CHAPTER 6

INDIGENOUS LIFEWAYS AND KNOWING THE WORLD

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INTRODUCTION

The diversity of peoples and cultures indicated by the term 'indigenous' makes it somewhat ambiguous. However, the local and international struggles for survival of diverse tribal, folk, local, native, and traditional peoples has given focus to the usage of this term. Indigenous knowledge is increasingly used in development, political, and academic settings by indigenous individuals and communities, or those who support them, with regard to authenticating and controlling the ways of knowing created by these distinctive societies (see e.g. Sanders 1977; Jaimes 1992; Jhappan 1992; Wilmer 1993; Alfred 1995; and Smith 1999). Moreover, the appearance in the consultations and documents of international bodies affirms the usage here of the term 'indigenous'. For example, article 1 of the International Labour Organization's Convention 169 regards people 'as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural, and political institutions' (see website for the Office of the High Commissioner for Human Rights at www.unhchr.ch/html/menu3/b/62.htm).

The strong social and political emphases in this definition are important, and will be explored in this work, but other dimensions of this term emphasized by indigenous communities deserve mention, such as contexts, territories, cultures, traditions, histories, languages, institutions, and beliefs. Indigenous spokespeople have described these themes as not only inseparable from knowledge but as interwoven into the fabric, or lifeway, of their existence as a people. 'Indigenous' thus refers to small-scale societies around the planet who share and preserve ways of knowing the world embedded in particular languages, story cycles, kinship systems, world-view dispositions, and integrated relationships with the land on which they live. (See also, Aga Khan *et al.* (1987).)

Lifeway is an interrogative concept that raises questions about the ways in which diverse indigenous communities celebrate, work towards, and reflect on their wholeness as a people. Indigenous knowledge is a key component in this communal reflection. In their diverse ways of knowing the world, indigenous peoples draw out their identity and meaning-in-the-world in both the presence of ecosystems and the authority of cosmology. These reciprocal ways of knowing in indigenous lifeways manifest differences in expression and underlie the wisdom and the specificity of indigenous knowledge. Thus, the Maori scholar Linda Tuhiwai Te Rina Smith (2000: 234–5) observes of *whakapapa*, her people's concept of knowing, '*Whakapapa* is a [Maori] way of thinking, a way of learning, a way of storing knowledge, and a way of debating.... *Whakapapa* also relates us to all other things that exist in the world. We are linked through our *whakapapa* to insects, fishes, trees, stones, and other life forms.' The wisdom transmitted here seems to speak across its specific Maori context, but who can determine if that wisdom is transferable as more than environmental poetry?

As a descriptive term, 'indigenous' is inextricably tied to an engaged knowledge that is actively pursued in relationships through the natural world. Indigenous ways of knowing are not simply expressions of an instrumental rationality, or a functional, specialized knowledge framed exclusively for accomplishing specific tasks. As the Santa Clara Pueblo educator Gregory Cajete says (2004: 5), native science is 'a metaphor for a wide range of tribal processes of perceiving, thinking, acting, and "coming to know" that have evolved through human experience with the natural world. Native science is born of a lived and storied participation with the natural landscape. In its core experience, Native science is based on the perception gained from using the entire body of our senses in direct participation with the natural world.' Yet, although the term 'Native science' expresses the process character of indigenous knowledge, its emergence in the context of the whole life of a people, and its sense-based relationship with the non-human world, the general terms 'knowing' and 'knowledge' are preferred here.

The intention is to distinguish indigenous knowledge from Western usages of the term 'science'. As Ellen and Harris (2000: 6–20) point out, science has its own historical roots in local, embedded, experiential, indigenous, and Asian knowledge. However varied the historical roots of science, as a way of knowing it gradually disengaged from any particular community to establish the ideal of constant questioning and re-examination of the assumptions that ground knowledge. Science has no 'lifeway' concept that draws it together in commitment to a people, their ecologies

of meaningful place, and their cosmologies of identity. Science makes no commitment to a search for 'balance', either as the compromise between views or as a knowing that positions one in a final religious or metaphysical value. Science strives for ongoing change in which better explanations displace ones that are understood as problematic. Science emphasizes experimentation within an objective, materialist world over attentive presence to any inherent dignity or meaning of reality in itself.

Often scientific observation, the presentation of theories, and the intense debate and competition in science are human-centred. The test of scientific conclusions about the real world is grounded in facts observed in an objectified reality, but facts also flow from wholly human perspectives and technical instrumentation. Science also flows back into the pragmatic concerns of human communities. The feedback loop in science begins and ends with the human, whereas with indigenous knowledge the other-than-human world may find voice in community considerations. Actually, the environmental crises have activated policy considerations on behalf of species and bio-regions that present new and troubling questions for science. Indigenous knowledge, on the other hand, cultivates a deep empathy in relation to biodiversity, in which humans, within their own communities, often stand for voices in nature. For both science and indigenous knowledge the relationships with personal, social, and political modes of power are crucial components of any evaluation of those ways of knowing. That is, just as science has at times been misused and co-opted by corporate power, so also indigenous knowledge has been diverted into forms of personal and social aggrandizement.

Finally, the use of scientific categories to record indigenous knowledge tends to recast it as a global and universal mode of knowing; but indigenous knowledge tends to be more local and specific. There is a further problem in that applied science has become quite closely tied to commercial interests. Thus, the use of any scientific categories to describe indigenous knowledge suggests that those ways of knowing can easily be transmitted within a corporate governance structure that values exploitation over nurturance, and profit over distribution. Two orientations are presented here for understanding knowledge among indigenous peoples. First, the relevance of indigenous knowledge and its ongoing fragmentation in the neocolonialist era of global capital is asserted. Second, this assertion calls for a closer understanding of the interface of the forms of indigenous knowledge, including their acquisition and transmission, within the context of indigenous lifeways.

The Relevance of Indigenous Knowledge

While often thought of as remote minorities, indigenous peoples are a significant and diverse population of more than 500 million peoples in Africa, South

Asia, South-East Asia, Central Asia, Australia, the Pacific region, Northern Eurasia, and the Americas (see Berger (1990); and Barnes *et al.* (1995)). Often these indigenous peoples are marginalized even today within their own nation-states and in international economic globalization. This continues to the point that their existence is threatened in some settings by mining, logging, and other extractive activities in which they have little voice. Typically, indigenous peoples have been positioned in the worldwide hierarchy of nations as wards of individual states. Scholars such as Vine Deloria and Clifford Lytle (1983) offer a more nuanced term: namely, 'the nations within', which deflects the vestiges of colonialism and emphasizes connections to nation-states as well as separateness from them. More recently, international economic and financial bodies have negotiated agreements with governments that mask energy production on native lands and privatization of water and social services imposed on indigenous peoples as 'poverty eradication' and 'sustainable development'. Development projects motivated by these perspectives tend to dismiss any sense of multiple-use of land and resources proposed by indigenous peoples.

Knowledge in the context of indigenous lifeways is centred on the land. Often, indigenous peoples have been the subject of centuries of oppression, so that their lifeways and the ways of knowing embedded within relationships with the land became fragmented. The taking of indigenous homelands resulted in serious challenges to the transmission of indigenous knowledge and the maintenance of diverse indigenous world-views. Typically one of the major moves of colonial domination over indigenous peoples was to denigrate or deny that any form of systematic knowledge could be found in native lifeways. Obviously, by denying indigenous knowledge, arguments could be made that eroded native people's claims to the land on which they lived.

Similarly, an earlier colonial penchant for positivistic science ranked the ways of knowing the world, or epistemologies, of indigenous peoples as inferior, failed, or non-existent. The term 'animism' encapsulated the earlier colonial dismissal of indigenous knowledge. Interestingly, this term has been reappropriated by some native peoples as descriptive of their experiences of a relational exchange with spiritual presences in the world. Bird-David (1999) suggests that the concept of animism needs to be revisited for what it has to tell us of persons-in-relationship as emerging and maturing exchanges that result in indigenous knowledge. That is, a knowing that recognizes personhood in both the human and the presences in the world from which mutual privileges and obligations emerge. Indigenous knowledge from this standpoint is described as a relational epistemology. Tuhiwai Smith (1999) further explores how indigenous knowledge not only flows inward, informing a people of its relationships with self, society, land, and cosmos, but also flows outward affecting relationships with dominant societies. Indigenous knowledge, then, can result in contemporary 'decolonizing methodologies'. These are contemporary and emerging forms of indigenous knowledge that guide the work of indigenous scholars in reasserting the wholeness of fragmented indigenous communities. They do this by means of research and development from the standpoint of indigenous ways of knowing.

Contemporary indigenous societies and the ecosystems in which they reside as vital, interactive wholes are described here by the term 'lifeway'. The close connections between territory and society, religion and politics, cultural and economic life, are the intellectual and emotional basis whereby indigenous peoples maintain and recuperate their knowledge systems. Indigenous lifeways as ways of knowing the world are presented as both descriptive of enduring modes of sustainable livelihood and prescriptive of what Peet and Watts call 'ecological imaginaries' (1996: 7). These are deep, attractor relationships between place and people that activate sensing, minding, and creating at the heart of cultural life.

Lifeways establish the patterns and the ways of perceiving, or sensing, the world. Moreover, indigenous knowledge as minding flows from the conscious conceptual exchange with the world in conjunction with sensing. This felt experience of indigenous knowledge is that of beings-in-the world who are mutually related and dependent on one another for survival, for the knowledge needed to survive, and for the assertion of power that enables survival. Knowledge resides in that 'place' that indigenous people speak of (Cajete 2000) which is not 'out there', as in Western notions of separable knowledge. Rather, the place-based knowledge of indigenous lifeways is embodied in dynamic relationships often expressed in oral narratives and as kinship relations extending through individuals to the whole life community. These dynamic relationships in turn create results in the complementary flow of sensing and minding in lifeways which enable innovation and creativity in the face of life's challenges.

Indigenous ways of knowing orient communities to adapt to change, heal sickness, and respond to the numbing reality of death. In the West there are deep motivations, latent in applied science, that give urgency and ethical force to radically eliminating the dreaded limits of the human condition. Overcoming death by any possible means is given a high priority in the West, even when this involves intrusive technologies that might change the organic nature or body composition of the human or reality itself. These millennial drives relate to biblical notions of a perfection reached in the end-times and do not appear in this symbolic form in indigenous traditions. Rather, there is in indigenous knowledge broadly conceived an orientation to survival that fosters attention to creativity in the whole process of existence, rather than in human science and technology exclusively. In this sense, unlike the anthropocentric character of science, indigenous knowledge is more anthropocosmic. That is, the human has co-creative roles in the cosmic process. Other-than-human 'persons' or places may be more powerful than humans but there is a greater work that they undertake together.

As Leroy Little Bear observes (2000: 81), the interface between indigenous ways of knowing and lifeways establishes an educational context that is co-creative for individuals and societies, for adults and children, for land and cosmos. He writes:

> The function of Aboriginal values and customs is to maintain the relationships that hold creation together. If creation manifests itself in terms of cyclical patterns and repetitions, then the maintenance and renewal of those patterns is all-important. Values and customs are the participatory part that Aboriginal people play in the maintenance of creation.

This place-based knowledge of indigenous peoples often results in meaningful stories of reality, or cosmologies, that emphasize the personal, the specific, and the contextual. Affirming indigenous knowledge need not be understood as promoting what Ellen (1993: 126) called the 'myth of primitive environmental wisdom'. Rather, it can be said that indigenous knowledge affirms local peoples and ecologies while meaningfully orienting them in ceremonies and oral narratives to larger cosmic realities. Therefore, in the wider context of the environmental crises facing humanity, indigenous knowledge provides viable alternative visions of human–Earth relations. This knowledge is primarily for indigenous communities themselves, but it also bears significantly on an emerging environmental awareness in any multiform planetary civilization that promotes sustainable life.

An Overview of this Project and Questions Raised by this Topic

This chapter seeks to explore selected examples of these diverse indigenous ways of knowing the world. In its discussions this project acknowledges differences not only among indigenous ways of knowing but also between indigenous knowledge and systems of knowing within industrial-technological societies. This latter difference is especially evident with regard to the presentation and organization of indigenous knowledge using the ideas and methods of Western, Enlightenment thought. Typically, indigenous ways of knowing are framed by such Western template ideas as monotheism, social contract theory, private property and individual rights, unilateral views of democratic governance, and scientific views of the objectivity of reality. This has had the effect of decontextualizing indigenous knowledge, so that some aspects are adapted to scientific categories while other significant native domains, logics, and epistemologies are rejected as unassimilable.

Still, as Arun Agrawal (1995: 415) points out, it is helpful to remember that constructing a 'sterile dichotomy between indigenous and western' may simply obscure ideas and practices that unnecessarily constrict peoples' considerations of potential knowledge transfers. Indigenous knowledge shares with Western science an ethical injunction to know and to describe the world as it appears in both its local and its cosmological manifestations. Both guard against presenting themselves as cosmology in themselves—that is, as standing in place of the world itself. However, their different approaches and concerns tend to bring these ways of knowing to entirely different positions in relationship to reality. Science requires a critical distance from the object of research to find principles of explanation, whereas indigenous knowledge establishes the means for individuals to search for transformative meaning and for communities to find their place in the larger community of life.

Questions linger, then, about which approach to understanding indigenous knowledge is most appropriate. Certainly, positing a 'deep structure' for indigenous knowledge reifies a shared resemblance of indigenous lifeways that is expressed so spontaneously and differently in diverse cultures. Richards (1993: 62) challenges the idea of indigenous practices such as farming being grouped in such a 'misplaced abstraction' as indigenous knowledge. Using the analogy of musicians who train on their instruments and then adapt to particular needs, Richards likens indigenous knowledge to an adaptation of agricultural resource skills and techniques. This emphasis on performance knowledge is similar to the composite approach suggested below in which time, space, authority, and spiritual presences are proposed as coalescing in engaged knowing. But an improvisational performance tailored to each usage and decision-making situation hardly accounts for the cultural depth of many forms of indigenous knowledge.

Questions surface when indigenous knowledge is described and discussed in the language, ideas, and values of a dominant society. Is there an indigenous knowledge theory in the same way that there is scientific theory? In what ways have the great traditions of Chinese and Ayurvedic medicine interacted with Asian indigenous knowledge systems? How does the ideological work of academics, supporting the struggle for recognition of indigenous knowledge, relate to the development community's efforts to build infrastructure for local communities who rely on local resources? What motivates politicized obstructionists who consistently attempt to block national and international recognition of indigenous knowledge practitioners as having valid claims to land and livelihood? Have indigenous knowledge systems been understood, or even heard, in their own languages, voices, values, and epistemological positions?

This brief overview chapter explores several of these issues by considering the organic relationality of lifeway, land, and indigenous knowledge as mutually interactive processes. While differently described by diverse native peoples, indigenous ways of knowing are not simply about creating systems of knowledge; rather, they bring into possibility the lifeway itself. Instead of being understood as an abstraction, indigenous knowledge is relevant, experiential engagement by a people with ecosystems and biodiversity.

Lifeway and Land as Pervasive, Mutual Contexts for Knowing

The significance of lifeway as a concept for understanding indigenous knowledge can be both insightful and limited. It is insightful insofar as it helps an investigator understand the broad cosmology-cum-economy context in which native knowledge

is generated, implemented, and transmitted. As Cajete (2004) suggests, indigenous ways of knowing are a 'coming to know' in shared and lived participation with the local landscape. Thus, indigenous knowledge is an experiential form of personal knowledge transmitted in the context of community that relates a task at hand to the larger realities of the lifeway. It is in this context that Johannes Wilbert (1993) describes the planning and construction of a Warao canoe as not simply a personal task and technology. Rather, these indigenous peoples of the Orinoco River delta in Venezuela engage, as they construct the canoe, with vital presences in the environment, and activate a cosmic narrative which gives a larger meaning to their work.

Lifeway can be a limiting concept if it leads to romantic images of frozen, timeless, ahistorical societies who preserve cultural norms outside the world of change. Similarly, the lifeway concept can be misleading if understood as a unit of analysis that separates out fundamentals when, in fact, indigenous knowledge orients towards a field patterned by beings and forces manifesting both spontaneity and coherence. In this sense ceremonies, economic transactions, and kinship systems as singular expressions of lifeways, creatively emerge at the interface with indigenous knowledge and land. As a way into understanding the pervasive and mutual organic relationality of indigenous knowledge, lifeway, and land, consider the statement by the Gitksan and Wets'uwetén elders Gisday Wa and Delgam Uukw (1987: 7, 26), before the Supreme Court of British Columbia, Canada.

> Each Gitksan house is the proud heir and owner of an *ądáox*. This is a body of orally transmitted songs and stories that act as the house's sacred archives and as its living, millennia-long memory of important events of the past. This irreplaceable verbal repository of knowledge consists in part of sacred songs believed to have arisen literally from the breath of the ancestors. Far more than musical representations of history, these songs serve as vital time-traversing vehicles. They can transport members across the immediate reaches of space and time into the dim mythic past of Gitksan creation by the very quality of their music and the emotions they convey.
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> Taken together, these sacred possessions—the stories, the crests, the songs—provide a solid foundation for each Gitksan house and for the larger clan of which it is a part. According to living Gitksan elders, each house's holdings confirm its ancient title to its territory and the legitimacy of its authority over it.
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> In fact, so vital is the relationship between each house and the lands allotted to it for fishing, hunting, and food-gathering that the *daxgyet*, or spirit power, of each house and the land that sustain it are one.

Here the song cycles, sounded as *ądáox*, are presented as a body of Gitksan and Wets'uwetén knowledge. Rather than an abstract body of knowledge, however, they are described as living, 'breathed' archives connected to social organization, political leadership, and subsistence practices. This 'social body' is a way of knowing the world that activates the 'breaths of the ancestors'. Moreover, these embodied songs meet the personal somatic intention of a practitioner in the larger field of Gitksan and Wets'uwetén knowledge. Because they are oral, these musical transmissions can be adjusted to the maturity of the learner, his or her level of relatedness to the land, and experiential knowledge of the holistic order. Thus, the song cycles are not fixed as in a

literate system, but accommodate different personal learning and teaching styles as well as spiritual accomplishment.

In a comparative aside, it is interesting to observe that social science methods can accommodate and understand the objective forms of organization and political structures embedded in indigenous knowledge. However, the affectivity and metaphoric embodiment expressing this knowledge are beyond the purview of scientific method. Realization gained through personal experience of ancestral breath, for example, is not reducible to exact units of analysis; nor is it falsifiable by means of experimental method. Rather, the millennia-long transmission of indigenous ways of knowing is grounded in personal accomplishment and responsibility, community awareness and approval, and ecological response and sustainability.

The Gitksan and Wets'uwetén elders state that the ceremonial settings in which the songs are performed involve crests and stories of the lineage of ancestors. These serve to substantiate and affirm individual and group claims to subsistence rights, traditional sanctions, and relationships with land and spirit powers. Moreover, the songs transmit epistemological insight into the nature of time, space, authority, and spiritual presence that are not simply objective, reified, and abstract topics. Rather, the passage above strongly suggests sensory participation in ancestral knowledge by means of synaesthetic experiences of audial, visual, emotional, and social ways of knowing. This interweaving of sensing, awareness, and creativity appears to be a recurring mode of indigenous knowing that has virtually no parallel in Western natural sciences, social sciences, or humanities.

Traditional Knowledge: Time, Space, Authority, and Spiritual Presences

In the above quote the Gitksan and Wets'uwetén elders suggest that the synaesthetic character of the songs transports members into mythic time. This leads to reflection on the ways in which multivalent modes of indigenous knowledge not only express particular dimensions of an indigenous lifeway but actually serve to structure occasions for the active creation of that lifeway. Even brief considerations of these topics, however, help to illuminate the interface of indigenous knowledge, lifeways, and land.

In indigenous ways of knowing notions of time are evident which are strikingly different from the linear arrow image of time, or the metaphor of a flow of reality, or the absolute character of past, present, and future. Obviously, the knowledge embedded in the Gitksan and Wets'uwetén songs brings practitioners into deep participation with time. By 'deep' is meant more than simply a mystical unknowable. Rather, indigenous knowledge in its diverse expressions seeks to integrate an

authenticity and originality of knowing by exploring the pervasive, interactive, and process-punctuated characters of time, space, authority, and spiritual presences. Like the pervasive darkness of night, a depth experience of the world is an all-encompassing presence that can be punctuated by arresting experiences which afford their own original ways of knowing. The ceremonial space may create correspondences as microcosmic places of re-enactment for depth experiences of the macrocosm transmitted by an indigenous people. Often, when it is imaged in the immediacy of land, a sacred site may be more like a portal leading to that depth than simply the site of the sacred in and of itself. Place-based analyses of indigenous thought have only begun to explore the experiential authority of indigenous knowledge arising from an original and embodied knowing of place. Authority for Gitksan and Wets'uwetén leaders, for example, is established in a world-view linking land, house, affect, ancestors, and spirit powers. How shall we interpret this type of knowledge that evokes powerful emotions just as it establishes social organization and political authority and opens practitioners to complex contemplations on time?

Many indigenous peoples transmit their knowledge in songs, oral narratives, and symbolic actions that relate to specific places and events. For example, Stewart and Strathern (2004) describe how the Duna people of the Lake Kopiago district in the Southern Highlands province of Papua New Guinea assert social identity through narratives called *malu*. The Duna recognize the rights of individuals by means of *malu* narratives to claim precedence for garden locations or for the gathering of medicinal plants. Prerogatives with regard to narrating *malu* are believed to have been transmitted from the time of the ancestor animals. *Malu* operate at at least three levels for the Duna: at the intellectual level, by providing explanations of the world; at the affective level of ceremonies that keep powerful ancestors benevolent; and on the level of contemporary policy formation. That is, the performance of *malu* assists Duna people in framing reactions and responses to the current development of their land. Referring to or reciting *malu* simultaneously generates social stability in mythic-ceremonial contexts as well as symbol-making creativity to meet the Duna peoples' needs for contemporary, adaptive change. This way of knowing is a behaviour, then, that does not simply filter out pragmatic time in favour of a mythic time, but seems to bring both to bear upon one another.

Indigenous knowledge embedded within complex ceremonials is not exclusively liminal—that is, it does not exclusively involve an entry into extraordinary space and time outside the ordinary. In fact, the opposite is the case; indigenous knowledge manifested at peak ceremonial moments has deep and abiding connections both with extraordinary presences such as ancestors and spirit powers, as well as with ordinary events such as canoe making, gardening, gender roles, and healing practices. Time is a key, it seems, to an interpretation of ways in which space, authority, and spirit presences manifest one another in the ceremonial and symbol-making contexts of indigenous knowledge.

Another example is provided by the Dogon peoples of Mali. The Dogon of sub-Saharan Africa continue to celebrate a masked festival (*dama*) whose explicit focus is reburial of the dead, and whose implicit emphasis is on affirming the inherent power

and responsibilities integral to speech. Having originated from the animals of the bush, the ceremonial, *dama*, was acquired by women over time. Yet, by means of skilful deceit, it eventually came to be a male privilege with extensive gender and age separations. These strict divisions between women, children, and the dancers suggest intergenerational and gendered facets of the interface between Dogon knowledge, land, and lifeway. Moreover, the songs, masked dances of adolescent Dogon, and the speeches of Dogon elders at *dama* are understood as the context for a 'second burial' of the dead. Fischer's analysis (2004) suggests an interpretation in which the masked festival of *dama*, the reburial of the dead, the concerns about speech, and the gender exclusions all involve aspects of Dogon knowledge. That is, all three are about the lifeway, as well as being forms of indigenous knowledge that must be enacted in order for the lifeway to exist.

The male masked dancers, the elders' speeches, the gender prohibitions on Dogon society as a whole—these all coalesce as entry into mythic time at *dama*. In this way the Dogon create a new existence for the dead—that of being an ancestor—which asserts male control over fertility and reaffirms the spiritual character of speech. This complicated and ever-changing ceremonial brings together Dogon knowledge of spiritual presences in the bush with speech that also comes from the wild bush. The return of the no-longer-remembered dead as interactive presences in the bush are enacted by the Dogon during *dama* in a complex weave of time, space, authority, and spiritual presences. Rather than a simple progression of past, present, and future, time is a self-similarity, a fractal logic, in which the authority of elders, the power-producing land, and the animal spirit presences are all imaged as aligned bodies with inner speech forms. Amidst the gender conflicts, the competition among age grades, and the wrenching grief of mourning, the Dogon assert forms of knowledge that can be spoken in efficacious ways, and at the right time, so as to affect temporary cosmological harmony among those bodies.[1]

The discussions of 'Dreaming' in Australian Aboriginal traditions are also relevant in a discussion of the interface of knowledge, land, and lifeway. The Walpiri, Kaytej, and Pintupi peoples of Central Australia use a variant of *jukurrpa* to sound this complex concept of spiritual presences in the environment-as-cosmology. W. E. H. Stanner gave expression to his understanding of Aboriginal knowledge and these indigenous reflections on *jukurrpa* through his descriptions of Dreaming as 'one possibility thing' and 'everywhen'.[2] His eliptic interpretations suggest the unific and cosmological character of Dreaming, as well as point towards the integral differentiations of time, space, authority, and spiritual presences found within these indigenous lifeways.

[1] For Dogon ethnography related to the *dama* see Griaule (1948) and Calame-Griaule (1986). A critique of Griaule's method and resulting work in that period can be found in van Beek (1991). See also van Beek (1993); van Beek and Hollyman (2001); and van Beek and Banga (1992).

[2] Stanner (1966, 1957). Stanner was the first ethnographer to assert that the mythology of Aboriginal peoples of Australia proposed a narrative about the reality of the world that constitutes valid knowledge and a basis for moral law. For Pintupi peoples see Myers (1986). For Walpiri and Kaytej peoples see Bell (1983).

Geographically closer to the Getksan and Wets'uwetén are the sub-Arctic Koyukon peoples of Alaska, who are reported by Nelson (1983: 10) as narrating stories of the mythic 'Distant Time'. In these stories are ethical prescriptions that the Koyukon call *hutlaane*, which are described as regulated relationships with their bio-region. *Hutlaane* are an assemblage of gendered prohibitions that result, according to Nelson, in a conservation system for managing and protecting the bio-region from over-exploitation by humans. Based on restrictions set down in the Koyukon mythic stories of the primal period, or 'Distant Time', *hutlaane* are transmitted as teachings with authority, or moral force, which come from the hunted animals and gathered plants themselves. *Hutlaane* act as strong approval and prohibitions for responsible hunting and gathering. The constraints and allowances of *hutlaane* connect Koyukon views of land, biodiversity, and cosmology. Moreover, they demonstrate an engaged knowledge that sustains both the lifeway and the bio-region. This is a mode of indigenous knowledge in which ethical reflections and moral practices emerge in a sense of time that is not merely linear or chronological. Koyukon time seems more attuned to experiential knowing of the land as punctuated by mythic time that opens to sustenance and responsibility.

Another insightful interpretation is provided by Sharp (2001: 63) in his observations among the Dene peoples of North Central Canada. Acknowledging continuities with Western modes of time, he relates the special character of Dene reflections on *inkoze* as a form of indigenous knowledge treating space, authority, and spiritual presences. *Inkoze* refers to the Dene sense of causality that comes from the power of dreams and the ways in which animals mediate these synaesthetic relationships of person and land. He observed that:

> Dene time usage, though it uses linear, directional, and cyclical time, includes usages that do not correspond to any of these. Animal/persons are not limited by our perceived constraints of the physical universe. Their license to suspend the restrictions of what the West considers physical reality is embedded in their inkoze and is particularly conspicuous in their dispensation with the restrictions imposed by time. Dene culture is not dominated by the idea of a now, and time is not seen as a flow between a no-longer-existing past and a not-yet-existing future. There is a sense, and there are circumstances, in which the Dene conceive of reality as effectively being 'simultaneous', that is, time is treated as a dimension that is independent of any flow or directional change within that dimension. The past and the future are as real as the present. Communication and connection between past, now, and future are all possible. The connections between time and the three ordinary dimensions of physical reality are uncoupled. Time sometimes becomes a thing independent of motion within it. All places in time become equally accessible. It is possible for some beings to move anywhere in time rather than having to move in only one direction in time. The effect of this is to make it seem as if the Dene sometimes use time the way Western culture uses place.

Here Sharp insightfully draws attention to the ways in which Dene indigenous knowledge weaves time, space, authority, and spiritual presences into an experiential tapestry of deep, cosmological meaning for a community.

Moreover, Dene perspectives appear in ways to parallel Albert Einstein's strategy in his theory of general relativity. In that theory Einstein described space and time as

relative to an observer's motion, and hypothesized flexible and dynamic rather than rigid, unchanging structures, which was contrary to how they been understood in classical Newtonian cosmology. Interestingly, in Einstein's view of a 'block' universe he came up against the challenge of the now-moment of time (Pais 1982). He insisted that, though time and space change, the now-moment must be utterly resistant to change despite our common-sense feelings of time's ceaseless now-moments as like a flow of time. A philosopher remembered a conversation he had with Einstein on this subject: 'Einstein said that the problem of the now worried him seriously. He explained that the experience of the now means something special for man, something essentially different from the past and the future, but that this important difference does not and cannot occur within physics. That this experience cannot be grasped by science seemed to him a matter of painful but inevitable resignation' (from Carnap (1963), cited in Greene (2004: 141)).

While aware of the paradoxical nature of the simultaneity of time, the Dene seem neither seriously pained nor resigned to the constancy of the *inkoze* now-moment. In fact the now-moment does not seem as dominant in their knowledge system as the fact of *inkoze* itself as a simultaneity of time. Dene experiences of *inkoze* are not scientific observations; nor are they a theory like general relativity. But they do seem to be depth insights of Dene indigenous knowledge as these people also struggle to understand an embodied, or organic, mutuality of knowledge, land, and lifeway.

Concluding Comments Regarding the Acquisition of Indigenous Knowledge

Three concluding observations to this overview are drawn from Marlene Brant Castellano (2000: 23–4) regarding the acquisition of indigenous knowledge. She observes that, first, *traditional knowledge* has been handed down by indigenous peoples more or less intact from previous generations. Second, *empirical knowledge* is gained through careful observation of the natural and built environments. Third, *revealed knowledge* is acquired through dreams, visions, and intuitions that are understood to be spiritual in origin. Briefly considering examples of these points allows us to conclude with timely observations on several epistemological characteristics of indigenous knowledge as well as the decolonized responses to the attempts to terminate aboriginal knowledge.

First, *traditional knowledge* is transmitted within an indigenous community especially by elders. This rich concept of elders is another example of an indeterminate, spontaneous, community-generated role that may or may not settle on an older person. Rather, an 'elder' is that person whom an indigenous community recognizes as imbued with the knowledge, responsibility, and spiritual awareness for actively

living the role requested of them. In the contemporary world, indigenous elders, women or men, often embody knowledge of language, world-view, and ecology.

Transmission of language is widely recognized as central to the authentic acquisition of that deeper knowledge to which indigenous elders refer when they speak of their identity and meaning as an integral people. Cree elders of the northern sub-Artic regions say, 'The Cree language is our identity (*kinêhiyâwiwininaw nêhiyawêwin*) (Wolfart and Anenakew 1993: 5). Henderson (2000: 263) comments on this claim: 'Aboriginal consciousness and language are structured according to Aboriginal people's understanding of the forces of the particular ecosystem in which they live. They derive most of the linguistic notions by which they describe the forces of an ecology from experience and from reflections on the forces of nature.' Thus, just as indigenous languages derive from experiences of the land, so also world-views emerge, in indigenous lifeways, from visionary experiences of the depth of origins, the beginnings of life, and the unfolding of the universe.

Just as language is not an abstract entity in the indigenous context, so also world-views, and the values that flow from these experiential ways of knowing the world generate a complex of interrelated activities. As has been suggested, rituals, art forms, cults, organizations, and experiences are indeterminate, fluid connectors at the interface of indigenous knowledge, land, and lifeway. Ntuli (2002: 58) describes the crucial role that world-views have in the African setting, saying:

> We must now turn our attention to the examination of African value systems that we seek to see reborn. Contrary to Western thought, African thought sees life as a cycle; the world as an interconnected reality; human beings, plants, animals, and the universe as one interconnected whole, and that our survival depends on how these forces interact with each other. In all societies, the beginning and meaning of life lie within the world of myth, and these myths give form through rituals. For these rituals to be effective, dances and other cultic acts are performed, and art objects are created to give form and potency to the ritual. In other words, songs are composed, dances performed, and sculptures and other art objects are created to support rituals.... Traditional Africa provided us with a world-view that recognised our sanctity as people and sought to secure our place in the wider spheres of life; to help give meaning and form to our strivings for oneness with the cosmic spirit that guides us.

Just as elders embody an engaged knowledge involving language and world-view values, so too they live their connection to ecosystems in ways of knowing that exemplify *empirical knowledge.*

There is no doubt that 'traditional environmental knowledge', or TEK, has captured the public imagination more than any other aspect of indigenous knowledge. In entering the public sphere, it also reminds us of ways that indigenous knowledge has been commodified. The allure of pharmaceutical panaceas gathered from indigenous knowledge sources tends to mask potentially exploitative activities such as genetic piracy. In these contemporary extractive agendas, biological materials are gathered from native peoples and attempts made to patent the distinctive genetic heritage of indigenous groups. Furthermore, efforts to protect particular expressions of indigenous knowledge using international intellectual property rights have proved ineffective at best, because they entangle indigenous elders and spokespeople in the

bureaucratic procedures of multiple nation-states. More significantly, they situate the empirical knowledge of indigenous peoples in an epistemological context that is wholly inconsistent with the knowledge being protected. That is, the languages, ideas, and values supposedly protected by the concept of intellectual property rights are set within a context that is more similar to a colonial mind-set that situates indigenous peoples as subservient clients rather than careful observers, users, and co-creators of their environments. It is also evident that local knowledge can be used by indigenous leaders to oppress their own people (see the argument by David Harvey (1996)). But the historical gravity of responsibility between peoples and lands over centuries of relatedness and use, evident, for example, in oral narratives, precludes dismissal of indigenous knowledge by labelling it as potentially abusive of the rights of its practitioners. Moreover, indigenous knowledge is often an empirical source for science itself.

Indigenous knowledge records orally empirical observations of local ecosystems in complex, particular forms. Werner Wilbert (2001: 400) pointedly distinguishes the empirical knowledge of Warao peoples of the Orinoco River delta in South America from that of Western science. He writes:

> The world of the Warao is a manifestation of the supernatural, experienced through life not understood through scientific thought. The product of longitudinal empirical observation and interpretation, it enfolds human society in a mythologized landscape of primordial origin. Rather than self-centered atomistic individualism, it promotes a moral bond of society, restrained by principles of pluralistic coexistence. Principles of restraint are encoded in the world order by holistic design and perpetuated through enculturative learning both private and public.

Perhaps the central accompanying feature of empirical knowledge among indigenous peoples is that of responsibility. Rather then romanticizing traditional environmental knowledge, it is more instructive to learn that many indigenous myths warn of the overuse and misuse of natural goods. Thus, Guss (1989) describes the intricate restrictions and prohibitions on the gathering of materials for basket making among the Yekuana of Venezuela. Basket making remains one of the signal accomplishments whereby Yekuana adults achieve and maintain social status. They also sell some baskets for cash income. Yet, their empirical attention to, and use of, these diverse fibers, roots, and plants is not driven by the goal of limitless achievement. Rather, knowledge transmitted in mythologies about the culture hero Wanadi restrains usage, promotes mental discipline, and binds a community to a deeper vision of itself. Empirical knowledge of the bush by indigenous peoples also raises significant questions about different ways in which the wild is known and the ways in which that knowledge is transmitted.

From many indigenous perspectives, 'wildness' and 'wilderness', as areas in which the human is absent, are puzzling concepts. For example, Robert Jarvenpa (1998: 8–9) reports of the Chipewyan and Han, Dene/Athapaskan peoples of the North American sub-Artic, that a number of relationships link humans to these open spaces. He writes:

To the outsider, much of the subartic landscape may appear 'empty' or 'unoccupied'. This notion holds little meaning for Athapaskans who see virtually all their surroundings as active, alive or occupied in some fashion. Almost any space, whether within or beyond the confines of currently inhabited settlements or camps, may have functioned previously as a culturally meaningful landscape where events transpired and activities occurred.

A fine-grained understanding of the landscape is symbolically codified in language. Athapaskan place name terminologies recognise a myriad of geographical features over extensive regions. Many of these are trenchant descriptions of environmental features and processes. The Chipewyan expression *ts'ankwi ttheba* ('old woman rapids') not only denotes a particularly turbulent section of the Mudjatik River but also evokes the circumstances of a tragic death at that location generations ago. In this way, conventional language and discourse continually situate the topographical landscape in terms of peoples' history and lore.

From a Dene perspective, then, wilderness as the absence of the human is not a working concept. Rather, the traditional environmental knowledge (TEK) of open spaces is transmitted in a complex narrative, mnemonic system based on place-names. (For a classic study see Basso (1983), and his more recent work (1996).) These place-names may or may not refer to what outsiders call sacred sites, but they typically have embedded within them an indeterminacy of time that is a signal feature of the knowing they transmit.

Finally, the character of *revealed knowledge* in dreams, visions, and spiritual intuitions among indigenous peoples is manifest in many of the examples above. Some of the most striking case studies of visionary experiences that led to indigenous knowledge concern the ayahuasca complex of South America, rice agriculture in South-East Asia, and corn agriculture in Mesoamerica. Davis (1998) and Narby (1998) discuss the sophisticated processes involved in making the ecstasy-inducing drink ayahuasca. Its preparation involves not simply the *banisteriopsis* vine, but delicate infusions of several other prepared substances. More important, however, is the widespread understanding among the native peoples who work with this substance that the plants themselves revealed in dreams and visions the complex processes required to produce ayahuasca. Victoria Tauli-Corpuz (2001) discusses Igorot values involved in the terracing, irrigation, and complex rice agriculture among these indigenous peoples of northern Luzon in the Philippines. She speaks of *gawisi*, or responsibility, of the people to land and ancestors, *innayan*, or limits and relations with the spirit world of nature, and *lawa*, the depth experiences of the holy in these relationships.

The mythical origin of maize among Nahua peoples of central Mexico presents a major example of revealed knowledge in which the gods 'robbed' maize for the people and transmitted the knowledge of its production and sustenance in the context of lifeway and land. Javier Galicia Silva (2001: 304) gives a relevant passage from the *Florentine Codex* that encapsulates the fourfold embodiment of this revealed knowledge. That is, the profound teachings of indigenous knowledge typically open insight into the embodied, spiritual presences of the holistic order: namely, the human body, the social body, the ecological body, and the cosmological body. This passage relates maize to the sustenance of these embodiments, saying:

Listen: *Tonacayotl* [maize], Our Sustenance, is for us, all-deserving. Who was it who called maize our flesh and our bones? For it is Our Sustenance, our life, and our being.

It is to walk, move, enjoy and rejoice. Because Our Sustenance is truly alive, it is correctly said that it is he who rules, governs and conquers. . . .

Only for Our Sustenance, *Tonacayotl*, the maize, does our soil subsist, does the world live, and do we populate the world. The maize, *Tonacayotl*, is the true value of our existence.

This revealed knowledge among the Mesoamerican Nahua peoples is related to the distinctly different understandings of the neighbouring Mayan peoples regarding the origin, production, and deeper implications of maize agriculture. Both of these major Mesoamerican civilizations in their knowledge systems reflect on lifeway as a fourfold embodiment of their sacred food, corn. Knowledge flows, then, as a vitality shared across bodies in the cosmos.

Conclusion

Western claims of universal knowledge articulated from the eighteenth-century Enlightenment period validated colonialist domination as a divine right or the inevitable tide of progress over the benighted peoples of the Earth. As Noël observed (1994: 79), the logic of universal claims eventually came up against the resistance of indigenous peoples and the assertion of their own forms of knowing. He writes:

After long endorsing the logic of a discourse taught to them as the only one that was valid, the dominated began to feel doubts. At first vague and fleeting, these doubts were aroused by the oppressor's own failure to live up to his idealised model of humanity. As the oppressed became more actively aware of their own worth, their doubts grew more insistent. Gradually, the dominated ceased to see the oppressor's defense of his special interests as the inevitable tribute owed to a superior being. Divine, natural, or historical laws that espoused such narrow designs became suspect. It eventually came to mind that these laws were pure creations of a group wishing to legitimize its privileges.

The current regeneration of indigenous knowledge by native peoples themselves is a testimony to their resistance to ongoing forms of contemporary colonization. Resistance in this sense does not point to a fossilized indigenous knowledge as a desperate coping mechanism. Rather, indigenous ways of knowing actively seek to nourish both the cultural lifeways and the biodiversity of the land.

Increasingly, efforts to decolonize indigenous knowledge have led to programmes that preserve traditional lifeways. Indigenous projects for restoring traditional ways of knowing often seek to harmonize with selected social and subsistence changes from outside communities, and accommodate paradigms and practices such as Western science. Encouraging indigenous youth to enter into scientific knowledge while holding to community lifeways are ongoing challenges for native communities.

Contemporary indigenous projects that draw on both scientific and indigenous knowledge are numerous and diverse. Relevant examples are the indigenous environmental network, the Maori educational reform called Kura Kaupapa Maori, and the United Nations Working Group on Indigenous Peoples. These and other indigenous organizations increasingly report on the current period of globalization-as-colonization and the resurgent decolonizing responses from indigenous peoples themselves.

What this resurgence of indigenous knowledge reveals today is not simply the ashes of an extinct, failed way of knowing, but the embers that indigenous elders are rekindling to confront their peoples with awareness of deeper purpose. The metaphor of fire evokes that renewed understanding of indigenous knowledge whose wisdom may not be available to other peoples. Still, it calls to mind the social and political vitality of peoples informed by these ways of knowing, and the challenges facing the human to acknowledge multiple ways of knowing.

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