Studies’ ethical guidelines for researchers, etc) to develop adequate principles and a different system for Indigenous intellectual and cultural property protection.

Accepting these conceptions of Indigenous knowledge immediately points to some of the contradictions in current activity – scientific, developmental and in information management. One contradiction more relevant to information professionals is that the strategy of archiving and disseminating Indigenous knowledge runs contradictory to the very conceptual basis of what is seen to be ‘indigenous’ in Indigenous knowledge (Agrawal, 1995a, 1995b). Strategies of conservation involve the collection, documentation, storage and dissemination of Indigenous knowledge (Koenig, 2001). When it employs methods and instruments of Western science, which involve fragmentation across categories of information, isolation and *ex situ* storage in regional, national and international archives and networks then it begins to lay itself open to the same criticisms as ‘Western science’, which has largely failed in development contexts. It becomes not embedded in local meanings and contexts but separated from its original context – an entity to be studied, worked on, developed, integrated, transferred, and ultimately changed to fit another.

Pablo B Eyzaguirre, a senior Scientist at the International Plant Genetic Resources Institute in Rome, expresses similar concerns:

[t]aking ‘validated’ nuggets of Indigenous knowledge out of its cultural context may satisfy an outside researcher’s need, or even solve a technical problem in development, but it may undermine the knowledge system itself. (2001, p. 1)

Of course these are the very reasons for which Indigenous knowledge is of interest. I am not going to argue the extreme position that Indigenous knowledge should be left alone and forever isolated. And I am not going to argue that it should not be documented. Recovery and preservation of lost and endangered knowledge is extremely important for Indigenous communities. I venture to say, however, that knowledge recovery led by Indigenous communities would not look the same as that led by scientists, developmental technologists, and conservationists (even when participatory). For without a doubt, the collection and documentation of Indigenous knowledge by the development and scientific communities is a very partial enterprise, selecting and privileging some Indigenous knowledge whilst discarding and excluding others. Of course, if what Indigenous communities choose to document is of no apparent value to others, then the cost of documentation may be an obstacle.

Integrating Indigenous knowledge

These concerns aside for the moment, there is in the development literature an acceptance of the value of integrating two systems of Knowledge – traditional and scientific – in order to produce new knowledge and practices that provide solutions for sustainable development and developing countries and communities. Some authors (e.g. von Liebenstein, 2000), aware of the dominance and perceived superiority of scientific knowledge, take care to stress the complementarity of the two Knowledge systems. In much of the literature, there is an emphasis on incorporation of Indigenous knowledge into strategies for application (e.g. United Nations Development Program's (UNDP) Civil Society Organisations and Participation Programme (CSOPP), 1995), or for scientific validation (The World Bank, n. d.), or further research (Morolo, 2002), or for developing foundations for sustainable development (von Liebenstein, 2000). Some have been prepared to argue for the need for models of community information management when integrating knowledge information systems (von Liebenstein, 2000).

This literature on the integration of knowledge systems, however, rarely interrogates in any critical way the distinctions drawn between Indigenous knowledge and scientific systems of knowledge. This is to be expected, developmentalists are primarily concerned with what works in practice, and the discussion of binary systems of thought is the realm of the theoretical. But I would argue, and have argued in other places (Luke, Nakata, Garbutcheon Singh & Smith, 1993; Nakata, 1997b), that addressing the theoretical underpinnings of practice is critical to any substantive understanding of Knowledge systems. Agrawal (1995b) makes the point that in the elevation of and talk about Indigenous knowledge, people “commit them[selves] to a dichotomy between Indigenous and Western knowledge” (p. 2) when theoretically the attempt to separate them cannot be sustained. He argues that because there are similarities across the categories and substantial differences within each of them that a simple separation on the basis of characteristics as announced in the literature on Indigenous knowledge fails in substance. Secondly, he suggests that the duality between them assumes fixity of both Knowledge systems in time and space that is inherently false. After many years of research in this area, I would proffer that the conceptualisation of Indigenous Knowledge currently promotes the idea of more fixity for that system than for Western Knowledge, which is seen to move ever onward in time and space. Whatever, Agrawal argues and I would agree, that the development of Knowledge systems everywhere “suggests contact, diversity, exchange, communication, learning and transformation among different systems of knowledge and beliefs” (p. 3). Thirdly, he interrogates the suggestion that Indigenous knowledge is socially and culturally embedded but Western scientific knowledge is not. He cites contemporary philosophers of science who reveal the ‘social moorings’ of science, who foreground a view of science as culture and practice, and who see science as ‘relative to culture’, or ‘relative to interests’, to illustrate just how much Western knowledge is as “anchored in specific milieu as any other systems of knowledge” (p. 3). Arguing the epistemic limitations of the duality, he argues that “to successfully build new epistemic foundations, accounts of innovation and experimentation must bridge the Indigenous/Western divide” (p. 3) rather than be founded on the simple separation of the two systems as expressed in the literature³.

The key issue to note here is that the global push to describe and document Indigenous knowledge is gaining momentum without any commensurate interest in the epistemological study of Indigenous Knowledge systems. In my own research work, I have raised similar criticisms about early anthropological documentation of Torres Strait Islanders in Australia (Nakata, 1997a, 1997b, 1997c, 1998). The University of Cambridge expedition to the Torres Strait islands just over a century ago gathered extensive field data, which was then used to describe Islanders in terms of their distance from ‘civilised’ human beings (Haddon, 1901, 1904, 1907, 1908, 1912, 1935). The research team tested and described many of our physical, mental and social characteristics on a comparative basis with people in Western communities, including attributes of people from Aberdeenshire, here in Scotland. A full reading of their scientific method and particularly their interpretation of data and conclusions

³ Agrawal received heavy criticism for his article highlighting limitations to the ways Indigenous knowledge was being pursued, and not surprisingly from those at the forefront of the recent push to describe and document Indigenous knowledge. See response by Agrawal (1996).

drawn, is an excellent example of just how culturally-embedded their thinking and practices were, and how much they were, to use an expression that Foucault (1970) coined, merely 'in the vicinity of science'. This does not lead me to wish these texts had never been produced or that they should not stand on library shelves today. Quite the opposite, I would like to see them as basic reading for Torres Strait students. What better way to develop critical reading skills, to gain some understanding of systems of thought and knowledge production and to anchor down a Torres Strait or Indigenous standpoint in students' analysis of systems of thought and knowledge. My interest in them as texts for critical study is not to contest 'what is the truth about Islanders' but to rediscover the methods of knowledge production and how particular knowledges achieve legitimacy and authority at the expense of other knowledge.

Indigenous knowledge and formal education

In the past decade or so, Indigenous Knowledge has also gained increasing attention in formal education systems across the globe, especially in developed countries with agendas for social inclusion (e.g. Kaewdang, 2000). In the movement towards making curricula more inclusive, there has been a push to integrate Indigenous perspectives across the curriculum. This has encouraged extraction of elements of Indigenous ways of understanding the world – mathematical knowledge, astronomy, stories, mythology, art, environmental knowledge, religion etc to fit with the curriculum areas. This movement is also encouraged in some Australian universities, in intent at least, if not in implementation.

Even though we don't find many references to Indigenous Knowledge until quite recently, for the last three decades the field of Indigenous education refers instead to cultural appropriateness, cultural content, cultural learning styles, culturally responsive pedagogy, Indigenous perspectives - issues but not knowledge. This reflects the influence of anthropology in the human sciences as a way of understanding Indigenous peoples and communities.

References to culture are references to a whole system of knowing, being and acting. The emphasis is given to ways of knowing rather than any discrete body of knowledge. Indigenous learners are understood in formal educational terms as having to reconcile two separate ways of understanding the world. These are simply expressed in terms of the distance between home and community (cultural/traditional) and broader society and institutions (dominant/Western). There are strengths and weaknesses in this approach but they cannot be debated here in a way that can do the arguments justice⁴. Suffice to say that the very separation of the domains – cultural and Western – or traditional and formal - lead to simplifications that obscure the very complexities of cultural practices in both domains.

My argument has been that theoretically there are real problems with beginning from principles based in a duality between culture and mainstream (Luke et al, 1993). Not only do they obscure the complexities at this intersection but they confine Indigenous peoples to the position of 'Other' by reifying the very categories that have marginalised us historically and that still seek to remake and relegate us within the frameworks of Western epistemes. These are conceptual frameworks that seek to capture a form of culture that fits with Western ways of understanding 'difference'. A cultural framework largely interpreted by Western people in the education system and filtered back to Indigenous students who learn or are allowed to express the acceptable little bits and pieces of their culture that are integrated into educational practice. In some places, there is still ambivalence to rigorous teaching of the knowledge and skills needed for comparative success in the mainstream because the very meritocratic nature of the system and the very knowledge it imparts is seen to undermine cultural forms and ways and is sometimes deemed irrelevant. Thus we see many students falling between the cracks – achieving neither mainstream success nor maintenance of their own cultural traditions.

⁴ For further readings see also: Nicholls, Crowley & Watt, n. d.; Nakata, 2001.

Inclusion of Indigenous Knowledge in educational curriculum promotes the visibility of Indigenous Knowledge, and helps to raise self-esteem and interest in schooling. The inclusion of Indigenous topics of study are even more useful if they emerge from individual students' interest and provide a stimulus for them to develop and gain credit for academic competencies they need for success in the global marketplace or for understanding their own context more fully. However, such inclusions in too many cases do little to orient students to the context of Western knowledges, which via the disciplines are also de-contextualised and removed from life.

The Cultural Interface

Over the years, I have pursued an interest in the theoretical underpinnings of practice (Nakata, 1997b). I have called the intersection of the Western and Indigenous domains, the *Cultural Interface*, and theoretically I have been inclined to begin there and have argued for embedding the underlying principles of reform in this space. This is because I see the Cultural Interface as the place where we live and learn, the place that conditions our lives, the place that shapes our futures and more to the point the place where we are active agents in our own lives – where we make decisions – our lifeworld. For Indigenous peoples our context, remote or urban, is already circumscribed by the discursive space of the Cultural Interface. We don't go to work or school, enter another domain, interact and leave it there when we come home again. The boundaries are simply not that clear. The fact that we go to work means we live at the interface of both, and home life is in part circumscribed by the fact that we do. Social and family organisation has to and does to varying degrees orient itself to that reality. This does not mean we passively accept the constraints of this space – to the contrary – rejection, resistance, subversiveness, pragmatism, ambivalence, accommodation, participation, co-operation - the gamut of human response is evident in Indigenous histories since European contact. It is a place of tension that requires constant negotiation.

At the interface, traditional forms and ways of knowing, or the residue of those, that we bring from the pre-contact historical trajectory inform how we think and act and so do Western ways, and for many of us a blend of both has become our lifeworld. It is the most complex of intersections and the source of confusion for many. For in this space there are so many interwoven, competing and conflicting discourses, that distinguishing traditional from non-traditional in the day to day is difficult to sustain even if one was in a state of permanent reflection. Nevertheless, Indigenous peoples do traverse these intersecting discourses on a daily basis, responding, interacting, taking positions, making decisions and in the process re-making cultures – ways of knowing, being and acting. In Indigenous individuals, communities and the broader collective, differences in responses and in the priority given to different systems of Knowledge and thinking illustrate the dynamism and diversity within the collective (Nakata, 2001). This dynamism and diversity reflects the original heterogeneity of traditional contexts, the varied experience and impact of colonisation, the diversity of contexts in which Indigenous Australians now live and the creativity of the mind in devising ways to bridge systems of Knowledge and understanding and respond to changing circumstances.

Embedding fundamental principles for reform in this understanding of the Cultural Interface allows for other possibilities. It accepts that the intersections of different knowledges and discourses produce tensions and condition what is possible but do not directly produce certainty of outcomes. How Indigenous peoples respond varies tremendously. In this they are not dictated to – they make daily choices about what to accept, buy into, resist, refute etc. And those choices often reflect previous intersections back through lives and generations as well as contemporary understandings of what lies ahead or what must be dealt with in the present. Viewing the Cultural Interface as the beginning point accepts that inevitably Knowledge systems as they operate in people's daily lives will interact, develop, change, and transform. It accepts that all Knowledge systems are culturally-embedded, dynamic, respond to changing circumstances and constantly evolve. It is not strictly about the replacement of one with the other, nor the undermining of one by the other. It is about maintaining the continuity of one when having to harness another and working the interaction in ways that serve Indigenous interests, in ways that can uphold distinctiveness and special status as First Peoples. Indigenous interests will

include the recovery and maintenance of knowledge but not without understanding, for example, what happens to that knowledge if documented and stored according to disciplines and technologies that have evolved in another Knowledge system.

This notion of the Cultural Interface as a place of constant tension and negotiation of different interests and systems of Knowledge means that both must be reflected on and interrogated. It is not simply about opposing the knowledges and discourses that compete and conflict with traditional ones. It is also about seeing what conditions the convergence of all these and of examining and interrogating all knowledge and practices associated with issues so that we take a responsible but self-interested course in relation to our future practice. This may involve change but change in our own long-term interests, rather than that imposed by bigger interests that may seek to coerce us unfairly. Change that incorporates into our own knowledge all the ongoing developments brought about by the convergence of other systems of understanding, so that our own corpus of knowledge, derived within our own historical trajectory and sets of interests, keeps expanding and responding to that which impacts on daily life and practice.

This way of thinking about Knowledge intersections at the Cultural Interface also reinstates the notion of Indigenous peoples having their own history. It seems perhaps absurd to suggest that this history needs reinstatement but one of the effects of colonisation and the supremacy of Western scientific ways of understanding Indigenous peoples was to incorporate Indigenous peoples into Western notions and theories of history – what I call the out of Africa syndrome or the descendants of Ham trail. Dirks, Eley and Ortner (1994) and Agrawal (1995b) make the point that anthropologists in much documentation of Indigenous peoples and communities made cultural systems appear timeless by excluding historical investigation from their studies. Indigenous cultures it would seem were timeless, and in ‘pristine states’ until European contact (see Nakata, 1997b). Foucault (1970, 1972) reminds us that constructing knowledge of the ‘new’ or ‘unknown’ world within a schema privileging Western historical frameworks achieves two things. Firstly, knowledge of ‘Others’ remains coherent and continuous with Western systems of thought and brings these understandings into a realm of the commonsense. Secondly, and particularly in our case, it forms knowledge of ‘Others’ that are quite discontinuous with Indigenous historical contexts. But continuity of culture (knowledge and practice) and identity rests on being able to make and keep coherent pathways through the passage of time, through disruptive chaos of events like colonial contact and periods of rapid change so that the historical knowledge that has contributed to current Knowledge systems can carry through. The denial of this to Indigenous peoples, or the reduction of it to cultural tradition, ensures the ongoing project of ‘rescuing’ Indigenous peoples from the catastrophe of colonial contact.

Changing perspectives

What skills do Indigenous peoples then need to make the choices that serve interests that allow for continuity with traditional ways of thinking and experience (Thaman, 2000), but not cut themselves off from recognising the day-to-day reality of being circumscribed by other systems of Knowledge (Kaewdang, 2000) - and not make the divide too difficult to bridge without elevating one at the expense of the other?

Over the years, along with others (e.g. Cazden, Cope, Fairclough, Gee, Kalantzis, Kress, Luke, Luke, Michael, Nakata, 1996), my argument has been that Indigenous peoples need meta-knowledge – knowledge about knowledge as the basis for their interactions with the multitudes of intersecting, often conflicting or competing discourses emerging from different systems of Knowledge. Some sort of schema that enables a better view of what impacts on and gives shape to daily decisions. Something that draws attention to the limits of any system of thought or knowledge, its ability to make claims to truth that are inherently socially situated and self-interested. And something that allows for the maintenance of Indigenous systems of Knowledge, that allows them to be carried through and continue developing rather than be arrested and hi-jacked into another system.

It might seem a rather difficult task – perhaps too theoretical for practitioners in schools and communities to incorporate. But in a practical way I think it is about making explicit what is often sensed, sometimes obvious but never clearly articulated. If you can reflect for a moment on what education in your lives means, I think you would have to acknowledge that economic imperatives play an enormous part because survival in these times is mainly dependent on finding work that will pay for the day-to-day expenses. However, I think that you would have to acknowledge too that education provides you with the basis for understanding the social organisation of life and the means to make informed value judgments about what to filter in and out of your lives so that important social values are carried through. To understand what is increasingly accepted as diversity in accounts of explanation of social realities, we are currently seeing much more interdisciplinary research and investigation within the Western Knowledge system. The disciplines as a way of segmenting knowledge help us to understand the different aspects of our reality are increasingly under challenge. There have been historically and still are interesting intersections between Eastern and Western Knowledge systems that highlight the diversity of thinking about our realities (Ellen & Harris, 1996). So might we see some emergence of cross-cultural knowledge production between Indigenous Knowledge and other systems that properly sources Indigenous Knowledge systems?

It is a theoretical proposition that lends itself to much more research, especially in how it translates into curriculum, pedagogy and practice, and its potential in Indigenous management of Indigenous communities and affairs and their intersection with other Knowledge regimes. Just as inclusion of Indigenous knowledge into mainstream curriculum is argued to raise self-esteem and relevancy of curriculum content to the lives of Indigenous students, so can this theorisation be argued to raise Indigenous consciousness of systems of thought in their lives that delimit possibilities within a Western order of things.

Opportunities with emerging information technologies

The Web is an emergent global space that has enormous potential and implications for Indigenous peoples, for it has emerged at an historical moment when Indigenous peoples globally are enabled by social justice agendas to participate relatively freely. Indigenous Australians have embraced the Online environment (Nathan, 2000). This interest follows on from previous and ongoing participation in media and communication technologies through local Indigenous radio and television as well as phone and videoconferencing (Tafler, 2000). Like these technologies, the Online environment does much to overcome distance. It allows greater and faster access to information, connects Indigenous peoples from the local to the global, and allows for dissemination of Indigenous perspectives and representations produced by Indigenous peoples themselves (Nathan, 2000). David Nathan (2000) suggests the historical Indigenous alienation from the written word – perceived as a one-way communication system quite discontinuous with Indigenous forms of communication - is not sustained in the interactive networked environment. The Online environment has reconstituted the balance between visual, oral, and textual modes of presenting information in a way that supports cultural perspectives. Further, the Web supports publishing in ways that disrupt established ‘elite’ forms of publication and which ‘authorise’ previous excluded groups from publishing. This provides a platform for Indigenous publishing, which can disrupt the authority of Western representations in media and text. Lastly the Web and its use of hypertext

...[helps] destroy the myth that meaning is really contained *in* text, by highlighting the interdependence of documents and showing that meaning arises from the relationships between texts and from our interactions with them. (Nathan, 2000, p. 41)

This fits well with my conceptualisation of the Cultural Interface and the need for knowledge on the intersecting nature of discourses and systems of thought.

Indigenous peoples globally have been very active in the Web environment, considering the issues of inequitable access (e.g. Chisenga, 1999; Luyin, 1999; Mamtora, 2001; Oladele, 2001; Rodriguez, 2001; Shibanda, 2001). The proliferation of Indigenous-controlled websites with information presented by Indigenous peoples has not only connected them to each other in the shared struggle for rights but has allowed the presentation and

representations of the issues that concern them. A much different view of Indigenous peoples can be found on the Web from that standing on many of your library shelves or in the mainstream media.

While there is much optimism, the Web clearly has both positive and negative possibilities (McConaghy, 2000). Its presence places pressures on traditional forms of communication and the cultural practices and meanings associated with that (Tafler, 2000). As well, for remote communities in particular, it requires a renegotiation of relationships with the Western world, which have implications for identity and self-determination issues (Tafler, 2000). Whilst it provides space for Indigenous peoples to announce their presence in the global, that global is often perceived in terms of an assimilatory, universalising, monoculture which services capitalist interests – the “global corporate hegemony” (McConaghy, 2000, p. 53).

There are very real concerns that need attention here. Cathryn McConaghy (2000) identifies the Web as reflecting “the tensions between the reproduction of colonial structures and their disruption” (p. 53). She argues an urgent need for an analytical framework for critical and reflective studies of the conditions under which the Web promotes Indigenous interests rather than upholding colonial or hegemonic interests.

There has also been a move to promote Online learning for Indigenous Australians (see Aboriginal Research Institute, in progress)⁵. This not only overcomes some distance issues but research has shown that multimedia is an effective media for Indigenous learners for many of the reasons described today (e.g. Henderson, 1993a, 1993b; Henderson, Patching & Putt, 1996; Henderson & Putt, 1993). It reduces the dependence on text alone for meaning-making, it allows for the explicit highlighting of particular aspects of grammar or text construction that people with different language backgrounds have difficulty with (see Chan, Lin & Zeng, 1999). Hypertext links allow the inclusion of further explanation, background and supplementary material to assist with contextualising Western Knowledge and allows it to be accessible in a moment and in a way that suits individual learning needs, that is, it allows control over pace and increased self-direction in learning, as students make their own pathways through fields of information. The vast array of options allows course designers to cater for diversity and difference on a group and individual basis. It also allows for less-threatening forms of asynchronous communication (see Henderson, 1993a; Henderson & Putt, 1993).

Because the move to place courses Online is recent (see e.g. Harasim, 1989, 1990), Indigenous peoples see the opportunity to be involved from the beginning, to exert influence on the development process and shape it for their own purposes (Aboriginal Research Institute, in progress). This process is much more about pedagogy than about simple inclusions of Indigenous content and access to resources. Currently I am part of a working group of Indigenous academics across six universities to build an Online degree in Australian Indigenous Studies. I am keen to apply a theory of the Cultural Interface, so that the ‘situatedness’ of Knowledge systems is highlighted. This is not just to help untangle the discursive space that is the Cultural Interface.

One major strategy is to encourage the development of alternate theoretical platforms, Indigenous standpoints, in the intellectual engagement with knowledge and discourses from both Western and Indigenous domains, to produce useful knowledge to become part of a continuing Indigenous Knowledge tradition. For non-Indigenous students, who access these courses, the interrogation of their own systems of thought may help develop a better appreciation of the position of Indigenous peoples in changing times.

The necessity to undertake more research into the intersection between the Online environment that makes use of the Web, Indigenous contexts and academic contexts is made all the more urgent by all the issues discussed in this paper and the nature of the Web. The Web is an unbounded and chaotic discursive space. It contains endless possibilities. Indigenous peoples must be involved at a deeper level than merely providing Indigenous ‘content’ or ‘voice’ if we are to use it for our own interests. The legacies of colonial activity, the failure of liberal reform

⁵ For more information on online learning priorities in Australia’s education system, see Education Network Australia (EDNA) for the schooling sector, Australian National Training Authority (ANTA) for the vocational education training sector and the Australian Vice-Chancellor’s Committee (AVCC) for the higher education sector.

measures since the 1970s to achieve comparative success and cultural restoration, the relentlessness of popular, corporate and global cultures need to be mediated effectively in this environment by Indigenous peoples.

Concluding Remarks

So these are the *underlying issues at the intersection of knowledge and information systems*. When we begin to talk about Indigenous Knowledge as it connects with the academic domain, you can by now appreciate just how complex the issues are. In the beginning, this paper may have seemed to be largely about the issues to do with the current documentation and management of Indigenous knowledge and information as discrete entities that stand in contrast to Western scientific knowledge. The issues associated with this task become more complex when we consider the underlying theoretical basis for the conceptualisation of Indigenous Knowledge and the risk to the integrity of Indigenous Knowledge systems associated with their documentation. It becomes even more complex when we consider the implications of different approaches used in the inclusion of Indigenous knowledge into the formal education process. Bring in the issues that face Indigenous communities trying to not only rebuild Indigenous Knowledge systems but also draw them in with other Knowledge systems to both solve difficult community problems but also maintain ongoing continuity and coherence, the issues are at once fundamental and rather daunting. Add to that, big commercial interests knocking on our doors and often stealing through the window so to speak to extract information for exploitation without reference to the original producers of that knowledge. Add to that the vast stores of information and knowledge about Indigenous peoples across the globe that belong to the Western Knowledge system. These include the historical archive of outdated thinking about 'primitive savages', records and collections of materials, and so on. All of which is of value, however offensive, if Indigenous peoples want fuller understanding of their historical experiences and the mechanisms and regimes of colonisation and so-called post-colonial times. Add to that the vast proliferation of information on the Web and the potential positives and negatives for Indigenous peoples interacting in the Online environment. It all makes the academic/Indigenous intersection and what that might mean for information professionals look rather complex.

What the future Indigenous information context will look like is speculative. What can be certain is that the intersections of different Knowledges, systems, concerns and priorities will converge to inform and develop new practices in this area. As this unfolds, I would hope, that the information profession would be mindful of just how complex the underlying issues are and just how much is at stake for us when the remnants of our knowledge, for some of us all that we have left to us, are the focus of so much external interest.

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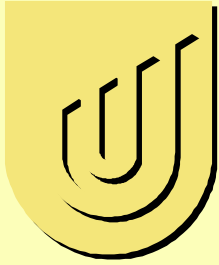
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IFLA 2002, Glasgow Scotland

Libraries for Life: Democracy, Diversity and Delivery

Indigenous Knowledge and the Cultural Interface: Underlying issues at the intersection of knowledge and information systems

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Indigenous Knowledge and The Cultural Interface: underlying issues

- **Concepts of Indigenous knowledge**
- **Integrating Indigenous knowledge**
- **Indigenous knowledge in formal education**
- **The Cultural Interface**
- **Changing perspectives**
- **Opportunities with emerging information technologies**
- **Concluding remarks**



Indigenous Knowledge and The Cultural Interface: underlying issues



• Concepts of Indigenous knowledge

- Integrating Indigenous knowledge
- Indigenous knowledge in formal education
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- Opportunities with emerging information technologies
- Concluding remarks

• Concepts of Indigenous knowledge

- ...in the fields of ecology, soil science, veterinary medicine, forestry, human health, aquatic resource management, botany, zoology, agronomy, agricultural economics, rural sociology, mathematics, management science, agricultural education and extension, fisheries, range management, information science, wildlife management, and water resource management. (Warren, von Liebenstein & Slikkerveer, 1993, p. 1)
- Indigenous knowledge fuels multi-billion dollar genetics supply industries, ranging from food and pharmaceuticals in developed countries to chemical product, energy and other manufactures. (United Nations Development Program's (UNDP) Civil Society Organisations and Participation Programme (CSOPP), 1995, p. 9)
- "another information set from which data can be extracted to plug into scientific frameworks" (Nakashima & de Guchteneire, 1992, p. 2)
- [t]aking 'validated' nuggets of Indigenous knowledge out of its cultural context may satisfy an outside researcher's need, or even solve a technical problem in development, but it may undermine the knowledge system itself. (Eyzaguirre, 2001, p. 1)



Indigenous Knowledge and The Cultural Interface: underlying issues



- Concepts of Indigenous knowledge
- **Integrating Indigenous knowledge**
- Indigenous knowledge in formal education
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• Integrating Indigenous knowledge

- “commit them[selves] to a dichotomy between Indigenous and Western knowledge” (Agrawal, 1995, p. 2)
- “suggests contact, diversity, exchange, communication, learning and transformation among different systems of knowledge and beliefs” (p. 3)
- “anchored in specific milieu as any other systems of knowledge” (p. 3).
- “to successfully build new epistemic foundations, accounts of innovation and experimentation must bridge the Indigenous/Western divide” (p. 3)



Indigenous Knowledge and The Cultural Interface: underlying issues



- Concepts of Indigenous knowledge
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• Indigenous knowledge & formal education

- **Increased presence in the curriculum**
- **Mathematics/astronomy/art/mythology/religion/environmental knowledge**
- **Cultural learning styles/culturally responsive pedagogy/Indigenous perspectives/cultural appropriate content in curriculum – issues but not knowledge**
- **Ways of knowing rather than any discrete body of knowledge**
- **The binds of the culture/mainstream framework**
- **Obscure complexities at the intersection by collapsing it all into a category of 'Other'**
- **Ambivalence in the classroom**
- **Can be more effective engagements with Indigenous Knowledge**



Indigenous Knowledge and The Cultural Interface: underlying issues



- Concepts of Indigenous knowledge
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• **The Cultural Interface**

- **At the intersection of Indigenous and Western domains**
- **The place of the everyday**
- **Traversing contested terrains: a place of constant tension and negotiation of different interests**
- **Opens the way for new possibilities**





Indigenous Knowledge and The Cultural Interface: underlying issues

- Concepts of Indigenous knowledge
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- Opportunities with emerging information technologies
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• **Changing perspectives**

- **Meta-knowledge: knowledge about knowledge**
- **Making explicit what is sensed, sometimes obvious but never clearly articulated**
- **Increase understandings of systems of thought that delimit possibilities within a Western order of things**





Indigenous Knowledge and The Cultural Interface: underlying issues

- Concepts of Indigenous knowledge
 - Integrating Indigenous knowledge
 - Indigenous knowledge in formal education
 - The Cultural Interface
 - Changing perspectives
 - **Opportunities with emerging information technologies**
 - Concluding remarks
- **Opportunities with information technologies**
 - **The Web**
 - **Positive and negative possibilities**
 - **Online learning**
 - **New possibilities**



Indigenous Knowledge and The Cultural Interface: underlying issues

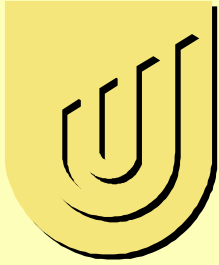


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• **Concluding Remarks**

- **What is certain is that the intersections of different knowledges, systems, concerns and priorities will converge to inform and develop new practices in this area.**





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