

“The Disease that Knowledge Must Cure”?

Sites of Uncertainty and Imagined Futures of Baker Lake, Nunavut

By

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A thesis submitted to the School of Environmental Studies

in conformity with the requirements for the

Degree of Masters of Environmental Studies

Queen’s University

Kingston, Ontario, Canada

October, 2018

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Abstract

After nearly eight years of formal environmental review, in July 2016, the Canadian federal government rejected the French multinational AREVA's proposal to construct a uranium mine 80 kilometers west of Qamani'tuaq/Baker Lake, a small inland and mainly Inuit hamlet in the Kivalliq region of Nunavut. The decision not to grant a license for resource development was based on a technical uncertainty, that is, AREVA was not able to provide a start-date for the mining project due to the depressed uranium market. Yet, as this thesis will demonstrate, this controversy underlies a far more complex and ongoing negotiation with uncertainty. In order to explore diverging engagements with uncertainty, this thesis develops the concept of *sites of uncertainty*, which are spaces —physical, temporal, emotional, material, discursive and so on— that are occupied by a “state of not knowing” (Cameron, 2015: 34). Drawing on qualitative fieldwork conducted in Baker Lake in November and December of 2016, this thesis will identify key sites of uncertainty where AREVA, government officials, Inuit organizations, and community residents constructed, negotiated, expressed, transformed, experienced, and responded to uncertainty. The analysis of these sites reveals diverse, dynamic, and conflicting conceptualizations of self-sufficiency, well-being, and ultimately identity, which, this thesis argues, led to muddy responses to AREVA's proposal as well as imagined futures of Baker Lake. Moreover, this thesis explains how local residents' calls for improvements in education are reflective of an intermeshing of Inuit and western epistemologies. While Inuit ways of knowing and being have persisted, flourished, and creatively adapted to contemporary resource development controversies, they do so largely by conforming to western norms and knowledge systems.

Acknowledgements

First and foremost, I would like to thank the community of Baker Lake for being so welcoming, generous, and kind towards me. My time in Baker Lake would not have been the same without the people who were a part of it. Baker Lake will always hold a special place in my heart. Thank-you to all those who shared their stories and experiences with me, this thesis would not have been possible without you.

Thank-you to my supervisors, Dr. Myra J. Hird and Dr. Peter C. van Wyck, for your encouragement, guidance, and support. I am grateful for our conversations that continually challenged me to think in new and different ways.

Thank-you to my committee members Professor Robert Lovelace, Dr. Graham Whitelaw, Dr. Kyla Tienhaara, and Dr. Mick Smith. I appreciate all your feedback. I thoroughly enjoyed our discussions.

Thank-you to the School of Environmental Studies, including Karen Topping, Paul Bass and Karen Depew.

Lastly, I would like to thank my family and friends for their relentless support. I feel an overwhelming sense of gratitude for the people who, in some cases unknowingly, helped me through this process. To those who kept me sane, to those who made me laugh, to those who listened to me voice my frustrations, to those encouraged me to keep going, to those who radiated positivity, and to those who loved me through the mess of it all, thank-you.

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List of Acronyms

BQCMB: Beverly Qamanirjuaq Caribou Management Board
CIRNA: Crown-Indigenous Relations and Northern Affairs
EIS: Environmental Impact Statement
GN: Government of Nunavut
GNWT: Government of Northwest Territories
GREB: General Research Ethics Board
HTO: Hunters and Trappers Organization
ICC: Inuit Circumpolar Council
INAC: Indigenous and Northern Affairs Canada
ITC: Inuit Tapirisat of Canada
ITK: Inuit Tapariit Kanatami
IQ: Inuit Qaujimajatuqangit
KIA: Kivalliq Inuit Association
NIRB: Nunavut Impact Review Board
NLCA: Nunavut Land Claims Agreement
NRI: Nunavut Research Institute
NTI: Nunavut Tunngavik Incorporated.
PwC: Pricewaterhouse Cooper
QTC: Qikiqtani Truth Commission
RCMP: Royal Canadian Mounted Police
TRC: Truth and Reconciliation Commission of Canada
UG: Urangesellschaft

Chapter 1: Introduction

Baker Lake, or Qamani'tuaq, is a small, inland, mainly Inuit community in the Kivalliq region of Nunavut. This Hamlet is located close to the geographic center of Canada, and has a population of fewer than 2,000 people (Ladik, 2013). In Inuktitut, Qamani'tuaq means “where the river widens”, referring to the mouth of the Thelon River, which ultimately drains into Hudson's Bay. Baker Lake is an inland community in Nunavut. As such, this community does not hunt sea mammals such as whales or seals, and, instead, relies heavily on barren-ground caribou as well as Arctic Char, Lake Trout, and other fish from Baker Lake (Scottie, 1992). Globally, Canada is the second largest producer of uranium. Prior to 2014, Canada had mined more uranium compared to any other country (World Nuclear Association, 2016). Historically, uranium mining has left a legacy of radioactive and toxic contamination, which has disproportionately affected Indigenous peoples (Gilbert, 2013). Currently, the only operational uranium mines in Canada are located in the resource-rich area of northern Saskatchewan (World Nuclear Association, 2016). For nearly fifty years, the French multinational AREVA has been actively involved in the uranium mining sector in Saskatchewan (AREVA, 2016). In 2008, AREVA submitted a proposal, the Kiggavik Project, to develop Nunavut's first uranium mine 80 kilometers west of Baker Lake. The Kiggavik Project proposed to extract and process approximately 44,000 tonnes of uranium, consume 1.4 billion tonnes of water per annum of operations, and produce a total of 11.5 million tonnes of tailings solids (AREVA, 2008; NIRB, 2015a). All of which would have occurred in a permafrost environment with extremely high winds and in close proximity to sensitive caribou habitat and the Thelon River, which flows directly into the community's drinking water source. Furthermore, AREVA, because of the depressed uranium market, was not able to provide a start date for development of the mine. In the lead up to the federal

government's rejection in July 2016, the Kiggavik Project was highly contentious, uncertain, and faced strong and vocal community opposition.

Aim and objectives

This thesis aimed to develop a nuanced understanding of the ways through which conceptualizations of risk and uncertainty informed the decision to reject AREVA's proposal.

This was achieved by addressing the following objectives:

1. Explore how and for what purpose risk and uncertainty are expressed, translated, and generated by various actors.
2. Identify key knowledge systems, including traditional and contemporary Inuit knowledge as well as western scientific knowledge, and examine the ways through which they engage with risk and uncertainty to produce different and sometimes conflicting concerns;
3. Determine whether community perceptions of risk and uncertainty relating to uranium mining have transformed, and identify context-specific factors, including sites of uncertainty¹ are contributing to this shift.

¹ A site of uncertainty is a space—physical, temporal, emotional, material, discursive and so on—that is occupied by a state of uncertainty or any of its various typologies. This concept is defined in greater detail on page 35.

Context

Different cosmologies, different relationships with 'nature'

After over twenty years of negotiations between the federal government and Inuit officials, in 1999 the territory of Nunavut was officially created (Légaré, 2009). In Inuktitut, one of the two official Inuit languages in Nunavut, Nunavut means “Our Land” or “Our Home” (Kusugak, 2000: 20). For thousands of years, Inuit have developed cultural practices that support an intimate and harmonious relationship with the Arctic environment (Kuptana, 1993). Indigenous cosmologies have tended towards an interconnected and interdependent view of society and ‘natural’ world. Inuit political leader Jose Kusugak (2000) emphasizes how Inuit cosmologies do not view humans and nature as separate entities:

The Arctic has sustained us and defined us. We are part of the Arctic landscape and seascape and the Arctic landscape are a part of us. (20)

Within Inuit cosmologies, three elements—Water, Land, and Sky—symbolize “universal” or “natural” order; this cosmological symbolism is the subtle structure through which Inuit understand relations between environmental, psychological, and spiritual forces (Qitsualik, 2013). The Water—Land—Sky complex manifests in the human as *uumaniq—inua—anirniq*, which can be loosely translated into life instinct, awareness, and higher potential, respectively (Qitsualik, 2013). It is the balance and interactions between these elements that produces a “person”. As the midpoint, Land, or *Nuna* in Inuktitut, interacts with the other two elements: the interplay between Water and Land is understood to result in *isuma*, personal thoughts and feelings, and the interplay between Land and Sky results in *tarniq*, the soul of an individual (Qitsualik, 2013)². Inuit cosmologies reflect an awareness of “the impossibility of actual

² In Inuit classic thought, water is understood as the foundation of life. Water exists within the human condition as *uumaniq*, which is “the simple stuff of life common to both animals and humans. This is the very presence of life and the passion for continued living. By extension, it is animal instinct” (Qitsualik, 2013). The *Nuna* is associated

independence” (Qitsualik, 2013: 24) between humans and other living and non-living entities; this instills within many Inuit an inextricable connection and deep respect for the land, weather, and wildlife, one that is guided by an understanding that these are metaphysical forces that cannot be transformed or manipulated (Price, 2007). From this perspective, the world is inherently uncertain. Humans cannot impose order and control on ‘nature’, rather they actively participate in a dynamic and continually changing system.

Comparatively, western worldviews emphasize how chaos stems from the absence of human intervention; there is an underlying belief that human will shapes reality, and, consequently, the environment responds to human will (Qitsualik, 2013). This anthropocentric worldview, diverging sharply from Inuit cosmologies, views ‘nature’ as objective, and engenders a division between humans and ‘nature’ (Klein, 2000). Development and management discourses assume the separation between humans and nature, the superiority of humans over nature, and that progress is a linear movement from an ‘original’, ‘wild state’ to a ‘developed’ and ‘civilized’ state (Howitt and Suchet-Pearson, 2006). It is these ontological assumptions that justify human intervention, control, and domination over nature (ibid). Moreover, they produce a specific articulation of how the relationship between humans and non-human entities should be imagined, one that is closely intertwined with western capitalist logic (Irniq and Tester, 2008).

Capitalist production involves the extraction of surpluses from labor and nature in order to accumulate capital. In this light, nature is only valuable insofar as humans can transform it, resulting in the denigration of ‘unimproved’ or ‘untouched’ nature as valueless (McCarthy and

with a human potentiality that can manifest in all of existence, known as *inua*, yet it is only through directed awareness that this potentiality can be activated. (Qitsualik, 2013). Qitsualik (2013) describes *Sky, Sila*, as a “super-concept, both immanent and transcendent in scope”, as it can mean air, atmosphere, sky, but also intellect, wisdom, spirit, earth and all.

Prudham, 2004; Robbins, 2004). This expropriation of both human and natural capital and the concomitant underinvesting in the recovery of socio-ecological systems is inherently linked to dispossession, marginalization, and environmental degradation, which are understood to be inevitable consequences of capitalist production (Robbins, 2004). The success of capitalism is rooted in not only practices of extraction, but also exclusion (Fast, 2014). Exclusion, through the production of difference, is linked to colonial processes of social control and domination of physical space. According to Cameron (2015), colonialism involves:

The dispossession and occupation of Indigenous lands, the establishment and maintenance of economic and political domination, and the production and promulgation of knowledge and ideas that naturalize uneven, hierarchical, exploitative relations. (17)

In Nunavut, colonial relations and capitalist production have intersected in ways that have served to dispossess Inuit from their land, resources, culture, and subsistence livelihoods, as well as resulted in their incorporation into the labor market (Bernauer, 2011a). This domination and control is rooted in western notions of separation, superiority, and linear progress (Howitt and Suchet-Pearson, 2006) and, consequently, inherently conflicts with traditional Inuit cosmologies.

Although what has been presented thus far represents a dichotomy between Inuit and western worldviews, this is certainly not an adequate representation of contemporary realities in Nunavut. As these two distinct and in many ways diverging worldviews have and continue to conflict, collide, intermesh, and operate in parallel, (Zahara and Hird, 2015) contemporary Inuit worldviews have emerged, ones that contain retentions of the past as well as projections of possible futures (Barry, 2016). Throughout the colonized world Indigenous cosmologies have been repressed and subverted by western rationalities (Cruikshank, 2005). In this regard, Inuit belief systems and traditions have been threatened by colonial domination, the logic of

globalization, neoliberal policies, and capitalist modes of production. At the same time, this contemporary Inuit worldview has been shaped by Inuit spirituality, laws, histories and relations, traditional cultural, economic, and ecological practices, Inuit and Indigenous political movements, as well changes in the Land itself (Cameron, 2015). This contemporary worldview reflects the interplay between resisting dominant western rationalities and simultaneously conforming to these rationalities in order to influence the future; this interplay is critical to understanding the socio-cultural context and history in which the controversy surrounding the Kiggavik Project unfolded.

Colonial History

Interactions between Inuit and European explorers and traders began in the 18th Century, yet it was not until the early 20th Century that a permanent southern presence was observed (Bernauer, 2011a; Dana and Anderson, 2014). Between 1913 and 1931, a Hudson's Bay trading post, Anglican and Catholic missions, and a permanent Royal Canadian Mounted Police (RCMP) station were all established in Baker Lake (Bernauer, 2011a; Dana and Anderson, 2014). The establishment of the Hudson's Bay Trading Company, and thus the introduction of the fur trade, triggered a relationship of economic dependency by transforming the prevailing subsistence hunting economy into a trading economy (Légaré, 2008). As traders provided material goods, such as ammunition, rifles, tobacco and so on, many Inuit altered their lifestyles and hunting practices to meet traders' demands (Hick and White, 2000; Légaré, 2008). As a result, Inuit society became tied to the global economy, specifically through relationships with companies seeking to exploit natural resources (Hick and White, 2000).

Following the Second World War, Inuit experienced intensive and rapid state intervention that

had profound and ongoing impacts on their culture and lives. This intervention was motivated by myriad and multifaceted factors including a strong national assimilationist agenda; interest in large-scale resource development; a strong desire to assert Arctic sovereignty; concern over the distress experienced by Inuit due to the decline of the fur trade; and an awareness of the government's obligation to Indigenous peoples, particularly through the provision of public services such as health and education (Hicks and White, 2000).

The Canadian government's forced relocation of Inuit families, who previously lived on the land, to permanent settlements was a mechanism employed to realize these goals (Hicks and White, 2000). Additional forms of dispossession experienced by the Inuit include, but are not limited to, residential schools, the shooting of sled dogs, the issuing of "Eskimo Numbers" or "E-numbers"³, Christianization, and the exploitation of Inuit lands (Cameron, 2015; Hicks and White, 2000). The increased dependency on government policies and support, the cultural and economic transformations, the loss of political autonomy, and the loss of control of their lands, resources, and lives had profound and ongoing social implications; many Inuit communities now face myriad social challenges such as marginal access to health services, overcrowded housing, and extremely high rates of food insecurity, unemployment, substance abuse, and suicide (Billson, 2001).

In 1993, the Nunavut Land Claims Agreement (NLCA), hereafter referred to as the Agreement⁴, was signed. The Agreement is the largest and most comprehensive land claims agreement settled

³ "Eskimo-numbers" or "E-numbers" were identification numbers issued to Inuit by government officials who had difficulties with the complex Inuit naming system (Hicks and White, 2000).

⁴ In 2016, NTI voted to change the terminology used to refer to the NLCA from the NLCA to the Nunavut Agreement, as it encompasses far more than ownership and land management rights (NTI, 2016). Moreover, the term NLCA is not actually used in the Nunavut Agreement.

in Canada to date (Légaré, 2008). The agreement stipulates that Inuit organizations receive defined rights and benefits in exchange for the abolishment of their Aboriginal title; these rights and benefits include \$1.14 billion in capital transfers, ongoing royalties, ownership of just over 353,000 square kilometers of land (18% of surface rights), and mineral rights to 36,000 square km of that land (2% of mineral rights) (Légaré, 2008; Price, 2000). Furthermore, the agreement outlines protocols for rights on non-Inuit lands, environmental assessments, and land-use planning (Cameron, 2015). The Agreement has been presented by the federal government as a mechanism to strengthen relations between Inuit and Canada, yet Price (2007) emphasizes the inherent power differentials in this relationship, specifically the “overarching authority of the Canadian state” (p.6). Furthermore, Cameron (2015) argues that the signing of the Agreement has been misunderstood as a means to resolve colonial relations, and contends that:

The NLCA was a strategic compromise, one that has facilitated the accumulation of capital in the North as much as it has supported Inuit interests and values. And although many Nunavummiut⁵ actively support the development of industrial mineral economies, it would be a mistake to read that support as whole-hearted endorsement of the racialized notion that Inuit must break with tradition and adopt a modern form of relation with the resources of the land. (Cameron, 2015: p.108)

This conflict is exemplified in ways through which these two worldviews conceptualize land. Together, colonial and capitalist ideologies have produced conceptualizations of the land as a resource to be exploited and a frontier to assert sovereignty. This contrasts sharply with Inuit cosmologies that conceptualize the land as home, reflecting a deep connection to place (Altamirano-Jiménez, 2013). Within Inuit cosmologies, the land does not belong to anyone individually, rather it is to be used, enjoyed, and respected by everyone (Price, 2007). Qitsualik

⁵ In Inuktitut, Nunavummiut means “people from Nunavut”. This term is linked to geographic location and does not imply connection to a culture. Therefore, it includes both Inuit and non-Inuit residents of the territory (Price, 2007).

(2013) emphasizes this understanding but also points to how this perspective has undergone a transformation:

Inuit, who know the Nuna so well, cannot define sovereignty via mastery of their home, but rather of their own hearts. For they never owned the Nuna — not in the sense of apportioning or weighing its utility — but were blessed with enjoyment of it; with wisdom gleaned from it; healthful lives modelled from it. It is tragic that we must now speak in terms of mastery, rather than joy or wisdom or healthful existence. (33)

Qitsualik (2013) points to the diverging ways through which Inuit and western cosmologies conceptualize the land. Amagoalik (2007), one of the founding Fathers of Nunavut, emphasizes how land ownership is a Qablunaat⁶ concept; it was, and to many Inuit still is, a foreign way of relating to the land and the environment. As such, the Agreement, which outlines land ownership and mineral rights, contradicts the traditional Inuit conceptualization of land.

Uranium exploration and development proposals in the Kivalliq Region

Since the late 1960s the Kivalliq region has experienced extensive and ongoing uranium exploration, which has resulted in the identification of multiple high-grade uranium deposits beneath sensitive caribou habitat (McPherson, 2003). As a result, uranium exploration and development proposals have historically been met with strong opposition from community groups on the basis of unknown long-term social and environmental impacts. In 1974, out of concern that the activities of government-licensed exploration companies were impacting caribou herds, the residents of Baker Lake signed a petition requesting an injunction against mineral exploration in the region. The federal government declined this initial plea as well as a subsequent proposal from the Inuit Tapirisat of Canada (ITC), a recently formed Inuit political organization. In 1977, the newly appointed minister of Indian Affairs and Northern

⁶ The term Qablunaat (singular Qablunaaq) refers to a “white” or “white person”, more specifically it refers to non-Inuit, non-Indigenous, settlers; Cameron (2015) emphasizes how this is a relational term that is embedded in racialized, hierarchical power structures (this will be explored in greater detail in Chapter 2). This thesis will use the term Qablunaat, as it more commonly used in the Kivalliq region. Yet, it is important to note that the term Qallunaat is more common in the Baffin region of Nunavut (Tester and Irniq, 2006).

Development, James Hugh Faulkner, agreed to a one-year cessation of mineral rights and land-use permits. A year later, in 1978, the ITC, the Baker Lake Hunters and Trappers Association, and the hamlet of Baker Lake launched the Baker Lake court case to secure Aboriginal rights (the right to hunt, fish, and move freely on their traditional land) (ibid). The defendants, including federal government representatives and six mining companies, argued that Inuit ancestors had not occupied the area, nor had they ever had any Aboriginal rights. Moreover, according to McPherson (2003), the defendants contested Aboriginal rights “by the legal argument that the Inuit were too primitive and disorganized to assert any sovereignty over the land” (p. 84). In 1979, the judge of this case, Justice Mahoney, disagreed with these claims and recognized the Aboriginal rights of the Inuit of the Baker Lake⁷.

However, the court ruled that since these rights were not legally classified as property rights, Inuit did not have the power to halt uranium exploration unless they could prove that these rights were being infringed upon (i.e. caribou were being adversely affected by exploration activities). Hunters released testimonies detailing the observed changes in caribou behavior due to the mining companies’⁸ activities; these testimonies were countered by government wildlife experts’ views. Judge Mahoney concluded that there was not enough evidence to support the claim that caribou were being adversely affected, and, therefore, he could not justify an injunction against exploration activities (Elliot, 1980). McPherson (2003) contends that this ruling resulted in a

⁷ This decision was based on four criteria established by Mahoney, including: (1) ancestors were members of a society that exhibited some degree of social organization; (2) occupation and used the territory; (3) occupation was exclusive to this group, and; (4) occupation had been continuous since the Crown asserted sovereignty (McPherson, 2003). Mahoney ruled that all these conditions were met, except in the southwest region outside of the Baker Lake area, where land-use overlapped with Chipewyan groups.

⁸ The mining companies that were defendants in this court case include: Urangesellschaft Canada Limited, Noranda Exploration Company Limited (no personal liability), Pan Ocean Oil Ltd., Cominco Ltd., Western Mines Limited and Essex Minerals Company Limited (Hamlet of Baker Lake v. Canada, 1979).

“cloud of uncertainty over northern mining” (85), that is, this ruling raised the question of how much mining and exploration could occur before these activities would violate Aboriginal rights. The main success of the Baker Lake Court Case was the recognition of Aboriginal title. This case also resulted in an awareness that these rights did not imply jurisdiction over land as well as a realization that the legal system favored corporate interests above those of the Inuit. This understanding instilled a vision that becoming owners may be one of the only ways to gain control over land management (McPherson, 2003). One interviewee recounted this case and explained how it, in part, triggered the start of land claims negotiations in Nunavut:

Our caribou is our main thing in Baker Lake, we do not have seals, we do not have polar bears, back in the 70s, our caribou was what we had to survive with, the caribou crossings and the calving grounds were very important to the Inuit, so we took our ground and the hamlet of Baker Lake took the federal government to court, we need to protect these area [sic], but in the end we won...there was so much activity going around in Baker Lake, the Inuit were not a part of the project, we wanted to be a part of the project, we wanted to be involved because you know what, what if they start doing things on the land, the land of the caribou crossing and where caribou migrate, we said we need a voice. (Inuit Interviewee, December 9th, 2016, Baker Lake)

In 1978, the German company Urangesellschaft (UG) discovered 7,700 tonnes of uranium 80km West of Baker Lake, which came to be known as the Kiggavik deposit. This discovery led to the speculation that other economically viable deposits were likely located in the area, thus triggering a so-called “uranium rush” (McPherson, 2003: p. 162). Yet, coupled with this rush was growing community opposition. The people of Baker Lake were concerned with “the risks from ionizing radiation and radioactive wastes to the environment, their health and the health of generations of Inuit to come” (Kusugak, 1988: 7). In addition to environmental and human health concerns, different land-use visions, conflicts between wage-labor and traditional economies, moral concerns over the use of uranium for nuclear weapons, and issues with industry trust surfaced (McPherson, 2003).

In 1989, UG proposed the construction of two open-pit mines, a transportation corridor, a work camp, and a two-kilometer-long airstrip, and the Federal Environmental Assessment Review of the proposed project was in its initial stages (Globe and Mail, 1989). The Baker Lake Concerned Citizens Committee—a local group formed to resist UG’s proposal—became part of the Northern Anti-Uranium Coalition, an alliance between various Inuit organizations, regional governments, and health officials; this group was largely critical of the environmental assessment process, citing issues with lack of public engagement prior to scoping sessions, and particularly that information was not translated into Inuktitut (Curly, 1989). In 1990, UG released the Environmental Impact Statement (EIS), a report detailing the environmental impacts associated with this project. Due to the weak social impact assessment, lack of inclusion of local knowledge, and substantial omissions the Federal Environmental Assessment and Review Office delayed public hearings until UG revised their report (Bernauer, 2011a; McPherson, 2003).

At this point, widespread opposition to the proposed mine had been documented through a petition campaign that included 1,700 signatures from residents of five different communities in the surrounding region (Smellie, 1990). Furthermore, many international, territorial, regional and community-level organizations publicly voiced their opposition to the proposal, including the Inuit Circumpolar Council (ICC), the ITC, the Keewatin Inuit Organization, and the Baker Lake Concerned Citizens Committee (ibid). On the other hand, the Government of Northwest Territories (GNWT) claimed that they would only enter the debate once the federal environmental assessment was completed. This neutrality on the part of the territorial government translated into a belief, held by many Inuit, that the government was supporting the project “behind closed doors” (Bernauer, 2011a: 85). This claim was verified when a report

containing conversations between federal and territorial officials was leaked; it revealed that the GNWT had preemptively offered its support for the Kiggavik Project (McPherson, 2003). With the election of a new mayor and council, the Hamlet of Baker Lake held a plebiscite (ibid). On March 26th, 1990, over 90% of the residents of Baker Lake voted against the Kiggavik Project (McPherson, 2003). As a result, the mayor of Baker Lake requested that UG abandon the project, halting uranium mining proposals.

Uranium mining proposals and exploration activities are deeply rooted in Baker Lake's history, particularly the ways in which resistance to these activities are intertwined with Inuit self-determination. The concept of "political situations" recognizes how controversies are not focused solely on one specific dispute, but rather need to be understood within their "relations to a moving field of other controversies, conflicts, and events" (Barry, 2012: 331-332). Accordingly, the controversy surrounding the Kiggavik Project needs to be understood in relation to a historical field of conflicts and events such as the colonial history of the region, the Baker Lake Court Case, and UG's proposal. This controversy also needs to be understood as a dynamic and continually evolving, therefore examining how actors, ideas, practices, and material processes have formed and reformed can help reveal why the Kiggavik Proposal was such a deeply divided and contentious issue for community of Baker Lake. Since UG's proposal, it has been argued that community opinions towards uranium development are increasingly divided (Bernauer, 2011a; Kulchyski and Bernauer, 2014; Ladik, 2013). One Inuk interviewee noted this shift:

Since before I was born this town has been against uranium mining, but over the years I think it's started to sway, people are in support of it due to the fact that the cost of living in Nunavut is so high and employment is very important, and we have all these high school kids graduating and some of them furthering their education, taking university down South on environment and that kind of stuff. (Inuit Interviewee, December 5th, 2016, Baker Lake)

Since UG's proposal several changes have occurred: the Agreement was signed in 1993; Baker Lake has been exposed to the mineral economy with the development of Meadowbank Mine in 2007⁹; changes in Nunavut Tunngavik Incorporated (NTI)'s uranium mining policy that reversed its previous ban to conditionally supporting it in 2007; and the release of Government of Nunavut's policy statement that also conditionally supports uranium development in the territory in 2012 (Bernauer, 2011a; Kulchyski and Bernauer, 2014). It has been argued that these changes, coupled with AREVA's public relations campaign, have contributed to a more fragmented, less unified opposition to uranium mining in Baker Lake (Bernauer, 2011a). While support for the Kiggavik Project was largely linked to employment opportunities, opposition was related to the potential contamination of water, fish, wildlife, and humans, the destruction of ancestral lands, impacts on caribou migration patterns and the ability to harvest caribou, and the use of uranium for non-peaceful purposes (Kulchyski and Bernauer, 2014). Yet, conceptualizing the controversy in this way fails to capture the uncertainty and complexity that accompanies views on the issue, and more importantly how the community of Baker Lake actually felt about the Kiggavik proposal. For instance, one interviewee described how they felt as though the majority of the community supported future uranium development:

This town is like, almost like 70-60 supporters of uranium kinda stuff due to the fact that employment for families. (Inuit Interviewee, December 5th, 2016, Baker Lake)

Another interviewee described how they felt as though the community has come together to oppose uranium mining:

Everyone has come as one, especially when it comes as uranium mining talk, they don't want, they are really strong about not having it open, like they are concerned about how it can change their land so badly. How it can affect the health so badly. (Inuit Interviewee, December 5th, 2016, Baker Lake)

⁹ Meadowbank, an open-pit gold mine owned by Agnico Eagle Mines, is currently operational and located 70 km north of Baker lake, or 110km by road. Construction began in 2007 and commercial gold production in 2010 (Bernauer, 2011b, Stratos, 2016).

However, one interviewee noted how they did not know the exact distribution of the community's opinions:

Everyone was afraid to have a [second] referendum, plebiscite, or even inquiry into uranium mining, like none of that happened, like who knows how many people would've supported and not supported the mining? I don't even know. My gut says more would be opposed than for, but I can't state that because I don't even know and I am someone who is opposed to it. (Inuit Interviewee, November 27th, 2016, Baker Lake)

Although some interviewees expressed strong opposition to the project, while others expressed support, there was also a large group of people who landed somewhere in between the two polarized sides of the debate. One interviewee described this group:

Then you have another very large group that simply state they don't know, they wish they could get unbiased information, that they don't know if the anti-group is telling them untruths or is the mining company telling them untruths. Where's the middle, like where is the truth... they are hearing bits and pieces of both sides and they may trust some people from both sides and they distrust people from both sides, and they just feel like you guys are giving me so much information I don't know what's right. (Inuit Interviewee, November 27th, 2016, Baker Lake)

This statement expresses how many people were uncertain about whether or not they supported or opposed uranium mining. It is precisely this complex and muddy space between support and opposition that will act as a key point of entry into the controversy, exposing the conflicted imagined futures of Baker Lake.

The Kiggavik Project and AREVA

AREVA is a multinational corporation that is primarily (92%) owned by the French state and has operations in all stages of the nuclear energy cycle (AREVA, 2017). AREVA has operations in over 100 countries globally (AREVA, 2017; Dixon, 2010). This corporation has been criticized for their negligent mismanagement in Niger, where their uranium mining practices have resulted in destructive and non-reversible effects on the environment and created human health problems (Dixon, 2010). AREVA Resources Canada, hereafter referred to as AREVA, is a subsidiary of

the French multinational and has been actively involved in the uranium mining sector in Saskatchewan for nearly fifty years (AREVA, 2016). In 1993, AREVA, previously COGEMA, acquired UG and therefore became responsible for the Kiggavik Project. In 1997, a pre-feasibility study concluded that the deposits were not economically viable due to current market conditions, and the Project was put into care and maintenance until 2002 (AREVA, 2011). As the uranium market began to improve, AREVA established their presence in the region. In 2006, the company opened an information office in Baker Lake that was staffed by a local community liaison officer and had information available in both English and Inuktitut about uranium mining, the Kiggavik Project, and AREVA's operations in northern Saskatchewan (Bernauer, 2011a). AREVA subsequently formed a community liaison committee that held approximately ten meetings annually, all of which were open to the public; these meetings involved updates on the Kiggavik Project as well as provided a space for community input (ibid). Additionally, initiatives involved in their extensive public relations campaign included: tours of both the Kiggavik site and AREVA's operations in northern Saskatchewan; sponsorships and donations (e.g. community events, hunting activities, and scholarships); and an interactive website that provides information about the Project, promotes these contributions, and showcases Inuit testimonials (Bernauer, 2011a; Scobbie and Rogers, 2013). Despite these efforts many community members remained skeptical about the information being distributed and AREVA's underlying intentions. The majority of interviewees who interacted with AREVA stated that the company did a relatively good job engaging with the community, but many of these interviewees also explained how this relationship was underlain by distrust.

The proposed mining activities were to occur at two separate sites: The Kiggavik site and the Sissons Site. The Kiggavik site, located approximately 80 kilometers west of Baker Lake, was proposed as the base of operations and included three open-pit mines, one processing mill, personnel accommodation, and a landing strip. The open pits (once they had been mined out) at the Kiggavik site were proposed to serve as the tailings management facilities, which are engineered structures designed to isolate tailings from reacting with the surrounding environment for thousands of years. Uranium tailings typically contain 85% of the radioactivity of the original ore, the chemicals used to wash the ore, and other radioactive and toxic elements associated with the uranium ore (Dewar, 2013). Uranium tailings can contaminate the surrounding environment through radioactive and toxic dust, radon gas emissions, gamma radiation, groundwater seepage, and in the case of structural failure, surface water contamination. Furthermore, potential environmental risks are compounded by the possibility of extreme natural disasters, accidents, management failures, and human error. Consequently, although these facilities are constructed in accordance with best practices, their long-term effectiveness remains uncertain (Committee on Uranium Mining in Virginia et al. 2011). The Sissons site was to include one open-pit mine and one underground mine, and be connected to Kiggavik by a 20 kilometer mine haul road (AREVA, 2011; NIRB, 2015a). Additionally, materials and equipment, including over 55,000 tonnes of diesel in peak consumption years, would be shipped via marine transport to the proposed Baker Lake dock facility and then to the mine site by either the winter or all-season road (NIRB, 2015a). AREVA proposed to transport the yellowcake (the economically valuable uranium byproduct) via air to northern Saskatchewan where it would be distributed internationally through existing networks in southern Canada (ibid).

In 2008, AREVA submitted the Kiggavik Project to the Nunavut Impact Review Board (NIRB), thereby formally initiating the environmental impact assessment process. The Nunavut Impact Review Board (NIRB) is the institution of public government responsible for assessing, using both traditional knowledge and scientific methods, the potential biophysical and socio-economic impacts of proposed development in Nunavut (NIRB, 2015a). This environmental review process involved a number of review stages including screening, community scoping, guidelines development, preparation and review of the Environmental Impact Statement (EIS), technical meetings, community roundtables, and the final hearings (NIRB, 2015a). Although this review process creates ample space for community concerns to be heard through public participation and consultation, the mechanisms through which these concerns are included in the decision-making process is constrained to what fits within the Board's jurisdiction (ibid). Similar to many other review boards, the NIRB's mandate is largely technical in nature, and, as a result, reviews concentrate on issues amenable to technical solutions (Bernauer, 2016). These technical approaches to decision-making tend to take the position that rational and objective decisions can be made by relying on 'expert' knowledge (Wickson, 2007). As such, technical and scientific knowledge frames the meaning of these issues, and, consequently, defines the salient questions to be addressed and what issues are to be ignored as concerns (Jasanoff, 1998; Wynne, 2007). In this regard, during the review process, Bernauer (2016) contends that moral and political issues (i.e. concerns about Indigenous rights, justice, the nuclear industry, AREVA's operations abroad, and the decision-making process itself) were deemed outside of the Board's mandate. One key issue that NIRB deemed outside of its jurisdiction (NIRB, 2015a) was whether the Kiggavik Project had public support as required in the Keewatin Land Use Plan. One Inuk interviewee

emphasized how they felt as though they had not been informed about, included in, or consulted during the entirety of the decision-making process:

I don't believe the due diligence to the beneficiaries¹⁰ of Nunavut have been...Inuit organizations haven't asked us if whether we want it, if we want to be involved in uranium mining, uranium extraction, or the uranium industry as a whole. We haven't been asked yes or no as to if we want to be in this industry, and the institutes of public governments for the Kivalliq Regional Land Use Plan set it up so that we could be a part of it, but I think boxes were checked and somehow managed to go through a process where AREVA was able to get to the NIRB stage and at the Final Hearing learned that the Inuit organizations had gotten us this far really did it without consulting their membership, and left it to the Federal government to say yes or no to opening up our land to uranium mining, and to me that was disheartening because that's our land, and as a shareholder or beneficiary to the Nunavut Land Claims Agreement and to the area where the proposed mine was, I don't believe that NTI or KIA informed the beneficiaries of what they were really negotiating, and that this is a living legacy of industry that doesn't just last our life time, it goes onto generations and generations and generations, this decision does not need to be taken lightly. (Inuit Interviewee, December 4th, 2016, Baker Lake)

This interviewee reiterates notions of distrust and decisions being made behind closed doors that were also present during UG's proposal. However, these sentiments are directed towards institutions established through the Agreement, pointing to the shifting governance landscape in Nunavut. Moreover, this statement and so too the issue at hand are underlain by notions of self-determination and uncertainty surrounding the question of whether or not Inuit and all Nunavummiut of the region support future uranium development.

The Final Hearings and NIRB's recommendation

Prior to the NIRB's Final Hearings, AREVA stated that, due to the depressed uranium market¹¹, the Kiggavik Project was currently not economically viable. As a result, AREVA, still seeking

¹⁰ This interviewee is referring to "beneficiaries" as Inuit who are enrolled as beneficiaries (with outlined rights and benefits) under the Agreement. Beneficiaries also refers to Inuit who are recipients of income from the Nunavut Trust. Recently, NTI has changed the use of terminology from beneficiaries to Inuit or person(s) enrolled under the Agreement to move away from any perceptions of Inuit as passive recipients (NTI, 2016).

¹¹ In 2007, the spot price of uranium hit a high of just above US \$135 per pound, however with the 2008 financial crisis prices fell to US \$40 in 2009. While prices recovered to just above US \$70 by 2011, the Fukushima Daiichi accident resulted in the shutdown of many nuclear reactors. This, combined with huge stockpiles of uranium and the long-production cycle, has resulted in a drop in demand and consequently spot price (2018 prices are just above US \$20 per pound) (De Clercq, 2016; UxC, 2018).

project approval at this point, was not able to provide a specific start date or development schedule during the final review process (NIRB, 2015a). After significant deliberations that involved multiple parties, on May 8th 2015, the NIRB recommended against the Kiggavik Project. The NIRB (2015a) stated that this recommendation did not preclude future approval, as AREVA may resubmit once increased certainty surrounding the start date is established. According to the NIRB (2015a), the uncertainty surrounding project commencement impeded their ability to accurately assess the potential environmental and socio-economic impacts. The Board contended that this served to amplify existing knowledge uncertainties in the assessment, stemming from current limitations in scientific data related to the impacts on caribou, fish, and marine wildlife (ibid). This framing presents uncertainty as “the disease that knowledge must cure” (Jasanoff, 2007: 33) and, consequently, uncertainty becomes the ‘problem’ to ‘fix’ through the development of more robust knowledge (Li, 2007). In this regard, Bernauer (2016) argues that the NIRB’s recommendation, provided by the Baker Lake Hunter’s and Trappers Organization delegation during the Final Hearings, was grounded in a technical rationalization (i.e. the lack of start date), which served as an excuse for the Board to not approve the Kiggavik project at this time. Yet, he contends that the underlying reason for this recommendation was inherently tied to the strong, vocal opposition as well as how the Board, all of whom were Inuit, “held a deep sense of compassion for the wishes of the community” (Bernauer, 2016:15). Albeit their technical mandate, according to provisions outlined in the Agreement, the NIRB must also consider “whether the project would enhance and protect the existing and future well-being of the residents of the Nunavut Settlement Area” and “whether the proposal reflects the priorities and values of the residents of the Nunavut Settlement Area” (Agreement between the Inuit of the

Nunavut Settlement Area and Her Majesty the Queen in right of Canada, 1993: 108). This places the NIRB in a difficult position when concerns, values, and conceptualizations of well-being are diverse, dynamic, and in many instances cannot be captured by the technical nature of the review process. The analyses that follow will explore this tension in greater detail, exposing the complexities inherent to decision-making in the face of irredeemable uncertainty.

Under Article 12 of the Agreement, the federal government ultimately holds the decision-making power; the Minister responsible may approve the Report, reject the Report, or deem the Report deficient and send it back to the NIRB. On July 15th 2016, the federal government, specifically the Honourable Carolyn Bennett¹², accepted the NIRB's recommendation due to the uncertainty stemming from the the lack of start date and development schedule (LeTourneau, 2016), reiterating the technical rationalization initially proposed by the Baker Lake HTO. This thesis will explore how conceptualizations of risk and uncertainty informed the NIRB's recommendation and so too the federal government's the decision to reject AREVA's proposal.

Overview of thesis

In pursuit of this aim and these objectives, the context section of this chapter intends to situate the controversy within the intricate historical and socio-cultural context in which it unfolded. In doing so, it seeks to expose the indeterminate boundaries of the controversy, rather than construing the controversy as an isolated event or discrete case study (Barry, 2016). This section outlines how conflicting worldviews, the colonial history, and previous uranium exploration and mining proposals have all become embedded in the situation at hand. In this sense, it provides the background to understand how power asymmetries, trust, inequality, shifting identities, self-

¹² The Honourable Carolyn Bennett was previously the Minister of Indigenous and Northern Affairs Canada. In August 2017, the department of Indigenous and Northern Affairs Canada was dissolved, and replaced by two new departments: The Department of Crown-Indigenous Relations and Northern Affairs and the Department of Indigenous Services. Carolyn Bennett is now the Minister of Crown-Indigenous Relations and Northern Affairs.

determination, diverging values, and the ongoing effects of colonialism all inform and manifest in conceptualizations of risk and uncertainty.

Following the context section, *Chapter 2: 'Unsettling' methodologies, "the impasse that we cannot overcome"* is grounded in the tensions between producing knowledge, not knowing, and the concept of unsettling. While Chapter 2 engages with the concept of "unsettling" (Cameron, 2015; Regan, 2010), it does so in a way that is situated within colonial relations and rooted in western modes of knowledge production. Building on this conflicted space, this thesis draws on qualitative methods in order to engage with the subjective and diverse lived experiences and interpretations of events, processes, and phenomena related to the uranium mining controversy in Baker Lake. This chapter details the qualitative research methods employed in this thesis, specifically archival research, participant observation, and semi-structured interviews. Moreover, this chapter outlines the key themes that emerged during the research process. These include: risk, uncertainty, not knowing, fear, trust and distrust, 'expertise', education, and hopes for the future. These themes served to guide *Chapter 3: (Un)knowing the 'known'*, which outlines the theoretical framework for the analysis chapters that follow (Chapters 4, 5, and 6). Drawing on Emilie Cameron's (2015) work, Chapter 3 is grounded in an attentiveness to the relational and contextual nature of knowledge. This chapter describes multiple theories that together help explain the diversity of ways through which the 'known' and 'unknown' were framed, contested, legitimized, negotiated, and defined (or not) throughout the uranium mining controversy. These theories include: political situations (Barry, 2012; Barry, 2016); socio-cultural perspectives of risk and uncertainty (Douglas and Wildavsky, 1982; Beck, 1999; Beck, 2009; Lupton, 1999, Zinn, 2008); socio-technical controversies (Callon et al. 2009); and governmentality (Dean,

2010; Foucault, 1987; Foucault, 2007).

Chapter 3 concludes by introducing the concept of sites of uncertainty, which creates space to trace how conceptualizations of risk and uncertainty informed the decision-making process and serves as the analytical framework for *Chapters 4 and 5*. *Chapter 4: Uncertainty, “the disease that knowledge must cure”?* examines how AREVA represented, translated, and transformed uncertainty in ways that aligned with their interests, stakes, and cultural biases. It demonstrates how AREVA’s knowledge claims were largely contested throughout the review process, specifically when positioned against relational and contextual knowledge. While *Chapter 4* concentrates on tracing the technical sites of uncertainty in AREVA’s impact assessment, *Chapter 5: Conflicted imagined futures* explores the sites of uncertainty identified at the community-level, sites that in many ways exist outside of the technical framing prevalent in the review process. *Chapter 5* argues that these sites represent points at which community members feel as though their self-sufficiency, well-being, and identity are threatened. Yet, conceptualizations of these themes diverge within and between the identified sites, and, consequently, reveal muddy and conflicted views of the Kiggavik proposal and imagined futures of Baker Lake. Together, *Chapters 4 and 5* point to how disjunctures in the ways through which actors engaged with the ‘known’ and ‘unknown’ can create conflict and controversy.

Chapter 6: Education, a contemporary Inuit response to uncertainty? deconstructs how and why improving education emerged as a key community-level response to contend with the uncertainty characterizing the Kiggavik proposal. This chapter will demonstrate how this response is reflective of an intermeshing of Inuit and western worldviews; while improving Inuit education

inherently involves conforming to western society in order to influence the future, it is simultaneously embedded in Inuit ways of engaging with and preparing for the future. As such, *Chapter 6* argues that this response can be understood as contemporary form of Inuit resistance that served to deflect the decision into the future.

Chapter 2: Unsettling methodologies, the “impasse that we cannot overcome”

This chapter is underpinned by the tensions between the concept of unsettling and the methods employed in this thesis. It will outline the underlying issues embedded in research related to Indigenous peoples, elaborate on what it means to engage with the concept of unsettling, and detail the following, inherently western and colonial, qualitative methods: archival research, participant observation, and semi-structured interviews. This chapter is scattered with field notes that are an attempt to expose the reader to instances when I was forced to disentangle and deconstruct my own cultural assumptions; they are moments when I learned about myself and my own ways of knowing, being, and seeing the world.

Field note from November 12th 2015:

When I left home I was well aware that travelling in the North tended to be “weather permitting”, and that flights were often cancelled. But, as I got off the plane in Iqaluit, there was absolutely no doubt in my mind that this could possibly happen to me. Well it did. My connecting flight was cancelled, not delayed, cancelled, and the next flight out was not for two days. I wish someone could have recorded this moment; it was a combination of complete and utter shock, followed by what I would like to think of as concealed panic. Two days later I boarded a plane to Rankin Inlet, this time a little more suspect of potential delays, and rightly so. After an overnight in Rankin, we arrived at the airport where the runway had yet to be plowed. Nine hours later I finally arrived in Baker Lake, and it was pitch black.

This was the first in a series of encounters with the unpredictable and constantly changing nature of the Arctic, a place where nothing can or should be taken for granted. This instant foreshadows how nothing unfolded the way I had planned or expected, yet now, retrospectively, I could not imagine my time in Baker Lake going any other way. I was unknowingly, completely unprepared, and it was perfect. I was unprepared for the experiences that would become a part of me, the moments of joy, discomfort, and complete and utter awe.

Research and Indigenous peoples

The word “research” has been described by Indigenous scholars as a “dirty word” (Smith, 1999:

i). In this sense, history, writing, and theory are all problematic because they point to the countless ways through which Indigenous knowledge, language, and culture have been subdued or wrongly interpreted (ibid). According to Smith (1999), western research has a distinct set of values, cultural orientation, conceptualization of time, space, and subjectivity, theories of knowledge, and power structures in comparison to emerging forms of Indigenous research.

One interviewee emphasized how people, referring to mainly Inuit in Baker Lake feel like “guinea pigs”, and how researchers come up to Baker Lake for a short-period of time, get what they “need”, “leave”, and the community never hears from them again. From the outset of my thesis work, the question that plagued my mind was how will the community benefit from my research, a question that is pervasive and foundational to conducting ethical research in the Arctic. Although I do intend to circulate a plain language summary of my findings through the community, the extent to which my work will make a meaningful contribution to anyone’s life other than my own is, in my view, limited. I felt as though I was going into a community, taking something, or “extracting” knowledge, for my own personal benefit and leaving. In a conversation with an Inuk friend about this issue, she told me that it was my job to go to Baker Lake and absorb as much as I could about life in Nunavut then come back home, digest everything, and share my experiences with others. “Tell them about the beauty of our territory”, she said, “but also tell them about the hardships facing our communities”. Along with addressing my key aims, objectives, and research questions, these words have guided my research approach. It is my intention to share the stories that people in Baker Lake shared with me, in a way that

reflects the welcoming, kind, honest, open, and generous interactions I had with the people I met in Baker Lake.

Unsettling myself

Dan McCarthy (2015) emphasizes the importance of acknowledging one's privilege when engaging with research that involves Indigenous peoples, specifically how I, as a Qablunaat pursuing graduate studies, continue to benefit from institutions that are rooted in colonialism. Moreover, I think it is also important to acknowledge how my learning has been shaped by colonial structures of knowledge production (Cameron, 2015), and be attentive to the ways in which this knowledge surfaces in my research approach and understanding of the situation. For instance, through carefully constructed research questions and process, I sought to fill knowledge gaps by accumulating, analyzing and interpreting knowledge; I was relating to knowledge solely as information, I did not yet understand, as the following section will detail, the importance of acknowledging the relational aspects of knowledge. Instead, I was fixated on what could be known about the situation (Jasanoff, 2007), and the 'solution' to my lack of understanding was more research.

My presence in Baker Lake carried meaning; I was in a position to pursue graduate studies and travel to Baker Lake. The encounters I had during my field season cannot be understood as isolated moments. As Deborah Bird Rose emphasizes, "no one arrives empty handed...we bring with us our histories, our cultures and our commitments" (Rose, 2014: 2). Qablunaat are not neutral or benevolent, rather, relationally, we are entrenched in hierarchical and racialized structures of power (Cameron, 2015). Zinn (2008) points to the salience of an awareness of existing power differentials and the importance of being reflexive about what informs the story I am telling:

Whatever we think we are writing, and whatever we choose to research, the power relationship we have with the people we write about becomes as much a focus of our attention as the “raw data” we analyze. That is to say, researchers must be aware of themselves as writers, empowered to tell stories about the stories that their interviewees tell them. They must be reflexive. (Zinn, 2008: 140)

Emilie Cameron (2015) describes an approach to conducting research in this context: “for settlers, *unsettling*—imaginatively, materially, politically—is an essential and ongoing task. We must learn to know less, claim less, to listen, and to stop” (20). In this sense, I intended to conduct my research in a way that was humble, kind, just, respectful, and sensitive towards what it means to be Inuit (Cameron, 2015). Throughout my research, it was and continues to be my intent to engage with the concept of “unsettling”, with the hopes of deconstructing the limitations to my own and being more open to hearing the stories and underlying narratives that were shared with me.

Prior to arriving in Baker Lake, this research project received approval through Queen’s University General Research Ethics Board (GREB REF#: GENSC-078-16). This approval ensures ethical compliance with the Tri-Council Guidelines and Queen’s ethics policies involving human participants. In October (2016) my Nunavut Research Institute (NRI) Research Permit was approved (License# 03008 16N-A) (see Appendix A). The application was translated into Inuktitut by an Inuk translator who was initially from Baker Lake. The NRI then forwarded my application to the Hamlet of Baker Lake for comments. Prior to submitting my application, I was expected to contact community representatives in order to identify support or concerns for the proposed project. During the summer of 2015 I was directed by Moshia Cote from the NRI to contact the Baker Lake Hunters and Trappers Organization (at bakerhto@qiniq.com), however the email that was sent did not elicit a response. At this time, I also contacted the Hamlet of Baker Lake by telephone, which did not result in an opportunity to discuss support or concerns.

In February of 2016 a letter was sent to the Hamlet of Baker Lake and the Baker Lake Hunters and Trappers Organization (see Appendix B). The intent of the letter was to engage with the Hamlet and the Hunters and Trappers Organization in a different way; no responses to the letter were received. After a few interactions with the Hamlet while I was in Baker Lake, it became obvious to me that responding to emails and letters from a southerner who may or may not come to the community was understandably not a top priority in the long list of pressing and overwhelming responsibilities.

What my proposal writing, archival research, and ethics approvals did not prepare me for was the discomfort that accompanied research. The discomfort of my own privilege in the face of stark inequalities, the discomfort of hearing stories so shocking that I did not know how to respond, the discomfort of not knowing where to go, what to do, or how to be in the community, or the discomfort of walking into the recreation centre filled with hundreds of people and knowing that everyone was wondering who I was. But what fieldwork did teach me was how to begin to be comfortable with discomfort and learn from this discomfort. Regan (2010) describes how the process of unsettling is itself unsettling, it requires a willingness to struggle with our own discomfort and enter a “space of not knowing” (18). This uncomfortable space requests vulnerability, humility, and a desire to engage differently with western histories, identities, and epistemological assumptions in order to begin to understand our own colonial complicity (ibid). Yet, as the following section will explore, engaging with this ‘not knowing’ reveals a deeper epistemological tension encountered, one that is reflective of an awareness of how this research, as unsettling as it attempts to be, is itself an act of knowledge production that perpetuates colonial relations.

Qualitative methods

Cameron (2015) suggests that western scholars cannot escape the colonial context in which research is situated, nor should they claim that their forms of knowledge production exist outside of colonial relations; she notes that “it is the impasse that we cannot overcome” (30). She points to the tensions embedded in conducting research in this context:

Although we accept that knowledge is itself the terrain of colonization, we do so—unsurprisingly—within the terms of our own epistemologies, and with an understanding of knowledge as something that can be accessed, accumulated, interpreted, and conveyed without attention to its relational context. This understanding of knowledge reinforces the notion that we might identify particular topics, methodologies, theoretical frameworks, and modes of writing that will somehow avoid reproducing and retrenching colonial relations. But in conceptualizing knowledge and knowledge production on these terms, it seems to me that we reinforce and understanding of knowledge that is itself problematic. In seeking to *replace* troubling forms of knowledge production with new, better, correct alternatives, we continue to relate to knowledge as information. (Cameron, 2015: 30)

Cameron (2015) notes the problems with relating to knowledge solely as information, as this conceptualization fails to capture the relational nature of knowledge. Moreover, she emphasizes how western epistemologies understand not knowing as a lack of information. On the other hand, Cameron (2015) suggests a framework that understands not knowing as “an epistemology and mode of relation in its own right” (30). While this section details the modes of knowledge production, it attempts to do so in a way that is attentive to the messy relationship between producing knowledge, not knowing, and unsettling. It will detail how throughout the research process I came to understand the power and importance of acknowledging that I could not know certain aspects about the situation, and that this acknowledgement should guide any form of knowledge production about northern communities.

Qualitative research explores “the subjective meanings through which people interpret the world, the different ways in which reality is constructed (through language, images and cultural artifacts) in particular contexts” (Jupp, 2006: 3). Qualitative research is predicated on the

assumption that the nature of reality is contested and therefore critical of the notion that objective ‘truths’ about the world we live in exist (ibid). In this sense, qualitative methods have been useful to explore the subjective meanings and interpretations of events, processes, and phenomena related to the uranium mining controversy in Baker Lake. Moreover, these methods have provided the space to explore, always relationally, aspects of life in Baker Lake (i.e. feelings, perceptions, values, and experiences) that are not amenable to quantitative measurement (ibid), yet remain crucial to understanding the situation at hand. This study employed methodological triangulation, which involves using more than one method to enhance the validity and credibility of data collected, specifically through verification between multiple sources. Qualitative research methods included archival research, participant observation, and semi-structured interviews. The following sections will detail these methods with an emphasis on how the concept of “unsettling” inherently conflicts with the methodological underpinnings of this research.

Archival Research

Archival research, before, during, and after fieldwork, has added depth to interview and observational data by providing me with historical and contemporary context as well as insights into industry representatives, government officials, Inuit organizations, and community residents’ positions. It has involved analysis of historical records, journal articles, media articles, meeting minutes, public registries, policy documents, regulatory documents, and industry and community organizations’ webpages.

Through the Nunavut Impact Review Board’s (NIRB) public registry, I was able to access transcripts from the Kiggavik Project’s Final Hearings, which included information related to the

project, questions, responses, comments, and concerns from industry, government, Inuit organizations, NIRB members, and community members. The main media sources frequented were Nunastiaqonline, Northern News Service Ltd., and CBC North. Non-governmental organizations that were involved in the controversy such as Makita, Mining Watch, and World Wildlife Foundation webpages also provided valuable contextual and positional information. One surprising source of information was social media, mainly Facebook. Although information from social media sources was not used directly in my thesis, information and opinions in the comments section helped me understand the salience of certain topics. At this point, I thought I understood the controversy. This understanding completely dissolved when I arrived in Baker Lake. I realized very quickly that I had projected my own set of values and preconceived assumptions into my research. I thought I knew what was important to the community, even though I had never been to the community, a completely ludicrous assumption. For instance, how was I to know the importance of caribou having never eaten it, been to a community feast, hunted a caribou, or been out on the land?

Participant Observation

Crang and Cook (2007) explain the tension between participating and observing: participation involves the immersion in culture, developing relationships, and being actively involved, while observation implies objective detachment from the culture when recording and analyzing unfolding interactions and events. Therefore, this method forces researchers to become “instruments of both data collection and analysis” (Bernard, 2006: 344). Building rapport—another way of describing “impression management”—is essential during participant observation (Bernard, 2006). This process involves building trusting relationships with the community; key components include active listening, being empathetic, respectful, and truthful, and

demonstrating a commitment to the well-being of the community (Kawulich, 2005). Being open and honest about what I was doing, but also that I was interested in learning about people as people and not as objects of study.

Participant observation emphasizes the importance of becoming actively involved in the community, as a participant not just a researcher (Dewalt and Dewalt, 2010). During my time in Baker Lake I attended community feasts, community square dances, the Christmas talent show, helped coach the high school basketball team, volunteered at a soccer tournament, played intramurals, volunteered with a pre-employment training program at the Arctic College, went to the gym at the recreational centre, and walked around town. The interactions and conversations I had during these activities helped piece together a picture of life in Baker Lake. Moreover, these activities showed me a friendly, kind, connected, and welcoming nature within the community. My participation in these activities helped to make myself known to the community, or at least that is what I thought. But really, unknowingly at the time, I was known to the community as the girl who ran outside “in the weather”. This example reflects how the people of Baker Lake were simultaneously undertaking analyses of me through their own form of participant observation.

According to Bernard (2006), simply “hanging out” is one of the most valuable skills to gain rapport. Some of the most insightful, heart-breaking, and intimate stories came to light in these moments, many of which brought to life the daily social struggles facing the community of Baker Lake. I lived with an incredibly kind, welcoming, and loving family in Baker Lake from November 13, 2016 until December 13, 2016. The time I spent with this family may have been considered “participant observation”; it helped me learn about the explicit and implicit

dimensions of the daily lives and culture of people in Baker Lake, particularly the importance of family and the strong community cohesion. However, I would like to be careful about reducing this experience to simply a “method”. I think this also applies to many of the other encounters I had with people in the community. The relationships that I built during my time in Baker Lake were founded on trust, openness, and honesty. They were by no means one way relationships. Many people were interested about my life down south just as much as I was interested in their lives in Nunavut.

The “go-along” is a hybrid method between participant observation and interviewing. It involves “accompanying individual informants on their ‘natural’ outings, and—through asking questions, listening and observing—actively explore their subjects’ stream of experiences and practices as they move through, and interact with, their physical and social environment” (Kusenbach, 2003: 461). It is a more focused form of hanging out that helped me understand the spatial organization and layout of the community as well as the meaning attached to those places (Cater, 2013; Kusenbach, 2003). These encounters included both ‘walk-alongs’ (i.e. out ice fishing on the lake) or ‘ride-alongs’ (i.e. what community members referred to as “drive around town” and snowmobile rides along the lake). The dialogue that accompanied these “go-alongs” was never audio-recorded, rather after these events occurred I wrote field notes from memory. For instance, on a few occasions people showed me different neighborhoods in Baker Lake. Two that stood out were “Indian Village” and “Chinatown”; no one knew where these names came from, yet these names tended to be accompanied by laughs and eye rolls. I was surprised how intermeshed western and Inuit cultures were in Baker Lake. One strikingly visible example was how I saw

children running around with beautiful hand-sewn parkas that had Disney characters, hockey team logos, or Skidoo symbols on them.

Field notes and photographs were the main forms of data collection associated with participant observation (Bernard, 2006). The cold temperatures presented a challenge to taking photos; the battery on my phone, iPad, and camera died frequently. Sites of observation included various formal and informal settings including the recreational centre, the Hunters and Trappers Office, the Jessie Oonark Art Centre, the Arctic College, the Northern Store, as well as the homes of many welcoming people.

Semi-Structured Interviews

The information acquired from qualitative interviews extends beyond what is simply observable. Interactions and dialogue form the basis for everyday lived experiences. Conversations can produce valuable descriptions that provide insights into social phenomena (Leavy and Brinkmann, 2014). Qualitative interviews are a research method utilized to explore this form of knowledge. Rubin and Rubin (2005) describe the relationship between the researcher and interviewee as a “conversational partnership”, and emphasize the importance of recognizing “the uniqueness of each person with whom you talk, his or her distinct knowledge, and the different ways he or she interacts with you” (14). Viewing interviews as “conversational partnerships” allowed me to be attentive to the particularities of the individual, and thereby, create a comfortable interview environment for them to express their views, concerns, and opinions. The common concepts, themes, and events that emerged during these interviews were then considered within the context of the information gathered during this “conversational partnership” (ibid: 14).

There are multiple forms of qualitative interviews ranging from formal to informal; these are commonly classified as structured, semi-structured, or unstructured interviews. Semi-structured interviews are considered to be the standard and likely the most widespread approach to qualitative interviewing and the approach used in this research (Leavy and Brinkmann, 2014). Semi-structured interviews follow a general script or interview guide and involve asking open-ended questions with the intention of understanding how the interviewee experiences the world, reconstructing events, and exploring the meanings underlying people's lives (Rubin and Rubin, 2005). Unlike structured interviews, these interviews enabled me to become actively involved in the process and facilitate dialogue through follow-up questions, which resulted in more knowledge-producing opportunities (Leavy and Brinkmann, 2014). I recorded all interviews (with each informant's written consent) in order to ensure the accuracy of responses (see Appendix C for interview guide). Interviews started off with questions about life in Baker Lake; I asked interviewees about each informant's family history, what they liked about Baker Lake, what made it special, and what they did not like. This was followed by questions related to current mineral development in the region, and how it affected the community, traditional practices, values, and lifestyles. Subsequent questions related more specifically to uranium mining (i.e. worries and concerns related to uranium mining, interactions with AREVA, historical and contemporary resistance in the community, and NIRB hearings). Interviews ended with questions about whether or not they saw uranium development as a part of the future of Baker Lake.

Although conducting qualitative interviews can produce a rich source of data, there are several limitations to this method. Firstly, there are the limits of narrativity: interviews do not fully capture certain forms of non-verbalized knowledge (i.e. pre-reflexive knowledge), and interviewees may not wish to discuss certain topics (Kusenbach, 2003). A second limitation is the structured interview setting, which tends to discourage natural interactions between the interviewer and interviewee (ibid).

Prior to my field season and as part of my Nunavut Research Institute license, I had contacted (via phone calls, emails, and letters) the Hamlet of Baker Lake, but I never received a response. Once I arrived in Baker Lake I realized that most people are not active on email. I directly contacted a few people, whose names came up in media reports and the Final Hearing transcripts, through Facebook, telephone, or in person. This was the starting point for my interviews. Snowball sampling involves participants recruiting people through their social networks. This was a key method through which I was able to successfully recruit interviewees. Additionally, I put up posters in various locations (i.e. the Northern Store, Arctic College, Jessie Oonark Art Centre, and the recreational centre). I also wrote a notice on the Baker Lake Community Events Facebook page and an announcement on the radio. Although these may have helped create awareness in the community, they resulted in no interviews. Direct contact with individuals proved to be the most successful approach.

Before most of my interviews I offered to have a conversation with individuals about what my project entailed. Many of these interactions turned into long and in-depth conversations about the Kiggavik Proposal as well as other key tangential topics such as education, employment, cultural

practices, wildlife, and the Land. However, in many instances, once informants agreed to participate in a recorded semi-structured interview, responses were less detailed and they did not discuss certain topics, even when probed, that they had mentioned in the initial interaction. The conversations that occurred prior to the interview did not involve a question and answer-style interaction, rather they were simply informal conversations where the individual tended to talk about their experiences and what they thought I should know about the contemporary and historical uranium development proposals in the region. Knaus and Hund (2015) note that Inuit children are taught through observing rather than direct questioning. In retrospect, the question-answer style approach may not have been the most culturally conducive approach for some Inuit interviewees. Additionally, some informants preferred not to provide their personal opinions, and instead focused on how they thought the community felt.

A total of 22 interviews were conducted for this research project; all interviewees lived in Baker Lake, and 19 of the interviewees were Inuit. All of these informants spoke as residents of Baker Lake, and preferred that their responses not be associated with their place of work. In this thesis interviewees remain anonymous. Only non-identifying information, dates, and location are included in quotations. The longest interview lasted 66 minutes, while the shortest lasted 23 minutes; the average interview time was 40 minutes. Given the short duration of my time in Baker Lake and the relatively small number of interviews, it is important to recognize that the knowledge informing my analysis is very much situated and in many ways limited; it represents a snapshot in time.

The Space Between

Field note: December 13th

I don't even know how I feel about everything. One day I was in Baker, the next day I just left. Just gone, took off. Left everyone behind and I think a piece of my heart. It was whirlwind of adventures. I feel this combined happiness and sadness that I think could have only hit me once I left.

I was ready to go home, but I was not ready to be home. I was not ready for the plane to land. I felt like I needed to be in the air a bit longer to digest everything. I felt like I was in between two worlds. I was not ready to connect with my family and friends back home, nor did I want to be in Baker Lake anymore. I was ready to leave, but not ready to arrive home. I felt torn between two very different yet in many ways similar worlds. Mary Louise Pratt (1992) describes “contact zones” as “social spaces where disparate cultures meet, clash, and grapple with each other, often in highly asymmetrical relations of domination and subordination” (4). This term recognizes how colonialism continues to be “lived out” in many places, and is reflective of the contemporary reality of Nunavut. The time I spent in Baker Lake was a glimpse of the forces, conflicts, and transformations that continued to be lived out in this “contact zone”. While this glimpse has heightened my attentiveness to my own privilege and helped me uncover my own cultural assumptions, it has done so from a place that has sought to learn from Inuit. Drawing on the concept of “unsettling”, Regan (2010) expands on this point: settlers must “embrace the uncomfortable epistemological tension that comes with the realization that they can never fully know the Other; nor should they aspire too” (26). Regan (2010) emphasizes that this process of not knowing enables settlers to know themselves; we, as settlers, need to turn our attention to ourselves, our complicity, and our own, and often problematic, views of the Other.

Data Analysis

Data analysis is the process of transforming “raw” data into evidence-based interpretations (Rubin and Rubin, 2005). Data analysis was performed in an inductive thematic manner; themes and key issues “emerged” from the data (Reeves et al. 2008). According to Rubin and Rubin (2005), data analysis occurs throughout the research process; analysis needs to be flexible and ongoing so that the researcher can adapt their approach in order to pursue emerging ideas. For instance, throughout my interviews “education” emerged as a key theme in relation to uranium development in the region. This flexible approach allowed me to change the framing of certain interview questions. Gaviria (2015) described how during a workshop on learning and teaching, a facilitator explained how “Inuit people do not understand knowledge in terms of individual abstraction of information. Instead, they see knowledge as living wisdom that happens in the space in-between relationships” (113). In this sense, Cameron (2015) emphasizes the insightful role that stories can play in understanding the relational character of the Arctic:

The Arctic is in fact deeply relational and always has been; it is constituted both imaginatively and materially by networks of people, ideas, and things. These networks, moreover, are made sensible, legible, and political through stories. (12)

These understandings have guided my approach to data analysis; the stories that were gathered were not decontextualized from the interviewee. The interactions I had with interviewees were rarely limited to the interview alone, therefore examining the interview as an isolated piece of data would fail to capture other important components such as employment status, personality traits, tangential stories and information, and relationships between interviewees. This approach proved valuable in many ways, particularly as it provided me with context in terms of interviewees’ responses (i.e. an awareness of the social challenges facing certain interviewees and how this may in some cases act as an impediment to engagement in the issue at hand) as well

as their stakes in the issue.

Once data was transcribed, data analysis involved identifying key concepts, themes, and events apparent in field notes and interview transcripts. These included: fear, not knowing, uncertainty, environmental impacts (i.e. caribou, freshwater, and long-term management of waste), employment, social, cultural loss, infrastructure, the Meadowbank Mine, historical uranium exploration activities and resistance, education, trust and distrust, specifically towards mining companies and government, and hopes for the future. These themes were highlighted in various colours in Microsoft Word. The next step involved classifying, comparing, combining, and weighing information to identify various meanings, implications, and patterns attached to these themes (Rubin and Rubin, 2005). Lastly, the final synthesis, as described by Rubin and Rubin (2005), involved combining these concepts and themes to produce an analysis of the ways in which the uncertainty surrounding the Kiggavik Proposal was experienced at the community-level and its consequences. This analysis is deeply relational; it has been informed and reformed by a variety of relations that have crossed physical, emotional, material, and discursive terrains. “Unsettling” has been and continues to be ongoing process (Cameron, 2015), for me, it is far from complete. As such, this thesis contains retentions of my entrenched settler understandings of the world, which are numerous. Read with caution.

Chapter 3: (Un)knowing the ‘known’

The previous chapter explored the messy relationship between producing knowledge, not knowing, and unsettling. Building on this conflicted space, this chapter seeks to attend to the myriad of ways through which what constitutes the ‘known’ and ‘unknown’ is framed, contested, legitimized, negotiated, and defined (or not). The theoretical perspectives outlined in this chapter will point to the importance of deconstructing knowledge claims in order to relate to what we know differently (Cameron, 2015), that is, ask different questions, think in different ways, explore the data from various vantage points, and ultimately (un)know what we, as Qablunaat, think we know. Emilie Cameron (2015) speaks to the relational nature of “the necessity of knowing differently” (214):

My intention is to enact an altogether different relationship with knowing and not knowing that involves both radically placing what we do know and relating more respectfully, responsibly, attentively, and quietly to all that we do not know. By “placing”, I refer not just to subject position or perspective, but to *placing* in a more fundamental relational, contextual, material sense, which invariably means acknowledging that we know far less than we think we do. Such is the beginning of a process of *displacing* Qablunaaq knowledges and claims, and of relating differently to knowledge. (36)

These processes of *placing* and *displacing* reflect an understanding that knowledge is embedded in relationships, and “knowing and not knowing have consequences” (Cameron, 2015: 35). In order to explore these consequences from a relational standpoint, this thesis approaches the controversy in a way that accounts for the multiplicity of experiences, stories, histories, events, forms of power, imagined futures, and relations that have become embedded in the controversy. Studies in Baker Lake have focused on exploring the diverse, heterogeneous, and conflicting socio-economic and socio-cultural impacts related to relatively recent experiences with the mineral economy, specifically focused on the development of the Meadowbank Mine (Czyzewski et al. 2014; Makisimowski, 2014; Nightingale et al. 2017; Peterson, 2012; Rixen and Blangley, 2016). Moreover, several studies related to resource development in Nunavut have

identified a disconnect between community concerns related to resource development and what is addressed and captured in formal review processes (Bernauer, 2011; Bernauer, 2016; Jones and Bradshaw, 2015; Williams, 2015). This chapter will provide the theoretical framework to explore how this disconnect is underlain by diverging conceptualizations of resource development, its potential impacts, and ultimately what is ‘known’ and ‘unknown’.

Drawing on Andrew Barry’s concept of political situations, this thesis intends to situate the controversy within the complex and deeply relational historical and socio-cultural context in which it unfolded, rather than exploring it as a discrete case study or series of explicit knowledge claims. From the outset, risk and uncertainty have acted as a point of entry into the controversy as they enable an exploration of the diversity of ways through which various actors engage with, define, and contest what constitutes the ‘known’ and ‘unknown’. Tracing representations, experiences, translations, and responses to risk and uncertainty can help reveal other themes embedded in the issue at hand such as power asymmetries, trust, inequality, shifting identities, self-determination, diverging values, and the ongoing effects of colonialism. As such, this thesis draws on a number of theoretical perspectives that together help to deconstruct knowledge claims and enable an exploration of the space between different perspectives, histories, worldviews, and cultures. These theoretical perspectives along with their application to this thesis topic will now be discussed in greater detail.

Political situations

Knowledge controversies tend to focus on a specific dispute and the explicit knowledge claims—or set of claims—that constitute the issue. Yet, as Andrew Barry contends, “individual knowledge controversies are inscribed within a series of on-going disagreements and conflicts about matters that transcend the specificity of the controversy” (Barry, 2012: 325). In order to move beyond the claim that controversies are isolated and static events, Barry suggests the term “political situations”. “Political situations” offer a lens through which the indeterminate and contested boundaries of events can be examined; they describe the spatial and temporal extension of events into the past, the future as well as other spaces (Barry, 2016). Barry (2016) argues that analyses, including those of government, industry, researchers, activists, and lay-experts, become contained within a given political situation. As such, these situations are characterized by multiple disagreements associated with the histories, identities, geographies, and future implications of an event; for instance, what is known, what matters most, and the actual existence of an issue can be contested (Barry, 2012; Barry, 2016). Instead of conceptualizing events as reducible to a specific context, this framework promotes an understanding of how actors, ideas, practices, and material processes form and transform in relation to the controversy (Henri, 2012).

The complex and intricate controversy surrounding uranium development in Baker Lake is not an isolated or regional event; rather it contains retentions of the past, projections of possible futures, and extends far beyond the geographic area of the uranium deposit. For instance, colonial encounters, a land claim agreement, resistance movements, community-industry relations, uranium market price fluctuations, economic feasibility studies, technological innovations, potential contamination, landscape destruction, and tailings production, caribou

population data, climate change, long-term nuclear waste disposal, and global anti-nuclear movements form and reform the continually unfolding controversy. The concept of “political situations” enables an exploration of the indeterminate and in many ways contested boundaries of the uranium mining controversy in Baker Lake.

Threats, risks, and manufactured uncertainties

Ulrich Beck (2009) differentiates between threats, risks, and manufactured uncertainties, specifically how different eras engage with the unknown and cope with uncertainty. Generally, in what Beck defines as the pre-industrial era, threats, including natural disasters, plagues, famines and so on, were attributed to external forces such as gods or demons; these threats were void of human responsibility (Beck, 1999). It would have therefore been futile to impose preventative measures as threats were “passively” experienced. With the onset of industrialization—and thus the emergence of human-produced hazards—these societies transformed into societies of “calculable risk”; methods were established to make “unpredictable” risks “predictable” (Beck, 1999). In this sense, risks are “actively” experienced; probabilistic calculations and rational decisions become mechanisms through which humans intervene (Beck, 2009). However, as Brian Wynne notes, this intervention, this perceived ability to ‘calculate’ and ‘manage’ risk, contains an “implicit projection of an exaggerated degree of control” (Wynne, 2007: 7).

Manufactured uncertainties reflect the emergence of a new form of contemporary risk. These risks are no longer calculable; they consist of a limited degree of insurability, controllability, accountability and causality; they are a product of decision-making; and they cross boundaries of both time and space (Beck, 1999). Manufactured uncertainties incorporate dimensions of risk,

knowledge, and unawareness; the development in the quantity and quality of knowledge generates new types of risks and simultaneously expands the scope of uncertainty and unawareness (Beck, 1999). Extensive landscape destruction, surface and groundwater contamination, the production of massive quantities of toxic and radioactive tailings and waste rock, tailing dam failures, the proliferation of nuclear weapons, potential nuclear reactor accidents, and the long-term management of nuclear waste can all be traced back to the decision to mine uranium (Bridge, 2004; Winfield et al. 2006). In practice there are ways to insure, calculate, control, and mitigate the potential damages associated with these impacts. Yet, in many cases, they fail to capture the complex and inherently unpredictable characteristics of these impacts. For instance, court cases attempt to make causal links between environmental impacts and mining activities (i.e. how exploration can adversely affect caribou population and infringe upon Aboriginal rights), yet in many cases it is difficult to attribute these impacts to one single cause. Tucker (1995) contends that disputes over causation tend to be driven by politics and often result in trivial outcomes. Another example would be waste management plans: tailings management facilities are designed to isolate tailings from the environment for thousands of years, yet their long-term effectiveness remains largely uncertain; the possibility of unforeseen extreme natural disasters, accidents, management failures, and human error can amplify potential environmental impacts (Committee on Uranium Mining in Virginia et al. 2011). The emergence of manufactured uncertainties points to a central paradox: science and technology have become central to the identification and management of risks, yet as they fail to control and contain these manufactured uncertainties their integrity has become delegitimized (van Loon, 2002). Indeed, the pervasiveness of manufactured uncertainties in contemporary society reflects how the

structures and institutions “designed to control produce uncontrollability” (Beck in Yates, 2001: 99).

Situations of uncertainty

Similar to Beck (2009), Callon, Lascoumes, and Barthe (2009) describe risk as an identifiable danger associated with an event or series of events where the potential outcomes and the probabilities associated with those outcomes are—by definition— ‘known’. In situations characterized by risk, “possible states of the world” or “conceivable scenarios” (Callon et al., 2009: 20) are describable, yet whether these events will be realized in the future remains unknown. Callon and colleagues (2009) identify three conditions under which a rational decision can be made in the face of risk: an exhaustive list of these possible states of the world can be made; all entities that constitute these possible worlds have been identified; and an assessment of the interactions between these entities is feasible. In most cases it is difficult, if not impossible, for all these conditions to be met, and, consequently the concept of risk cannot be applied to situations that exist outside of these conditions, situations of uncertainty. Callon and colleagues (2009) elaborate on these situations:

We cannot anticipate the consequences of decisions that are likely to be made; we do not have sufficiently precise knowledge of the conceivable options, the description of the constitution of possible worlds comes up against resistant cores of ignorance, and the behavior and interactions of the entities making them up remain enigmatic. The conditions required for it to be relevant to talk of risk are not met. *We know that we don't know, but that is almost all we know: there is no better definition of uncertainty* (21 (emphasis added)).

Indeed, situations of uncertainty threaten ‘rational’ decision-making, as they escape conventional methods of prediction applied to instances characterized by risk. Similarly, the emergence of manufactured uncertainties undermines structures, institutions, and processes that are designed to ‘control’ and ‘manage’ their consequences (Beck, 2009). As such, the question of how

conceptualizations of risk and uncertainty influenced the decision to not approve AREVA's proposal must be considered within the context of situations of uncertainty, manufactured uncertainties, and the contested and controversial spaces in which they are situated.

Socio-cultural dimensions of risk and uncertainty

Boholm (2003) contends that “the concept of risk can be understood as a framing device which conceptually translates uncertainty from being an open-ended field of unpredictable possibilities into a bounded set of possible consequences” (167). Risk is an attempt to manage and conceptualize future uncertainties, without uncertainty risk simply would not exist (ibid). As such, any conceptualization of risk is inherently embedded with conceptualizations of uncertainty. Risk is typically analyzed as an epistemological issue; risks can be positioned on a continuum between ‘real and objective’ and ‘socially constructed’ (Zinn, 2008: 8). Conceptualizing risk and uncertainty as ‘real and objective’ assumes that risks can be experienced, produced, and measured by ‘experts’ (Lupton, 1999; Reith, 2004). This technoscientific approach attempts to predict, control, calculate, and manage risks through the use of technical risk assessments and cost-benefit analyses. Yet, even within this approach what is considered a ‘risk’ and who is considered an ‘expert’ are linked to sociocultural processes (Lupton, 1999). Boholm (2003) argues that “social relationships, power relations and hierarchies, cultural beliefs, trust in institutions and science, knowledge, experience, discourses, practices and collective memories all shape notions about risk or safety” (175). In this regard, risks cannot be removed from their social, cultural, political, and historical context (Lupton, 1999).

Risk analyses tend to employ realist conceptualizations of risk, that is, the view that risks are objective, quantifiable, and exist outside of the analyses; as a result, these analyses fail to

account for other types of incomplete or contested knowledge within the system (Wickson, 2007). This can result in various cultural, social, and psychological factors becoming implicit or hidden in decisions involving risk and uncertainty. For instance, the nature of the risk (i.e. whether it is voluntary, familiar, controllable, potentially catastrophic, and/or reversible) and how the risk is framed, which depends on underlying values, views, and assumptions, can influence both the perception and assessment of risk (ibid). Furthermore, realist approaches to risk analysis do not address different types of uncertainty that escape methods of prediction, calculation, and management, and, consequently, attempts to regulate risk based solely on expert knowledge have been described as “reductionist and conceptually inadequate” (Jasanoff, 1999: 137). In an interview with Joshua Yates (2001), Ulrich Beck elaborates on the role that social and cultural judgments play in expert risk analyses:

Even “objective” risks contain implicit judgments about what is right. Technical experts have lost their monopoly on rationality in the original sense: they no longer dictate the proportions by which judgment is measured. Statements of risk are based on cultural standards, technically expressed, about what is *still* and what is *no longer* acceptable. When scientists say that an event has a low probability of occurring, and hence is a negligible risk, they are necessarily encoding their judgment about relative payoffs. So it is wrong to regard social and cultural judgments as things that can only distort the perception of risk. Without social and cultural judgments, there are no risks. Those judgments constitute risk, although often in hidden ways. (101)

This statement emphasizes how risk emerges from social and cultural judgments: ‘objective’ risks are inherently value-laden. Beck makes a critical point about how technical experts’ implicit judgments are contained within their assessment of what is an ‘acceptable’ risk. Impact assessments, such as those embedded in the uranium mining controversy in Baker Lake, involve identifying and predicting impacts of proposed development projects. This involves deciding whether effects are adverse; deciding if adverse effects are significant; and, finally, deciding if significant adverse effects are likely (Baker and Rapaport, 2005). These decisions inherently contain social and cultural judgements of what constitutes an adverse and significant impact. Additionally, these impact assessments tend to be conducted by the proponent of development

(ibid), and, therefore contain underlying values, views, stakes, and assumptions, which influence the assessment of risk (Wickson, 2007).

Risk discourse, specifically the specialized language embodied in technical quantitative risk assessments and cost-benefit analyses, serves to distribute power in society by legitimizing certain knowledge as expertise while simultaneously rejecting others as irrelevant (Jasanoff, 1998). When a specific risk discourse is incorporated into issue framing it creates a system whereby one can become aware of certain aspects and simultaneously desensitized to others (ibid). According to Jasanoff (1998), “such frames turn to delimit the universe of possible scientific inquiry, political debate, and policy options; yet they remain in many ways invisible to people operating within the frame” (96). Therefore, in order to fully understand the political situation and its contested boundaries, it is essential to examine perspectives and experiences that operate outside of and are excluded from the dominant risk discourses that pervade impact assessments.

Mary Douglas’ anthropological work on the symbolic dimensions of purity and danger has been foundational to the cultural/symbolic approach to theorizing risk. Moreover, Douglas’ work can help reveal why some risks acquire attention and become significant, while others fade from view. Risk, for Douglas, is a strategy to deal with danger and Otherness¹³ (Lupton, 1999); ‘real threats’ are ‘socially transformed’ into risks in order to maintain socio-cultural boundaries (Zinn, 2008). These boundaries can be conceptualized similarly to those of the human body; notions of

¹³ Otherness is capitalized in order to refer to a specific definition. Here, Otherness is understood as not only “that which is placed directly in opposition to the self/us, as part of binary opposition, but also that which is uncertainty, confusing and blurs the ordering of binary oppositions—the hybrid and the liminal” (Lupton, 1999: 131).

what should exist ‘inside’ and ‘outside’ of the fleshy layer of skin are reflective of how societal boundaries are regulated by distinguishing between the ‘self’ and ‘Other’¹⁴ (Lupton, 1999; Zinn, 2008). In *Risk and Culture*, Douglas and Wildavsky (1982) argue that just as nature was politicized in pre-industrial eras, the selection of risks is a heavily politicized process in modernity. Certain threats are selected as the most concerning and deemed to be ‘risks’ based on judgments that align with the values of a particular culture (Lupton, 1999). Risk selection is a mechanism to protect a distinct way of life; according to Douglas and Wildavsky (1982), “the choice of risks and the choice of how to live are taken together. Each form of social life has its own typical risk portfolio. Common values lead to common fears” (8). A risk portfolio includes—out of all the possible dangers—the risks that acquire attention. They are the risks that a social group chooses to collectively worry about based on moral judgments and cultural norms. Controversies over risk arise when there is a disagreement surrounding what is considered to be an acceptable risk (ibid). The questions of what is considered an acceptable risk, to whom, and for what reasons will be explored as a means to reveal diverging values within and between actors involved in the controversy surrounding uranium mining in Baker Lake.

While Douglas emphasizes how risk selection is embedded in values, moral judgments, and cultural norms, Beck (1999) explores the processes through which risks garner attention, significance, and meaning. Beck (1999) describes how conceptualizations of risks exist in a state between security and catastrophe; risks are only relevant if they are anticipated, and they cease to be risks if the potential event is actualized. Beck (2009) contends that risks become “socially

¹⁴ The ‘Other’ is capitalized to distinguish for its common definition. The ‘Other’ is defined as “that which is conceptualized as different from the self” (Lupton, 1999: 124); it “represents the unknown and the threat of loss of one’s own identity through contact with this unknown, the dissipation of boundaries and the realization of our own limits” (Lupton, 1999: 129). Here, the ‘Other’ is not used in a theological sense.

experienceable” through narratives, that is, through the expression of connected events, through stories. In this sense, risks become relational to previous events, which then become understandable, conceivable, humanized and therefore socially meaningful. Although this “experienceability” represents a key dimension of the social construction of risk, Beck (2009) emphasizes how we must also consider how collectively shared perceptions are produced through visualization and signification techniques. Beck (2009) claims that risks become visible and credible through “not only computer science, scenario-constructions, photographs and pictures, but also power, belief, [and] fidelity” (299). Following this process of visualization is signification, which can be described as “entering into a symbolic order...for nothing is merely revealed as itself” (Beck, 2009: 299). For Beck (2009) the processes of narration, visualization, and signification produce an understanding of, and attach meaning to, the potential catastrophic consequences of industrial production, thereby becoming embedded within lived experiences. These processes identified by Beck (2009) will help enable an exploration of the embedded experiences of risk and uncertainty at the community level as well as the ways in which people attached meaning and value to these potential events and impacts (Beck, 2009).

Socio-technical controversies

The Kiggavik Proposal is reflective of what Callon, Lascoumes and Barthe refer to as a socio-technical controversy, which tends to focus on zones of uncertainty. Socio-technical controversies are engendered by both technical and social uncertainties; the line between what is considered to be technical and what is social fluctuates throughout the controversy, and it is this dynamic that drives the controversy. Similar to the continually evolving political situation (Barry, 2013; Barry, 2016), the direction in which these controversies will unfold is largely unknown and unpredictable; it depends not only on the nature and degree of these uncertainties,

but also how some uncertainties are lessened and disappear, while others proliferate (ibid). These transformations can be linked to myriad factors such as what groups enter the debate, what alliances are formed, what technological options are eliminated or revealed, and what type of information is being circulated.

The occurrence of uncertainty becomes useful when we trace its construction, representation, and translation to specific social relations (Shackley and Wynne, 1996). Table 1 outlines key uncertainty translation processes identified by Shackley and Wynne (1996). In the context of scientific uncertainty related to climate change, Wynne and Shackley (1996) explore how uncertainty is translated into representations that are flexible enough to conform with both policymakers’ and scientists’ assumptions related to uncertainty; it is precisely in this intersection between social worlds where the following uncertainty translation processes occur.

Translation Process	Description
Clarification and Management	Mechanism for ordering and interpreting uncertainty. Controlling the possible harmful outcomes by limiting uncertainty.
Reduction	Decreasing uncertainties in order to increase the validity of knowledge claims.
Transformation	Various forms of uncertainty are represented as risk or uncertainty (i.e. indeterminacy is transformed into risk in order to manage it)
Condensation	All forms of uncertainty are classified as one undifferentiated category (i.e. indeterminacy is not ignored, but only one form of uncertainty exists)
Scheduling into the future	Uncertainty is translated into something that will be managed and reduced in the future, when the resources and knowledge exist to resolve them.

Displacement	The “responsibility” for a significant uncertainty is moved to another discipline, social world, or policy domain.
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Table 1: Uncertainty translation processes as described by Shackley and Wynne (1996)

These processes reflect an active engagement with uncertainty; they will enable an exploration of the various ways through which assumptions related to uncertainty were expressed, represented, and translated by various actors. Shackley and Wynne (1996) point to how these transformations served to produce representations of uncertainty that conformed to both policy-makers’ and scientists’ assumptions about uncertainty and consequently facilitated collaboration and cooperation between these two worlds. Yet, this thesis is more concerned with how disjunctures in representations of uncertainty and definitions of what constitutes the ‘known’ can result in conflict and controversy.

Sites of uncertainty

Drawing on the theoretical perspectives outlined above, the concept of sites of uncertainty will provide the analytical framework for the following two chapters. A site of uncertainty is a space—physical, temporal, emotional, material, relational, discursive and so on—that is occupied by a “state of not knowing” (Cameron, 2015: 34). These sites were not limited to uncertainty alone; Callon and colleagues (2009) contend that “there is a vast space between dismal ignorance and impeccable knowledge of the states of the world” (21). Moreover, as Cameron (2015) emphasizes, there are also different ways of engaging with and relating to the ‘unknown’. In Inuit cosmologies, the world is understood to be uncertain, ambiguous, and constantly changing. This contrasts sharply with western perspectives that value fixity, certainty and predictability (Cameron, 2015). These two diverging perspectives elicit starkly different responses to states of not knowing. In western epistemologies, not knowing tends to refer to an

absence, lack, or failure of knowledge (Cameron, 2015). Therefore, in many cases, the response to this state is to enhance the quality and scope of the knowledge base, as Shelia Jasanoff (2007) emphasizes:

The great mystery of modernity is that we think of certainty as an attainable state. Uncertainty has become the threat to collective action, *the disease that knowledge must cure*. It is the condition that poses cruel dilemmas for decision-makers; that must be reduced at any cost; that is tamed with scenarios and assessments; and that feeds the frenzy for new knowledge, much of it scientific. (2007: 33, emphasis added)

Jasanoff (2007) points to western modernity's preoccupation with knowing and claiming certainty. In Inuktitut, the word *qaujimanngit* aligns closely to this western understandings, referring to a lack of knowledge. Yet, there is another term for not knowing, *nalunaq*. *Nalunaq* refers less to knowledge and more to a "relationship with an uncertain state" (Cameron, 2015: 31). According to Cameron (2015), recognizing this state of *nalunaq* does not imply a lack or failure in terms of knowledge, agency, or capacity, nor is it reason enough to respond hastily. She details what she understands to be an appropriate response to this state:

First, to acknowledge the way things are. It is foolhardy to pretend to know or understand when one does not. Similarly, to act quickly without understanding a situation is to risk a great danger; acting without keen knowledge and understanding is worse than doing nothing at all...it is to remain open, attentive, and prepared to respond to the moment. Importantly, there is no value attached to being in a state of not knowing. It simply is, and one simply responds to the situation. (34)

Cameron (2015) emphasizes how this relational understanding elicits a cautionary relationship towards what is 'known' and how to act in these situations; this response does not imply a need to master a set of circumstances, rather it is reflective of a patient engagement with the future and an acceptance of the confusion, uncertainty, and limits that accompany this state (ibid).—These responses are reflective of diverging engagements with not knowing and claiming knowledge about the future. The sites of uncertainty framework facilitates an exploration of the various ways through which AREVA, government officials, Inuit organizations, non-governmental

organizations, and community residents represented, expressed, transformed, and responded to the ‘unknown’. The analysis that follows serves to expose the contested and deeply relational space between what constitutes the ‘known’ and the ‘unknown’.

Governmentality

Michel Foucault’s neologism “governmentality” was introduced to explore and describe “governmental rationalities”, that is, the ways we think about the practice of government (i.e. “who can govern; what is governing; what and who is governed”) (Gordon, 1991: 3). Studies of governmentality address how these practices of government are formed through thought, which is understood to be both spatially and temporally specific. As an analytical perspective, governmentality enables an exploration of how these practices draw upon specific forms of knowledge and ‘expertise’ from a multiplicity of ‘authoritative’ sources (Dean, 2010). Tracing the forms of ‘authoritative’ knowledge and ‘expertise’ that become a part of these practices can help reveal what other forms of knowledge and expertise have become subjugated, specifically in relation to what is known and unknown and according to whom. Dean (2010) suggests that practices of government need to be understood as “heterogeneous elements having diverse historical trajectories, as polymorphous in their internal and external relations, and as bearing upon a multiple and wide range of problems and issues”; they are “historically constituted assemblages through which we do such things as...educate, train and counsel” (Dean, 2010: 40). This understanding is critical to approaching education in Nunavut, and more specifically the plurality of practices and forms of thought and knowledge that are embedded in responses elicited by the Kiggavik Proposal.

Governmentality also refers to historically situated governmental rationality (Dean, 2010).

Foucault (1978) defines this specific form of governmentality as an “ensemble formed by the institutions, procedures, analyses and reflections, the calculations and the tactics that allow the exercise of this very specific albeit complex form of power, which has as its target population” (102). Within this form of governmentality, Foucault (1978) notes the pre-eminence of government as a form of power. Government is defined as the “conduct of conduct” (Foucault, 1982; Gordon, 1991). Government involves any attempt to direct, shape, or guide the “articulated set” of behaviours of others or of oneself in accordance with a set of standards or norms (Dean, 2010: 17). Foucault (1982) states that “to govern, in this sense, is to structure the possible field of actions of other people” (790). The concept of governmentality implies specific relations between government and other forms of power (Dean, 2010). Foucault (1978) proposes a “triangle” of “sovereignty-discipline-government” to describe the complex and specific form of power characteristic of “governmentality” (102). Although these three forms of power emerged at different points in history, Foucault contends that they did not replace each other, rather sovereignty and discipline have been reframed in ways that ensure the optimization of the population at large (Dean, 2010). As such, governmentality uses and contains retentions of the rationalities, techniques, and institutions characteristic of sovereignty and discipline (Dean, 2010); this understanding enabled an analysis of the ways through which retentions of historical power relations are embedded in the situation at hand. Governmentality provides a theoretical framework for understanding how this complex form of power, employing specific technologies and forms of knowledge, operates to produce self-governing subjects. It also provides the space to examine how resistance, always situated within this field of power, emerges, functions, and seeks to redirect and redefine how one is governed (Foucault, 2007). In this sense, this theoretical framework connects how defining what constitutes the ‘known’ and ‘expertise’ have

implications that affect way peoples' lives.

Conclusion

This chapter has outlined key theoretical perspectives that serve to guide the following analysis chapters of this thesis. It has emphasized the importance of situating the controversy within its relational and socio-cultural context as well as the countless ways through which the 'known' and 'unknown' can be framed, legitimized, negotiated, and defined (or not). This chapter has also pointed to the importance of deconstructing knowledge claims, as these are embedded in complex field of power, resistance, and definitions of 'expertise' and 'authority'. This chapter introduced the concept of sites of uncertainty, which will facilitate an exploration of the various and diverging ways through which AREVA, government officials, Inuit organizations, non-governmental organizations, and community residents engaged with uncertainty.

Chapter 4: Uncertainty, ‘the disease that knowledge must cure’?

Introduction

Although impact assessments acknowledge the integrated and complex nature of the environment, these assessments often treat components as discrete units. Consequently, impact predictions remain relatively separate, and, in many cases, fail to recognize the complexity and dynamic nature of relationships and interactions between units (Baker and Rapaport, 2005). Moreover, in order to predict impacts, these assessments tend to focus on short-term changes and treat components as static entities, resulting in the simplistic and limiting notion that impacts have little variation (ibid). In the case of the Kiggavik Proposal, AREVA focused on valued components (VCs), which are broad components that are selected based on the following criteria: they may be altered by the proposed development; they are vulnerable to effects of the proposed development, and they have been identified as important to Inuit, NIRB, Inuit organizations, government and other stakeholders (NIRB, 2015a). For each VC at least one measurable parameter was selected in order to determine the level or amount of change; in general, the selection of these parameters tends to align with the availability and sufficiency of information (AREVA, 2014). In line with the NIRB’s technical mandate, these were further divided into valued environmental components (VECs) and valued socio-economic components (VSECs) (ibid). As such, AREVA’s assessment of the biophysical and socio-economic effects will act as the two key sites of uncertainty examined in this chapter. The analysis that follows will explore how AREVA represented, translated, and transformed uncertainty at these sites in ways that aligned with western ontological assumptions of separation, superiority, and progress (Howitt and Suchet-Pearson, 2006). In doing so, it will point to the various ways through which AREVA’s interests, stakes, and cultural biases were inserted into their impact assessment.

Moreover, this chapter will deconstruct how and why these sites were contested throughout the review process.

Valued environmental components

The importance of caribou to the people of Baker Lake cannot be understated; caribou is valued for more than its material and nutritional benefits, it is also embedded in Inuit culture, traditions, and social relationships. For this reason, the following section will explore how AREVA represented and translated uncertainty surrounding potential impacts to caribou herds as a way to understand how their assessment engaged with the biophysical environment. AREVA's (2014) framework for environmental protection and management is based on continual improvement, and incorporated both principles of the precautionary approach and adaptive management. AREVA (2014) contended that this framework serves to reduce uncertainties as time progresses and as predictions are either confirmed or refuted through follow-up programs and monitoring schemes. This approach reflects the view that inadequate control over environmental uncertainties is largely related to knowledge inadequacies, and, consequently, focuses on intensifying that knowledge (i.e. through follow-up programs and monitoring) (Wynne, 1992).

Within this approach, if predicted effects are identified as significant, mitigation and contingency measures are applied; these measures are understood to be the way through which adverse effects can be managed, controlled, and ultimately rendered non-significant (AREVA, 2014), reflecting a techno-scientific understanding of uncertainty (Lupton, 1999). AREVA's environmental protection and management framework is embedded in underlying western ontologies, particularly the assumptions that humans and society are separate from and superior to nature (Howitt and Suchet-Pearson, 2006). These ontological assumptions serve to justify AREVA's

intervention and control over natural systems through management and protection (ibid). AREVA's assessment of the potential impacts on caribou exemplifies how these assumptions are embedded in the ways through which they understood, represented, translated, and ultimately attempted to 'control' and 'manage' uncertainty. During the Final Hearings, an AREVA representative explained the level of confidence they had in their predictions of the potential impacts on caribou mortality, migration, habitat and health:

We're uncertain about the overall effect on mortality of animals, because, again, our effects assessment and the cumulative impact on mortality is based on hunter access and how many caribou those hunters will take and the redistribution of harvest. We don't know exactly how that's going to happen. We don't know exactly what's going to happen to caribou movement. Again, we've learned that through our baseline studies and through the community and members of the HTO telling us that caribou movement is variable within the year, year to year, over the long term. So, again, we don't have strong confidence in exactly how the caribou are going to behave in the future. So those are the key ones that we are [confident] in are habitat loss, because we know how big our project footprint is. So we're confident in that. We're confident in the prediction on effects on animal health, but it's the movement and mortality that are key ones for us that we—that we don't have complete confidence in. We don't have complete confidence, because it's trying to predict the future, and we don't know exactly what's going to happen in the future. (NIRB, 2015b: 223-224)

In this statement, AREVA acknowledges the uncertainty contained within their assessments of the potential impacts on caribou mortality and movement. AREVA describes this state of not knowing as largely related to "information uncertainties" (NIRB, 2015b: 194), reflecting the western representation of uncertainty as "the disease that knowledge must cure" (Jasanoff, 2007: 33). Consequently, in order to address this state of not knowing, AREVA represented uncertainty in such a way that it can be amenable to reduction, control, and management through the acquisition of more and better knowledge. Wynne (2007) contends that this "artificial reduction of uncertainties" results in the "externalization of unknowns" (7). For instance, AREVA represented uncertainty in a way that shifts the responsibility for the uncertainties onto other actors; the uncertainty surrounding caribou mortality and movement is translated by displacing it (Shackley and Wynne, 1996) onto hunters and caribou, particularly how they will behave in the future. Regardless of these uncertainties, AREVA determined that the Kiggavik Project would

not have significant impacts on caribou populations. In the Final Hearings, they detailed this reasoning:

How can we have a significance determination but not be entirely confident with that conclusion? And there always is some level of risk being involved. There's always a risk that we may be wrong. So in behind the works, I guess, of what we write, we're take [sic] we're taking a look at our experience. And something that we were questioned on in the draft environmental impact statement was using our professional opinion and our experience based on information that has been provided to us, based on our faith that mitigation will work, based on our faith that collaboration will work in working with the people to manage effects that AREVA can't directly manage on its own. That's how we come up with our conclusion of not significant, presuming that mitigation will work, because it's proven to have worked in other areas, and we have faith that it will work here as well too and that people will collaborate. (NIRB, 2015b: 225)

This statement reflects an “implicit projection of an exaggerated degree of control” (Wynne, 2007: 7).

AREVA formed the basis of their conclusion of non-significance on their claimed ability to mitigate the impacts and respond to uncertainty through collaboration and management. AREVA’s “faith” that they could address any adverse effects overrides the uncertainty in their predictions. An additional point that this statement raises pertains to the question of what constitutes a significant impact and to whom (Baker Lake HTO, 2012)? AREVA’s significance determination was based on the long-term viability of the caribou population and delay to its recovery (NIRB, 2015a), yet this significance determination fails to include caribou movement (Baker Lake HTO, 2012). In the Final Hearings, the Government of Nunavut (GN), the Beverly Qamanirjuaq Caribou Management Board (BQCMB), and the Baker Lake HTO noted that changes in movement, both seasonal migration and localized movement, would constitute a significant impact for many Nunavummiut in the region (NIRB, 2015a). Douglas and Wildavsky (1983) contend that controversies over risk arise when there is a disagreement surrounding what is considered to be an acceptable risk:

When one enlarges the question to ask about which kinds of risks are acceptable to what sorts of people—the prime political question—the uncertainties surrounding current knowledge are multiplied...Since there is no single correct conception of risk, there is no way to get everyone to accept “it.” No person can know more than a fraction of the dangers that abound. To believe otherwise is to believe that we know (or can know) everything. (4-5)

In this sense, the determination of what constitutes an acceptable risk or significant impact to caribou is inherently value-laden. The question of what types of risks are considered to be acceptable and to whom serves to amplify uncertainties in the current state of knowledge. Callon and colleagues (2009) state that the ways in which socio-technical controversies evolve depends not only on the nature and degree of uncertainties, but also how some uncertainties are lessened and disappear, while others proliferate. These transformations can be linked to myriad factors including what groups enter the debate, what technological options are eliminated or revealed, and what type of information is being circulated (ibid). As the controversy progressed, the uncertainty of characterizing the environmental impacts was amplified by the uncertain start date, northern operating conditions, current development of a new territorial land-use plan, the possibility and consequences of induced development, limitations in terms of current monitoring and regulatory capacity as well as other undetermined factors such as specific road options and marine shipment routes (NIRB, 2015a). Additionally, this proliferation of uncertainty was tied to how different parties had diverging understandings of what constitutes a significant impact.

Valued socio-economic components

In the Final Hearings an AREVA representative noted the complex nature of the socio-economic environment:

Socioeconomic change is ongoing. It is the result not only of a given project, but of the interaction of that project with the broader, continuously evolving economic, social, and cultural environment. Other projects, government initiatives, improved technologies, and other factors continuously influence the socioeconomic environment. It is important to recognize that any future changes in the socioeconomic environment will not be the result only of the project but also of other forces of change. (NIRB, 2015c: 455-456)

This statement recognizes how socio-economic conditions are affected by myriad forces and how the interactions between these forces are complex and multi-faceted. It is therefore difficult to establish direct causal relationships between the proposed project and many socio-economic impacts. Despite these difficulties, AREVA (2014) was confident in their determination that the project would have overall positive and significant socio-economic impacts. AREVA contended that this determination was related to their assessment of positive and significant effects within the following major socio-economic components: community economies; community well-being; public infrastructure and services; non-traditional land use and land use planning; and the economy of Nunavut (ibid). Yet, AREVA (2014) noted that traditional culture would be negatively affected by the Project. AREVA contended that this determination was not related to impacts to the environment (these were deemed to be non-significant as the previous section exemplified), rather this was considered to be the result of the increased opportunities for Inuit to participate in the wage economy (NIRB, 2015c).

The credibility of this assessment has been questioned by Makita¹⁵ who cites a lack of transparency and rigor in terms of methodology; this group noted that it was very unclear how AREVA came up with the above determinations (Makita, 2012). Makita contended that AREVA's determination suggested that the benefits of employment outweigh the negative social, economic, and cultural impacts, however this is difficult to assess due to this lack of methodological transparency (i.e. the apparent lack of clarity in terms of the methods through which AREVA gathered and analyzed information) (ibid). AREVA noted that public

¹⁵ Makita is short for Nunavummiut Makitagunarningit, which means "people of Nunavut can rise up". It is an independent non-governmental organization that aims to provide information on uranium issues to Nunavummiut. They acted as an intervener group through the NIRB's review of the Kiggavik Project (Nunavummiut Makitagunarningit, 2018).

infrastructure and services and non-traditional land-use and planning would have positive effects if collaboration with other stakeholders was successful, and that benefits to the economy of Nunavut would be mainly accrued through government source revenues and royalty payments (ibid). These potential benefits are largely related to relationships, processes, and governance structures existing outside of the community of Baker Lake. This section will concentrate on community-level impacts, particularly those that emerged through data analysis. Accordingly, it will concentrate on AREVA's determination that the Project would have positive effects on community economies and community well-being and negative effects on traditional culture.

Using transcripts from the Final Hearings and information available in AREVA's impact assessment, this section will analyze how AREVA focused on establishing direct causal relationships, and thus certainty, between the Kiggavik Project and impacts on community economies. It will argue that as this relationship was, in fact, embedded with uncertainty. Additionally, this section will argue that although AREVA recognizes the interrelated nature of socio-economic components, their artificial separation of community economies, well-being, and traditional culture fails to capture the complex and intricate context in which these impacts are experienced.

The positive and significant impacts attributed to community economies were related to predicted increases in employment, income, contracting, education and training opportunities (AREVA, 2014). It is important to note that AREVA's assessment of community economies did not include harvesting activities, which along with food security were assessed under traditional culture. AREVA (2014) contended that the Kiggavik Project's "primary effect is the creation of economic opportunities for Kivalliq labour and businesses" (131); the company emphasized how

these “direct benefits” would have ripple effects throughout the regional economy (ibid). This claim is embedded with certainty stemming from the causal relationship established between the Kiggavik Project and economic opportunities at the community-level. This strategy attempts to create certainty surrounding the positive benefits, specifically employment and the consequential increases in income. However, as the the following section will argue, their positive and significant determination of impacts to community economies was embedded with uncertainty.

As socio-technical controversies, such as the Kiggavik Proposal, evolve some uncertainties lessen and disappear, while others proliferate (Callon et al. 2009). These transformations can be traced to countless factors, including what type of new information is revealed. Two key pieces of information entered the controversy and resulted in the proliferation of uncertainty surrounding the socio-economic benefits, specifically employment opportunities; these included the expansion of Agnico-Eagle’s operations and the lack of a start date due to the depressed uranium market. Meadowbank was expected to close in 2018, however with the discovery of the Amaruq satellite deposit, located 55 kilometers northwest of Meadowbank, in 2013, the life of Meadowbank has been extended by an additional seven years (Agnico Eagle, 2017). Additionally, Agnico Eagle’s Meliadine Project, located just outside of Rankin Inlet in the Kivalliq region, commenced construction in 2017 (ibid). This created a sense of certainty surrounding the immediate employment future for not only the community of Baker Lake, but also the Kivalliq region, and, as some would argue, this has also reduced support for the Kiggavik Project. For example:

The group that sort of wants to development [sic], create opportunities for the town are a little less vocal because you know we have got Meadowbank, we have got jobs, I think if we didn’t have Meadowbank they would be a lot more vocal, I think they would be a lot more people saying we need this [referring to

the Kiggavik Project], but I think what is holding them back is that we got Meadowbank. (Male Qablunaat Interviewee, November 25th, 2016, Baker Lake)

The economic viability of extractive resource development is tied to global commodity prices and fluctuations. This was exemplified by how the depressed uranium market impeded AREVA's ability to provide a start date or development schedule for the Kiggavik Project. Employment opportunities at the community level then became embedded within a system that is dependent on global markets, which are subject to unpredictable changes and fluctuations. These two new pieces of information served to amplify existing uncertainties in terms of the extent to which community economies would benefit from increased employment opportunities, particularly in terms of existing limitations in human capital.

AREVA estimated that the Kiggavik Project would have employed 750 people during construction stages and 600 people once operational; furthermore, they concluded that indirect employment would have increased these numbers by 400 and 1,300 for construction and operations, respectively (AREVA, 2014). AREVA noted that the construction phase would mostly require skilled labour from the South, and, although they intended to preferentially hire Inuit, they predicted that only 20 percent of the workforce would be Inuit (NIRB, 2015a). Moreover, AREVA's projected Inuit employment target of 50 percent for later years of operations was highly contested during the Final Hearings. For instance, Inuit organizations and the territorial government were skeptical about this target, referring to experiences with other mines (i.e. in 2015, Meadowbank's Inuit employment rate was 37 percent (Stratos, 2016)), the current labour shortage, turnover rates, and the all too common trend of southern labour filling these positions. The federal government also pointed to how AREVA had overestimated the

potential Inuit employment rate, noting flaws in their methodology and input data (NIRB, 2015a).

In addition to concerns related to employment opportunities, one key area of uncertainty that characterizes this site is the degree to which these promised employment opportunities would be realized by Inuit of the region, which is currently limited in terms of both the sheer quantity and capacity that constitutes the Kivalliq labour force. These limitations, compounded with the lack of start date and development schedule, makes it difficult to predict whether or not the Kiggavik Project would compete with Agnico Eagles' operations for human resources or result in staggered development. Baker Lake residents, referring to Meadowbank, stated that:

They have trained everybody in Baker Lake, like literally everybody that wanted a job up there had it. (Male Qablunaat Interviewee, November 25th, 2016, Baker Lake)

What we are seeing right now is almost a total saturation of the workforce... You are going to have a whole bunch of people from Baker Lake already employed there, so if there was a uranium mine you would see proportionally there would be less, less beneficiaries working in those roles because you would have essentially competition for human resources across you know two locations, so if there was going to be a uranium mine, thinking from a human resources perspective, I think it would need to be a staggered. (Male Inuit Interviewee, December 4th, 2016, Baker Lake)

These statements question the extent to which Baker Lake residents would benefit from additional employment opportunities in the mineral sector. In the Final Hearings, AREVA cited initiatives that target preferential training, hiring, and contracting and educating Inuit from the region as a means to achieve their employment targets and address issues with labour capacity. However, experiences with Meadowbank point to the difficulties in achieving Inuit employment targets. Meadowbank has donated over one million dollars to school-based initiatives and invested over 16 million dollars on mine training and education (Stratos, 2016). Yet, most Inuit who work at Meadowbank hold unskilled or semi-skilled positions, and, in 2015, the turnover

rate for permanent Inuit employees was four times higher compared to non-Inuit permanent employees (Stratos, 2016). (This disparity in the labour force and its implications will be discussed in greater detail in the following chapters.) As such, AREVA's proposed initiatives that target education and preferential hiring, training, and contracting will only be successful insofar as other systemic barriers to employment are addressed. The limited capacity of the labour force is symptomatic of existing social, cultural, and economic issues stemming from the ongoing legacy of colonialism. For instance, mental health issues, food insecurity, housing shortages, limited access to healthcare, and inadequate childcare and eldercare services are additional barriers to employment, which affect both the quality and supply of the labour force (Czyzewski, 2014; PMC, 2016; Impact Economics, 2013). These limitations in terms of both the quantity and capacity of the workforce calls into question the extent to which the predicted employment opportunities would have positive and significant impacts on community economies, and thus questions AREVA's determination of overall positive and significant socio-economic impacts. Moreover, due to the finite nature of extractive industries, AREVA's investments in community economies will end with the life of the mine, pointing to the relatively short-term economic benefits.

Socio-economic impact assessments have not only been criticized for being overly focused on employment, but also neglecting the potential effects on vulnerable populations and failing to acknowledge the historical context (Reid et al., 2017). AREVA predicted that vulnerable populations who cannot access the expanded employment opportunities and/or those individuals who make "poor personal choices" may be negatively impacted by the project (Makita, 2012; NIRB, 2015a: 205). Additionally, in their final impact statement, AREVA described how some

families may experience disruption with the expanded employment opportunities, yet this was attributed to individuals “failing to personally manage stress” (AREVA, 2014: 131). This displacement of responsibility onto the individual fails to acknowledge the colonial history in which many of these issues stem from, and, in effect, serves to separate the impacts from the complex historical and socio-cultural context.

AREVA’s determination of overall positive and significant impacts to individual, family, and community well-being was assessed based on impacts to the following components: health; family function; savings; public security; public health and safety; and social cohesion and participation (AREVA, 2014). This conceptualization divorces well-being from cultural traditions, which have been identified as a key social determinant of Inuit health (ITK, 2014). Although AREVA recognized the connection and interactions between well-being and culture, they existed as separate and distinct components in their impact assessment (i.e. well-being and traditional culture were assessed in isolation from one another). This was a key point of contention raised by Makita (2012):

AREVA acknowledges that the proposed Kiggavik mine would very likely lead to reduced use of Inuktitut, negatively impact on traditional values like sharing and mutual support, reduce traditional activities like hunting, and so on. They also acknowledge that this would have an impact on food security. But because of the way in which the report is structured, the negative impact on traditional culture doesn’t factor into assessments of individual, family, and community well-being. This might surprise some Kivallirmiut, who think of their relationship with the land, with their language, and with each other as central to their well-being. AREVA acknowledges that traditional culture is very important to peoples’ well-being, but AREVA does not factor negative impacts on traditional culture into their conclusion. (4)

Makita (2012) points to how AREVA’s conceptualization of individual, family, and community well-being fails to include the negative impacts on traditional culture, noting a problematic divergence in conceptualizations of well-being. In the Final Hearings, an AREVA representative expanded upon their determinants of well-being:

The effects on well-being were predicted to be overall positive and significant. The negative effects on culture may erode well-being for some people but broadening choices and opportunities for livelihoods are counteracting factors. Generally, reductions in income poverty are associated with improved well-being. Well-being is influenced by many factors including culture, employment, education, personal-health habits, but socioeconomic status is generally agreed to be the most important determinant to well-being. (NIRB, 2015c: 457)

This statement reflects a conceptualization of well-being that emphasizes the importance of socio-economic status while minimizing the importance of culture. Moreover, it serves to compare two things that are not necessarily comparable and contribute to well-being in very different ways. Consequently, this serves to insert a decidedly western understanding of well-being into AREVA's socio-economic impact assessment. Similarly, as previously mentioned, AREVA defined community economies in a western sense, that is, the company focused on impacts related to the wage economy, not those associated with the harvesting economy as these were assessment under traditional culture. These conceptualizations enabled AREVA to assess impacts to community well-being and economies in isolation from the impacts to traditional culture, and, therefore, as Makita (2012) notes, AREVA's negative determination to traditional culture does not affect their determination that the project would have overall positive and significant impacts on community economies and well-being. As such, this separation further questions AREVA's determination that the proposed project would result in positive and significant socio-economic impacts. It also reiterates how these impact assessments are inherently subjective and embedded with cultural biases, biases that served to advance AREVA's interests, not necessarily those of the community.

Conclusion

Drawing on the ways through which AREVA negotiates uncertainty, this chapter has pointed to the problematic nature of these impact assessments, specifically in terms of who has the power to define what is assessed, what constitutes a significant impact, and what is ‘known’. The above analysis has demonstrated how AREVA represents uncertainty as “the disease that knowledge must cure”, and, consequently, uncertainty was understood to be amenable to techniques of reduction, control, and management. It has also shown how AREVA’s claims of certainty were largely contested throughout the review process, particularly when positioned against context-specific knowledge. This chapter has traced the ways through which uncertainty at these two sites proliferated as the socio-technical controversy progressed. It is precisely the amplification of these technical uncertainties that served to rationalize the NIRB’s (always temporary) recommendation against the Kiggavik Project (Bernauer, 2016), pointing to how technical uncertainty can be strategically used to deflect the decision into the future. Yet, myriad experiences of uncertainty exist outside of this technical framing. The following chapter will explore how community-level experiences of uncertainty associated with the Kiggavik Proposal are deeply relational and cannot be understood as separate components or divorced from the intricate socio-cultural context.

Chapter 5: Conflicted imagined futures

Introduction

Irwin and colleagues (1996) note that from an outsider's perspective, hazard issues can be artificially separated from their social and cultural context, yet for community members these issues are not divorced from other concerns that permeate their daily lives. For example, this difference was noted by an Inuit interviewee:

You affect the land, the people, you affect everything, and at the same time its not just the start up of the mine it's what happens to the mine with the decommissioning, where they are being decommissioned... Once AREVA leaves it not like we can go down the road and talk to them, once they are gone they are gone, so AREVA can't help us in that area, the government can't help us in that area, there are so many unknowns, so many more unknowns in Nunavut because nobody can say exactly what the answer is, we know exactly how to contain everything, it's never been done how could they say that? (Male Inuit Interviewee, 12th, 2016, Baker Lake)

This statement reflects a different engagement with the 'unknown', one that extends temporally into the future, but also contains retentions of the past (Barry, 2011). Moreover, it involves *displacing* claims about what can be 'known' and, as a result, *placing* the 'unknown' within its relational context (Cameron, 2015). This chapter will explore the ways through which individuals engaged with the 'unknown', exposing disconnects in how the controversy was framed and experienced. For instance, the prevalence of cost-benefit framing was apparent when interviewees described how mineral development, specifically Meadowbank, has affected the community of Baker Lake:

Mining is probably, no doubt about it did help us out, it helps us a lot, employment, training, economy, but the mining, the actual mining itself it's really young, it's ok I suppose, the one mine that we do have, but it has been very beneficial to us no doubt about it, even though we do have some concerns from time to time about the environment and the animals. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

There's probably pros and cons to it. The pros are people have jobs, the cons come in the form of more money to buy booze, alcohol and drugs, or not some don't know how to save their money, just spending it right away. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

This framing emanates from an approach to mineral development that aims to maximize the benefits and minimize the costs (Bridge, 2004). Yet, this approach fails to capture the underlying

values attached to these impacts as well as the experiences that exist in the space between costs and benefits. This chapter will move beyond this cost-benefit framing and address the aforementioned deficits in order to provide a nuanced description and analysis of how uncertainty was expressed, experienced, and translated at the community-level. The key sites of uncertainty identified at the community level include: environmental transformation; employment future; alleviation or amplification of existing social ills; and effects on traditional Inuit culture. These sites of uncertainty reflect situated experiences of uncertainty; they are felt viscerally, not divided into components. Fears embedded within these sites extend beyond the potential biophysical and socio-economic impacts; they are related to the underlying aspects that make these sites of value to the community. Although these sites are listed as separate entities, they cannot be considered in isolation from each other or the context in which they were experienced. For this reason, exploring how these sites interact is fundamental to understanding the interconnected and borderless nature of the situation. This chapter will argue that these sites of uncertainty identified at the community level represent points at which people feel as though their self-sufficiency, well-being, and identity are threatened. Yet, conceptualizations of these themes diverge within and between these sites, and, consequently, result in muddy and conflicting responses to both the issue at hand and imagined futures of Baker Lake. This muddy response is ultimately reflective of an entanglement of cultures and values and points to a broader challenges facing Inuit, that is, navigating that space between two cultures.

Environmental transformation

One of the major concerns voiced by community members was the potential for environmental degradation, ranging from contamination of wildlife and freshwater sources to landscape destruction. Baker Lake is an inland community, and as a result, people do not hunt sea mammals such as whales or seals, and, instead, rely heavily on terrestrial wildlife, specifically barren-ground caribou and to a lesser extent muskox, as well as Arctic Char, Lake Trout, and other fish from Baker Lake (Scottie, 1992). The importance of caribou to the people of Baker Lake cannot be understated; caribou are valued for more than their material and nutritional benefits; they are also embedded in the historical, cultural, and social context and traditions:

I guess the biggest impact to me, in my opinion, is via the caribou, we are so dependent on it as a people, and I think it will directly affect our caribou from what I have read, from what I understood from the Environmental Impact Statement, and having been a part of the process, I think it will directly affect our caribou and I think that will be the biggest impact, because our food is very much our culture in that many of our family members make garments out of it, we eat it, we love getting together as a family, all our family functions really surround the eating of caribou. That would be the biggest impact. (Female Inuit Interviewee, November 27th, 2016, Baker Lake)

In addition to caribou, interviewees also emphasized the importance of fresh drinking water.

Many Baker Lake Nunavummiut described how they prefer to get their drinking water from the lake, rather than drinking the treated water that is delivered directly to their homes. This is in large part due to its non-chlorinated and fresh taste, but this water is also perceived to be “cleaner” (treated water is contained within holding tanks, which according to some community members are very difficult to clean due to their shape). One interviewee described the difference between tap water and water from the lake:

People can smell the chlorine in the water...People drink tea here and tea tastes different from if you get ice and melt the ice and make tea from that you make from your tap, if you are a tea drinker you won't want to drink from the tap, you'll want to drink from the ice, it's just nicer, cleaner, water. (Male Qablunaat Interviewee, December 11th, 2016, Baker Lake)

Caribou and freshwater from Baker Lake are highly valued in the community; they are embedded in their way of life. Interviewees emphasized how the location of the Kiggavik Project was particularly concerning:

The caribou herds are getting lower and lower and lower, when you have the location currently where caribou migrate, I think that's going to be a long time before its approved or accepted by any community. Mostly for wildlife, but as mining goes it depends, it all depends on location, right now for Baker Lake it's not in the right spot. If there was one outside not so close to river or drinking water, I think there's potential for operating, and less of an impact on wildlife and drinking water. (Male Inuit Interviewee, December 8th, 2016, Baker Lake)

Well in that direction there is the Thelon River which flows down to Baker Lake, that's where we get most, all our water from, that's where all the fish are, and there is a huge caribou migration that comes through there every spring and fall. (Male Inuit Interviewee, December 1st, 2016, Baker Lake)

Where I grew up as a little girl my dad would take us out and where they have the location, it's the way we travelled through during spring, and I'm thinking if they open it, its going to contaminate the water. Where are we going to get our drinking water from? Where are we going to get our caribou meat and fish from? So it's very concerning the uranium for me. (Female Inuit Interviewee, December 5th, 2016, Baker Lake)

Also a big thing, is caribou migration patterns, they've studied where the caribou migrate through and it's quite close to where the mines would open and so the mining companies themselves have stated that if anything the impact that the migration pattern would go further away from the community to avoid, to avoid the noise or you know activity that is happening in the area, and that would directly impact our community too. (Female Inuit Interviewee, November 27th, 2016, Baker Lake)

The Kiggavik proposed mine was in a major migration route and we depend on caribou even if we are not fulltime hunters, that's our normal diet, its caribou, so that was the biggest thing. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

These statements reflect how the Kiggavik Project's close proximity to caribou habitat and the Thelon River, which flows into Baker Lake, amplifies the potential impacts on wildlife and drinking water. Furthermore, the location of the Kiggavik Project as well as the surrounding area holds cultural significance to many Inuit of Baker Lake; not only is it an important place for traditional activities, but there are also gravesites in the area where Inuit in the community's ancestors are buried (NIRB, 2015a). Interviewees described how the possibility of induced development in the area surrounding Kiggavik was also concerning due to the current lack of caribou protection measures. For example, one interviewee stated:

With no protection measure, we felt that Kiggavik were given the green light to go ahead and open their production, we felt it was going to open a corridor to these junior miners. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

In addition to the location of Kiggavik, the radioactivity of uranium was a source of fear for many informants, specifically how “it affects people, health, our water, our caribou”.

Interviewees further expressed fears of radioactive contamination:

If you look at the Kiggavik Project, the watershed empties into Baker Lake, that’s the drinking water for Baker Lake, that’s the drinking water for all the animals in the water basin, catchment area for Baker Lake, caribou, fish, the only animals that they people of Baker Lake are able to eat because we live inland, we don’t have marine mammals, so caribou and fish are very important, if you pollute the water then you won’t be able to drink the water, eat the fish, and if the fallout from the radioactive waste or whatever falls onto the caribou then we can’t eat the caribou. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

Our biggest fear is that improper of storage of tailings or if there was ever a breakage with the tailings, with radioactivity in general. We depend a lot on caribou for our livelihood, so and the area where the mine would have opened and where there is still exploration occurring many of those potential mines are close to areas where caribou migrate through and close to caribou calving grounds and things like that so. Our direct source of food could be impacted by radioactivity, which we take in as well as the possibility of wind or water transfer of radioactive things into our water sources. So our wind and that sort of thing. Those are all fears for us, if a uranium mine were to open. (Female Inuit Interviewee, November 27th, 2016, Baker Lake)

You know there is all this dangerous stuff about uranium that we really don’t know. I think that’s what scares a lot of people. Because most people do not understand what effects radiation, uranium and that sort of thing have on people as well as animals that a lot of people depend on. (Male Inuit Interviewee, November 22nd, 2016, Baker Lake)

Additionally, some interviewees did not explicitly connect these fears to radioactivity, yet cited contamination as a source of fear. For instance:

The wildlife, like if there is an infected caribou it can infect...one thing will go on, and us hunting them, it will get into us...If they open the mine, for the uranium, I’m more worried how our freshwater can be very contaminated, that’s where we drink, out of our lake. (Male Inuit Interviewee, December 1st, 2016, Baker Lake)

These statements regarding radioactivity and contamination use wording such as “we”, “our”, and “us” reflecting how uranium development would affect the community collectively. They also express how this state of not knowing surrounding potential contamination instilled fear in

the community level, as the loss of wildlife and their drinking water source would alter the way many Baker Lake Nunavummiut live their lives.

As a political situation, the Kiggavik Proposal contains retentions of the past (Barry, 2011). To fully understand how this site was socially experienced, it is important to examine the stories and narratives that were prevalent in the community during the time of UG's proposal in the late 1980s. In reference to UG's proposal one interviewee stated:

I think it frightened a lot of people because people here they lived off the land, they lived off the caribou and other wildlife, and they saw themselves not being able to feed their families, or feed them with contaminated meat that frightened them, you know they would be starving, and they have lived with starvation all their life, that's how I [sic] ended up in this community because of starvation that was taking place in the camps that they were living in, and to go back to that was not a good thought, that's pretty concerning. (Male Qablunaat Interviewee, December 11th, 2016, Baker Lake)

The ancestors of many Inuit who now reside in Baker Lake depended solely on caribou for food, tools, clothing, and ultimately survival; the absence of caribou was linked to cases of hypothermia as well as famine (Toolooktook, 2016). In 1957 and 1958, due largely to the disappearance of caribou, many Inuit living in outpost camps in the Gary Lake/Back River area experienced famine and starved to death; at this time, government officials understood relocations to settlements as the solution to alleviate this crisis (Tester and Kulchyski, 1994). Memories and stories of starvation as well as the current state of food insecurity render the possibility of environmental transformation “socially experienceable” in the present (Beck, 2009: 298). Additionally, stories expressed by elders, whose opinions and views are deeply respected in the community, also contributed to experiences of uncertainty in the present. For instance, one interviewee stated:

The Elders said that uranium could affect the whole landscape, it could poison our lakes, our water, it could destroy where the caribou migrate, like the way they migrate also, and I'm just going along with what the

elders wanted and what the community wished for. (Female Inuit Interviewee, December 5th, 2016, Baker Lake)

At the time of UG's proposal, there was information circulating through the community that uranium mining would result in "weird cancers" and significant deformities such as "fish with four eyes" or "animals with two heads". This information still pervades the community; one interviewee described how they were very concerned about whether or not the rumours about the impacts of radiation were true. Through these images, radiation—something invisible to the naked eye—became visible to the community, exemplifying what Beck (2009) describes as the process of visualization. One interviewee emphasized the importance of this visualization process to Inuit: "for Inuks to believe they got to see...seeing is believing". The statement "seeing is believing" was in reference to what the interviewee understood to be the benefits of people seeing AREVA's uranium mining operations in Saskatchewan, which may serve to interrupt images of "fish with four eyes", "animals with two heads", and "deformities of our kids" that exist in the community and have produced a collectively shared perception (Beck, 2009) of uranium mining as the source of "weird cancers". For example, one interviewee reflexively noted this interruption in perception:

I know AREVA and KIA [Kivalliq Inuit Association] brought people to the AREVA projects down in northern Saskatchewan, and showed them their operating mines, and some people that attended they thought that they were great, oh it's so clean there and there's no dirt, and I'm like well you can't see the radiation, and they talked about how they were on the buses and how they drove, but weren't allowed to get off the buses, but didn't understand why they weren't allowed to get off the buses because of the radiation, so I don't believe that...they felt that AREVA did a really good job, it's all clean and whatever, it's like it's not about being green and clean, it's about an invisible radiation that you cannot see or smell that has potential health effects to humans and animals that we eat. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

This statement describes how AREVA attempted to interrupt existing beliefs about uranium through the process of visualization (Beck, 2009). It also expresses the fear underlain by the invisibility of radiation, particularly how the potential radioactive contamination to wildlife is

not immediately detectable by the senses. The processes of narration and visualization produce an understanding of, and help attach meaning to, the potential catastrophic consequences of uranium mining, thereby becoming embedded within lived experiences (Beck, 2009). The historical context, the radioactivity of uranium, the location of the proposed project, the possibility of induced development, and the current lack of caribou habitat protection measures all served to amplify the uncertainty at this site (Callon et al. 2009). Moreover, the uncertainties surrounding the potential environmental transformations extended into additional areas, including food security, social connections as well as Inuit culture, well-being, and self-sufficiency.

Employment future

Nunavut's economy can be described as a mixed economy, where both land-based and wage-based activities play important economic, social, and cultural roles (Hicks and White, 2000).

Since the public sector, tourism, and renewable resources are currently limited in the extent to which they can contribute to local economies, extractive resource development is predicted to become Nunavut's greatest economic driver in the near future (NIRB, 2015a; Impact Economics, 2013; Southcott, 2015). While the previous chapter deconstructed the certainty embedded in AREVA's promised employment opportunities, this chapter will focus on the underlying experiences and values that constitute the employment future at the community-level. As previously discussed, new mineral development projects in the Kivalliq region reduced the uncertainty surrounding the immediate employment future of Baker Lake. Yet, the life cycle of the extractive industry is inherently finite, and therefore an unsustainable source of long-term employment (Southcott, 2015). As such, the question of what comes next and therefore the employment future of Baker Lake still lurks in the back of many people's minds.

Employment experience, training and education, and infrastructure development have been cited as the key economic benefits of resource development at the community level (NIRB, 2015a). The main benefits from the Kiggavik Project, identified by informants, were employment opportunities and consequential increases in income. The presence of Meadowbank has exposed Baker Lake to the mineral economy, which has, in some ways, resulted in a greater degree of certainty surrounding the community-level impacts of mining. Meadowbank construction began in 2007 and commercial gold production in 2010 (Bernauer, 2011b, Stratos, 2016). Baker Lake has experienced a 27.1 percent increase (from 2004-2009 average to 2010-2014 average) in median employment income, the largest change of all the Kivalliq communities (Stratos, 2016). Furthermore, between 2005 and 2013, the number of people in Baker Lake receiving social assistance decreased from 730 to 523, compared to the Kivalliq region that experienced an increase of just over 25% in social assistance recipients (NBS, 2017). In 2015, 156 Inuit from Baker Lake were employed at Meadowbank, representing more than half of the total Kivalliq employees (Stratos, 2016). Beyond direct employment, other forms of employment have been generated through both businesses that have contracts with the Meadowbank (i.e. Arctic Fuel and Peter's Expediting Limited) and businesses that benefit from the increases in spending of mine employees and contractors (i.e. the Northern Store). These changes in income have been observed at the community-level. Interviewees noted visual changes to the material landscape due to this influx of income; an increase in trucks, "Hondas" or ATVs, and skidoos have been observed in the community since people started working for Agnico-Eagle. For example:

People feel more affluent here because of the mine, people are going back and forth between communities, visiting family in other communities, travelling more, they are buying vehicles, not necessarily houses at this point, because that's a little complex. But they are certainly buying a lot of vehicles, boats, motors, hunting equipment, ATVs, ya there's been a lot of change in terms of people's minds towards mines since

the 1990s. Because they have an understanding now of what it is to have a mine. (Male Inuit Interviewee, November 22nd, 2016, Baker Lake)

This interviewee noted changes in perception of mineral development in the community since UG's proposal, which was vehemently opposed by the community in the early 1990s, due to the presence of Meadowbank. Employment was not only valued for the ways in which it could enhance material well-being, but also the non-tangible effects of employment. Employment and training opportunities can help produce hope for the future; this is especially critical given the young and rapidly increasing population in Nunavut. The National Committee on Inuit Education (2011) noted that "visions are about imagining the future" (70). One interviewee explained how exposure to the employment options generated by the mineral economy has instilled positive visions and hope within youth and children in the community:

The children can now look up to their father and say, he's a haul truck driver, he's a plumber, he's an electrician, he's a welder, that's what I want to be. When we were on welfare we had no, young people had no visions of what they could do, this mine has done far more than just work, it has helped create children to have visions, it has helped the families build self-esteem, you need to have strong good self-esteem, that's what I have seen the mine done to our community from a have not to men, and women, pride, you know how important pride, its very important. (Male Inuit Interviewee, December 9th, 2016, Baker Lake)

This interviewee exemplifies how working and and being able to provide, materially, for oneself and family can result in feelings of autonomy, self-reliance, pride, and improved self-esteem.

Inuit Tapariit Kanatami's *Social Determinants of Health Report* (2014) notes that the lack of employment opportunities in Inuit communities has resulted in feelings of indifference, low self-esteem, violence, and suicide. Moreover, this statement not only contains projections of possible futures (i.e. visions), but also retentions of the past (Barry, 2012). This interviewee describes how mineral development has helped transition the community away from welfare and dependency on government support. As such, the threat of unemployment represents the loss of self-reliance and being able to provide for oneself and family, materially, as well as the non-tangible effects of employment.

Alleviation or amplification of existing social ills?

In Baker Lake, like many Inuit communities, the legacy of colonialism and the resulting transformations of relationships and intergenerational trauma, compounded with the remoteness, infrastructural deficits and extremely high cost of living, has resulted in myriad social challenges including high incidences of food insecurity, suicide, substance abuse, domestic violence, poverty, as well as limited access to quality health care (ITK, 2014). The question of whether further mineral development would serve to alleviate or amplify existing challenges facing the community of Baker Lake is deeply embedded in this highly compromised context.

Gibson and Klink (2005) describe “equity factors” as the “interfaces between an impact and how it translates into effects on individual, familial, and community well-being” (130). These factors, including socio-economic status, gender, age, race, self-determination, and resilience all influence the ways through which impacts from mineral development are distributed within communities (ibid). Resilience, that is, the ability to respond to and recover from adverse impacts, is connected to not only individual characteristics, but also existing institutions, historical experiences, norms, values, and culture (ibid). Together, these factors point to the diversity and complexity of lived experiences with mineral development as well as the large degree of uncertainty in the ways through which impacts will materialize. Considering this, it is not surprising that experiences with Meadowbank have been described as mixed and heterogeneous (Peterson, 2012).

Although the benefits from increases in income supports material well-being contributes to the reduction of certain social ills, it, in some cases, can amplify existing challenges facing individuals, families, and the community. For example, higher income can help alleviate poverty,

as it enhances access to opportunities in terms of education, employment, housing, and nutritious food (ibid). On the other hand, Rodon and Levesque (2015) contend that the influx of money due to employment from Meadowbank has increased economic inequities, reckless spending, and drug and alcohol abuse within the community of Baker Lake. Interviewees noted the conflicting impacts associated with increased incomes:

The money coming in of course has its benefits for anyone who has proper usage, but there are families that don't use their money properly, so there could be more alcohol coming into a family that you know its going to impact the children in the home, so there are impacts in that sense. (Female Inuit Interviewee, November 27th, 2016, Baker Lake)

The benefits would be more job opportunities and maybe a bit easier financially for the families, but the bad side is, if they do open and all that money is being made, there going to break the families more, being greedy, and spending it differently on alcohol, drugs, other stuff. (Female Inuit Interviewee, December 5th, 2016, Baker Lake)

The above statements emphasize how the increases in income from mineral development may result in both beneficial and harmful effects to children and families. Another interviewee connects spending patterns to the amplification of social issues:

We have more social problems because now young people have money that they never had, they are making good incomes, and at the same time you know they will not only get new snowmobiles, vehicles, but some of them are just throwing their money away, in the case where if I want to drink I'm going to drink. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

This statement reflects how experiences with relatively high incomes may be new for many residents in Baker Lake. This can, in some cases, result in patterns of spending that do not necessarily reflect long-term planning, creating conflict at the family-level (Czyzewski et al. 2014). Another interviewee noted the how the impacts associated with mineral development permeate through the entire community:

There is good and bad at the same time and we have to accept the fact that it disrupts the whole community. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

The ways through which these social impacts are distributed and the degree to which they are

experienced is largely connected to “equity factors” (Gibson and Klink, 2005). For instance, one Inuit interviewee observed how the costs and benefits of mining are not accrued evenly across the community:

The fact that it’s [mining] already affecting our community in that sense and it could be further impacted by a uranium mine wouldn’t be helpful at all to our community because not everybody is going to financial benefit from working at the mine and they are going to be directly impacted by the loss of or the subsistence that they get from hunting, from the caribou herds that migrate around Baker Lake. (Female Inuit Interviewee, November 27th, 2016, Baker Lake)

This statement is underlain by the diverging values embedded in the mineral economy compared to the harvesting economy, specifically the contrast between western values of individualism and material wealth and traditional Inuit values of communalism and sharing. It demonstrates how the distribution of financial benefits are not distributed evenly across the community. Gibson and Klink (2005) contend that employment opportunities tend to favour those with higher levels of experience and education, and, consequently can cause social stratification within communities.

In addition to influxes in income, working in the mining industry has also had social repercussions. For instance, the rotational work schedules associated with the mineral economy and the consequential separation from family has resulted in relationship tensions (i.e. domestic violence, jealousies, and family breakdown) and affected family closeness (Nightingale, 2017). In Inuit culture, social structures and roles are centered around close-knit extended family relations. In this regard, the rotational work schedules and the consequential separation from family serves to, in many cases, further disrupt kinship relationships and Inuit ways of being (Nightingale, 2017). Kral and colleagues (2011) contend that one of the most harmful effects of colonialism felt by Inuit was and continues to be the discontinuity of kinship structure. In the 1950s and 1960s, Inuit were relocated from extended family camps on the land to settlements.

These settlements, which are now referred to as communities, imposed new social relations and cultural forms on Inuit that served to weaken kinship bonds (Tester and Kulchyski, 1994). These communities reflect a relatively new form of social organization, one that was largely resisted by Inuit (ibid), yet, in contemporary Inuit society community relationships have become an integral component of Inuit well-being (Kral et al. 2011; Makisimowki, 2011).

This site has demonstrated the ways through which interactions with the mineral economy extend into relationships at both the community and family-level. It has emphasized how “equity factors” influence the ways through which social impacts materialize, and consequently have diverse effects on relationships and so too well-being. The uncertainty embedded in this site is underlain by the ongoing social transformations and challenges facing the community of Baker Lake.

Effects on traditional Inuit culture

Driven in part by a strong national assimilationist agenda, it was not until after the Second World War that Inuit experienced intensive and rapid state intervention; this served to rupture Inuit culture and traditions, particularly their connection to the surrounding biophysical environment (Cameron, 2015; Hicks and White, 2000). Exposure to the mineral economy has placed further pressure on a culture that has not only recently faced profound transformations, but also continues to be at risk of being lost between generations. Although the extent to which cultural loss can be directly attributed to resource development is unknown and not quantifiable, it is clear that interactions with the mineral economy have altered Inuit cultural practices and intergenerational knowledge transfer (Nightingale et al. 2017). In a report commissioned for the Canadian Women’s Foundation, *the Impact of Resource Extraction on Inuit Women and*

Families in Qamani'tuaq, Nunavut Territory, in addition to issues related to increased drug and alcohol use, women in the community of Baker Lake identified language conflicts and the loss of traditional cultural practices as significant problems created by the Meadowbank Mine (Nightingale et al. 2016). In this regard, interviewees predicted similar impacts in terms of potential uranium development in the region:

I'm thinking because Agnico is already open, most of the young people are losing the language, and losing how to hunt and sew. So I'm thinking if they open uranium its going to get even worse, losing the language more and most of the young ones are asking how do you butcher the caribou, how do you skin the caribou? How do you prepare the skin for sewing kamiks or mitts? And most of our elders are slowly going away, so it's going to be kinda hard to try and keep our culture alive. (Female Inuit Interviewee, December 5th, 2016, Baker Lake)

There will still be loss of language with because more than half the people who work at these mines or exploration camps are from another culture, we as a people, so the more time we spend as a people with other cultures a lot of the time you are loosing your own because you are integrating I guess a lot of time with, so that's a fear. And it's a constant fear, whether we are amongst our own people or not. It's something that's real and it's happening. (Female Inuit Interviewee, November 27th, 2016, Baker Lake)

These statements express how the loss of culture is currently occurring in Baker Lake, and how it is a source of sadness and fear for some interviewees, as it threatens Inuit identity, well-being, and cultural continuity. At the same time, other interviewees explain how they see these changes as inevitable. For example:

I don't believe that we should protect our culture at all costs and inhibit change you know I think that we need to be proactive in how we are looking at the change that's occurring, because let's be real we can't stop change that's occurring. (Male Inuit Interviewee, December 4th, 2016, Baker Lake)

You think about the future. I think we are at a time now that education and training and jobs are vital to success in every community, we can't solely rely on traditional hunting, you know there are still people who try and do that, but its just...can't do anything without income support from the government. (Male Inuit Interviewee, December 4th, 2016, Baker Lake)

These statements reflect conflicting and diverse views within the community in terms of the importance of engaging with western ideas of progress and industrial development and maintaining and reclaiming Inuit culture.

Inuit culture represents a key point of intersection between well-being, social cohesion and the biophysical environment, specifically the land. The land is a site of cultural memory and collective identity; it is a source of Inuit history, knowledge, values, cultural practices, and language (Kushwaha, 2013). The maintenance of cultural traditions and language are key elements in cultivating a sense of both community and individual identity, and they have been identified as a key social determinant of Inuit health (ITK, 2014). For many Inuit, well-being is intimately tied to the land (Kral et al. 2011) as it is “imbued with and provides for cultural connectivity” (Jones and Bradshaw, 2015: 89). Being out on the land is for many Inuit a spiritual, healing, and social activity (Dowsley, 2015; Jones and Bradshaw, 2015). This conceptualization of well-being diverges from AREVA’s assessment that separates individual, family, and community well-being from traditional culture. Many interviewees described how land-based activities such as hunting, camping, drying caribou meat at one’s cabin, and simply just “being out on the land” brought peace and ease to their lives. Experiences on the land are a source of social connection; it is a place where families gather, reinforcing the importance of kinship (Pauktuutit, 2006). Inuit interviewees described their experiences out on the land:

If you ever get a chance to go to the land, if like you have a weekend to go hunting with somebody or go to the lake and catch a fish, the wind in your ear or the silence, or watching the sun move across the sky, or having time to yourself, and jig, jig, jig, maybe catch a fish...If you are lucky, having time to yourself to really breathe in fresh air. You know you can’t buy that. Its not for sale either. You know? (Female Inuit Interviewee, December 2nd, 2016, Baker Lake)

Being out on the land it’s very peaceful, and there’s family staying close together, spending a lot of time with each other, and learning how to hunt and fish and all the survival skills. (Female Inuit Interviewee, December 5th, 2016, Baker Lake)

So it’s home, out there. If I didn’t have to make money I would be out there all the time. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

These statements express how the land is embedded with meaning, memories, and connection. Moreover, they reflect Inuit conceptualizations of the land as home. As such, the extensive

landscape alteration, habitat destruction, and possible contamination associated with uranium development has the potential to not only transform the environment, but also alter Inuit culture, social relations, and well-being.

Conflict between sites

Despite the remoteness, high cost of living, the harsh, cold and dark winters, the swarms of mosquitos that invade the summer months, what was special about Baker Lake—to almost all interviewees—was that it was home, a statement that for many escaped explanation; it was simply the place they called home, and many people could not imagine living anywhere else. However, what threatens this sense of place varies between members of the community based on their past experiences, values, and stakes. For instance, this sense of place can be perceived to be threatened by the potential lack of employment opportunities, but at the same time by the possibility of an environmental disaster. One Inuit interviewee elaborated on how the employment opportunities generated through Meadowbank enabled them to live in Baker Lake:

Home is home. Work anyways. Employment has gone up. Just like anywhere else you go where the work is. Luckily it's here in my town, so I have been working here ever since. (Male Inuit Interviewee, November 24th, 2016, Baker Lake)

On the other hand, another Inuit interviewee described how they felt as though their home was threatened by a possible mining-related accident:

Nunavut is directly translated into “Our Land”, so to kinda think about that. AREVA is a multinational company, this isn't really their home, so they can be as careful as they can be, as careful as a company can be, but at the end of the day if there's a disaster they are not the ones that have homes and families and livelihoods here. You know if there was an environmental disaster that was linked to the mine I think it would probably spell the end of Baker Lake and I can't even imagine what it would be like to not live here, you know what I mean? (Male Inuit Interviewee, December 4th, 2016, Baker Lake)

These two statements exemplify the conflict that emerged during my fieldwork between the uncertainty surrounding the potential environmental transformation that a uranium mine could

induce and the uncertainty embedded in the employment future of Baker Lake. Although the engagement with the mineral economy has helped Inuit maintain their connection to their home and land, it has simultaneously threatened this connection. This conflict reflects the clashing of two worldviews and their concomitant and contradictory cultures, values, and economies.

Mining is embedded within the capitalist economic system that finds its success in the expropriation of land and labour (Robbins, 2004). In some cases, Indigenous participation in the wage economy has been linked to the dispossession of their land and resources; on the other hand, engaging in wage labour is understood to be a choice that benefits one's circumstances and Indigenous self-determination (Fernandez and Silver, 2017). Yet, ultimately integration into the labour market is reflective of an engagement and conformity to the dominant capitalist economic system. Mining and the wage-based economy perpetuates western values of individualism, self-interest, competition, and the logic of markets (Czyzewski et al. 2014). Comparatively, prior to European contact, Inuit society was based on a local subsistence economy that promoted values of sharing, communalism, cooperation, and kinship (Knaus and Hund, 2015). Baker Lake is characterized by both the wage economy and the harvesting economy, and so too their conflicting values and cultures. It is precisely this entanglement of values that explains why concerns associated with these two sites of uncertainty (environmental transformation and employment future) were at the heart of the contemporary uranium mining controversy in Baker Lake.

Cultural approaches to risk posit that risk selection is based on judgments that align with the values of a specific culture. According to Douglas and Wildavsky (1982), "the choice of risks

and the choice of how to live are taken together. Each form of social life has its own typical risk portfolio. Common values lead to common fears” (p. 8). A risk portfolio includes—out of all the possible dangers—the risks that acquire attention. They are the risks that a social group chooses to collectively worry about based on moral judgments and cultural norms (Lupton, 1999). As such, risk selection can reveal diverging values within a social system. For example, opposition to the Kiggavik Proposal focused on uncertainties surrounding the potential environmental transformation site of uncertainty. This selection of potential threats to the environment aligns closely with the values of Inuit culture and the subsistence economy. On the other hand, support for uranium development focused on the employment future site; the selection of the threat of unemployment aligns with western values and the wage based economy. Yet, polarizing the controversy in this way fails to capture the complexity of individual experiences, emotions and the entanglement of values. This conflict between these two sites was not only expressed between informants, but also manifested at the individual level, revealing how two cultures have become so enmeshed in contemporary Inuit society that people feel torn between two ways of life, they are “caught between two cultures” (Kral et al. 2011: 432). For example, one interviewee stated:

The fact that employment for families is very important and also full-time hunters need to be able to harvest their traditional diet, so that’s where we are today we are caught in the middle of something like this...I wish we were able to have the best of both worlds where we can have a mining production open and traditional harvesting happening at the same time with no effects on the other. (Male Inuit Interviewee, December 4th, 2016, Baker Lake)

Moreover, referring to Meadowbank, one interviewee described the emotional impact of this inner conflict:

People that are working at the mine because they have to feed their family, to live, but they also don’t want the caribou or the wildlife to be harmed, and so they are, they’re stressed about it. They know that mining is playing a part in it, the mining industry, and it’s also affecting the caribou and they are, they are stuck.

They need the job to feed their family, but they also don't want to lose caribou or the fish. (Female Inuit Interviewee, December 5th, 2016, Baker Lake)

The manifestation of this conflict at the individual level reflects how Inuit are amidst a deep cultural transformation; they are in the process of finding a balance between the maintenance and revitalization of Inuit culture and way of life, while simultaneously engaging with western society. This exemplifies a situation where there is a large degree of social uncertainty, which is defined “as the area where there is some symbolic blurring of, or transgression between, the known boundaries of cultural purity” (Zinn, 2008: 144). The blurring of cultural boundaries in Baker Lake stems from the extensive rupturing and subordination of Inuit culture by dominant colonial and capitalist forces, whose impacts continue to be “lived out” (Pratt, 1992:4), as well as the ways in which Inuit have, to varying degrees, resisted, conformed to, and absorbed certain aspects of western culture. Consequently, risk selection, as a strategy used to maintain socio-cultural boundaries and protect a distinct way of life (Lupton, 1999), has also become muddy and unclear, evidenced by the conflict that emerged between the environmental transformation and employment future sites. This conflict and so too these two sites of uncertainty are underlain by different modes of self-sufficiency, specifically those associated with the harvesting economy and the wage economy. Yet, this dichotomy does not represent contemporary realities in Nunavut where these two modes intertwine, collide, and operate in parallel. For example, land-based activities have become increasingly intertwined with the wage economy, more specifically the mineral economy in Baker Lake; this entanglement has occurred in both mutually supportive and contradictory ways (Bernauer 2011b). Income from employment can be invested in materials and tools for hunting, while newly constructed mining roads have enhanced access to land. Yet, this engagement with the wage economy can also decrease the amount of time available for hunting and being out on the land, which is already constrained by limitations such as weather

conditions and the availability of wildlife (Bernauer, 2011a; Southcott, 2015). As such, this muddy response emanates from the space between these two modes, which is characterized by an entanglement of values, cultures, and ultimately conceptualizations of identity and well-being.

Mary Louise Pratt (1992) describes “contact zones” as “social spaces where disparate cultures meet, clash, and grapple with each other, often in highly asymmetrical relations of domination and subordination” (4). This term recognizes how colonialism continues to be “lived out” and is useful to trace the ways through which the boundaries between Inuit and western cultures have become increasingly blurred. The mixed economy has been described as “culturally-appropriate adaptation to dynamic but uneven economic opportunities; the result of a long history of economic adaptation by Inuit” (Hicks and White, 2000: 37). This history of economic adaptation is embedded with shifting and interconnected modes of self-sufficiency (i.e. harvesting, trade, and wage economies) as well as periods in which Inuit were dependent on outside forces¹⁶ (i.e. missionary aid and government assistance). The fluctuation between modes of self-sufficiency and dependency is reflective of a delicate interplay between Inuit agency and lack thereof; this interplay has profoundly impacted Inuit well-being and transformed Inuit identities as they are inherently tied to mutual and self-reliance (Tagalik, 2007). Pratt (1992) emphasizes the agency of subjugated peoples within the contact zone. She states that: “while subjugated peoples cannot readily control what emanates from the dominant culture, they do determine to varying extents what they absorb into their own, and what they use it for” (6). Conceptualizations of Inuit well-being and identities are reflective of the ways through which Inuit have resisted, conformed to, and absorbed certain aspects of western culture. At the same time, they represent the ways

¹⁶ This dependency and its ongoing legacy is intimately tied to the, in many cases forced, transition towards sedentary life, as relief was provided to Inuit as compensation for lack of mobility (Billson, 2001; Tester and Kulchyski, 1994).

through which Inuit have found space to maintain, adapt, and reclaim their culture and identity in the face of colonization and domination. Consequently, these conceptualizations are diverse, dynamic, and continually form and reform in relation to both external and internal forces and processes. The sites of uncertainty identified at the community level represent these converging, overlapping, and conflicting dimensions of Inuit well-being and identities; they demonstrate how they are deeply relational, continually changing, and largely defined in the space between two cultures. One Inuk interviewee described the intricacies of this space and the importance of finding one's identity in this space:

I can't say go back, I can't say live [in] igloos let's forget about all the luxury, there's no way we will ever go back to that. The thing is that you have to find your own identity, you have to be able to live with it, if you can't there is a major problem. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

This interviewee points to a contemporary challenge facing Inuit, that is, navigating that space between two cultures and reclaiming one's identity. Yet, this space cannot be construed as homogenous, as experiences within this space vary between individuals, families, generations, and communities. As such, the muddy responses and conflicted imagined futures that emerged are reflective of the complexity and diversity of histories, experiences, values, and views within this space.

Conclusion

Drawing on the concept of sites of uncertainty, this chapter has explored the ways through which uncertainty was expressed, experienced, and translated at the community-level. It has shown how power asymmetries, relationships, values, cultural beliefs, collective memories, and trust all shape understandings of uncertainty (Boholm, 2003). Moreover, the above analysis has argued that these sites reflect situated experiences of uncertainty, that is, they are attentive to the relational and contextual dimensions of these states of not knowing (Cameron, 2015). These sites

of uncertainty are embedded with diverse conceptualizations of self-sufficiency, well-being, and, ultimately identity, resulting in muddy and conflicted responses to the situation at hand and imagined futures of Baker Lake. This chapter has emphasized the importance of exploring “what people value and why they value it”, as a means to illuminate the richness and complexity of lived experiences, experiences that are often subverted during technical environmental review processes (Jasanoff, 2007: 33). The sites of uncertainty framework has traced how disjunctures in the ways through which actors engage with the ‘known’ and ‘unknown’ can result in conflict and controversy. Departing from these complex engagements, the following chapter will explore how both “knowing and not knowing have consequences”, consequences that affect peoples’ lives (Cameron, 2015: 35).

Chapter 6: Improving education: a contemporary Inuit response to uncertainty

Introduction

According to Michel Callon and his colleagues, uncertainty ultimately renders “the future opaque and threatening” (2009: 19): if people feel as though their health, well-being, or livelihood are threatened, they will develop coping strategies (Rappaport, 1996). Throughout my field season, improving education emerged as one key response to contend with overwhelming uncertainty characterizing the Kiggavik Proposal. In its broadest sense, education is intimately tied to envisioning the future. Different cultures and histories imagine the future in ways that align with their own worldviews, values, and, ultimately, conceptualizations of survival, self-sufficiency, and security. When these worldviews, values, and conceptualizations diverge, conflict, and intertwine, as the previous Chapters have described, so too do the forms, types, and methods of knowledge and skills transferred. The majority of informants referred to education in a decidedly western way; they emphasized attributes of the southern Canadian school system such as the history of residential schools, literacy rates, absenteeism, social promotion, high school graduation rates, the quality of teaching staff, and the attainment of post-secondary education. Being more educated was tied to notions of self-sufficiency, employment opportunities, increased income, and ultimately an engagement with western values of individualism, competitiveness, and economic efficiency. While some interviewees did emphasize the importance of bilingual education and cultural programs, the response that improving Inuit education was a fundamental component in the decision to develop (or not) a uranium mine in the region referred to education in a southern sense. As such, the following section will deconstruct how and why this response was embedded in southern conceptualizations of education and what it seeks to achieve. This is not to discredit the countless

other forms of education, knowledge acquisition, and learning that continue to be a part of Inuit culture, rather the intent of this chapter is to understand why this response emerged and how it is situated in a complex field of power.

Drawing on governmentality theory, this chapter will first trace the multi-faceted history of education in Nunavut, particularly the ways through which education in Nunavut is simultaneously an area of empowerment and disempowerment, as it is underpinned by notions of lack of control and colonial inferiority, while at the same time, self-determination and autonomy. Following this, it will provide a nuanced description of how improving Inuit education was understood as a way to rectify a perceived knowledge deficit and enhance access to employment opportunities, however the ultimate objective of this response was to address societal inequalities. It will conclude by exploring how this response reflects a contemporary Inuit engagement with the future, one that is reflective of an intermeshing of Inuit and western worldviews.

Multi-faceted history of education in Nunavut

The relatively short history of colonialism in Nunavut has engendered drastic and condensed transformations on Inuit education. Dalseg (2014) emphasizes how the shifts in responsibility for education have been accompanied by diverging and conflicting visions and varying impacts:

In the course of one lifetime, responsibility for Inuit education has changed hands from extended families, to the churches, to the federal government, to the territorial and provincial governments, and finally (back) to Inuit through land claims and self-government agreements, and the creation of a new territory. With each handover came significant changes in vision and implementation. Some of these changes have been positive, while others have had problematic, if not damaging, effects. (n.p.)

Dalseg (2014) points to the paradoxical nature of education in Nunavut. In many ways, education has had incredibly disempowering effects on Inuit lives, as it has ruptured Inuit identity, culture, languages, and families, and rendered Inuit powerless in many decisions regarding their future.

Yet, as some argue, it has also been identified as a site of empowerment, transformation, and self-determination, however this has largely occurred by conforming to southern Canadian society, particularly its norms, governance structures, and economic and legal systems. For instance, one interviewee reiterated this point and described the complexities of these two worlds:

I have a bit of both worlds, I know both, sometimes they clash, sometimes they merge, but what I find in Nunavut, Inuit are more willing to negotiation, they are diplomatic about, we don't have all these riots, we know compromise is the best solution, without that, I mean we have to be able to educate ourselves enough to work through the courts and deal with the legal system, its not just let me flex my muscles and let me see, they'll go away, they will never go away, I know that, we are under government laws, people go to jail if they go too far, there is no break for Inuit, even if its in our land. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

This statement points to how becoming 'educated' in a southern sense was a mechanism through which Inuit were able to influence their future, however as the following section will explore this occurred by conforming to western society and came at the loss of Inuit culture, language, and identity.

Prior to colonization, Inuit education was integrated with childrearing practices and daily activities. Education was delivered through extended family relations and reflected a child-centered approach that was underpinned by a caring relationship between the learner and the teacher. Learning occurred through the methods of observation, practice, and experience, and was largely directed towards the acquisition of environmental knowledge and skills pertaining to survival in the Arctic environment (McGregor, 2010). In this sense, intergenerational knowledge transfer was a foundational component of cultural continuity, and therefore, intimately tied to survival in the Arctic (ibid). As contact with Qablunaat agents increased, Inuit education underwent significant transformations in terms of its form, control, and ultimate objectives. The establishment of missionaries resulted in the introduction of Christian teachings, and so too the

rupturing of many cultural traditions associated with Inuit shamanism and cosmologies, as well as the development of syllabic representation of Inuktitut, which enabled the instruction of western hygiene, arithmetic, and basic Inuktitut literacy (Gavira, 2015; McGregor, 2010). Prior to the development of Inuktitut syllabics, knowledge was transferred orally through histories, legends, and stories (McGregor, 2010). Although these interactions had profound impacts on Inuit, they were not as transformative as the subsequent introduction of federal schools, which have been described as “culturally assimilative and the most significantly disempowering colonial practice imposed on Inuit” (McGregor, 2010: 55).

In the 1950s, the view that assimilation and economic development would improve the welfare of Inuit strongly influenced the federal government’s northern interventionist agenda, specifically the development of settlements and federal schools. At this time, the federal government took the position of “telling Inuit how to prepare for the future”, as they believed that Inuit did not have an adequate understanding of western society, and, consequently could not make decisions for themselves (QTC, 2013: 25). Disciplinary power was used to control and transform Inuit into governable subjects. In contemporary society, Li (2007) notes that discipline, as a form of power situated within Foucault’s (1982) “triangle”, has been reserved for subgroups that exist outside of the colonial population. Repressive disciplinary practices were justified on the basis that they would prepare these groups to become capable, contributing subjects of the population at large (Li, 2007). In this sense, disciplinary power focuses on the individual, albeit as a member of a collective; it aims to create docile and productive subjects by controlling the body and its forces and capacities (Dean, 2010; Gordon, 1991). Settlements, federal day schools, and residential schools were all mechanisms through which disciplinary

power was exercised over and through Inuit in Nunavut. They attempted to impose western notions of time and space as a means to regulate thought, actions, and ultimately the conduct of Inuit. Moreover, disciplinary power involves the establishment of a prescriptive and optimal model, the norm; it operates in a way that directs individuals to conform to this norm (Foucault, 2007). Consequently, this norm serves to establish what is ‘normal’ and what is ‘abnormal’ (ibid). Within the context of the educational system in Nunavut, this norm was and in many ways continues to be the southern Canadian student.

In Baker Lake, the introduction of the day school in 1957 has been identified as one of the primary reasons families relocated into the settlement (Bernauer, 2011a). McGregor (2010) describes how many Inuit parents reluctantly relocated from the land into settlements in order to be close to their children who were attending day schools. Moreover, Bernauer (2011a) contends that “although attendance at the school was technically voluntary, Elders described a power dynamic in which they were unable to refuse to send their children to school” (35). This dynamic is reflective of how power, in the Foucauldian sense, “is a mode of action, which does not act directly and immediately on others. Instead, it acts upon their actions” (Foucault, 1982: 789). As such, power can only be exercised over people who are capable of acting, that is, “free subjects” (ibid: 790); “free subjects” are ‘free’ in the sense that they are “faced with a field of possibilities in which several ways of behaving, several reactions, and diverse comportments may be realized” (ibid: 790). As such, this ‘freedom’ and ‘agency’ are situated within a complex field of power that has forced Inuit to act and govern themselves in a specific way in order to influence their future.

The federal government understood formal education and technical training to be the link between economic development and Inuit well-being (QTC, 2013). Education was presented as a barrier for Inuit to overcome, it was the “great hope for the future” (QTC, 2013: 50), that is, education would enable Inuit to be successful in western society, and, consequently improve the welfare of the population, specifically its wealth, longevity, and health (Gordon, 1991). Yet, this was to be achieved in ways that align with the interests and values of western society, not those of Inuit. As such, many of these schools had profound and ongoing impacts on Inuit well-being and identity through the separation of children from their families, the loss of Inuit languages, cultural assimilation, and sexual, emotional, and physical abuse. These schools served to dismantle existing forms of Inuit education and intergenerational knowledge transfer, which consequently removed control and responsibility for education away from Inuit families (McGregor, 2010). Additionally, the concomitant relocations into settlements “undermined the essential relationship between Inuit and their land” and further ruptured Inuit culture (ibid: 58). This period positioned Inuit in-between two worlds characterized by very different ways of knowing, being, and ultimately surviving. These attempts to integrate Inuit into western society forced many Inuit to re-conceptualize notions of self-sufficiency, as previous means of survival were no longer possible. In this sense, education became a “tool” (Annahatak, 1994: 13) for survival in western society. As one Inuit interviewee emphasized, the link between survival and education “in this world” was neither known or knowable by Inuit parents:

We got put in start out [sic] with residential school thing and probably starting just in the past 50 or 40 years, and our parents did not know first thing about education or what it can do for you. Probably no more than your parents can’t tell you how to be a hunter and how to *survive out on the land*, what do they know? So basically, we are in a situation where our parents don’t know anything about the benefits of education. So how could they possibly push their children to go to school and get educated? That its going to help them in the long run to *survive in this world*. (Male Inuit Interviewee, December 4th, 2016, Baker Lake) (emphasis added)

It is important to note that this view was not universal; some parents saw their children's education as a means to escape government dependency and pursue a semi-traditional lifestyle (McGregor, 2010). This statement also reflects the division that was created between two generations through federal schooling. John Amagoalik (2007) describes the consequences of this division:

Many became alienated from their parents. Many were less able to communicate with their elders. And, of course, many could not obtain the skills and knowledge needed for Inuit to survive in the Arctic. We had been further removed from our culture, history and our natural environment. We got better educated in the white man's world, but it was at the expense of our culture. (12)

Despite the traumatic and ongoing legacy of federal schools in Nunavut, individual and community experiences have been inconsistent, multi-faceted, and, for some, not entirely negative (McGregor, 2010). For instance, some residential schools created opportunities for networking, community building, and solidarity, as they brought Inuit from geographically dispersed and isolated communities together (ibid). Peter Irniq (2012) explains how this has created a conflicting relationship towards education:

That is the terrible tragedy in all of this. Those of us who became the best educated and the most capable of leading the drive toward the creation of Nunavut—of talking back to Qablunaaq—were also the ones to be most negatively affected by the same education that made all of this possible. (n.p)

This statement emphasizes how education has enabled Inuit to “talk back” and resist Qablunaaq ways of knowing, being, and, doing that were imposed upon them. For some Inuit, the education delivered at these schools enabled them to pursue “their own vision for life in the Arctic, including pursuing the Nunavut land claim and self-government” (McGregor, 2015: 25). In this sense, education is underlain by notions of Inuit self-determination. Zebedee Nungak, an Inuit thinker, stated that:

The first generation of Inuit who had gone through formal education were maturing around that time and giving an intellectual presence to something that always existed, which was, “We don't want to be

governed by people who don't know our culture, our language, and our land.” (cited in Amagoalik, 2007: 58)

This statement positions education as a way for Inuit to voice their frustrations in the face of colonial powers and reclaim control over their future. This sentiment expressed by Zebedee Nungak is reflective of a desire for “a different form of conduct”, that is, to be “conducted differently”, “by other leaders”, and “towards other objectives” (Foucault, 2007: 259). Foucault (2007) refers to this form of struggle against processes embedded in the “conduct of conduct” as “counter-conducts” (268). Essentially, “counter-conducts” is a form of resistance to the practices embedded in the prevailing form of governmentality; these movements seek to redirect and redefine how one is governed. As such, improving Inuit education is form of “counter-conducts” that is situated within a complex and specific field of power that has forced Inuit to conform to western norms in order to “influence the society in which they are part of” (Dean, 2010: 21). At the same time, as the following section will explore, Inuit education is also a “practice of the self”, whereby Inuit seek to rectify a ‘deficiency’ within themselves (Dean, 2010; Li, 2007).

Deficit framing in Inuit education

Several interviewees referred to education in Nunavut in a way that was underpinned by a sense of lack and deficit. The following statements exemplify how Inuit education was understood as an area of improvement:

We are not educated...We need to get educated. (Male Inuit Interviewee, December 12th, 2016, Baker Lake)

I think that our community and every community can do a lot better encouraging our youth to get educated, that's bottom line. (Male Inuit Interviewee, December 8th, 2016, Baker Lake)

This is also reflected in *First Canadians, Canadians First: National Strategy on Inuit Education* (2011), in which Mary Simon speaks of “closing the educational gap” between Inuit and other Canadians:

The reality of Inuit education in Canada is that too many of our children are not attending school, too few are graduating, and even some of our graduates are not equipped with an education that fully meets the Canadian standard. This is the greatest social policy challenge of our time. Some 56% of our population is under the age of 25, so improving educational outcomes is imperative. Our education systems are only just emerging from the long shadow of residential schools which had a profound impact on our families and communities...We know that its impact will be measured in our actions and our determination as Canadians to seize this moment to do something truly significant for the next generation of Inuit — address the deficit in Inuit education. (3)

Mary Simon emphasizes the socio-political context (i.e. the legacy of residential schools), yet this recognition fits within the deficit framework. For instance, she refers to the “Canadian standard”, “improving educational outcomes”, and “the deficit in Inuit education” (3). One interviewee echoed this disparity between Inuit and other Canadians in terms of education:

Make sure that Inuit get the best education in both English and Inuktitut to be able to operate in Nunavut, and making sure that the Nunavut system was on par or better than the Canadian system. Right now I do not believe that we are on par. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

These views are reinforced by stark statistics that perpetuate messages of failure and deficit. For instance, the average high school graduation rate in Nunavut (35%) pales in comparison to the Canadian average (85%) (Hicks, 2013; Stats Canada, 2011). This deficit discourse is problematic because Inuit education then becomes a ‘technical’ problem to ‘fix’ (Altman and Fogarty, 2010) and the “antidote to failure” (Harrison, 2007: 44). It serves to mask underlying assimilative objectives under the guise of normalization (i.e. moving towards a non-Indigenous standard) (Altman and Fogarty, 2010; Vass, 2013). Moreover, this framing serves to situate the deficit within Inuit, and, therefore, Inuit are expected to change, and effectively “insulates existing institutions, systems, and power structures from an expectation to change” (Pholi et al. 2009: 10). As a result, deficit framing fails to address systemic barriers that maintain the dominance of western society and perpetuate inequalities.

Improving education and the Kiggavik Project

Retentions of this deficit framing and colonial history of education have permeated into the uranium mining controversy in Baker Lake. Interviewees identified two ways through which they saw improving education to be foundational to the decision to develop (or not) a uranium mine in the region. Firstly, improving education was understood as a way through which the community would better understand the potential impacts of uranium mining. Secondly, Baker Lake residents noted that improving education would enhance the community's ability to capitalize on employment opportunities at all levels, not just non-skilled or semi-skilled positions. For example, one interviewee voiced these two arguments:

Hopefully in the future they will have of [sic] solved some of the issues we have in terms of the migration of caribou, what effect it has on the stocks we have in terms of fish, and you know people who have better education/are better educated to be able to work in the mine and understand what uranium mining really is and how it affects people and the environment. (Male Inuit Interviewee, November 22nd, 2016, Baker Lake)

While this Inuk interviewee points to the uncertainty embedded in the impacts of the Kiggavik Project, he also problematizes the community's technical and scientific knowledge and their capacity to capitalize on employment opportunities. These are two deficiencies that are understood to be rectified through education, they are ontological aspects of the self that Inuit seek to act upon (Dean, 2010). In this sense, education is an example "practice of the self", whereby Inuit draw on western norms, knowledge, and 'expertise' in order to become educated in southern terms (ibid: 20). Yet, the underlying purpose of this response, the end goal sought, was not simply to become more educated, rather, as this chapter will argue, it was understood as a way to address societal inequalities, which surfaced in both the decision-making process and employment opportunities. As such, this "practice of the self" can also be understood as a form of "counter-conducts", one that reflects the desire to be governed differently.

Technical knowledge deficit

Several informants described how improving education would enhance the community's understanding of the potential impacts of uranium mining, and, through this acquisition of knowledge, enable them to make a more 'informed' decision. This framing positions the community's scientific or technological knowledge in a state of deficit and lack, while also limiting their perceived capacity for engagement. Michael (1996) argues that the absence of knowledge is actively constructed; in reflecting upon the status of their knowledge, people draw on social and political contexts to set up a relationship between themselves and scientific or technological knowledge. As such, the causes for this absence of knowledge can be linked to social and cultural identities and relations of dependence, co-operation, and/or challenge towards power (ibid). Underpinned by a belief in the superiority of western society, in the 1950s, the government's interventionist actions were justified by the view that Inuit did not have an adequate understanding of the western world, and, consequently could not make decisions for themselves (QTC, 2013). In an assimilative sense, education was presented as a way to integrate Inuit into western society, and address these so-called knowledge inadequacies. Moreover, this served to attribute an absence of western knowledge to a lack of education. As such, the response that education was the solution to the community's perceived knowledge deficit is entrenched in this history and the deficit discourse that it projects. For instance, one interviewee sees education as a way to ameliorate the community's understanding of uranium mining, specifically by improving the knowledge transfer between parties:

Education I see is the way to make sure we will be able to be a fair playing field so that those who are negotiating or at the higher levels of these discussions are able to communicate it with everybody that they represent so that everybody is understanding what is going on, not everybody understands what is going on. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

This statement attributes the community's lack of understanding to a lack of education, and emphasizes underlying relations of difference in education. Moreover, it positions education as a way to address inequalities in the decision-making process and create a "fair playing field". This same interviewee points to absence of Inuit 'experts' at the Final Hearing:

We need to be educated to understand the whole process, and the people at the hearing, the first round of interveners, there were no Inuit there, there were experts at the table and I said that maybe once we are ready and we have Inuit at all those levels of expertise then its time to make a decision about that. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

This statement contains historical retentions of distrust and resistance to decisions regarding Inuit lives being made by non-Inuit, while at the same time, it envisions education as a way to have more of a voice and ultimately control over the future. This is reflective of how Inuit have been and continue to be forced to govern themselves in specific way, one that conforms with western norms, knowledge, and 'expertise', in order to influence their future. Additionally, this statement positions expert knowledge as the basis of the decision-making process, and, therefore, the acquisition of this form of knowledge through education is understood as a way to become more involved. In some cases, this lack of this technical or expert knowledge resulted in disengagement from the issue. For instance, some community members cited their lack of knowledge pertaining to uranium mining as a reason for not wanting to partake in an interview. As such, education is not only framed as a way to move away from a knowledge deficit, but also as a way to address inequalities and move away from relations of dependency and inferiority; it is understood as way to be governed differently, a form of "counter-conducts" (Foucault, 2007: 268).

Although these ideas of colonial inferiority and dependency have informed how some informants contrive the relation between themselves and authoritative or 'expert' knowledge, it is important

to recognize the diversity of relations to expert knowledge. For instance, one interviewee described how their context-specific knowledge, derived from relationships within the community, enabled them to see flaws in the expert knowledge presented at the Final Hearings for the Kiggavik Project:

I think my fear coming into that was that I was not an expert as many of these people were. There were scientists, there were people who knew water, air, caribou, whatever, experts in every area, and they all took turns speaking, but the more I heard the more I realized that they were coming in with this scientific focus or whatever focus it may be, but I was a community member that was it, I was an Inuk that was it, I was coming with my own experience and background and I was speaking for the common Joe, and that realization, that I was an expert in my own thing...there were opportunities where I could see the mistakes or fallacies or whatever they were, and I could question them. I came with my own knowledge and experience or that of people that are around me, family members, hunters in the family, people that needs jobs, what people have concerns, the concern of the 3000 one-way trips on our lake on our community. I came with my own concerns as a resident of the community, as an Inuk, as a family member of people you know? So its suddenly that fear was just gone, I suddenly knew I'm right where I belong. (Female Inuit Interviewee, November 27th, 2016, Baker Lake)

This interviewee emphasizes the value in their context-specific knowledge, as it has provided them with the ability to question 'expert' knowledge. This statement disrupts the view that a deficit in technical or scientific knowledge acts as a barrier to engagement in the socio-technical controversy, and reflects the diversity of ways through which people contrive relations between themselves and 'expert' or authoritative sources of knowledge (Micheal, 1996).

Access to employment opportunities

Improving education has and continues to be tied employment, Inuit well-being, and capacity for self-governance (ITK, 2014). In various policies and programs, education has been identified as a critical component in the path towards social and economic sustainability in Nunavut (Gavira, 2015). For instance, in Mary Simon's recommendations for developing a new Arctic Policy Framework (2017), which is expected to replace Canada's Northern Strategy, education is identified as a key priority; she contends that "healthy, educated people are fundamental to a vision for sustainable development" (n.p.). This contains retentions of the federal government's

view in the 1950s that education was the link between economic development and the welfare of Inuit (QTC, 2013). These views are rooted in western economic rationality and knowledge; they portray improving education as ways through which Inuit can become more ‘productive’ members of society specifically by addressing human capacity deficits that impair engagement in the wage economy and consequently economic growth and development. In this sense, education is understood as a way to enhance and optimize the well-being of the population at large (i.e. in terms of its health, happiness, prosperity, and efficiency) (Dean, 2010). This permeated into the responses to the Kiggavik Proposal, as improving Inuit education was not only understood as a way to address the technical and scientific knowledge deficit and the relations of dependency and inferiority that it has perpetuated, but also as a way to access employment opportunities at all levels, not just lower level positions. For example, one Inuk interviewee points to how Inuit are currently not adequately prepared in terms of education and training to capitalize on the higher “rung” jobs:

We as Inuit aren’t prepared for in the way to have all the different types of jobs, not just the lower rung jobs, but the higher rung jobs like mechanical engineers, tailing pit management engineers, understanding the chemistry and the physics of uranium processing, extraction, a whole gamut of understanding uranium, I don’t believe we as a people understand it yet. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

This view reflects a deep recognition of how education has and continues to be a divisive force in Nunavut. Across the Arctic, education is seen as the “portal to opportunity” (Simon, 2017: n.p.), and increasingly, achieving higher levels of education is seen as a prerequisite for many of the existing and emerging employment opportunities in Nunavut (National Committee on Inuit Education, 2011). Yet, education and adequate training have repeatedly been identified as barriers to Inuit employment (PwC, 2003). For instance, Article 23 of the Agreement stipulates that Inuit employment in the Nunavut government should be representative of the Inuit

population of Nunavut, yet this article remains largely unfulfilled. Currently in Nunavut, 84% of the population is Inuit, yet only 51% of the public service workforce are Inuit (PwC, 2017). This disparity is even greater when considering representation at higher levels such as executive positions (33% Inuit), middle management positions (33% Inuit) and senior management positions (23% Inuit) (ibid). Additionally, this disparity is apparent in employment distribution in the mining sector. For example, most Inuit who work at Meadowbank hold unskilled or semi-skilled positions (Stratos, 2016). The response that Inuit need to become more educated to capitalize on the employment opportunities at all levels is not only rooted in this existing disparity, but also in notions of inequality. For example, one Inuk interviewee connected this disparity to inequalities experienced in Baker Lake:

They [interviewee's children] deserve every equal opportunity as any southern Canadians, we don't want to be social recipients, we can't depend on social assistance...we want jobs, we need jobs, not me, our children need jobs. (Male Inuit Interviewee, December 9th, 2016, Baker Lake)

This interviewee continued:

We have a large youth population, what are they going to do? We should be trying to solve this problem, not going against it, we should be involved, be need to be involved, and we will be involved. So that our kids have equal rights to you, the Qablunaat, the white people have more privileges in this town than Inuks. I still believe as a local person we are third class citizens in our community. To this day, as we speak, I have less rights than you, you could probably land a job easier than I could, and you are not even from here, how frustrating is that? It's very frustrating, people from the South come here and they get first preference, and damn it we live here. (Male Inuit Interviewee, December 9th, 2016, Baker Lake)

This powerful statements speaks to the anger and frustration embedded in the inequalities that are perpetuated by this disparity in the labour force. Moreover, it reflects a strong desire to be more involved, specifically by enhancing access to these employment opportunities through education. Aaju Peter (2013), an Inuk lawyer, hunter, and activist, emphasizes this idea in relation to resource development in all of Nunavut:

We have to train Inuit first so that they can take full advantage of these opportunities. We demand to be full participants because this is where we live and we want to leave something good for our children and grandchildren. (47)

This statement reiterates the view that improving Inuit education and training are prerequisites in order to benefit fully from resource development, specifically through an engagement with the western economy. At this same time, it also reflects how this improvement is tied to notions of self-determination and control over the future, reiterating the paradoxical nature of education. In this sense, improving education is form of “counter-conducts” that reflects a desire to redirect and redefine how Inuit are governed (Foucault, 2007). Yet, in order to achieve this end, Inuit have been forced to conform to western norms, standards, knowledge and economic systems. Consequently, education is also a “practice of the self” whereby Inuit seek to rectify ontological aspects of themselves, deemed to be ‘deficiencies’ in relation to western norms, as a means to address inequalities and be more involved. As such, this response of improving education needs to be understood within the complex and specific form of power characteristic of modern governmentality.

Deflecting the decision into the future, a form of resistance?

Where there is power, there is resistance, and yet, or rather consequently, this resistance is never in a position of exteriority in relation to power. Should it be said that one is always “inside” power, there is no “escaping” it, there is no absolute outside. (Foucault, 1978b: 95)

Departing from Foucault’s notion of resistance being situated within power, this section will explore how the response of improving education is a form of contemporary Inuit resistance that served to deflect the decision about the Kiggavik Project into the future. While the previous sections have explained how this response involves conforming to western society in order to influence the future, this section will explore how the response of improving education aligns with Inuit values and methods of preparing for the future. It reflects an Inuit engagement with the world, one that is underpinned by patience and a cautionary relationship towards claiming

knowledge about the future. The following statement emphasizes how improving education reflects an intermeshing of Inuit and western worldviews:

The resource that is increasing rapidly within our territory is people, we have a young population and so we need to make sure we are educated in both English and Inuktitut to be able to get ahead. Otherwise I just felt that we were rushing into this game a little too soon, without really understanding what we were getting into... We are not ready, as people, educationally to be there, we don't need to just only have the mining jobs, the housekeeping jobs, and I said to the community that they need to wake their children up, have them go to school, finish their homework, keep on top of their education, and make sure they can be doing the best that they can do. Invest in our resource that is growing. (Female Inuit Interviewee, December 4th, 2016, Baker Lake)

Although these arguments reflect an engagement with the southern education system (i.e. languages of instruction, attendance, and homework), using wording such as “rushing into this game” and “we are not ready” serves to deflect the decision into the future, to time when Inuit are more educated, reflecting a patient approach to the situation at hand. Aaju Peter’s (2013) words reflect this approach to resource development in Nunavut:

The Inuit in Nunavut do not yet have the training nor the education to take full advantage of the development of non-renewable resources. As was stated by Simon Tookoome¹⁷ of Baker Lake, you have to let the first caribou pass and wait for the herd to come before you harvest. What is the rush to develop mines and extract resources? Who is benefitting from all this? Who will collect the money? Our ancestors have always taught us to be wise and exercise patience. We have to train and educate Inuit and make them full participants as is the practice in the rest of Canada. We have to train Inuit first so that they can take full advantage of these opportunities. We demand to be full participants because this is where we live and we want to leave something good for our children and grandchildren. We are in no rush and it is our duty to do it right for our grandchildren. (Peter, 2013: 47)

Metaphorically, Peters (2013) makes the connection between exercising patience when harvesting caribou and a patient approach to resource development through education and training. Patience is a highly valued character trait in Inuit society, as it is embedded within subsistence practices, and therefore, fundamental to survival in the Arctic (Pauktuutit, 2006). Accordingly, this patient approach to the unknown future resonates with Inuit ways of engaging with the world. Exercising patience while hunting (i.e. by waiting and observing) has been

¹⁷ Tookoome, Simon. (2004). Baker Lake artist/storyteller/elder (1934 - 2010). Quote from *Diet of Souls* documentary by John Houston.

interpreted as a way to acquire greater knowledge of the situation at hand (Wenzel, 2004). This same way of exercising patience has been applied to gain a greater understanding of uranium mining, its potential impacts, and how communities can maximize the benefits. An Inuk interviewee reiterates the importance of waiting when they described whether or not they felt as though uranium mining was an important part of Baker Lake's future:

Wait another generation or so. Let these kids decide, today's kids decide, what they think...wait until we have 100 more college graduates, or 100 more college or university graduates, just wait for another few thousands in post-secondary, maybe they will have a better understanding on [sic] the environment. Since we are getting better every generation at voicing concerns, and life generally up here. I can't answer that right now. (Male Inuit Interviewee, November 24th, 2016, Baker Lake)

This interviewee echoed the importance of waiting and improving education prior to pursuing uranium development in the region, and consequently, deflects the decision into the future. This interviewee also states that they "can't answer that right now", reflecting a cautionary relationship towards what can be known about the future. This acceptance that certain things cannot be fully known or controlled, in addition to patience, is a highly valued character trait in Inuit society, particularly as it relates to subsistence practices (i.e. unpredictable weather conditions) (Pauktuutit, 2006). In this regard, Qitsualik (2013) argues that in comparison to what is known about the Land, which in Inuit cosmologies is understood to inspire knowledge and awareness, there is a significant amount more that is unknown and simply cannot be predicted.

This is reiterated by Bates (2007):

Accepting that the future cannot be known allows appropriate preparation for uncertainty, rather than condemning a traveler to futile struggle against it. Inuit therefore focus on "keeping the show on the road", that is, opening up a path to the future in the present, rather than becoming overly fixated on the future before it has arrived. They respond to each situation as and when it presents itself. (90)

From this perspective, claiming knowledge about the future (i.e. through western modes of planning) is in some cases understood to be futile, impractical, and arrogant. This is not to say that Inuit cosmologies do not engage with modes of planning, rather they do so in a way that

does not align with western assumptions (ibid). Instead, preparation for the future involves developing in-depth knowledge of the present and refining skills of improvisation, adaptability, and flexibility, skills that are useful to respond to uncertain situations (ibid). As such, the response of improving education embodies these modes of preparation and exemplifies how patience and an acceptance of the unpredictable and uncontrollable nature of the Arctic environment continue to be a part of the way through which many Inuit engage with the world. At the same time, as education has been defined in decidedly western terms, it is reflective of the intermeshing of two cultures, worldviews, and ways of preparing for the future.

Conclusion

This chapter has traced the divisive and paradoxical history of education in Nunavut in order to underscore how the response of improving education contains retentions of the past as well as projections of possible futures (Barry, 2012; Barry, 2013). It has emphasized how this response is a “practice of the self”, whereby Inuit seek to rectify ‘deficiencies’, situated within themselves, as a means to be address inequalities and be more involved in the decision-making process. As such, this response is simultaneously reflective of a form of “counter-conducts” that is driven by the desire to be governed differently. This chapter has explored how this response involves a deontological component that has forced Inuit to conform to southern norms and standards in order to influence their future. However, improving education is inherently embedded in Inuit ways of engaging with and preparing for the future, and this response can therefore also be understood as a contemporary Inuit form of resistance that served to deflect the decision into the future. This nuanced analysis has not only revealed the complexities through which power operates, but also the ways through which it is resisted and contested. While power relations will

always exist, examining how one conducts themselves and others in relation to power opens up the space to consider the possibilities of thinking, acting, and resisting in different ways (Dean, 2009).

Chapter 7: Conclusions

Summary and Implications

This thesis departed with the aim to develop a nuanced understanding of how conceptualizations of risk and uncertainty informed the decision to reject AREVA's proposal. While this thesis has engaged with the concept of unsettling, it is rooted in western modes of knowledge production that perpetuate colonial relations, pointing to the ontological and epistemological tensions encountered throughout this work. This thesis has drawn on qualitative research methods, including archival research, participant observation, and semi-structured interviews in order to explore the complex, diverse, and subjective lived experiences, views, meanings, conflicts, and imagined futures embedded in the situation at hand. Chapter 2 identified the key themes that emerged during the research process, including risk, uncertainty, not knowing, fear, trust and distrust, 'expertise', education, and hopes for the future.

Chapter 3 outlined the theoretical framework that served to guide this thesis. Drawing on a number of theoretical perspectives, it introduced the concept of sites of uncertainty as a means to explore the various ways through which AREVA, government officials, Inuit organizations, non-governmental organizations, and community residents engage with the 'known' and 'unknown'. This chapter concluded by explaining how Foucault's "governmentality" theory facilitates an investigation of how power, resistance, 'expertise', and forms of 'authoritative' knowledge were all embedded in responses to the Kiggavik proposal.

Chapter 4 demonstrated how AREVA's impact assessment was anchored in a western epistemological approach to uncertainty, that is, as the "disease that knowledge must cure" (Jasanoff, 2007: 33). Here, AREVA confidently contended that through the acquisition of more

and better information (in the future) they would be able to ‘manage’, ‘control’, and ultimately ‘reduce’ what was deemed to be uncertain. In order to do so, AREVA sought to displace and externalize environmental uncertainties that could not be controlled or predicted, thus shifting responsibility onto other actors. Additionally, AREVA concentrated on establishing certainty between their proposal and the socio-economic benefits. Yet, as Chapter 4 revealed, these claims of certainty were embedded with cultural biases and assumptions, and, consequently, deeply contested when positioned against relational and contextual knowledge.

Chapter 5 explored the sites of uncertainty identified at the community-level. These sites were not understood as separate sites, rather they converged, overlapped, and conflicted in ways that reflect the messy and complex lived experiences and values of local residents. This Chapter showed how these sites represent points at which people feel as though their self-sufficiency, well-being, and identity are threatened. Yet, conceptualizations of these themes are diverse, dynamic, and diverge within and between sites, which, this thesis argues, led to muddy responses to the Kiggavik proposal and imagined futures of Baker Lake. Indeed, local residents’ views, concerns, and experiences cannot be construed as homogenous, nor are they reflective of purely Inuit or Qablunaat ways of knowing, being, and engaging with the future. These engagements are complex and exist in the space between two cultures. It is from this space, from the perspective of the local residents, that notions of well-being, self-sufficiency, identity, and imagined futures need to be defined. Together, Chapters 4 and 5 emphasized key disconnects between how resource development is assessed and framed and how its effects (or potential impacts) are experienced, pointing to inherent limitations in what is and can be captured in formal review processes. In the future, exploring how these sites of uncertainty shift and

transform, how various actors engage with and respond to these sites, what new sites emerge, and what sites disappear can provide insight into the dynamic nature of resource development controversies.

Drawing on the sites of uncertainty expressed at the community level, Chapter 6 deconstructed how and why calls for improvements in education emerged as a key response to the Kiggavik proposal. This chapter demonstrated how this response reflects a composite of Inuit and western responses to uncertainty; while improving education involves conforming to a western worldview, it is simultaneously underpinned by Inuit ways of knowing and preparing for the future. Here, this contemporary Inuit response is a strategy to slow the process, giving local residents time to reflect, deliberate, and imagine their future in ways that respect Inuit ways of understanding.

The NIRB contended that the lack of start date amplified existing uncertainties in their assessment, and, consequently, impeded their ability to accurately assess the potential environmental and socio-economic impacts. This technical uncertainty served to deflect the decision into the future, reflecting a strategic intervention with uncertainty. On the surface, the NIRB's recommendation is rooted in a western response to not knowing, that is, as "the disease that knowledge must cure" (Jasanoff, 2007: 33). Yet, it is simultaneously underpinned by patient and cautionary approach to resource development and an acceptance that certain things simply cannot be 'known' at this time, reflecting an inherently Inuit engagement with uncertainty. Moreover, NIRB's composite response to uncertainty is starkly similar to the call for improvements in education voiced by local residents (Chapter 6). Indeed, the NIRB's

recommendation serves to slow down the process, giving Nunavummiut time to reflect, deliberate, prepare, and ultimately imagine the future they desire. *This intervention, initially proposed by the Baker Lake HTO, was only successful in so far as it conformed to the technical nature of resource development decision-making processes* (Bernauer, 2016). This reiterates how in order to have control over their future, Inuit have been forced to conform to western norms and knowledge systems. Despite this, Inuit ways of knowing and being have persisted, flourished, creatively adapted, and continue to be embedded in contemporary resource development controversies.

Douglas and Wildasky (1982) suggest that risk and uncertainty are understood as a “joint production of *knowledge* about the future and *consent* about the most desired prospects” (5). The uranium mining controversy in Baker Lake exemplifies a situation where both knowledge and consent were contested. In these instances, the ‘solution’ is not simply more research, information, and knowledge; there will always be gaps in what is and can be known (ibid). Rather, these situations call for an engagement with the underlying issues embedded in the contested situation, the issues that have resulted in the lack of consent. In Baker Lake, as this thesis has shown, these include challenges to Inuit self-determination, societal inequalities, distrust, and meaningful involvement in the decision-making process. In this sense, recognizing the limits of what can be predicted, controlled, and known, Sheila Jasanoff proposes the development of “technologies of humility”. These are intended to guide existing methods of prediction, including those employed in impact assessments. Here, framing, vulnerability, distribution, and learning are to guide reflection, analysis, and deliberations surrounding the following questions: “what is the purpose; who will be hurt; who benefits; and how can we

know?” (Jasanoff, 2003: 240). Jasanoff (2003; 2007) contends that exploring these questions will help bring to light the unpredictable consequences of technological innovation, expose the normative assumptions embedded in the technical, facilitate collective learning, and, ultimately, draw on different modes of knowing and not knowing that exist beyond predictive methods. Only once these questions and the underlying issues related to consent have been meaningfully considered, can we begin to make decisions in the face of uncertainty.

Reflections

Throughout my field season, there were moments when I felt as though my research was meaningless, moments when I felt as though my approach was wrong and disrespectful, and moments when I questioned the ultimate outcome. Yet, these moments were also underlain by possibility, a possibility that the outcome, this thesis, would somehow benefit the community of Baker Lake. As this thesis nears completion, I think the pathway through which it may benefit the community of Baker Lake starts in the South. It begins with disrupting a way of thinking that perpetuates claiming certainty about things we as southerners cannot fully know or understand. It begins with reframing the discussion in such a way that relocates the knowledge ‘deficit’ in the South. Since returning from Baker Lake, there is one story that has repeatedly resurfaced in my mind. It emphasizes this point, specifically how knowledge can and should flow in different directions:

Over coffee, one male Inuit interviewee described a previous encounter he had had with two engineers from the South. He began the story by emphasizing how these two men both held Master’s degrees; they were educated in a southern sense. Playfully, he explained how he was going to test them. He recounted how he had placed a piece of caribou fat in front of them and said “Here are some matches, now light this on fire”. He explained how he had watched all their failed attempts and simply laughed as these two engineers struggled with the, in his view, simple task. He finally took the piece of caribou fat, put it in his mouth and started chewing. I will never forget this man’s face as he reenacted out how he had chewed and chewed the caribou fat until all the water and air had been removed. He then described how he spat it out, placed it on the table, lit a match, and there it was, a steady source of heat. This Inuit interviewee explained how, in the past, this practice of chewing caribou fat served to create a concentrate source of fat, one that was used not only as a source of heat and light, but also as subsistence on long hunting trips.

At the time, I did not fully understand the underlying message that this Inuk was trying to share with me, yet, now I have come to realize that this story speaks to the different ways of thinking about, engaging with, and ultimately approaching problems in the Arctic. In many instances, these problems request different types of knowledge and skills, knowledge and skills that are not necessarily known or needed by us the South.

As a settler-descendant, there are aspects of the uranium mining controversy in Baker Lake that exist outside of my colonial gaze, aspects that I simply cannot know or understand. Therefore, there are myriad ways through which Inuit engaged with the Kiggavik proposal that are not and could not be captured in this thesis (Cameron, 2015; Pratt et al. 2016). As such, this thesis reflects a specific, contextual, temporal, and relational account of the uranium controversy in Baker Lake, an interpretation that is filled with spaces of not knowing. While acknowledging that these spaces exist may seem counterintuitive, it is precisely this recognition that brings value, insight, and richness to this thesis. As Emilie Cameron (2015) notes we, as Qablunaat, must learn “to engage with our not knowing respectfully” (35). This means building an awareness that:

Knowing and not knowing have consequences, that knowledge is embedded in relationships, and that our task is not to see a perfect or final knowledge about our shared relations, but instead to be wise, humble, accountable, respectful, hopeful, and alive in the face of the specific, placed moments in which we all act. (Cameron, 2015: 35)

Cameron’s emphasis on the relational and contextual nature of knowledge reminds us to think cautiously about what we do know, as claiming to know (or to not know) has implications that affect peoples’ lives. Here, Cameron instructs us to let go of any desires for “perfect or final

knowledge about our shared relations”, rather in these moments she calls for humility, vulnerability, and a willingness to engage differently.

My understanding is that this different engagement is not only a call to recognize the existence of these spaces of not knowing, but also the ways through which other forces, relationships, processes, and power structures have all shaped this thesis. Indeed, this thesis needs to be understood as a site of conflicted knowledge production. While it is grounded in a specific set of research questions, methods, and theories, it came into contact with the process of unsettling. It therefore inevitably contains retentions of my own experiences, relationships, encounters with the Arctic landscape, fears of misrepresentation, and ultimately the ongoing processes of unknowing, unlearning, and unsettling.

While this thesis, in this form, is situated in a conflicted space, its relational nature gives it the potential to open new opportunities for dialogue, knowledge sharing, and discussion. Perhaps moving forward, it is in these shared spaces that we can begin to reconcile the tensions between producing knowledge and unsettling; this will request a different form of engagement with knowing and not knowing, one that is underpinned by shared experiences, understandings, and meanings as well as a desire to think, know, and learn in new ways.

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Appendices

Appendix A: Ethics Information



June 23, 2016

Ms. Jessica Metzals
Master's Student
School of Environmental Studies
Queen's University
Kingston, ON, K7L 3N6

GREB Ref #: GENSC-078-16; Romeo # 6018505

Title: "GENSC-078-16 Contending with Risk and Uncertainty: Social Experiences of Uranium Mining in Qamani'tuaq, Nunavut"

Dear Ms. Metzals:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "GENSC-078-16 Contending with Risk and Uncertainty: Social Experiences of Uranium Mining in Qamani'tuaq, Nunavut" for ethical compliance with the Tri-Council Guidelines (TCPS 2 (2014)) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405.001), your project has been cleared for one year. You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Annual Renewal/Closure Form for Cleared Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal/Closure Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one year period (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies". Once submitted, these changes will automatically be sent to the Ethics Coordinator, Ms. Gail Irving, at the Office of Research Services for further review and clearance by the GREB or GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

A handwritten signature in cursive script that reads "John D. Freeman".

John Freeman, Ph.D.
Chair
General Research Ethics Board

c: Dr. Myra Hird and Dr. Peter van Wyck, Supervisors

Nunavummi Qaujisaqtulirijikkut / Nunavut Research Institute

Box 1720, Iqaluit, NU X0A 0H0 phone:(867) 979-7279 fax: (867) 979-7109 e-mail:
mosha.cote@arcticcollege.ca

SCIENTIFIC RESEARCH LICENSE

LICENSE # 03 008 16N-A-Amended

ISSUED TO: Jessica Metuzals
Environmental Studies
Queen's University & Concordia University
147 McLeod street
K2P, 0Z6 Ottawa, Ontario
Canada

TEAM MEMBERS: M. Hird, P. van Wyck

AFFILIATION: Queen's University & Concordia University

TITLE: Contending with Risk and Uncertainty: Social Experiences of Uranium Mining in
Qamani'tuaq, Nunavut

OBJECTIVES OF RESEARCH:

This projects aims to understand how risk and uncertainty inform the acceptability of uranium mining in Qamani'tuaq. The proposed research will adopt an adaptive and flexible approach comprised of multiple research methods including archival research, semi-structured interviews, and participant observation.

TERMS & CONDITIONS:

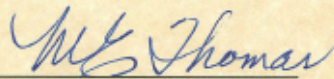
DATA COLLECTION IN NU:

DATES: August 15, 2016-December 31, 2016

LOCATION: Baker Lake

Scientific Research License 03 008 16N-A-Amended expires on December 31, 2016

Issued at Iqaluit, NU on October 26, 2016



Mary Ellen Thomas
Science Advisor



Appendix B: Letter Sent to The Hamlet of Baker Lake and The Baker Lake Hunters and Trappers Organization

Hello, my name is Jessica Metuzals, I am a Masters graduate student in the School of Environmental Sciences at Queen's University. I am very interested in understanding more about how conceptualizations of risk and uncertainty inform the acceptability of uranium mining in your region. In other words, this study will include archival research involving historical records, media articles, and regulatory documents. I am writing to you because I hope to include a fieldwork component; this would involve conducting semi-structured interviews with several community members, municipal officials, and industry representatives.

It is my hope to visit the community of Baker Lake during the summer of 2016. I am now in the process of applying for the research license in accordance with the Northern Research Institute's requirements. I am also contacting other community representatives to discuss my project and to identify any potential concerns. I am very interested in your perspective, and I would like to have a conversation with you. If you would like for me to contact you, please provide me with your contact details and availability.

I have been told that the community spirit in Nunavut is unlike anywhere else, that it is stronger than anything I have ever experienced. I would like to conduct my research honestly and with as little impact on the community as possible. I see my thesis as an opportunity to explore, connect with, and learn from your community. I am relying upon input such as yours to develop the best possible research project. I appreciate your time in considering my request, and I hope to hear from you in the near future.

Sincerely,

Jessica Metuzals
8jm82@queensu.ca
1-613-897-1028

Appendix C: Semi-structured interview guide

The following questions will be used as a guide. The exact wording and questions will vary depending on the context and participant responses.

Inuit? _____ (Y/N/Undisclosed)

For all participants

- How long have you lived in Baker Lake?
- Where is your family from? How did your family come to live in Baker Lake? What did you do before living in Baker Lake?
- Could you describe Baker Lake? What makes it special to you? Are there things you don't like?
- From your experiences, how have mineral activities (including exploration, development proposals, and the current Meadowbank Mine) affected the community?
- What do you think would happen if a uranium mine was developed in the region?
- What worries you about uranium mining?
- How do these compare to worries associated with the Meadowbank Mine?
- Would uranium mining in your community challenge your own cultural practice, values and beliefs?
- Would uranium mining help or hurt your relationship with the land? If so, in what ways?
- What might be the benefits of this development for the community?
- Based on your experience, how do you feel AREVA interacted with the community?
- Do you trust mining companies such as AREVA?

Resistance

- Have you observed resistance to uranium mining in the community?
- If so, what form has it taken? In what ways has it been demonstrated?
- Do you think resistance is an effective way for the community to assert its interests?
- What do you think has been the long-term and overall effect of resistance of development projects on the community?
- What do you think contributes to the community's resistance to uranium mining?
- Do you think vocal opposition is a good way for the community to express its interests?
- Have you seen any divisions within the community? For instance, between those who support mining and those who are against it?
 - Has this impacted relationships within the community?
- What has been the overall effect of resistance of development projects on the community?

Final Hearings

- Could you describe your role during the Kiggavik environmental assessment process, specifically the final hearings?
- Could you tell me about the atmosphere of the final hearings?

- Based on your experiences, do you feel that the community's concerns were adequately addressed?
- Could you describe how uncertainty played a role in the final hearings and final decision?

Future

- Do you think that the Kiggavik Project is an important part of Baker Lake's future?
- What do you see as the greatest barrier to uranium development in Baker Lake?
- In general, do you think that the community's opinion on uranium mining in the region has changed since the 1990s? If so why.
- Do you think that the Kiggavik Project, or uranium mining in general, is an important part of Baker Lake's future?
 - Do you think the fact that a uranium mine could one day be developed affects the community?