# The Land Wants Me Around: Power, Authority and their Negations in Traditional Hunting Knowledge at Wemindji (James Bay, Québec)

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## Abstract

This study investigates the importance of traditional hunting knowledge to Cree identity and experience. My fieldwork was conducted in Wemindji, James Bay, Québec, with Cree trappers and on the interactions of scientific researchers and Cree trappers. I explore the connections between these interactions and wider relationships of the Crees with histories of extractive development and the State. The misrecognition or negation of Cree authority in development discourse and outcomes has contributed to subsistence practices and traditional hunting knowledge becoming politically and emotionally charged signifiers. I argue that subsistence practices and traditional hunting knowledge have come to encode cultural difference and the assertion of authority in relation to struggles for recognition of Cree authority over their traditional territories.



## Résumé

Cette étude examine l'importance pour l'expérience et l'identité cri du savoir traditionnel sur la chasse. Sur la base d'une enquête de terrain conduite à Wemindji, Baie James, Québec, auprès de trappeurs cris et de chercheurs scientifiques menant des recherches auprès de ces derniers, j'explore comment les interactions entre trappeurs et chercheurs s'inscrivent dans le rapport plus large des Cris à l'État et au développement des ressources naturelles. La non reconnaissance de l'autorité cri dans les discours du développement et la négation de celle-ci dans le réaménagement du territoire ont attribué aux pratiques de subsistance et au savoir traditionnel sur la chasse une signification politique et émotionnelle de premier plan. Ma thèse est que le savoir traditionnel sur la chasse ainsi que les pratiques de subsistance cris en sont venus à définir la spécificité et l'autorité de ces derniers dans le contexte plus large de leurs luttes pour la reconnaissance de leur souveraineté sur leurs territoires traditionnels.

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# 1.
# Introduction

*The issue of (Native) identity continues to be contentious. It has its own very interesting and troubling history(ies), changing by the decade to match the times.* (McMaster 1995: 87)

*The role of philosophical* [and anthropological] *thought is to eliminate premature explanations, those limitative positions which could prevent us from penetrating and possessing the formidable content of our being."* (Lefebvre 1968)

## 1.1. Research Objectives

The objective of my research is to investigate the phenomenon of the increasing power of traditional hunting knowledge as a marker for political identity and moral orientation in a changing and increasingly enmeshed Cree society. My fieldwork was conducted with both Wemindji Cree trappers and southern educated ecology students conducting research in the community. By attending to the interactions of the ecology students and Cree trappers, I was able to extrapolate insights into the importance and role of traditional hunting knowledge and institutions for Cree identity in relation to the larger fields of relationship in which they operate.

My investigation takes the form of a presentation of related but differently scaled expositions of interactions of Cree trappers and hunting knowledge practices with non-Native social actors and discourses. The socially productive interactions that I present here are: impacts of development on Cree hunting practices and the political engagements of traditional knowledge; frictions produced by the interactions of scientific researchers and Cree hunters; contested deployments of TEK (traditional ecological knowledge) within Environmental Impact Assessments; and Cree stories of interactions with non-Native agents of modernization, development and scientific rationality. I argue that Cree hunting practices have become invested with political and emotional power to the extent

to which Cree authority over their land and their ability to act upon their surroundings in meaningful ways has been contested, challenged, or negated through these interactions. Moreover, these expositions show that concrete interactions with individuals and organizations are productive of processes of political and affective identity formation on the one hand, and of both the generation and bridging of difference on the other.

This study focuses on the voices and experiences of Wemindji Cree trappers and tallymen (the traditional Cree hunting bosses and stewards of family hunting territories). My attempt to grasp the emics[1] of Wemindji Cree trappers led to me observe that distinctive understandings of human-animal relationship ordered their experience of such things as hunting causality, health, and their life projects, including the way that they projected themselves and the larger community of Cree people into the future. At the same time, I saw *built in* to this ordering, an awareness of, and even intimate familiarity with, the possibility for its negation through the outcomes of development and interactions with members of a loosely-defined dominant Canadian society, which tended to mischaracterize these understandings as 'beliefs' with little or no empirical basis – a position found both in the practice of scientific research and in the development projects that utilize this research to represent the land in particular ways.

Because of the political and emotional importance accorded to hunting practices, full time trappers and tallymen have become vectors of rights-bearing cultural difference. These individuals are instrumental in carrying on and adapting the knowledge of their ancestors that has come to define what it means to be Cree in relation to external influences, practices and values. At the same time, they are intimately familiar with and confronted on a daily basis by forces that operate to challenge or deny the exercise of Cree authority and the hunting way of life: changing configurations of Cree society, resource conflicts, the impacts of development, and the unfavourable definition or dismissal of their values and knowledge by southern scientists and researchers. The points of friction (Tsing 2005) at the interface of subsistence hunting knowledge and

[1] "Emic is a perspective in ethnography that uses the concepts and categories that are relevant and meaningful to the culture under analysis, that is, a view from the inside. Etic is a perspective that uses the concepts and categories of the anthropologist's culture to describe another culture, that is, a view from the outside." Dudgeon, R. C. and F. Berkes (2003). Local Understandings of the Land: Traditional Ecological Knowledge and Indigenous Knowledge. Nature Across Cultures: Views of Nature and the Environment in Non-Western Cultures. Great Britain, Kluwer Academic Publishers: 75-96.

practices with 'southern' cultural logics, regimes of development and forms of administration, contribute to shape the emotional resonance and political engagements of 'traditional knowledge'. This is a study of these interactions and their socially productive effects.

This is not an ethnography of domination, of how the Crees are having their institutions or their subjectivities colonized and remade in the image of the colonizer. Theirs is not a knowledge that can be termed an 'alternative modernity' (cf. Gaonkar 2001) as would be the case if, by mere virtue of its contemporaneity, it had lost continuity with a particular, distinctive historical and cultural trajectory. While there is a definite newness in current configurations of Cree identities, strong cultural continuity with regard to Cree hunting ethics and values was immediately apparent in my Wemindji informants, such that notions of 'invented tradition' or strong forms of 'hybridization' do not seem to apply. Neither the adoption of new technologies, development of new institutions, nor modern circumstances to which knowledge is articulated have fundamentally rearranged the relationships between primary objects of knowledge (that is, the relationship between forms of life in their world).

This thesis is an attempt to study the field of relationships that unites the interactions of the Crees and the larger polity, the background against which assertions of difference are manifested. Research at this scale allows us to situate knowledge claims within their political and affective habitat without taking away any of their experiential force. Interactions with external cultural logics and institutions have provided the Crees with the stimulus to actively assert and articulate traditional hunting knowledge, values and identities in relation to current circumstance, reinforce the distinctiveness of their knowledge and values, and imbue these with the continued power to orient human-human and human-animal interactions.

## 1.2. Research Setting

My MA research took place within the context of a larger CURA-SHHRC funded interdisciplinary research project entitled, "The *Paakumshumwaau – Maatuskaau* Protected Area Project"[2]. This project is being conducted with the direct involvement and support of the several community leaders and the Band Council of the Cree Nation of Wemindji, one of the nine Eastern James Bay Cree communities represented by the Grand Council of the Crees (GCC). The goals of the CURA project are:

> 1) To formulate strategies for protecting an environment of great cultural, historical and economic significance to the Cree people of Wemindji, James Bay, northern Quebec; 2) to identify ways of doing so that will build upon, rather than diminish, local institutions of land and sea tenure, authority in environmental stewardship, ecological knowledge, and environmental ethics; and 3) to use Cree perspectives in rethinking the relationship between humans and the natural environment, to better respond to difficulties facing the larger society. (Scott 2005)

*Paakumshumwaau* is a watershed of great ecological, historical and cultural significance to the Cree people of Wemindji that includes the Old Factory Lake, River, its estuary, and adjoining offshore waters and islands in the James Bay (Figure 1). The Old Factory River is a heritage waterway for the Cree people of Wemindji, and has been used for hundreds of years by hunters as a means of travelling between the coast in the summer and the inland hunting territories in autumn. The CURA project seeks to reinforce the ability of Cree knowledge and ethics to orient human interaction with this landscape at each stage of the process of its protection from extractive development. Thus, a central tenet underlying the project is the fostering of a productive and respectful dialogue between Cree knowledge holders and academic researchers.

On June 20, 2005, I left Montreal by car with my thesis supervisor and two other graduate students associated with the CURA protected area project, also conducting fieldwork in the community of Wemindji. Ten hours later, after having passed through the mining towns of Val d'Or and Matagami, we arrived at the beginning of the James Bay Highway, marked by a simple traffic barrier and a small trailer housing the lone

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[2] CURA (Community University Research Alliance) and SSHRC (Social Science and Humanities Research Council) are Canadian federal funding agencies. More information on the *Paakumshumwaau* Protected Area Project may be found on the project website: http://maps.strata360.com/website/mcgillweb/html/ Accessed July 12, 2007.

employee who communicated with the driver of our vehicle through a squawk box attached to a pole at the side of the road. Built by Hydro-Québec in the 1970's, this road served to open up the Eastern James Bay area to hydroelectric development associated with the damming of the La Grande River. During construction of the infrastructure associated with the La Grande project[3], this road was closed to the general public. The only people who could freely access it were residents of the area and those with 'legitimate business', such as employees of Hydro-Québec or government representatives (Scott and Webber 2001). The road is now accessible to tourists, sport hunters, or simply the curious, who must only speak their name, licence plate number, and anticipated length of stay into the box for the traffic barrier to rise and the road to open. This ease of access has allowed an ever-increasing number of sport hunters and fishers to discover the bounty of the traditional Cree hunting territories, often to the detriment of local inhabitants. Southerners, as they're known in Cree land, make the long journey mainly in order to shoot caribou and moose or to sport fish for walleye and pike.

The James Bay Highway is a well-maintained, gently curving, two-lane road that in good conditions allows vehicles to travel comfortably at up to 40 kilometres per hour over the posted limit of 100. The trees, the vast majority of which are conifers (spruce, tamarack, and pine), began to noticeably shorten in step with our northerly progress. At times the landscape suddenly became blackened and charred, the aftermath of vast forest fires that burn each summer, hot enough to leap over rivers and roads. However, these areas of devastation seemed less serious than they would in a less remote setting, with the swathes of charred trunks contained by the sheer vastness of the landscape. Other than a gas station and service depot at kilometre 381, the only signs of human habitation we saw were Cree family hunting camps that benefit their users with easy year-round vehicle

[3] The James Bay Highway is a 700 kilometre long road crossing six Cree community territories. Airports, construction camps and the town of Radisson were all necessary to establish in order to build the complex. "New mines and forestry operations were planned. The La Grande hydro complex involved diverting three major rivers into the La Grande River to increase its flow by 80 per cent. This required four main dams, 130 kilometres of dikes, and eight main reservoirs flooding 8,722 square kilometres (5 per cent of the land surface). The reservoirs would be filled in summer, and the water would be released in winter to produce electricity needed for heating requirements in southern cities; thus, water levels would vary all winter. The construction of power transmission lines would require the cutting of three or four corridors 960 kilometres long through the forest." Feit, H. A. (1994). Hunting and the Quest for Power, the James Bay Cree and Whitemen in the Twentieth Century. Native Peoples: The Canadian Experience, 2nd Edition. R. B. Morrison and C. R. Wilson. Toronto, McClelland & Stewart: 181-223. http://arcticcircle.uconn.edu/HistoryCulture/Cree/Feit1/feit1.html. Last Accessed July 12, 2007.

access to their family hunting territories due to their proximity to the highway. Composed usually of a handful of small structures and one or more traditional canvas-wrapped *miichiwaahps* (traditional dwellings) these camps reminded us that these seemingly wild lands are used and known by the people who inhabit them.

After about 500 kilometres, we arrived at the turnoff for the community of Wemindji, which lay 100 kilometres westward from the coast of James Bay. The gravel road released plumes of dust behind our car as we drove through a gradually changing forest-scape that became interspersed with bogs and streams. As we approached the more temperate coastal region, the trees lengthened again. Although we were far above the northern limits of the commercially harvestable boreal forest timber line, some old growth white and black spruce on the coast and the many small islands just off of it can reach an impressive 50 feet into the sky. We soon arrived in Wemindji, nearly 20 hours after having left Montreal. We had travelled straight north the distance between Montreal and Halifax, without even climbing halfway up the map of Quebec. The small community laid out before us, reminiscent of the distant suburb of some southern metropolis in its winding street layout and nearly identical rows of detached single family homes, seemed architecturally unaware of its being situated only a few hundred kilometres south of the tree line, and further north than the vast majority of Quebeckers have ever travelled.

The Cree Nation of Wemindji, currently with a population of 1200, was established in its present location (latitude 53.0N, longitude 78.49W) in 1958 when the federal government began large-scale construction of housing and other infrastructure in the area. Prior to this time, the focal point of the community was at the site of an old Hudson's Bay Company trading post on Old Factory Island, 40 kilometres to the south. Up until the 1960s, the Wemindji Cree spent most of the year at hunting camps in the bush, and would congregate at the trading post via the Old Factory River in the summers to fish and camp together.

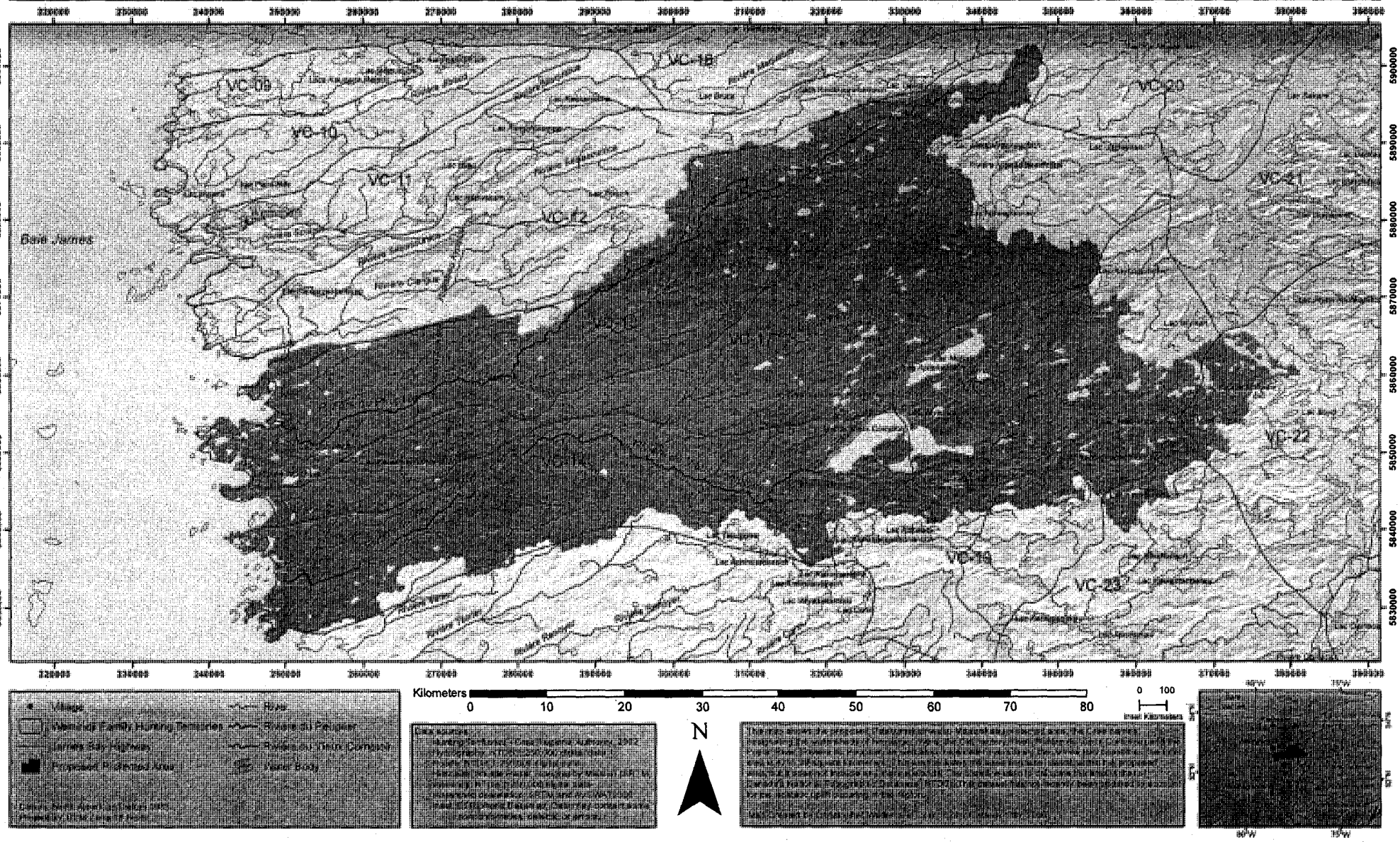
The hunting, fishing and trapping way of life is still very much practiced and valued in Wemindji, and bush food, shared among community members by active hunters, is very important both culturally and nutritionally to the community. 20.3% of residents are beneficiaries of the Income Security Program (ISP), paid to individuals who

spend a minimum of 120 days per year in hunting camps (Benessaiah, Bennet et al. 2003). This program allows full time hunters to supplement their income from the sale of furs and/or seasonal summer employment, which when combined with the subsidies for fuel, construction materials, and other hunting-related equipment offered by the Cree Trappers' Association, secures the economic conditions for the continuation of the hunting way of life[4]. Many other people with full-time employment in town spend weekends and holidays on the land engaged in traditional subsistence and community land use activities.

The lands surrounding the town of Wemindji are divided into family hunting territories, each overseen by the *uuchimaau*, (steward and hunting leader, known as the 'tallyman[5]') (Figure 2). *Uuchimaauch*, occupying a role that tends to be passed down through the male line of the family, are respected holders of ecological and cultural knowledge, responsible for the health of the land and the maintenance of harmonious relationships between humans and other-than-humans (Scott 1988). Family hunting territories or 'traplines', the basis for the Cree system of resource management and land tenure, were registered and mapped by the federal government in the 1940s. Almost all of the Wemindji hunting territories have been impacted to varying degrees by hydroelectric development, which has significantly modified the physical and human geography of the entire James Bay region (Warner 1999).

[4] The CTA and the ISP program are discussed in Chapter 2.
[5] So-called because for a time beginning in the 1930s, the government paid these individuals an honorarium to tally the number of beaver lodges each year.

# Proposed Paakumshumwaau - Maatuskaau Protected Area



# Cree Nation of Wemindji

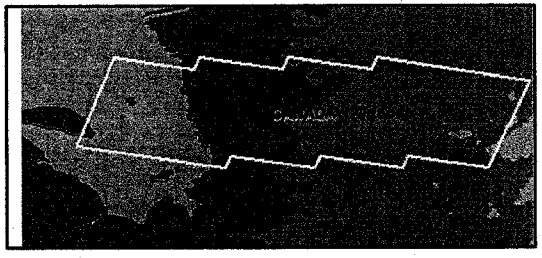
Landsat Imagery Backdrop:
U.S. Geological Survey, downloaded from Global Land Cover Facility.
From left to Right:
2001-08-21. ETM+. WRS-2 Path (20), Row (23), Level 1G, Sioux Falls, South Dakota: USGS.
1995-08-06. TM. WRS-2 Path (19), Row (23), Level 1G, Sioux Falls, South Dakota: USGS.
2000-08-20. ETM+. WRS-2 Path (18), Row (23), Level 1G, Sioux Falls, South Dakota: USGS.
1999-07-26. ETM+. WRS-2 Path (17), Row (23), Level 1G, Sioux Falls, South Dakota: USGS.

**Legend**

- Category I Land
- CategoryII Land
- CategoryIII Land
- Watersheds
- Wemindji Traplines

N

0 12.5 25 50 75 100 Kilometers



Data Source:
Land Categories:
Quebec Ministry of Environment
Traplines:
Cree Regional Authority. 2002 Version.
Watersheds:
Created using ArcGIS 9 Hydrological Modeling Tools and Shuttle Radar Topography Mission data
Inset Map courtesy of the Global Land Cover Facility
Map Created by Christopher Wellen 2005-06-20
Coordinate System; UTM 18 N NAD 83

## 1.3. Description of Fieldwork

My fieldwork took place during two one-month field trips in the summers of 2005 and 2006. In June of 2005, I began the first phase of my MA fieldwork. This first trip consisted of a two-week stay in the community where I conducted interviews mainly with selected knowledgeable hunters and trappers, but also with several youth, civil servants, and wageworkers, most of whom hunted, fished or trapped around their breadwinning activities. Over these two weeks, I learned a little bit about this community through my conversations and interviews with a number of people. I slept in a *miichiwaahp* in the back yard of a family whose hunting territory may eventually become integrated into the proposed protected area being developed by CURA project team members. My goal for this trip was to learn about Cree trappers' understandings of the land and the animals, the practices they performed on the land that vehicle this knowledge, and the role and importance of the hunting way of life in contemporary Wemindji Cree society.

Following this stay, I participated in a two-week canoe trip down the Old Factory River in the company of a group of advanced undergraduate students with the McGill School of the Environment senior project, "ENVR 401: Environmental Research", and seven Cree guides[6]. Our canoe trip coincided with an annual event called the 'Youth Canoe Trip' that navigates the length of the Old Factory River from its source in Old Factory Lake to the coast in celebration of the cultural and historical importance of this waterway, culminating in the annual Summer Gathering on Old Factory Island. We camped on several occasions with this larger group of Cree youth and accompanying family members and guides. McGill students taking the ENVR 401 course in 2005 and the two preceding years (2003 and 2004) were researching the different ecological and social issues related to development of a protected area on Wemindji Cree territory.

> While the overall goal of the project has guided all three research teams, the specific research question in 2005 is: Based on the socio-ecological character of *iyiyuu ischii*, what are we seeking to protect, and how can institutional arrangements contribute to a culturally appropriate protected area for *Paakumshumwaau*? [Old Factory watershed, including the Old Factory River, Old Factory Lake, estuaries and offshore islands in James Bay] To answer this question, the 2005 research team collected biological data along the *Paakumshumwaastikw* [the Old Factory River] and on the adjacent coast of James Bay.

[6] The final project report of this project, along with the reports of the two preceding years, can be found at http://maps.strata360.com/website/mcgillweb/html/student_reports.html. Last Accessed July 12, 2007.

> Interviews were conducted with community members on the Old Factory Island and in Wemindji. (Chu, Martinson et al. 2005)

This canoe trip provided the opportunity for me to observe the interactions between Cree hunters and southern academic researchers and to establish relationships with individuals that would inform my 2006 fieldwork trip, including a doctoral student in ecology with whom I worked more closely the following year.

In the summer of 2006, I returned to Wemindji with the goals of observing the interactions between scientific researchers associated with the CURA project and their Cree friends, guides, and interlocutors, and of deepening the research on Cree knowledge of beaver that I had begun the previous summer. This research trip commenced with a four-day canoe trip down the Poplar River (adjacent to the Old Factory River) to the coast in the company of two ecology graduate students, their two field assistants (known as the 'beaver team') and four knowledgeable Cree hunters who acted as our hosts and guides. The trip culminated in a visit at a fishing camp on Shepherd's Island off the James Bay coast in the company of a Cree family. For the remainder of the field trip I was based in town, where I stayed with the beaver team in a *miichiwaahp*. From there, we embarked on several more short (1-3 day) field trips onto the land in the company of knowledgeable Cree hunters, including two overnight stays at hunting camps on traplines located east of the James Bay Highway that had been impacted by the La Grande hydroelectric mega project ('James Bay I').

Prior to my arrival, the ecology students had spent the bulk of their time conducting ecological research in the bush, and their main mode of relationship with their Cree hosts was logistical (although, being sociable people, they had already developed significant friendships with a number of individuals). For the ecology students and their research assistants, the time that I spent in their company and the nature of my research focus (knowledge interaction) allowed them a window of opportunity to engage purposively in relationship building and knowledge exchange with Cree hunters. Both ecology students were conducting multi-year research projects on different aspects of beaver ecology (such as habitat energetics and trophic interactions), and they welcomed the opportunity to speak with Cree hunters on a range of topics, including Cree perspectives on beaver diet,

behaviour, and habitat. These projects and their interactions with the Crees are described in Chapter 4.

Time in the community was spent conducting interviews with informants, informal participant observation of different aspects of life in Wemindji, deepening existing relationships, and developing new ones with friends and informants. My time in the community was also enriched by the synergistic presence of other graduate students investigating a variety of topics related to the *Paakumshumwaau* protected area project, with whom I spent significant time comparing notes and experiences.

## 1.4. Methodology

Informant selection was partially opportunistic and partially non-random. My supervisor initially identified a set of expert knowledge holders with respect to Cree practices of hunting, fishing, and trapping, of whom I interviewed as many as I could. Informants were also selected based on referrals by other informants, through chance encounters, and by following my own curiosity as I gradually learned more about the community. My presence and a description of my research were broadcast for several days over the radio in the summer of 2005, and I willingly held interviews with anyone who wanted one. While my main interest was in interviewing tallymen and full time trappers because of the importance of subsistence hunting to contemporary Cree identity, I was also interested in how people from other sectors of Wemindji society experienced and valued the hunting way of life and envisioned its place in Cree society.

I gathered audio recordings and hand-written notes from a series of individual semi-structured and unstructured interviews, group interviews, and participant observation. In addition, I maintained detailed field notes. When interviewing full time trappers and tallymen, I asked questions pertaining to animal communication, behaviour and motivation, human-animal relationships and hunting ethics, with a topical attention to the beaver. I also conducted interviews with the beaver ecologists and maintained ongoing conversations with the other southern researchers who were present conducting fieldwork in relation to the protected area project.

Over all, I conducted sixteen formal individual interviews and one group interview with a total of twenty Cree informants, in addition to the many informal conversations and interactions that I had over the two field trips. Of the formal interviewees, six were under forty, three were in their forties, and seven were over fifty years of age. My interviewees were overwhelmingly male; only one out of the twenty people interviewed was a woman. Six interviewees were full time trappers (spending around four months of the year hunting, fishing and trapping in the bush), and three worked regular jobs but trapped part time for supplemental income. Seven interviewees worked at full time jobs in town. Three interviewees were elders retired from trapping. The majority of the formal interviews were conducted in the summer of 2005. In the summer of 2006, the four guides who accompanied the beaver team and I on our canoe trip, as well as the individuals with whom we went on several shorter trips onto the land, were almost exclusively middle-aged male full time trappers and tallymen.

As I gained more experience in interviewing, I made more of an effort to engage with people on an informal basis and allow my informants to speak freely. I found that my informants responded better to open ended questions, and frequently one question was all that was needed to elicit an hour-long, wide ranging conversation full of anecdote and humour. I quickly learned that being outside in the bush was conducive to good conversations with people who spent the majority of their time there, especially as the topic of conversation was often about animals and people's relationships to animals. An effort was made to be out on the land with people whenever possible. As Geertz (1996: 260) notes, "to study place, or more exactly, some people or other's sense of place, it is necessary to hang around with them – to attend to them as experiencing subjects, as the responsive sorts of beings for whom... the world comes bedecked in places". In the 2006 field season, most of my interactions with my Cree informants were informal and outside, in contrast with the 2005 season, where they took place mostly indoors and were more formal, involving consent forms (Appendix 1), interview guides (Appendix 2), audio recordings and remuneration[7].

[7] The policy of the CURA-funded protected area project is to pay Cree informants $20.00 per hour or portion thereof for interviews. There is also a pay structure in place for Cree involved in the project acting as guides or drivers.

Interactions with the ecology students and other university researchers were both easier and more complex than interactions with community members. Easier, because, as peers essentially sharing similar occupational and cultural backgrounds, friendships developed between us relatively easily. More complex, because 'studying' their perceptions of animal behaviour and scientific practice involved a process of objectification of my own cultural assumptions rooted in our shared habits of thought and action.

Finally, in order to maintain anonymity, names of informants have been replaced with codes (CT = Cree Trapper; ES = Ecology Student).

## 1.5. Organization of the Thesis

Chapter 2, *History, Authority, Identity,* explores the historical relationship of the Eastern James Bay Cree to development and the state in light of the evolving political interests and engagements of Cree knowledge. A brief historical sketch of the forms of land use occurring in the territory of the James Bay Crees highlights how, in distinction to the fur trade, which left Cree authority over the land relatively intact, the era of hydroelectric development carried a new threat of annihilation to the knowledge practices and authority of the Crees. Out of this trial, contemporary Cree political identity was born.

Chapter 3, *Potentiality and Power in Traditional Knowledge of the Land and Animals,* presents Cree knowledge of the beaver and relationship to land and animals. I look at subsistence practices and the metaphors of animal personhood that inform them as representing a set of existential capacities to exercise power and experience meaning.

Chapter 4, *Practicing Science on Cree Land: Productive Misunderstandings and the Primacy of the Universal*, presents the research projects of the ecology students, and an analysis of the conditions for the practice of scientific knowledge on Indigenous territory. I identify two potential socially productive misunderstandings arising from the interaction of science and the traditional hunting knowledge of our Cree interlocutors, which are 1) the potential to render invisible the collaborations that make scientific

research possible; and 2) the potential for falsification of Cree metaphors of animal personhood through imposition of an empirical/spiritual split.

Chapter 5, *The Politics of Traditional Ecological Knowledge*, argues that the ways in which the 'indigenous' and the 'local' have been accounted for in certain forms of extractive development tend to reflect an understanding of Cree knowledge as 'invisible' and 'imaginary' as well as functional pressures that together operate to occlude important elements of Cree relationships to land and animals. These deployments of traditional ecological knowledge (TEK) have been complicit in threats to Cree authority by facilitating developmental engagements with the land that operate to reposition Cree authority over their territory, and contribute to shape the tenor and engagements of Cree traditional knowledge practices.

Chapter 6, *Asserting Knowledge and Overcoming Negation Through Narrative*, presents stories from my Cree informants about interactions with individuals and institutions representing misrecognition of Cree knowledge and undermining of Cree authority. I explore how the Cree protagonists in these narratives position their knowledge of the land and its animal inhabitants as a marker for Cree identity and interests in relation to these threats vehicled by external cultural logics and development on their territory.

Finally, in the conclusion, I summarize my main arguments and make suggestions for further research.

# 2.

# History, Authority, Identity

*For the Cree people, the land is part of us. My people still live off the land. We are sustained by what it provides; I guess we can say that we are the land. Eeyou Istchee, although it is vast, is a familiar place to us. Every bend in the river is known and named. A Cree map of our vast lands is crowded with place names. The footsteps of my people are everywhere. When I go with my dad to the hunting ground, he tells me, 'that's where grandpa killed his first moose. That's where we buried someone. That's where there was a lot of game. That's where the fish spawning grounds are.' We do not have to move a hundred yards and he has a story to tell.* (Coon Come 2004: 155)

## 2.1. Introduction

This chapter outlines aspects of recent Cree history that have impacted on Cree practices of hunting and trapping. Colonization, settlement, and economic integration of the Crees into global markets are forces that have marked the way they use and understand the land, the evolution of their knowledge and knowledge practices, and how they have entered into and shaped political processes such as treaty making and negotiations around extractive development that have had and continue to have an impact on their traditional land use practices. It is as much a mistake to think of contemporary hunters' knowledge of their environments as a pure holdover from pre-colonial times, insulated from the movements of history, as it is to think of this knowledge as a recent political invention with no links to the past. Anthropologist Bronislaw Malinowski's insight that tradition is not a 'survival' unarticulated with current circumstance, but rather a contemporary social phenomenon relevant to everyday life with sensible relationships to non-local external structures, still holds true (1944). If traditional skills and local environmental knowledge practices are currently employed, transmitted, and valued, it is because these continue to hold relevance to contemporary Cree economy, identity and life goals. In this chapter, I argue that subsistence hunting is increasing in importance as

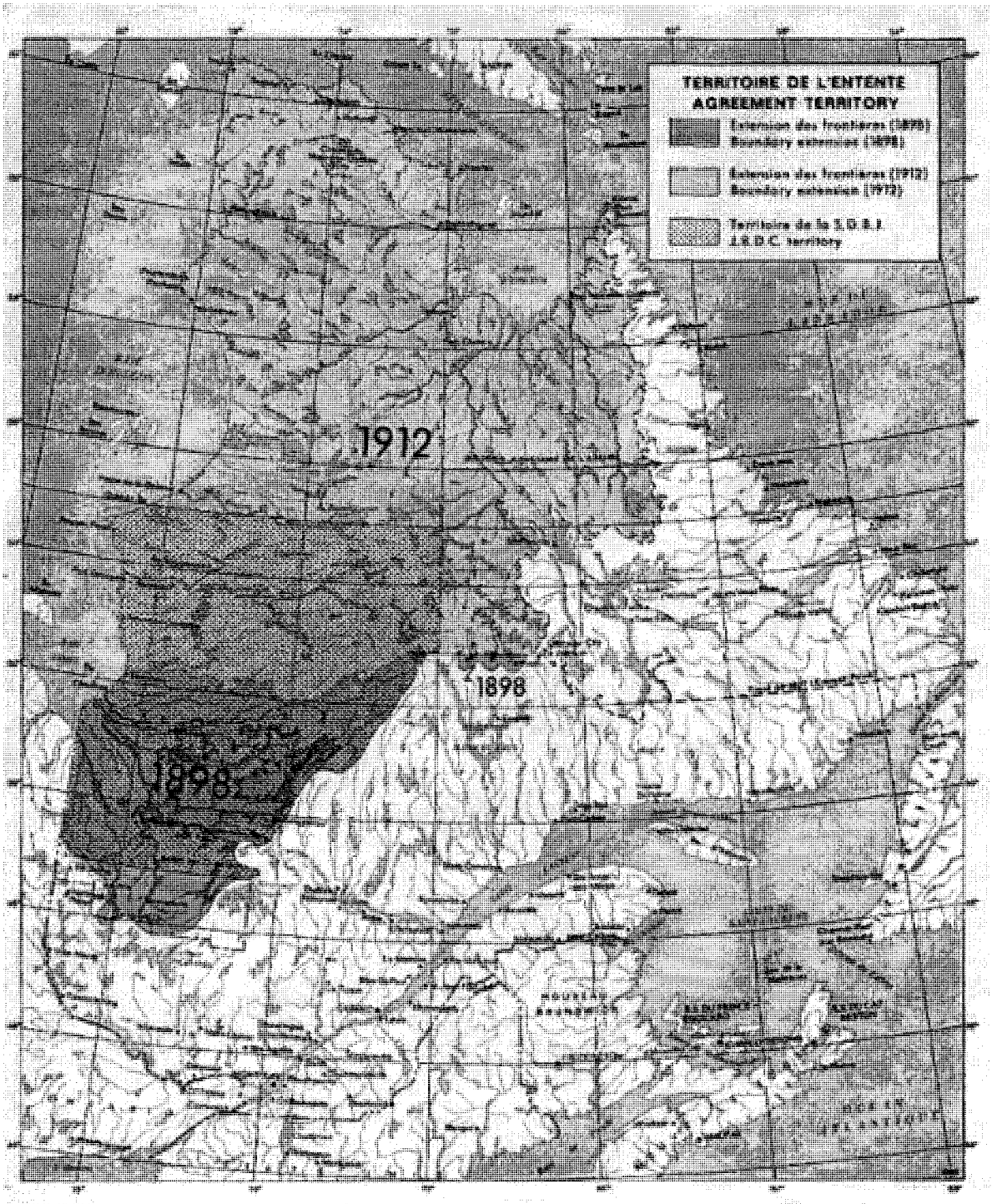
it becomes a vehicle for the assertion of difference. This difference enables access to rights and resources in the context of negotiated inclusion of Cree authority over their traditional homelands.

## 2.2. Crisis and Recognition at the End of the Fur Trade

In the mid 17th century, the Hudson's Bay Company (HBC) received the right to trade in and govern vast regions of Canada, including the James Bay area, by British Royal Charter. The HBC quickly set up trading posts in the area as the trade in furs, and especially beaver pelts, gained in importance. The HBC set up its first trading post on Wemindji territory at Old Factory Island, located at the mouth of the Old Factory River, a major navigation route connecting the inland to the coast, and the site of a community fishing camp. The designation 'factory', found in the names of trading establishments of the HBC and the British East India Company (for example, York Factory and Moose Factory), refers to an overseas commercial post of a colonial-era transnational company, places where goods were produced and/ or exchanged.

HBC trading posts throughout the region became loci for missionary activities and the delivery of the first healthcare, education, and other services offered to the Crees through the offices of company agents. The fur trade in many ways did not represent a threat to the hunting way of life of the Crees, and even contributed to the tacit recognition and reinforcement of Cree authority in the region, as the financial interests of the HBC were served by a strong hunting economy (Feit 2005). In 1869, Canada purchased the lands draining into the James and Hudson Bays from the HBC, and then transferred those areas currently within Quebec's borders to the province under the Quebec Boundary Extension Act, 1898, and the Quebec Boundary Extension Act, 1912 (Figure 3). However, the Constitution Act of 1867 ensured that the Crees remained under federal jurisdiction: the Constitution Act confers jurisdiction over "Indians, and Lands reserved

**Figure 3: Map of Northern Quebec** with Provincial Territorial Extensions of 1898 (green) and 1912 (yellow), Showing the Territorial Extent of the JBNQA.




Source: James Bay and Northern Quebec Agreement (Anon. 1975)

for the Indians" to the Parliament of Canada[8]. After the boundary extension acts, Northern Quebec remained the sole area of the province where the federal government assumed responsibility for delivery of all services to the quasi-totality of its (indigenous) inhabitants, including healthcare, housing, and sanitation. The federal government, with its administrative imperative, actively worked for the settlement of the Crees into permanent villages, which the Crees resisted until the construction of housing and schools began in the 1950s and 60s.

In the early 20th century, then, the Crees maintained relative autonomy from external administrative authorities and enjoyed relatively unfettered access to their traditional hunting territories. Cree fortunes, however, seemed to change with that of the beaver: after a run-up in fur prices, a massive influx of white trappers to the territories of the more southerly James Bay Cree communities and the subsequent breakdown of the Cree land tenure system, there followed a general fur-bearing animal population crash in the 1920s compounded by a trough in the caribou population cycle and widespread tuberculosis epidemics. This crash was exacerbated by over trapping in the region. A booming fur trade due to the popularity of felt hats in Europe led to an increasing amount of localized competition between white and Cree trappers. As reported by Harry G. Cartlidge, an Anglican Missionary who lived at the Waswanipi trading post in the 1910s, in a letter to the Director of Indian Affairs,

> In recent years... large gangs of men... engage in trapping, more or less, and have practically killed most of the fur bearing animals [in the areas they trap].... The chief [of the Waswanipi Cree] said that last winter there were ten white trappers hunting on his territory and that wherever they go they kill every thing, especially the beaver, therefore leaving nothing to breed for future winters' hunting.... (In Feit 2005: 271)

In reaction, Cree trappers hurried to trap out the areas of beaver that they could in advance of the white trappers, and the beaver population crashed in the 1920's.

The move to rehabilitate the beaver populations through the implementation of beaver preserves heralded the extensive administrative intervention of federal government agents into James Bay Cree society. Preserves were created at different sites in the James Bay region between the 1930s and the 1950s, with local Cree trappers participating in their maintenance and management. Indian Affairs agents worked with

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[8] Section 91(24). The Constitution Act of 1867, formerly named the British North America Act, can be found online at http://www.solon.org/Constitutions/Canada/English/ca_1867.html. Accessed July 12, 2007.

the Crees to map and register the system of traplines (family hunting territories), based on the existing system of land tenure. With the land tenure system again functioning effectively thanks to the barring of white trappers from the region and official recognition of Cree tallymen's authority, the beaver population had fully recovered from its disastrous crash by the post-WWII years. As well, a beaver quota was in effect from the 1930s to the 1970s, set and regulated by government agents. However, because the quotas were based on information supplied by Crees, they were able to continue their own management system unimpeded (Feit 1994).

From the perspective of the Crees, the government was recognizing their authority through officializing and formalizing their land tenure institutions and the role of the tallyman[9]. Within the Cree system of land tenure, tallymen are hunting bosses who have authority over all activities affecting the land and animals within the boundaries of a given trapline. A role that is most often passed down through the male line, tallymen dispense and revoke permission for the hunting, fishing and trapping of animals, and are respected authorities on the proper management of the land and maintenance of harmonious relationships with its animal and other non-human inhabitants[10]. Government agents, by restricting non-Native hunting and helping to set up beaver reserves, created favourable conditions for both the beaver to recover and the Cree system of land tenure to function effectively again. Although the quotas set by the government were respected by the Crees, "with their extensive knowledge of the resource populations, the Cree did not feel bound to follow the advice of government agents, which was based on simply following the trends in the number of lodges. Cree decisions were based on far more extensive knowledge" (Feit 1994). This episode marked the integration of Cree society into the fabric of Canadian political economy, law, society and culture: "the Cree were

[9] The designation of tallyman was given to Cree family hunting territory stewards by the federal government with the implementation of beaver preserves and the registration of traplines. For discussion of this process and its impact on the pre-existing system of land tenure, see Feit, H. A. (1994). Hunting and the Quest for Power, the James Bay Cree and Whitemen in the Twentieth Century. Native Peoples: The Canadian Experience, 2nd Edition. R. B. Morrison and C. R. Wilson. Toronto, McClelland & Stewart: 181-223. http://arcticcircle.uconn.edu/HistoryCulture/Cree/Feit1/feit1.html. Last Accessed July 12, 2007.

[10] For an extensive discussion of the Cree system of land tenure and the role of the tallyman, see Scott, C. H. (1988). Property, Practice and Aboriginal Rights Among Quebec Cree Hunters. Hunters and Gatherers: Property, Power and Ideology. Vol.2. T. Ingold, D. Riches and J. Woodburn. New York, Berg Publishers.

still exercising extensive control and autonomy in their hunting culture, but they were now doing so as part of the Canadian polity" (Feit 1994).

Prior to the construction of houses, most Cree would spend summers at the site of the trading post during the summer when would trade and socialize. It was not until the 1950s with the construction of houses by the federal government that some Crees began to live year-round in towns. However, the majority of people continued to spend the non-summer months in the bush. Residential schooling became widespread in the 1950s in the James Bay region, along with a revolving array of government socio-economic programs as part of what Anthropologist Toby Morantz has called 'bureaucratic colonialism' (2002). Fur prices had also rebounded in the 60s and 70s, but the long-term downward trend in fur prices, together with increased use of bush plane services, meant that by the late 1960s and early 1970s, hunters were feeling a pinch and were increasingly relying on federal transfer payments. By the 1970s, close to half of the Cree economy consisted of transfer payments, seasonal employment, and some permanent employment (Scott 1984).

## 2.3. Homeland and Hydroelectric Development

In 1971, chiefs of the then eight Quebec Cree bands met to discuss their reaction to Hydro-Québec's hydroelectricity mega-project, which involved the damming of the La Grande River that had just been announced four months earlier. At this time, the Crees did not represent themselves as a people, but rather as a grouping of individual bands. For the Eastern James Bay Cree of Northern Quebec, this momentous meeting of the eight chiefs was a watershed event that ushered in a new epoch of Cree (and Cree territorial) implication in national and global systems of information and exchange. Their understanding and naming of themselves as a single political community was in fact one of the long-term results of this preliminary mobilization against Hydro-Québec (Jenson and Papillon 2000).

The Crees decided to come together in order to fight the hydroelectric mega-project, first under the umbrella organization the Quebec Association of Indians, and then as the newly formed Grand Council of the Crees of Quebec. The ensuing court battle saw

the Crees' successful claim to Aboriginal title elaborated around the image of a single people with a common history and a common relationship to the land. The Crees were awarded an interlocutory injunction in Montreal Superior Court by Judge Malouf, which was overturned on a 'balance of convenience' argument by the Quebec Court of Appeals a week or so later. However, because the Court of Appeal's judgment on the merits of the case would not be decided for a year, and this decision was sure to be appealed to the Supreme Court of Canada, the Crees' lower court victory stimulated negotiations. The legal uncertainty for Hydro-Québec was heightened by the Supreme Court Calder decision in 1971 (Richardson 1975). This victory forcefully recalled to the provincial government their legal obligation to enter into negotiations with the Crees[11], a process that eventually produced the James Bay and Northern Quebec Agreement (JBNQA)[12] in 1975. These negotiations "accelerated the development of a Cree regional society and political institutions; they formalized Cree regional and local governments, and recognized the distinctiveness of Cree society" (Feit 2001: 416). The period between 1971 and 1975 in which the JBNQA came into being was therefore one in which the Crees re-imagined themselves as a people. As a corollary of this process, the assertion of a common Cree identity was formulated in terms of a shared relationship to a territory, a territory over which they were claiming collective rights to co-management (Jenson and Papillon 2000).

Generally acknowledged to have been signed under duress, as ongoing construction overshadowed the negotiations (Scott 2005), the JBNQA resulted in the official extinguishment of aboriginal title to their land in exchange for the rights and benefits detailed in this first of the 'modern treaties' in Canada. Delivery of most services was transferred from the federal Department of Indian Affairs and Northern Development (DIAND) to the newly formed administrations of what had become the Grand Council of the Crees of Quebec (GCCQ). However, the parties agreed that health and social services as well as education for the Crees and Inuit would fall under provincial jurisdiction. Fur

[11] A key condition of the transfer of 1912 was that Quebec recognize the rights of Native inhabitants on these lands and that, in return, the Native people release such rights to Quebec (INAC 1993).

[12] For an account of this agreement see Scott, C. H. (2005). Co-Management and the Politics of Aboriginal Consent to Resource Development: the Agreement Concerning a New Relationship Between Le Gouvernement du Quebec and the Crees of Quebec (2002). Canada: The State of the Federation 2003, Reconfiguring Aboriginal-State Relations. M. Murphy. Kingston; Montreal, McGill-Queens University Press.

management became the mandate of the Cree Trappers' Association (CTA). Political and administrative structures were brought into being that gathered together all the disparate communities, structures that began to interact directly with government administrations in the name of all Quebec Cree. In his study of the ten-year period between 1971 and 1981, Richard Salisbury remarked, "Cree society has changed from being a fragmented society of seven distinct village bands with little unity... into a regional society where the villages... have close ties with each other and administer their own affairs through a Cree governmental structure, staffed largely by Cree. They have turned seven 'home villages' into one 'homeland'" (Salisbury 1986: 8).

The devastation of productive Cree hunting territory due to the flooding of the La Grande River and the diversion of the Eastmain and Opinaca Rivers (part of the project known as 'James Bay I') and the other developments that followed on the heels of Hydro Québec's transportation infrastructure, served to galvanize an energized and savvy regional leadership. These energies were brought to bear during the next major political challenge to the Crees in 1989, when the government announced its intention to proceed with James Bay II, the second phase of the hydroelectric project started in 1971, involving damming and rerouting of the Great Whale River. Resistance to the project was immediate, and involved the Crees taking their struggle to the transnational political stage. In 1989, the Crees were much better organized than in 1971 and had now been led for some years by a generation of largely southern-educated, politically astute leaders, who grew up in the context of a Canada-wide movement by Aboriginal peoples to define themselves in terms of nationalist movements.

The shelving of the Great Whale project in 1994 by a provincial government confounded by growing international resistance and the potential loss of hydroelectricity customers (See McCutcheon 1991) proved that the Crees had reinvented themselves since 1975 as a powerful political entity capable of self government and able to effectively communicate the nature of their relationship to their territory in defence of their political rights. The fight against Great Whale also signaled the emergence of a claim to sovereignty over Cree territory. While this claim was in keeping with the nationalist character of the Cree movement, it incorporated the discourse of international law regarding the right of 'peoples' to territorial rights and self-determination.

"Advancing their claims in this international public discourse of Indigenous rights, the Cree had strengthened their collective-rights argument" (Jenson and Papillon 2000: 255). Drawing on international discourses of indigenism and collective rights, the Cree claim implied governmental authority over the bounded expanse of Cree territory. As stated by then Grand Chief Matthew Coon Come to the General Assembly of the Grand Council:

> We must gain recognition for our governmental authority over the whole of our traditional land. We must find ways to take this authority and to force the governments into recognizing that we have an internationally recognized right to exert this authority... We are the Cree people. We are the first inhabitants of this land, and we are the proper owner of this land. (Coon Come 1989 in Jenson and Papillon 2000: 254)

The campaign to defeat Great Whale played out decisively in the US, where the Crees made alliances with environmental non-governmental organisations (NGOs) and eventually had a powerful impact on public opinion. The Crees gained the support of these environmental NGOs in part by asserting that the Crees would be better stewards of the land and that therefore Cree territorial sovereignty should be enforced (Feit 2001). Matthew Coon Come, Grand Chief at the time: "Our cosmology places us not as owners or occupants of the lands, we are simply part of the environment. The destruction of the environment and the violation of our human rights threaten who we are, what we do, our way of life, and ultimately our survival as peoples" (in Jenson and Papillon 2000: 255).

In a speech from 2002, then Grand Chief Ted Moses explained that the right to self-government of a people flows from their association with a territory:

> I want to begin with the sacred origin of our right to govern ourselves and our territories. The Creator granted human beings dominion over the Earth, waters, wildlife and its resources. No one can convince me that the Creator, in His wisdom, has exempted Eeyou from this gift of having dominion over our portion of the Earth - dominion over our traditional and historical land that we call Eeyou Istchee. Consequently, we, Eeyou of Eeyou Istchee, have an inherent and permanent right to govern themselves [sic] and our homeland (Moses 2002).

At first glance, the Cree movement for political autonomy, whose assertions of 'homeland' invoke a strong form of territorial nationalism, seem to have as their desired outcome the attainment of equal status through nationhood. Ethno-nationalist movements involve the political assertion of a dominated people's ethnic and cultural identity in nationalistic terms, often with a territorial component, or homeland. The postulate that culture and territory are contiguous is a ready frame of reference that is supported by the

internationalist system that represents the world as a collection of countries, each of which embodies its own distinct culture and society (Gupta and Ferguson 1992: 6). Within this framework, the highest and most desirable expression of cultural difference and political equality is the attainment of a nation-state.

However, as Niezen (2003: 17) notes, what sets indigenism apart from other forms of political struggle, including ethnic nationalism, is its ambivalent relationship with the ideal of 'equality'. This is not a movement that seeks rights based upon individual equality, racial equality, nor equal status as a nation among the international family of nation-states, even though it employs the nationalist concept of homeland. In the case of the Cree, the proclamation of homeland in the language of territorial nationalism provides them with a place to situate and express their *difference*, which is expressed through a particular, unique connection with the land. It provides them with a concrete, bounded entity over which they can lay claim in order to preserve this connection, and to politicize the cultural difference that the concept of homeland enables and contains. Like other Indigenous peoples, the goal of the Crees is to attain the "affirmation of their collective rights, recognition of their sovereignty, and emancipation through the exercise of power" (Niezen 2003: 18). The concept of homeland provides a location that grounds these claims and provides them with an empirical reality.

## 2.4. Identity and Tradition in Contemporary Cree Society

In February, 2002, the *Agreement Concerning a New Relationship between Le Gouvernement du Québec and the Crees of Québec* (Anon. 2002), otherwise known as the *Paix des Braves*[13] was signed by then-Grand Chief Ted Moses and then (Parti Québecois) provincial premier Bernard Landry. The New Relationship granted, for the first time in Canadian history, the right to an aboriginal group to benefit directly from extractive development on their land through the payment of royalties to the Grand

[13] This phrase refers to two bitter enemies who remain undefeated and who have found the courage to make peace. The French use of the word 'brave' only means here 'courageous' and doesn't have the same connotations as it does in English, where it also can mean 'Indian war braves' (which some consider offensive).

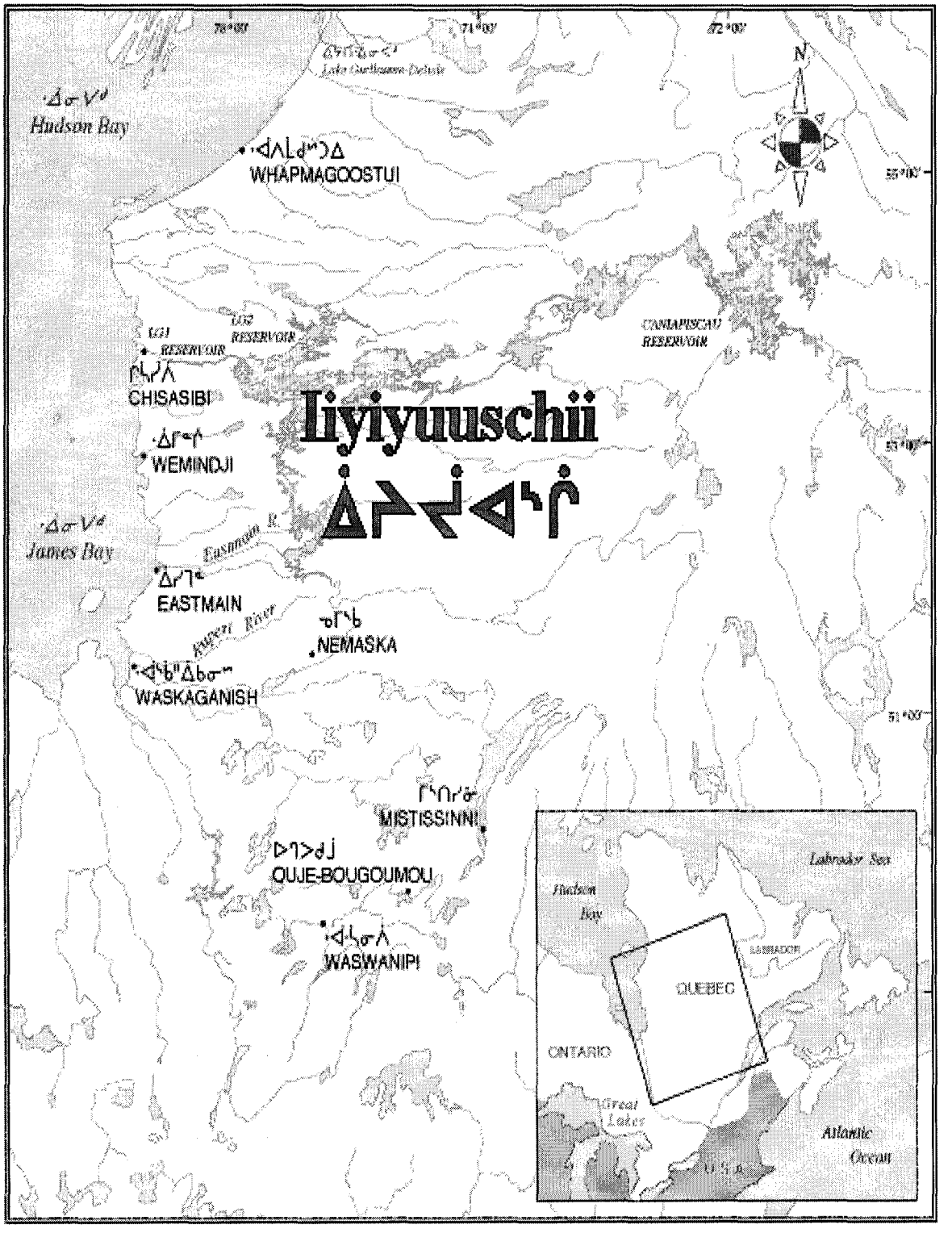
Council of the Crees (GCC) that will be indexed to the value of the development taking place. In so doing, Quebec was confirming that the James Bay Cree were a nation, with the right to negotiate directly with the provincial government, and explicitly acknowledging for the first time that the Cree Nation had the authority to have a say and an ongoing stake in development on the bounded expanse of its territorial homeland, *Eeyou Istchee*[14] (Figure 4). As Moses (2002) stated, "our new agreement recognizes that the Crees are entitled to share meaningfully with Quebec in the benefits from natural resources that accrue within the entire traditional territory of the Cree Nation". Craik (2004) notes that what was distinctly new here was "the possibility of the Crees becoming involved in the development of their territory, rather than being compensated to step aside...".

For all the benefit entailed in this markedly new level of recognition of Cree authority, the New Relationship involved a major concession: the diversion of the Rupert River into the existing La Grande complex. The Rupert is a river of unique cultural, historical and subsistence importance to the Crees, and one of the last remaining major undeveloped waterways in northern Quebec.

The New Relationship, by no means well received by all Crees, exposed deep fractures in the ways that the Crees understand their identities and place in the larger Quebecois and Canadian society, and brought into focus an internal debate around the place and importance of traditional values and the hunting way of life in the context of the pressing need for stable employment, housing, and a viable economic future for a rapidly changing demographic profile. This debate was crystallised in the competing visions for Cree society manifested by Grand Chief Ted Moses, who husbanded the negotiations leading to the Agreement in Principle and the New Relationship, and deputy

[14] Also spelled *iyiyuu ischii (or aschii)*. Together, they refer to the notion of Cree homeland. *Eeyou*, the word for Cree people, means "the being of a person", *Istchee* means "the world" or "the ground of being" Scott, C. H. (2006). "Spirit and Practical Knowledge in the Person of the Bear among Wemindji Cree Hunters." Ethnos **71**(1): 51-66.

**Figure 4: Map of *Iiyiyuuschii*** (Eastern James Bay Cree Homeland), showing the location of the Nine Eastern James Bay Cree Communities Represented by the GCC (Grand Council of the Crees).



Grand Chief Matthew Mukash, widely regarded as a 'traditionalist' and vocal opponent of the deal. These two influential figures would spend much of 2002 campaigning on opposite sides of a territory-wide referendum to ratify the New Relationship, in which competing visions of Cree identity were newly articulated and debated.

Mukash, a highly respected tallyman (traditional hereditary hunting boss and spiritual leader) and former chief of the community of Whapmagoostui, was one of the key figures in the successful fight against the Great Whale hydroelectric project some ten years earlier. In 1990 Mukash led a group of Whapmagoostui Cree in canoe and kayak from James Bay through Vermont and on to New York City to speak at an Earth Day rally[15]. In opposing the New Relationship, Mukash once again drew on his status as protector of Cree traditional connections to the land to argue that the Crees should refuse the deal on the grounds that it would cause irrevocable harm to the river, the fish and the wildlife. It was argued that the Crees had already seen and had enough of the devastating effects of flooding, and that the Crees must protect and renew their traditional relationship with the land and the animals. The general position of opponents of the New Relationship was that the proposed project would "ruin the Cree way of life and that the land should be preserved for future generations" (Craik 2004). Mukash also deplored the secrecy around the negotiations and signing of the deal, symptomatic to him of the over-bureaucratization of Cree society and its departure from a more traditional form of consensus-based decision making centred on the tallyman, seat of traditional knowledge and authority, rather than on the bureaucratic institutions of Cree governance that have come to hold the balance of power. The debate over the New Relationship agreement brought into light the discomfort of many Cree with regional bureaucracies. These were being challenged and questioned on their alignment with traditional forms of governance, ethics and land use through their juxtaposition with the traditional institution of the tallyman.

Opposition to the New Relationship was highly vocal and emotive. I happened to be working in the James Bay region in the summer of 2002 as a research assistant with a

[15] For an account of this trip and the campaign to defeat Great Whale, see McCutcheon, S. (1991). Electric Rivers: The Story of the James Bay Project. Montreal, Black Rose Books. Also, McRae, G. (2004). Grassroots Transnationalism and Life Projects of Vermonters in the Great Whale Campaign. In the Way of Development: Indigenous Peoples, Life Projects and Globalization. M. Blaser, H. A. Feit and G. McRae. London & New York, Zed Books.

team of social scientists contracted by Hydro-Québec to conduct a land use impact assessment for one of the sectoral studies making up the Environmental Impact Assessment for the Rupert River diversion[16]. This was a time of great unease for many Cree, especially those inhabiting the communities of Waskaganish and Nemaska who have used the Rupert River since 'time immemorial'. Tim Whiskeychan, resident of Waskaganish, drew attention to this tension, palpable throughout the summer of 2002. "Right now people are not speaking about it. Some people are afraid I guess. Most people I spoke to said they oppose the deal. Some elders say they voted in favour because it would create employment. More than 75% of our population is made up of young people. Today they're more interested in TV than tepees. Some people say there will be good and bad, but nature-wise I guess the land will be destroyed, completely. [17]"

In Nemaska, I met Freddy Jolly, a tallyman whose trapline (family hunting territory) would be among those most severely impacted by the Diversion. His sadness and anger were deeply moving, and one of the ways that he was coping was to extend open invitations to 'Whitemen[18]' (the Cree term for non-Natives) to come and live with him on his land, to see and communicate to the outside world the depth of his connection to his land and the extent of what would be lost and destroyed if the project went ahead. When I met him, he had hosted a few years earlier a doctoral student conducting research on Cree land management and tenure systems[19]. Jolly campaigned tirelessly against the New Relationship, speaking out publicly on many occasions and leading snowshoe walks along traditional seasonal migration routes to raise awareness and to promote traditional hunting-based values. In an earlier letter in *The Nation* (1997) he stated:

> There has been a lot of destruction on our lands. Forestry, mining, roads, the hydro projects and more, these have all changed our lands and our way of life. As a Cree, I have cried when they destroyed our lands. As a tallyman, I have tried in so many ways to stop this but

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[16] I describe the political implications of this work in Scott, C. H. and W. Nasr (submitted and under review). The Politics of Indigenous Knowledge in Environmental Assessment: James Bay Crees and Hydro-Electric Projects. Globality, Autonomy, Culture. P. Rethmann, W. Coleman and I. Szeman. Vancouver, University of British Columbia Press.

[17] http://www.radionetherlands.nl/features/cultureandhistory/rivers020805.html Last Accessed July 12, 2007.

[18] 'Whiteman' is the translation of the term *waamistikushiiu*, which refers to any non-Native. While not necessarily derogatory, the term conveys a sense of an uneven balance of power in favor of non-Natives. Adelson, N. (2000). "Re-Imagining Aboriginality: An Indigenous Peoples' Response to Social Suffering." Transcultural Psychiatry **37**(11).

[19] This collaboration has been published as Whiteman, G. (2004). "The Impact of Economic Development in James Bay, Canada: The Cree Tallymen Speak Out." Organizational Environment(17): 425.

> nothing has worked. The development and abuse of our lands continues, and the tallyman no longer has the power to save his trapline.

This image of the tallyman mourning the land, for which he is seen to be the voice and the steward, was again invoked by Jolly during the period of soul-searching leading up to the New Relationship, and pitched towards the chiefs and negotiators, leaders of the bureaucratic apparatus of Cree government who, according to Jolly, have 'lost touch' with the land. He speaks of the need to:

> ...Bring out something to awaken the chiefs to what the tallyman is facing in the bush. The hurts. I'm sure the tallymen are hurt a lot but they [the chiefs] don't seem to understand the hurt they're facing because their heart isn't in the bush. There's a trapper that told me that he has got nothing and they're chopping the trees in his trapline. The chief said he was negotiating but he hasn't got anything. Its just words. You have to act upon your faith. (In Whiteman 2004: 439)

Ted Moses, who is also a tallyman, passionately argued for ratification of the New Relationship, and his position was made all the more convincing because his family's hunting territory was to be impacted by the diversion of the Rupert. He was making this personal sacrifice in the interests of the Cree Nation, which he felt needed to create new opportunities and possibilities for economic survival. Coming from this position lent force to his vision of the future of the Crees as participants in the modern wage economy. Ted Moses:

> Aboriginal Peoples must exert their right to benefit from the development of the resources from the whole extent of their traditional territories. To do this they must also continue to reinvent themselves to go beyond the stereotypes that curiously reinforce their alienation from their own lands, by proposing that they cannot be the developers of the land but can only ever be hunters or gatherers. It is this notion that condemns aboriginal peoples to lives of poverty and forced assimilation. As Aboriginal Peoples we must recognize ourselves as pursuing valid and meaningful careers not only in traditional pursuits but also outside of the forest. One is not any more or less Cree because of what one does for a living, any more than one loses one's European or Canadian identity by being an astronaut, a woodsman, a mechanic or a social worker.[20]

Proponents of the New Relationship called for a Cree identity and future more inclusive of participation in the extractive economy and based on the demographic and economic 'realities' facing Cree society. The image of 'steward' deployed by Mukash and opponents of the deal was being challenged. Bill Namagoose, editor of the Cree news

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[20] http://www.ottertooth.com/Reports/Rupert/News/rupert-news3.htm. Last Accessed July 12, 2007.

magazine *The Nation*[21] stated that "the Cree are a nation and as such we have a right to benefit from our own resources. Under this new agreement there will be revenue sharing with Hydro-Québec. Europeans have a romantic notion of us as being the stewards of the land. But we're the owners of the land. Not the janitors[22]." This provocative image of the Crees as janitors, taking care of the land until 'the boss' comes along to develop it, successfully highlights how important the New Relationship was in recognizing Cree authority to benefit from development on their land, authority that for the first time, would allow the Cree people the option of going beyond intransigent opposition to development or silent suffering of its impacts. Here, the talk is of being 'proactive' with respect to development, thereby exercising some measure of control and power over development agendas and outcomes. In addition, proponents of the New Relationship pointed out the vital role that the regional bureaucracies and administrative apparatuses of Cree governance played in the recognition of this authority. These structures were defended by the proponents as underpinning Cree nationhood and creating the possibility for negotiations on a nation-to-nation basis with Québec and Canada.

The New Relationship was successfully ratified in referendum by 70 percent of just over half of eligible voters, with a substantial amount of votes against and abstentions. Ultimately, perhaps what prevailed in this vote was the oft-expressed notion that in spite of their misgivings and personal feelings, the current generation doesn't have the *right* to prevent or limit the next from accessing the economic opportunities represented by ratification of the New Relationship and further extractive development. What is certain is that this process reveals an active coming-to-terms with cultural and social change that increasing enmeshment in the larger national and international political economy entails. In 2004 Bill Namagoose wrote a kind of eulogy to the pain stirred up by the referendum process:

> This difficulty in part comes from the deep spiritual attachment to the land and animals that all Aboriginal people share. Adapting to a new way of life should not be considered the

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[21] Bill Namagoose's writings reflect his personal opinions, and not an editorial policy of *the Nation.* His position seems to have been more of an exception within this publication, since *the Nation* was perceived by the GCC executive as hostile to development in general and ratification of the New Relationship in particular, causing a rift between the two reflective of the internal debate around Cree identity that I am discussing here (Colin Scott, McGill University, Personal Communication).

[22] http://www.radionetherlands.nl/features/cultureandhistory/rivers020805. Last Accessed July 12, 2007.

> end, but as the means for the Nation to keep thriving. Without quoting him, I believe in what Elder John Petagumscum of Whapmagoostui said to us during the consultation meetings. He explained that the Creator did not mean for us to only have one way of life, but planned it that we would have several. This teaching will help those who feel that the Cree Nation was chosen by God to pursue only one way of life and that it would be lost if it strayed from that path[23]"

This crisis in Cree identity was far from played out with the ratification of the New Relationship, however. In 2005, Matthew Mukash ran for grand chief against Ted Moses, and defeated the incumbent by 34 votes. Mukash ran on a platform of strong governance, environmentally friendly energy sources, and traditional Cree values. Some time after his election, Mukash fulfilled an election promise to hold a second, unofficial referendum in the communities most affected by the Rupert River diversion. The result was a clear win for the 'no' side. However, the process of environmental assessment was on the point of being approved, and with the Crees already legally engaged, this shifting of leadership and newly articulated opposition could not stop the project.

The impact and implications of the New Relationship are still being debated. The struggle over the Rupert indicates that the main battle lines were not drawn between the Crees and 'the corporation' or 'the government', as had been the case with Great Whale, but rather had become internal to Cree society. Cree identity was being questioned: how are the Crees to move into the future while remaining anchored in tradition? More than one possible future presents itself. While the hunting way of life anchors Cree culture in many ways, divisions, diversity and stratification have emerged in Cree society as people increasingly move into the wage economy and participate in growing sectors of extractive development and public administration. As a result, traditional knowledge and the hunting way of life, as well as the institutions, food and values associated with these activities, have taken on a new poignancy and importance. Both Moses and Mukash are tallymen, charged with the spiritual duty of maintaining harmony in human-animal relationships, and yet have alternative visions of how to protect and manifest those values in their interface with extractive development. It is agreed, however, that hunting practices must continue to anchor Cree identity and Cree participation in development. As he departed the post of Grand Chief in 2005, Moses reiterated, "We must support the traditional Cree way of life. The trappers continue the occupation of *Eeyou Istchee* as we

[23] http://www.gcc.ca/gcc/eeyoueenou/eeyou_nation_win.pdf. Last Accessed July 12, 2007.

have always done. They are important in preserving our traditions and our language, and in improving the health of our people" (2005).

## 2.5. Conclusion

Asserting and protecting Cree rights to a bounded homeland involves the paradox of amplifying the symbolic importance of the hunting way of life and the traditional values it embodies while necessitating the reconfiguration of Cree society in ways that undermine the hunting economy and threaten its future. As the numbers of people hunting full-time is decreasing, and as other sectors of the economy become more and more prevalent, the Crees are imbuing 'traditional knowledge' with vital political and emotional importance. Even as the Cree communities are engaging out of necessity more and more with development projects on their lands, efforts are being made at all levels of Cree society to balance traditional values and the hunting way of life with modern or contemporary influences and knowledge, especially in the areas of education, health, and land use (Niezen 1993).

This difference that has become bearer of rights is enacted through the subsistence practices and associated values that have come to vehicle Cree particularity in relation to the larger Canadian polity. Tallymen, as holders of this important traditional knowledge, are key symbolic resources for Cree identity; their hunting practices and hunting knowledge infuse the notion of Cree homeland with political significance and emotional resonance, forming the basis for the right to self-governance and the exercise of authority. The hunting knowledge they hold has become a powerful identity marker through articulation with a political process of engagement with the state and industrial development. In this sense, traditional knowledge is an important element in reconstructing and transforming the boundaries between the Crees and the larger society. Although less important economically, these political considerations have arguably made hunting practices and knowledge *more* important to Cree society than it was in the past, when subsistence hunting was the primary means of securing nourishment.

The new political importance and shifting role accorded to subsistence practices and hunting knowledge does not automatically render them inauthentic or contrived; *Eeyou Istchee* is not (as Hydro-Québec has argued) a smokescreen put up by the Crees that manipulates the concept of tradition in order to make a grab for resources (Feit 2001). Rather, the renewed importance of subsistence practices is part of the construction of a governable space on Cree terms, and as a governable space, is not "fabricated counter to experience"; governable spaces "make new kinds of experience possible, produce new modes of perception, invest percepts with affects, with dangers and opportunities, with saliences and attractions" (Rose 1999: 32). Current traditional knowledge practices remain continuous with the lineage of oral teachings stretching back into pre-colonial times, but they have attained new relevance in the contemporary Cree experience, constituting the grounds for the re-articulation of Cree subjectivity in relation to the larger Canadian society. *Eeyou Istchee* allows for the Crees to communicate their specific relationship with their lands and waters in ways that do not necessarily partake of the conceptual framework of dominant Canadian society. As Scott notes, "such spaces are... hybridized – ordered in part by Aboriginal definitions of home place yet simultaneously transformed in negotiation with mainstream canons of jurisdictional and property rights..." (Scott 2001).

# 3.

# Potentiality and Power in Traditional Knowledge of the Land and Animals

> CT1 *tells me a story of a whiskey jack* [a bird] *that landed twice on his head, and insistently tried to peck out his eyes. After that, he said, he* knew *that he would kill something. Soon after, he killed a bear. Through these events, the land was trying to tell him something. "The land wants me around" he said.* (Field Notes 2007)

> *"Power"* [for the Crees] *is a relationship in thought and action among many beings whereby potentiality becomes actuality. Hunting is an occasion of power in this sense, and the expression of this is that animals are gifts, with many givers. Power in this Cree sense may have analogies to our concept of truth, i.e., thought that comes to be. We might say that power is truth unfolding, rather than that power is control.* (Feit 1994)

## 3.1. Introduction

In discussions of the political contexts of contemporary Indigenous societies' deployments of local knowledge, something is lost "both on the ground, and in theory, when local lifeways are subsumed under discussions of larger global historical processes" (Dombrowski 2007: 211). Similarly, Nazarea asserts that "at its extreme, critical scholarship" puts into question "the very existence of local knowledge, arguing that local discourse could be simply a reflection of global rhetoric and agenda: generalized, embellished, framed" (2006: 322). My experience with the full time trappers and tallymen of Wemindji gave me an appreciation for the felt, emotive dimensions of subsistence hunting and the continuing vitality of the frames of reference associated with these practices. Indeed, it is at the level of embodied experience that hunting knowledge has become charged with new relevance and asserted as a privileged frame of reference – even as it has become an object of political discourse and ethnic identification. Adelson

(2000) shows how the process of cultural assertion and political mobilization that has characterized Cree society in recent decades has inflected notions of health (*"miyupimaatisiiun"* – literally, 'being alive well'), thereby taking up residence in the bodies and experience of members of Cree society. In a similar way, subsistence hunting practices and associated knowledge, when practiced by individual hunters, become permeated with meaning through their complex interface with processes of identity reformulation, negotiations of power, and resistance to the elision of Cree authority over the land. Traditional hunting knowledge, like Cree notions of health, is "linked to a larger strategy of cultural assertion and resistance in a dynamic balancing of power between the State, the disenfranchised group, and the individual" (Adelson 2000: 9).

In this chapter, I briefly explore how the tallyman and the hunting way of life figure in the identity and imagined futures of non-hunting individuals, and then turn to a description of the ways in which full time trappers understood and presented their relationships to beaver and beaver harvesting. I look at these practices and the metaphors of animal personhood that inform them as representing a set of existential capacities to exercise power and experience meaning. I argue that they present a meaningful way to exercise authority over the land, to connect to one's ancestors and to situate one's activity within an unbroken lineage towards the future. We can understand better why traditional knowledge has become so important to contemporary Cree society and why it is so vital to maintain, by understanding what it grants on the experiential level to its practitioners: the experience of power and potentiality in one's interactions with the land and animals.

## 3.2. Importance of the Hunting Way of Life

At the time of European invasion, the James Bay Cree were semi-nomadic, spending the winters hunting, fishing and trapping inland on family hunting territories, and the summers on the James Bay coast in communal fishing camps. This seasonal pattern of land use is still practiced by hunters and trappers, although conducted from peoples' primary residences in the towns of the James Bay Cree communities and with the aid of modern forms of transportation. Even non-hunting community members

residing permanently in town retain at least a symbolic participation in these seasonal subsistence activities, through consumption of valued bush foods obtained by friends or kin and participation in community events such as the annual summer gathering on Old Factory Island, the annual re-enactment of the move from Old Factory Island to Paint Hills (the current location of the town of Wemindji), and *nasababajuu*, the annual snowshoe walk from several hundred kilometres inland to the coast.

People with full time jobs in town may only hunt on weekends and on vacations, but they often have considerable experience and skill at hunting and trapping, taught to them in their youth by a father or an uncle, and they often intend to retire 'into the bush' in their elder years, using the Income Security Program (ISP) as a form of supplemental retirement income[24]. Finally, young people are also sometimes active beaver trappers, and as their work or schooling permits, go out to trap, alone if they have the experience and access, or with an older father, brother, or uncle.

The Cree Trappers' Association, which currently manages and tracks Cree harvesting activity, provides subsidized fuel, transportation, and other necessities of life in the bush, as well as administering the Income Security Program and selling animal pelts. The CTA also plays a role in educating tallymen as to their legal rights and responsibilities regarding hunting and trapping regulations. In the event of disputes related to trapline boundaries and succession, the CTA can intervene as mediator. Local hunters sold 378 beaver pelts to the Wemindji Regional CTA last year, a slight decrease over the previous year.

Oral teachings on hunting technique and values, handed down from generation to generation are still held and taught, most of all by full time trappers and tallymen. Elders, who have often lived lives filled with extensive experience in the bush but are now retired from hunting, remain important knowledge holders and key reference people who continue to relate knowledge in the form of advice and stories to younger people. Tallymen have an important role in safeguarding the interests of the community in relation to the land and balancing the hunting way of life with other development. According to one informant, tallymen are being increasingly called upon to take a

[24] Provided under the terms of the James Bay and Northern Quebec Agreement (JBNQA). ISP recipients spend a minimum of 120 days per year on the land hunting, fishing, and trapping.

position on development occurring on the territory, reflecting the importance of their political involvement in the community alongside the more formal structures of regional bureaucracies.

*In the community, when they have meetings when there're things changing, they usually have meetings for the tallymen to come together, and they have to decide some things, even if it's not in their own hunting area. They want them to know if something has to be decided upon but it's in somebody else's hunting area – it's because you never know when it's going to happen in your area. So, they must sit together, as a government body, almost, right? And they all have to agree on it, and then they discuss it. That's what's different now. They didn't do that all the time. In the past, they used to deal with each other, whoever was in the neighbouring traplines, you know? Discuss things.* (CT 14)

Tallymen also provide continuity in the transmission of Cree values, and thereby contributing to the continuing distinctiveness of Cree identity, through passing on their hunting knowledge, and through their grooming and selecting successors within the Cree system of land tenure. One trapper related a story of how a tallyman selected among his sons for a successor. In this case, the youngest brother was chosen over his elder brothers.

*The last winter before he died, he found out that he wouldn't be able to go back on to his trapline. So he chose his successor, his second youngest son, to be tallyman. But the guys' brothers are still living, but they're not complaining. He* [the father] *understands, of all people, what kinds of persons his boys really are. What they can do. That's the reason why he chose who to give the trapline to.*

W: [in making his choice,] *did he think about which one of his sons would be best able to take care of the land?*

*I guess. The guy asks me, he says, why do you think my father chose me to be a tallyman? I said it's probably not because you're better than any of your brothers, but it's probably something. I was in his house.* [...] *I saw a little pair of snowshoes hanging. He made and laced them himself. I said: this is the reason why your father picked you. Do you think that your other brothers can do that? That's why your father picked you. His brothers listen to him on the land. He acts just like he's the older brother. He decides what to do.* (CT 13)

Faced with the necessity of finding formal employment, fewer young people intend to make hunting their full time occupation during their working lives. However, the connection that youth feel with the land and the benefit they derive from the hunting knowledge of their elders through time engaged in hunting, fishing and trapping was extremely important to the ways in which they self-identified and constructed their

participation in the wage economy. One interaction in particular brought home to me the importance of the hunting way of life for the next generation of Cree land users and a sense of the role that hunting will play for the young people who are facing decisions regarding their livelihoods. During a group interview with four young men who all worked for the Cree Trappers' Association, I expressed my observation that there weren't a lot of young people out on the land. I asked if the reason had to do the lack of money involved in that life, what with the price of fur down and the limitations associated with receiving the ISP. I wondered aloud that if trapping were more lucrative, then maybe there would be more young people making a living from the land. Everyone present corrected me – vehemently – and all were in agreement that hunting, fishing and trapping is not about money, its about unwinding, relaxing and connecting with the land, and with Cree culture. "*The Cree don't trap for the money*" (CT 15). One person spoke about the difference between Cree culture in Moose Factory (a Cree community located on the western (Ontario) side of James Bay) and Wemindji. "*In Moose Factory, culture is like a holiday or a festival. Here it's a real way of life – the language is intact, people are living their Cree culture*"(CT 15). I asked, *"Then my worry that the traplines will be empty after these old guys pass away, in 20 years or so, is wrong?"* They all replied yes.

I learned that the numbers of young people (<30) who receive payments from the Income Support Program are in decline. However, I was informed that this doesn't mean that fewer young people are going out on the land. Rather, it means that more and more young people have jobs during the week and that they are going out to their hunting camps on weekends or during vacation, such as Goose Break, the holiday to pursue the traditional spring goose hunt. Young people still feel a connection to the land, and bush activities are still important to them. I was also told that some politically involved members of the Youth Council of the Crees were proposing changes to the ISP rules in order to accommodate individuals who have gone to college in the south of the province. These changes would reduce the minimum number of days required to be spent in the bush and make eligibility more flexible and inclusive, which would allow more young people, as one youth put it, "to benefit from the land".

## 3.3. The Beaver on Wemindji Cree Territory

The beaver is a cultural and ecological keystone species in the Eastern James Bay area, and is therefore a useful focal point for understanding the relationship of Cree ecological knowledge to modern circumstance. In my discussions with trappers, a recurring topic of conversation and issue of concern was the numbers of beaver present on the land, and the relation of current to past population levels. It is little wonder that people in Wemindji are so concerned about beaver populations, since a period of starvation and scarcity is present in living memory and oral history. Trappers seemed to be in agreement that the beaver have fully recovered from the major crash in fur bearer populations that occurred in the 1920s and lasted into the 1950s (a recovery that followed implementation of beaver preserves and registered traplines in the 1930s and 1940s (Feit 1994)), while impressions of fluctuations on a smaller temporal scale were varied. Some trappers indicated that the beaver are 'coming back' after a 2-3 year period of relatively low numbers, while others felt that numbers have been more or less stable the past ten years. This variation is probably due to ecological differences between traplines, as good beaver habitat is not equally distributed across Wemindji territory (Samson n.d.), as well as to differing fire histories and rates of post-fire repopulation among traplines. The crash of the beaver population in the 1920s led to the administrative intervention of the federal government into the Cree land tenure system, leading to the formalization of the trapline system and the imposition of beaver quotas on trappers for the subsequent fifty years (until the signing of the James Bay and Northern Quebec Agreement (JBNQA))[25] in 1975.

Beaver has always been a main subsistence staple for the James Bay Cree, and an important source of income from the sale of its pelt (Feit 2005: 270). The beaver is an animal that the Crees have used for food from beyond living memory, and as such, its continued harvest exerts a force for cultural continuity and the enduring relevance of the knowledge, practices and values associated with the hunting economy. The beaver is a well-developed object of knowledge for the Crees, the subject of many myths and stories,

[25] For discussion of the beaver quotas, see Scott, C. H. and J. Webber (2001). Conflicts Between Cree Hunting and Sport Hunting: Co-Management Decision Making at James Bay. Aboriginal Autonomy and Development. C. H. Scott. Vancouver, UBC Press: 149-174.

in addition to being a still highly valued source of nourishment and supplemental income from the sale of its pelt. Second in caloric harvesting efficiency only to the moose (which probably arrived in Wemindji territory within the last 75 to 100 years) (Feit 1992) and the caribou (when at the peak of their population cycles[26]), the beaver has long been for the Crees both a key part of the hunting way of life as a major source of food and a privileged operant for the integration of Cree lands and society with global political and economic forces.

In part because of its dual importance as commodity and food source, the beaver is one of the most highly valued animals harvested by the Crees. As evidence of its importance, there is a generally respected rule that only the main users of a given trapline may harvest beaver. When travelling through another trapline, Cree are permitted to kill any other animal that they need along the way except for beaver. Although this rule seems to date from a time when rivers were used exclusively as a means of travelling to the coast in the Spring and back inland in early Fall, it is still considered inexcusable to trap beaver for their pelts from a trapline that is not your own without express permission.

*People who travelled from the coast to their traplines on the old factory river, they were told you can kill any animal you need on your travels, but don't touch the beaver. You can trap any other animal. You're not allowed to stay a few days and trap animals, but if you see an animal, and you need food, you can kill it. (CT 13)*

Permission to harvest beaver is not lightly given or taken away in Cree society, reflecting the historical and symbolic importance of this animal to the Crees. One of my informants is engaged in a dispute over the authority to hunt beaver on the trapline that he grew up on. This individual, who had full trapping rights on his family trapline before moving to Ontario to trap beaver for the provincial Ministry of Natural Resources[27], was absent from Wemindji for a period of six years. In his absence, another family asserted control over the trapline with the apparent support of the community and in accordance with local customs. Upon his return, the individual was granted limited harvesting rights on the trapline in dispute, and notably restricted from harvesting beaver. This exclusion

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[26] Prior to the current peak, which has endured from the late 1980s to the present, caribou were not abundant on Wemindji territory since the turn of the 20th century (Colin Scott, McGill University, Personal Communication).

[27] In recognition of their trapping skill, some Eastern James Bay Cree were hired by the Government of Ontario to trap beaver in areas where they were becoming overpopulated and a nuisance.

reinforces the other family's claim to the territory by defining each party's level of access to resources. Without permission to trap beaver, the individual's level of access to and control over the trapline is defined, and he is symbolically positioned as 'just passing through'.

### 3.3.1. Basic Beaver Ecology

By way of introduction to the animal that is the focus of this chapter, in this section I present a short summary of what I learned about beaver ecology on Wemindji territory during my stay. With the objective of presenting an integrated picture of beaver ecology as understood by my informants, I have summarized on the basis of multiple sources, including interview data from both Cree trappers and ecology students.

The beaver (*Castor canadensis*) is the biggest rodent in North America, and an animal that actively modifies its habitat to its own and other species' benefit (such as fish, geese, muskrat, and otter). A nocturnal animal, the beaver feeds and works primarily at night, when it cuts down trees and other vegetation with its two large incisors. Beaver on Wemindji territory eat alder, aspen, willow, poplar and cherry, as well as the roots, stems and leaves of aquatic plants such as cattail and water lily. Aquatic plants, and the water lily in particular, which are easily discernible in food caches, make the beaver fatter and therefore more desirable as food. Beaver who live in lakes have a higher proportion of water lily (*muuskuutimii*) in their diet than their riverine cousins. Sometimes the water lily, which is a preferred food over woody materials, is so abundant in certain lakes that it becomes the primary element in the diet of lake beaver. I was told of one beaver lodge located on an island in the middle of a small lake, where the beaver eat nothing but water lily. The fat on beaver from lakes rich in aquatic plants is thick and pure white, and their taste is considered to be unspoiled and therefore superior to tree-eating beaver. Conversely, several of my informants indicated that poplar negatively affects the taste of the beaver and turns the fat a distinctive yellowy colour. Taste preferences seem to vary according to locale, as further to the south, in the community of Waswanipi, the mountain ash (not found on Wemindji territory) is considered to impart a particular sweetness to

the animal. "It gives a sweet taste to the intestine (of the beaver) and they're fatter" (Waswanipi Cree trapper, quoted in Hebert 2005: 31).

Beaver dams alter the water flow from drainage areas; change patterns of silt deposition, and can create ponds. The resulting habitat conditions are favourable for waterfowl, muskrat, otter, fish, and aquatic plants. Because of this shared habitat, occasionally a muskrat or an otter will find its way into a beaver trap, although the technique for trapping these other species is distinct from that for beaver trapping. Dams create ponds that ensure the entrance of the lodge is under water, which reduces risks of predation and decreases the time that the animal spends out of the water looking for food. Another primary function of dams is to maintain sufficient water depth to submerge food caches keeping them accessible through the winter.

In addition to building a dam, the beaver will construct itself a lodge or bank den out of sticks and mud for sleeping, eating, and reproducing. Food is stored in the lodge or in a partially submerged cache near the lodge for winter consumption. Beavers may build bank dens or lodges in streams or where water levels fluctuate often. Lodges made of sticks and mud are built in lakes or in shallow-water areas formed by their dams. Beaver enter their dwellings below the water level, but their living quarters are above the water level. Beavers often make tunnels between the shore and under the water. Muskrats, otter, and even bear occasionally inhabit abandoned beaver lodges.

Beavers have a highly developed sense of smell – I was told beaver could smell poplars, for example, from 50 meters away (CT 13). Beavers use their extraordinary ability to remain underwater for long periods of time to avoid predators, which in the James Bay region include bear and wolf. Otter are the main predator of juvenile beaver, and sometimes groups of otter overpower and consume single adult beaver. An adult beaver however, is a fierce fighter and can give even a wolf a tough fight.

Beaver breed in winter and have a gestation period of four months. The young are born in spring and early summer, and remain with their parents until they leave the den at about two years of age. The female normally reaches sexual maturity during her third year and thereafter will breed once per year. On average, a beaver colony consists of two parents, two or three juveniles, and a litter of up to four kits, born every spring. Beavers change lodges year-to-year, occasionally inhabiting an abandoned lodge if the

surrounding habitat is good. However, an abandoned food cache, indicating a lodge that has been trapped out, is a sign of danger and the nearby lodge or den will not be re-inhabited until the old food cache has been washed away.

### 3.4.2. Beaver Trapping

There are two seasons for beaver trapping, autumn and winter. Fall trapping is generally considered to be easier, because the comings and goings of the beaver are visible to the trapper, whereas in winter the beaver enters and exits his lodge from holes that are under the ice. Trapping of beaver starts in October (after the kits born that spring have matured enough to forage on their own), and will last until the spring. Full time trappers head out to their camps in October for the fall trapping season of a variety of fur bearing animals. Fall and winter are trapping seasons for all fur bearing animals on Cree territory, and so other animals will often be trapped for at the same time as the beaver. In addition to the one or more beaver traps set at or near a lodge, an experienced trapper will often set other traps in the same locale that target different animal species (e.g. muskrat, otter, mink).

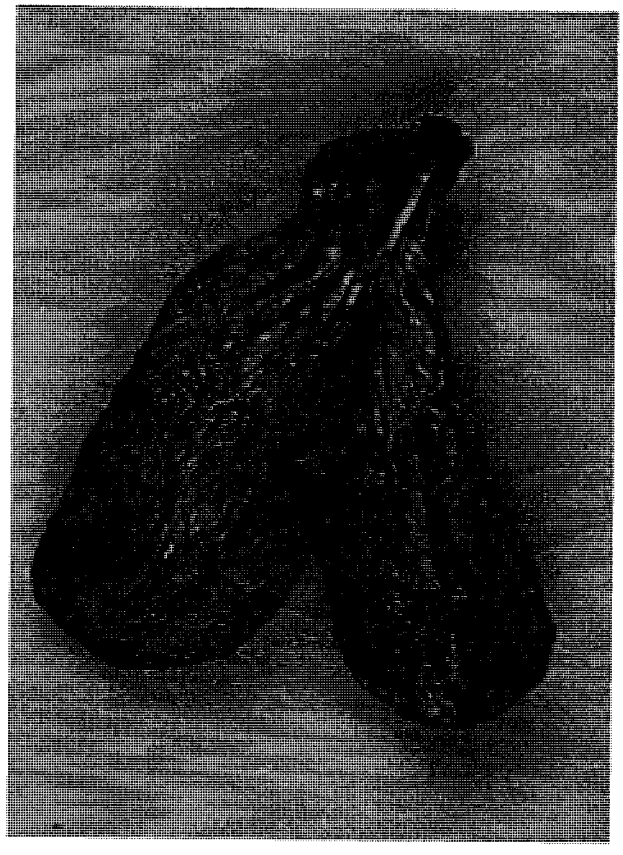
In the past, people used hand-made wooden traps baited with aspen to attract the animal. For under-ice hunting in the winter, nets would be used. It would take several people to drive the beaver into the net, but a whole colony of beaver could be caught at once using this method. Another method of group beaver hunting practiced in the past was to block off the breathing holes in the winter ice of a beaver pond, forcing the beaver present to go back into their lodge to breathe (the living space in a beaver lodge is above the water level). The lodge would then be opened up and the animals inside killed. These forms of hunting were practiced at a time when whole families would be out on the land together, and beaver harvesting was more of a communal and familial enterprise. Nowadays, trappers most often trap alone or in pairs, and there are fewer families on the land. Most of the part-time trappers I spoke to trapped alone or with a wife, son, or friend, and only two of the full-time trappers I spoke to still went out on the land for the entire trapping season with their whole families. A single trapper can potentially kill many beaver however, due to the sort of traps currently in use, which can be set and

checked the next day by one person. In the winter, snowmobiles allow for a single hunter to set and check many traps over a wide range.

Trappers wash their scent off traps before setting them and then rub the trap with castoreum (the glandular secretion of the beaver used to mark its territory) to mask human scent and attract the beaver (Figure 5)[28]. Three kinds of beaver traps are commonly used. These are the newer Conibear traps, the older leg hold traps, and the beaver snare (Figure 6). Between them, these traps represent enough flexibility in technique to respond to the differences between fall and winter trapping, and between on-land and under-water sets. I was told that beaver can smell humans if they touch the wood the beaver come into contact with, especially in the Fall because at that time of year the beaver are more cautious.

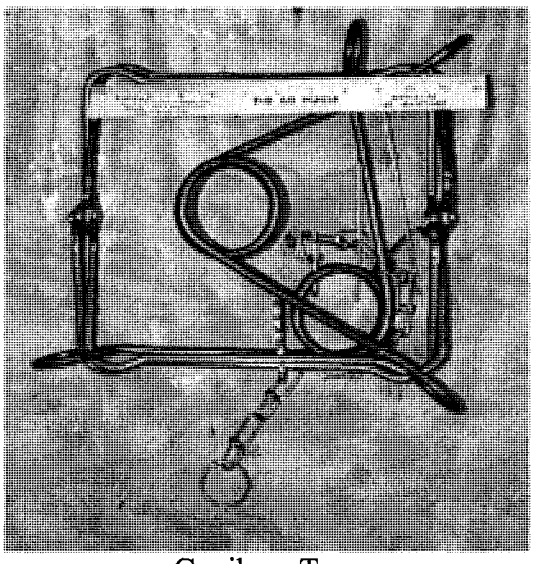
[28] Beaver castoreum is also used for medicinal purposes – applied to cuts, burns and blisters.

**Figure 5: Beaver Castoreum.**



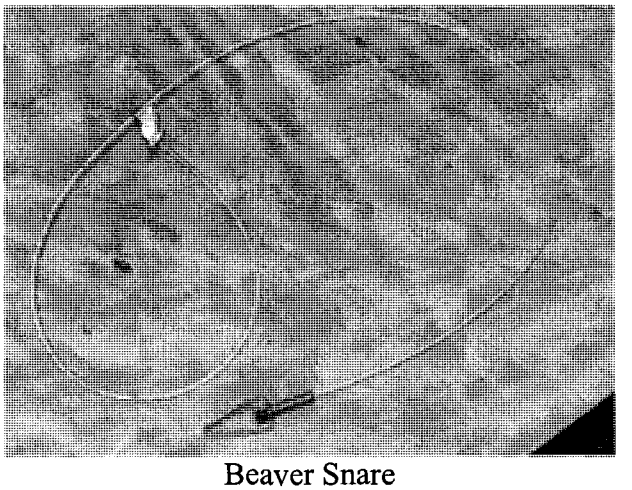
Source: http://www.museesdegrasse.com/MIP/fla_ang/mat_prem_10.shtml Last accessed July 12, 2007.

**Figure 6: Beaver Traps**. Conibear Trap, Leg Hold Trap, Beaver Snare.



Conibear Trap

Leg Hold Trap



Beaver Snare

Source: http://www.bugspray.com/catalog/products/page563.html

Leg hold traps have been in use for over 200 years, and consist of a pair of steel jaws that when triggered, clamp around the limb of the animal, holding it in place until it drowns (for underwater sets), or until the trapper checks the trap and kills the animal (for land sets). Traps are normally checked up to 48 hours after setting them. In the 1960s, steel "body gripper" traps were introduced, and quickly became the most frequently used trap for beaver in Wemindji. The original of these traps was called the Conibear, after the name of its inventor. The Conibear trap is a square framed wire trap fitted with a killing bar designed to slam the back of an animal's neck and kill it without puncturing the hide. These traps quickly became popular because they are quick kill traps; preserve the pelt through causing blunt trauma, and very rarely catch animals on the leg or tail[29]. They are sometimes baited with a stick of alder or cherry wood (I was told that beavers sometimes purposefully spring Conibear traps with a stick and make off with the bait). Finally, beaver snares are made of 3/32 gauge steel cable and one-way sliding locks. Set most often on an underwater beaver trail, they close around the animal as it passes through the loop, and tighten as the animal struggles until it drowns.

All three traps can be set on land or under water, with trap selection depending on the characteristics of the locale and the preferences of the trapper. Underwater or under-ice sets are made at underwater entrance and exit routes from their lodges habitually employed by beaver. These sets are anchored by stakes protruding above the water that are driven into the ground on either side of the trap, which hold the trap at the proper height and distance in relation to the underwater route. When the trap is sprung, the posts will begin to visibly shake with the struggles of the animal. In particular, if a leg hold trap is not properly anchored, the beaver may come ashore dragging the trap behind it, and may even chew off its own limb to free itself from the trap. In determining the placement for an underwater set in the winter, the trapper taps the ice with a stick until he hears a sound like a drum. Here the ice will be thin. The trapper then chips a hole in the ice and sets his trap or snare. Land sets are located a calculated distance from the entrance to the beaver lodge, depending on the goals of the trapper, the composition of the beaver colony, and the particular circumstances on the ground.

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[29] http://www.bugspray.com/catalog/products/page563.html. Last accessed July 12, 2007.

In particularly difficult cases, after making sure the beaver are in the lodge, the trapper may set traps right at the underwater entrances to the lodge and then open it up, forcing all of the animals present out the holes and into the traps.

*Sometimes a beaver is very hard to trap and we open up the lodge after setting traps at the entrances under the water.* (CT 3)

This method will kill all the beaver in a colony, including the young, and so is normally only used if the trapper is sure there are no young present or if, less commonly, he is not concerned about killing the young. Another way of killing beaver is to simply break a hole in its dam, and when the beaver comes by shortly after to fix it, to shoot it with a rifle. The hunter sits near a beaver pond in the autumn, waiting for the beaver to come out to feed. Another method is to make a noise that resembles the tail slap of the beaver in the water, for example by tossing a rock into the water or the sound of a hand slapping against wet hip waders. In this case, the older beaver come out of the lodge to investigate, as this sound provokes a territorial response. The hunter can then coax the animal to come closer by making the correct noises, and when a few meters away, he will shoot the animal between the eye and the ear, leaving the pelt intact.

### 3.4.3. Management of Beaver Populations

Tallymen assign people areas to trap or give them a quota based on considerations of access and population numbers. The main people who trap beaver are occupational hunters who are recipients of the ISP, pensions, or unemployment insurance. They may live with the tallyman or have separate hunting camps on the trapline in question. The tallyman may also accommodate part time trappers or wage employees for a few days to a week at a time during the fall or winter seasons. In the summer or early autumn the tallyman or the individual who has permission to trap beaver in a particular area will normally conduct an inventory of active beaver lodges on the area he intends to trap that year in order to estimate the numbers of beaver in the area. This gives the trapper a global

vision of the beaver activity on the land and allows him to plan his trapping season accordingly[30].

*W: How do you know there's a lot of beaver around?*

*You check everywhere, every lake, and every river. You count the lodges. You can tell which lodges are active. (CT 1)*

Cree trappers modulate the intensity of their trapping activity according to the population health of a particular species of animal. If an animal is perceived to be scarce, then it is trapped less until it comes back to the trapline. Animal populations are understood to rise and fall in cycles, and the trappers have extensive and detailed knowledge of the relationships between different animal species. For example, the lynx population is related to that of the snowshoe hare, and the wolf population is related to that of the beaver. Estimating the size of a given animal population involves familiarity with the behaviour of the animal and with the particular landscape one intends to trap. Hunting success is of course the ultimate indicator of abundance, as empty traps (for a skilled trapper) means less animals on the land (or more uncommonly, a past breach of respect in the hunter-animal relationship or interference by a shaman). The inventory conducted in the late summer or early fall by the tallyman is an important opportunity for the trapper to get a sense of current levels of beaver on his land. There are many complex calculations involved in this estimation that coalesce for the experienced trapper into a sense of the current population size of the animal. Estimates are based on knowledge of the recent local history of the landscape and an intimate familiarity with the ecology of a particular trapline. Weather, seasonal variability (was it a dry summer? Was it a cold fall?), rates of vegetal succession, modifications to the landscape (proximity of development activity, fire, etc.), fluctuations in other species, and past trapping activity are all taken into account.

The Crees practice a system of rotational beaver trapping. A portion of the trapline will be left alone for one or more years at a time in order to allow the beaver to 'grow'[31].

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[30] Use of male pronouns to refer to trappers is for purposes of readability, and also reflects the fact that trappers are most often men. However, women are often holders of hunting knowledge and can be occasionally tallymen and/or trappers.

[31] The term 'grow', as in 'the beaver are growing' is used by the Cree to refer to increases in animal populations. It is related to the metaphor of 'land as garden' that is used by the Cree. c.f. Feit, H. A. (2001).

This will be followed by a period of heavy trapping, which in combination with fallowing "keeps the system from reaching the critical threshold at which food would be depleted and the system would flip or show catastrophic change" (Berkes 1998: 110). Occasionally, an exceptionally productive area will be semi-permanently set aside, for as long as certain conditions persist, the beaver living there will repopulate the entire trapline and occasionally neighbouring traplines as well.

*W. Why don't you trap there?*

*For them* [the beaver] *to produce, for them to come from. Let them produce there and then they spread, even to the other traplines, south. That's how I've been taught to manage beaver.* (CT 2)

My Cree informants expressed a preference for avoiding trapping beaver under one year old; the trapper aims to trap out all the animals in a lodge born longer than 'two springs ago'. The Crees have different terms for beaver age groupings, *patamiskw* for a young beaver without kittens, *puiiywaash* for young adult beaver, and *chishamiskw* for a full-grown adult beaver. Accordingly, the Crees have developed sophisticated ways of keeping track of and managing beaver populations through modulating and rotating their trapping activity by avoiding the killing of young beaver. In addition to preferring to leave young alive to breed and repopulate the area, hunters desire mature beaver because there is more meat, and because their pelts can be sold at full price. Although the low price of fur and the relatively stable beaver populations of late has meant that it is less important, economically speaking, not to kill the young[32], all the trappers I spoke with nonetheless told me they habitually avoided the trapping of kits and juveniles. When the adults are trapped out of a lodge, the animals born that year will abandon it in spring to begin to construct a new lodge or find an abandoned one to inhabit in the vicinity. Leaving the young thus also helps to keep beaver populations localised in the area.

Selective trapping of adult beaver was accomplished by my informants setting their traps in accordance with their predictions of the number and range of young beaver

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Hunting, Nature, and Metaphor: Political and Discursive Strategies in James Bay Cree Resistance and Autonomy. Indigenous Traditions and Ecology: The Interbeing of Cosmology and Community. Cambridge, MA, Harvard University Press: 411-452.

[32] For example, in the 1990s, beaver meat was twice the value of the fur in the Western James Bay community of Moose Factory (F. Berkes, University of Manitoba, personal communication).

present in a colony, based in turn on their knowledge of beaver behaviour and activity. This knowledge varies from person to person, depending on their age, experience, and proclivity for beaver trapping. In general, and regardless of the knowledge of the individual trapper, I was told that it is possible to avoid excessive killing of young beaver by ensuring that one's traps are set at least fifteen feet from the lodge. The following quote, from an interview with an elder through a translator, illustrates the concern for selecting adult beaver.

*W: How does the trapper make sure there will be enough beaver for the next year?*

*He'd go do his inventory, and then he'd limit himself to how many he killed. Before* [during the time when quotas were enforced], *they were only allowed to kill two adults per lodge. The babies they don't kill until that winter. There's four or five beaver per lodge. From three to five babies per lodge. Most have two.*

*After they kill the two adults, and leave the babies, the next fall there'd be another lodge in that lake, a new one with beaver in it. That's how they let the beaver grow.*

*Some people would overdo it and kill the babies too. He* [the interviewee] *never wanted to do that.* (CT 4)

Through keeping track of the long term population dynamics of animals, including the size, sex, litter sizes and location of the beaver they kill, past knowledge on distribution and abundance gets factored into planning the following trapping season. One traditional Cree method of counting how many young a killed mature female beaver gave birth to that year involves noting birthing scars on the placenta. Another method of counting how many young are in a litter is by noting bumps that are present on the mother beaver's jawbone. Although many trappers now trap alone or without the full family unit present in the hunting camp, animals are sometimes brought back to town to be cleaned and prepared, and the person cleaning the beaver may still be able to consistently track the relationship of reproduction to animal locale.

Fresh cuttings in the vicinity and mud on a beaver lodge are obvious indicators of an active, inhabited beaver lodge. The amount and characteristics of beaver sign in the area (browse, tracks, and trails) can tell the trapper how many beaver are in the colony, the number of animals in each age group, and even the size and sex of the animal. The trapper can also read the age of the beaver cut or trail, and then tell how much time has

elapsed since beaver were present. The size and shape of a lodge are a clue as to the number of animals in the colony. For example, large colonies sometimes build tall lodges with two floors. To an experienced trapper, the size and composition of the cache (submerged, waterlogged foodstuffs collected in the fall for winter consumption) can reveal both the number of animals in the colony and their age. Younger beavers tend to pile their food in the cache differently than mature beaver do; for example, they will cut and cache smaller trees. Another way to tell how many animals inhabit a lodge is to look carefully at the shape and colour of the tail of the first beaver that is trapped, which changes according to the size of the litter in which the animal was born. According to trappers, these characteristics indicate whether or not the beaver lives alone, as is sometimes the case with solitary males in the fall.

The cutting that the beaver makes with its teeth is the primary way of determining the age of the animal. Age of the animal can be read through the girth of the cut plant or tree, the size of the tooth marks and distance between the incisors, and the height of the cut from the ground. According to my informants, adult beaver cut wood closer to the ground than immature beaver, which make their cut up to six inches off of the ground. In addition, young beaver will characteristically strip the bark off of thin wooden stems in a distinctive way. Finally, very knowledgeable individuals are able to tell the sex of the animal from a beaver cut. According to one trapper, only the elders still have this ability, although one other middle-aged trapper told me that he had this ability as well[33].

*W: you check* [for young] *by looking at the cuts around?*

*Yeah. My father is the expert on that. All the elders are experts on that.*

*W: does anybody know as much as they do now?*

*Not any more. They can even tell if a cut is male or female.*

*W: How do they do that?*

*They can tell.* (CT 3)

[33] Modesty, understood to impact on hunting success, is such an important value to Cree trappers that they rarely admit to the extent of their own abilities.

With the age, sex, and numbers of beaver in a colony calculated through these methods, and an awareness of the condition of the larger local population, the trap is then set accordingly. If it's later in the winter when the young are almost a year old, or if the trapper wants to be sure of some meat, then the trapper may just set his traps inside or at the main entrance to the lodge. Most of the time the trapper will try to avoid killing young beaver by setting his trap beyond their browsing range, generally about fifteen feet from the lodge. One of the elders that I interviewed, active during the time of the quota, had improvised a way to exclude young beaver from his trap while still setting it within their browsing range. His method involved setting the trigger of his trap to release only on animals over a certain size, while smaller creatures could pass through freely. Another technique he devised was to arrange obstacles outside the entrance of the lodge in such a way that the movement of smaller beaver was directed away from the trap.

*W: How do you make sure the babies don't go into your trap?*

*He had his own technique not to kill the babies. You know the beaver trap, the square one,* [Conibear] *he'd put the little trigger or tongue up a bit, and not straight into the middle. Then the baby could go through without springing the trap. He never caught any babies like that. He also traps the beaver from the doorway. He puts two sticks, a little higher. The baby beaver would go down, the adult beaver would go into the trap.* (CT 4)

## 3.4. Traditional Understandings of Human-Animal Relationships

Through a translator, an elder in his 70s recounted to me the legend of *Chibiuts*, the man who went to live with the beaver:

*There was a person living with the beaver, because he wanted to know what the beaver do, and to do what they do.*

*They called that man Chibiuts. That man was living in the beaver lodge. When people tried to kill the beaver, it was easy for them, because the man was living in the lodge with the beaver. That man would tell the beaver they're easy to kill because there aren't many exits to the lodge. The man would go in the water, when he came out he looked dry and not wet, like a beaver. The man would make other doorways from the lodge, to fool the trappers. Secret doorways. That's how he helped the beaver not to get killed.*

*The reason he lived with the beaver, is because he wanted to marry a beaver. The man didn't like how the beavers' feet looked, but the man don't look at the woman's feet when he wants to get married.*

*The beaver would tell the man to put a log in the small creek, so the beaver he was living with wouldn't be lost. But he forgot to put the log, and so he lost the beaver he was living with, his wife. His wife made herself look different, like when that man left his wife. His wife knew why he left her, so she made herself look different. So he could live with her again.*

*The man, his brother, captured him from the lodge, and saved his life by doing so. The brother broke the lodge to capture the man. When the man was captured, he had to learn what humans do all over again. When his brother would cook beaver, they'd eat everything, even drink the broth as tea. The man never wanted to drink the broth, because he used to live with the beaver. He wouldn't eat the beaver either. They tricked the man into eating the broth. After he ate the broth, the man turned into a beaver and walked out the door. That's how he lived with the beaver again. He married a beaver.*

*He didn't want to eat the female beaver or broth. After he ate the female broth, he turned into a beaver. Be careful, or the same thing will happen to you.* (CT 4)

*Chibiuts* goes to live with the beaver because he wants to marry a beaver. His presence in the lodge has two seemingly contradictory effects: it makes the beaver both easier and harder to trap. While his very presence in the lodge helps the trappers kill more beaver, he gives back to the beaver by showing them how to avoid being killed. This illustrates the notion that people and animals are in a reciprocal relationship, and that this reciprocity represented by *Chibiuts*' presence in the lodge is the basis for their relationship.

We learn that *Chibiuts* assumed the form of the beaver when he came to live with them, and that *Chibiuts'* wife transforms into a human being to try to please him. These transformations indicate that animals and humans share a deeper essence that belies their different appearances. Traditional knowledge posits no fundamental difference between human beings and animals. Both are considered to be persons embedded in social relationships – the social sphere composed of actors sensible to intention, motivation, and ethical conduct encompasses both humans and animals. The only difference between the two is that they wear different skins or coverings. This idea is communicated in the Cree phrase, *niichimiichis, niichaahchaahkw* – you and I have the same flesh or covering; you and I have the same spirit (Scott 2002: 5). Animals, flowing from their status as members

of the social sphere and their linguistic designation as non-cognate kin, are in kinship terms sexually 'available' (Feit 2001). Cree hunters' talk of animals is occasionally sexualised. For example, the gun is sometimes referred to as a penis, and animal gifts are sometimes thought of in sexual terms. For example, if a woman dreams that a young man desires to enter her tent, and she lets him in, this is an indication that her husband or male kin will successfully kill food in the near future (Scott 1996).

Finally, the story ends with *Chibiuts'* brother rescuing him by trapping him out of a beaver lodge. This act, translated here as 'saving his life' indicates that the trapping of an animal, when understood as kin, can be an act of love and compassion. It seems that there is also a moral message contained in the blurring of boundaries between beaver and human. When *Chibiuts* refuses to eat beaver, he is asserting himself to be not fully human, as he is respecting the injunction against cannibalism. When, in spite of his best efforts, his kin trick him into drinking some beaver broth, he turns back into a beaver and returns to their world, perhaps to the benefit of both human and beaver society.

The *Chibiuts* legend introduces some themes that are present in the way that my informants spoke about their understandings of beaver behaviour and in the ways that they interpreted animal sign. The themes of animal personhood, reciprocity, and respect present in the myth of *Chibiuts* inform the epistemological basis on which the practical knowledge described above is built and exercised.

### 3.4.1. Animals Control the Hunt

A defining feature of Cree hunting ontology is hunters' perceptual "engagement in a world of interacting persons not limited to humans, and in which humans, though comprising a distinctive kind ... of person, are not fundamentally separate from, or superior to, other-than-human persons" (Scott 2002: 1). While the category of 'human' is distinct from the category of 'animal', there is no fundamental division in kind between human society and 'nature'. Other forces, commonly understood by dominant Canadian society to be geophysical in nature, such as the North wind, clouds, or snow, are in Cree culture "considered to embody person-like qualities or capabilities of action" (Feit 2001: 421). Endowed with subjectivity, animals and other non-human persons engage the Crees

in a socially informed world in which the behaviour of different subjects is mutually intelligible within an encompassing social network. "Animals are full of subjectivity, awareness and social relations, and they respond to and convey meaning through their actions" (Feit 2004: 104).

Trapping involves detailed knowledge drawn upon to ascertain the age, sex, size and other physical characteristics of prey, but for the trappers I met also involves taking into account the subjectivity of the animal in order to understand the behaviour of individual animals being hunted. An attention to the intentions and desires of the animal flows from a belief that the animals control the hunt (Berkes 1988b) and that the hunter is more a passive recipient of gifts than a dynamic agent whose activity is imposed upon an objective non-responsive landscape. In the Cree moral universe, animals participate in the hunt as much as humans do. Animals sense the intentions that hunters and their families have towards them, and know of their needs. "Because of these needs animals were often willing to give themselves to hunters so that humans could feed themselves, but in return they expected respect and reciprocity, a mutual caring for the well-being of each other's societies" (Feit 2004: 104). Expertise in hunting then depends on both the skill of the hunter and the disposition of the prey; hunting causality is not mechanical, biological, or circumstantial. Hunting requires entering into a relationship with the animal and negotiating their emotional dispositions. For example, if it is known that the prey is upset with the hunter due to past transgressions of responsibilities, then this can to some extent be planned for (Feit 1988: 76). It is in this context of relationality that animals are understood to 'give' themselves to hunters. As a corollary, when an animal gives itself to a hunter, in certain circumstances it is considered a breach of relationship to refuse the offering.

As a universe of subjects, 'the land' exerts an influence on the Crees. Animals and other non-human persons that inhabit this realm have lessons for those who are receptive to them, acting as guides in the procurement of sustenance as well as in the practice of a form of morality. "Animal actions, particular qualities and features in the bodies of animals, weather, dream images and events, visions, and religious symbols all fall within the Cree notion of 'sign', with signs constituting knowledge or guidance for actors" (Scott 1996: 73). Being in the bush and practicing a 'traditional' way of life is considered

to impart health and well-being as well as teachings relating to the proper maintenance of relationships in the larger cosmological order (Adelson 2000). When actors are guided by a perception of communicative reciprocity immanent in the environment, the world is experienced as "an innate realization of a conventional social order of reciprocity" (Scott 1996: 75).

In answer to the question, "what makes a good hunter?" I was told that three qualities are paramount: knowledge, patience, and luck. While the first two of these three elements are easily graspable, my informants used the notion of luck differently from the common meaning of pure coincidence. Luck was in fact dependent on maintaining proper relationships with animal entities.

*W. What qualities make a good hunter? Why do some hunters catch a lot of animals?*

*Patience, I guess. Taught by their father's ancestors, how to set up a trap. Certain ways that people set traps. Luck. (CT 2)*

'Knowledge' here refers to the skills and techniques of trapping and bush life, which are passed down from generation to generation, and perfected through repeated use and practice in the bush, which can lead to improvisation and flexibility in technique. This area of knowledge in relation to the beaver is described in detail below. Patience has to do with a regard for the hunter's relationship with the animal.

*One time I was having a pretty bad time trying to kill the last beaver in a beaver lodge. I was wondering, how I could get it. I couldn't trap him with the Conibear, I tried the old style leg hold, but I couldn't get him. Then I had this dream. Seeing this snare, with something passing through.*

*I thought it must be one of the beavers. All of a sudden, it gave me an idea. I used the snare, and I got the last beaver. I checked my traps so many times, and I couldn't get him. I couldn't get the last one. So maybe, he gave me a way how to get him. So, I think they do* [communicate] *in that sense. They show you a way. Old people say, and I believe it, animals give themselves to you. When you don't give up. You understand what I'm saying?*

*W. When you don't give up?*

*When you don't say 'hell with this' I'm not going to bother* [...]. *But I didn't give up trying to get it, eh? I checked my traps I don't know how many times. Couldn't get the last one. After I set up the snare, I had another dream. I saw a beaver in there, in the snare, all banged up. What happened when I checked my snare?*

*W. He had a bloody nose?*

*Yeah. He banged himself on my post there.* (CT 10)

The subjective capacity attributed to animals means that they are understood to have a corresponding ability to read human intentions and desires; the mind of the trapper is legible to the animal, and therefore not only past and current behaviour but also the tenor of his behaviour and mood impact animal behaviour and hunting success. In this atmosphere of human and non-human social entities interacting and engaging in relationship, the activity of the hunter is geared towards establishing and maintaining harmony in these relationships. One of the most important states of mind in this regard is that of patience.

This leads to the third and most complex element of "what makes a good hunter": luck. Luck in beaver trapping and for hunting and trapping in general, depends on the behaviour of the trapper towards animals and other community members. The most important animal to maintain proper relationship with is the bear. Hunting success, or lack thereof, was often explained with reference to the relationships of my informants with bears.

*W. What makes a good hunter, the qualities or the characteristics?*

*It's like everything you do, sometimes you have good days, sometimes you have your bad days.*

*W. Luck?*

*Yeah. Luck. .... Good days and bad days. Sometimes you get a bad year, only kill 5, 3* [geese]. *Last year we only killed three* [geese]. *This year we had a much better year. Close to thirty* [geese]. *Fred killed over 20* [geese]. *Bear hibernates in the winter, and sometimes you just walk by his den and don't even notice. That's the other thing that people believe. If they don't kill beaver, they probably walked by a bear that was hibernating. Until he finds that bear and until he kills it, he has bad luck with hunting.*

*W. so if you walk by a bear's den and you don't know then you'll have bad luck in hunting?*

*Yeah. It's kind of like that. That's what the old people believe. I believe it too.* (CT 6)

Why would not noticing the presence of a bear den negatively impact on hunting success? Not noticing the den is akin to refusing a gift that has been offered. The fault seems to lie with the hunter, who was too distracted, did not exercise enough care in perceiving their surroundings, or perhaps was not skilful enough to remark upon the telltale signs of a bear denning in the vicinity. One commonly remarked upon sign of bear concerned the way that the bear breaks boughs off of trees. Here, my informant is referring to the breaks that are visible on the part of the branch left attached to the tree after the bough has been snapped off. If you snap the bough upward, with a downward rotation of the wrist, the white visible from the fracture faces upward and is easily visible. This is how the Crees break boughs when gathering them. If the bough is snapped off downwards, with an upward rotation of the wrist, the white fracture faces the ground and is therefore harder to see.

*When he closes the hole* [to his den], *he uses tree boughs. When he breaks the boughs, he goes up. ... He goes like that* [motions breaking a branch by rotating his wrist upwards], *and humans go like that* [motions breaking a branch by rotating his wrist downwards]. *If you see this in the wintertime, you know it's close by.*

*W. So if you see it, then you have to hunt the Bear?*

*Yeah, you have to search and search. It can take months or ten days. You know what it looks like when a Cree breaks a bough? It's harder to see it when it's like this* [boughs broken with upward rotation of the wrist], *when you walk around.*

*When the bear takes it* [the branch], *it just won't show. It's hard to see it. So if you see it, it's like God has given you a gift to kill a bear.* (CT 16)

The bear is understood to purposefully mask its presence to the Crees in this way, demonstrating its intelligence and serving as a reminder to the Crees the importance of developing a heightened sense of awareness while in the bush. For example, on one trip to a hunting camp, several of us went with the local tallyman (CT 1) to investigate a bear den that the tallyman thought to be abandoned. Upon reaching it, however, it became evident that the den had been used the previous winter by a bear. At this point, the tallyman we were with became extremely upset and embarrassed. For him, this

represented a potentially serious breach of relationship that he had known about the den but failed to check it during the winter [34].

### 3.4.4. Understanding Beaver Behaviour

Cree trappers have, to varying degrees, a substantial knowledge of their surroundings and of the flora and fauna therein, and a considerable knowledge about environmental relationships (as between different species or within ecosystems) and processes (such as long term changes in animal populations or vegetal succession) (Feit 1988). This knowledge and the practices in which knowledge is made manifest are based on an underlying ontology of social interactions. The Cree hunting ontology of interspecies personhood and reciprocity has given rise to particular modes of interpreting animal behaviour: "the family structure, leadership, memory, and communication processes of animals are all explored as analogues of corresponding human qualities, both individual and social" (Scott 1996: 76). The interpretation of animal behaviour in terms of a shared agency has favoured the development of knowledge that focuses on animal communication, awareness and learning. This ontology of animal personhood frames the way that the Crees understand the beaver behaviour: the beaver is seen to have and exercise agency in the same way that a human being does. As demonstrated by this short description of Cree trapping practices, the trappers that I spoke with held extensive and detailed knowledge of beaver behaviour including what it eats and how it finds food, how it builds its lodge, cache and dams, where it prefers to live, how it interacts with other animals, and a host of other topics. Underlying this extensive empirical knowledge of beaver, and contributing to its content and detail is the attribution of intelligence, foresight, and other qualities of mind to the beaver that are essentially similar to human capacities.

Some beaver behaviour is seen to be directly analogous to the behaviour of humans. For example, beavers use wood shavings as a floor covering in their lodges,

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[34] For an in-depth discussion of the significance of the bear to Wemindji Cree hunters, see Scott, C. H. (2006). "Spirit and Practical Knowledge in the Person of the Bear among Wemindji Cree Hunters." Ethnos **71**(1): 51-66.

which they replace with fresh shavings from time to time. This is similar to the Cree practice of changing the boughs they use to cover the floor in their tepees, which are used for food preparation in camps and also in town by Wemindji Cree. The knowledge that beaver are understood to deploy in their selection of wood for the different purposes of food or construction of their dams and lodges is thought to be similar to that deployed by the Crees in their practice of finding and selecting wood for making snowshoes. Both the beaver and the Crees use their extensive knowledge regarding identification of characteristics and judgment of the quality of different trees utilised for different purposes, all contingent on time of harvesting and the particularities of harvesting location. In both humans and beaver, this is knowledge gained through learning and experimentation. This indicates that the Crees consider both humans and beavers capable of having and exercising qualitatively similar knowledge.

Beavers are able to tell the future through their knowledge of the land and of the weather. For example, one informant told me a story of a beaver colony that constructed a dam that was underwater. It remained so for some time, and then later in the year the water levels lowered, thus creating a pond and meeting the beaver's habitat requirements. According to the storyteller, the beaver knew in advance that the waters would recede and so built the dam accordingly. The beaver is also thought to know how long the winter will be, as he always stores exactly the amount of food needed to last through to the spring. In this way, people are able to infer information on the timing and severity of the coming winter based on variations in beaver behaviour at this time of year. Beavers also know that the building of their dam carries the risk of flooding their lodge. This awareness was explained as the reason that beaver build subterranean tunnels from their lodges to exit points at higher elevations on the shore. With this eventuality in mind, the beaver constructs itself escape routes, just in case.

Beaver are understood not only to have the same *capacities* for intelligence and foresight as human beings, but moreover, they are perceived as *experts* in their particular domain to be emulated by humans. Beavers' knowledge is highly valued and when it crosses over from animal to human, becomes the province of highly skilled individuals who have spent a lifetime in the bush. In this sense, beavers and animals in general are

seen to be teachers to humans in that the ability to interpret animal behaviour can extend human beings' knowledge.

*When you see a beaver shaking himself like a dog, you know that the rain, the fall and the winter is coming. That's how they knew a long time ago. The beaver knows more than humans about the weather. If you see one rushing to make dam, gather food, you know winter's coming. If he takes his time, winter is still far away.*

*The beaver works all night. If he also works in the day, then that means he's rushing. When it starts snowing, the beaver will pack the snow down on his lodge to keep the lodge warm.* (CT 4)

Beavers' ability to predict the weather, for example, is an ability that is most often attributed to powerful elders, or to people who are now passed away. This power is seen to be the result of a lifetime of hunting and trapping experience. Ability to read the weather is valuable at all times when on the land, but even more so when the community or extended family stands to benefit, as is the case during the fall and spring goose hunts where weather plays a major role in determining flight patterns of migrating geese. The individual who can find and prepare the wood for a pair of snowshoes with the skill of the beaver is highly regarded and much sought after in the community.

That knowledge is thought able to pass between human and animal indicates a notion of shared cognitive capacities. Another example of the inter-penetrability of human and animal consciousnesses came across in stories of being bitten by beaver. Several people told me that when bitten by a beaver one will not be able to sleep at night while the wound is fresh. One person recounted that a friend had been bitten in the calf while in the bush. Because there was no 'easy medicine' available, the pain from the bite was so great that the man couldn't sleep for several nights. The second explanation given for this insomnia was that beaver are nocturnal and this condition is transmitted by their bite. This dual explanation indicates that the belief that beaver bites cause insomnia retains its explanatory power in spite of the availability of 'easy medicine' as my informant put it, which probably does successfully take away pain and treat the insomnia. This belief illustrates the sense of shared consciousness between beaver and human – the human is capable of being afflicted with the proclivities of the beaver, indicating that human and animal are mutually subjects of knowledge and experience.

Beaver also have knowledge of healing and medicine. For example, when a beaver is wounded due to fighting with other beaver, which may result from overpopulation in a lodge or given habitat, or from the invasion of a colony's territory by other beaver, the beaver will heal themselves by eating certain plants. This is one reason that beaver intestine is particularly valued as food, because it contains 'medicine' which has been selected and gathered by the beaver according to its knowledge of how to heal itself. The following quote is from a Waswanipi Cree trapper speaking on the importance of beaver intestine as medicine. "*Yes, we often eat the intestine, it's medicine for us because the beaver eats wood and wood is medicine for us. When he eats that, it stays in his intestine and it gives us strength when we eat it. Protein and vitamins*" (In Hebert 2005: 33).

Explanations given by several people to explain differences in browsing behaviour between juvenile and adult beaver showed that the beaver is also thought to be capable of social learning and of exercising ethical capacities that are grounded in the requirements of life in the bush. Adult beaver cut their wood at ground level because they know through learning and experience that wasting food and energy can result in exposure to unnecessary risks of predation and starvation. Young beaver are in the process of learning from their elders to waste neither their food nor their expenditures of energy. This is why young beaver make cuts several inches off the ground: they have not yet learned the proper way to conduct themselves. This mirrors values associated with the hunting way of life held by the Crees. Proper and ethical conduct in the bush involves wasting neither food nor energy while hunting or trapping. This ethic of preventing waste of food and energy extends through proper use and disposal of animal carcasses to rising early each morning, and performing of camp tasks in the proper order (e.g. first pile wood and gather water before hunting or trapping).

The importance of knowledge transmission from old to young beaver also finds its counterpart in Cree society, demonstrated by the strong sense of duty that elder hunters feel in terms of passing on their hunting and trapping knowledge. Besides filial piety and social learning processes, beavers are also considered to be able to experience other emotions. One person told me of a time when he witnessed a beaver couple (male and female) reuniting. According to this person, they behaved like a loving husband and wife reunited after a long absence, and he understood the beavers' behaviour to be expressive

of happiness and excitement. The reason that trappers are so finely attuned to the physical manifestations of variations in beaver age, and so adept at picking up sign of juvenile beaver, is not only that this body of knowledge represents an adaptation to an environmental or historical necessity for sustainable beaver management. Age differentiation and attention to other details of beaver conduct is so well elaborated because of the capacities that are attributed to the animal. Far from being separate from trappers' interactions with the animal, the notion of animal personhood is deeply implicated in how the trapper perceives and interprets animal sign in the physical environment. The Cree trapper operating within this perspective expects the beaver to exercise certain behaviours and capacities, expectations that predispose him to notice and pick up on the traces left by the wide and subtle range of behaviour that animals are understood to be capable of.

These expectations are in a feedback loop with the physical environment, and are based on, informed by, and confirmed by actual empirical interactions with the animal. This extended excerpt from an interview with an elder (through a translator) who is an acknowledged expert in beaver trapping demonstrates the pragmatic nature of notions of respect and communication. For example, practicing respect towards the beaver is here described as approaching the animal from downwind – in other words, trapping properly.

*W: Does the beaver know that the trapper is coming?*

*The trapper lets the beaver know he's there, then the beaver knows the trapper wants to kill the beaver.*

*W: Does the beaver allow the trapper to catch it?*

*He says the beaver hides.*

*W: Does the beaver ever give itself to the trapper?*

*If the trapper respects the beaver, it's easier to kill the beaver.*

*W: How does a trapper show respect to the beaver?*

*The trapper must go against the wind. If the beaver smells the trapper, it will slap its tail.*

*W: That is a way to show respect to the beaver?*

*Yes.*

...

*W: Other than the tail slap, does the beaver communicate with the trapper?*

*The beaver comes up for a while in the middle of the lake, then he swims underneath. That's how the beaver communicates with the trapper. By hiding.* (CT 4)

## 3.5. Conclusion

The hunting way of life provides the Crees with a 'possible self' and an existential capacity for belonging, action and engagement with their ancestors and the land and animals. Wemindji Cree traditional knowledge is based on an understanding of animals as participants engaged within a socially defined sphere of interaction, attributing intention and motivation to animals, thereby placing them in a particular relationship with other social entities, including humans. Acting from within these relationships allows Cree hunters to experience a sense of obligation to and belonging within the land that grants them an experience of power. This power is not related to the ability to control the world, but rather the validation of the trapper's ethical activity through the responses of the land and animals. For the Crees, "human knowledge is always incomplete, and there is often a gap between what humans think and what actually happens. In hunting, for example, a hunter will frequently dream of an animal he will be given before he begins to look for it. He may then go out hunting and find signs of that animal that confirm his expectation" (Feit 1994). Power, in this view, is experienced as a gift from the land in recognition of proper and ethical conduct, a certain congruence between thought and empirical event: "at each phase of happenings in the world, humans, spirit beings, and other beings must sensitively interpret and respond to the communications and actions of the other beings around them" (Feit 1994).

Practicing hunting provides a connection with an ethical lineage coming from the past and extending into the future, allowing trappers to situate themselves within a meaningful trajectory and role as protectors of the land. In this sense, it provides a meaningful occupational option, and one vital to maintain for Cree society as a whole.

Maintaining the possibility to act on the land from within this set of values and knowledge is also important to Cree youth, and forms the basis for how they envision their participation in the wage economy.

# 4.

# Practicing Science on Cree Land: Productive Misunderstandings and the Primacy of the Universal

*Just as Bacon celebrated science through a condemnation of magic and alchemy and Descartes extolled reason by denouncing the indiscriminate search for magical analogies... these discourses can never really isolate themselves from each other. Though they vie for dominance, perhaps like quarrelling lovers, the truth is that they cannot exist without each other.* (Jackson 1987: 10)

## 4.1. Introduction

In this chapter, I describe the scientific research conducted on aspects of beaver ecology on Wemindji territory by graduate students associated with the Protected Area Project. I then present an analysis of the socially productive effects of the interactions between scientific researchers and Cree trappers. Along the way, I weigh the benefits as well as the misunderstandings that the practice of science on contested Indigenous homelands presents.

The science practiced by the ecology students was not linked with extractive development and in addition, was occurring within local rules of territorial access and use. Nonetheless, I argue that this research highlighted two potential problems with respect to contemporary politics of Indigenous knowledge: 1) science can render the contours of the social landscape and the particular contexts of scientific knowledge generation 'invisible' by dissolving the collaboration with local trappers against a 'universal' background of empirical objects; and 2) important misunderstandings of the empirical grounding of Cree metaphors of animal personhood and intentionality that function to falsify Cree assertions of relationship with animals can result.

In practice, these misunderstandings only become threatening to Cree authority when paired with the exercise of power. These misunderstandings are in some ways 'automatic' and occur by virtue of the institutions of validation and the burden of legitimacy disciplining the production of scientific knowledge. They are not outcomes that are necessarily desired by scientific practitioners. However, it is important to bear in mind the connections between the misunderstandings that can accompany the practice of basic scientific research on Indigenous territories and the politicised deployments of environmental knowledge underlying extractive development, which can amplify the misrecognition of politicised aspects of Cree relationship to the land, contributing to the erosion or misrecognition of Cree authority. In this sense, the interactions between the ecology students and their Cree interlocutors was a productive site for the generation of knowledge boundaries and reads as a continuation of a broader set of interactions between the Crees and southern Canadian values and knowledge practices.

## 4.2. Researching Beaver Ecology

Dr. Murray Humphries, a wildlife ecologist, supervised both of the graduate students in ecology with whom I worked. Humphries' past research has examined how physiology and behaviour influence the abundance of mammal populations. Humphries heads up a research laboratory at McGill University's MacDonald Campus. From the laboratory's website:

> In general, our research explores how physiology and behaviour influence the abundance, distribution, and coexistence of mammal populations. Research is conducted in the lab and field, and typically focuses on energetics (the process by which animals acquire and assimilate energy from the environment, and allocate assimilated energy between maintenance, growth, and reproduction). We firmly believe that understanding the ecological implications of energetics ultimately requires field studies that integrate measures of energy intake and expenditure, under conditions of known resource availability, and in situations where subsequent survival and reproductive success can be documented. (Humphries 2007)

A subset of this research on animal abundance is the prediction of the possible effects of climate change on the energetics and distribution of mammals (e.g. Humphries 2002; 2005). The thrust of this research is to generate insight and predictive capacity into

how animals will be impacted by a warming climate, which in turn should allow for more informed policy and decision-making about issues of conservation, development and protection. A related focus of Humphries' research group is the "prediction of the impacts of climate change on traditional food and furbearing species of northern Indigenous communities" (Humphries 2007). The approach here is to combine the micro-scale study of energetics and habitat characteristics with macro-scale population and climate data in the study of animals that are important for northern Indigenous communities. "Our approach combines pattern-oriented, large scale studies examining correlations between climate variables and current species distribution/abundance with process-oriented, small scale studies examining the energetic and ecology mechanisms linking climate and population abundance across a species range" (Humphries 2007). As noted on the website of the Canada Research Chair in Northern Studies, this approach is critically important because "northern ecosystems are currently warming up, and current warming trends will persist. The consequences of climate warming on the functioning and biodiversity of northern ecosystems will be dramatic. Intensive research is critical to understand current ecological changes and predict future changes" (Berteaux 2007).

This focus on the influence of climatic variability on northern ecosystems and mammals important to Indigenous subsistence harvesting practices is at the heart of the research performed by the two graduate students among whom I conducted a portion of my fieldwork. The following is a brief description of their research.

### 4.2.1. Project 1: Relationship Between Climate and Non-Climate Determinants of Beaver Abundance

The first project I describe looks at the relationship between abundance and distribution of animal species using a combination of climate data, microhabitat characteristics, and understanding of dispersal through population genetics. The overall goal of this project is to be able to predict the impact of climate change on animal abundance and distribution. The project, conducted by a doctoral student, commenced in 2004 and was well defined before becoming associated with the CURA project and before the researcher decided to do his fieldwork in Wemindji. Beaver were chosen less

in function of their importance to the Wemindji Cree than due to the researcher's consideration of the large amount of existing data on beaver in Northern Quebec[35], the scale of which allows for collation with climate data and synergies between research conducted by past and current colleagues (J. Samson, McGill University, personal communication)[36]. The Quebec Ministry of Natural Resources and Hydro-Québec have both spent significant resources conducting surveys on beaver abundance in different regions of the province. A main reason for the existence of these data is that beavers are a nuisance for many kinds of economic activity (e.g. agriculture and hydroelectric development) and a convenient, easy-to-spot marker of environmental changes, making them a privileged object of study in wildlife reserves and parks. As well, the past importance of the beaver fur trade to Northern Quebec has stimulated the production of regular population surveys.

Wemindji represents a transition zone of medium beaver abundance between the high abundance observed in Abitibi and the low abundance of Radisson, Whapmagoostuii and Kuujjuuaq. The working hypothesis of this project is that "the medium densities observed in the Wemindji territory are mostly a result of the patchiness of good beaver habitat interspersed with unfavourable beaver habitat as well as dispersal limitation between watersheds" (Samson n.d.: 1). Fieldwork conducted in 2005-6 on Wemindji territory examined the proximal causes of relative beaver abundance through looking at habitat, including availability of food, local fire history, and slope. The project proposed to explain animal abundance using habitat data and population genetics, with further insight being provided through the integration of climate data into the study.

Aside from climate and habitat, another important method used to understand population dynamics is the analysis of population structure through genetic analysis (study of the migration and breeding characteristics of an animal population). For example, there may be a strong influence of migration from high to low density locations within an animal's range, or a particular location may function as a 'sink' where animals

[35] Beaver have been the object of more scientific studies than any other furbearing animal in Quebec (Novak, M. 1987. Beaver. Wild furbearer management and conservation in North America. G. Thompson, ed. Pp. 283-312. Toronto: The Ontario Trappers Association).

[36] See for example, Jarema, S. I., Samson, J., McGill, B., Humphries, M.M. (Submitted and Under Review). Modelling the Impact of Climate Change on Beaver Abundance in Quebec.; Jarema, S.I. 2006. The abundance and distribution of beavers (*Castor canadensis*) in Québec, Canada. M.Sc. Thesis, McGill University.

migrate in, but remain and die there due to the unsuitability of the habitat[37]. Since the northern limits of an animal's distribution are where most speciation occurs, better understanding of the genetic characteristics of these populations will improve scientific knowledge of evolutionary processes. In order to understand the breeding and migration patterns of the beaver population on Wemindji territory, the project aimed to model their genetic characteristics.

The principal areas studied on Wemindji territory by this researcher during the summers of 2004, 2005 and 2006 were the adjacent watersheds of the Old Factory River and the Poplar River. The researcher conducted a foraging ecology study, where the bulk of his time was spent conducting transects to sample vegetation in order to understand the amount and quality of beaver food in the area, one of the main factors linked to beaver abundance. One meter wide transects counting all woody plants were conducted at intervals between the waterway and the limits of the feeding range, considered to be 60 meters from the shoreline (after which point, signs of feeding become statistically insignificant). Transects were done both at random locations and near beaver lodges. The researcher measured trees along both rivers to estimate the age of the forest in the riparian zone, in order to understand how local fire history impacts beaver abundance and distribution.

For the population genetics study, the researcher solicited the involvement of Cree trappers. In exchange for a monetary incentive ($15 per sample), participating trappers were each given a package of preservative-filled vials in which to place a small piece of beaver meat. Additional information on the colony and the habitat from which the beaver was trapped was to be recorded on a datasheet by the trappers. Recruitment of trappers for participation in this study and distribution of sampling packages began in the summer of 2006. Contact was made both through formal presentations of the research project at organized meetings with trappers and community leaders and informal conversations with individual trappers. Sampling kits and associated data on beaver characteristics and

[37] At least two basic ecological mechanisms are recognized as capable of generating habitat sinks: "intraspecific density-dependent interference competition for good habitat (i.e., sinks are occupied because individuals in source habitats force subdominant individuals into sinks) and passive density-independent dispersal (i.e., sinks are occupied because some individuals leave source habitats regardless of resource availability, e.g., due to the influence of physical forces such as wind or water currents)." Delibes, M., G. Pilar, et al. (2001). "Effects of an Attractive Sink Leading into Maladaptive Habitat Selection." The American Naturalist **158**(3): 277-285.

habitat were then collected simultaneous to the conducting of semi-structured interviews with collaborating trappers in the summer of 2007.

### 4.2.2. Project 2: Seasonal Linkages of Freshwater and Terrestrial Ecosystems by Beaver Herbivory

The second project looked at the seasonal linkages between aquatic and terrestrial ecosystems while examining the contribution of aquatic vegetation to beaver diet. It is hoped that this attention to the aquatic vegetation component of diet will yield more sophisticated models of beavers' responses to climate change. Conducted by a student at the Master's level, this project commenced in January 2006 and so the summer of 2006 was her first field season and introduction to Cree society. This researcher selected beavers as a topic of investigation in order to build on the existing research of past and current colleagues, because of their importance to the community, and not least because of their role in linking food webs in space and in time, which reflected the interest of this researcher and held particular relevance to certain goals of the CURA-SHHRC project partially funding the research[38].

This project investigates the seasonal contribution of aquatic vegetation in the diets of beavers. The working hypothesis of the project is that "seasonal variation in aquatic and terrestrial feeding by beaver is dictated by their optimal food choice, food hoarding, and microhabitat access dictated by ice cover" (Milligan n.d.:1). The researcher predicts "beaver will rely more on aquatic vegetation in the summer than in winter and that seasonal shifts in their foraging activity will be triggered by aquatic rather than terrestrial productivity"(Ibid). Aquatic vegetation may be an important part of beaver diets, which enables them to persist in the northern limits of their ranges where trees are scarce. Analysis of the food web as a whole provides a means to understand the linkages

[38] The CURA project explicitly proposed to advance ecology through the study of interactions among components of the boreal ecosystem and to model exchanges between spatial (e.g. habitats) and temporal (e.g. seasons) compartments of the ecosystem with the vision of placing these constructs in dialogue with Cree systems of environmental classification. Cree knowledge systems are seen in this document to also privileges themes of integration and exchange and recognize analogues of the idea of temporal and spatial ecosystem components. Scott, C. H. (2005). The Paakumshumwaau Protected Area Project. SSHRC-CURA Project Proposal, McGill University. http://maps.strata360.com/website/mcgillweb/ pdf/CURA_ description_Final2.pdf. Last Accessed July 12, 2007.

between ecosystems and allows for a better predictive knowledge of the effects of climate and resulting environmental change on the dynamics of biological communities (Ibid).

Aquatic and terrestrial linkages are poorly known and understudied in the scientific literature. Herbivores such as beaver that feed from both ecosystems can have a significant role in regulating the biomass of both, by switching their feeding preferences. Observations of aquatic diet are difficult (lack of visible sign), especially during nocturnal feeding periods and during winter. The researcher proposed to examine seasonal changes in the diets of beavers through a combination of stable isotope analysis of beaver dietary plants and beaver teeth and fur, and surveys of aquatic and terrestrial vegetation, "The proportion of aquatic diet inferred by field observation and stable isotope analysis will be compared between sites of low and high aquatic biomass to determine whether aquatic productivity triggers seasonal dietary shifts" (Milligan n.d.: 1).

The researcher spent the bulk of the summer of 2006 conducting surveys of water plants near beaver lodges at various locations on Wemindji territory. The Old Factory River was sampled along its length, from Old Factory Lake to the James Bay coast, along with four other river and thirteen different lake sites. Some terrestrial vegetation surveys were also conducted to ascertain the relative importance of aquatic vegetation in beaver diet.

The second main task of the researcher was collecting plant and beaver skull samples to infer seasonal shifts in beaver diet and food web interactions with stable isotope analysis. As animals eat, they incorporate the chemical composition from their diet into their tissues. The analysis of the carbon and nitrogen stable isotopic ratios (ratios of atoms differing in atomic weight) in animal tissues gives an average estimate of their diet. The researcher hypothesized that carbon and nitrogen stable isotope ratios (or signatures) differed between terrestrial and aquatic vegetation. Therefore the isotopic signatures of beaver hair and teeth could be 'matched' to aquatic and terrestrial dietary origin. It is then possible to have a fairly accurate record of average seasonal beaver diet. For example, the incisor teeth of beavers, which grow continuously, archive five months worth of diet (Milligan 2007: 3). The researcher took vegetation samples and collected beaver skulls and hair over the summer in order to perform preliminary stable isotope analysis in the fall of 2006 in Montreal. Samples were prepared and sent to chemical

laboratories for analysis using mass spectrophotometry. In addition, the groundwork was laid for the collection of more extensive beaver fur samples though the same beaver meat collection method used for the population genetics study in project 1, as the sampling kits distributed to trappers also contained an envelope for beaver fur.

Preliminary tests in fall, 2006 on the material collected in summer, 2006 were successful in determining diet, and the researcher has established a laboratory technique for the stable isotope analysis of beaver teeth. The researcher has expanded her efforts at skull collection, and has entered into collaboration with the Wemindji Trappers' Association. They will help her to recruit and inform trappers to participate in the project. She is seeking the top jawbones of beavers of all ages, and offering a financial compensation of $10 per beaver skull. Skulls were collected in the summer of 2007.

### 4.2.3. Relevance of Ecological Research to Local Concerns

At the center of both ecological research projects is the development of predictive capacity about how changes in the climate will affect animals and ecosystems, including beaver abundance at the local level. Research in this vein can help to identify in advance potentially socially disruptive changes affecting subsistence animals, such as species range shifts, local extirpations from exceeding bioclimatic tolerances, climate-induced pests and diseases, and invasive species. One student mentioned the goal of being able to construct models based on his research, able to forecast the speed at which beaver could repopulate a trapline after a fire. Another of the students explains the uses of her research with regard to the beaver:

[I will work] *towards a publication, to talk about what beaver eat and whether or not aquatic plants are important for beaver.* [Also,] *how beaver can shift between aquatic and terrestrial ecosystems and the importance that might have for understanding climate change and how that might affect the food and damming* [activity] *of beavers. So there's a potential ability to see into the future, or to record what's in the present.* (ES 2)

Beyond their utility as a predictor of beaver ecology in relation to climate change, these studies have the potential to help augment the community's ability to influence development on its territory. Knowledge of future climate-related impacts on subsistence

activities will be of value to the community in light of current concerns around balancing these activities with extractive and other forms of development (e.g. roads, outfitting, protected areas) in the context of rapid population growth. This information may be factored into the community's efforts around long-term land use planning and decision-making. Importantly, as part of the *Paakumshumwaau – Maatuskaau* protected area project, information generated by these studies will contribute to the development of a knowledge database on Wemindji territory that could be used to enrich and lend credibility to community-driven development initiatives such as protected areas, or improve community capacity to influence industry-sponsored impact assessments for current and future infrastructure, mining, or other projects. In the words of one ecology student,

*If there are still a lot of issues of development in the area,* [the research] *can further the case that this is an important landscape for beavers. Or it could be* [used] *to better inform the people here what are the potential impacts of development. You could give a different perspective than ones that corporations give.* (ES 2)

This research was conducted under the auspices of a larger community-university collaborative project to protect and enhance Cree authority over their territory. The scientific research conducted here will serve to bolster the argument for protection of the land in question simply by virtue of its having been the object of study. This research shows that the landscape has become 'known' and modeled within the language of science, by virtue of which it will have taken on a particular 'scientific existence', necessary to any process of development, including protected area creation[39]. As long as the results don't indicate that Cree subsistence hunting is endangering the wildlife ecology (which they don't seem to at this juncture), then this research standing alongside ethnographic information on the importance of the land to the community will make a more compelling argument for protection.

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[39] Protected areas are a form of governance, and to the extent to which they require administration and recognition by the dominant society, they must first be conceptually remade into a 'governable' space through the application of western forms of territorial governance. Scientific research serves this function by generating authoritative data on an area, upon which deductive and peer-reviewed statements are made. "To govern, it is necessary to render visible the space over which government is to be exercised", a process that involves "a practice by which the space is re-presented in maps, charts, pictures and other inscription devices. It is made visible, marked out, placed in two dimensions, scaled, populated with icons and so forth" Rose, N. (1999). Powers of Freedom: Reframing Political Thought. Cambridge, UK, Cambridge University Press.

Employment provided by the ecology students through enlisting trappers for data collection and the hiring of guides provided welcome supplemental income to full time trappers, as trapping is not normally very financially lucrative. Finally, working with youth as research assistants was for one of the ecology students, an important interface with the community,

*sharing that knowledge* [of beaver ecology] *with kids and getting them interested in what's going on, and then they start asking their own families about questions you raised to them... they start to value their own community knowledge better,* [because] *somebody else appreciates it. That is one of the better ones* [uses]. (ES 2)

In these ways, this research has fulfilled the mandate of the ecology students' research laboratory to conduct research directly relevant to Indigenous peoples through "prediction of the impacts of climate change on traditional food and furbearing species" (Humphries 2007), and succeeds in meeting the CURA project's guiding directive for academic research to complement and dialogue with local issues and perspectives (Scott 2005).

## 4.3. Socially Productive Problem 1: Relationship Building Underlies Scientific Research, but Doesn't Get Reported (Invisible)

My arrival in Wemindji at the end of July 2006 to undertake fieldwork with the ecology students with the goal of understanding how the practice of science was socially productive with respect to Cree identity elicited a certain level of discomfort from the scientific researchers. At that point in the summer, they had been working at their field research for almost two months, having arrived in the community at the beginning of June. In that time, they had met and befriended many local people, enlisted the logistical support of trappers from the territories in which they were conducting their studies, and completed several extended sampling trips, sometimes in the company of Cree trappers and guides. One researcher said to me, referring to the Crees with whom they had worked, "I don't know what you're going to study, we're just friends". This statement reflects the complex social interface with the community and territory that the researchers

were engaged in, which enabled the conduct of research, and yet whose role in the procurement of data and practice of science is potentially at risk of being rendered invisible in the final research products.

The friendly and respectful relationship that had evolved between the scientists and hunters reflects the fact that contrary to most scientific research conducted on Cree territory or Indigenous territory in general, the larger context within which data were being gathered was one that was respectful of Cree both political interests and land tenure systems. The development of friendships was partly facilitated by the context of the protected area project and its implied political benefit for the Crees in terms of reducing the potential for resource extractive conflicts. No forced alteration of land use practices threatening to disrupt Cree control over or access to resources was looming in the background. In addition, the research was conducted completely under Cree supervision and within existing local structures of authority and access to the land.

The researchers obtained the requisite permissions, established relationships with key local land users, and showed themselves to be respectful and open to their Cree hosts. The ecological research was conducted under the auspices of local 'rules of engagement' with the land as set out by the individual guides and local tallymen, including seeking the proper permissions, the remuneration of designated 'expert knowledge holders' for their guiding activities, and submission to the judgments of the Cree guides, not only with respect to when and where to conduct research, but also with deference to guides' decisions regarding the more intimate aspects of life in the field, such as what rapids to shoot, where to portage, and where to set up camp. Finally, and perhaps most importantly to the successful outcome of the research from a scientific point of view (the generation of data), the research was fundamentally enabled by the extensive logistical help of the Crees, the extent and quality of which depended directly on the existence of the first two characteristics described above, a political context favorable to the reinforcement of Cree authority, and respect for Cree land tenure institutions. The ecology students employed local people to assist their research at different levels (guides, research assistants, data collectors, drivers, etc), which indicated their entering into a form of reciprocal relationship with members of the community that recognized and valorized local knowledge, expertise, and authority.

Ecological science is fundamentally about studying non-human nature, about privileging information gathering on plants and animals. It seeks to place animals front and centre, to investigate their world, and to understand their needs and their interests. As such, the discipline tends to attract outdoor-loving environmentalists who hold ecological integrity to be a central value. The students I spent time with were no exception, and felt that maintaining and preserving the integrity of non-human nature to be of fundamental importance to society at large. The interests of the ecology students and the Cree trappers broadly intersected in that both were concerned with consciously valuing non-market related qualities of animals and ecosystems, and had a sense of awe in the face of the complexity of the phenomenal world.

For one of the ecology students, the value that she attributed the study of animal ecology indicated a deep regard for her research subjects, and exposes her position on animal intelligence, which represents a departure from the 'norm'. It is of note that the level of intelligence attributed here to the beaver (the notion of cultural learning) by the researcher was not reflected in the methodology or outcomes of her research project.

[Beaver] *change waterways, they create biodiversity, increase the population of fish, create geese habitat. So there are a lot of different dynamic roles.*

*W: Do they do that on purpose? Modify the complexity of their ecosystems?*

*Yes, I think it's to their own benefit. The knowledge gets passed down from beaver to beaver through cultural learning. They modify their environments in a way that can be to their detriment but can be to their advantage depending on their situation. Like, water lily roots seem to be most abundant at beaver lodges from my sampling this summer, or at least they're always together on the lakes. And it seems to be that there's this co-evolution between the water lily and the way they grow and spread, and the use of beavers. Because of the way they grow from their rhizomes. So you get this thing where by using their resource, beavers make that resource more plentiful around them.* [They create] *biodiversity, they make wetlands, use grasses, it's one of their main summer foods. And they make the trees* [grow] *closer together* [in order] *to feed on them, so it's to their benefit and that of other wetland species as well.* (ES 2)

However, the relationship of southern educated graduate students in ecology to non-human nature, regardless of their "bush credentials", is different than that of long-time Cree trappers to their traditional family hunting territories. Privileging non-human nature in isolation from human activity logically leads to a vision of conservation whose

*ideal* form excludes all or most forms of resource use. While most Cree trappers would agree that environmental protection is an important goal, the protection of non-human nature and valorisation of the interests of the land and animals independent of human use would not resonate with most full time Cree trappers, who use, name and travel on their hunting territories. These practices are in addition intimately tied to their identity.

Nonetheless, the personal histories of the ecology students were striking in terms of how much and to what extent they enjoyed and valued being in the bush and on the land. A preference for being in the presence of the outdoors and of non-human nature seems to have been for both students and research assistants a guiding force that influenced their professional and academic paths. In this sense, they have on the surface much in common with many Cree who engage in hunting, trapping and fishing activities on a regular basis.

*W: What do you share with the Cree trappers? What do you have in common?*

*A love of being outside, a love of the land, being in the bush, that's why I'm doing a PhD. They can totally dig that. And I can understand the attraction of trapping. I would love to go trapping. And I think that I share some kind of respect with the older trappers for things, living things.* (ES 1)

This assertion of shared respect for animals, aside from the ethical dimension already mentioned, manifested as a keen interest in a wide range of topics, from animals to trees, to navigation, insects, etc. Long and involved conversations between the ecology students, their research assistants, and the Cree trappers were initiated and maintained on topics such as these. Because of their sophisticated knowledge of plant and animal ecology, the students were able to identify information relevant or interesting to their fields of study, and to follow up with questions for more detail. In comparison, I would have been unable to situate the value of information given to me by Cree trappers to broader lines of scientific inquiry, nor to appreciate the extent of trappers' knowledge of beaver ecology.

*With trappers, it's kind of exciting that I get a lot easier relationship with* [CT 17] *or* [CT 1] *or others, because what I'm studying is what they're doing with their lives.* (ES 1)

As a result of their extensive experience camping out and conducting research in different wilderness and rural settings, both ecology students were very skilful at outdoor living, and knowledgeable of the requisite skills of canoeing, hiking, GPS navigation, etc.

On several occasions they impressed their Cree hosts with their toughness of mind and body while conducting themselves on the land. One anecdote from the field illustrates this particularly well:

After a particularly trying day on the river, our group finally arrived at campsite and began to set up our tents in the pouring rain. Tempers were frayed, and exhaustion and cold were setting in. Suddenly, one ecology student realized that he left his backpack containing his data book on a sand spit several hours' worth of canoeing up the river. Needless to say, this individual was very upset; this data book represented an entire season of field data. While our guides were somewhat put off by his outburst, the events that unfolded the next day served to gain him a certain amount of respect from our Cree hosts. The next morning at 4 AM, the ecology student got in his canoe and set off in search of his backpack. The rest of our group huddled around the fire for warmth on what was a cold and rainy day, speculating on his progress and chances of finding the book. A little after noon, the researcher returned, having been successful in retrieving the book and in much improved spirits. His currency rose immediately among our Cree guides for having independently corrected his negligence by rising early and successfully navigating in both directions the fast moving waters of the river on his own. Shortly afterwards, he was selected as a favored and competent companion by three Cree to accompany them back to town in advance of the rest of the group (the premature departure was due to a medical emergency in the family of one of our guides). The researcher seemed to have proven himself in some way, and gained a measure of respect from our guides. I later learned that he and his Cree companions had killed and eaten several yearling geese together on that trip. Cree sharing of bush meat with *waamistikushiiu* can be a meaningful sign of respect and relationship (Adelson 2000), as was I believe reflected by this incident.

The other student also very well received, and it was often noted that she conducted herself particularly well in the bush, or that she performed some task or other in a skillful way. This student was also particularly interested in and aware of the 'Cree way' of doing things, and would readily imitate our hosts in these small activities around setting up camp or mealtimes. For example, she would sometimes cut boughs at mealtimes to kneel on in the traditional Cree manner. Our Cree hosts received these attentions and her

evident respect for and openness to Cree ways of doing things very positively.

One important result of this development of relationships was that it provided the foundations for communication to occur, and facilitated logistical help from the Crees for the conduct of the research:

*I find people really generous with their knowledge. And excited about sharing it. You start to build closeness with people and interact on a personal level, which is more important than the research. People are more thankful that you're helping to gather boughs. This is one of the reasons they tell us things, because they know that we're there to help protect the area.* (ES 2)

As relationships were built, the students were granted increased access to their field sites and greater cooperation from Cree trappers. Aided by the increasing familiarity with and acceptance of the CURA protected area project in the community over time, the work of the students came to be accepted by the majority of locals as politically benign. Friendships developed with several key individuals in positions of authority with the Cree Trappers' Association and on the territories making up their field sites also helped their general level of acceptance, and people became more willing to work with them in the collection of data. Financial compensation for logistical support, including the collection of material for analysis was also an important motivation for cooperation from the Cree trappers. However, compensation occurred in the context of the community acceptance of the researchers and the political implications of their work for Cree authority. In this context, compensation was explicitly understood to be recognition of the expertise of the contributing individuals, and as such, rates were set relatively high. My impression was that financial incentives offered independent of this context I have described would not have resulted in the same outcome.

Exposure to the landscape through the perspectives and experiences of their Cree hosts naturally led to several interesting new problematics presenting themselves, which according the ecology students, were worthy of further scientific research. These included reported variations by tallymen in post-fire beaver repopulation rates from trapline to trapline and the impact of reservoir flooding on beaver dispersal and out-migration. It was asserted by some trappers that significant numbers of beaver had relocated to the Old Factory and Poplar rivers (the watersheds to be included in the proposed protected area) subsequent to the flooding of the La Grande reservoirs. While

both of these issues potentially impacted on the distribution and abundance of beaver, the topic of one student's project, that student was not in a position to pursue them within the time constraints of his (already broad) doctoral thesis. The student studying the proportion and role of aquatic plants in beaver diet received immediate confirmation of her hypothesis that these plants formed an important part of beaver's ability to persist in more northerly climes:

*When I asked if beavers ate water plants, the answer I got was 'of course they do, what do you think they fatten up on?* (ES 2)

Examples could be multiplied, but enough have been evoked to illustrate that the practice of science in this context was made possible in complex ways by a series of collaborations with Cree trappers. However, there is the risk that because of the established nature of studying the predetermined objects of scientific inquiry and the institutional constraints on scientific knowledge production, the collaborative nature of this research may become obscured in the final projects of the ecology students.

The plants and animals that the students were studying were already established objects within taxonomic sets – they already had an existence that preceded the arrival of the students among the Crees. As such, it was the task of the students to measure, count and generally quantify the characteristics of these natural objects. Properties of the objects being studied were self-evident, eminently 'discoverable' through scientific investigation, and of little abstract interest. The character of the existence of these axiomatic 'natural universals' (Tsing 2005) renders invisible the social landscape of its Cree inhabitants *through which it was accessed.* The practice of science allowed the ecology students to interact directly with this 'universal landscape' without the mediation of Cree trappers or institutions through which they were granted access to it. In this way, "the specificity of collaborations is erased by pre-established unity; ...the contingency of the collaboration... no longer seems relevant because the facts come to 'speak for themselves'" (Tsing 2005: 89). The study of biophysical reality consists of measurable data that stand above the social conditions of their collection and interpretation[40]. The main body of the ecology students' research projects, the scientific part, will not

[40] See also Cruikshank, J. (2005). Do Glaciers Listen? Local Knowledge, Colonial Encounters, and Social Imagination. Vancouver, UBC Press.

reference human relationships at all; rather it will most likely take the form of a univocally empirical representation of this underlying quantified reality. For example, the isotopic signatures of beaver teeth will provide all the data necessary to construct a valid, scientifically complete representation of beaver diet from which to infer aspects of beaver energetics.

The 'tight' format of a graduate thesis in the natural sciences is supposed to reflect a solid training and grounding in scientific methods and literature, and is not particularly amenable to inclusion of considerations of the social context of research. PhD committees do not view favourably the dispersal of students' research foci through too many 'side projects', according to one researcher (J. Samson, McGill University, personal communication, 2007). Considerations of Cree contributions, local knowledge and trapper-researcher interaction are more likely to figure as a sidebar to the well-disciplined scientific research of which the theses will consist.

Already conceptually well-developed before involvement with the CURA project, project 1, described above, is vast in scope and covers several areas of the scientific literature. This researcher had more or less decided before entering the Cree community to do his fieldwork that his project would not contain an "Indigenous knowledge" component beyond the project's existing topical relevance to Cree subsistence hunting practices (beaver distribution and abundance). Other than logistical support and Cree participation in the population genetics study, no data was required from the Crees for the field season to be considered successful from the point of view of the scientific goals of the project.

The researcher for project 2 was in a different position, with a less explicitly elaborated project prior to entering the field, and was excited at the prospect of including "Cree knowledge" in her project. In addition, this research focus, looking at the role of beavers as ecosystem integrators dynamically linking temporal and spatial ecosystem compartments through diet, was partially inspired by its presentation in the context of the CURA project application as a theoretical construct on the forefront of ecological science having some intrinsic similarity with perspectives underlying Cree subsistence practices and hunting ontology (Scott 2005: 6-7). However, as the role of isotopic analysis came to the fore, the research became increasingly concerned with collection and preparation of

isotopic material and the quantification of seasonal shifts in beaver diet.

However, because these research projects were conducted as part of the Protected Area Project, there is some assurance that the collaborative nature of the research will not be completely edited out of the body of outputs related to the ecology students' projects. In order to contribute to the larger CURA project's goal of investigating knowledge exchange and knowledge dialogue, both researchers committed to keeping detailed notes of conversations with hunters and observations of shared perspectives regarding ecological processes between themselves and the Crees. These notes will form part of a contribution to a chapter provisionally entitled, "Conversations Between Hunters and Scientists" being prepared for publication in an edited volume derived from CURA project research, to be co-authored by both ecology students and myself, and will be a record of the longer-term effects on the way they practice and conceive of science in relation to the values and priorities of the Crees.

Both researchers will additionally be making presentations of their research at a northern research conference in 2007 that address the aspects of their field research that risk being edited out of their theses. These presentations are entitled, "*Dialogue Among Scientists and Cree Hunters while Conducting Wildlife Field Research*" and "*Synergy of Scales: Beaver Ecology Through Bioclimate Models, Habitat Models, and Cree Perspective*"[41]. In this way, it seems that the risk of rendering invisible the convergent nature of their research, and the contingencies of its access to universal, scientific facts through the complexities of the local social landscape, will be partially avoided through these parallel contributions that explicitly address dialogue and Cree perspectives.

## 4.4. Socially Productive Problem 2: Categorizing Phenomena Results in Animal Intentionality Being Recast as Epiphenomenal (Imaginary)

In this section I explore the categorizing effects of scientific methodology on the notions of animal sociality and intention expressed by my Cree informants. The excision of 'the social' from 'the natural' quantifiable 'facts' extends to a generalized denial of

[41] Presented at ACUNS 2007 place, date, www.acuns.ca

sociality in the ecosphere and a reluctance to focus on human relationship and modes of perceiving animals. While this categorizing may or may not also manifest at the level of the personal convictions of the researcher, there is a sense in which it occurs 'automatically' – as a function of the deployment of scientific methodology and application of the inductive method, as well as through the system of institutional controls exerted on scientific practice.

What seems to occur in these interactions is the refraction of trappers' knowledge into empirical and spiritual components – the former experience-based and the latter belief-based – that has several effects. Firstly, everything on the side of empirical knowledge is non-distinctive: there is nothing particularly 'Cree' about it. This knowledge is acquired simply as a function of engaging in beaver trapping over an extended period of time, and involves refining tracking and trapping technique and observations of beaver ecology through trial and error. Secondly, everything on the 'spiritual' side of the equation, including the imputing of intention to the animal, is deemed to be dependent on an uninterrogated belief in postulates that have been passed down from previous generations. These postulates, because they are seen to have no empirical existence, cannot be proved or disproved (although, from this point of view, they can be displaced through contact with science). It is on this side of the equation that everything distinctively 'Cree' is located: here are the traditions, beliefs, myths, and stories that are uniquely Cree.

Empirical knowledge associated with beaver trapping was seen to be detailed and accurate:

[The fact that they] *can tell relative age and size of beaver from cuts (size of teeth) and from habitat use. From these signs, you can estimate the amount and age of individual beavers in a lodge.* (ES 1)

But this empirical knowledge is not 'Cree' knowledge in the sense that it is distinctive to or generated by the history or culture of the Crees. This is knowledge that anyone could learn, provided they engage in trapping over the long term.

*It's common sense. If I had to deal with such questions, to understand... it's the same for all animals, they leave tracks and signs. That's very useful for you as a trapper.* (ES 1)

Evidently, the more metaphorical or theoretical constructs that are distinctively 'Cree', including the notion that human activity can be understood by animals, who then react in different ways, is from this perspective disqualified from having an empirical existence as such.

[The idea] *that if you trap in certain ways, then the beaver is going to respect or disrespect, or agree or disagree with the actions of the trapper* [is not empirical]. *I think beaver feel stressed and unhappy when humans are around. If you trap and kill it, it will be even less happy.* (ES 1)

This locating of 'Creeness' on the spiritual side of the equation severs distinctively Cree knowledge from its empirical grounding and denies it a certain reality in the physical world. In so doing, traditional hunting knowledge becomes re-characterised as lacking the ability to impact and to affect natural processes, hunting outcomes, and animal behaviour. For example, from the point of view of one ecology student, the knowledge of the Cree trappers was composed of two distinct elements – empirical knowledge and spiritual knowledge. Although empirical knowledge was seen to be accurate and extensive, and often based in long-term interactions with the animals, it was nonetheless different in kind from its supernatural or spiritual component, including the imputation of intentionality to animals. Assertions understood as based in traditional beliefs do not have the same kind of empirical existence as those subject to revision through experimentation.

*Their body of empirical knowledge on the beaver is great, extensive. Their knowledge of beaver is accurate in many respects. What is not accurate is when they use supernatural explanations. These explanations are useful for having good, meaningful lives and living well.* (ES 1)

Furthermore, the line separating knowledge from belief can be defined by the verifiability of the supposition.

*It can be categorized in my mind – I see a distinction between the knowledge, and the spiritual part. ... I think their empirical knowledge can be characterized by some sort of beliefs in their observations, that they were able, through repeated experience to see exclusions and differences* [in their environments], *they were able to create a set of knowledge that doesn't arise from things you have to believe in, but from things you see. If you're sceptical, you can try it, and if it doesn't work, it doesn't work. If it's true, then I consider that knowledge. If someone says, the beaver will get angry if you do X, then you can't go and verify that. So this is not empirical knowledge. What is spiritual doesn't need to be tested, and can't be tested.* (ES 1)

The reactions of one ecology student operating from within this perspective of 'empirical' versus 'spiritual' knowledge indicated that he imposed this distinction onto Cree trappers' interpretations of beaver behaviour. As a result, the empirical components of these interpretations become severed from the realm of knowledge characterised as spiritual. I will explore two such assertions by Cree trappers here: the height of beaver cuts as illustrative of social learning by beaver, and statements made explaining why individual beaver sometimes roam far afield.

Explanations given by several Cree trappers to explain differences in browsing behaviour between juvenile and adult beaver showed that the beaver is also thought to be capable of social learning and of exercising ethical capacities that are grounded in the requirements of life in the bush (CT13, CT 5). From this point of view, adult beaver cut their wood at ground level because they know through learning and experience that wasting food and energy can result in exposure to unnecessary risks of predation and starvation (CT 5). Young beaver are in the process of learning from their elders not to waste their food nor their expenditures of energy. This is why young beaver make cuts several inches off the ground: they have not yet learned the proper way to conduct themselves. Alternately, one trapper explained that adult beaver make their cuts as close to the ground as possible because it is part of a strategy to escape predation by trappers (CT 13).

From the point of view of one of the ecology students, this hypothesis is of a 'spiritual' or metaphorical nature, because

*Last year we measured a bunch of cuts, and some of them were super high, like 70 cm. My hypothesis would be that they are related to snow cover. And these are cuts made during early spring, related to how much snow is on the ground. To test my hypothesis I would have to come back in the spring and measure cuts. The alternative hypothesis that X* [CT 5] *brought is that young beaver are wasteful, contradicts the main evolutionary concept of animal behaviour. Trying to test that, for me, is not useful. I think it's a metaphor for Cree trappers.* (ES 1)

However, the ontology of animal personhood is arguably in a strong feedback loop with the material world, intimately related with the types of observations made about empirical manifestations of animal behaviour. As Scott notes, the 'figurative'

language of metaphor interacts with the 'literal' language of practical/empirical experience" such that the phenomenal world and theoretical frames of interpretation provide context and definition to one another in complex ways (1996: 72). For example, several Cree trappers related that individual beaver would travel long distances in search of food or of abandoned lodges to inhabit. For the trappers, this aspect of beaver behaviour was a common phenomenon, and occurring regularly in the fall once the beaver's supply of available food around its lodge was depleted. It was said that beaver roamed up to 100 meters from the water's edge in search of food in these cases. They also reported that beaver can travel up to two days to escape a predator, and that male beaver will sometimes make long journeys in the summer to find an abandoned lodge to re-inhabit. The attention to these movements are partially a result of my Cree trapper informants' tendencies to relate information about individual beaver's life cycles in narrative form, which in turn is based on an understanding of the animal as a being with person-like qualities of intention. When they recounted information about beavers, it tended to be phrased as retellings of observations of the actions and behaviours of individual animals whose behaviour they or another had witnessed.

For the ecology students, this information was seen to be unreliable. From within their models of ecosystem energetics, they were focussed on gathering statistically reliable quantitative information that would allow them to make generalized statements about all beaver on the territory. In order to do this, they completely bypassed considerations of intention or consciousness of the animal, instead using a hypothesis called 'central place foraging'.

*The further the animal goes from it* [the central place], *the more dangerous it is, and the less likely it is that the animal will forage there. So if I have this hypothesis, and I say that the river is the central place and the further you go from the shore, the greater risk there is, then I take my data using that metaphor. I take my samples at 20, 30, and 40 meters because I know that at 60 meters there are usually no more cuts.*

From within this hypothesis, individual animals that roam overland beyond 40 meters or so are not influencing the energetics model, because, statistically speaking, they do not gather a significant amount of energy beyond this distance.

[After 45 meters,] *You get maybe one cut every ten thousand* [trees] *or even less than that. I measured 15,000 trees last year, and you just don't see cuts after 45 meters. It's*

*not to say that they don't go there, that they don't go from one lake to another, but they won't gather energy, they won't take food from there.*

The decision to study animal behaviour as a function of environmental conditions and not through the intermediary of the consciousness or 'mind' of the animal is partially a result of the difficult knowability of the animal mind to scientific research, and partially a function of the history of science with its changing theoretical conceptions of animal consciousness and determinants of behaviour.[42]

This example suggests that the differences between hunters' more metaphorical statements and scientific knowledge is less a difference between the former's 'superstition' and the latter's 'reality', and more a matter of differing emphases and priorities of knowledge, each having inseparable theoretical and empirical elements. The trappers were inclined to see individual beaver as thinking and reacting beings, resulting in attention being paid to the activities of the animal in the form of a narrative, in which overland roaming was a significant component of beaver behaviour. The theory of central place foraging, with the drive to generate statistically significant data on animal movement and home range (e.g. metabolic rate, energy intake rate, fat level) led to an assumption that beaver roaming behaviour was only relevant up to 60 metres.

This example of differing emphases between methods of data collection leading to differing sorts of empirical observations, suggests an interpretation of differences between scientific and Cree trappers' knowledge that does not rely on the empirical/spiritual divide used above, but rather emphasises a related distinction: the freedom of scientific data from the social sphere. One of the ecology students felt that although there were more similarities than differences, the differences could be located in the fact that the trappers have a long-term subsistence relationship with the animal inhabitants of the land, and knowledge of the animal is generated from within the priorities and necessities associated with that form of use. The uses to which scientific knowledge is put, on the other hand, are unrelated to the social context of subsistence needs or other biases that influence trapper's knowledge of animals.

*W: Do you see any differences between the way the Cree trappers relate with animals and the way you relate with animals?*

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[42] Rollin, B. E. (2007). "Animal Mind: Science, Philosophy, and Ethics." The Journal of Ethics(11): 253-274.

*More similarities than differences. There's been a long-term relationship with animals here, and I'm new to the area so I don't have that same long-term relationship. But this is also the same habitat that I grew up in, so I don't necessarily feel that way because most of the animals here are animals that I grew up with. The same with the landscape. There's that difference, that long-term relationship, because I haven't been here very long. The knowledge of the use of the animal is different, because I don't hunt. Mine is curiosity driven, or trying to understand population dynamics, or what they're feeding on, and so, the uses of the knowledge about animals are different.* (ES 2)

The significance of distinctions between scientific data and other forms of knowledge revolves around establishing the reliability of quantifiable data that can be used to formulate, support, prove or disprove hypotheses about the natural world. In a very real sense, scientific data are seen to have an untouchable status; it exists in a realm distinct from human activity and human agency. It is protected from the movements of history and society, it is immutable, pure, and value free. It is this rarefied yet objective quality of the data that allows for science to function as a negation of abstraction and structure, as these ontologically free particles of data are always ready to be taken up within a hypothesis and used to strike down theoretical interpretations of their significance.

This distinction between the purity of the empirical data and its ontological freedom from structures of meaning extends to hypotheses or explanatory models used within science. Science evolves through maintaining the purity of data over the theoretical constructs used to explain that data. Social and political forces that predominate in society at large at a given period in history influence paradigms within science (and by extension hypotheses formulated within those paradigms). These explanatory models and theoretical constructs are therefore susceptible to change. What remains constant, useable and objective, however, are the data.

*I see data as the only truly objective thing in science.* [Subjectivity inheres in how] *an individual will choose to analyse what data. ... Different ways of thinking will go, but data will stay. You may not agree with something because of beliefs or a political system.* [The belief system may] *say "actually beavers don't feed on trembling aspen". Maybe it* [the belief system] *is going to take a hundred years* [to change]. (ES 1)

The scientist cultivates this kind of hard-nosed scepticism in the practice of science, as he or she must always be prepared to negate other interpretations of data and to have

his or her own negated in turn. In this rarefied realm where the only permanent features are verifiable data sets, human meaning in the form of hypotheses, patterns, or structures and models of understanding are impermanent and vulnerable to being undermined and swept away.

*That's the exciting thing about science, is that everyone is more than welcome to come in and say, "You're dead wrong. This is better". In science you never say you're right, you always say you're wrong. You can never be sure of yourself, but you can be sure the other is wrong. The way you collect data is heavily influenced by the hypothesis, but this bias will only limit what you can do with the data later on, because you only chose to collect this or that kind of data. But in an absolute manner, data are not biased. There were still six beaver cuts within the first ten meters.* (ES 1)

## 4.5. Render Unto Science...: Political Implications of The Invisible and Imaginary

As I described above, ecological research was conducted in the context of a political situation favourable to the exercise and reinforcement of Cree authority. However, it is informative to engage in a reflection on how characterisations of Cree traditional hunting knowledge as 'invisible' and 'imaginary' could become politically potent at the level of negotiations around rights to use of and access to resources – as in environmental impact assessments for extractive development.

In its confrontation with Cree trappers' knowledge of animals, science tends to automatically sever the complex connectivity between the beaver and human signification about the beaver by erecting an ontological barrier between the two that parallels the distinction between empirical-spiritual/metaphorical and nature-culture, thereby changing the relationship between the two such that the impacts on the material world resulting from exercise of this knowledge are rendered largely imaginary. In the process, trappers' knowledge that carries the capacity to distinguish Cree particularity from non-Cree is allocated an exclusively symbolic, or created (and therefore impermanent) existence in the world.

From within this perspective, 'knowledge' is something of a misnomer for the sort of traditional beliefs understood to constitute distinctively 'Cree' assumptions of animal

intentionality. A more apt term would be 'belief system' or 'ideology', terms that immediately situate Cree knowledge as inaccurate in comparison to science, having an ambiguous relationship to the phenomenal world. Cree 'beliefs' of animal intentionality are better understood to be symbolic and culturally particular instances of meaning production; part of a system of culturally based understandings overlaid on their environment and composed of a combination of empirical observations and metaphorical postulates. Science, free from unverifiable belief, deserves to be qualified as knowledge as such, in the sense that it says something empirically verifiable about the natural world, and other culturally specific systems of environmental knowledge in comparison are more properly seen as belief, metaphor, or culture. This essentially platonic distinction between *doxa* and *episteme*, where *doxa* is knowledge guided by common sense and *episteme* is systematic knowledge guided by explicit logical rules is the operative distinction between scientific and all other forms of knowledge (Mignolo 2000: 9).

One of the side effects associated with splitting Cree hunting knowledge into the opposing categories of 'empirical knowledge' and spiritual belief', aside from the fact that it may represent a mischaracterisation of the empirical foundations of metaphors of animal personhood, is that it can act as an obstacle to dialogue. For example, one ecology student expressed doubts about explicitly juxtaposing scientific and traditional Cree hunting knowledge in terms of a concern that scientific knowledge would cause irreparable damage to traditional spiritual belief systems.

*As soon as you start distinguishing between... knowledge and beliefs, then there's a lot of stuff you begin to question, a lot of traditions that can be lost, ways of living that can be kind of 'why should we do that'. Like saying 'why should we put the beaver skull there' in the trees. So there's a bit of danger. So in terms of knowledge sharing I feel very awkward....*

W: *You're saying the scientific perspective could destabilize the local culture, because it could show them that their beliefs aren't necessary?*

*Yeah, just like what happened with the kicking out of god recently in the main civilization I guess.* (ES 1)

When scientific knowledge is understood as prior, 'traditional knowledge' is only true insofar as it allows for a community to live sustainably within their environment and adapt to changes that affect them – the pragmatic effects of traditional belief systems.

Being universally true, scientific knowledge has a transformative power that metaphor does not, in that prolonged exposure to it can result in the questioning and erosion of traditional belief systems. By extension, the scientist then is the holder of the truth, and the traditional Cree trapper more or less beholden to myth. Potential for knowledge exchange is only uni-directional, as truth may supplant belief, but science through the rigour of its methods and the robustness of its networks of peers remains impervious to being tainted by non-propositional belief. This understanding of the relationship of scientific knowledge to other forms of knowledge, such as that held by the Crees, has a strong evolutionary connotation and a sense of historical inevitability in its eventual displacement of local, parochial systems of knowledge. To attempt to incorporate "belief" into science would be to betray the basic foundations of scientific knowledge and would in addition be an open invitation to censure by ones peers, supervisors and colleagues. Hypotheses without an exclusively empirical foundation would lead to unpublishable research findings that would not resonate with the corpus of literature in the scientist's chosen field of research. Employment and publishing opportunities would be summarily reduced.

Here we can see that Cree knowledge is opposed to science, as the traditional is opposed to the modern and as belief is opposed to truth. When Cree knowledge is remade as belief through association and comparison with science, it becomes the *doxa* that *episteme* requires as its exterior: "episteme is not only the conceptualization of systematic knowledge but is also the condition of possibility of doxa; it is not its opposite" (Mudimbe 1988: ix). In this sense, this confrontation with Cree knowledge constitutes a form of 'boundary work' where the outer limits of scientific knowledge are established in relation to *what it is not* [43]. This process of definition "constitutes a major way by which scientists assert their authority as sources of reliable knowledge" (Bocking 2005: 236). Empirical knowledge and the possibility for universal knowledge of the physical environment, *'episteme'*, is in this formulation the background against which beliefs about the physical environment, *'doxa'* take shape. Epistemologically prior, the detached

[43] Gieryn, T. F. (1999). Cultural Boundaries of Science: Credibility on the Line. Chicago, University of Chicago Press.

reality modelled by science is the condition for the existence of particularistic beliefs about it, which form a kind of cultural overlay upon it.

In this approach, 'nature' is either "black boxed" (relegated to the domain of biology), deprived of any subjectivity and made into the object of mental operations, or seen as a *tabula rasa* upon which culture is inscribed (Latour 2004). This understanding of the biophysical as raw material upon which culture operates has the effect of excluding the land and animals from their participation in cultural processes, construing these as pre-cultural substrate and the proper domain of the material sciences.

## 4.6. Conclusion

The scientific research conducted by the ecology students with whom I spent time in the field was in many ways a model for the practice of science on contested Indigenous homelands. Not only was the conduct of the researchers impeccable, but also the context in which research took place was favourable to the reinforcement of Cree authority. The protected area project and the respect of local expertise and institutions facilitated the development of significant and potentially long-term relationships.

With my focus on understanding the socially productive effects of knowledge interaction on the political significance of traditional knowledge, I identified two problems with the practice of science on Cree land. The first issue is the risk that the social, collaborative nature of the scientific research would be rendered invisible, and the second issue, the potential for misrepresentation, ignoring, or falsification of key elements of Cree trappers' relationships with animals. These effects were largely unintentional on behalf of the ecology students; rather, they were the result of a certain 'automatic' functioning of scientific methodology and the institutions and norms shaping the production of scientific knowledge. These two problems can be seen to energize the politicisation of traditional knowledge: if traditional knowledge has become such a powerful and important identifier for the Crees, it is perhaps because it represents the possibility of healing the rift imposed on it through interaction with scientific activity, a rift that threatens to undermine Cree relationships with the land's animal inhabitants.

Although I have been focused on the socially productive effects of this interaction arising from potential threats to Cree authority, it is important to recognize the benefits, both for the community of Wemindji, and for society at large, of generating scientific data on the impact of climate change on local ecosystems. "To turn to universals is to identify knowledge that moves – mobile and mobilizing – across localities and cultures. Whether it is seen as underlying or transcending cultural difference, the mission of the universal is to form bridges, roads, and channels of circulation" (Tsing 2005: 7). In addition, the experience of the ecology students is still playing itself out in significant ways, as they reflect on and process the relationships they made, their understandings of the utility and potential of their research, and their newfound awareness of the socio-economic and cultural realities of the Wemindji Cree. "Knowledge gained from particular experience", reminds Tsing, "percolates into these channels, widening rather than interrupting them" (2005: 7).

# 5.

# The Politics of Traditional Ecological Knowledge

## 5.1. Introduction

The history of the relationship of the Canadian state with First Nations has been one of extreme economic and political inequality on the one hand, and near-total spatial domination on the other. As French anthropologist J-L. Amselle notes, in this type of situation, "...the culture that dominates spatially maintains the ability to assign other cultures to their respective places within the system, thereby making them into subordinate or determined cultures" (1998: 33). Since colonization settler states have been both physically and conceptually circumscribing native people, and the roots of the categories used to do so date at least as far back as the emergence of post-renaissance enlightenment thought (Jackson 1987). As I will explore below, the advent of the concept of traditional ecological knowledge (TEK) to index Indigenous relationships to land and its ever-broadening inclusion in management, development and conservation initiatives on Indigenous territory, while in some ways an important revaluation of the culture of an oppressed minority, is also a reproduction and continuation of this process of external circumscription, reminding us that representations of Indigenous knowledge and culture are now more than ever politically-charged battlegrounds.

By way of example, the way that Cree knowledge was incorporated into the Environmental Impact Assessment for the EM1-Rupert River Diversion hydroelectric project reflects a normative division of traditional knowledge into its empirical and ideational components. This is demonstrative of how classification of traditional knowledge along these epistemological lines through its interactions with scientific research has the potential to be amplified to a parallel and related divestiture of Cree authority over their lands when paired with the political operations of power in extractive resource development. This discussion focuses our attention on the notion of TEK, allowing us to question under what circumstances it fails to fulfil its purported role as

empowering local peoples and why it may end up facilitating the extension of industry at the expense of local authority.

## 5.2. Studying Traditional Ecological Knowledge

Traditional ecological knowledge (TEK) and its analogues traditional ecological knowledge and wisdom (TEKW), traditional ecological knowledge management systems (TEKMS), Indigenous environmental/ecological knowledge (IEK) and most inclusively, local ecological knowledge (LEK), are concepts used to denote community participation in resource management, extractive development and land conservation interventions (Langill and Landon 1998: 1). This family of concepts is relatively recent, and is part of a revolution in the way that international development is approached, which has largely shifted from top-down interventionism to an actor-based, bottom-up participatory perspective (Sillitoe 1998: 223). These concepts reflect the anthropological truism that people have developed their own effective resource use practices and systems based in tested knowledge about their environments that are uniquely adapted to their own socio-ecological contexts. These concepts also reflect the important aspiration to adapt development to its local conceptual environment: TEK, as that subset of Indigenous knowledge (IK) that deals with resource use (Berkes 1999), "aims to contribute in the long term to positive change, promoting culturally appropriate and environmentally sustainable adaptations acceptable to people as increasingly they exploit their resources commercially" (Sillitoe 1998: 224).

These days, it is "difficult to find a development project that does not in one way or another claim to adopt a 'participatory' approach involving 'bottom-up' planning, acknowledging the importance of 'indigenous' knowledge and claiming to 'empower' local people" (Henkel and Stirrat 2001: 168). Similarly, resource management, conservation and development projects conducted in the Canadian North on Indigenous territory are increasingly bound by political necessity and scholarly consensus to include or integrate TEK in some way into the broad range of applied research that takes place in these locales, from impact assessments for extractive development to applied biological

and climate studies. In Canada, these terms are related to northern Indigenous communities exercising their increasing political power to shape social and environmental policy in the context of the formation of new co-management arrangements and institutions for territorial governance resulting from ongoing treaty making and land claims processes (Feit 1988). Co-management refers to "a continuum of arrangements involving various degrees of power and responsibility-sharing between the government and the local community" (Moller, Berkes et al. 2004: 3). Co-management arrangements are widespread in Canada, including the Hunting, Fishing, Trapping Coordinating committee (HFTCC) operative on James Bay Cree territory, established under the James Bay and Northern Quebec Agreement[44]. Nonetheless, it is important to understand that the phenomenon of these concepts gaining ground in Canada is related to a global shift in international development towards inclusion of the local sphere that began in the 1980s and became pervasive in the 1990s (Nadasdy 2005).

There is a concerted effort by TEK scholars, who conceive of TEK as having characteristics that are shared across different Indigenous groups, to develop its study as a body of abstract knowledge. A major goal is to systematize the contributions of alternative (to the globalized, scientific) resource management practices belonging to local resource-based social systems, that are based on TEK and uniquely adapted to local ecosystem dynamics (Johnson 1992; Berkes and Folke 1998; Turner 2005). The most authoritative definition of TEK in this body of literature is that of Berkes (1999: 8): "A cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission". This body of literature has grown to the point that it is becoming increasingly common to see efforts at combining and contrasting TEK and TEK-based management systems to scientifically-based natural resource management (e.g. Hawley, Sherry et al. 2004; Moller, Berkes et al. 2004).

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[44] Composed of representatives from the federal and provincial governments and the three Native groups affected, the HFTCC administers, reviews and regulates wildlife harvesting. It may also set harvesting limits and advise governments on wildlife management INAC (1993). (Indian and Northern Affairs Canada). Description of the James Bay and Northern Quebec Agreement and the Northeastern Quebec Agreement. http://www.ainc-inac.gc.ca/pr/info/info14_e.html. Last Accessed July 12, 2007. For further discussion of the fisheries and wildlife provisions of the JBNQA, see Berkes, F. (1989). Co-management and the James Bay Agreement. Cooperative Management of Local Fisheries: New Directions for Improved Management and Community Development. E. Pinkerton. Vancouver, University of British Columbia Press: 189-208.

Motivated by a desire to revalue and learn from the detailed environmental knowledge of Indigenous peoples, and by a pragmatic necessity to remedy the lack of historical depth of scientific studies of long-term ecosystem change, this growing body of literature represents a welcome shift in attitudes towards Indigenous people's knowledge and a pressing concern with the development of more just, effective and sustainable natural resource management systems.

As noted by Menzies and Butler (2006: 2), "despite the growing awareness of the importance of TEK for natural resource management, the current regulations and practises in many regimes still do not provide effective formal mechanisms for the integration of TEK into active management". This difficulty in connecting increasingly sophisticated portrayals of TEK-based local resource management systems to co-management institutions or development projects invites researchers to investigate the larger frameworks of meaning within which TEK is operative. If TEK becomes problematic in practice, it may be because TEK is often represented as a stand-alone body of knowledge without reference to its role in articulating the local with the national or international sphere. As a result, TEK can be misunderstood as a transparent representation of local circumstance quite apart from the interests and requirements of state and capital. This absence of attention to the overarching power structure within which TEK is operative – either as corrective to the inadequacies of scientific resource management or as empowering to local populations – is apparent in the definitions given above. When TEK is presented as a stand-alone representation of a local cultural ecology independent of the government-scientific-industry-conservationist assembly of actors and institutions that make use of TEK for facilitating specific resource management, development or conservation goals, TEK is taken to be a synonym for local culture. It then becomes deceptively easy to think that TEK faithfully represents a particular Indigenous community's culture *on its own terms*, when the purpose of the concept and the function of its integration into a given project is to facilitate interaction between local and national institutions in the fulfillment of specific non-local objectives based on specific globalized discourses (such as 'sustainable development' or 'resource management'), or at best to strike a balance between local and extra-local interests.

It is important to foreground the tension between functional efficiency and local participation embodied by TEK, in light of critiques of participatory development that have indicated that some of the main benefits of integrating local knowledge into development projects have more to do with increasing their cost effectiveness and efficiency of implementation than empowering local people. These government- and industry-friendly outcomes are realized through reducing the need for centralized bureaucracies and increasing local acceptability of projects by including affected peoples' local knowledge of their own societies and environments. The oft-cited benefit of empowerment, that the inclusion of local knowledge will empower local communities by increasing their decision making power and promoting its exercise within local institutions and structures of meaning, is one that has been challenged in the anthropological literature insofar as these projects can project a predefined idea of the 'local' which becomes essentially an extension of the structures of meaning underlying the globalized rhetoric deployed by the intervention in question (Nadasdy 1999).

Understanding the concepts used to index the inclusion of local knowledge in relation to the political and territorial development projects in which they are enmeshed becomes important given that 'local' and 'knowledge' are defined in relation to wider frameworks of meaning that determine both the form and reach of local knowledge. Because of the functional expediency of TEK in relationship to non-local discourses of environment and development, some critics of participatory development and the decentralisation of resource management have found that this form of development runs the risk of facilitating a sophisticated intrusion of state control into affected communities (Nadasdy 1999). The concept of TEK and its role in development can help development move from creating situations of overt conflict to preventing conflict from arising at all, through the displacement of modalities for coercion and control from an external location to within the practices and subjectivities of local community members. Thus, dominant forms of territoriality and governance that facilitate particular political and economic outcomes are extended and maintained at the expense of cognitively or culturally distinct local systems, while effectively freeing state structures from the onerous exercise of coercive power (Ferguson 1994 [1990]).

How is it that the impulse to decentralize, based on the principle of subsidiarity, which entails that power should be exercised "as close as possible to citizens,"[45] should have such profoundly undemocratic effects? An understanding of power relationships is necessary to address this question. As Mignolo notes, "power asserts itself by suppressing and negating both what is not considered relevant or is considered dangerous" (1995: 367). When TEK becomes articulated with larger structures of meaning in the fulfilment of development, management or conservation objectives, TEK, that concept whose function is to serve as the vector linking the scales of the 'local' and the political economic realm of the encapsulating society, becomes predefined according to the various constraints imposed on knowledge by the norms and assumptions underlying the resource management goals of globalized capitalist society, not to mention the functional necessities particular to implementation of a given project. Through defining what local knowledge is, and through controlling its collection and interpretation, the state and/or industry maintain the power to define *which* objectives are collectively valuable and *which* criteria are appropriate to assessing the attainment of a given objective, such as a hydro electric development or a biodiversity reserve. The concept of TEK subsequently deployed is either empty (if objectives and assessment criteria are deferred to ongoing political debate) or undemocratic (if they are thought of as fixed in advance)[46]. Selective collection and self-serving interpretations of the scope and significance of TEK according to project requirements are symptomatic of a prioritizing of efficient implementation of project goals over the needs and interests of the community.

When understood as part of a larger dynamic, the potentially antidemocratic function of TEK becomes comprehensible. The functional efficiency that serves to render local circumstance intelligible and operable to expert knowledge practices and relevant to societal objectives originates in extra-local centres of authority and capital. However, in spite of its relationship to other elements of the system that substantively prefigure and define its scope and applicability, TEK is nonetheless a conceptual entry point for local

[45] European Parliament. 18 September 1996. White Paper on the 1996 Intergovernmental Conference Volume II. http://www.europarl.europa.eu/igc1996/pos-it_en.htm. Last Accessed July 12, 2007.

[46] This observation is similar to the critique of the notion of subsidiarity outlined in Crowley, J., and Wren Nasr (2004). Scaling Europe: European Democracy and the Tension between Function and Participation. Presented at Redefining Europe: Federalism and the Union of European Democracies, Prague, Czech Republic, March 26-30, 2004. http://www.inter-disciplinary.net/AUD/Nasr%20paper.pdf. Last Accessed July 12, 2007.

participation into dominant social norms and can be a productive site of resistance to politically and legally prejudicial definitions of Indigenous peoples' interest in the land. The vantage point of TEK can be used to widen the scope of inclusion of local perspectives and priorities within development policies and to expose bias in the operations of knowledge classification.

## 5.3. Defining and Integrating TEK: A Case Study

When paired with the exercise of power, the loss of epistemological access to the material world inherent in unfavourable portrayals of TEK can translate into a political-economic loss of control over their physical resources, and furthermore, threaten the particularity of 'Cree knowledge' and its capacity to differentiate the Crees from the wider society in which they are increasingly enmeshed. The link between the remaking of Cree knowledge as 'symbolic' knowledge with largely imaginary access to the 'natural', and the reassertion and emergence of Cree knowledge as a marker for control over and inclusion in considerations of development and administration on their territory is just this reduction of hunters' capacity for action and influence over animals and the land. The loss of epistemological access to their environment, represented by the re-characterisation of hunters' relationships with animals through interaction with scientific knowledge, risks becoming translated as a related and parallel divestiture of Cree authority over contested traditional homelands and the foreshortening of potentialities of distinctively Cree social and political contributions to national and international milieus. This threat, when amplified in politically contentious situations, has contributed to change the way that subsistence practices and practitioners have become valued and deployed as politically articulated identifiers. In this section, I describe how traditional knowledge was treated within the recent Environmental Impact Statement for the EM-1 Powerhouse and Rupert River Diversion hydroelectric project, which was allowed to proceed under the terms of the New Relationship Agreement (the *Paix des Braves*).

The Environmental Impact Statement for the EM-1 Powerhouse and Rupert River Diversion hydroelectric project is distilled from a significant body of "sectoral" scientific research reports (thirty-one in total) written by consultants and university based scientists.

Of these thirty-one reports, one was a land use and occupancy study, which served to collect the cultural information considered to address concerns around the integration of 'traditional knowledge' into the Statement. This land use study was co-ordinated by a consulting company that employed a number of anthropologists and research assistants to carry out and write up the research (the only sectoral report to employ anthropologists). This study distils the research data from an extensive series of interviews that were conducted with the primary users of the thirty-six family hunting territories in six Cree communities affected by the project.

The land use study consisted in conducting interviews with Cree users on their patterns of land use and marking these activities on topographic maps. Information was solicited in relation to general resource harvesting and land use practices. The map for each trapline was then paired with a one-to-two page written summary of the interviews. As well, summary maps were collated from individual trapline maps for each of the six communities. Based on the summary reports, general overviews for each Cree community were drawn up. These overviews provide a comprehensive picture of trapline use in the study area, detailing the location of camps, access routes, fishing, trapping and hunting activities, and community uses and valued sites.

Using the land use data, Hydro-Québec mapped all the points of conflict that will exist between the physical impacts of the project infrastructure and the activities of the Crees. These appear in the Statement alongside specific mitigation measures designed to reduce specific conflicts. I will give one example here. It was noted in the Impact Statement that planned hydraulic structures on the lower Rupert River would create newly exposed shores around several Cree hunting camps, increasing the distance between boat landing sites and the camps. In response to this situation, it is stated that, "there will be a follow-up with users of these camps and, if needed, mitigation measures or camp relocation will be proposed (SEBJ 2004: 6-7).

What is remarkable about the way in which data from the land use study is used in the Statement is how the entire exercise conceals issues of value and meaning beneath a mapping of physical activities. Through the omission of all potential impacts except for those that may occur strictly on the material plane, the Impact Statement avoids

considering the modes of understanding and relationship of which Cree activity on the land is the empirical manifestation.

This failure to represent Cree knowledge occurs partly because of the normative assumptions of mapping and their dissonance with Cree ontology, and partly because significant dimensions of Cree knowledge are not amenable to spatial representation in any case. The ability to separate land use and its potential disruption from questions of value and identity is a function of the technology of mapping itself, which encodes a separation between the "neutral" grid that represents 'space' and the activity of human society. The rhetorical separation of these realms, encoded by mapping, makes the land into an unmarked, abstract category fundamentally empty of cultural and historical geographies. When occupation of territory is reduced to empirical usage, Cree use becomes simply one option among others, thereby rendering industrial resource extraction more palatable. As Willems-Braun has noted, absent an interpretation of mapped activities of local inhabitants in terms of the cultural and social context in which they originate, mapped territory risks being resituated within a different set of cultural logics, such as the 'market' or the 'nation' (1996: 7).

To accomplish inclusion of 'Cree knowledge' in the other thirty sectoral studies, the agreement between the Crees and Hydro-Québec explicitly requires the inclusion of Cree trapline users throughout the fieldwork portion of the assessment. This principle of inclusion was operationalized by Hydro-Québec through the application of four objectives: 1) to give Crees the opportunity to observe the scientific work being done; 2) to encourage discussion between Crees and researchers; 3) to facilitate communication about the research taking place; and 4) to hire Crees for field survey and draft-design study teams.

For Hydro-Québec, fulfilment of these four objectives amounts to "the systematic inclusion of the Crees in conducting surveys of the various environmental components, thus ensuring that Cree traditional knowledge was taken into account in establishing procedures for sampling and field data collection and analysis" (Hydro-Quebec 2004:28). However, it is debatable whether or not the fact of Cree participation in the studies

adequately responded to the requirements for the inclusion of traditional knowledge as outlined in the Directives[47].

For example, inventories were conducted to determine the presence of various animal populations. For moose and caribou, an aerial survey was conducted within the planned Rupert Diversion bays and a five kilometer buffer zone around them. The purpose of this study was to understand the effect that the project will have on animal populations when the surveyed habitat is flooded. As described in the Impact Statement,

> The exhaustive inventory method used to assess moose and caribou populations complies with the standards established by the *Société de la faune et des parcs du Québec*. The survey was conducted along north-south transects 500m apart. The positions of trail networks and observed animals were established with GPS equipment and mapped on a scale of 1:50,000. (Hydro-Quebec 2004: 2133)

Within the framework of this methodology used to conduct wildlife inventories, Hydro-Québec maintains "Cree traditional knowledge was used to inventory large wildlife". Cree participation amounted to, for example, having a community member in the helicopter with the scientists able to point out known hunting grounds for the target species. Information of this sort, solicited within the context of the study, did not contribute to or shape the methodology of the study itself. This form of 'integration' of isolated bits of information does not deal with the value and meaning components of Cree traditional knowledge. Rather, the notion of traditional knowledge is impoverished here insofar as its value to the study derives solely from its ability to corroborate or guide survey data while leaving unaffected the conceptual architecture and hypotheses of conventional wildlife management science. The fact that Crees *participated* in the studies, while a step in the right direction, is not sufficient in and of itself to constitute the meaningful integration of traditional knowledge.

The sort of incorporation of traditional knowledge that we see in the Impact Statement falls short of achieving the meaningful dialogue between knowledges

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[47] Jointly established by both federal and provincial levels of government and by Cree representatives, the Directives state that Cree traditional knowledge is meant to contribute to the formulation of researchable hypotheses, and in a substantive way, to contribute to the structure and focus of the scientific studies upon which the Statement is based. This knowledge "will be required for the development of adequate baseline information, identification of the key issues, prediction of the impacts, and assessment of their significance" Page 4 in COMEV (2003). Directives for the Preparation of the Impact Statement for the Eastmain 1-A and Rupert Diversion Project. Ministere de l'Environnement, Québec. http://www.mddep.gouv.qc.ca/evaluations/eastmain-rupert/directive-en.pdf. Last Accessed July 12, 2007.

envisioned in the spirit and the letter of the Directives. The *first* step in applying the value-orientations of traditional knowledge to the research underlying the Impact Statement would have been to gain an understanding of the social-organisational and cultural contexts of the activities that the Cree carry out on the land. As an external reviewer noted in response to the conformity of the Impact Statement,

> ...there is no systematic account of how Cree hunters think of the land and animals as living persons to whom they have responsibilities and moral relations. There is no clear account of how Cree identities are tied to understandings about the land. There is no account of the spiritual ideas of Crees, or how they affect their relationships to the land. There is no sense of how changing the land can create a sense of loss and anguish for Cree hunters who have nurtured it throughout their lifetimes and inherited it from their kin. So the account of Cree traditional knowledge and ways of living is substantially incomplete." (Feit 2005: 8)

What is immediately striking is this regard is the opportunities missed by Hydro-Québec to expand the scope of their research on Cree land use, in order to adequately represent the cultural and social-organisational context of the activities that we so painstakingly mapped. This information in turn could have potentially served as a starting point for the formulation of researchable hypotheses based on Cree perspectives and priorities, leading to a genuine integration of traditional knowledge into the Impact Statement. Rather, the land use data were treated separately from Cree contributions to other sectoral studies, and used in a narrow way to determine minimum impact in the siting of project infrastructure. Combined with attempts at piecemeal 'integration' of knowledge of animal habitat in the carrying out of scientific research, it becomes apparent that Cree knowledge was selectively filtered before achieving any sort of dialogue with scientific research, and largely neutralized in its potential to contribute to development outcomes in Cree territory.

Cree knowledge has been slotted piecemeal into this Impact Statement, and the specificity of Cree modes of relating to their environment both individually and through their institutions of land tenure has been obscured. The end result is the continued refraction of Indigenous knowledge into dominant normative categories of culture and nature. Insufficient or inappropriate integration of Indigenous knowledge into development projects on Native occupied lands means that projects will continue to be implemented that do not take into account the priorities of Native peoples, and by this

omission, continue to constitute an attack on both the physical and cultural connection that they have with the land. Traditional knowledge, in the limited formulation that it has appeared in this environmental assessment risks lending false legitimacy to the extension of a particular mode of engagement with the land that facilitates the implementation of large-scale corporate development.

## 5.4. Conclusion

Rendering of Cree traditional knowledge as 'invisible' and 'imaginary' through interaction with scientific research, becomes politically damaging to the Crees when amplified at the complex and politically fraught scales at which resource use regimes and property rights are envisioned, contested, and negotiated (for example, environmental impact assessments related to extractive development in Cree territory). The reduced capacity accorded to Cree hunters to impact and be impacted by their world that inheres in the relegation of their knowledge to the symbolic realm of human creation is a significant political consequence. When defined as a belief system overlaid on the physical environment, Cree knowledge does not warrant sufficient ontological consideration nor signify adequate material manifestations to significantly influence the scientifically based methodologies or hypotheses composing Environmental Impact Assessments.

Traditional ecological knowledge is a definitional battleground, as diverse actors come to have a more than passing interest and stake in its definition. Industry would like to define it in such a way that the political obstacle it may pose to their practices is surmountable within financially palatable parameters. Climate scientists and scientific ecologists working in Indigenous territories would prefer that TEK be increasingly systematized and amenable to established scientific methodologies (cf. Gilchrist, Mallory et al. 2005). Anthropologists tend to want to maintain its complexity and distinctiveness, sometimes even in the face of evidence to the contrary, out of sympathy for community interests and preoccupations. Because TEK is commonly understood to be a transparent representation of Indigenous culture on its own terms, these competing definitions,

forged in relation to functional requirements of frequently non-local actors, also have the power to define and redefine external perceptions of the relationship of the affected community to their environments, resulting in a tremendous political importance being attached to the definition of TEK.

All of these interests and forces competing to predefine Indigenous knowledge in order to influence the outcome of applied research and development projects can result in obscuring how particular Indigenous groups and individuals actually understand and practice their environmental knowledge on the ground and in relationship to structures of power and meaning originating in larger social scales (national, international) in ways that may or may not influence the content, practice, and wider application of local knowledge.

# 6.

# Asserting Knowledge and Overcoming Negation Through Stories of Interaction

*Every year we see flooding in the south, we see houses floating in the water and people who have to sit on top of their house. This must have been the way it was for the beaver. He suffered because of the white man. The white man never expresses regret for making the animals suffer this way. When a Cree says something, the white man does not believe him because he feels he knows everything through his studies. I can tell him he is not telling the truth. (Chisasibi Cree trapper in Nakashima and Roué 1994).*

## 6.1. Introduction

Interactions between Indigenous people and scientific researchers can shed light on the ways that differently situated actors understand the knowledge and values of the other, and in so doing, create situations of disjuncture where the tacit assumptions underlying cultural frames of reference are momentarily exposed. The interactions I observed and the stories I heard are not only informative of epistemological differences, but also reveal actors' political goals and the operations of power in that through these interactions and stories, meaning is reinforced and challenged, providing a bridge from the epistemological to the political. In this chapter, I evoke Cree stories of interactions with 'southerners' – members of the dominant Canadian society – to further inform and contextualize the epistemological differences and operations of power in these interactions. For the many full-time trappers and tallymen who continue to practice subsistence hunting as a way of life, these frames of reference are still very much alive and primordial in their interpretations of animal behaviour within the 'traditional' Cree hunting cosmology. Full time hunters and tallymen are confronted with daily reminders that their authority on their hunting territories is being contested through interactions with the transformed landscapes of development, southern sport hunters and fishers, and varying levels of participation in the political deliberations of the community around land

use. In these stories, the exercise of traditional knowledge has become permeated with an awareness of the potential for annihilation of the hunting way of life. In their stories of interactions with agents of 'modern rationality', I explore further how this awareness manifests as an assertion of their capacity to understand and act on their environments – which I understand to be synonymous with the exercise of authority – in the face of modes of relationship with their territories by actors who undermine or challenge this capacity.

This chapter is divided into three sections, each evoking a different set of stories of interaction. The first, involving interactions with southern hunters, represents an encounter with the negation of human-animal sociality, providing a moral counterpoint for the Cree hunter that serves to reinvest Cree hunting ethics with meaning, poignancy, and power. These stories are addressed to younger generations of Cree hunters, serving to transmit the knowledge and perspectives of the previous generation, and also to mark boundaries between southerners and Cree in a political context in which land use activities by the Crees carry increasing legal weight. Secondly, interactions with agents of development in the form of Hydro-Québec workers evoke stories of loss and bereavement associated with flooded land that represent the fruition of the 'western' instrumental relationship to nature, which literally submerges Cree relationships to animals. These serve as poignant reminders of the dystopic potential of unrestricted development. Finally, interactions with scientific researchers often involve individual Crees facilitating the conduct of research through deploying their knowledge of the land. From the Cree point of view, the success or failure of this research hinges on their ability to maintain harmonious relationships with animals, therefore clearly demonstrating the relevance and power of Cree knowledge and the importance to the Creesof its recognition.

## 6.2. Interactions with Southern Hunters and Fishers

Interactions with sport hunters and fishers from the South are an increasingly common point of conflict between the James Bay Cree and the provincial government.

Public access to the territory facilitated by the infrastructure of hydroelectric and forestry development has resulted in ever-increasing numbers of visitors, with resulting wildlife losses for Cree land users, particularly for those whose traplines contain public access roads (Scott 2005). Public access to James Bay Cree territory is exempt from social and ecological impact assessments, in spite of the province encouraging the use of the region by sport hunters in an effort to reduce pressure on resources further south and placate a powerful industry lobby, in contravention of the principle of the JBNQA to prioritise Cree subsistence hunting (ibid). At the same time that access to wildlife resources is contested in the above ways, in the current political climate of cultural difference constituting a claim to resource rights, the continued existence and practice of 'traditional knowledge' through engaging in subsistence hunting has become more important and consciously attended to, which is reflected in the many stories of interactions with southern hunters, of which I include but a couple here.

Stories of dangerous and unethical hunting practices (for example, the practice of using a high powered rifle to shoot through an undesirable animal to kill a large male caribou or moose), unauthorized killings, disregard for the local Cree authority and land tenure system, and theft or vandalism of hunting camps and equipment are well circulated in Wemindji. These stories have a pedagogical purpose and a moral lesson to them. They allow their tellers and listeners to denounce behaviour that threatens subsistence hunting, disrupts harmony in human-animal relationships, and negatively impacts the well being of the community.

*One trapper saw some white people fishing on a lake where he has his camp. These people come every summer to fish. He does nothing to them normally, because they don't bother him. One time, he was beckoned over by these white fishermen on this lake. The white man asked him if he had a gun, and what kind of gun it was. He says "yes," and shows them his gun. Then they ask him if he can shoot this bear that comes around at night. He looked around him at their campsite and saw lots of garbage lying around everywhere. The trapper hung around for a couple hours but didn't see the bear. They said, "it only comes at night, you have to come back at night". The trapper said, "Well, I don't want to shoot the bear, because it's the wrong time of year, and it might have cubs". The white man said, "Well, actually there are two cubs with the bear". The trapper said, "I don't want to shoot those bears. Clean your camp". And then he left.* [Field notes, July 2006]

In this story, the white fishers wanted the bear killed for the simple reason that it posed a nuisance to them and they were frightened by it. The white fishers stand completely outside of the sphere of meaningful relationships with the bear, which for the Crees exerts significant power over hunting success in general. This episode represents the Cree trapper's effort to maintain this relationship with the bear in the presence of its negation in the form of the white fishermen, and also reinforces the differences in ethical conduct and valuation of the land between the Crees and the southerners.

Some of my Cree informants, when asked if southern hunters on their territories disturbed them, indicated that on some inland territories, the influx of southerners during the moose and caribou hunting seasons has reached such proportions that many people return to their residences in town at these times because they no longer feel safe in the bush. One trapper informed me that the reason people stay at home is because they don't trust the hunting behavior of the southerners, and are afraid for their lives.

*They don't bother me on my trapline. I hear some people, they can't go onto their land because they are afraid to get shot. You think that's true?*

W. *You mean during hunting season?*

*Yeah. During hunting season, most people are afraid to get hit by a bullet.*

W. *Has it happened before?*

*Yeah. One time a guy shot his friend* [another southerner], *thinking that he got a bear. Some guy from the States. We don't do that when we go hunting. You have to look at it first. Make sure it's an animal you want to kill. And don't get so excited. Don't be afraid. That's what my old man used to tell me. If you are afraid, the animal knows, he senses it. That's what my old man told me. What are you going to do, if you're on the land, and you're afraid of something? That you want to kill? That's what he told me. Don't be afraid. I get nervous sometimes when I go.* (CT 1)

My informant relates in this story that the reason why some Cree fear southern hunters is because the southerners are afraid themselves when they go hunting, which results in accident and injury. This becomes an opportunity to relate teachings from his father on how to properly conduct oneself in the bush – emphasising the importance of state of mind and level of self-control. These qualities are seen to be important in light of the sensitivity of prey and their perception of the mind of the hunter. In this way, this story succeeds in transmitting what is a distinctively Cree perspective on hunting

practices that is faithful to the oral teachings as this individual understands them. This perspective is presented in contrast with the practices of southerners and the threat to wildlife resources and Cree land use patterns that they represent.

## 6.3. Interactions with Agents of Development

For the space that the Crees inhabit to become amenable to transformation by the forces of state-sponsored industry and capitalism, it must first be conceptually remade into a 'governable' space: "To govern, it is necessary to render visible the space over which government is to be exercised", involving "a practice by which the space is re-presented in maps, charts, pictures and other inscription devices. It is made visible, marked out, placed in two dimensions, scaled, populated with icons and so forth" (Rose 1999:36). The increasing presence of roads, dams, reservoirs, clear-cuts, airports, docks, and other infrastructure are physical transformations that are based upon and require a specific, scientific understanding of the land and of human action upon it. This infrastructure is the fruit of the work of legions of cartographers, surveyors, engineers, and geographers. The work of these agents of development in turn underwrites the infrastructure that physically links the territory to national and trans-national systems of exchange and capital, with concrete consequences for the ways in which the land is experienced.

Hydroelectric development in *Eeyou Istchee* is the form of development that has had the most impact on Wemindji Cree territory and on the land use patterns of the Wemindji Cree. Thus, these sites and their associated infrastructure represent a powerful set of alternative relationships to the land that pose a threat to the land use practices of the Cree, not just on a material, use-level, but at the level of value and meaning. As Carlson asserts, "dams are sources of electrical power that integrate distant regions within the geography of a power grid. But they are also sources of intellectual power that integrate a region within the cultural geography of those who must understand the land, in a specifically scientific way, in order to make the physical dam possible" (2004: 68).

The voices of people who lost significant portions their trapline to flooding illustrate the link between the alteration of Cree patterns of land use and the impact that such a loss has on the way that people mourn and remember their land. Far from 'converting' these individuals to the new way of experiencing the land represented by the reservoir, the reservoir has become a potent symbol of loss and a warning for the future. One of these individuals remembers going on a helicopter tour of the land before the flooding to survey the gravesites (of parents, grandparents, and great-grandparents) that would soon be under water. He remarked that he has suffered a lot both emotionally and materially from the flooding. The fact that Hydro-Québec refused his request to restrict access of the dam maintenance roads to outside hunters (all the gates on these roads are opened by the same key), citing cost as justification, serves as a constant reminder that this land has become incorporated into another set of relationships governed by bottom line corporate logic.

This individual's father, in an interview through a translator, expressed well this sense of loss and the disruption in the transmission of knowledge that it represents, with an economy of words that was quite typical:

*He thinks about when he used to trap, before the flooding. Today his son can't do it* [what he used to do]. *He doesn't like that.*

*You can't really do anything on the reservoir. It's dead. There's no beaver, no otter. The fish are contaminated. You can't get as much food from the reservoir as you can from the lakes. The food from the lakes that were drowned went far away. The beaver and the fish. Half of his territory is flooded.*

W: *I saw the reservoir with my own eyes.*

*Where you saw the reservoir, there were two rivers there. Lots of beaver. People from Chisasibi, their lands are even more flooded than people from here.*

Jacobs (2001) has looked at the role that hydro-electrical development infrastructure on Cree territory plays in the transformation of what he terms 'landscape' (as home and habitat) into an abstract spatial dimension ('territory') containing exploitable sets of resources. When "...a landscape and homeland is treated as a territory and resource, ...we pretend that Adam has no home in this place" (Jacobs 2001: 74). Land, when understood as 'territory' and 'resource' draws on a normative model of

'nature' that is embedded in a social history and which operates ideologically (Croll and Parkin 1992; Willems-Braun 1997). Representing Cree territory as resource frontier (epitomized by the title and vision of ex-premier Robert Bourassa's book (1985), 'Power From the North') has, throughout the history of hydro development in the James Bay region, involved the strategic understatement of environmental and social impacts of development. This understatement is facilitated by selective interpretation of the underlying scientific research and the difficulty of connecting Cree knowledge perspectives with baseline environmental research.

One of the ways that this manifested in the experience of several of my informants is a persistent sense that they are not 'believed' by Hydro-Québec. For example, one trapper who participated in a study of migrating birds in the area pointed out that the goal of the study was to simply prove to Hydro-Québec that the birds existed and were part of the landscape, which apparently they had denied prior to the study. *"Hydro doesn't believe in anything, even that the animals are there at all,"* commented this individual.

Hydro-Québec has shown itself reluctant to acknowledge the existence and significance of Cree hunting practices, the distinctiveness and depth of Cree attachment to the land, and somewhat cynically applies strict requirements for verifiability and reliability of assertions made by the Crees with regard to the impact of hydro development on their lands, effectively placing the onus on the Crees to assert or 'prove' their presence and interests if they are to be taken into account in the development process. They have even argued that the assertion of rights based on the existence of cultural difference in relation to the notion of Cree homeland manipulates the concept of tradition in order to make a grab for resources (Feit 2001), an argument which echoes an anti-essentialist brand of social theory in a troubling way. In light of these points of conflict, it is not surprising that the Crees feel that the work performed by Hydro workers is not really work in the sense of productive activity; rather, it is the work of negation of Cree values and interests. A joke being circulated in Wemindji during my stay illustrates this point:

*These Hydro-Québec workers wearing white helmets dynamited a beaver dam that was in their way one day, and that night, the beaver built it back again. They destroyed it again the next day, but the beaver built back his dam again. This happened again and again.*

*Finally, the Hydro-Québec workers ask a Cree guy, "What should we do to get rid of that beaver dam?" The Cree guy says, "paint its head white – people with white heads don't do any work".*

This Chisasibi Cree hunter, in a statement extracted from the Great Whale Environmental Impact Assessment, makes the same point:

> As long as the white man works on the land, we can see that every day he destroys something, that the Cree people used to live on. How can he say that everything is going well for the Cree people? What is he talking about? Everything that was given to the people to survive and live on has been destroyed by the white man. How can he then say what he is saying, that the game is not affected? I have watched and know about everything that grows, everything. I always hunt in the winter. When I talk about this, I am telling the absolute truth. Every day the white people destroy what the Cree people used to live on. He still says that the Cree people were not affected. How can he say this? Especially when he has destroyed so much. He breaks up the earth. He has done so much to harm the Cree people and that which the people used to live on. (Nakashima and Roué 1994)

## 6.4. Interactions with Scientific Researchers

The Crees are often hired as guides to participate in studies conducted on their territory. In this capacity, they tend to greatly facilitate the task of conducting scientific research through deploying their familiarity with this particular landscape, its weather, and its faunal inhabitants. This logistical support provided by the Crees in these instances involves complex multi-year predictions based on tested and reliable methods, techniques, and practices. For example, one individual, guiding scientists on a study of polar bears involving collaring, became indispensable in accurately judging the weight of the animal, and his intervention in the research, as he recounts it, clearly underwrote the success, from a scientific point of view, of the entire expedition.

*You had to guess very accurately the weight of the bear in order to know the correct amount of drug to use to put the bear to sleep. If you overdose the bear, you kill it. Not enough, and the bear will keep going and will go wild. Then, the more drugs you put, the wilder the bear will get. I told them, looking at the bear from the air, what weight the bear was. They had to take me up with them* [in the helicopter] *every time so I could do that.* (CT 13)

As narrated by the Cree individual involved, the expert knowledge of the scientists became subordinate to the knowledge of the Cree individual during a situation of emergency, when there was threat of a bear attack,

*One day, CBC came to cover the study. They didn't line up any transportation on their own, and so one guy took my place in the helicopter. They told me to stay behind. I used to have a pistol, in case the bear attacked. I was a cowboy and not an Indian. I lent my pistol to the guy from the CBC* [cameraman], *and I told him, if something happens, you have to shoot to kill. If the bear attacks. You don't just shoot anyplace. Wounding them won't have an effect if they're mad and attacking.*

*So, they saw a bear and put drugs in it, but it didn't go down at first. Then, they put more and more [drugs in it] until the bear went down. But then,* [after they had landed] *the bear got up and chased after the helicopter pilot. He* [the pilot] *had a high-powered rifle. The cameraman was yelling, "Shoot to kill! Shoot to kill!" So the pilot was holding the rifle at the ready, and the bear was coming. And he waited until the bear was close, and then he pulled the trigger. He didn't want to miss it. 'Click'. No cartridge. When the 'click' happened, the bear turned and went off the other way. The CBC guy [the cameraman] was trying to make a noise or something, and was holding the high-powered pistol, which I had not told him was high powered. That was no .22! He fired it, and his arms flew back, and the pistol flew into the snow somewhere. The bear took off. Finally they found the pistol. They never got the bear, didn't do their measurements, take the weight, do their reports.* (CT 13)

Because the cameraman took the place of CT 13 in the helicopter, he was not present to estimate the weight of the bear. As a result, the dosage of tranquilizer was miscalculated and the worst-case scenario became a reality – the enraged bear attacked the pilot and cameraman. Fortunately, due to the advice and the gun that CT 13 had given the cameraman, they were able to scare off the bear and escape unharmed. However, they were not able to collect their scientific data. The object lesson of this story is to underline that in this instance, it was the knowledge and expertise of the Cree interlocutor that enabled the collection of scientific data. The story continues on the following day:

*So the next day, I had to go out and the CBC guy [cameraman] got left behind. We tracked the bear. In the area where the bear was, there was large open water in the bay, the ice was moving back and forth. So, I told the pilot to go out where the bear was. We tracked the bear. The bear went into the water. The pilot says, "What are we going to do?"*

*"Go around on one side".*

*"Right around?" He says.*

*"Yeah, right around". I say. "Till we come back here. Check for bear tracks".*

*I saw one place where the bear had come out of the water, and thought, that must be the one. So we went there and followed the tracks until we got to the bear. I say, "The bear might be still affected with the drugs. Could still be wild". I'm looking at the bear; the other guy is getting ready with the drugs. I say, "That bear could be 1400 pounds."*

*"Is that right?" the other guy says,*

*"Yeah." I says.*

*We shot the bear, but it didn't go down. There was a pile of ice, about that high* [five feet]. *The bear was on the other side. A shelter from the wind. Bear was sitting. After we shot it a second time, we had to follow it quite a ways. He didn't want to go down. I says, "You better watch it, I think the bear wants to go after us." The biologist was standing on the pontoon, hanging out the door. I kept saying, "Be careful, the bear looks like he's about to attack."*

*Then, the bear jumped up the pile of ice, and came at the biologist. I yelled, "Get back in! Get up!" I told the pilot to get the helicopter up as high as possible. The speed of the helicopter wasn't enough to get up, so I yelled, "Get it up!" The bear got up on its hind feet and just missed the pontoon. Big bear. Then the bear started to walk away. He started swaying and then went down. When we checked it, it was 1450 pounds. I was only off by 50 pounds.*

*The guys shake my hand, say "Thank you." They noticed that I knew a lot of things from listening to people. That's what I did when I was with my parents. I listened, and learned.* (CT 13)

This story places the practice of science in a dependent relationship on the knowledge of the storyteller. The reports or published results of such a study would not include the contributions of the storyteller beyond an acknowledgement, and yet its outcome, the generation of data, and even the bodily safety of the researchers, were a direct result of the foresight and capabilities of the storyteller. A particular emphasis is placed on the recognition of his authority by the southern researchers, who stand humbled by the realisation that their Cree interlocutor possesses and exercises valuable and important knowledge. The storyteller interestingly gives the credit for the effectiveness of his intervention to the way that he was raised and the values that were passed on to him by his parents. One function of this story would seem to be that it validates and redeems Cree traditional knowledge to other Cree listeners in relationship to the practice of scientific research by southern educated experts.

The following story takes up the same theme of Cree knowledge enabling the collection of scientific data, while again emphasising an alteration in the awareness of the southern scientist, which demonstrates a reversal in the direction of knowledge transmission as it is normally understood to occur within the dominant narrative of science displacing myth and religion.

*One time a scientist came up to study sturgeon. After a week of the scientist not catching any fish, their guide decided to set the nets in the Cree fashion. Their guide saw a 'sign' from 'mother nature' that showed to him where to set his nets. The guide asked the scientist how many fish he wanted and of what size. The scientist told him a certain*

*number and size. Then that amount and size of fish was caught. This happened a couple of times. Later, the guide and the scientist saw a moose. The moose, according to the guide, was not 'real', but was a sign sent from someplace. He thought the scientist was 'learning' because he was able to see the moose.* (Field notes, 2006)

What seems to be occurring in these stories is a reinforcement of the utility of Cree knowledge in relation to the practice of expert science by outsiders, which shows that the retelling of these interactions serves to recast the importance of traditional knowledge. They could be seen as a space of resistance against the phenomenon of systematic exclusion of important elements of their relationship with the land from the body of expert knowledge that corporations and administrations require for their operation. In this sense, these stories function to highlight that recognition of the value of their traditional knowledge does occur at the level of personal relationships with individual researchers, in contrast to larger levels of relationship with corporations. In both stories, the relationship that develops between the Cree protagonist and the southern researcher is the ground for the development of this mutual understanding and recognition. The development of personal relationships in Cree culture is considered a prerequisite to learning hunting and bush skills from an elder, and so these stories reinforce the relevance of this element of hunting knowledge.

## 6.5. Conclusion

In the context of histories of colonial disruption and ongoing circumscription of peoples' identities, lands and livelihoods, stories can be a space for resistance and identity building. Stories of interactions with southern knowledge practitioners and agents of development help to hold in place porous moral boundaries on a shifting and changing landscape. Boundaries, when crossed or infringed, remind us who we are and who we aren't. Stories can create and maintain affect and attachment, which helps to map interior meaning onto an external landscape. For my Cree informants, these stories displayed a character of bereavement for lost hunting territory that has become transformed through its incorporation into a capitalist system of consumption and

destruction, or a reassertion of traditional values in relation to these incursions. Like the objects of the hunt, the trap, the gun, or the snowshoe, the story stimulates "sensory recall and affective engagement" (Nazarea 2006), which triggers the desire to undertake an activity and then to act to preserve the option of doing so. These stories of engagement and interaction with southerners allow us to understand the opposable nature of definition and maintenance of identity boundaries in relation to the dominant society, as well as the emotional and moral resonance of those boundaries.

Here, the Crees are interacting with and negotiating modernist narratives behind the forces transforming their land and challenging their use of it, such as development and conservation, that operate to resituate Cree affective relationships with the land and its inhabitants. These stories call into being objects embedded in relationships and take place within a coherent social and moral universe that is invoked through their retelling. The universe in which interactions occur is permeated with pressures to change and an awareness of externally imposed limits which colour the character of Cree exercise and invocations of locally held knowledge and ethics, indicating their role as marker for Cree identity. All of these stories indicate a common experience – the growing importance of asserting difference in relation to modernist narratives that threaten the exercise of Cree authority. They express both awareness and rejection of modes of relationship to their territories that would negate their capacity to experience meaning and invoke the power of the land, a negation that recreates the need and amplifies the importance of reasserting their authority.

# 7.

# Conclusion

In this thesis, I argued that Cree interactions with scientific knowledge (as representative of an ordering of reality and human beings' place within it) and development are sites of friction productive of the reaffirmation of the distinctiveness of Cree hunting knowledge and its reinvigoration with both affect and identity. Confronted with unfavourable representations of their knowledge and authority, these latter have been amplified in their power to orient individuals' experience in the world and serve as a politically potent marker for Cree participation in governance and development of their territory. From this perspective, Cree traditional hunting knowledge cannot be understood in isolation from southern-generated influences on land use, administration, and a whole range of other areas of Cree society which are and have been for a long time in dynamic relationship with 'outside' influences. Accepting this position involves taking as a starting point and object of study the existing relational field upon which difference is asserted and generated. This perspective is instructive in showing how understandings of cultural characteristics and attributes become focalised through being set in relief against their 'other'. Cree traditional hunting practices and traditional ecological knowledge have come to represent the performance or engagement of practices that encode specificity and a positioning vis-à-vis another, dominant system of encoding (Adelson 2000).

Dudgeon & Berkes state that as Indigenous knowledge researchers, "our choice of methodology and focus is as much ethical and political as it is practical. Shall we study Indigenous knowledge 'as the demands of development require', or shall we promote its importance for the benefit of the people who possess it?" (2003: 92). Purcell (1998: 262) insists that "researchers of Indigenous knowledge must choose between being facilitators of local autonomy... as the Indigenous perspective demands, or be agents of hegemonic 'progress'". In the current political environment around Native rights and access to resources, there clearly is a need for studies of Indigenous knowledge that counteract and creatively obstruct development that is justified through deployment of self-serving

definitions of traditional knowledge. In such an environment, it can be compelling for justice-minded academics to uncritically portray traditional knowledge as a timeless social fact, without paying attention to the processes of interaction, conflict, and negotiation that make up the field of relationships necessitating its articulation as such.

Is it indeed more politically efficacious to write from 'within' Indigenous knowledge, and abandon reflections on its social and political positioning and contingency in order to work towards producing legitimacy for an analytical and methodological object that may facilitate local autonomy? There is no doubt that extractive development and co-management regimes have rendered TEK politically neutral by integrating it into policies along lines that fail to account for central relational qualities between humans and other-than-humans, which has had negative consequences on the exercise of subsistence hunting and local authority. As Purcell notes, "it is economic development based on the logic of unbridled growth that destroys Indigenous territories" (1998: 265). However, to portray Indigenous knowledge in such a way as to obscure its relationship and interactions with national and international systems of classification, including globalized discourses of development and resource management, is to present an incomplete picture of the complexity and reality of Indigenous societies, which in turn could conceivably be used to argue that Aboriginal groups are disingenuously attached to ancient "traditions" that have no empirical grounding in contemporary times.

By placing boundaries around the study of Indigenous knowledge unreflective of its politically articulated character, there is the risk of complicity in buoying the very problematic strategy of the courts to attach rights to the existence of seemingly fragile cultural difference, which leaves only a very narrow margin for manoeuvre to Indigenous communities seeking to adjust to social and economic necessities. As Dombrowski notes, "no other legal entity is so quickly or easily extinguished as aboriginal title, it seems, such that history and culture become deeply political issues for native people(s) in ways they are not for others" (2007: 225).

Studies of Indigenous knowledge have a complicated interface with internal divisions and political factions of Cree society, where some have found that the burden of authenticity associated with being too closely defined through their Indigenous

knowledge is too restrictive. More research needs to be done on the reception and use of a range of representations of Indigenous knowledge by differently situated Native actors and institutions in order to understand the local impacts of different approaches to the study of Indigenous knowledge.

In this thesis, I have attempted to show how Cree knowledge practices have been shaped through complex interactions with axioms of scientific unity and representations of developable landscapes deployed by researchers, land users and developers. This presentation of Cree knowledge is one that is politically articulated and contingent upon its long term relationship to external logics of exclusion and inclusion of Cree knowledge and recognition of Cree authority. Cree knowledge has come be practiced within the larger context of struggles for recognition of their authority over their territory, thereby functioning as a remedy to the misrecognition of Cree authority that the twin visions of resource frontier and epiphenomenal cultural landscape facilitate and even require.

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# Appendices

## Appendix 1: Consent Form

**Name of Interviewee:**

**Explanation of the study:**

The goal of the research is to understand how the Cree system of traditional land tenure contributes to the conservation and well being of Cree land and Cree society. I also want to understand the relationship between Cree knowledge and scientific knowledge. Topics that will be discussed include your personal and family connection with the land, ideas about identity and land rights, and scientists. The researcher hopes that this study will contribute to the development of a protected area around the community of Wemindji and the Old Factory River watershed.

**Confidentiality:**

The researcher is aware that the information you provide may be of a personal nature and will be handled confidentially. All of the information collected in the interview will be kept with the researcher at all times while in the field. No one else other than the researcher will have access to these materials. Later on, research data in the form of interview transcripts and notes will be kept in a locked cabinet indefinitely, and only the researcher and his supervisor will be allowed access to them. Tapes and transcripts of interviews will be coded, and computer files containing the data will be kept secure. All interview information will be anonymous.

**About the Researcher:**

Wren Nasr is a Master's candidate in the Department of Anthropology at the McGill University. This study is being conducted to fulfil the requirements of his Master's thesis. Wren can be reached at:

STANDD (Centre for Society, Technology and Development), McGill University. Tel: (524) 398-1813. Email: wren.nasr@mail.mcgill.ca. Postal Address: Wren Nasr, C/O Dept. of Anthropology, Leacock Building, Rm. 717. 855 Sherbrooke St. W. Mtl, PQ. H3A 2T7.

Professor Colin Scott is the supervisor of Wren Nasr, and he may be reached at: Department of Anthropology, McGill University, Tel: 514-398-4291; Fax: 514-398-7476. Email: colin.scott@mcgill.ca.

**Other Information:**

Information that I gather in the field will form an important part of the researcher's Master's thesis. Copies of the thesis will be made available (in English) upon request to any member of the community. The results of this study may be presented at academic conferences or may appear in publications such as an article in an academic journal.

**Consent:**

I have read or have been orally informed of the above information in full, and my questions about this research project have been answered to my satisfaction.

I agree that I freely chose to participate in this research. I understand that I can stop being part of this research at any time and that any information that I have given can be withdrawn from the study at my request. I don't have to answer any questions that I don't want to.

I consent to participate in the study.

I can be audio taped: Yes ___ No ___

_____

Participant's Signature or Mark Date

_____

Researcher's Signature Date

# Appendix 2: Interview Guides

## Summer 2005 Interview Guide: Full and Part Time Cree Trappers and Tallymen

Topics: perception of the environment, actors/ organizations, local epistemology, knowledge transmission

**Informant's physical relationship to the land**

How often do you go out on the land?
What activities do you do when you go on the land?
How long have you been doing these activities?
What animals or fish do you fish/hunt/trap – when, how?

**Cree institutions**

What does the CTA (Cree Trappers' Association) do?
Why were they created?
What is the job of the tallyman?

**Beaver trapping/ conservation**

How do you trap the beaver?
How do you make sure that there will be enough beaver to trap the following year?
What makes the numbers of beavers increase or decline from year to year?
Do you let some parts of the land rest each year?
Do you kill the whole family in the lodge?

**Local perception of the environment**

Why are some people better hunters than others?
What qualities make a good hunter?
Is the land being used well by the *Eeyou* (Cree people)?
Is it important for you to go out on the land, why/why not?
Do southerners know how to hunt?
Do southerners hunt on your land or on Wemindji land?
Is the land used well by non-natives, what is the difference/ is there a difference?
Do animals think like people or act like people [have spirits/souls like people]?
What is the smartest animal, why?
Is it possible for Cree to communicate with animals?
Do the animals give themselves to the Crees - why/why not?
Is it important to have respect when you hunt/trap - why/why not?
How do you show respect (*Achitaitamoon*)?

What does the term *Eeyou eethoun* (Cree knowledge) mean for you, who has it, how do you get it?
What is *midau* (sorcery)?

**Knowledge transmission**

How did you learn to hunt/fish?
Who taught you?
How did the youth today learn how to hunt?
Did people hunt better in the old days?
What are the main changes affecting hunting today from how your parents or the elders used to hunt?
Do the youth know how to hunt properly - why/ why not?
Do the youth have respect for the tallyman - why/ why not?
Do the youth have respect for the land, why/ why not?
Do you think it's important that the youth spend time on the land hunting/trapping?

**Perceptions of environmental change**

What are the major changes that have occurred on the land?
What caused them?
Where did they come from?
What affect did they have?
Did anyone try to fix the problem – how so?
Did the attempt to fix the problem work - why / why not?
Describe your interactions with researchers from the south?
How would you like to see Cree land used in the future?
Is it important to you to pass on your knowledge?

## Summer 2006 Interview Guide: Scientists

**1. Values and animals**

What level of sentience do you attribute to beaver? To animals in general?
What kinds of attitudes towards or uses of animals are favoured by the scientific approach?
Tell me some stories of your interactions with beavers (parallel to Cree mode of particular stories).
What is the proper role of human beings in relation to beaver?
How should humans relate to the beaver?
How should we act around the beaver?
How should we help the beaver?
How should we study and know the beaver?

**2. Description of research**

Goal of research project – the big picture.
Methodology.
Habitat selection.
Diet selection, diet.
Impact on ecosystems.
Food webs, ecosystem compartments (spatial-temporal).

**3. Interactions with Cree**

Relate some salient aspects of Cree knowledge related to beaver, as you have perceived it.
How do you relate to /classify these Cree ideas?
How do the Crees react to you and your work?
How will you be/ have you been influenced by Cree knowledge?

## Summer 2006 Interview Guide: Hunters

**1. Degree of animal sentience**

What is the nature of the sentience or intelligence that is attributed to animals?
What are the value differences between Cree and scientific knowledge?
Solicit stories and narratives relating to animal – human and or/ beaver – human interaction that illustrate nature or degree of sentience (such as myths, fairy tales, stories).

Identify the nature of the relationship, values, and ethics flowing from these statements.

**2. Animal – animal and animal – nature interactions**

What sort of relationships do beaver have with other species of animals, and with its physical environment?
Are there commonalities with scientific knowledge at the concrete, observational level?

How do beaver select their habitat?
What do beaver eat, and how do they choose what to eat?
How do beaver modify their environment and /or their ecosystems?

**3. Population management and sustainability of Cree knowledge practices**

How do you determine the numbers of beaver?
How do you control beaver population?
How do you ensure the presence of beaver year to year?

**4. Interaction of science and Cree knowledge**

Solicit stories and narratives of interactions.
E.g.: working on scientific studies occurring on Cree territory,
'Bad neighbour' stories.
Hydro-Québec as an entity passing judgment on Cree knowledge and land use stories.

Impressions/ observations of interactions between Cree and ecology students.
How are scientific methods perceived?
What differences in knowledge can be observed?
How are Cree practices and ideas of beaver received and classified?
What is the Cree attitude in terms of sharing their knowledge? Do they censor/ filter it?
Vice versa for ecology students.

How can science help the Cree?
How can Cree ideas help or be integrated into science?

## Appendix 3: Ethical Approval

This project received McGill University Faculty of Arts Research Ethics Board clearance (REB1# 187-0505) on May 24, 2005. The ethics approval certificate was renewed on May 23, 2006 (forms are attached).

This project was conducted in the context of the CURA-SSHRC Protected Area Project (Colin Scott, P.I.), which has received McGill University Faculty of Arts Research Ethics Board clearance and community approval at a number of different institutional levels (Wemindji Band council, Wemindji Trappers' Association and local Wemindji tallymen).