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WHERE THE WATERS DIVIDE: ENVIRONMENTAL JUSTICE, NEOLIBERALISM, AND ABORIGINAL VOICES: AN ETHNOGRAPHY OF THE CHANGING CANADIAN WATER SECTOR

presented by

MICHAEL MASCARENHAS

has been accepted towards fulfillment
of the requirements for the

Ph.D. degree in Sociology

Major Professor's Signature

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# WHERE THE WATERS DIVIDE: ENVIRONMENTAL JUSTICE, NEOLIBERALISM, AND ABORIGINAL VOICES. AN ETHNOGRAPHY OF THE CHANGING CANADIAN WATER SECTOR

By

Michael Mascarenhas

A DISSERTATION

Submitted to
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Department of Sociology

2005

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**Abstract**

**WHERE THE WATERS DIVIDE: ENVIRONMENTAL JUSTICE, NEOLIBERALISM, AND ABORIGINAL VOICES. AN ETHNOGRAPHY OF THE CHANGING CANADIAN WATER SECTOR**

By

Michael Mascarenhas

This ethnography provides an in-depth analysis of First Nations' reflections and experiences concerning the significant changes in systems, institutions, and practices of drinking water distribution in Southern Ontario. These changes—often referred to as neoliberalism—although unique in their circumstances represent a new set of inequalities and injustices for First Nations' communities in Ontario that has largely been undocumented. The hegemony of neoliberalism is made most evident by the ways in which profound political and ideological projects have successfully masqueraded as a set of objective, natural, and technocratic truisms. In the case of neoliberal water governance reform in Ontario, this means the introduction of highly centralized, inegalitarian, and discriminatory institutions, systems and practices. To be more specific, an emphasis on expert-led science is advanced as objective, necessary, technical, and the only solution to the current water crisis. However as this paper illustrates the emphasis on expert-led science illegitimates more popular forms of epidemiology. Similarly, an insistence on credentialism undermines indigenous and local knowledge systems, and thus obviates more decentralized forms of measuring and understanding environmental quality and illness. What follows is my interpretation of the many ways, both obvious and subtle, in

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which the technologies of neoliberal water governance in Ontario discriminate against its indigenous peoples.

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This dissertation is dedicated to my partner, Kelly Grindstaff, for her unflagging support, patience and perseverance through what at times seemed like an interminable journey. Without her you would not be reading this manuscript.

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Like all writing this has been a collaboration. First, I would like to acknowledge the Department of Sociology at Michigan State University for their help in funding the writing of this dissertation. The "Dissertation Completion Fellowship" I received helped greatly with the writing component of this research.

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I also want to thank the many participants, particularly those of First Nations heritage, who have helped me with this research. Your willingness to share in important social and environmental issues that have, and continue, to affect our communities is greatly appreciated.

I would also like to thank friends and family who helped support me through this long project. Most importantly, I would like to express my gratitude to Kelly Grindstaff,

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my partner, for looking after our wonderful son, James, during the daytime, and providing me encouragement, intellectual insight and "much needed" editing during the evenings. Her involvement in this research and my own social reproduction is ineffable.

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# 1 The Fluid Crisis

*As an ordinary Canadian I feel deeply that this wonderful country is at a crucial, and very fragile, juncture in its history. One of the major reasons for this fragility is the deep sense of alienation and frustration felt by, I believe, the vast majority of Canadian Indians, Inuit and Métis. Accordingly, any process of change or reform in Canada — whether constitutional, economic or social — should not proceed, and cannot succeed, without aboriginal issues being an important part of the agenda.*

The Right Honourable Brian Dickson, the former Chief Justice of Canada

The fair and equitable distribution and management of drinking water has become a complex and controversial subject in the past two decades. As some struggle to find safe potable supplies, others have found ways to profit from its distribution. The development, distribution, and use of this precious resource essential for basic human survival—clean water—depends to a great extent in the 21st century on how *need* is defined in a political context, and as a result water has become an agent of power and a source of inequality. In addressing the sensitivity and urgency of this subject matter the United Nations Agency UNESCO (United Nations Educational, Scientific and Cultural Organization) officially designated 2003 as the International Year of Freshwater. UNESCO declared that 2003 "is a year for us to focus our attention on protecting and respecting our water resources, as individuals, communities, countries, and as a global family of concerned citizens" (United Nations Educational Scientific and Cultural Organization 2003). Acknowledging its contribution for local and global social wealth and welfare, UNESCO's support for better treatment, and a more equitable distribution, of this precious resource is both timely and crucial.

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The sensitivity of Canada's freshwater supply was catapulted into the public arena with the contaminated drinking water outbreak in Walkerton, Ontario. During the summer of 2000, Walkerton, a quiet town in the heart of rural Ontario, became the site of Canada's worst-ever outbreak of drinking water contamination. Bacteria including *Escherichia coli* O157:H7 and species of *Campylobacter* entered into the municipal drinking water supply and caused gastroenteritis, including bloody diarrhea and other associated illnesses, in more than 2,000 people, of who 27 developed haemolytic uremic syndrome (HUS) and seven died (Bruce-Grey-Owen Sound Health Unit 2000). One year after the Walkerton tragedy, the people of North Battleford, Saskatchewan, experienced a similar, yet not as severe, outbreak in which hundreds of residents became ill from the presence of the parasite cryptosporidium in their drinking water. The effects of these events, particularly Walkerton, can not be overstated in terms of the burden of illness suffered, including loss of life, and the prolonged disruption to the daily lives of the victims (Bruce-Grey-Owen Sound Health Unit 2000). The effects also engendered a massive public outcry regarding the quality and safety of Canada's public drinking water supply. And many asked, how, in a country that is heralded for its abundant natural resources and strong social programs—a nation routinely ranked in the top ten countries of the United Nations Human Development Index—could this have possibly happened?

In the days following the Walkerton crisis media investigation revealed both a coincidental and a scandalous chain of events that led to the contamination of the treated municipal water supply. One the one hand, the provincial government led the way in framing this environmental and public health crisis as an isolated incident, one that resulted from an unlikely coincidence of severe summer thunderstorms accompanied by

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flooding. But also, it became clear that the contaminated water was partially a result of unscrupulous testing and reporting practices by the managers of the Walkerton Public Utilities Commission (PUC), the agency responsible for testing, treating, and monitoring the town's water supply.

In the aftermath of the Walkerton crisis, and only under much public outcry and pressure, the provincial government of Premier Mike Harris established a public inquiry to investigate what happened in Walkerton. One of the most important findings of the Walkerton Inquiry was to contradict the provincial government's claim that this was an isolated incident in spite of its unique circumstances. Furthermore, the Inquiry pointed to the privatization of laboratory testing services and budget reductions, together with the delinquency of the Ministry of Environment (MoE)[1] to adequately fulfill its regulatory and oversight role as the *major* institutional causes for this environmental and human health crisis. In other words, the Walkerton tragedy can be seen as a severe example of the broad regulatory failure and the systematic production of environmental and health risks associated with the government's restructuring of public drinking water institutions, systems and practices in Ontario, Canada. Walkerton, then, is indicative of what sociologist Charles Perrow has referred to as a "normal accident," and inevitable, even "natural" characteristic of most modern high-risk systems.

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[1] As outlined in the Inquiry, The Ministry of the Environment (MoE) is the provincial government ministry responsible for regulating – and for enforcing legislation, regulations, and policies that apply to – the construction and operation of municipal water systems. The MoE sets the standards according to which municipal systems are built and operated. It also approves the construction of new water facilities, certifies water plant operators, and oversees the treatment, distribution, and monitoring practices of municipal water facilities. The overall goal is to ensure that water systems are built and operated in a way that produces safe water and does not threaten public health O'Connor, Dennis (2002c).

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However, this form of governance, in which Walkerton was an outcome, represents a new economy of power relations and rationalities, a form of governance that is anything but normal or accidental, a form of governance that has become commonly known as "neoliberalism." And while the rhetoric Something that I argue is McCarthy and Prudham (2004) argue that neoliberalism is the most powerful ideological and political project in global governance reform. Among its central elements are a "self-regulating market" (Polanyi 1944) and logics of competitiveness (Peck 2001), a "hollowing out" of the nation-state (Jessop 1994), the growth of public-private partnerships, standardization of technical processes, and public service "reform." The Walkerton tragedy, then, may represent what Jamie Peck (2001) has referred to as a hard outcome of the thin policies of neoliberalism.

But there is much to be lost if we continue to theorize *the neoliberal project* in terms of outcomes alone. Indeed, Jamie Peck and Adam Tickell (2002: 383) have proposed that a processual conception of neoliberalism be theorized, one that frames neoliberalism "as both an 'out there' and an 'in here' phenomenon whose effects are necessarily variegated and uneven." In other words good social theory must endeavor to connect the universal institutional structures and forces of neoliberalism with the particular local contexts with which these extralocal forces transgress and infuse. This research, then, outlines these forces of change—a complex and distinct historical political-economic transformation (neoliberalization) of public drinking water in Ontario, Canada—a transformation that has involved a complex set of power relations around governance (specifically responsibility and accountability), ownership, rights and safety of this precious resource. A process that occurred well before the tragedy at Walkerton!

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This research analyzes First Nations' perspectives of this transformation process—what First Nations describe as a struggle for equality, equity, and legitimacy. In particular, legitimacy has become a powerful notion in governance reform. In fact, some research suggests that legitimacy is key to democratic decision making processes (Mascarenhas and Scarce 2004). For example, Mascarenhas and Scarce (2004) argue that successful planning processes must have fair representation, appropriate government support and be consensus driven. However, according to this definition neoliberalism is not only a illegitimate form of governance but a discriminatory one—one that is clearly undemocratic, and in this case institutionally racist in its consequences.

This research is an attempt to analyze, and potentially reconcile, two parallel and contradictory narratives. One, being the prevalence and optimism surrounding neoliberalism and the restructuring of public services, particularly water. The other, being First Nations' perspectives concerning the discursive and material practices of neoliberalism—one that describes neoliberalism as a form of institutional racism and cultural imperialism. For it is in connecting the two—the universal structural forces of neoliberal water governance reform, on the one hand, and the local environmental and social injustices, on the other—I argue, that best demonstrates how neoliberalism's rising tide does not necessarily raise all boats, for on occasion it actually sinks some.

### *Why First Nations?*

Why single out First Nations communities in my analysis of public drinking water? Probably the most appropriate reason was the one cited by the Honorable Dennis

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O'Connor, the Commissioner of The Walkerton Inquiry (2002c: 17), when he declared that, "the water provided on many First Nations reserves is some of the poorest quality water in the province." First Nations communities are typically located in rural and remote areas, and as Walkerton illustrates, these political spaces continue to be the recipients of the most inadequate water treatment and distribution facilities in the country.

For First Nations the 'neoliberalization' of the public drinking water sector in Ontario has become the subject of intense social struggle for cultural preservation and self-determination. Neoliberalism, then, is both a social and an environmental project, producing class and racial conflict on the one hand, and environmental degradation and human harm, on the other. However, this research illustrates that these social injustices are not equally distributed. Clustered at the bottom of the racial and class ladders, First Nations communities have been, and continue to be, the recipients of a disproportionate share of environmental and health risks when compared with their larger, and usually more affluent, upstream or adjacent municipal relative.

McCarthy and Prudham (2004) insist that environmental concerns and their politics have been the most effective political sources of response and resistance to the social injustices perpetrated by neoliberalism. In Canada, First Nations represent one of the few collective voices of resistance against the market place approach to social problems that has been at the core of neoliberal environmental governance and reform. This observation becomes most apparent when one considers the reaction by many rural communities in Southern Ontario, many who are facing the same social and environmental issues as their Aboriginal neighbors, to the closing of government water-

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Two years before its fatal water contamination outbreak, in September 1998, Walkerton joined a neighboring town, Mildmay Carrick, and sent a resolution to the provincial government calling on the province to control intensive livestock operations for fear that this non-point source was polluting their drinking water. Also during the same month, neighboring Morris Township sought Walkerton's support for a petition calling on the provincial government to provide financial support to clean up the drinking water supply in rural areas. Later, in September 1999, the Walkerton council joined the town of Saugeen Shores in petitioning the provincial government for regulations to monitor intensive livestock operations and safeguard the municipality from environmental concerns The Township of Severn, with the support of Walkerton and 182 other Ontario municipalities, demanded that the environment ministry reinstate appropriate levels of funding for water and sewer infrastructure works to assist municipalities in ensuring that the provisions of safe drinking water and adequate sewage treatment are within their financial means (Mascarenhas 2002).

However, in spite of these organized public forms of resistance, municipalities remained relatively ineffectual in challenging the provincial government's commitment to the devolution of its responsibility for the provision of public drinking water in the province. This has left many rural communities with very little political and economic alternatives. Many rural communities have been forced to amalgamate with larger adjacent, and more fiscally stable, municipalities to ensure safe drinking water (and other public) services. Other rural communities have entered into public-private partnerships,

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where private purveyors provide drinking waters services to citizens in return for the exclusive rights to this public asset. Lastly, some rural communities, particularly where amalgamation and public-private partnerships are not an option, have turned to privatization as of their water resources. This conversion of common property to the private domain, David Harvey (2003: 148) suggests, "has been one of the most egregious of all policies of dispossession pursued in the name of neoliberal orthodoxy"—a form of enclosure that few governing bodies can afford to evade.

Indigenous groups responses present a point of departure from the normalization of corporatization and privatization of public assets. Wendy Espeland (1998), for example, points out that the definition of indigenous difference has been a central feature of their struggle and resistance. In particular, Espeland (1998:184) observed that in previous struggles over land and water claims, indigenous peoples like the Yavapai located in the arid Southwest of the United States, have "argued against the rationality that excluded their history and commensurated their culture; they defined their difference against efforts that they believed distorted them. In doing so, their difference became their source of power." Similarly, it is because First Nations in Canada continue to challenge this form of state sponsored governance, this form of rationality, when faced with few alternatives, that the First Nations perspective is so powerful.

### *Water, Being Indigenous, and the Constructivist Perspective*

The constructivist perspective, first posited by Berger and Luckmann (1966), maintains that interacting with other members of society entails a translation of the

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experienced raw material world into a *meaningful* world. This translation always creates constructions. Berger and Luckmann's key point was that society's "taken-for-granteds"—what was accepted as fact in society—are relative. As a result social facts must be dependent upon the societies out of which they emerge. In other words, for First Nations, responses to, and engagement with, their environs are embedded in their daily lived experience.

This experience, in Canada and other former European colonies, is one of a historically subjugated position. However, Donna Haraway (1991: 191) insists that these 'subjugated' standpoints are preferred because they seem to promise more adequate, sustained, objective, transforming accounts of the world. First Nations' experience, understand, and relate to water differently than most Canadians, particularly middle and upper class Canadians. Consequently, First Nations both challenge and redefine how we understand 'environmental' social inequalities—particularly race, class and space—that have become easily evaded under the discursive practices and structural changes of neoliberal reform.

Michel Foucault (1994) argued that in order to understand the root of these and other social inequities, we need to investigate the forms of resistance against different forms of power as a starting point. For it is the exploration of how these boundaries are drawn that is most efficacious in revealing how the relations of power and other social and spatial inequalities are produced and reproduced. First Nations' experiences present a good starting position to study inequalities and long standing hierarchies in the distribution of public drinking water in Canada because, as suggested above, they represent one of the few collective voices of resistance against the growth and

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normalization of neoliberalism as a legitimate form of democratic governance. Furthermore, given the significant neoliberalization of systems, institutions, and practices of drinking water distribution in Ontario and Canada, the elucidation of the First Nations' struggle is essential in addressing questions of distribution, equality, equity and social justice that are often avoided by the "let us take care of it' attitude of neoliberalism advocates and agendas.

### *Summary*

In the chapters that follow I emphasize several themes that have emerged from this ethnographic study and resulting data analysis:

1. First Nations have been, and continue to be, the recipients of a complex and subtle form of environmental racism in Canada.
2. The significant changes in terms of restructuring the systems, structures and practices of drinking water distribution in Ontario—neoliberalization—is part of a larger global trend, one that involves a highly complex and interconnected system of devolution, privatization, and standardization. For indigenous groups, like First Nations in Canada, this phase of capitalist expansion represents a form of accumulation by dispossession (Harvey 2003).
3. The transformation of the drinking water sector in Ontario has become the subject of intense social struggle for access, participation, and control, particularly for rural communities and First Nations. First Nations' experience under this new

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4. Indigenous groups, perhaps more than any other, bare the social and environmental burdens of state sponsored neoliberal reform. This is because indigenous peoples still possess valuable resources needed for capitalist expansion while lacking the power to control them. Furthermore, owing to their ambiguous state status, indigenous peoples territories, health and welfare continue to be sacrificed domains of industrial nation-states like Canada, the U.S., and Mexico, to name only a few.

### *The Ethnographic Approach*

Ethnography, according to Hammersley and Atkinson (1995: 2), "bears a close resemblance to the routine ways in which people make sense of the world in everyday life." An ethnography is a description, interpretation, and analysis of a cultural or social group or system. Both a process and a product—in this case a dissertation—an "ethnography has never been a pure or purely scientific discourse" (Grindstaff 2002). As such, an ethnography is as much an art as it is a science. It is both a matter of collecting data and a matter of collecting stories about the world we live in and the subject matter we care about (Grindstaff 2002). This dissertation will blend data and theory together in a narrative that explains First Nations' struggle for safe drinking water in Canada, and their resistance to over-bearing and largely inequitable (neoliberal) government reform and corporate control.

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Much of this dissertation is concerned with showing the specific character of neoliberal governance and reform of the drinking water sector in Canada, and the impact it has had on the everyday lives of a historically marginalized group—Aboriginals. Chapter Two details various important aspects of First Nations' history in Canada. This chapter also explores the meaning of water for First Nations and illustrates how these meanings help construct their identity, culture and politics regarding water use, ownership and stewardship. Chapter Three outlines the methods and data analysis used in this research. Chapters Five, Six, and Seven are complementary. All three present data findings concerning participation, legitimacy, and inequality in this new political economic phase of capitalist expansion. Chapter Five explores how state sponsored neoliberal reform can be seen a form of overt racism. Chapter Six illustrates how neoliberalism can also been seen as a form of covert racism. Chapter Seven outlines how the discursive practices of experts and professionals exclude indigenous knowledges from participation in neoliberal policy reform. In the concluding chapter I argue that indigenous peoples remain in the political periphery for the very reason that they challenge the idea, power, and legitimacy of the nation-state. It is because they continue to challenge the culture of capitalism and notion of the nation-state, I argue, that indigenous peoples, like the First Nations of Canada or Native Americans in the United States or the Maori of New Zealand—savages, flattened of their humanity (Said 1979)—are forced into a state of statelessness.

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### *Sociology and Being Indigenous*

Sociology as a discipline has largely ignored Aboriginals and their struggles for equality, justice and sovereignty, particularly the aboriginal struggle within and against the modern industrialized state. I do not want to overstate this claim or mislead the reader, for there has been much good quality research on Aboriginals and their struggles for equality, justice and sovereignty. Wendy Espeland's (1998), Al Gedicks' (2001), Valarie Kuletz's (1998), and Robert VanWynsberghe's (2002) book length ethnographies, Arjun Appadurai's (1990) work addressing the disjunctures and complexities of cultural economy, and Richard Peet and Michael Watts (1996) edited book Liberation Ecologies: Environment, Development, Social Movements are among the few examples of this research. However, one telling fact for me was that as sociologists celebrated the work of W.E.B. Dubois at the 2004 American Sociological Association's Annual Meeting, and had numerous sessions dedicated to understanding race and racial inequality, particularly in America—a topic that I feel is essential to good sociological inquiry—there were only two sessions specifically dedicated to indigenous peoples.

My sense is that it is not that sociologists do not care about "the indigenous struggle," but that they and the discipline have primarily remained loyal to the research agendas set forth by classic founders of the discipline. Karl Marx, Max Weber and Emile Durkheim, all concerned themselves with the changing social relationships that accompanied (and produced) the transformation from a feudal or organic society to that of a capitalist, mechanical and modern society. As a result, sociologists following in

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their mentors' footsteps chose modern social relations and inequalities—society—as its subject matter, while 'primitive' relations and indigenous groups have largely remained the research and theoretical purview of anthropology.

Understanding the First Nations' struggle for safe drinking water in Ontario, Canada, demands the sociological imagination and approach. I believe that in making sense of how these new social relationships under neolibearlism affect this minority group will point to alternative policy formations. I believe that we may need a new language and way of understanding that addresses the shifting power and economic relations of neoliberalism if we are to move past essentialism and binaries, which prevent engagements that enable democratic structural change. What follows is an analytical examination of the social and political forces that continue to influence First Nations access to, participation in, and control over drinking water resources in the province of Ontario, Canada.

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## 2. Canada's Dirty Little Secret

> *We have survived Canada's assault on our identity and our rights... Our survival is a testament to our determination and will to survive as a people. We are prepared to participate in Canada's future – but only on the terms that we believe to be our rightful heritage.*
>
> Wallace Labillois, Council of Elders, Kingsclear, New Brunswick[2]

On February 4th 2004, the Canadian Broadcasting Corporation (CBC) televised a Town Hall meeting involving various public participants and their new Liberal Party Prime Minister, Paul Martin. The main purpose of this televised meeting was to create a forum where Canadians could ask Mr. Martin specific questions regarding their concerns with, and policy direction of, this newly formed government. In prefacing a question regarding the unfair treatment of First Nations, one participant declared, "the aboriginal issue is [*still*] Canada's dirty little secret." Mr. Martin, apparently sympathetic to this notion of aboriginal injustice, described the treatment of aboriginals by governments as a "national disgrace." He further declared that he was fully committed to First Nations social policy reform and would consider serious structural changes within his federal government to ensure such reforms took place. But what exactly is "the Aboriginal perspective?" And furthermore, how do we capture and understand it?

This ethnography explores one piece of Canada's dirty little secret, Aboriginals' struggle for safe drinking water. Many First Nations communities have been and continue to be the recipients of a disproportionate share of environmental and health risks when compared with their larger, and usually more affluent, upstream or adjacent

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[2] http://collection.nlc-bnc.ca/100/200/301/inac-ainc/highlights_report_royal-e/rnwl_e.html

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municipal relatives. Aboriginals have been forced into a long history of struggle for environmental justice, and the recent changes in systems, institutions, and practices of drinking water may merely represent another manifestation of this struggle. Yet unlike Prime Minister Paul Martin's Town Hall meeting, there has been little opportunity to express the First Nation's struggle. In fact if it wasn't for the Walkerton Inquiry, it may have never been revealed that there were serious inequalities, particularly for rural and First Nations' communities, in the distribution of public drinking water in Canada.

Stephen Smart and Michael Coyle (1997) argue that Aboriginal concerns are not the exclusive domain of Aboriginal people or scholars interested in this subject matter. Aboriginal concerns affect all Canadians. In fact they should be of utmost concern to all Canadians. I make this assertion because I feel that the democracy that so many Canadians enjoy and (*sometimes*) take for granted was established to protect the rights and freedoms of minorities and those marginalized by the political process. And if First Nations' rights are not guaranteed, than the democratic process in Canada is failing (some of) its citizens. As such, I believe that all Canadians should be aware of, and understand, the First Nations' perspective. For as Colin Calloway (1994) suggests, Indian voices, however few and however faintly heard across the gulf of time and culture, offer us something on which to build a fuller appreciation.

Of course it is difficult to separate aboriginals' struggle for 'environmental' justice from the larger, and mainly normative, structural discrimination and racism that they experience daily. However, I contend that the distribution of public drinking water is as much about humans controlling other humans and humans controlling nature as it is about humans controlling technology. In other words, water, or more appropriately,

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perhaps, the fair distribution of safe drinking water, can be seen as a metaphor for inequality. Helen Ingram (1990) perhaps says it best when she argues that water symbolizes security, opportunity, and self-determination, and, borrowing from Max Weber, she posits that water is tied to power, wealth, and status. But before beginning with my analysis more formally, I feel it necessary to outline the legal-political relationship that exists between the federal and aboriginal governments in Canada.

### *First Nations' "Canadianized" History*

History has shown that colonial expansion of the Americas—i.e. the "new world" for some—was based on a formula of indigenous extermination—which usually failed—then forcible assimilation of those that remained, followed by a policy of "benign neglect." (Robbins 2005). In its attempt to make the expansion of capitalism safe, predictable, orderly, and, of course, profitable, industrial nation-states have systematically exterminated the cultures of most of the world's indigenous peoples. Evidence suggests that between 95 to 98 percent of the indigenous population of the Americas died as a consequence of European economic expansion for labor, land, raw materials and new markets. "Many died in battles with the invaders; others were murdered by European occupiers desperate to maintain control over a threatening population; an still others died as a result of slavery and forced labor" (Robbins 2005: 79). But the greatest cause of indigenous deaths was from diseases introduced by Europeans, from which they had no immunity (Robbins 2005). Dobyns (1983: cited in Robbins 2005) has estimated the death rate from smallpox alone to be at least 60 to 70

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percent. In all, it is estimated that 95 to 98 percent of the indigenous population of the Americas were exterminated, in one way or another, as a result of European political and economic expansion (Robbins 2005). Those who survived however were subject to an equally appalling destiny—ethnocide.

Ethnocide is the assimilation of one's culture into that of the dominant group. This is generally exercised through what Althusser (1971) has coined as the ideological state apparatus—institutions such as the church, family and educational system whose main function was, and still is, to "integrate" its citizens into the ethos of the nation-state. So "successful" has this process been that scholars like Ernest Gellner (1983) have suggested that the notion of a person without a nation strains the imagination.

One "successful" strategy in Canada has been the infamous "Indian residential schools." This "educational systems" was the primary ideological weapon with which new Canadians sought to assimilate its indigenous people. There, "Indigenous students" were taught to speak English, and to adorn "Western,"—civilized fashions. These "schools" also became associated with the sexual harassment and abuse of many indigenous students, particularly boys, by priests and others in authority. Conflicting sharply with their own teachings, the residential school system successfully served to destabilize and undermine indigenous culture, identity, and health. And in combination with the reservation programs, which appropriated massive tracks of valuable land and resources, the newly forming nation-state was able to impose socially and physically racist institutions of control that essentially beat its' indigenous peoples into submission. But it is perhaps the policies of benign neglect toward indigenous people that most exemplify their statelessness.

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Benign neglect is the systematic institutional disregard by a nation-state for specific groups within its boundary.[3] Benign neglect became painfully apparent to me every time I steeped foot on the reserve. My most immediate shock when entering a reserve is something as obvious and subtle as the road surface. The transition from a smooth paved county road to the chip sealed, gravel, and dirt roads of the reserve are as jarring as they are distinct. The next obvious observation is a general disrepair and depreciation of the built environment. For example, the main administration building—i.e. City Hall—on one reserve was a converted trailer. A complex of burnt buildings, hollowed out buildings, and dilapidated buildings reminded me of the many war torn scenes that one only has to engage with while watching the nightly news from the comfort of one's living room sofa. In fact many of the houses with broken windows and fallen off doors were still occupied. How could people live in these conditions? With an average temperature of at least freezing in many winter months, how do these people survive? Missing was the semblance of any infrastructure whatsoever, no shops, or centre of commerce other than a gas station and a variety store. I wondered why more Canadians weren't familiar with this aspect of their nation. And, if they were why they wouldn't do something about it.

The 1996 Report of the Royal Commission on Aboriginal Peoples completed a mandate set out by the government of Canada in August 1991 to better understand the many complex issues that surround Canada's uneven relationship with its indigenous

[3] Of course, it is not just indigenous peoples that are subject to this form of institutional racism. Blacks, Hispanics, rural communities, working class persons, and, of course, women have been, and continue to be, subjected to a disproportionate share of social and environmental "externalities" associated with capitalist development and expansion.

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peoples. The report itemized a "legacy[4]" of policies and actions that condoned domination and encouraged assimilation. This "legacy" formally began with a system of reserves in 1637 and ended with the federal government's White Paper on Indian policy in 1969. The White Paper of Pierre Trudeau's Liberal Government may be the last "official" federal policy designed specifically to assimilate the Native population. It called for the end of the Indian Act[5] and the special status the Act awarded Native peoples, in an effort to completely assimilate them into mainstream Canadian society.

Strong opposition by Aboriginal peoples to the White Paper's "invitation" to join mainstream Canadian society solidified Aboriginal concerns and frustrations, and led to the organization of a pan-Native movement (VanWynsberghe 2002). These movements took the form of legislation, blockades, and in some cases conflict and murder. The Oka crisis of 1990, where Mohawk Indians were embroiled in an armed confrontation with Quebec police and the Canadian army, is perhaps the most striking example of the frustration and desperation of Aboriginals. The quiet tourist village of Oka, located northeast of the island of Montreal, Quebec, was determined to build a golf course in a

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[4] This "legacy" began as long ago as 1637 when a system of "reserves" of land for Aboriginal people was set up by Colonial and Canadian governments. In 1857, the Province of Canada passed an act to "Encourage the Gradual Civilization of the Indian Tribes." This act provided the opportunity for Aboriginals "of good character"—as determined by a board of non-Aboriginals—to give up their Indian status and join Canadian society as a non-native.

[5] "The Indian Act of 1876 essentially made "Status Indians" wards of the Crown. It also arbitrated the lives of First Nations people. Restrictions ranged from rules about how they would elect leaders to how their children would be educated and how their estates would be dealt with after death. The act vested title to reserve land to the Crown represented by the Minister of Indian Affairs deeming it "Crown Land set aside for the use of a Band of Indians." The 1876 act also made it illegal for an Indian to sell or produce goods without the written permission of the local Indian Agent. The Indian Act made the Indian Agent the de-facto ruler of Indians on reserve. Indian Agents had to give written permission for Indians who wanted to leave the reserve for any reason." Materie, Garth (2004).

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pine forest that Mohawk Indians declared as sacred ground. Unable to defeat this development in the courts, Mohawks felt that they had no alternative but to set up barricades and defend their land and cultural rights by force. All across Canada that year, natives held protests to support the Mohawks at Oka and draw attention to their own causes. This included protesting the Meech Lake Accord[6], and confronting Hydro-Quebec over development of a new dam in the James Bay Area (Canadian Broadcasting Corporation 1999).

1995 was also marred in confrontation and conflict between Aboriginals and non-Aboriginal authorities. First, in August police became involved in an armed stand-off between a rancher and Native people at Gustafsen Lake, British Columbia regarding the non-native use of sacred burial grounds. A month later, Dudley George was shot and killed when police fired on natives occupying Ontario's Ipperwash Provincial Park (Canadian Broadcasting Corporation 2004b). These confrontations are indicative of the deep frustration and anger that Aboriginals harbor from a "legacy" of domination and assimilation that began shortly after non-natives first stepped foot on this continent. Still today, environmental and health conditions on reserves are substandard and Canada's Native people continue to have higher rates of unemployment, alcoholism, suicide, and mortality when compared with their non-native counterparts (The Royal Commission on

[6] The Meech Lake Accord, named after the location were the conference was held, was an attempt to recognize Quebec as a 'distinct society' and restored its veto over most constitutional amendments. The Accord also gave greater control over immigration, the power to nominate Supreme Court judges from which the federal government would choose, and the right to remain outside new cost-sharing agreements without financial penalty. Elijah Harper, a native legislator in Manitoba, together with several provincial premiers, prevented the Accord from being ratified, and it died at the deadline for ratification on June 23, 1990 The Centre for Canadian Studies (2001).

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Aboriginal Peoples 1996). As such, First Nations continue to be over-represented at the bottom of this socially stratified "democratic" society.

More than three decades have passed since the infamous White Paper, yet Canadian governments still continue to withhold the legal and institutional resources that would allow Aboriginals to control their own welfare and destiny. It may be true that governments have been forced to include more Aboriginal people in certain decision-making processes—largely due to the protests described above in conjunction with the larger pan-Indian social movement—but governments continue to withhold the resources necessary for them to legitimately participate. Furthermore, federal, provincial, and municipal governments have so far refused to recognize Aboriginal Nations as a distinct form of government authority separate from its federal agency.

The Royal Commission clearly summarizes this power struggle in the following sentence: "by their actions, if not their words, governments continue to block Aboriginal Nations from assuming the broad powers of governance that would permit them to fashion their own institutions and work out their own solutions to social, economic and political problems" (The Royal Commission on Aboriginal Peoples 1996: 30). In other words, in refusing to treat aboriginals fairly and equally, non-aboriginal governments, and by extension non-Aboriginal people, have constructed and maintained an arena of structural inequality and racism that aboriginals have been unable to overcome. In order to more deeply understand, and later theorize, this inequality I first need to sketch out the larger legal-political structures and relationship that exists between First Nations and non-natives' governments.

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### *First Nations and Water Quality*

What is the relationship between First Nations and the federal government with regard to the roles and responsibilities of safe potable water? This question while straightforward, is much more complex than it first appears. The Department of Indian and Northern Affairs Canada (INAC) is responsible for fulfilling the lawful obligations of the federal government to Aboriginal peoples arising from treaties, the Indian Act and other legislation. INAC also administers Indian reserve lands and elections of First Nation councils; registers entitlement to Indian status and First Nation membership; administers First Nation funds and the estates of certain individual Indians; and negotiates the settlement of accepted land claims (Indian and Northern Affairs Canada 2004).

The responsibility for health, including safe drinking water, of Canadians, both native and non-native, falls under the jurisdiction of Health Canada. According to its mandate, Health Canada is required to assist First Nations and Inuit peoples "to attain a level of health comparable to that of other Canadians living in similar locations" (Health Canada 2003: 5). To summarize, the programs and services for the provision of potable water and wastewater services for on-reserve First Nations communities are to be provided *collaboratively* by First Nation Band Councils, Health Canada, and INAC. First Nations Band Councils, that law states, are responsible for the design, construction, maintenance and operation of on-reserve water and wastewater facilities in accordance with established federal or provincial standards, whichever are the most stringent. INAC, on the other hand, is responsible for funding of water and wastewater services within the

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reserve communities and monitors the design, construction and maintenance of the facilities. Finally, Health Canada makes certain that water quality sampling, and monitoring and surveillance programs are in place on First Nations lands (Health Canada 2003).

In other words, according to policy, the provision of safe drinking water on Canadian aboriginals' reserve lands is performed through a series of (power) relations between government—Health Canada and INAC—and First Nations communities. The actual process and relations of power—the struggles—of designing, constructing, maintaining, operating, funding, and monitoring and surveillance of on-reserve water and wastewater programs, services and infrastructure are far less clear and known—particularly when one limits their comprehension to policy statements. In fact the fluid character of these power relations—in addition to the fluid character of water itself—makes them very difficult to define and understand. This is something that cannot be found by consulting the policies of Health Canada, and INAC alone.

### *First Nations' Space and Place*

Nearly 1 million people identified themselves as Aboriginal in the 2001 Canadian Census (Table 1). Of that number 131,560 live in Ontario. They accounted for more than one-fifth (22 percent) of the total Canadian North American Indian population, the highest proportion of any province or territory.

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**Table 1. Total, Aboriginal, and Non Aboriginal Populations in 2001**

| Total population | Aboriginal population[1] | North American Indian | Métis | Inuit | Non-Aboriginal population |
|---|---|---|---|---|---|
| 29,639,030 | 976,305 | 608,850 | 292,305 | 45,070 | 28,662,725 |

(Statistics Canada 2004)

Less than one-half (47 percent) of the North American Indian population lived on an Indian reserve in 2001. The majority lived in either urban centers or in rural off-reserve locations. In Ontario this means that approximately 61,183 First Nations people lived on reserves in 2001 (Statistics Canada 2004).

Reserve population and location is a particularly significant statistic when it comes to the provision of safe drinking water. Two factors in particular are relevant: the location of reserve lands relative to pollution sources, and the size of the population. Many First Nations Reserves are located in rural areas that are often downstream of major "polluting" centers. Walpole Island, for example, is one of several reserves located in Canada and the United States that is downstream of the infamous "Chemical Alley," a stretch of St. Clair River that connects Lake Huron to the St. Clair River.

Daniel George, a researcher on aboriginal and treaty rights and an Ojibwa - Pottawatomie who lives and works on the reserve, said the following regarding the location of the Walpole Island First Nation:

> But what has happened in the last 50 years is that the chemical companies just north of us in Sarnia, they have been allowed to both legally and illegally discharge contaminants in the River. And these contaminants attach themselves to the sediments and they get a ride down the river and then with the delta here the current slows down, so we have found the highest concentrations of some of the nastiest toxic chemicals contiguous to our islands here. ... Dow's so called blob, that made international attention. And that affected our economy greatly.

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> Fishing was shut down; sport fishing was shut down for a number of months in Lake St. Clair. Commercial fishing was shut down for ten years. And that had an effect on our hunting as well.

As George and others emphasize, "when you live downstream of a point or non-point source pollution," like many First Nations' "reserves, you are really at the mercy of the activities of the communities upstream, whether they are an industry or a municipality, you are subject to pollution."

Furthermore, from low-level radioactive waste (LLRW) to a variety of other locally unwanted land uses (LULUs) (Fitchen 1991), such as landfills and sewage treatment plants, many Native territories and rural communities are quickly becoming the redefined as the preferred location for waste disposal services (Kuletz 1998). Janet Fitchen (1991) and other rural sociologists have argued that this rural transformation, from land use patterns that focused on manufacturing, agriculture, and resource extraction to one of waste storage, have forced rural residents and indigenous peoples to share in disproportionate amount of "the waste stream" and its associated environmental and health risks. For example, a lawyer and resident of a reserve located in rural southern Ontario, whom I will call Matthew, summarizes his concerns regarding external pollution sources this way:

> Another environmental threat that we don't really know a lot about, that is here, has been here since 1969 is EMFs (electromagnetic fields) from the large transmission towers. So we are really getting doubled or tripled barreled here, when you look at it. To the east, we have the landfill, to the west we have the potential sewage treatment plant, and the line of EMF towers.

In many ways First Nations reserves seem to be the extreme case of rural environmental and social inequality. Often located near or downstream of major exogenous waste streams, First Nations communities have been, and continue to be, the recipients of a

disproportionate share of environmental and health risks when compared with their larger, and usually more affluent, upstream or adjacent municipal relatives.

Many First Nations are also located in remote rural areas. Some of these communities are only accessible by road for certain times in the year, usually summer and fall. This remote character makes it difficult and very expensive to get water samples to laboratories to be tested, particularly in the winter where they generally have to be flown into the nearest urban center. The executive director of a national water and waste water association, whom I will call Derek Adams, says this about the location of reserves and the provision of drinking water:

> Well, there is the extreme example of the rural case, which is [*sic*] the Aboriginal and First Nations people. And that does represent a unique problem. In the Arctic of course it is extremely costly to develop and deliver potable water. In fact, in some places the only delivery system is a truck and it gets to be very expensive. The new territory of Nunivut and the old territory of North West Territories, which now exists as a residual portion of it, at one time they were paying, or probably still are paying, forty dollars a cubic meter for water, which is a big whack. And if you are attempting to establish as a standard of living, flushing toilets and showers, and unlimited water for laundry and things like that, that gets to be problematic if each person is consuming a third of a cubic meter per person per day.

According to Adams and others, the remote character of many reserves—a location often determined by the federal government during land claims—has increased the costs of developing, delivering, and testing potable water for First Nations communities, often among the poorest communities in Canada.

In addition to location of reserve lands relative to pollution sources, the size of the population on the reserve is also an important factor when it comes to the provision of safe drinking water. In some cases "you are talking 200, 300 people," maintains Larry Smith, an engineer with the Ontario First Nations Technical Services Corporation.

Moreover, Derek Adams states, "I think the issue comes down to the large versus the small [municipality] ... and so, the larger the system, I think, inherently the better quality, the greater quality assurance that you have, and you would expect." In other words, according to these experts small water treatment systems typically found on reserves are inherently *more* risky than larger systems found in larger rural or urban centers.

The fact that First Nations reserves and their people are constantly subjected to greater environmental and health risks (when compared with their rural or urban neighbors), or that because of their unique population and geographic characteristics—much determined by historical federal policy—the provision of drinking water on First Nation reserves is not only more risky but also a more costly venture, does not register on the radar of policies and responsibilities governing the provision of safe drinking water. These structural inequalities have been muted in the rhetoric of neoliberal environmental governance and reform in Ontario and elsewhere. Furthermore, in spite of the "self-reflection" by governmental and other water quality agencies in the light of the Walkerton crisis, little attention has been given to the First Nations voice. In fact, their struggle is perplexingly absent in the mainstream discourse and debate.

But First Nations tell a different story: "it [their struggle] is not surfacing. I don't know how many people are getting affected or getting sick in the First Nations," explained Larry Smith. And in separate interviews I heard more of the same:

> All this awareness happened after Walkerton. If Walkerton never happened everything would have been status quo here. People are very much aware of this situation and try to make sure that they get safe drinking water.
>
> We have people getting sick. Elderly people, babies. There is a lot out there that people don't know and it is due to a lot of things, a lot of situations. It is kind of sad. It is very sad!

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> We wanted training centers for First Nations. We wanted proper equipment [and] training. We laid down what was wrong with the system. We wanted those plant operators [properly trained], we knew what we needed and we put it forward [to INAC] but nobody listens to us until, and I hate to say this, but until a few whites die. As soon as the white people or someone off the reserve gets hurt, then everybody jumps on board. [But] it is stuff that we have been preaching since 1984.

In addition to being very disturbing, these stories are reminiscent of the federal government's legacy of domination and control that has plagued their relation over indigenous peoples.

However, the issue of risk becomes much more complex, and as a result more challenging to analyze and understand, when one recognizes the disparity and differences between individual tribal nations. As one First Nations' water quality expert reminded me, "all First Nations operate differently." In other words, there are many different views amongst First Nations on how they should tackle pollution or water quality issues. There is also much disparity around issues of capacity within and between First Nations' tribes and territories. And while comparing these tangible differences are beyond the analytical reach of this research, it is important to keep them in mind when analyzing First Nations as a social group or formation.

Another observation that is important, and becomes most evident from Figure 1, is that in addition to constituting the physical (and socially) periphery in small and rurally located communities, First Nations arguably, in one way or another, possess much of Canada's natural resource lands. Whether it is non-renewable resources such as gold and

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diamonds in the Canadian Shield and iron ore and oil deposits in the northern territories, or non-renewable resources such as forestry in the provinces of Alberta and British Columbia, hydro-electric power in northern Quebec and Ontario, and fishing along the expansive Canadian coasts, First Nations either own, or claim rights to, much of Canada's vast supply of natural resources. This complex and contradictory physical and symbolic context cannot be understated. For as I illustrate in the following chapters, the neoliberal project surrounding water regulation and water rights is about the appropriation of natural resources, a form of appropriation that dispossesses indigenous peoples from their land and water, and ultimately their culture and identity.

Furthermore, there seems no immediate reprieve from this institutional form of cultural imperialism. In fact, I argue that neoliberalism is actually increasing this form of racial inequality. The assertion was recently repeated in the Auditor General's Report[7] of February 2004. In the report the Department of Indian and Northern Affaris Canada (INAC), along with several other government agencies, were castigated for neglecting their leadership role in managing federal responsibilities. The report went on to say that INAC seemed focused on fulfilling the letter of their mandate and not the spirit. And while the Report's criticism focused on INAC's role and responsibilities with respect to two land claims processes, the Gwich'in people of the Northwest Territories and the Inuit of Nunavut, similar conclusions can be drawn from its other activities, including its role and responsibilities in the provision of on-reserve drinking water. For, as I will explain

[7] The Office of the Auditor General of Canada (OAG) audits federal government operations and provides Parliament with independent information, advice and assurance to help hold the government to account for its stewardship of public funds Office of the Auditor General of Canada (2004).

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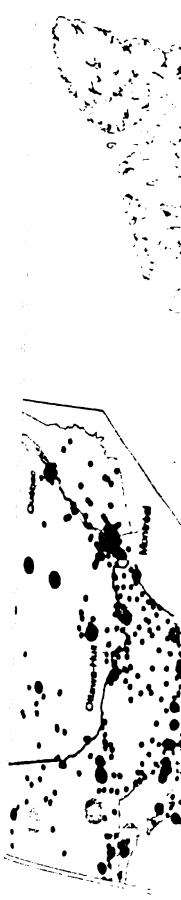
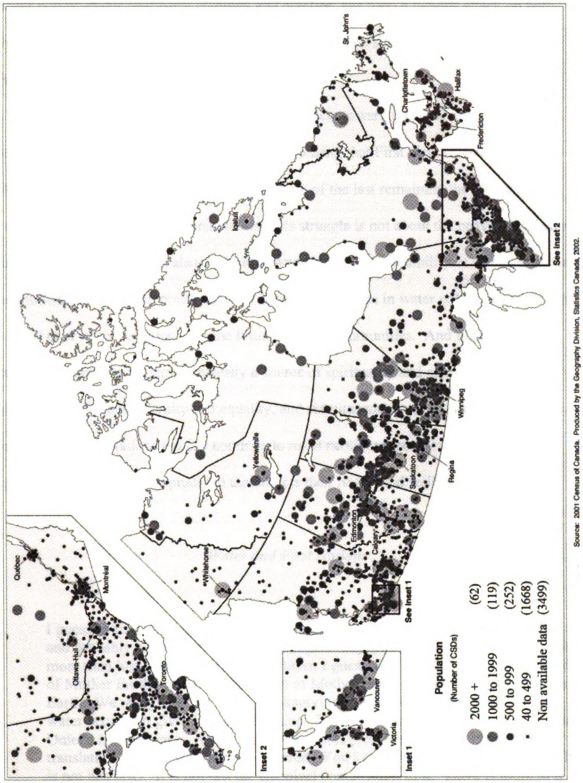


**Figure 1. Total Aboriginal Identity Population by 2001 Census Subdivision.**



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later, First Nations people repeatedly told me that government restructuring of drinking water policy, under neoliberal ideology and practice, has been a vicious attack on both their social and environmental resources and welfare, and simply undermines their facility for self-determination.

Furthermore, First Nations have been reticent toward this new corporate water regime. Given their brutal history, it is not surprising that First Nations are a little skeptical of the rationalizations to manage some of the last remaining the global commons. Furthermore, for First Nations this struggle is not about the provision of safe drinking water alone. It is also about the ownership and responsibility of drinking water institutions, systems and practices. It is about participation in water policy, access to, and control over water resources and the future of their communities. And because water is both health and power, simultaneously a source of spirituality and self-determination, simultaneously about identity and equality, and simultaneously about community and legitimacy, First Nations (so far) continue to resist neoliberal policy reform (i.e., state sponsored expansion of capitalism) that affects their health and welfare.

### *Water and First Nations*

> I guess overall when you talk about water, at least from the Iroquois standpoint, and probably a First Nations standpoint generally, you have to recognize that it is more than just a commodity. Water to us, I guess, you would call it the lifeblood of Mother Earth. It is an integral part of Mother Earth. It covers most of Mother Earth. We recognize this in our thanksgiving addresses. We give thanks to the water because it gives life to everything. The actual word in Iroquois language in Onieda is ohnekanus. And just the way that is pronounced, there is not literal translation but it speaks of being revered. You know. So it is a spiritual thing. It is not just $H_2O$. It is not just the chemical composition of it. There is more to it than that because it makes our plants grow, it sustains our life, it sustain s the

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> animals we use and the plants, and the fish. So I think it is a totally different outlook [from most non-natives].

This description—or social construction—of how aboriginals relate to and understand "ohnekanus" is arguably more sophisticated than more conventional understandings of $H_2O$. Almost everyone that I spoke with carefully choose adjectives like alive, spiritual, revered, and lifeblood (of Mother Earth) to describe what water meant to them and their communities. However, this self-reflection goes much deeper than simply to reify what Daniel Francis (1992) has referred to as the notion of the ecological Native, an identity that posits Aboriginals as simply role models of sustainability. Many First Nations spoke of economic values, security and self-determination in framing their relationship to water.

(*in separate interviews)*

> [First Nations lands] are always near water because ... this is where most of our traditional activities occurred around water. But we needed to get to our traditional harvesting areas and the quickest way in historic times was by the water. It was hard traveling by foot through the mainland. So this would have been our I75, I95, 401's [major transportation highways] in prehistoric times.
>
> But it was also our main transportation routes as well. So it is more than a commodity. It is how we are and that is why we ended up here. We call it "where the waters divide."
>
> Traditional harvesting was our economy. So our economy was based on hunting, fishing, trapping, and gathering and this delta area represented our grocery store. Everything that we needed was here.
>
> It was a long time hunting grounds for beaver, travel, commerce and trade for us. The war of 1812, it figured in prominently... I mean First Nations were here hundreds of years before the first Europeans came and [we] subsisted on that river. Until as recently as 1940, we had commercial interest in the Thames River for production of buttons from the clams.
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> And if you look at the First Nations here, we are Oneida Nation of the Thames, Chippewa's are of the Thames. It [water] is right in our name.

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These viewpoints are indicative of the many different cultural meanings or constructions held by First Nations regarding the significance of water in their lives. I was always impressed by the profound knowledge and understanding that was expressed by participants when I asked what water meant to them. The consistency and nuanced understanding of this very complex and largely taken-for-granted subject matter is striking. The other observation worth mentioning was that none of the participants spoke about what water meant to them individually or as a commodity to be bought and sold. Water was always embedded in the social—both historical and material—relations of the larger community, either the tribe to which that person belonged to or the larger native or non-native community.

However, "ohnekanus" for First Nations represents a convoluted repertoire of material semiotic interplay. In other words, ohnekanus is spiritually, historically, materially and socially constituted. It is both natural and social, simultaneously. For First Nations ohnekanus is revered for its essential qualities (life blood). It is also a source of wisdom and virtue to be preserved and cherished. This understanding of water is similar to that of Nature advanced by many natural philosophers—ironically mostly upper class white men—of the nineteenth century. For example, Henri David Thoreau, one of the most celebrated natural philosophers, reasoned that "in wilderness was the preservation of the world." Thoreau wrote "[T]he earth that I tread on is not a dead, inert mass; it is a body, has a spirit, is organic and fluid to the influence of its spirit" (cited in Tesh 2000: 42). Similarly, John Muir, America's premier naturalist, described Yosemite's waterfalls and the Sierra Nevada mountains as living and breathing creatures.

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Both Thoreau's and Muir's claims that the earth is alive are strikingly similar to First Nations meanings of ohnekanus.

However, First Nations understandings of water and nature stand in stark contrast to those of Thoreau and Muir. First Nations concomitantly talk about water (and other sources of human waste) as a source of pollution and an instrument of power (usually used against them). In other words First Nations also frame water and its environs in a fashion similar to environmental activists and scholars. Water and the environment, from this perspective is not a romanticized and detached nature, it is "where we live, work, learn and play." The environmental justice perspective constructs water as an entity that integrally links people and society through everyday ordinary activities and relationships. Furthermore, by connecting labor with public health, recreation with housing, and culture with capitalism, this conception of water and its environs shatters the nature/society dualism advanced by many natural philosophers.

This complex cultural understanding of water as something that is both natural and social is intellectually fascinating. For in bridging the divide between nature "out there" and the nature we live, First Nations have been able to reconcile a theoretical debate that has haunted and divided environmental scholars and activists in their attempts to understand "environmental" problems. By borrowing ideas from both realists, who see nature as external or "out there," and constructivists, this nuanced understanding resonates profoundly with many critical theorists and science studies scholars (Castree and Braun 1998; Haraway 1988 [1991]; Latour 1993; Macnaghten and Urry 1998). Like First Nations, these scholars trace nature's "emergence" in specific historical practices that are rooted in specific social, institutional and ecological contexts. From this

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Similarly, as Castree and Braun (1998) cogently mention, it is the blurring of how these boundaries – nature and society - are drawn that serves a wider project of showing the relations of power involved in how socio-natures are produced and reproduced. First Nations' resistance to the neoliberalization of drinking water is rooted in this critical perspective of nature and the environment. Furthermore, this perspective acknowledges neoliberalism's central role in the reconstruction of water as commodity, thus opening up the politics of social ecological examination and critique.

Once we acknowledge that ideas of nature have been intertwined with the dominant ideas of society, "we need to address what ideas of society and of its ordering become reproduced, legitimated, excluded, validated, and so on, through appeals to nature or the natural" (Macnaghten and Urry 1998: 15). This is key to understanding neoliberalism. For as McCarthy and Prudham (2004: 276) explain "the hegemony of neoliberalism is made most evident by the ways in which profoundly political and ideological projects have successfully masqueraded as a set of objective, *natural*, and technocratic truisms" (my emphasis). For example, many policy analysts, both government and corporate, pose the public-private partnership as the obvious and *natural* solution for fiscally strapped municipalities to provide safe public drinking water to its citizens both today and in the future. This truism is wholly articulated by a policy analyst and researcher at one of Canada's larger universities, when I asked him why so many municipalities were going to private agencies to run their water systems.

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> Well because it is a natural progression to some degree. Because when you have a small community, it probably started out as a village at an intersection. And most people were on wells. And then once they became a certain number it became the Village of X. ... They eventually got into the position where they needed to put in a sewage treatment plant. And that was still ok. So they got a little group together and they hired an engineer, and they got this and that. Some local reeve got the permit and whatever. And that all made sense. I really do think this is how it happened. And it served the community very well for a while. And then either the community grew and it needed a bigger one, so it needed to upgrade. It could still do that as a public little group. Or it got really big and now forty years later, they have been sticking it and patching it so much that they really can't do it anymore. It's just literally served its purpose ... and so they really have to redo it. And to redo it now, that is all fine, except ... it is all coming due at the same time as your tax base is going [shrinking] and you have huge health care requirements. So you really got to focus on where you are going to get this money from. That is the first thing. The second thing is the legislation has changed, and it has changed rather rapidly as a result of incidents like Walkerton. So not only do you have new regulations with which you must comply but [also] you have new liability on the town councils and city councilors. And these used to be volunteers, just people from the community who were good people. I mean, you join the Lions Club, you run for council. What were the qualifications? ... Well know its really got to be director liability and due diligence.
>
> So you have a double whammy: infrastructure after 60 years coming due and new liability and legislation driving this thing. These are big drivers, and when you marry those drivers all together at the same time, you are talking about a new level of expertise and competence here. And in some cases some of that is available to you municipally, and in some cases there is no way unless you go out and hire it. Now you can hire it as a municipality but in some cases the people that you really want, for whatever your needs are, are in private firms. And they come to you and they say we can only work for you this way. So that, I think, is the *natural* progression and I don't personally have trouble with public private partnerships [emphasis added].

The "common sense" approach sees only one progression in water governance reform: privatization. Yet by masquerading privatization as *natural*, alternative visions, particularly by less powerful parties, are considered romantic, outdated, and inefficient. For example, First Nations see this alternative as a public sell-off to corporate interests, and an attack on their environment, culture, and social fabric. And, consequently, they are not interested, nor are they included, in such hybrid arrangements. A contrary view

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of privatization, and one explored in this research, is that of Arundhati Roy's (2001; 2004). According to Roy (2001: 43) privatization involves the transfer of productive public assets, such as forests, water, and land, from the state to private companies. She also contends that to snatch these assets, which the state is suppose to hold in trust for its citizens, " and sell them as stock to private companies is a process of barbaric dispossession on a scale that has no parallel in history." As such, she concludes, that to talk of connecting human rights with privatization is a little more than baffling. The hegemony of neoliberalism, I argue, is in its ability to square these two largely incompatible notions.

In the next chapter I outline the central elements of this new and transforming environmental water regime on a global, regional, and local scale. I specifically examine the institutional changes, such as privatization, that have been the focus of state sponsored (neoliberal) water reform that has made up the nuts and bolts of this juggernaut of transnational capital. In later chapters I argue that for First Nations, the neoliberalization of drinking water services in Ontario has become the subject of intense social struggle between cultural preservation and self-determination, on the one hand, and [neoliberal] capitalist expansion, and the various forms of assimilation, alienation and marginalization that it represents for them, on the other; a struggle for access to water markets, participation in regulation and management of water resources, and a general control over the social reproduction of both culture and nature.

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## 3. Making Sense and Making Methods

> *Where do you find meaning or rigor? Which "ism" is the name of your system? Or, worse yet, what is your obsession?* Michel Serres & Bruno Latour
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> *There is no pure place outside of power by which the question of validity might be raised, and where validity is raised, it is also always an activity of power.* Judith Butler

Like Annette Lareau (2000) I find doing qualitative research frightening and difficult. Qualitative research "remains hard at all stages: to begin, to get into a setting, to write fieldnotes, to exit a setting, to analyze data, to write manuscripts, and to get work published" (Lareau 2000: 191). That is probably the reason why it took me so long to organize and then write this chapter. One thing I initially struggled with was *what, who*, and *how* to include as relevant fieldwork and data analysis and *what, who*, and *how* not to include. Included in these decisions was also how much of myself to include in this section and how much to omit. Since it is widely accepted among qualitative researchers that it is impossible to be absent from one's own study, I have no concern about being an unintrusive participant, limiting my engagement with research respondents and settings for fear that I might contaminate the research findings. What follows is some transparency into the research process of this study.

### *The Beginning of the Project*

I was not initially interested in focusing on the Aboriginal perspective. To be honest, I—probably like most Canadians—was not aware that there was an Aboriginal

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perspective on the restructuring of drinking water in need of investigating. In many ways my interest and this dissertation emerged from the knowledge I gained in the initial interviews, interviews that both outlined the changing forces and practices of Ontario's water sector and the concerns about this transformation. The first three participants I interviewed were either academic or government scientists. I then interviewed an environmental consultant. At that point in the research process I was still largely concerned with pursuing a science studies perspective with which to conduct this research project. I was largely interested in the connection between the science of water quality and neoliberal governance and reform. However, in all three interviews First Nations groups and communities were singled out as being a group that was either the subject of egregious and unfair drinking water conditions or was being "left behind" or "left out" in this new water regime.

At that time I also began to immerse myself in the many documents that the Walkerton crisis and its Inquiry had produced. One thing that stood out in the Walkerton Reports (O'Connor 2002a; O'Connor 2002b; O'Connor 2002c) was Dennis O'Connor's—the Commissioner of the Walkerton Inquiry and the author of the Walkerton Reports—observation that First Nations reserves had some of the poorest quality drinking water in the province. O'Connor (2002a) also insisted that special attention be given to the improvement of water quality on First Nations' reserves. At this point I was a little perplexed. In what I thought was an extensive literature review in the writing of an article on the Walkerton crisis (Mascarenhas 2002) ), nowhere did I find any information referring to First Nations and their struggles against, or concerns with, the restructuring of water governance in Ontario.

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The next phase of interviewing—after the initial scientific and consultant perspective—was to interview plant operators. For practical reasons I decided to interview a First Nations plant operator who lived and worked a short drive from where I was staying in Southern Ontario. It was here where my dissertation research really began to take hold. I was fortunate to interview perhaps one of the most experienced First Nations operators in the country. Not only had he been a licensed operator for two decades, but also he had been integral in the formation of the Ontario First Nations Technical Services Corporation, and had also been involved in many water treatment committees and negotiations with the Department of Indian and Northern Affairs Canada. What was revealed to me by this participant was a heart-wrenching story of neglect, discrimination, and racism—a story that I have tried to reveal in this dissertation. I left that interview not only with a sense of enlightenment but also with a commitment to make sure their voices were heard. From then onwards I largely interviewed First Nations people. I began to spend time on reserves, and found myself immersed in a world that I did not know existed in Canada.

### *Research Objectives*

The primary purpose of this study has been to draw attention to the ongoing political and economic violence that is being perpetrated on First Nations in Ontario, Canada. Using the rhetoric of neoliberalism and the recent re-regulation of drinking water practices to frame my analysis, I have tried to understand how First Nations make sense of, cope with, and resist policies that are discriminatory towards their social,

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economic and environmental welfare. In addition to getting a general sense of what it meant to be a victim of institutional racism, I was also interested in finding out how specific aspects of neoliberal policy reform were discriminatory. My guiding research questions focused on how the recent changes in water regulation in Ontario had affected First Nations' livelihood, employment, quality of life, self-determination, governance, and general health and welfare of their communities. A sample of the types of questions asked in the interviews can be found in the Appendix.

### *Why Ethnography?*

I believe that an ethnographic approach, along with archival data collection, was the appropriate empirical methodology for this research. Ethnography, according to Hammersley and Atkinson (1995: 2), "bears a close resemblance to the routine ways in which people make sense of the world in everyday life." An ethnography is a description, interpretation, and analysis of a cultural or social group or system. Because I am concerned specifically with First Nations experiences, the ethnographic approach was the obvious methodological choice with which to shed light on my research interests and answer my research questions. Both a process and a product—in this case a dissertation—an ethnography has never been a pure or purely scientific discourse (Grindstaff 2002). As such, an ethnography is as much an art as it is a science. It is both a matter of collecting data and a matter of collecting stories about the world we live in and the subject matter we care about (Grindstaff 2002). I tried to balance these largely ethical questions with what I felt was my own *duty of care* towards the many participants

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in this study—colleagues, who I felt are the object of ongoing social and environmental inequalities, and whose voice was not being heard or given legitimacy. In an effort to challenge these relations of power and domination together, I have tried to do this research *with* First Nations and not *on* them.

The aim, though, as Hammersley and Atkinson (1995) argue, is not just to make the data intelligible but also to do so in an analytical way that provides a novel perspective on the phenomena I care about. My analysis has been influenced by two overlapping constructivist strategies of inquiry: constructivist grounded theory and critical action research.

As outlined by Charmaz (1995; 2000), a constructivist grounded theory approach provides a rich and consistent method that emphasizes meaning, without assuming the existence of a unidimensional external reality. The overarching form of this style of inquiry is to ground the theory that emerges from the research in the data collection and analysis. Charmaz (2000: 521) has argued that, "a constructivist grounded theory assumes that people create and maintain meaningful worlds through dialectical processes of conferring meaning on their realities and acting within them." The constructivist grounded theory approach recognizes the interactive nature of both data collection and analysis, and fosters to develop comprehensive middle range theory of experience from the standpoint of those who live it (Charmaz 2000).[8]

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[8] The constructivist grounded theory approach outlined by Charmaz (2000) is a particular attempt to contend with the positivistic criticism often assumed by grounded theory's major proponents—Glaser and Strauss. Glaser and Strauss's (1967) original work was revolutionary in its critique of the division of theory and research, and data collection and analysis, and the underlying assumption that qualitative research could only produce descriptive case studies rather than theory development (Charmaz 1995). And while Glaser and Strauss later differed on their original approach—Strauss (and Corbin) moved

According to Stephen Kemmis and Robin McTaggart (2000), critical action research expresses a commitment to bring together broad social analysis that includes, but is not limited to, the self-reflective collective self-study of practice, discourse analysis, organization and power in local situations, and action to improve inequalities and injustices. "Critical action research has a strong commitment to participation as well as to the social analysis in the critical social sciences tradition that reveals disempowerment and injustice created in industrialized societies" (Kemmis and McTaggart 2000: 569).

Critical action research challenges conventional relations between research and policy that typically privilege the perspectives of scientists and professional researchers in favor of the perspectives of non-experts. Furthermore, such policies do very little to foster stakeholder agency and community capacity building, particularly for those marginalized by such policies, like First Nations. And since constructivist inquiry emerged from the failure of conventional evaluations to address program change in any meaningful way, it has been the obvious choice to guide this research.

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to a behaviorist, rather than a interpretative, approach to their data analysis and collection, while Glaser emphasized the emergence of data and theory through analysis—both endorse a realist ontology and positivist epistemology. Charmaz (2000: 513) argues that "both Glaser and Strauss and Corbin assume an external reality that researchers can discover and record—Glaser through discovering data, coding it, and using comparative methods step-by-step; Strauss and Corbin through their analytic questions; hypotheses, and methodological applications."

### *The Research Project*

As mentioned above, my initial foray into this research began in the Fall of 2000. I then interviewed half a dozen government representatives and other water quality experts and consultants in the summers of 2001 and 2002. From the Fall of 2002 until the Spring of 2004 I limited my time to interviewing First Nations exclusively. Of course there were a few necessary exceptions but they were indeed limited, as I tried to focus on the Aboriginal perspective.

In total I worked with (interviewed, observed and collaborated with) 27 participants. With few exceptions, I interviewed each participant once. However, on occasion I had many face-to-face encounters with a few participants. The interviews varied in length from one hour to over three in some cases. I personally transcribed the interviews verbatim, which totaled to just over 800 pages of data. This process, although long, tedious and drawn out, has kept me "close" to the data. And although I often wished there was an easier (read quicker) way of doing this, I am glad that I made this decision.

### *Access and Entrance*

Like writing this dissertation, there were exceptionally easy and welcoming days and then there were days that were simply write-offs. It seemed to me that First Nations are a group that are used to being studied (and objectified), although with much (legitimate) skepticism and reluctance.

I distinctly remember one interview appointment. I had called the water treatment plant operator's assistant. In my initial conversation with this operator I introduced myself as a graduate student interested in First Nations water quality concerns. And like other respondents, he wanted to know exactly who I was, what I was doing, and why I was calling him. Once I assured him that I was not a government representative nor working for private industry, he suggested that I drop by "the plant."

However, when I showed up at this interview arranged by the plant manager's assistant, I was definitely not welcomed. I attempted to demonstrate my earnest concern for First Nations issues and assured the participant that my research findings had the potential to not only examine, but also to voice the First Nations' perspective. However, this was not convincing enough, and I was "asked" to leave before having the plant door slapped on my face. Of course, this was confusing to me. Here I was trying to do genuine research, literally volunteering my services, but not being accepted. In this particular instance I asked the manager to talk with participants in an adjacent reserve to support my research. And after speaking with his contemporaries he granted me an interview.[9] I spent several days on this reserve, enjoying community lunches and hospitality. I wish I could have spent more time there.

There was definitely a pattern in getting access and entrance on reserves and to the people that I wanted to interview. It varied from impossible to easy, but generally became easier as the research continued. The less threatening I became, largely a function of my familiarity both in the immediate and larger community, the more acceptance I received—or at least that was my perception. But I had to listen a lot,

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sometimes to stories that I thought (then) were not relevant to my research agenda. I found that the questions I initially drafted were not necessarily salient for First Nations, and I increasingly focused on what I thought were stakeholder-nominated salient issues. I think this flexibility has been one of the major strengths in this research.

I think that one of the major failures of this research project was my inability to interview scientists and other experts with the provincial Ministry of Environment and the Federal Department of Indian and Northern Affairs. Both departments, and specific individuals within those departments, were singled out by participants in my research as playing a crucial role in the politics of water quality distribution in Ontario.

With respect to the former (MOE), it was not from a lack of trying. I made several phones calls over the span of half a year to one particular scientist at the Ministry of Environment, who was singled out by participants as an expert in provincial-First Nations relations with respect to drinking water quality, regulation and planning. At first, my phone calls were not returned. But after three weeks of trying I finally made contact. During our phone conversation, I was faced with all sorts of questions and queries. He actually stated that he didn't think anything would come of this research. However, he agreed to indulge me, but would first need to get "the approval of his legal team." I faxed him a copy of the consent form and my interview guide and waited. A month later I decided to call, as I had not heard anything. I left several messages over the next three months of which none were returned. Frustrated, I gave up. This experience along with the perfunctory interview I had with an employee of the Ontario Clean Water Agency[10],

[10] I remember leaving that interview wanting to scream. I found the respondent condescending and unwilling to share "confidential" information with me. I wrote in my

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simply crushed my enthusiasm to interview persons at other governmental agencies, like the Department of Indian and Northern Affairs.[11]

I am somewhat ambivalent about my failure to capture the bureaucratic perspective, particularly as it relates to the re-regulation of drinking water services in the province. On the one hand, a bureaucratic perspective may have provided some insight into the allegations, both by First Nations and others, that agency policies have and continue to discriminate against First Nations well-being and welfare. Furthermore, insight into what criteria were considered and who participated in the formation of new water policy and regulation in the province may have also provided some insight into the decision-making process, and the values and interests that this process espoused. However, my ambivalence from this line of reasoning comes from its underlying assumption, that being that there is a real or full story that exists "out there," and capturing the various perspectives around drinking water will somehow produce this full story. Obviously, such a story does not exist. The bureaucratic perspective may also detract from the power and legitimacy of the Aboriginal perspective instead of helping to explain and understand this form of institutional discrimination.

The absence of the bureaucratic perspective is a big part of the story. In spite of being unsuccessful in getting these interviews, I think much can be learned from this experience—data of a different sort. Embroiled in the aftermath of perhaps its most serious public controversy—the Walkerton crisis—the MoE, and other government agencies, have become less willing to speak about their role in this and other

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field notes after the interview that "R knew what was *really* going on in the drinking water sector in Ontario but was not going to tell me."

[11] I should note that I did interview one scientist with Health Canada. His involvement has been integral to this study.

controversies. My sense is that this is increasingly becoming the case. As government agencies remove themselves from the day-to-day operations and responsibility of public services and enter into public-private partnerships, their roles become murky. This is an interesting paradox since often the rationale for "liberating" these governmental services is to provide transparency and accountability of both government and industry. Another graduate student conducting research on health issues in Ontario was similarly denied access to key members of the Ministry of Environment after making numerous attempts to solicit their participation. He also gave up.

If I am correct regarding this trend towards government(s) being less willing to be researched, it could have serious repercussions for the social sciences. By limiting entry (to people or agencies), or the questions that can be asked (or answered), or other forms of inquiry, the future of rich multi-vocal accounts of social realities may be seriously constrained or prevented. I hope this is not the case, but my research experience of the past points to such an emergent phenomenon.

## *Data Gathering*

The primary data gathering approaches used in this ethnography were in-depth interviews, participant observation, and document analysis. I briefly outline them below.

### Sampling

A *purposeful sampling* technique was used to locate individuals to interview in this research study. According to Maxwell (1996:70) purposeful sampling is "a strategy

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in which particular settings, persons, or events are selected deliberately in order to provide important information that can't be gotten as well from other choices." It has never been my intent that this research would represent the entire *range* of variation regarding neoliberal water governance in Ontario. Given the time, support and purpose of the research—a dissertation project—that was not reasonable. However, I do feel that I have accurately captured the First Nations perspective in Southern Ontario regarding this subject matter. I have also interviewed non-natives—scientists, academics, consultants and community group members—in the hope of providing more detail and filling some "data gaps"—more formerly referred to as data triangulation—in the story that have I decided to tell.

**Interviewing**

In-depth interviewing, according to Fontana & Frey (1994), allows researchers to understand respondents' complex perceptions without imposing rigid or overly restrictive *a priori* categorization that might limit the field of inquiry. Another advantage to this methodological approach is that it allows respondents to answer in their own words, to clarify their responses, and to provide the possibility for novel responses not anticipated by the researcher or easily accommodated in a survey questionnaire.

The interview approach I used was open-ended and was set up more to be a conversation than an interview per se. I have included the list of questions used in the interviews—an interview guide—that I complied before entering the field in the Appendix. These questions are in no particular order, as I often varied the order of questions depending on how the interview evolved. Also several questions were added

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I taped all of the interviews. However, as I engaged in the interview I did not take notes. Instead, I tried to stay actively involved in the conversation. I feel this makes for a more comfortable atmosphere with which to talk about some very uncomfortable (for some) topics. After each interview I recorded (into the tape recorder) my observations, questions, areas to further probe or test, and my general sense of the participant(s) engagement and politics, the setting, and anything else that came to mind at the time.

**Participant Observation**

Participant observation (Adler and Adler 1994; Lofland and Lofland 1995) is an especially valuable qualitative data gathering technique because, while interviews are somewhat artificial experiences, observations take place in settings that lack the controlled feel of interviews. According to Lofland and Lofland (1995: 18), "participant observation refers to the process in which an investigator establishes and sustains a many-sided and relatively long-term relationship with a human association in its natural setting for the purpose of developing a scientific understanding of that association." Moreover, observations are directed at behavior more than language; this is an important point when considering that the preponderance of constructivist analyses emphasize discourse and largely ignore behavior. I spent many hours and days on reserves observing and conversing with strangers. What struck me the most about reserves was the poverty, not only of individuals but also of governmental services and infrastructures.

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**Documentary Materials**

Various documents, such as the Canadian Federal Water Quality Guidelines and the proposed Provincial Safe Drinking Water Act, government pamphlets, newsletters, programs, and policy regulations were analyzed and triangulated with the other two data gathering approaches. Newspaper, TV, video and audio tapes also provided additional data and background information that assisted in the data analysis and write-up.

## *Data Analysis*

In brief, this inductive approach to theory construction, description, and explanation sees data gathering, analysis, and theory development proceeding simultaneously. It stands in contrast to deductive—or, less charitably, "armchair"—theorizing in which researchers attempt to create theory prior to collecting data. The data analysis strategy employed in this research followed the analytic strategy outlined by A. Michael Huberman and Matthew Miles (1994). Table 2 summarizes the data analysis strategy proposed by these authors.

**Table 2. General Data Analysis Strategies by Huberman and Miles (1994)**

| Analytic Strategy | Huberman & Miles (1994) |
|---|---|
| Sketching ideas | Write margin notes in fieldnotes |
| Taking notes | Write reflective passages in notes |
| Summarize field notes | Draft a summary sheet on fieldnotes |
| Working with words | Make contrasts and comparisons |
| Identify codes | Write codes, memos |
| Reduce information | Note patterns and themes |
| Count frequency of codes | Count frequency of codes |

(adapted from Creswell 1998)

I first transcribed the interviews and my field notes verbatim. I saved these documents as Word files in a file folder I labeled Interview Transcriptions and Notes. I then read through each text. Sometimes I made notes in the margins but other times I simply read the transcription. On average, I read each interview about four times. And depending on the mental space I found myself in, the engagement and note taking varied. However, over repeated readings I was able to complete the line-by-line coding of the data. Cathy Charmaz (2000) argues that this initial form of coding helps qualitative researchers to remain attuned to their subjects' views of their realities, rather than assuming that the researcher and researched share the same view or worlds. I compiled the line-by-line coding into a folder I labeled Coded Interviews.

Using a process similar to Creswell's categorical aggregation (1998) and Charmaz's (2000) coding strategy, I was able to organize the 800 pages of data into 47 focused codes (see Appendix 1 for an example of this process). According to Creswell (1998) this form of coding involves reading each passage of text, and identifying, with a word or short phrase, the main themes from the data (Creswell 1998). Charmaz (2000) describes focused coding as more conceptual, or abstract, than line-by-line coding. In other words focused codes account for the grouping of similar line-by-line codes. This was perhaps the most substantial data sorting phase.

Next, I began my third coding phase. Here I was able to sort the focused codes into three axioms or what I have called first level categories. The first category was comprised of issues of concern to First Nations, such as First Nations' treaty rights, access to resources, participation, First Nations knowledge, health and welfare, and

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capacity building—what I labeled First Nations. The second first level category included issues concerning the restructuring of institutions, systems and practices of drinking water services in Ontario. Examples, of this group included—but were not limited to—the following focused codes: OWWA, INAC, OFNTSC, OCWA, watershed planning, municipal governments, Health Canada, and new regulations. I labeled this category Institutional Change. Lastly, there was what I called the Consequences Category. These focused codes largely revolved around issues of downstream pollution, impacts to wildlife, source protection, risk assessment, weather and global warming, and bio-accumulation.

### *Weighing the Evidence*

In his book *The World Turned Upside Down, Indian Voices from Early America* (1994), Colin Calloway writes that we need to weigh the evidence of sources of Indian history, not because Indian people are less reliable as a source of information but because what is written is often filtered through a non-native, mostly European, lens. This dissertation, I posit, because it was also written by a non-native needs the same scrutiny. Calloway (1994) insists that we need to know how long or how well the writer knew the Indians, whether he was sympathetic or hostile to them, and whether he was a reliable observer and an accurate recorder. I hope this methods section, and the data chapters that follow, answer these legitimate questions.

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*"Water privatization, I believe, will go very successfully indeed, very successfully indeed."* Margaret Thatcher

*"Labour is not the source of all wealth. Nature is just as much the source of use values ... as labour, which itself is only the manifestation of a force of nature ...."* Karl Marx

Michael Hardt and Antonio Negri (2001) have suggested that the dialectic between the nation-state and capital has taken on different configurations in the different phases of capitalist development. However, as Hanna Arendt (1968) acutely observed this accord has not always been easy. In this chapter I describe some defining moments—both discursive and political—of neoliberal policy reform. Then, focusing on Ontario's "Common Sense Revolution," I examine how privatization has become the dominant solution to the world's water problems, and the affect this *solution* has had on environmental and human resources. I argue that this phase of capitalist development is increasingly concerned with primitive accumulation—both *withdrawals* from the environment, such as raw materials, land, and labor and *additions*, such as environmental pollution and human illness. Furthermore, and similar to Marx's (1976 [1867]) initial phase of primitive accumulation, the state has been the chief conductor in orchestrating a system of primitive capitalist expansion—a system where privatization has become *the answer* to the legitimation crises of state authority. Finally, and building from my fieldwork data, I posit that because indigenous peoples, such as First Nations in Canada, control valuable resources, particularly land and water, *without* the power to protect

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### *Understanding Neoliberalism*

It has been said that neoliberalism is the most powerful ideological and political project in global governance reform (McCarthy and Prudham 2004). Yet, despite its familiarity, defining neoliberalism has not been an easy task. Part of this challenge lies in the fact that "the term neoliberalism stands for a complex assemblage of ideological commitments, discursive representations, and institutional practices" (McCarthy and Prudham 2004). The other challenge to understanding neoliberalism is that the specific historical and material context in which policy and capitalist expansion develop is always unique, usually contradictory, and most likely inseparable from other social hierarchies and forms of inequality. Furthermore, as David Harvey (2003) argued, the difficulty of this type of analysis is to keep the two sides of this dialectic—the political and the economic—simultaneously in motion, and not to favor one over the other. I enter this exercise not to define neoliberalism in some essentialist way but rather to draw attention to specific discursive and material practices. In other words, I am not so interested in pinning down what neoliberalism is, but how it has been used for political ends. In particular, I am concerned about the inequalities neoliberalism manifests in its implementation, particularly for First Nations.

Many scholars trace neoliberalism's contemporary origins to the policy reforms that began under Margaret Thatcher's Conservative governments in the 1980s. Her

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announcement that popular capitalism was nothing less than a *crusade* to enfranchise the many in the economic life of the nation, seemed like an idea, or more appropriately a religious conviction, whose time had truly come. And given the political economic tenor of the time perhaps it seemed believable.

Shortly thereafter Republican President Ronald Reagan, Thatcher's alter ego, declared that deregulation was the order of the day. And a combination of public money and private initiative, grandly called the Washington Consensus, tied together major socio-economic institutions, such as the International Monetary Fund and the World Bank, with powerful political interests that defined a new mantra for progress and development—a new federalism. The resultant agenda set the tone and terms for an aggressive invasion of the public sector by private interests, particularly in the developing world. What followed was a dramatic restructuring and appropriation of public services, including transportation, telecommunications, energy and water, to private enterprise.

However, the Thatcherite doctrine that "there is no alternative [to crisis tendencies of late capitalism]" was simply not the case. As Karl Polanyi (1944: 57) maintained "the gearing of markets into a self-regulating system ... was not the result of any inherent tendency of markets towards excrescence, but rather the effect of highly artificial stimulants administered by the body social." In his book *Spaces of Hope,* David Harvey (2000: 7) detailed an admission by an advisor to Thatcher "that the fight against inflation in the early 1980s was a cover for raising employment and reducing the strength of the working class." Harvey writes (2000: 7), "what was engineered, he said, in Marxist terms—was a crisis in capitalism which re-created a reserve army of labor, and has allowed the capitalists to make high profits ever since." Neoliberalism, then, was

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### *The Self-Regulating Market*

The key structural feature—both discursively and politically—of neoliberalism has been the "self-regulating market." In fact, the mantra of "let the market decide" has been key to the drumbeat of neoliberalism. Karl Polanyi (1944) convincingly argued that the dynamics of a modern society was governed by a double movement: one based on economic liberalism and other based on social protectionism. The principle of economic liberalism, according to Polanyi (1944), aimed at the establishment of a self regulating market, relied on the support of the trading classes, and used largely *laissez-faire* and free trade as its methods. By contrast, the principle of social protection aimed at the conservation of both labor and land, what Polanyi (1944) referred to as the fictitious commodities of capitalism. In addition to conservation, this principle relied on varying support, primarily by those adversely affected, to intervene in the self-regulating market with legislation, restrictive association and other forms of social resistance (Polanyi 1944).

[12] Of course, a kinder interpretation is the "trickle down effect," where higher profits would supposedly lead to more money in circulation, which would supposedly lead to greater economic emancipation among the working class.

The post-war period, often referred to as the Golden Age of U.S. hegemony, *seemed* to resemble a negotiated compromise between socially embedded markets, akin to economic liberalism, and government guidance of economic development, akin to social protectionism. As James Crotty (2000) argues, the degree of societal control over economic processes and outcomes varied greatly amongst nation-states; however, there was widespread acceptance of a new "social contract" between the state, labor, and its citizens. For example, governments seemed committed to high employment rates and the establishment of a fair working wage; the importance of strong social safety nets, like unemployment insurance and retirement pensions, and the expansion of welfare rights were recognized; and organized labor became a legitimate influence over wage setting, working conditions, and political and social priorities. This distinct set of economic and social polices is generally known as the Keynesian Welfare State (Jessop 2002).

In Canada, this took the form of progressive social policy in the areas of education, labor, health, environment and human rights. Universal Medicare, unemployment and retirement benefits, and provincially funded public schools are just a few of examples of Canadian post-war Welfare State initiatives. The U.S., on the other hand, was a little more modest in their post war political economic agenda. According to Crotty (2000: 3) this policy featured "the regulation of growth and employment through fiscal and monetary policy, modest welfare reform, mild state regulation of business, reasonable control of financial markets, and more union-friendly laws and conventions." Of course this new form of economic growth and development was not without its own problems. There were some whose inequalities were worsened under this new regime of tight monetary and fiscal control. However, Keynesian welfare reform dramatically

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improved economic performance in almost every country, and for *most* groups within most countries (Crotty 2000).

The unique structural coupling and co-evolution of a capital accumulation and mode of regulation with the Keynesian Welfare State's insistence of fixed exchange rates and tight regulation on capital flows set the stage for a relatively "safe" and expansionary time for political economic growth and development for a period of thirty or so years—1940's to 1970's (Jessop 2002). Bob Jessop (2002) has argued that it was this distinctive combination of economic liberalism and social protectionism that managed, displaced or deferred, at least for a while, the contradictions inherent in this phase of capital accumulation. It was only in producing a myriad of destructive and interrelated economic, political and sociocultural crises beginning in the late 1960's that the Keynesian Welfare State fell into disrepute.

The intense and coherent struggles of the late 1960's and early 1970's were a watershed for capitalist resistance and reform. New social movements drew attention to civil and human rights violations, feminist inequality and environmental degradation. There was a growing resistance to the war in Vietnam, and massive student protests in Europe, North and South America, and Japan. In addition, rising inflation—largely caused by a tripling of oil prices from 1972-73—fast growth and increased trade competition created a substantial balance of payment deficits that led to pressure on and eventually the destruction of Bretton Woods (Crotty 2000). This combination of socio-economic struggles and new social movements substantially undermined the legitimacy and fiscal solvency of the welfare state.

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As a result, Crotty (2000) observed, the U.S. began to roll back the economic powers of the state, letting the market, or private power, rule everywhere—domestically and internationally. The key point that Crotty (2000), Harvey (2003), and others have made is that neoliberalism was not inevitable, like Thatcher claimed. "It was a deliberate choice among alternative options made by elites for reasons of narrow self interest" (Crotty 2000: 8). This "new" alternative substantially weakened welfare-state policies and remade the capital-labor accord established in the post-war economy under Fordist sensibilities. In so doing the crisis of modern capitalism was shifted to the workers, the middle class, the poor, indigenous peoples, and the periphery—the people least able to cope with it, while the power elites were able to accumulate through redistribution in the process. This new strategy has restored profitability to owners of capital at the cost of substantially obstructing nation-states' ability to provide social-welfare type programs, to mitigate public inequalities, redistribute wealth, and to regulate public goods, like health and the environment.

### *Neoliberalism and Nature*

In this section, I argue that neoliberlism's coercive ability of appropriation and dispossession is representative of a new phase of "primitive accumulation" (Marx 1976 [1876]), one that David Harvey (2003: 137) has branded "accumulation by dispossession." Along with privatization, Harvey (2003) argues that accumulation by dispossession has become a central feature of this neoliberal phase of capitalist accumulation, a phase whose ratcheting-up of exchange value uses—both withdrawals

(land , raw materials, water) and additions (pollution and waste)—from nature places a disproportionate burden on those who have resources *without* power. Unsurprisingly, I find this concept particularly relevant to First Nations in Canada, and other indigenous groups, who find themselves increasingly dispossessed from their natural, social, and economic resources.

For Marx (1976 [1867]), primitive accumulation was the stage before capitalist production and reproduction could take place, a stage that was essential in the process of proletarianization. What is necessary, Marx (1976 [1867]) argued, was not just an accumulation of wealth or property, but a social accumulation. In other words, the social groups of capitalists and proletarians had to be created before capitalism could begin. The first step in this process involved the divorcing of the producer from the means of production (Hardt and Negri 2001). In England, Marx (1976 [1867]) explained, proletarianization was accomplished first by the enclosures of the common lands by the state, which separated peasants from their own means of production. Then, driven from their homes and turned into vagabonds, the English peasant was herded toward new the manufacturing towns, and forcefully disciplined into accepting a system of wage labor.

In contrast, the creation of the capitalist came from outside England. Marx (1976 [1867]: 915) wrote that discovery of precious metals in America, "the extirpation, enslavement and entombment in mines of the indigenous population of that continent, the beginnings of the conquest and plunder of India, and the conversion of Africa into a preserve for the commercial hunting of blackskins" characterized the dawn of capitalist production. Furthermore, while primitive accumulation has always involved the expropriation of peasants from the soil, Marx (1976 [1867]: 876) warns that "history of

this expropriation assumes different aspects in different countries," and different phases. In all cases, however, the primitive accumulation of capital requires a new combination of capitalist expansion, command, and environmental impact.

According to David Harvey (2003: 145) Marx's description of primitive accumulation reveals a wide range of processes.

> These include the commodification and privatization of land and the forceful expulsion of peasant populations; the conversion of various forms of property rights (common, collective, state, etc) into exclusive private property rights; the suppression of rights to the commons; the commodification of labour power and the suppression of alternative (indigenous) forms of production and consumption; colonial, neo-colonial, and imperial processes of appropriation as assets (including natural resources); the monetization of exchange and taxation, particularly of land; the slave trade; and usury, the national debt, and ultimately the credit system as radical means of primitive accumulation.

Wholly new mechanisms of accumulation have accelerated the forceful expulsion—dispossession—of peasant populations in all periphery countries, most notably Mexico, Brazil, and India (Roy 2001). Harvey (2003: 148) points to the pillaging of the world's genetic resources, often referred to as biopiracy (Shiva 1993); "the escalating depletion of the global environmental commons (land, air, water) and proliferating habitat degradations; and "the commodification of cultural forms, histories, and intellectual creativity;" as indicative of a new wave of 'enclosing the commons.'

What characterizes this phase as particularly striking are the increasing presence and resultant social and environmental devastation associated with this form of uneven development (Smith 1984). These unfair and unequal conditions "do not merely arise out of the uneven patterning of natural resource endowments and locational advantages," Harvey (2003: 32) contends, but rather are "produced by the uneven ways in which

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wealth and power themselves become highly concentrated in certain places by virtue of asymmetrical exchange relations." In other words, these so-called "natural inequalities" are not simply natural in their production or consequence but socially reproduced inequality. Harvey's (2003) analysis helps to explain the persistent of highly polluting land use practices in rural areas, both in industrial and "developing" countries.

For example, the extraction of raw materials from the periphery, both globally and in the core states, has produced numerous ravaging impacts associated with the generation of wealth—such as resource depletion, the increase of industrial pollution and toxic waste, and the proletarianization of the laborer. However, for the most part, the human and environmental devastation associated with those withdrawals (raw resources, water, etc.) and additions (pollution) is increasingly and disproportionately impacting marginalized and peripheralized governments and their citizens. Furthermore, the locus of command that produces these gross inequalities are typically located in the boardrooms of some distant transnational corporation, or in the parilmentary buildings of a core state, or other coercive transnational institution, like the World Bank. In other words, as Harvey (2003) so accurately observes, the wealth and well-being of particular territories are increasingly being augmented at the expense of others.

Perhaps the most vivid example of the orthodoxy of neoliberalism comes from Lawrence Summers, a now retired chief economist of the World Bank. In his now infamous memo Summer's argued that the World Bank should encourage the movement of pollution from the rich core countries to that of the periphery because the cost of illness associated with pollution would be less in economically marginalized communities. This was because, according to Summers, those in the periphery were

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likely to earn lower wages than those in the core, and also because those in the periphery were more likely to have a shorter lifespan; both would suggest that the economic cost of their illness, either in terms of sick days off or cumulative sickness from working in polluted environs, would be substantially lessened. Summers argued that a clean environment was worth more to people in industrialized states than it was to those in the periphery, and since the cost of pollution would be less in poor countries, it made perfect economic sense to export "dirty" industries to the periphery (Foster 1993).

Many have argued that neoliberal policy reform requires a removal of state regulation—commonly referred to as a "freeing up" of the market. However, Harvey (2003), like Marx (1976 [1867]) cogently acknowledged that the state, with its monopoly of violence and definitions of legality, plays a crucial role in both backing and promoting of primitive accumulation. In fact, Harvey (2003: 32) asserted, "one of the state's key tasks is to try to *preserve* that pattern of asymmetries in exchange," [*emphasis added*] and not ameliorate them. One of the key ways in which state intervention have been able to orchestrate devaluations of both human and environmental resources in ways that permit accumulation by dispossession has been through privatization (Harvey 2003).

### *Privatization: A Process of "Barbaric Dispossession"*[13]

According to David Harvey (2003: 158) privatization is the cutting edge of accumulation by dispossession, one that has resulted in a new round of "enclosure of the

[13] Roy (2001) writes that to sell natural resources as stock to private companies is a process of barbaric dispossession on a scale that has no parallel in history (cited in Harvey 2003: 161).

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commons" into an objective of state policies. The corporatization and privatization of public assets, such as water, air, forests, and public utilities, previously held in trust by states for centuries are being released into the market at a feverish and clearly unsustainable pace. "Accumulation by dispossession can here be interpreted as the necessary cost of making a successful breakthrough into capitalist development with the strong backing of state powers" (Harvey 2003: 154). But it is the human and environmental (externalized) costs incurred by way of state legitimation through capitalist expansion that are often overlooked in teeming optimism of "free markets." However, as Roy (2001) so clearly asserts, the corporatization and privatization of water is perhaps the most barbaric form of accumulation by dispossession (Roy 2001).

In March of 2000 the World Water Forum convened at The Hague to discuss the future of the world's drinking water supplies. And while it was acknowledged that access to drinking water should be declared a Basic Human Right, it was also agreed (by those in power) that privatization would be the (only) way to efficiently provide this Basic Human Right (Roy 2001). Privatization has become *the standard* for the distribution of public drinking water services. Advisory commissions and forums, like the World Water Forum, that have dominated the water debate have established privatization as the dominant solution to the world's water problems. Similarly, re-regulation is impelled to make the management of water conform to market conditions. Increasingly, governments are creating regulatory environments that liberate, encourage, and in some cases demand, market forces and foster competition in the water sector.

The French corporation Vivendi Universal, the parent company of Vivendi Environment earned over 12 billion US$ in 2002, up from 5 billion US$ in 1990. RWE

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increased its water revenues from 25 million US$ in 1990 to 2.5 billion US$ in 2002, a whopping 9786 percent increase. "In recent years, the three large European companies have gone on a buying spree of America's largest private water utility companies, including US Filter and American Water Works Co. Inc." (The International Consortium of Investigative Journalists 2003: 2). Water companies are chasing a business with a potential annual revenue estimated at anywhere from 400 billion US$ to 3 trillion US$, depending on how you do the math. Global Water Fund predicts that by 2015, 75 percent of European and 65 percent of U.S. water utilities will be privatized (The International Consortium of Investigative Journalists 2003).

These companies often work closely with the World Bank, lobbying governments and international trade and standards organizations for changes in legislation and trade agreements to force privatization of public works. In 2002 more than 300 million people got their water from private waterworks companies, up from 50 million a decade ago. Most of this expansion has been in poorer countries where the World Bank has forced governments to privatize their water utilities in exchange for loans.

In Ontario, Canada much of the same is occurring. Large multinationals like American Water Works, U.S. Filter, and Vivendi have recently won contracts to manage the water facilities of major cities, such as Hamilton and London, Ontario. Finally, at the American Water and Wastewater Association's Annual Conference in 2004, with the theme of *One World, One Water*, there was a session entitled Business Opportunities in Canada's Water Market (American Water Works Association 2004). This workshop provided information on business opportunities and water projects in Canada. Key speakers were U.S. Government experts, and senior executives from several

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multinational water companies. The Canadian market for water technologies is estimated to be over 9 billion US$. The market for water treatment equipment is estimated to be over 1 billion US$ alone (American Water Works Association 2004).

Anxious to get into the lucrative and increasingly self-regulated market, the Conservative Ontario Provincial Government established the Ontario Clean Water Agency (OCWA) in February of 1993 as a profit-seeking crown corporation—an oxymoron under the previous government. Currently OCWA has management contracts for over 400 of the 627 water treatment plants in the province, the majority of which are located in rural communites. Previous to 1993 OCWA was the Ontario Water Resource Commission, and in that capacity it operated water and wastewater facilities as part of the Province's Ministry of Environment. The goal of OCWA, however, was to secure private sector investment for sewer and water remediation in Ontario. OCWA's mandate also included the operation of provincially owned sewer and water facilities. In addition OCWA offered consulting services to municipalities and other regional governments that included the planning, financing, building, upgrading and operating of sewer and water facilities (Ministry of Environment 1994:19).

Thus the institutional arrangements embedded within the state not only play an influential role in setting the stage for this new phase of capital accumulation but position the state as a powerful economic agent in its own right (Harvey 2003). A brief examination of Ontario's "Common Sense Revolution," illustrates how neoliberal policy reform is vitally contingent upon the politics of the state and the prevalence of the market.

### *Ontario's "Common Sense Revolution"*

Writing on the restructuring and rescaling, or neoliberalizing, of the Progressive Conservative Party's "Common Sense Revolution"—the title of the platform that brought the Ontario Conservative Party of Mike Harris to power—Winfield and Jenish (1998) highlight several important environmental consequences of this new neoliberal regime, and in so doing begin to build specific connections between neoliberalism and environmental change and politics. Winfield and Jenish (1998: 130) first point to the provincial government's sweeping amendments to virtually every provincial statute that dealt with environmental protection or natural resources management:

> These amendments typically weakened environmental protection requirements; expanded ministerial and cabinet discretion in decision-making; reduced or eliminated opportunities for public participation in decision-making and structures for a wide range of industries and activities having major impacts on the environment, and insulated the government from lawsuits arising out of damages resulting from the government's removal of environmental protection requirements.

The impacts of these changes became rapidly apparent. Included in its long list was the repeal of land-use planning requirements intended to curb sprawl; nullification of municipal by-laws intended to control environmental problems arising from "normal" farm operations; approval of waste disposal sites without public hearings or input; and reduced monitoring and reporting requirements for industry (Winfield and Jenish 1998).

Major reductions in the budgets of provincial and local environmental and natural resources agencies constituted the second major connection of neoliberalism and environmental policy reform for Winfield and Jenish (1998). Table 3 and 4 illustrate the

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decline in operating and capital expenditures from 1994 to 1999. The Ministry of Environment 's (MoE) operating expenditures decreased by 45 percent, while capital expenditures decreased by a whopping 81 percent. These reckless reductions, along with reduced staffing levels—for example, up to one-third of MoE staff were cut during this same period—had a massive effect on the capacity of provincial and local agencies to protect the environment. Given these fiscal responses it simply wasn't possible for the provincial government to regulate or monitor the environment.

**Table 3: Operating Expenditures for Select Ministries 1993/94 to 1998/99 (in million CDN $)**

| Ministry | 1993/94 | 1994/95 | 1995/96 | 1996/97 | Interim 1997/98 | Plan 1998/99 | Change 94/95 to 98/99 %: |
|---|---|---|---|---|---|---|---|
| Agriculture, Food & Rural Affairs | 474 | 409 | 420 | 374 | 449 | 340 | -17 |
| Economic Dev., Trade & Tourism | 416 | 463 | 385 | 245 | 237 | 170 | -63 |
| Energy, Science & technology | n/a | 14 | 13 | 11 | 3 | 161 | 1,050 |
| Environment | 390 | 258 | 226 | 146 | 158 | 143 | -45 |
| Native Affairs Secretariat | 14 | 16 | 16 | 17 | 10 | 9 | -44 |
| Natural Resources | 502 | 478 | 519 | 417 | 429 | 388 | -19 |
| Northern Development & Mines | 83 | 54 | 66 | 52 | 55 | 100 | 85 |
| Transportation | 608 | 598 | 1,054 | 879 | 720 | 499 | -17 |

**Table 4. Capital Expenditures for Selected Ministries 1993/94 to 199/99 (in millions CDN $)**

| Ministry | 1993/94 | 1994/95 | 1995/96 | 1996/97 | Interim 1997/98 | Plan 1998/99 | Change 94/95 to 98/99 %: |
|---|---|---|---|---|---|---|---|
| Agriculture, Food & Rural Affairs | 13 | 12 | 5 | 0 | 1 | 3 | -75 |
| Economic Dev., Trade & Tourism | 113 | 117 | 113 | 11 | 3 | 0 | -100 |
| Energy, Science & technology | 0 | 0 | 0 | 0 | 0 | 45 | n/a |
| Environment | 162 | 271 | 238 | 225 | 100 | 51 | -81 |
| Native Affairs Secretariat | 15 | 17 | 9 | 13 | 11 | 12 | -29 |
| Natural Resources | 95 | 54 | 47 | 33 | 151 | 29 | -46 |
| Northern Development & Mines | 208 | 240 | 163 | 168 | 175 | 179 | -25 |
| Transportation | 1,824 | 1,757 | 1,387 | 1,279 | 1,150 | 849 | -52 |

Source: 1998 Ontario Budget Papers, May 1998 (cited in Winfield and Jenski 1998)

The third major connection of neoliberal policy reform and environmental impact for Winfield and Jenski (1998) has been the extensive restructuring of the roles and responsibilities of provincial and municipal governments, and the private sector. Among its many programs of state restructuring and rescaling, neoliberalism's foremost historical political-economic transformation has been one of devolution of authority onto municipalities. This has included the regulation of septic systems, and the construction, operation and maintenance of sewer and water infrastructure. A transfer of power to the private sector has also accompanied this devolution of authority. For example, self-monitoring and compliance systems have been established for the forestry, aggregates, petroleum, brine, commercial fisheries and fur industries, which used to be regulated by provincial ministries (Winfield and Jenish 1998).

Furthermore, in 1995 provincial laboratories responsible for the testing and monitoring of municipal drinking water services began to close. Finally in September 1996, the remaining government water-testing laboratories closed, forcing all municipalities to find private labs to test their public drinking water service. This restructuring and rescaling—neoliberalizing—of government roles and responsibilities has substantially refashioned social relations in the drinking water sector. In particular it has seriously jeopardized and undermined provincial and local government agencies' abilities to manage and protect the environment, and it has transferred a wide range of responsibilities and power to the private sector.

Peck and Tickell (2002) observed a similar phenomenon in which local institutions and actors are repeatedly being *given* responsibility *without* power, while international institutions and actors are gaining power without responsibility. However,

as Erik Swyngedouw and others have observed, and as the "Common Sense Revolution" of Mike Harris' Conservatives aptly demonstrates, the state itself (in addition to capital) has been, and continues to be, pivotal in driving these changes (Swyngedouw 2000). In fact Swyngedouw (2002: 108) affirms that "the process of re-regulation in the water sector is primarily impelled by the need to make the management of water conform to market conditions." Put differently, in order to have competition there must be regulation. But neoliberalism is not just about competition, it is also about proletarianization.

### *Indigenous Proletarianizaton*

Indigenous peoples, like First Nations in Canada, are increasingly becoming the target of the externalized social and environmental costs associated with neoliberal policy reform. This is because indigenous peoples still maintain ownership to vast resource streams, many still held in common, such as water, oil, diamonds, forests, and, of course, labor, to name only a few, which are desperately needed for this phase of capitalist expansion. This is still true in spite of a brutal history of colonialism that has devastated many indigenous cultures and lands, leaving only a social and environmental skeleton of its previous wealth. Neoliberalism, then, is a concerted effort by those in power to disconnect, and in some cases remove, indigenous peoples from to their resources and land. As I argue in the next chapters, it is a barbaric form of exploitation and dispossession of those who *have* resources *without* power (Harvey 2003).

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Indigenous lands also present a space, conveniently located on the margins of our spatial conscientious, with which to cheaply and inconspicuously dump the vast wastes of this phase of capitalist expansion. In an attempt to delineate new frontiers for capitalist expansion, many core nation-states have increasingly shifted their focus between external and internal forms of expansion. Individual nation-states of the North have differed on their institutional response to this phase of capitalist expansion. In most cases, Harvey (2003) suggests, "some combination of internal motivation and external pressure lies behind such transformations." For example, America, the current global "Empire" (Hardt and Negri 2001; Harvey 2003), has largely chosen to expand its markets, and its fiscal crisis, to the global periphery through the direct use of its military and other coercive powers. However, as Valerie Kuletz (1998) so clearly points out, America has also lead the way in forms of internal colonialism, particularly with regards to its Native Americans. However, other less powerful Empires, like Canada and China—nation-states rich in resources yet weak military power—have exclusively focused on internal colonialism with which to facilitate this phase of capitalist expansion.

The concept of internal colonialism, Kuletz (1998: 8) writes, "has been used by political scholars, such as Gramsci, to describe political and economic inequalities between regions in a specific society." Similar in fashion to colonialism, where the wealth and well-being of "core" countries are augmented at the expense of the "periphery," internal colonialism is based on an unfair and unequal exchange relations, like resources for pollution, between the urban and rural spaces. The presence of internal colonialism, Kuletz (1998) suggests , where one's existence (in the core) is premised on the exploitation and marginalization of others (in the periphery), usually of a different

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cultural, racial, or class background, argues against the liberal notions of democratic pluralism and freedom. If fact, as Gramsci's (2000 [1935]) concept of hegemony elucidates, these uneven exchange relations are a necessary and normalized feature of industrial society and not an aberration. But neoliberalism, like other phases of accumulation before it, masks these structural inequalities as natural or inevitable.

The state, in short, is the dominant institution that continues to withhold the legal and institutional resources that would allow indigenous peoples the control over their welfare and well-being. In fact, most often than not, they support policies that maintain this asymmetrical relationship. Indigenous peoples, more than any other group, however, stand in the way of neoliberal policy reform because they continue to challenge the state's legitimacy in such affairs. For that reason alone their story is worth telling and, regarding issues of social and environmental justice in particular, worth heeding to. Furthermore, as Roy argues (2001), understanding what is happening will go a long way toward gaining a rudimentary grasp on what is being done to indigenous peoples, "while we, poor fools, stand by and clap and cheer and hasten things along."

What follows is a critical examination of neoliberal water policy reform in Canada through the perspectives of its indigenous peoples, First Nations. I argue that this phase of state sponsored capitalist accumulation is both overtly and covertly discriminatory towards First Nations. And while this phase of capitalist accumulation may not be racist in its intent, this is apparent by the devastating consequences neoliberalism is also having in many rural and non-native areas, as I illustrate in the following chapters, neoliberalism is surely racist in its consequences. I also argue that institutional racism towards Canada's indigenous people, and, in fact indigenous groups

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worldwide, is a direct consequence of the fact that they are not consider true *citizens* by their occupying nation-state. It is these ambiguous realities, quasi-citizens existing outside the purview of "normal" social relations, that are in dire need of examination, for it is here that the foundations for seeking an alternative politics appear even stronger (Harvey 2003).

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## 5. Neoliberalism As A Racial Formation of the State

> *I think this is such a blatant misuse of public funds that it is shocking. I am actually appalled by what we've found.*
>
> Sheila Fraser, Auditor General of Canada.

Previous chapters have focused on the role of the state and the role of capital in the rise, reasoning and prominence of neoliberal environmental governance reform. This was necessary to illustrate that the phase of capital accumulation was, and is, not an inevitable solution to the fiscal and legitimation crises of industrial nations in the post Cold War era, but a chosen one. This is, of course, counter to the common sense "eventualism" that has taken hold of neoliberalism reform. Also in contrast to the prevailing view—that deregulation is essential to neoliberalism—I suggest that in Ontario, and elsewhere, the re-regulation of the drinking water sector has served to catalyze this new phase of capital accumulation. This observation is echoed by Erik Swynegouw and colleagues (2002) who contend that the process of re-regulation *is* primarily impelled by the need to make the management of drinking water conform to market conditions.

In practice, however, First Nations contend that neoliberalism is a *racial project*, a state sponsored project that has focused its efforts to reorganize and redistribute resources, and hence power, along racial lines (Omi and Winant 1994). In their analysis of racial formations, Michael Omi and Howard Winant (1994: 71) maintain that "a racial project can be defined as *racist* if and only if it *creates or reproduces structures of domination based on essential categories of race*." Such a definition Omi and Winant

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(1994: 71) argue "recognizes the importance of locating racism within a fluid and contested history of racially based social structures and discourses." Building on the work of Omi and Winant (1988; 1994), I argue that the neoliberaliziation of drinking water practices in Ontario, Canada is a racial project because it particularly discriminates, both structurally and discursively, against First Nations peoples. In particular, I contend that neoliberalism discourse and practice has subjected First Nations to both overt and covert forms of institutional racism—a multifaceted form of state–sponsored racial repression and exclusion from public debate and policy-making.

In this chapter I illustrate how a policy of overt racial discrimination has successfully undermined First Nations ability to participate in drinking water reform in Ontario. Through the use of selected narratives, I illustrate how the federal agency responsible for Aboriginal relations, Indian and Northern Affairs Canada (INAC), has imposed a systematic policy of racial discrimination that continues to suppress, and in some cases denigrate, First Nations' participation and experience. In so doing this government agency in particular has effectively routinized the enforcement and organization of a prevailing racial order between native and non-natives in Canada (Omi and Winant 1994).

It is with some irony, then, when scholars such as Erik Swyngedouw (2002) suggest that struggles over participation, control and ownership of water resources have become the key terrains over which battles regarding the form of governance and the character of re-regulation are currently being fought out—battles that First Nations continue to lose. In contrast to the "rising tide" mentality of neoliberalism advocates, First Nations view these new state sponsored institutional arrangements as analogous to

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modern day enclosures: forcing involvement or "enrollment," all the while limiting access, participation, and control of their resources and welfare.

### *Where the Waters Divide*

The main document to draw attention to First Nations water problems has been the Walkerton Inquiry, the judicial-scientific advisory panel charged with investigating the Walkerton *E. coli* outbreak of the summer of 2000. In Part Two of *The Report of the Walkerton Inquiry* (2002b), Justice Dennis O'Connor declared that two kinds of water treatment systems warrant special consideration: small water systems[14] and systems found on First Nations reserves. But First Nations water treatment systems are not only found on reserves; they are also small, sometimes serving only 200 homes on a reserve. According to the report, small systems lack economies of scale, and as a result it may be more expensive, on a per capita basis, for them to meet regulatory requirements. In addition, small systems may have difficulty attracting, retaining, and affording the expertise they need (O'Connor 2002b).

Justice O'Conner also declared that the water provided on many First Nations reserves is some of the poorest quality water in the province and insisted that the water quality standards for reserves be no lower than those that apply elsewhere in the province. Several respondents that I interviewed made the same observation as

[14] Small drinking water systems fall into one of the following categories: (1) "they are used only to supply water to agricultural, commercial, or industrial purposes and not for human consumption," (2) "they are incapable of supplying more than 50,000 L per day," and (3) "they are privately owned waterworks that supply water to five or fewer private residences O'Connor, Dennis (2002b).

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O'Conner. Derek Adams, executive director of a Canadian water association stated the following about First Nations' drinking water: "Well, there is the extreme example of the rural case which is the Aboriginal and First Nations people. And that does represent a unique problem." He continued:

> I think the issue comes down to the large versus the small [system]. And there is no doubt that there are economies of scale in water supply systems both in terms of capital investments required, like a plant that will provide high quality water to 300,000 people costs less per capita than a similar plant for 5,000 people. There is a minimum investment that you have to make if you want to deliver water and then you can start adding to it and the marginal cost of adding to it, you know there is a diminishing marginal cost. At some time it probably starts to mount again. So there may be some sort of a step function but that applies not only in capital but in operating things. At some point you have somebody called the water treatment operator, and then at some point you need two or three of those. And then you need a supervisor. And once you start to get into those kinds of multiple level systems, you then have the opportunity of saying, well you are the distribution system guy, and you are the treatment guy, and you are the water quality laboratory guy. And so, the thing is [that] the larger the system ... inherently the better quality [water, and] the greater quality assurance that you have, and you would expect [to have].

First Nations with their small, under-funded and under-staffed facilities represent the antithesis of a modern efficient water treatment operation.

"There are 134 First Nations communities. I believe that we've got about 100 plus plants scattered across Ontario," declared Larry Smith, a tall, well spoken professional engineer with the Ontario First Nations Technical Services Corporation. Smith represents the "formal expertise" side of First Nations water provision. When asked about his concerns regarding the First Nations plants in Ontario, Smith said the following:

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> plants were built 10, 15 years ago. And some of the plants are just drawing water from the lake and just [adding] chlorination. No treatment. Now Ontario regulations requires that any surface water has to be [*sic*] chemically cogitative [collective], sedimentation, filtration process with appropriate disinfective agents to be supplied. So some of the First Nations are without that system. So I guess Indian and Northern Affairs Canada is trying to get those plants operated to the level of this Ontario regulation. So that will take time. I don't know how long. It depends on how quick the money flows.

Smith speaks of several important themes regarding First Nations' treatment plants in Ontario. Many of them do not meet the new Ontario water regulations. Many of them are old and in need of repairs and upgrading, and First Nations lack the resources themselves to facilitate these reparations.

But it was only in my interview with Steven James, a Quality Assurance Engineer for the Ontario First Nations Technical Services Corporation (OFNTSC), that I began to appreciate the disparate conditions of First Nations' treatment plants in Ontario. With a Masters Degree in Engineering and about twenty years of consulting engineering in water and wastewater treatment, James is a true expert in this field. His descriptions of First Nations' plants were, to say the least, disconcerting. Citing a recent report that evaluated the conditions of First Nations' water treatment plants in Ontario, James confirmed that of the "100 plus plants scattered across Ontario, about 60 are considered high risk, and 30 or so medium risk." The INAC study—National Assessment of Water and Wastewater Systems in First Nations Communities (2003)—assessed 131 community water systems and classified 35 as Category A, another 35 as Category B, and 61 as Category C[15]. In other words, *most* of the water treatment plants on First Nations reserves in Ontario are in

[15] According to the report Category A is defined as water systems experiencing minimal problems or without any problems, Category B is water systems requiring some repairs, and Category C is water systems with potential health and safety concerns.

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Such dire conditions are difficult to comprehend. And while the reports from the Walkerton Inquiry (O'Connor 2002a; 2002b; 2002c) have brought much needed public attention to their plight, the reports continue to ignore the historical conditions that are largely responsible for producing and re-producing these racial inequalities. However, First Nations' operators, governments and advocates have continually struggled to right the historical processes that produce these environmental injustices and racial inequalities. And this empirical gap became the main topic of conversation in my many interviews with respondents. For as I explain below their subjugated standpoint(s) and situated knowledges (Haraway 1991) helped them understand and explain (to me) the state sponsored racial formations of domination and power—often invisible to most—that pervade their lives and marginalize their existence.

### *Situating the Racial State and Drinking Water Treatment*

With their infrastructure in dire need of repair and upgrading, having a safe and dependable drinking water supply is becoming increasingly difficult for many First Nations. Most of the water treatment plants I visited needed major upgrades; many simply needed to be replaced. Often the filters were too small to provide adequate filtration. Many water treatment plants were not equipped with laboratories to test water parameters or the laboratory doubled as a storage shed or out-house! Several operators complained that they did not have the proper equipment and tools to make the necessary

repairs and perform routine maintenance. Some of them had to borrow tools or bring them from home. One administrator told me that it was costing them three to ten thousand dollars a week for extra repairs to keep their plant running! At another plant I visited the shaft to the main motor had bent, forcing the plant to shut down for several days. With no alternative supply available the residents on the reserve simply drank untreated water. The feeble condition of the infrastructure and the demands it places on operators is clearly illustrated in the following exchange with a plant supervisor.

> The other thing, when the filter gave out, was that the big paddle that keeps the water stirred, there is no other way to keep it going. We were going to run an air hose but then we didn't have a compressor in the plant that we could use. So we found some old mixing motors with L mounts, so we stuck a couple of those down inside the tank to mix the water [with the chlorine].

In many ways First Nations' water treatment operators have a daunting task. In addition to understanding the science of water quality, they also have to baby-sit inadequate and failing state sponsored plants, all the while adapting to the many external pollution pressures passed on to them from upstream municipalities. Furthermore, even when systems are upgraded, experts and professionals within the First Nations' community are usually excluded from the planning and other decision-making processes integral to the development of new infrastructure. Kevin Spencer, a First Nations' water works manager with more than 25 years experience told me the following about the upgrading of their water treatment plant.

> The Department of Indian Affairs [built] the first water supply for this community in 1968. [It] was a man-made dam, surface water [sourced], and we had one well. It [water] was pumped from the well to the community to our first small sub-division here, and all I did was chlorinate by hand into the well. And eventually it produced swamp water. So they [INAC] upgraded the filtration system, and that

> lasted until we ran into an iron bacteria problem. So we had to upgrade to this system next. And this system here is only designed for 20 years. And like I say, this plant here we are into our fifth year. So we've got about 15 years left.

However, Spencer stresses that there are a lot of old systems still out there on First Nations' reserves, particularly in northern Ontario. He recollects further,

> First Nations, back in olden days, if they needed a water system...they [INAC] would go in there and design the very basic, the very, very basic treatment plant. Plop it there, push a guy in there to run it, and away they go. That was it! The guy doesn't have the maintenance training, [or] operation training. So eventually it breaks down or fails and, again nobody goes out there to check on them.

In other words, in addition to ignoring First Nations' water treatment knowledge and experience, INAC often failed to train operators on how to properly run these new facilities. A similar experience of exclusion from participating in the decision-making processes for their new plant was conveyed by Miller, an assistant manager of a medium sized water treatment plant.

Miller: We didn't have input in planning of any of these facilities that came to the First Nations. They are all package deals, pack-plans I guess you would call them. They [INAC] put a submission for tender for water and wastewater plants. And they [INAC] have three companies that bid on them.

MM: so your local knowledge is...

Miller: no they didn't ask us! They bring in their engineers. The engineers tell [us] how this is, how this works, this is how this should work. A lot of times it doesn't work like that. Or it applies to someone else but it doesn't necessarily apply here. And we call the man and say this plan here is a package deal. Oh, he says, there's a lot of First Nations [that] have this similar plant that we have. Because at one time the guys that were building these plants were going to all the First Nations saying, hey we have a plant here, your cousins down the road they have one, or the First Nations across the river here has one. And they have no problems trying to find them [First Nations that are in dire need of a new "cheap" plant].

While their ability to overcome such adversity is impressive, it is difficult to fully comprehend the egregious circumstances in which First Nations operators sometimes find themselves. And in fact, coping under these conditions is not always possible. Many people I spoke with were concerned about people getting sick on reserves. Some felt that elderly people and babies in particular were suffering from poor health. Others suggested that there were many stillbirths on their reserves that were directly caused by poor drinking water. First Nations' struggle for safe and dependable drinking water is analogous to that of many "developing" countries' experiences, who like First Nations, lack the resource and power to control the health and welfare of their citizenry.

The historical exclusion of First Nations' knowledge and expertise in the design, construction, maintenance and operation of on-reserve water treatment facilities is a consistent theme in my analysis. What I find most stark is that this exclusion has continued in the face of multiple requests by First Nations operators, OFNTSC, and various levels of First Nations governments for training centers, proper equipment, and increased budgets for upgrades and new facilities, and better ways to monitor and regulate drinking water quality. In other words this institutionalized form of racial discrimination has continued in spite of various organized protests and forms of resistance. Most, if not all, of this resistance and conflict has been directed to Indian and Northern Affairs Canada (INAC), the federal department responsible for fulfilling the lawful obligations of the federal government to the Aboriginal peoples of Canada.

Omi and Winant (1994: 83) contend that every state institution is a racial institution, "but not every institution operates in the same way." The *policies* they carry out, which I argue are overtly and covertly racial, Omi and Winant (1994) argue,

organize and enforce racial politics of everyday life. For many First Nations, INAC is *the institution* responsible for organizing and enforcing the racial policies of drinking water in Canada. INAC has defined the extent of state activity, "established the procedures for influencing policy, and has set limits of political legitimacy" (Omi and Winant 1994: 83). It is for this reason that INAC deserves special attention.

### *Instituting The Racial State*

INAC is, and has been, the dominant institutional force that has constrained First Nations' ability to control their water resources. It was not surprising to me that INAC and its relationship with First Nations became a consistent theme in every interview. Several participants simply blamed INAC for imposing a regime of historical environmental racism on Aboriginals in Canada, while others simply acknowledged that they had a role to play. Three themes in particular are worth mentioning: First, many First Nations argued that INAC have consistently underfunded Aboriginal governments; second, many First Nations suggested that INAC has ignored First Nations priorities; and third, when action was taken, it was done without First Nations involvement, and in a manner that was often demeaning and culturally insensitive.

#### Consistently Under-Funded

Lack of consistent funding and the absence of a clear drinking water program on the part of INAC garnered much criticism, and in some cases disgust, by First Nations' respondents. Larry Smith, a professional engineer with the Ontario First Nations

Technical Services Corporation, offered the following illustration regarding the lack of appropriate government support:

> I think better managing of the dollar [is needed]. I think channeling the dollars to First Nations [is long overdue]. If the government is pressuring them to adopt Ontario regulations [then] they should [be] flowing the monies to First Nations to adopt that regulation.

Smith, and others, insisted that government expenditures neither had been adequate, nor had they been efficiently distributed to those who needed it the most. Furthermore, without providing appropriate resources INAC "want everything [done] today and that won't happen that way. It takes time," Smith argued "for the First Nations to get operators trained, certified, and plants upgraded." However, INAC has continually failed to support operator training programs, even as they insist that all operators must licensed by 2006. Kevin Spencer, a water works manager, struggled with this contradiction:

> There is still a lack of funding. My sewage plant operator, he is just on operator training [support] right now. Unless Indian Affairs comes up with more dollars, I will have to let him go next year, come April. Like I train these guys, and bang we are stuck again, lack of funding, [and] I haven't got the staff [again]... They [INAC] will preach to you this and that, but when you go to approach them with a proposal for dollars, that is when they clam-up. They were telling us at our last couple workshops that they realize that we should have two persons in each plant, and we have got two sewage plants here, plus the water plant. And I am just barely keeping these guys on. I have to go to employment training dollars, which is only good for a year. This past year we were able to keep, I think Rob is going on his second year, and our first guy is on for one year. But after that am I going to lose them again. after all the training! We just don't get the dollars here.

This lack of training support is only exacerbated by the inability of First Nations' Council and Chiefs to offer their operators a fair wage. A conversation with two plant operators, Alex Miller and Stan Strong, only underscores this concern.

Strong: The biggest problem is a boy don't make no money to be an operator. The wage scale is way down. Some First Nations are only getting paid ten dollars an hour to sit in here with all that responsibility, to serve water to people.

Miller: There was a job in London, distribution, a guy just doing service hook ups and that: seventeen something an hour just to start!

"We have been at this eight to ten years, even longer," asserted Strong, and even after all this experience and training First Nations' operators are still unable to make a fair wage. This is because wages are not related to one's job description or performance for First Nations' operators, but linked to the operations and maintenance budgets set by INAC. Out of these budgets, First Nations must pay for upgrades, basic maintenance, the purchasing of supplies, and, finally, the salaries of their operators.

The consistent underfunding for the provision of water resources—among other things—on First Nations reserves is a major component of the institutional hegemony imposed by INAC. This strategy not only undermines First Nations' ability to monitor, test and provide safe drinking water to its citizens, but also undermines First Nations' legitimacy in the governing of their water resources. However, even when resources are given by INAC, it is usually done in a manner that ignores First Nations priorities.

**Ignoring First Nations Priorities**

As stated earlier, many First Nations water services are in a state of crisis: failing infrastructure combined with a lack of basic maintenance supplies and equipment often result in poor water quality, boil water advisories, and illness. However, in spite of these environmental injustices, many First Nations have had their submissions to INAC to

repair or renew failing infrastructure take up to two years to complete. One operator told me that they had been on INAC's high priority list for four years, waiting for financial support to repair their failing infrastructure. Another administrator told me that their water treatment plant was 24 years old—too small and in desperate need of repair—and that they had been negotiating with INAC for ten years now to build a new one. Another cause for frustration has been the bureaucratic red tape that each band has to endure if they want to upgrade their current facility. One operator emotionally recounted his experience:

> It is just the way you are in line at the Ministry. Your submissions as to how much it is going to cost. If it costs too much you might be up there [in priority] but they'll look at it and say "that's too much fellows. You've got to revisit that, bring it down some." And that drops you again down to the bottom [of the submissions list] and you have to go through that cycle again. It has to go to [different] departments ... their engineers got to look at it, their accountants have to look it. It's all the same ... "it is feasible?" That is a process in itself that we have to go through. And it is a vicious one!

It took four years before they were able to get approval to install four kilometers of watermain to their existing system, Williams recalled. "We had to resubmit, resubmit!" But they were repeatedly told by INAC that there were not funds available for this extension project. Each time they were denied, they were also asked to resubmit their application. And each year they did, starting from the bottom again. Finally four years later, INAC granted them permission, but for the same amount of money that they had requested four years ago. Williams continued, "but in four years, the cost of everything goes up. It doesn't go down. Materials, labor, all of it goes up." To make matters worse, INAC's often careless and convoluted funding strategies do not go over well with many First Nations operators who are desperate for immediate aid. Kevin

Spencer, a veteran water works manager, tried to temper his frustration, while he made his point:

> This just shows how careless they are with the funding. Like the Department of Indian Affairs came down with this 600 million [CDN] dollars, which is peanuts for First Nations. That is across Canada. And we've got 630 First Nations in Canada. So to spend $600 million dollars to fix these plants up, that's peanuts that not going nowhere!

Kevin is referring to the $600 million dollars promised to First Nations for infrastructure renewal shortly after the release of *The Walkerton Inquiry* report. But Kevin's frustration comes not only from the insignificant amount of financial support, given the desperate circumstances described above, but also how it was spent. He continues:

> But ... the first thing that they were going to take off of that $600 million dollars was to hire Ontario Clean Water Agency to come in and evaluate are systems, which they already did two years before that, and they want to do it again! And our water association sort of stopped that. [However] when we caught wind of that, they had already contracted [OCWA], without posting [a competitive tenure process], back in March. As soon as they [INAC] got wind of that $600 million dollars, they got these guys [OCWA] contracted to come out and do an evaluation and inspection on these plants. And it was already done. The inspections were done! The evaluations and inspections were done! OK, now give us the money to fix it up ... that is all we needed! But no they wanted to hire somebody else to come out and do it again.

I asked him why he thought INAC would do this. He replied:

> They want to cover their own butts. That is what I have noticed with the Department of Indian Affairs, they want to shove it onto somebody. They want to shove it on to somebody, [Ontario] Clean Water Agency, or Ministry of Environment. Oh ya, they have hired Ministry of Environment to come in too. Hey we know how to run our plants, we just need the money to keep it fixed. But they want to spend [it on other things]. You know, to get a consultant out here, that is big bucks, that's big bucks.

These themes of carelessness and misuse of public funds highlighted by Kevin Spencer and others I interviewed, also came under stern criticism by the Office of the Auditor General of Canada. Released on February 10th, 2004, the 2003 Auditor General's Report (2003) found that senior government officials involved in the federal government's advertising and sponsorship contracts in Quebec, as well as five Crown corporations—the RCMP, Via Rail, Canada Post, the Business Development Bank of Canada and the Old Port of Montreal—demonstrated a deliberate disregard for generally accepted government accounting practices, and as a result mishandled millions of federal dollars. In an interview explaining the findings of her report, Auditor General Sheila Fraser described this practice as "a blatant misuse of public funds." The report also criticized the Department of Indian and Northern Affairs (INAC) for not properly tracking its spending in land claims settlements worth 1.2 billion (CDN$) (Canadian Broadcasting Corporation 2004a). The report also criticized INAC for failing to follow guidelines in hiring outside budget managers, and paying $7 million to managers who didn't go through a public tender process (Office of the Auditor General of Canada 2003). The Auditor General's Report *unfortunately* confirmed many of the First Nations experiences and realities detailed above. It also helped to explain why such egregious conditions continued to exist in the water treatment systems on First Nations' reserves.

Institutional discrimination by Canadian Governments against its Aboriginal peoples was also highlighted in a recent report by Amnesty International (2004). Although focusing specifically on the role of institutional discrimination with respect to violence against Indigenous women, the report concluded that such discrimination is

embedded in both overt cultural prejudices, and in implicit or systemic biases in the policies and actions of government officials and agencies (Amnesty International 2004).

This discrimination towards Indigenous woman is truly tragic and simply improper. But while Aboriginal women are disproportionately discriminated against in this violent fashion, these discriminatory practices quite often transgress the gender boundary. For example, the violent and mysterious deaths of Neil Stonechild[16] and Dudley George,[17] two First Nations men, provide ample testament to this egregious social fact. It is principally symptomatic of, and synergistic with, the larger policies and practices of institutional racism practiced by government departments and agencies. Seen in this way, the report concludes that these policies and practices are a human rights violation perpetrated by the Canadian Government on its Aboriginal people. And so, even when INAC does provide financial support, it is done in a manner that seems oblivious to the First Nations' reality, and thus continues to ignore, while promising to pay attention.

**Instituting Apathy and Discrimination**

Even when INAC commits resources, many First Nations feel that it is done in a manner that is often demeaning and culturally insensitive. Karen French, a program

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[16] Neil Stonechild was a 17-year-old First Nations teenage found frozen to death in a remote field in Saskatoon in November of 1990. The investigation into his death later revealed that he had been left on the outskirts of town in sub-zero temperatures by two Saskatoon police officers Canadian Broadcasting Corporation (2004d).

[17] While protesting a half-century-old land claim in Ontario's Ipperwash Provincial Park, Dudley George was shot and killed by an officer in the Ontario Provincial Police force Canadian Broadcasting Corporation (2004c).

coordinator for an Aboriginal water association, said the following about her relationship with INAC.

French: I don't like government. They like to twist things and turn things to suit them, and they try to cover over what is actually needed.

MM: What is actually needed?

French: Well it depends on what the situation is. It depends on what the plants needs are or the First Nations needs are, or the money needs are. It is many things. And they try to gloss it over. They are always worried about liabilities.

MM: How should we treat First Nations People?

French: More respect … just to get a little bit of money they make us jump through hoops. Do a little song and dance. A lot of times it is for something really simple or something that is really needed. Like I say it depends on the situation.

MM: That must be frustrating.

French: they wouldn't give us money to help the association out. And I really don't want them to because I don't want to go through everything that I see everybody else go through just to get a little bit of operating dollars.

I found it difficult to repeatedly hear stories like this. I knew that French was not simply talking about water resources but also a general institutional hierarchy that has denied Aboriginals respect and dignity. In many ways, French's chronicle is eerily familiar to racial policies and actions of an earlier Canada, a time that I thought was committed to a regrettable history. Even I, a person of color who has been repeatedly subjected to overt and subtle racism, had a hard time imagining what it must be like to be consistently treated in such a manner. I dare to say that perhaps no other racial group in Canada has been subjected to such institutional racism as its first inhabitants: a bitter irony if there ever was one. I can only guess at how this benign neglect must affect their social and psychological well being.

The struggle for the provision of safe drinking water on reserves cannot be meaningfully understood outside of the larger policies and practices of institutional discrimination and *overt* racism outlined above. As one First Nations water expert explained, without appropriate financial support from INAC, some First Nations communities do not have enough money to buy chlorine, so they stop chlorinating, and are forced to drink untreated water. By consistently underfunding Aboriginal governments, ignoring First Nations' priorities, and undermining their role in the provision of drinking water services, INAC continues to perpetuate Canada's legacy of domination and marginalization of its Aboriginal peoples.

### *Summary*

Neoliberal reform of public drinking water services in Ontario, and elsewhere, is not only premised on liberating market forces but also on controlling how actors (and actants—non human actors) can function within this new social context. For First Nations, the re-regulation of water resources in Ontario has been particularly difficult because, while it forces their compliance, the new regulatory framework continues to limit access to resources and participation in relevant decision-making processes that affect the health and welfare of Canada's indigenous peoples. Consider the proposed solution by Dennis O'Connor, the author of The Report of the Walkerton Inquiry (O'Connor 2002a), to the dire drinking water conditions on First Nations' reserves:

> I ...suggest ...that the water quality standards for reserves ...be no lower than those that apply elsewhere in the province and that those standards should be made legally enforceable. To assist with this objective, I recommend that when

> asked, *Ontario make its resources and expertise available, on a cost-recovery basis, to help improve the water quality on reserves* ... In particular, I suggest that the Ontario Clean Water Agency be available to operate water systems on reserves and that the MOE make its inspections, abatement, and training programs available to reserves as well [italics added].

In spite of its well-meaning intentions, the Report's recommendations continue to privilege non-aboriginal expertise and knowledge, thus perpetuating First Nations' trivial status in decisions affecting their own resources and welfare. Furthermore, by insisting that resources and expertise be made available on a cost recovery basis, the Report invokes "the market" as the natural, and only, solution to this environmental problem. But in doing so if fails to acknowledge the institutional hegemony that has consistently and insistently discriminated against and marginalized First Nations communities.

First Nations are not anxious to adopt The Report's recommendations. For many First Nations' OCWA represents a form of privatization that threatens their control over drinking water resources and practices. Stan Strong and Alex Miller, two Aboriginal water plant operators explain:

Miller: A lot of the people would not necessarily like that to happen because you lose control of our own water and it is a resource for your First Nation. And if you lose out on that, then you lose out on a lot of things. You lose development because you can't provide safe potable water. They could probably get it from them [OCWA] but they would probably have to pay more money for it... we want a good supply of water to keep everybody healthy.

Strong: You've got to have water if you want any industry to come to the First Nations.

Miller: You need water and the infrastructure.

Strong: That is what we have been trying to fight for all these years. Trying to put people to work, our own First Nations' people. Instead they have to go out [and find a living wage].

For First Nations this struggle is not about the provision of safe drinking water alone. It is also about the ownership and control of their resources—resources that are also vital to the expansion of capitalism. It is about participation in water policy, access to water resources and control over resources and the future of their communities. And because water is simultaneously health and power, simultaneously a source of spiritual connection and self-determination, First Nations refuse to privatize their welfare.

"It is an old struggle for the Indian people," lamented Kevin Spencer, an Aboriginal water works manager. He continued, "like I mentioned we are supposed to be under the federal jurisdiction but the feds, the federal people always push us off to the province." Being tossed back and forth between different agencies, departments and governments, First Nations are most often overwhelmed by a strategy of racial politics, deceit, and neglect. As Arundhati Roy (2001: 21) vividly maintains, "they're the people who aren't supposed to exist [under neoliberal ideology and reform], the "noncitizens" who survive in the folds and wrinkles, the cracks and fissures," of the racial state—an institution preoccupied with making its citizens consumers, instead of making its consumers citizens.

In spite of an *overt* racial legacy of benign neglect, previously referred to as "Canada's dirty little secret," First Nations continue to resist these new institutional arrangements of water governance in Ontario—practices that are discriminatory to First Nations' participation, experience, and knowledge. However, the power of neoliberal reform is that it comes in many less noticeable, or *covert*, forms, which makes enrollment difficult to avoid and resistance much more of a challenge. One particular aspect of the hegemony of neoliberalism that challenges First Nations' right to self-determination is

government's ability to "act at a distance." And like the process of *overt* racial discrimination, this component of neoliberalism is riddled with irony, contradiction and inequality. It is to this subject that I now turn.

## 6. The State of Technoscience and the Techno-scientific State

In the previous chapter I argued that neoliberalism reform in Canada has been overtly discriminatory towards its indigenous peoples. In this chapter I posit that by acting at a distance through the use of technoscience, governments, in this case both the nation-state and the provincial state, are able introduce regulation that discriminates in a *covert* fashion. Also, and through the use of specific examples, I illustrate how governments are increasingly using legislation to distance themselves from highly political issues, such as the sighting of a future sewage treatment plant. Furthermore, in distancing itself from future environmental pollution sources, governments are increasingly becoming tied to the formation of the environmental health risks of their citizenry.

These assertions are akin to Omi and Winant's (1994) concept of the "racial state," where the state becomes a central institution in the creating, maintaining, and contesting of racial boundaries and meanings (Nakano Glenn 2002). For example, in order for the state to "retreat" from providing its citizens with safe drinking water, it must enact technologies of government that are capable of surveillance and disciplining non-government (private) service providers of drinking water—arguably a much more multifaceted, and potentially problematic task.

This re-structuring of drinking water legislation is particularly discriminatory, or racial, in its consequences for First Nations because it limits participation while enforcing enrollment. Neoliberalism, then, is not about governing less, as has been suggested by many social scientists (see Crotty 2000; McCarthy and Prudham 2004), but is about

governments attempt to reinvent themselves in the face of both legitmation and fiscal crises. Or as Andrew Barry and colleagues (1996: 11) appropriately suggest, perhaps we are witnessing "a degovernmentalization of the state" but surely not 'de-governmentalization' *per se*."

With that in mind, this chapter seeks to define the role of the state in the neoliberalization of drinking water institutions, systems, and practices in Ontario. The concept of *networks* developed by science studies scholars like Bruno Latour (1987) is particularly relevant in understanding the techno-scientific practice of drinking water testing, and the *degovernmentalization* of public drinking water services that followed the Walkerton crisis. Secondly, Latour's "action at a distance" provides a sharp lens with which to interpret recent changes in water regulation, both at the provincial and federal levels. Lastly, I use the term "techno-scientific" state because, as I illustrate below, in its use of technoscience the state is able to reinvent both its techniques of governance and forms of participation.

### *The Techno-scientific State and Action at a Distance*

Science has historically been, and still is, an essential institution with which nation-states have been able to organize, control, and discipline their citizenry (Foucault 1977; Haraway 1997). One exemplar of the scientific use of state apparatus has been Michel Foucault's analysis of the penal and medical institutions (Foucault 1977). Similarly, James Scott (1998: 2) has suggested that "processes as disparate as the creation of last names, the standardization of weights and measures, the establishment of cadastral

surveys and population registers, the invention of freehold tenure," and other seemingly normal happenings of our social world, like roads and language, organize people in a manner that is amenable to statecraft.

The notion of "action at a distance" (Latour 1987) has particular relevance to understanding the techno-scientific state because increasingly governments are seeking to employ forms of expertise and practice that allow them to govern society at arms length (Barry, Osborne, and Rose 1996). For example, integral to the re-regulation of drinking water in Southern Ontario is the development of expert-led systems of management and audit-type practices that have enabled the provision of public water services to be managed and controlled at an arms length by the regulatory state—in this case the province of Ontario. Similar observations made by Andrew Barry and colleagues (1996) led them to suggest that neoliberalism involves less a retreat from governmental intervention than a re-inscription of the techniques and forms of expertise required for the exercise and existence of properly functioning and legitimate governments.

What follows is my interpretation of the many ways in which everyday life experiences of First Nations in Ontario are transformed by the mediating role of government-influenced technoscience. I begin with some informative perspectives into the process of water quality standards making as elaborated to me by several participants. My intent is to simply illustrate that this "scientific" process is as much about politics as it is about science.

### *Revisiting Walkerton*

What happened in Walkerton, Ontario was described by Jamie Peck (2001) as a hard outcome of the thin policies of neoliberalism. In other words, the Walkerton tragedy can be seen as a severe example of the broad regulatory failure and systematic production of environmental and human health risks associated with the government's restructuring of public drinking water institutions, systems and practices. Walkerton is a town of approximately 5,000 people, located 180 kilometers northwest of Toronto. In May of 2000 *Escherichia coli* O157:H7 and *Campylobacter* species entered into the municipal drinking water supply and caused gastroenteritis, including bloody diarrhea and other associated illnesses in more than 2,000 people, of whom 27 developed haemolytic uremic syndrome (HUS) and seven died (Bruce-Grey-Owen Sound Health Unit 2000).

According to Justice Dennis O'Connor, the Commissioner of the Walkerton Inquiry (2002a), there were two serious failures on the part of the Walkerton Public Utilities Commission (PUC) that could be directly attributed to the outbreak of May 2000. "The first was an operational problem: the failure to take chlorine residual measurements in the Walkerton water system daily" (O'Connor 2002a: 16). O'Connor concluded, "that daily testing of chlorine residuals would have significantly reduced the scope of the outbreak" (O'Connor 2002a: 16). The second failure, according to O'Connor was the manner in which the PUC operators responded to the outbreak. When he learned of the contamination, Stan Koebel, the chief operator, failed to notify the appropriate authorities—assessing the risk himself, he opted to flush the system with chlorine instead, something that he had done on previous occasions. O'Connor posited

that had Koebel been forthcoming about the contamination, the health unit would have been able to issue a boil water advisory earlier, "and a minimum of 300 to 400 illnesses would probably have been prevented" (O'Connor 2002a: 16). The commissioner concluded (O'Connor 2002a: 16) that

> the evidence showed that under the supervision of Mr. Koebel, the Walkerton PUC engaged in a host of improper operating practices, including misstating the locations at which samples for microbiological testing were taken, operating well without chlorination, making false entries in daily operating sheets, failing to measure chlorine residuals daily, failing to adequately chlorinate the water, and submitting false annual reports to the MoE. Mr. Koebel knew that these practices were improper and *contrary to MoE guidelines and directives* [emphasis added].

In addition to elucidating an egregious abuse of judgment and power, two important observations about the exercise of risk assessment are highlighted from O'Conner's analysis of the Walkerton outbreak. First, the assessment of water quality safety is one that occurs in collectivities at various nodes along its long network—from its initial formation in scientific laboratories to its testing in water treatment plants. Secondly, and related to the first point, at each node different judgments are made about an acceptable level of risk. These judgments represent a blending of "scientific" with other subjective factors that are a function of one's position in, and along, the network. As a result of this constant re-assessing of risk, there is much variation in how water quality standards are applied.

For example, due to fiscal constraints in the nineties, many municipalities—particularly small rural ones like Walkerton—choose to only test for coliforms and

residual chlorine instead of full set of water quality parameters.[18] A water quality expert made the following observation regarding the testing of water quality parameters by municipalities prior to the Walkerton outbreak.

> There were people [municipalities] trying to take as few samples as possible. People didn't follow the number prescribed [in the drinking water guidelines]. Some of the big cities did, but the small ones were very delinquent and the Ministry started to look the other way.

This redefining of risk by municipal governments, public utilities commissions, and water treatment plant operators shifted the locus of power and control away from its initial interpretation—in government laboratories and ministry offices—to where the testing occurred. This phenomenon also resulted in a greater dependence on local and indigenous knowledge systems, which had generally been marginalized from the standard making authorities of government. However, the cause of the Walkerton outbreak was not a result of inadequate water quality guidelines but rather a lack of regulatory oversight combined with an inappropriate use of discretion by Walkerton's PUC operators (O'Connor 2002a). This point is particularly noteworthy given the provincial and, later federal, government's response.

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[18] Bacteria tests were relatively inexpensive, about $10 a test, while a full set of tests would cost approximately $1,000.
Mascarenhas, Michael. 2002. "Material-Semiotic Practices of Water Quality Testing and Standards: The Constitution of Water Contamination in Walkerton, Ontario, Canada." *Interdisciplinary Environmental Review* 4:66-79.

### *Acting at a Distance Through Regulation*

Prior to the Walkerton outbreak in the summer of 2000, of the ten Canadian provinces, only two - Alberta and Quebec had regulations that had adopted the Canadian Drinking Water Guidelines (CDWGs) as enforceable standards. All of the other provinces, including Ontario, had adopted the CDWGs as *objectives* for drinking water quality (Ministry of Environment 2000). However, after Walkerton, all provinces invoked rather strict drinking water regulation. The following exchanges with drinking water experts shed some light on governments' reaction to the drinking water crises of Walkerton, Ontario and North Battleford, Saskatchewan:

> First, the problem with Walkerton had nothing to do with guidelines. Guidelines were there and very explicit about what had to be done in case there was *E coli* in the water ... of course since Walkerton, all the provinces, and territories, and federal government have really tightened up their drinking water programs. Every province now has legislation ... or it is developing legislation specific to drinking water.
>
> Several of our cities in Ontario have made a statement that because of Walkerton they are now spending upwards of a million dollars a year more for monitoring water quality, but they are not satisfied that this is in fact having any benefit. But the reaction to Walkerton was 'there is not enough monitoring.' And that was a political reaction and it was done within weeks and months of seven dead and 2,000 sick people. So everybody did it without recognizing that Walkerton was in fact a case of criminal negligence on the part of a very small system that bore no resemblance to the water services which were being provided generally through the province. But all services got hit by the same tightening of the regulations. It is a political overreaction ... and then when North Battleford occurred—there was another one [example of drinking water contamination], so all provinces are now requiring more frequent monitoring, [and] reporting of the results. The U.S. is in the same boat.
>
> I think the new act is an attempt to fill in the loopholes because of this urgent need to do something back in 2000. The outbreak occurred in May and by August there were changes and there was some new regulations brought in. And in that

> short a time there was just not, in my opinion, the time to complete the project in a thorough way. But there was an obvious need to do something. There was this need, it was seen politically.

The "political overreaction" to the Walkerton outbreak can be seen, then, as an opportunity for government to act at a distance. In rewriting water regulation, federal guidelines became mandatory standards, and as a result the state was able to remove discretionary power away from the purveyors of public drinking water services by enrolling them into a new apparatus of state power—The Safe Drinking Water Act. In the legitimation crisis that occurred after Walkerton, the state, through the use of regulation, which mandated new roles in the provision of drinking water, was able to simultaneously enroll more participants into this network while controlling their behavior.

This becomes most evident when you consider the positive reaction by many private water purveyors to *more* regulation. This reaction seems to contradict neoliberal sensibilities that regulation frustrates innovation and business, or that "big government is bad government." But as this water quality advisor for Health Canada reveals, government attempts to enroll and translate the interests of other actors in the water quality sector has not always been an easy task.

> We attempted, a couple of years ago, to introduce the legislation which would control the sale of these things [drinking water treatment devices] and require that any products sold in Canada meet NSF [National Sanitation Foundation] International standards. Unfortunately it didn't go anywhere. There was too much political opposition to it, thinking that this was something that was, would make it more difficult for industry to compete. That was a few years ago... but now [after Walkerton] we had tried on a couple occasions to get that legislation introduced and it got as far as second reading in Parliament, but then there was an election called and it sort of died on the order paper. And it has never been re-

> introduced. Now might be a very good time. But in discussions we have had with the water treatment device industry in Canada. They are very keen now on some type of legislation. Now whatever reason that is, whether it is a protectionist reason, or whether it is that they realize that NSF certification is something that is good to have? So you don't know what the reason is but there certainly is some interest now [in being regulated].

In many ways the *reception* of regulation by the drinking water sector in Canada has been analogous to the reaction of the biotechnology industry in the late eighties to the increased regulation of biotechnology in the U.S.

Under much pressure by from agrochemical-biotechnology companies, led largely by Monsanto, the Reagan administration concluded that existing statutes were adequate to deal with the emerging processes and products of biotechnology (Office of Science and Technology Policy 1986). As a result, the biotechnology regulation in the U.S. is in large part the result of industry's desire to have *some* regulation—albeit regulation that is largely inadequate to deal with the many new challenges of GM products and crops. In both cases, the private sector—biotechnology firms in the case of biotechnology regulation in the U.S. and drinking water firms in the case of water regulation in Canada—was able to control emerging regulation by means of their political influence. Furthermore, in both cases private interests were able to use regulation as an effective barrier to market entry against both private and public competitors, a strategy of importance in these highly competitive and changing environments (Charles 2001; Miller, Salazar, Mascarenhas, and Busch forthcoming).

The advantage of this piggy-back strategy—more regulation and more private participation—is to stabilize this complex network of heterogeneous elements by anchoring their interests—social, political and economic—in interrelated activities and

performance measures. Furthermore the emphasis on highly scientific and audit-type practices in the new legislation favored the participation of large, usually multi-national, private water purveyors—those actors with much influence and interest in this sector. Translation also helps to explain the growth of public-private partnerships in the water sector. Where small, cash-strapped and expert-deficient municipalities become enrolled by those who are actively networked—the private purveyor—to meet the new demands of increased legislation. Below I argue that this type of market driven regulation has at least four consequences. First, neoliberal policy reform limits social action to participation in highly complex and technocratic processes. Second, neoliberalism increasingly translates political interests into objects of government. Third, through the use of technocratic policy reform, which relies heavily on the use of objective performance standards, neoliberalism evades the social forces that enable and constrain legitimate public participation.

**Objective Performance Standards**

In anchoring techniques of conduct with objective performance standards, actions of participants in this complex network were made increasingly predictable and subject to the disciplinary powers of the state. This observation is reflected in the following exchange:

> And the worst thing is Mike, is that all levels of government are studying the impact. You'll see everybody says, yes we shall protect the environment, [and] we shall purify the water. Fine those are grand. We agree with it. [However] what is the impact of these legislations on human beings that have no capacity, have no resources? You take a small municipality in northern Ontario. How are

> they going to meet the new stringent standards with no capacity? How? You tell me! You see if you go to the web site you will find the fines are pilling up on those municipalities because they cannot monitor their turbidity or they are in violation of their chlorine [levels]. Now the Ministry of Environment has asked all the municipalities to continually publish on their web site the performance of their plants, and if they don't that is also a violation, and they are fined (again).

I decided to search the Ministry of Environment's webpage to find such a database. After a rather long search I eventually found the Adverse Drinking Water Quality Incidents Reports webpage (Ministry of Environment 2005) This list provided the name, location and type of adverse water condition as well as a solution for remediation. I then complied a short list of the "offenders" for the months of October, November, and December of 2004 (Table 5).[19] The most obvious result from this analysis is that *all* of the municipalities that reported adverse drinking water conditions were rural communities. While the explanatory power of this small sample is limited, it does provide some support to the contention voiced above—that it is the small, rural municipalities that lack the capacity to meet the regulatory requirements of the Safe Drinking Water Act (2002).

But as this analysis illustrates, the use of objective performance standards—a key piece of equipment in the neoliberal tool shed—ignores the social structures and social networks in which people, communities, and governments are embedded. In other words, objective performance standards only work well if all participants are equally capable of meeting the standards. However, for those unable to mobilize the market resources necessary to meet this type of market-driven regulation, objective performance standards

[19] I intentionally excluded adverse reports from nursing homes, schools, camping sites and other systems that are classified as small non-municipal non-residential systems under the Safe Drinking Water Act (2002).

become a form of discrimination because they set targets that are simply not attainable, regardless of whether the standards legitimately attempt to ensure environmental and human wellbeing.

**Table 5. List of Adverse Drinking Water Incidents (October to December, 2004)**

| Date MoE Notified | Location | Water Works Operated By | People Affected |
|---|---|---|---|
| December 8, 2004 | Township of Billings, Town of Kagawong, Manitoulin Island | Municipality | 200 |
| December 8, 2004 | Town of Smooth Rock Falls | Ontario Clean Water Agency (OCWA) | 1,800 |
| October 14th, 2004 | Town of Bruce Mines Township of Bruce Mines, District of Algoma | OCWA | 600 |
| October 9, 2004 | Town of Moosonee | American Water Services Canada Corporation | 3,000 |
| November 25, 2004 | Chalk River Water Treatment Plant | The Town of Laurentian Hills | 1000 |
| December 6, 2004 | Dungannon Water Supply, Village of Dungannon | Veolia Water Canada , Inc. | 150 |
| December 6, 2004 | Humphrey Water Works, Village of Belgrave | Veolia Water Canada , Inc. | 105 |

## Translating Political Interests into an Object of Government

Furthermore, by controlling the opportunity for participation and discretion at the municipal and local level, technical performance measures also played an important part in translating political interests into an object of government. In translating political programs into technical ones, the techno-scientific state—acting at a distance—is able to justify what are arguably highly discriminatory policies. For example, in the months leading up to new water legislation, the provincial government made an attempt to solicit comments and concerns that the public might have regarding the new Safe Drinking Water Act. A draft of the proposed act was made available on the provincial website for

*anyone* to comment on. However, in a conversation with Peter Martin and Nancy Jacobs it became obvious that the calls for public participation were more symbolic than factual.

Martin: But looking at the website, there was not a lot of response to the act. There was some, but not a lot.

Jacobs: Did you read it on the website?

Martin: A little bit.

Jacobs: It was hard to respond to.

This short exchange may seem trivial. But what is revealing is not only that the public review process was inadequate and difficult to participate in but also for whom it was difficult. The man I have named Peter Martin has two degrees in microbiology and for twenty-three years supervised a MOE Regional Microbiology Laboratory. Then after losing his job when the province closed their laboratories, Martin started and continues to operate a very successful water quality laboratory and consulting service in southern Ontario. Similarly, Nancy Jacobs, in addition to a Ph.D. in environmental biology, has two post-doctorates, and, like Peter, is a water quality consultant. If participation in the new act was difficult for these two experts, I can only imagine how foreign it must have been for others—especially non-experts—to legitimately participate.

Another way that the state is able to act at a distance is to frame debates, and therefore participation, rather narrowly. In particular, the emphasis on scientific practice, efficient technologies, and risk significantly constrain the field of discourse to those interests that sustain and benefit from the dominant regime (Foucault 1972). Thus, what is admissible as fact and knowledge becomes inextricably tied to, and defined by, the

interests of those in power. An example that I find particularly useful in demonstrating the power of discourse to sustain the dominant regime is in the political controversy that surrounded the City of Moncton, New Brunswick attempts to privatize its water distribution system in 2001.

Like most Canadian cities, Moncton's drinking water is in a state of disrepair. It is estimated that Canadian cities will have to shell out over $90 billion in the next twenty years to fix and repair old water pipes (The Fifth Estate 2003) In desperate need for a new water treatment plant, the City of Moncton entered into a contract with U.S. Filter in 1998. U.S. Filter built the City a new water treatment plant and in return was able to manage Moncton's water supply. However, this solution did not alleviate the desperate work that needed to be done to Moncton's distribution system—the pipes that carry the water from the water treatment plant to your taps. It was estimated that repairs to the distribution systems would be $70 million dollars. And in a rush to get its water under control, in 2001 city staff began negotiations to hand over responsibility for its distribution system to U.S. Filter. City Councilor Brian Hicks, concerned about the haste and secrecy that surrounded this potential untendered deal with U.S. Filter, had this to say:

> Week after week I was the only one asking questions, and people were looking at me like I had three heads. But they were just so basic; they were just so simple. They were just dealing with the transparency [of the process].

Hicks found out that the $70 million dollars was just a ballpark figure, and, in fact, the city really didn't' know how much it would cost to repair its ailing distribution system. After further probing, it became obvious to Hicks that the city and U.S. Filter were trying

to push through a deal to privatize their drinking water distribution system without really knowing the costs or benefits.[20] Hicks, then, voiced an opinion that was not congruent with those interests that saw benefit from privatizing Moncton's distribution system. As such he found much resistance from both U.S. Filter, who claimed that he was in a conflict of interest, and other members of city council, who treated him "as if he had three heads," that were in favor of brokering a deal, regardless of its costs.

Among other things this case demonstrates how rhetorically entrenched and dominant the idea of privatization has become for dealing with crises in treatment and distribution of public drinking waters. Like many other advisory commissions and forums that have dominated the water debate worldwide, the City of Moncton and its advisors established privatization as the only solution to its water problems. However, it was only because Brian Hicks was a member of city council that he could raise an alternative solution to the privatization champions, had he been prevented from legitimately participating in city council hearings, like most marginalized groups, his concerns would have gone unnoticed, and Moncton's distribution system, like many others in Canada, would have been appropriated through private control.

**Social Forces and Legitimate Public Participation**

In our conservation, Martin also had another concern regarding public participation and drinking water legislation.

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[20] Furthermore, Hicks pointed out the city was in violation of The Public Purchasing Act of the Province, which mandated that all public work must go out for public tender. As a result of these *oversights* the City of Moncton ceased negotiations with U.S. Filter.

> Just exactly how the new legislation is written as to who is ultimately going to be responsible I think is not quite clear. I was at a conference a couple of weeks ago in Toronto on drinking water legislation and the new act … and at this meeting there was a person who stood up from a little town called Innisville, I believe he was the reeve of this town, and he said his whole council was planning to resign after reading the new Safe Drinking Water Act because there appeared to be so much responsibility on their shoulders as to water quality and they [were afraid that they] could be sued.

But this reeve that Martin speaks about is not alone in concern or action. Many local and First Nations' communities resent the fact that this responsibility has been foisted upon them without any legitimate participation in the making of the new regulation. Nor are there any noteworthy resources or training provided by the provincial and federal governments to cope with their new demands. Furthermore, many council members, realizing that "resistance is futile" and worn out from political fatigue, have simply stopped trying to resist the hegemonic forces that have controlled the restructuring of water regulation in Canada and, as in the above case, have removed themselves from political office. The reeve that Martin described is not alone, however, for some First Nations communities have also adopted this form of protest. One First Nations' water treatment plant operator puts it this way: it has always been that same struggle though since I have started here, since 1980 … I used to fight quite a bit in my younger day. But I am getting tired in my older days. "What do you mean fight quite a bit, I asked. He elaborated:

> I used to push, push; push all that stuff [for equal distribution of resources] to the Chief in Council and Department of Indian Affairs. But I think I am getting bogged down here a little bit, I'm going to take a little break. But I am still worried about what is going on out there.

Unable to legitimately participate, many of those concerned by the current technologies of government, are simply forced to exit.

Another example that helps to demonstrate how the state is able to act at a distance—and maintain the illusion of democratic pluralism while being highly discriminatory—is in the recent public hearings that have been held in conjunction with the creation of new watershed and manure acts in Ontario. In our conversation, Steven James, a Quality Assurance Engineer with the Ontario First Nations Technical Services Corporation, said this about First Nations' participation in the current provincial government's initiatives to legislate water management in the province. "First Nations have been invited to participate on source water protection planning framework." "And will you participate?" I asked

> Yes, in fact the Chiefs of Ontario participated in the Advisory Committee to the Municipal Government on Source Water Protection. And I was appointed at the last minute because the Chiefs of Ontario didn't have the resources, they didn't have the staff to appoint somebody. So at the last minute they thought that it was wise to appoint somebody from the Ontario First Nations Technical Services Corporation. So I was appointed and I sat in for the last two months during the completion of the advisory report to the Minister of the Environment on watershed planning ... at this stage now Mike, we have gone through the consultation, not withstanding the consultation was inadequate for First Nations participation. We have made that very clear. There was no meaningful consultation for First Nations, despite the fact that they [provincial government] invited the Chiefs of Ontario. The Chiefs of Ontario did not have the resources and we came in at the last minute.

Steven told me that the Chiefs of Ontario have approached the new Liberal government and asked them "to conduct meaningful consultation again with the First Nations before enacting the law on watershed management and they have agreed." Yet based on their previous experiences and the provincial government's urgent mandate to enact watershed

legislation, Steven remains skeptical about any further opportunities to voice their concerns about source water protection legislation in the Province.[21]

But it is not simply governmental decision-making processes that First Nations are excluded from. For during a conversation with a director of the program on water issues at an Ontario University I was given another—rather "practical"—reason for not including First Nations. However, this time it was in collaborations regarding a program on transbounndary groundwater security. "First Nations were invited," the director insists, almost defensively, "but as you know among the many other challenges that First Nations have, being over subscribed is just one more. There are just so few of them and so many requests." And while the director appeared genuinely sympathetic, it is precisely rationalizations like these—where blame is attributed to First Nations' communities for refusing to participate in programs that affect them —that help to eclipse the institutional structures that make it difficult, if not impossible, for such groups to participate in the first place.

But perhaps the most stark example that came up in my fieldwork of how regulation can be used by governmental agencies to distance itself from discriminatory

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[21] "Our concerns on the source water protection plans are: one, is lack of resources in order to compile background data, such as wells positioning, an inventory of point source pollutions, well-head protection, and GIS mapping. Number two, the proposed watershed boundaries, we would like to see how it is they will straddle across territorial boundaries for First Nations. (375). How it is proposed? And also we would like to have studies done in terms of some of the lands of First Nations are in the watershed, what will be the impact on the archaeological heritage and artifacts on the ground land use and land planning. Their point is if the First Nations are located downstream of the watershed what rules and regulations are there to protect them from the municipalities using their by-laws and their land use planning (to inversely affect First Nations lands, health and welfare)."

policies against its First Nations peoples is the case of the Southside Sewer Treatment Plant.

### *Regulation and the Act of Distancing*

London, Ontario is a sprawling city of approximately 325,000 residents, located about 200 kilometers west of Toronto. In an effort to meet the infrastructural needs of its rapidly growing population, London's Planning Department has proposed to build the Southside Sewer Treatment Plant along its southwest border. The plant is scheduled to be built by 2010 at a cost of approximately $75 million (CDN) (Belanger 2004); it will contribute approximately four million imperial gallons per day (MIGD) of effluent to the Thames River from a pipeline located approximately three kilometers upstream from at least three First Nations reserves. According to city officials, the Southside Sewer Treatment Plant will provide some much needed capacity that its current six sewer treatment plants, which also emit effluent into the Thames River, cannot efficiently provide (City of London 2003).

In 1996 the City of London annexed the Town of Lambeth, a municipality located along its southwest border. This annexation moved the new city border to a few kilometers upstream of Aboriginal lands. In 1998 the city started public meetings regarding a proposed sewer treatment plant in the then agriculturally zoned lands southwest of the Lambeth residential core. "This was not in the annexation plans, recalled a Lambeth resident, in fact they "actually talked about agricultural lands as being preserved" in the annexation proposal. "But they were not very forthcoming about

exactly where the site was going to be or where the effluent pipe was going to be," recalled a concerned First Nations representative. "We had to do a lot of probing to find that out. And when we finally did [three kilometers upstream], it kind of outraged us." Both First Nations residents located immediately downstream of the proposed site and citizens of the Lambeth community have fought for very good reasons against, the proposed Southside Sewer Treatment Plant. However, to date their crusade seems in vain.

"So we tried all the political levels to get this thing stopped," explained Matthew James, a First Nations lawyer. "It is a matter of either fully outright stopping it or protecting the water and environment the best we can." The first stage of attack came in the form of a request to the Ministry of Environment to have the Class Environmental Assessment done by the City, which approved the construction of the sewer treatment plant, to be "bumped up" to a full Provincial Environmental Assessment. However, the business friendly Conservative Government of Mike Harris refused the "bump-up" requests. And while the legislation is worded pretty strongly, First Nations are told that the impacts from an additional 40 million gallons of effluent entering into the Thames River—their source of hunting and fishing, not to mention the smell—will be mitigateable.

A second prong attack has been to try to involve the federal government. "We approached the Department of Fisheries and Oceans (DFO)," James recalled, "but their excuse is that since we are not a proponent of the project, nor is it on federal land, nor are we funding it in any way," it is outside of their jurisdiction. DFO did inform James, however, that they might become involved if it can be established that there is an

adverse effect to fish habitat. But that cannot happen until the plant is built and fully functioning. "So it doesn't do us much good. It is a whole backwards ass game," James explained in frustration.

In addition to approaching the Provincial Ministry of Environment and the Federal Department of Fisheries and Oceans, First Nations also appealed to some local Members of Parliament (MPs). "But the response that always comes back is that they [London] have done their studies and they think it [the impact] is mitigateable. But the thing that really disturbs me is that, I believe, they have based the trunk line and the site totally on cost. There wasn't very much environment research or testing done to the alternative sites." Joan Ross, a Lambeth citizen who also participated in the public meetings, echoed the assertion that economic concerns had been the driving force behind this project. She recalled:

> [It was] very big, [a] very expensive plant. They had done capacity studies. We were able to see some of them [but] not all of them. We had some information being given to us directly or indirectly that supported the belief that there was existing capacity in the existing systems. And that has always been argued because they said that their capacity studies demonstrated that there isn't.

But Ross and other concerned citizens maintained that there was still a lot of capacity left within the current system. In fact, their analysis indicated that there could be as much as forty years capacity left within the current system. "I think it is governed by the dollar. It was an extremely discouraging, disheartening experience dealing with the city," recalled Ross. When the City closed what many deemed an inadequate public hearing process, the Lambeth citizenry group also appealed to have the project reclassified to a

full Provincial Environmental Assessment. However, like the appeal launched by First Nations, the Lambeth community group's appeal was also denied.

But it is in a policy statement issued by the London Chamber of Commerce where the economic interests behind the Southside Sewer Treatment Plant project become most evident. The third and final reason cited by the Chamber (1999: 2) in their supporting policy statement was as follows:

> Finally, and perhaps most importantly, the Southside plant provides London its best opportunity to prepare for future industrial and commercial development in the 401-402 [Highway 401 and Highway 402] corridor. Given the increasing importance of north-south transportation links under the NAFTA agreement, the Chamber regards such development as key to any long-term economic development strategy for our city.

The report goes on to urge the City to investigate the use of public private partnerships in their long-term economic development strategy—a strategy that they suggest has had a long and positive track record in other North American jurisdictions (The London Chamber of Commerce 1999).

The Southside Sewer Treatment Plant provides yet another case of how regulation can be used by governmental agencies to distance themselves from discriminatory policies against its First Nations peoples. This form of covert racism may not be intentionally motivated. However, it is racist in its outcome because First Nations, like other indigenous peoples, bare the full and externalized cost of this phase of capitalist expansion. Upon reflecting on the public hearings, Joan Ross maintained, "I felt that we were lied to. I felt that they [the City of London] didn't try to be accommodating in

terms of your participation. I feel that we were disregarded. But it is her reflection on how First Nations, in particular, were treated that is most disconcerting.

> I did not feel that they [First Nations] were well treated. I would say they were disrespected in some circumstances, more so then we were, which was offensive enough! ... So is it second class service for the FNs? I don't know. Is it second class service for rural people? I don't know. But they [First Nations] are asked to carry the burden now of their [the City of London's] treatment facilities. It [the proposed plant] is going to be mandated and the costs [human, environmental and economic] are more than these small communities and rural individuals can afford.

This form of unequal exchange—pollution in one area and wealth generation for another—is a particular feature of neoliberalism, one that is increasingly targeting indigenous resources and lands. "When you look at what is down that corridor," Ross recalled, referring to the lowlands that bridge the City border with downstream First Nations communities, "you've got the landfill, and you have this agricultural lower land, and you also have some industrial [land use]. This concentration of pollution and waste is simply dangerous, not to mention irresponsible. First Nations communities downstream and down wind of London Ontario "are really getting doubled or tripled barreled here, when you look at it," James insisted. "To the east, we have the landfill,[22] to the west we have the potential sewage treatment plant, and the line of EMF towers." This does not include the numerous non-point sources of pollution that include pesticides,

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[22] The Green Land Landfill, that in 2003 contributed $15,000 to the Provincial Liberal Party, also recently received approval for plant optimization
Ontario Liberal Party. 2003. "2003 Central Party Campaign Period Return CR-4: Contributions Over $100."
*Http://www.electionsontario.on.ca/stats/03files/election/cpcr/03libpptycr4gl.htm.*
Accessed March 21st, 2005.

herbicides, insecticides, and manure, which enter the river each year from adjacent agricultural lands.

First Nations have also proposed watershed planning to London, similar to that of the Grand River system. But when I asked James why he thought London refused such a proposal, he said:

James: I just don't think it is in their best interest to do that sort of thing. I think their mindset is that they hold all the cards and the First Nations is sort of a parasite to be flipped off their back while they go ahead and do what they want. That is exactly the way they view us. Nothing more nothing less than that.

MM: What specifically leads you to think that?

James: Well just because of the attitudes that we have had. We have had three political meetings with London. They don't view us as real players in this. I don't think they even appreciate why we are at that table ... At first we tried to raise our legal arguments and their legal department just totally out of hand disregarded our submissions. Totally! And plus, like I say, that time that we presented our baseline risk assessment, and ... they just scoffed at it. London is a very colonialistic town. There is a lot of old money. That was the seat of government a long time ago. And they still feel like it is. And to them First Nations are just impediments. And that attitude has to change before something real good can happen.

The frustration of constantly having to explain life on the margins gets a little old for First Nations people like James. First Nations have made a living on explaining to people in authority how they constantly affect and impose constraints on their welfare. Yet in spite of this *education*, First Nations continue to be the subject of intense and systematic environmental and social discrimination. But as Joan Ross, a community activist, knowledgeably explicates, "it still comes down to morality and environmental consciousness." And Joan and others insist that government's sense of responsibility to

the environment and (all) its citizens are increasingly becoming eclipsed under neoliberalism reform.

### *Summary*

Thus while claiming to be open, accessible and legitimately concerned, public hearings and other forums established to encourage alternative perspectives and values, like those of First Nations, tend to be more symbolic than real. Neoliberal reform that has engendered swift changes in drinking water regulation and management in Ontario have served to limit public input, discourse, and debate by making it difficult, and in some cases impossible, to legitimately participate in these decision-making forums. Participation in the "free" market has become a commodity like everything else—justice, human rights, drinking water, clean air—available only to those who can afford it (Roy 2003). Furthermore, those who may potentially offer alternatives to the current neoliberal paradigm are usually suppressed or marginalized to the extent that their inclusion is ineffectual, and issues such as fairness, equality, and participation simply fall away from the technocratic discourse and debate.

One implication of focusing on the technical character of neoliberalism as an art of government is that it broadens the analytical frame with which to analyze this political and ideological project. No longer can we only view neoliberalism as simply a political reaction to the welfarism of previous decades. For while this is a useful pursuit, by itself it is far too reductive an approach to analyze the complex networks that tie techniques of conduct into specific social relations with the concerns of government (Barry, Osborne,

and Rose 1996). In this respect, Michael Power (1997) has argued that this form of governance is not only about monitoring in the normal sense of external observation—for that it may be. However, increasingly governance is more about attempts to re-order the collective and individual selves that make up organizational life. Moreover, and perhaps most important for issues of social justice, this re-ordering, while done in the name of public and environmental health and safety, is often highly exclusionary and discriminatory.

I have argued that the re-regulation of drinking water practices in Ontario was not about providing citizens with a safe drinking water supply but rather it was a way to enroll and control the actions of participants and make them more amenable to processes of statecraft. Furthermore, by emphasizing the technical character of water policy the technoscientific states are able to mask social inequalities and political interests as technical projects. Moreover, when jurisdictional issues surface, such as transboundary pollution sources, governments are increasingly employing regulations to distance themselves from responsibility. In that way, I argue, they are complicit in the pollution and health risks that (some of) their citizens must endure.

In particular, government's ability to act at a distance is illustrative of the de-governmentalization of neoliberal policy reform—a historic bloc where governments are able to discriminate *covertly* against specific groups. In particular, First Nations are marginalized and discriminated against by government's insistence on highly technocratic and expert-led processes in the re-regulation of drinking water practices in the province. And, as in the case of the Southside Sewer Treatment Plant, governments

used regulations to distance themselves from questions regarding the morial integrity of specific land use practices.

This assertion is akin to Omi and Winant's (1994) concept of the "racial state," where the state becomes a central institution in the creating, maintaining, and contesting of racial boundaries and meanings for its indigenous peoples. However "acting at a distance" represents a further level of racial discrimination, one that is in addition to the *overt* forms of racial discrimination described in the previous chapter. However, this structural focus on the technoscientific state as an apparatus of (ruling class) political value and interests fails to recognize the disciplinary power of expert and professional discourses in controlling social action away from the formal centers of governance (Fischer 2000). It is this topic—the making of the expert and the power of expert discourse—that I examine in the next chapter.

## 7. The Role, Discourse, and Disciplines of Expertise

> *Indeed one of the most alarming aspects of the chemical pollution of water is the fact that here—in river or lake or reservoir, of for that matter in a glass of water served at your dinner table—are mingled chemicals that no responsible chemist would think of combining in his [sic] laboratory (Carson 1962: 49)*

The previous chapter focused how the state, in re-regulating water policy in Ontario, was able to enroll and control various actors. This chapter, in contrast, will focus on the contested terrain of *who* and *what* constitutes *knowledge*, and by extension power, in the management and control of water resources in the province. This differs from the state centered analysis of power (covered in the last chapter) and focuses on the disciplinary power of the water quality professional and expert.

A focus on the state centered power (i.e., structural-based Marxism), Michel Foucault (1977; 1980) argued, conceals our ability to understand how (expert) power is exercised in everyday social relations. According to Foucault (1977; 1980), the rise of extensive forms of regulatory apparatuses like jails, schools and hospitals—what he called "disciplines"—subjected individuals to new forms of social control that occurred away from the formal centers of governance. Melding together knowledge and power (i.e., expertise), this new form of disciplinary regulation produced what Foucault referred to as "docile bodies"—where subjects "willingly" conformed to techniques of "governmentality"—making their behavior stable and predictable, without overt means of social control that might otherwise lead to forms of organized resistance. This of course has much overlap with Antonio Gramsci's (2000 [1935]) concept of hegemony, where

subjects participate in forms of social action and ideology practices that are ultimately at the root of their exploitation and subjugation.

Key to this form of disciplinary power was the role—what Foucault referred to as the "discursive practices"—of expert disciplines. "[Discursive practices] determine the group of relations that discourse must establish in order to speak of this or that object, in order to deal with them, name them, analyze them, classify them, explain them, etc." (Foucault 1972: 46). These relations, Foucault (1972: 46) argued, characterize not just language used by discourse, "nor [just] the circumstances in which it was deployed, but discourse itself as a practice." As agents of expert discourses, scientists and professionals, have much control of the discursive practices that constitute the techniques and practices of scientific expertise (also see Haraway 1997; Jasanoff 1990; Latour 1987). In their ability (read power) to appropriate the language of science, experts are able to legitimate their standpoint, at the same time they illegitimate those they deem not to be scientific.

In talking with First Nations water operators, managers, and experts I was left with a sense of concern, frustration, and urgency regarding their increasing marginalization and illegitimation in the water resources sector. Whether it was in the provision of their own drinking water, or concerns they had around the plans for a proposed sewer treatment plant that was located upstream, or existing landfills adjacent to their reserve, or large scale "collaborative"-type watershed planning processes, First Nations were continually battling to maintain legitimacy, credibility and participation in an industry that was increasingly being closed off to them through the discursive

practices of experts, professionals, and consultants, usually employed by large or multinational corporations.

In other words, members of First Nations with whom I spoke with were concerned with the disciplinary power of expert and professional discourses in controlling social action and social processes that affected their social and environmental welfare. However, this sort of power dynamic differs from the state's ability to control action and social processes at a distance; this control occurs at the margins away from the formal centers of governance. Thus, I argue that there is a relationship between the actions of the techno-scientific state and the power of professional discourse (to enable and constrain those actions) that is missed if we only look at the institution of the state as the instrument of disciplinary power. It is this topic—the making of the expert and the power of expert discourse—that I examine in this chapter.

To do this I elucidate how an emphasis on expert-led science delegitimates other cultural forms of knowledge and expertise. Using the example of *credentialism*, I explain how indigenous and more practical knowledge systems—i.e., more decentralized forms of measuring and understanding environmental quality—are undermined by the power of expert discourse and practice. I emphasize the discursive practices of expertise in order to draw attention to the social relations that tend to become masked in the rhetorical power of neoliberalism. Furthermore, the proclivity to prescribe rigid technocratic solutions—defined and controlled by the discursive practices of experts—also obscures alternative social choices that might be of profound significance for safety, equality, and democracy. This sort of power, however, while able to enroll and control subjects that might otherwise resist, is not situated in any particular institutional form like the state,

which further complicates forms of resistance. Disciplinary power then, does not exist in the sense of class power. And therefore, it cannot be overthrown in a Marxist-type revolution that seizes the apparatus of oppression and redistributes it to the exploited (Fischer 2000).

Understanding First Nations' localized struggles against this networked form of power will require exploring more inclusive, sustained, and transforming accounts of the world—their accounts. Their struggle against the privileges of knowledge questions "the way in which knowledge circulates and functions, its relation to power" (Foucault 1994: 331). Consequently, First Nations both challenge and redefine how we understand social inequalities—particularly race, but also class and space—and long-standing structural hierarchies—especially between expert and practical, and in this case indigenous, knowledges.

### *Understanding "Expertise"*

"The operation of a water treatment plant is very complex and a lot of people don't understand this," acknowledged Steven James. He continued,

> For example, if you are operating a water treatment plant and treating water from a surface water source, it is subject to variation in terms of weather. If it rains or snows, or if there are activities upstream, the water quality will change. Therefore the plant operator has to do adjusting to optimize the dosages to remove those elements that are coming into the plant, and that function requires a highly skilled operator. And it also requires a supervisor to help him out, and it requires money. The other thing that is critical is that we have found is [a] lack of adequate O&M [operation and maintenance] funding [from the Department of Indian and Northern Affairs Canada].

In other words, in addition to having a well-developed understanding of the chemistry and biology of water treatment, a water treatment operator—particularly First Nations operators who tend to run a one person operation—must also be a good mechanic, plumber, and electrician. Furthermore, since new water treatment systems largely depend on electronic and computerized controls, operators must also be computer literate. This local expertise becomes apparent in the following conversation with two plant operators.

Anderson: With the fall and spring run-off, [the City of] London has a lot of wastewater treatment plants down by the river and they do have to let them go because there is just too much [sewage] and the plants can't handle it. And we see that waste coming down the river.

M: And you actually draw from that floodplain?

Williams: You see sometimes in the spring in the floodplain, the river overflows and it is all over the top of the wells. Although the wells are all sealed. We have never had any problems with it.

Anderson: Well the nitrate levels go up a bit but that is normal because of a lot of things are in the water at that time of year. All we are doing up here is flushing and pumping the chlorine up again. And that is when we get our calls because we have to do that or else we could run into problems. That is when we get calls from people that are around here and they ask "what are you guys doing, why is so much chlorine in the water?" Oh spring run-off you know, that is what I always say. We have to do these things.

Williams: Sometimes when it is flooded down there, I don't run the pumps, if I don't need to, especially if our tower is pumped-up, until that water runs through. That is something I picked up: safety and caution.

Anderson: We try to keep our tower pumped up all the time. We were lucky when we had the power outage, what was that about a month ago now, and it was out for like 12, 14 hours. And had the tower been down we would have been in trouble.

Williams: See, we don't have no back-up generators for the plant. Here or the wastewater don't have any.

The daily operation of a First Nations' water treatment plant is a highly complex task. But First Nations operators, unlike many of their municipal colleagues, not only require a

well-developed understanding of their treatment facility, but also need to be aware of various external polluting sources that might affect the quality of their water, such as upstream sewage treatment facilities or nearby farming practices as mentioned in the previous exchange.

This in-depth understanding of water treatment is truly impressive. What is even more remarkable is that much of this experience comes not from formal schooling but from on-the-job training. The following observations by two plant operators illustrate this point well.

> When this plant was designed and everything, it was supposed to be a turn the key operation, the way the engineers told. But it never worked out like that. We had to go through everything and learn everything ourselves: how to set it up; the way the chlorine gets out in the lines; and make sure you maintain the chlorine pumps, maintain the residual. This was all hands-on for us because they had a dispute with the company, and they basically turned their backs to us. They didn't give us any manuals or nothing. So we had to learn this all ourselves.
>
> My first day on the job. It is the same thing, when I walked in the old water plant. It was only part time and it was shared between the janitor, the school and myself. And he brought me in to show me through the system, how to mix the powdered chlorine, how to mix the alum, how to set up the chemicals. And I asked him what is that for and he didn't know. He says, when they finished building it, the contractor came out [and said] mix this much, mix that much, mix this much and keep her going, ah. And that was his level of training.

As these operators indicate, their knowledge is largely based on specific circumstances and conditions of their water treatment plant, knowledge that has been crucial to the proper running of their plants. However these, and many other, operators are not licensed or certified by the province, and as a result many are deemed (by the province) *unqualified* to run such increasingly complex facilities.

Nevertheless, for many First Nations' operators a certificate from the provincial government that legitimates their qualifications is something they approach with much

ambivalence. On one hand, they fully appreciate the value and application of conventional water quality science. On the other hand, by acknowledging the scientific authority of provincial and federal governments, they stand to not only to make First Nations operators' expertise and knowledge illegimate, but also First Nations' governments more generally. The fear for First Nations is that in recognizing these external authorities, they may undermine their own struggle for control and participation of drinking water services both on and off their reserves—a process that continues to appropriate their resources through a process of dispossession. Inextricably tied to this phase of accumulation by dispossession has been the role of technology and expertise.

### *Technocracy and Expertise*

Social scientists, shaped by the work of Karl Polanyi (1944) have done much to explain how the "economy" and "society" became institutionally separated from the history of Western capitalism. As a result of its disembededness, the "economy," or more specifically the affects of economic relations on social relations, has escaped much critical review. Similarly, I argue, the concept of technology and the role of expertise, because it appears outside the role of social relations, have also been underevaluated. Thus, in reembeddeding technology into its historical social relations, we can pursue different social explanations, explanations that are often marginalized from or discredited by the discursive practices of technoscience (Haraway 1997). Furthermore, Tim Ingold (2000: 314) has argued that what inevitably becomes "represented as a process of complexification, a development of technology from the simple to the complex, would be

better seen as a process of externalization or of disembedding," that is a progressive removal of technical knowledge-making practices from social relations and inequalities. Similarly, Martin Heidegger (1977) cogently explicated that knowledge about the world, while always partial, must be situated in specific historical contexts. Forgetting this, Heidegger (1977) argued, leads to a failure to examine the discursive relations that are often obscured in the natural and objective "meaning-making" practices of technoscience.

Langdon Winner's (1986: 4) conviction that "the most accurate observation to be made about the philosophy of technology is that there really isn't one" underscores, he argued, the astonishing hold that the idea of *technology as progress* has exercised on social thought and practice in the industrial age. Like most other instruments of the Enlightenment project, science and technology continue to be seen only as a means to an end, instead of also an end in itself. Scholars of science and technology, like Winner (1986) (also see Haraway 1997; Jasanoff 1990; Latour 1987), are among the few to offer a critique of this "progressive" view of science and technology, and as such have contributed much to developing a critical perspective and understanding of "science" as something that is inherently social and political. In other words, no longer can technology be seen only as benefiting human activity; technology has also become a powerful force in reshaping how we conceptualize and then act on social problems and larger social relations. And in its reshaping of human activity, technology has also produced, directly or indirectly, new social hierarchies and grounds for discrimination.

Sympathetic to this view, Frank Fischer (2000: 20) has suggested that most theories of technocracy " have dismissed the idea that experts govern on the grounds that they still remain subordinate to the economic and political elites for which they work."

This may also be said of the many water quality consultants, engineers, scientists, and water operators who comprise the network of water quality purveyors in the province of Ontario. For while they ostensibly control the provision of public drinking water in the province, they do so under strict provincial rules and regulations. For example, water quality laboratories have to be accredited by the Ministry of Environment before they can test municipal water samples; similarly, water treatment operators must be licensed by the province.

However, seeing experts as only a function of the state, overlooks the less visible discursive politics of technocratic expertise (Fischer 2000). This oversight, Fisher (2000: 16) argued not only fails to recognize the many ways that technical modes of inquiry have come to shape our thinking about social problems, but also the many ways that these "modes of thought have become implicitly embedded in our institutional discourse and practices." Such an omission then, Fisher (2000: 15) insisted, "misses the fact that such technical languages work both directly and indirectly to hinder the participation of ordinary citizens, as it underplays—if not denigrates—everyday moral vocabularies." Indigenous epistemologies stand in stark contrast to the "value neutral" dictum of technocracy, and as such they offer much insight into the power dynamics of this discursive practice. It is this effort—linking the practice of technology to that of its politics—that I now pursue.

***Environmental Pollution? Who Says What it is?***

It was early Spring when I first visited Walpole Island. A typical Ontario Spring day: cold, a few degrees above freezing, low cloud and a persistent drizzle that made driving the 20 kilometers from Sarnia to the Island much more of an adventure than it needed to be. While driving I could not help but notice a backdrop of oil refineries, factories, and other heavy industry. As I got closer it became difficult to discern the pollution emitted from the smoke stacks from the low lying clouds—it all seemed to blend into a dense fog, a fog that had the distinct smell of rotten eggs. But as I passed over the bridge onto the island I was taken over by much more serene environs, and the smell and image of the last 20 kilometers seemed to dissipate from my senses. It was only in my conversation with Daniel George, a longtime and knowledgeable community member, that I found out that the corridor I had just passed through is Canada's major petrochemical and refining region, commonly referred to by locals as "Chemical Alley."

Walpole Island Indian Reserve is nestled between Ontario, Canada and Michigan, USA at the mouth of the St. Clair River. Occupied by aboriginal people for thousands of years, it is today home to 2,000 Ojibwa, Potawatomi and Ottawa peoples (Walpole Island First Nation 2005). There are three major economies in the Walpole community today: hunting, fishing and trapping, rolled into the modern day notion of the recreation and tourism industry, agriculture and bureaucracy. George explained further,

> It [recreation and tourism] is our number one industry, a multi-million dollar industry. We have 17,000 acres of world-class wetlands. Right now we are in the middle of hunting season, and we get people from all around the world. Some

> people fly in from Japan opening day and then fly back. We call it the best hunting in the mid-west. And it is very lucrative for our community. Why I say it is the number one industry, I would say almost every household in our community is affected one way or another by hunting. Because if they don't hunt for food or guide, they depend on it in their extended families.

Our encouraging conversation about the economic health of his community soon turned to more disheartening concerns about the physical and mental health of community members and its relations to the upstream pollution source of "Chemical Alley."

Between 1974 and 1986, a total of 32 major spills, as well as 300 hundred minor ones, contributed to approximately 10 tons of pollutants in the St. Clair River. Furthermore, since 1986, the Ministry of Environment has recorded an average of 100 spills per year (Canadian Broadcasting Corporation 1985; Walpole Island First Nation 2005). This does not include the significant agricultural runoff of pesticides and fertilizers, as well as other non-point pollution sources from nearby livestock producers that enter the watershed and River every year. Furthermore, because the St Clair River connects lakes Huron and Erie, it is also a major shipping route, and the necessary dredging of contaminated sediments to permit heavy marine traffic poses yet another serious environmental problem. The St. Clair River, however, is also the drinking water supply for about 160,000 native and non-native people on both sides of this international border. The continued degradation of Walpole's environs has had significant implications for wildlife and its habitat, human health and well-being, and economic development.

One such incident was particularly notorious—the "Sarnia blob." In August 1985, one of the then thirteen factories producing petrochemicals, glass and plastics, Dow Chemical, spilled about 11,000 liters of perchlorethylene ("perc") into the St. Clair River. Because perc is denser than water, it slowly settled in a great mass at the bottom of the

river. But in the process of settling, perc also picked up, and combined with, other chemical contaminants in the river sediments. The resulting "blob"—a name given to it by the news media—consisted of eighteen chemicals including deadly dioxins. However, there is still much disagreement regarding the actual cause of this "elixir of death" (Carson 1962), for some geologists believe the blob is also composed of chemical waste oozing upwards from underground wells (Canadian Broadcasting Corporation 1985). One thing that is not in dispute, however, is the risk that it presented. Daniel George explained,

> So I can remember vividly when they discovered this blob in the St. Clair River, they sent down divers and they found that it started to percolate and pool after it was buried for a while. In the papers the next day they had the SCUBA divers mask [and it] had melted, that was how nasty it was, it had just melted while he was down there.

George explained that the international attention garnered by Dow Chemical's "blob" devastated Walpole's main economic industry. Sport fishing was shut down for a number of months in Lake St. Clair and commercial fishing was shut down for ten years. And that had an effect on their hunting as well as George continued,

> Because if you were a sportsperson and you saw all these headlines of these toxic chemicals in the St. Clair River, the blobs, and you knew that it would end up in the delta where you come and hunt in the Walpole Island Wetlands, as a hunter and a sportsperson, you'd probably think twice.

As George suggested, "the blob" and less noteworthy pollution occurrences have had an egregious impact on the economic vitality of this isolated community. In devastating their main source of livelihood, pollution from upstream sources has also been a major

factor in the rise and persistence of poverty in this community. Moreover, this lack of employment has led to detrimental ways of coping and an overwhelming sense of hopelessness in the community.

The psychological connections to environmental pollution become even more complex when one considers that a large part of First Nations diet is comprised of fish and game caught from the local environment. As George perceptively recounted, "we have a double impact here, not just from the water but (also) from the bio-magnification and the bioaccumulation through the food chain." The following two testimonies by community members provide a further illustration:

> I was expecting in 1985 and that was the year we had the big blob. And I was restricted to drinking the bottled water that year. So when my baby turned six months old or whatever, and I switched him, his system couldn't get used to our tap water. He had diarrhea for three weeks because of the change over from the bottle water to the tap water.
>
> I think we do with the smaller children and eczema and skin disease. My great niece was living here and she moved to the Sault with her mother for six months and she cleared right up, boom, and she came back and within a week she was all flared up again. And our health centre said they had a concern about the water that was infecting a lot of the little kids are having eczema now. More than usual. And Asthma.

These accounts echo those of many scientists who have tried to elucidate the complexity of environmental pollution. As Syliva Tesh (2000) points out, conventional risk assessment, because it focuses on the toxicity of individual pollutants, is unable to evaluate risks of chemicals that are mixed together in the environment. Tesh (2000: 73) asks, "if investigators assume that toxic properties are only additive, when in fact they are synergistic, risks at some sites could be seriously underestimated." Of course chemical synergism not only occurs in the environment. How the synergistic properties of these

pollutants become stored and distributed in the body—how they become embodied—is also an area of much contention. Rachel Carson (1962) elaborates in the following manner regarding the then "new" synthetic insecticides:

> They have immense power not merely to poison but to enter into the most vital processes of the body and change them in sinister and often deadly ways. Thus ... they destroy the very enzymes whose function is to protect the body from harm, they block the oxidation processes from which the body receives its energy, they prevent the normal functioning of various organs, and they may initiate in certain cells the slow and irreversible change that leads to malignancy.

The possible interactions between these chemical mixtures both in the environs from which they are deposited and the conditions of their embodiment makes it very difficult, if not impossible, to provide the kind of scientific proof that is recognized in discourses of risk assessment, which attempt to correlate exposure with disease. Furthermore, in spite of overwhelming evidence, much provided by environmental justice scholarship that correlates high rates of pollution with race and poverty (class), risk assessment as conventionally practiced, fails to recognize that racial minorities and poor people, because of their physical and social locations, are simply more susceptible to pollution. In other words, risk assessment, as currently practiced is discriminatory because the benefits and costs of pollution are unevenly distributed along racial and class formations. For example, if the First Nations of Walpole Island were not located downstream of Chemical Alley, or if they were white and middle-class, their vulnerability (read risk) to environmental and social "toxins" would be much different.

This role of science becomes more problematic when one considers Allan Schnaiberg's (1980) distinction between production and impact science. Schnaiberg (1980) suggests that most scientific and technological research has been used to justify

capitalist expansion while very little social intelligence has been invested into its numerous and sometimes devastating social and environmental impacts. In fact, Schnaiberg (1980) observed, that there has been some suggestion that research on social and environmental impacts in the U.S., particularly under the national Environmental Policy Act, has detracted researchers and impeded the development of science-based environmental knowledge. This, Schnaiberg (1980: 278) posited, has hampered "the creation of social welfare consciousness based on new insights into environmental limits." Science, then, is a form a legitimation, one that is increasingly being used to rationalize this latest phase of state sponsored capitalist expansion. As a consequence, impacts have increasingly fallen on those who have been affected, people like First Nations, who typically do not have the resources to assess "the by-products of this material expansion" (Schnaiberg 1980: 278) in a meaningful (read scientific) way. Furthermore, and consistent with Jurgen Habermas' (2000 [1962]) critique of the scientization of politics, in the neoliberal state science and technical rationality increasingly function to reinforce the values and interests—ideology—of those in power, while preventing the analysis of environmental and social impacts. But as I illustrate below, the role of science is not only integral to who can legitimately participate in these policy circles but also how pollution becomes assessed and then acted upon.

***Environmental Pollution? What (is) Pollution?***

At the main mall on the island I noticed a man with an empty five-gallon water container. He told me that he was a trapper but presently was not working. I asked him

why he chose to buy his water instead of drinking tap water. He said that he didn't trust the public drinking water supply. The frequent boil water advisories plus the many health problems in the community were two reasons that he cited for his lack of trust. He also thought that about 80 percent of the people in the community buy their water from the distilled operation in the grocery store.

Later that afternoon in my conversation with Daniel George I mentioned my encounter with the man at the local mall. George admitted he was confused about the lack of trust in the community about the drinking water. George informed me that the government has made a concerted effort to test the tap water on the reserve. He assured me that the results have indicated that the water is safe to drink. However, after disseminating these results, community members are still not convinced. Furthermore, in communicating these results to the reserve population, in an effort to help build trust in their public drinking water supply, the community remains adamant about not drinking their tap water. George continued:

> So what they want is a real time monitoring saying everyday [to convince them that it] is good. So there is still not that trust that I have in our water treatment plant. They still don't believe it. So we said that we would continue to do testing, random, get more of a snap shot. But again I haven't seen much change in the community. Where even our local government has created this perception as well. Our First Nation's government, we subsidized the distilled water. So everybody thinks that is better because it has extra treatment, [in spite of the fact that it is the tap water that is being distilled].

The public's lack of trust is very understandable, but it is far more complex than simply having the water tested or "proven safe." Many of the people I spoke with were concerned about the elevated levels of disease and ill health on the reserve. And many of them felt that contaminated water from upstream sources was the major contributing

factor. Increasingly, and in spite of claims that the water is safe to drink, members of the community, in confronting their polluted environs, often put into question scientists' assertions about safety when such claims contradicted their own embodied experiences. This is regardless of whether the testing is done by experts in or outside the community. Science, then, was not perceived as a neutral judge by many community members, but a biased one—one that threatens to disembody and illegitimate the many ways in which so many in the community search to make sense of their health and environmental problems (Torres-Velez 2005).

"We know we have birth defects out here ... we [have] never had so many cancers. Never heard of these cancers in our communities, and they say it is because of the water." However, unable to provide the standard of proof that is required by Western science to establish a correlation between exposure and disease, First Nations find few avenues to explicate their environmental and health problems. George expanded,

> But it does make it difficult to have credibility. If we don't have the evidence. If we say yes, it is affecting us, we've got health problems, how come we've got all these attention deficit problems, and how come we've got asthma? We never had asthma on Walpole. So what I told people is that I would be more concerned about the air than the water.

As George points out, this "multi-factorness" of environmental pollution makes it very difficult to establish a cause and effect relationship that is desperately needed to bring legitimacy to this and other cases of environmental injustice and racism. Not only is Walpole Island downstream, and downwind, of one of Ontario's largest industrial complexes but also community members consume a significant amount of fish and game caught from the local environment. And while people are sick in the community, and

blame the water for their illnesses, the water tests "clean." And as such, they cannot provide the evidence that fits with the discourse of science.

Rachel Carson provided some insight as to why this is so. She (1962: 45) argued that mixing of chemical pollution with domestic, agricultural and other wastes that occur in waterways, like those that flow through Walpole Island

> defy detection by the methods in ordinary use by purification plants. Most of them [pollutants] are so stable that they cannot be broken down by ordinary processes. Often they cannot even be identified. In rivers, a really incredible variety of pollutants combine to produce deposits that the sanitary engineers can only despairingly refer to as "gunk."

As such, conventional (read Western) scientific methods are simply not capable of fully understanding the complexity of water pollution—particularly bio-accumulation and bio-magnification—as it exists both in the environment, and in the bodies with which it enters. This complexity, Sylvia Tesh (2000) argued, is the fundamental reason why environmental health research fails to show that exposure to pollution causes health problems.

"Gunk," "blobs," or other "toxic soups" do not conform to the risk assessment scenario followed by the National Research Council (1983, cited in Tesh 2000), where

> A substance leaves a source (e.g., an industrial facility), moves through an environmental medium (e.g., the air), and results in an exposure (people breathe the air containing the chemical). The exposure creates a dose in the exposed people (the amount of the chemical entering the body, which may be expressed in any of several ways), and the magnitude, duration, and timing of the dose determine the extent to which the toxic properties of the chemical and realized in exposed people (the risk).

This linear understanding of contamination fails to depict the complex environmental health problems that Walpole residents worry about, such as reproductive problems, skin disorders, growth and physical impairment, and general ill-health of the environment. With such erroneous assumptions about how pollution moves in a watershed or airshed, and about the many ways that people come into contact with, and then react to, pollution, Tesh (2000: 38) argued that "epidemiologists are unlikely to find a relation between pollution and health, even when one exists."

Given this complexity, Langdon Winner (1986: 143) posits that we should honestly declare that we do not know the relationship between chemical pollution and the harm it may cause. In so doing, Winner (1986) argues, we can no longer look to the scientific research of pollution as an objective, fact-finding pursuit but as moral norms governing judgments about harm and responsibility. Winner's observation is somewhat analogous to relationship between environmental pollution, science, and risk theorized by Ulrich Beck's (1992; 1994; 1999) "risk society." For Fischer (2000: 48), the concept of the "risk society" "represents a unique and important contribution to a critical understanding of science and expertise in environmental politics" because it attempts to grasp "modern" environmental crises in their totality.

For Beck (1992), science and technology are both the cause and solution to the risks and uncertainties that pervade all dimensions of contemporary—what Beck refers to as "late modernity—social relations. In fact, the risk society thesis "reveals a world in which science and technology are directed towards the perpetuation of risk," which leads to further contestation (Blowers 2003: 68). These technoscientific risks, Beck (1992) argues are not only both local and global, but much more pervasive than previous phases

of industrial society. In fact, in Beck's risk society, the production of risks—environmental, social, and personal bads—increasingly overshadows the productions of goods and services. Furthermore, these risks are unattributive, because their causes are often diffuse, hidden, complex, and for the most part irreversible (Wynne 1997).

However, given the highly technical and invisible nature of these risks, not to mention the unequal way with which these environmental and social bads are distributed, Fischer (2000: 51) contends, that "the politics of risk intrinsically emerge as a politics of knowledge," typically contested and controlled by the discursive practices of Western scientific experts. This elevates the expertise, Fischer (200: 51) "to a prime political position in the discourse of risk, leaving little or no room for the layperson." Furthermore, this empirical study illustrates that structural inequalities, and the power relations that maintain them, result in an uneven distribution of environmental pollution and harm, not a democratic one where "all are affected and none can escape" (Blowers 2003: 69). To live with a disproportionate share of environmental and social bads, like First Nations are forced to, "and suffer the related environmental and public health problems and quality of life burdens" is much more a function of socially and environmental unjust polices than of the proliferation of risks (Agyeman, Bullard, and Evans 2003: 6)

The discursive practice of risk assessment, I argue, should not be looked at *only* as a method to assess environmental pollution and illness but also as a practice to legitimate its existence. This helps to explain that while polluters can dispose of all sorts of pollution in reckless fashion, scientific studies on the consequences must be done with scrupulous care (Winner 1986). For example in addition to distinguishing from

"naturally" high concentrations of chemicals in the environment, investigators must also show that no more than 5 percent probability can be attributed to chance. In other words, investigators must be 95 percent sure about the cause of a chemical, pollution or a "blob" before they "can conclude that a correlation exists between exposure and disease" (Tesh 2000: 77). But as I have tried to show above this is most often simply not possible. Furthermore, this high standard of proof gives the polluter the "benefit of the doubt," while forcing those already victimized, and usually marginalized, to bear the costs of meticulously proving a correlation between exposure and illness (again, as I have illustrated above, an almost impossible task).

In other words, the epistemological weight of First Nations' narratives—their ways of knowing and experience—comes from their social and physical locations and not from some scientists housed in a far off laboratory. Both their self-identity and the polluted environs that surround them have emerged out of a common process of maturation and personal experience (Ingold 2000). For the First Nations of Walpole Island, their historical identity is inextricably tied to the historical conditions of "Chemical Alley." And while they are neither responsible for, nor had a voice in, the processes affecting their environs, their embodied selves—the way they understand and make sense of their lived experiences—are tied to an environment which they did not assist in creating (Torres-Velez 2005). Furthermore, while the link between environmental health problems and their illnesses seem so obvious to First Nations, experts and regulatory agencies, who are charged with defining and assessing pollution, continually fail to *scientifically* establish a link between exposure and disease. This has lead Lawrence Busch (2002) to conclude that while science must necessarily enter into

the formulation of risk setting standards, state policy and private economic interests, and the interface between the two, play an equally important role in determining how particular risks are treated.

### *Environmental Pollution and Expertise*

In spite of the scientific uncertainty associated with the identification and detection of pollution in the environment, and the analysis of its health impacts, the discourse that surrounds these environmental and health controversies still remain very technical. In fact, Latour (1987) suggests that when such controversies flare up, discourse becomes *more* technical not less. This paradox became most evident in my conversation with Daniel George regarding a controversy that occurred about seven years ago involving Imperial Chemicals International (ICI), a chemical producer located about 15 miles upstream from Walpole Island. "I think they were making fertilizers and one of the by-products was phosphate," George recalled. After years of accumulating this by-product in settling ponds adjacent to the river, ICI made an application to the then business friendly Conservative government of Mike Harris to discharge its by-product into the River. At the time environmental regulations did not permit such discharges to the river, so they had to make a special application to do so, George explained. He elaborated, "they made application to the Ontario government to discharge over a billion liters of contaminated pond water into the St. Clair River." Such an application required provincial environmental hearings, where municipalities, and other groups concerned with the potential impacts of this application could voice their concerns before a

provincial judge. The only group to raise environmental and health concerns was the Walpole Island First Nations. And at their request, one day of the hearings was convened on the Island.

"So they adjourned their hearing and came to Walpole Island in our arena and we had a talking circle, we had a drum, and people would get up from the community and have a say," George recalled. However, the environmental board did not consider the community input as evidence but rather anecdotal. George elaborated,

> We've got a women's group here that has formed because in our culture women are responsible for water and they have been very active [in the community]. They made a statement. I remember I was one of the witnesses at the hearing and we had toxicologists, biologists, and engineers. I was the only community expert that was allowed to give testimony. But the ICI lawyers decided to attack me personally on my credentials and my evidence ... so I got caught off guard a little bit in giving testimony. I am not a hard scientist in the sense of chemicals and biology, mine [my expertise] is more social sciences, so they asked me a lot of technical questions and I couldn't answer them. But that was their point.

I could tell from his facial expression and tone that this was difficult for George. He continued, "so they didn't recognize our knowledge and they just came here to say that they were able to come to our community. But they didn't accept any of our testimony, other than our experts in the hearing," explained George in bewilderment. Being unable to provide the scientific evidence necessary, the provincial board gave ICI a certificate of approval to discharge its wastes into the St. Clair River. "But I think it was criminal that they were allowed to have a mixing zone in the St. Clair River," George regrettably concluded.

Convinced that this was an unjust decision, the Walpole Island First Nations launched a civil suit against ICI. "We launched both federal action and provincial

action," George explained. "We lost our first round at the local level and we appealed that. But the hearing and the two court cases nearly bankrupt us." The provincial appeal cost the Walpole Island First Nation over a million dollars of their own local treasury dollars, which they simply couldn't afford. "We ran out of money so we had to drop the appeal" George recounted in a low and sad tone. The result was simply nothing less than humiliating for the community of Walpole Island. So devastated was Daniel George that he recounted his emotional experience to me as if it had occurred yesterday.

The reliance on technical language and practice had undermined the Walpole Island First Nations' legitimacy to participate in these expert and professional driven forums. Furthermore, the preference for highly technical details, excludes the "stories" of personal and communal subjugation from entering into the vault of admissible evidence. And after having their "stories" denigrated in the public limelight, many First Nations' participants leave these debates feeling humiliated and ineffectual. It is this experience, more frequent than not, that has discouraged First Nations' from participating in, and coerced them into consenting to, decision-making processes and policies that continue to threaten their health and welfare. In other words, the tendency to conceptualize environmental problems as technical ones masks the social forces and institutional hierarchies that contribute to environmental and public health problems in the first place.

It is this observation that has led science studies scholars like Sandra Harding (1993) to declare that technoscience today, as in the past, has provided a disproportionate benefit to members of the dominant group. As such, the discursive practices of science have thus provided resources and power for some people's domination over others (Leiss

1972, cited in Harding 1993). In particular, an emphasis on expert-led science illegitimates other cultural forms of epidemiology like those of the Walpole Island First Nation. Arundhati Roy (2001: 25) has labeled this "the Expert's Anthem," where so-called laypeople are told "'you're are too emotional. You don't understand, and it's too complicate to explain.'" The subtext she explains is "don't worry your little head about it. Go play with toys. Leave the real world to us."

### *The Role of Expertise in Neoliberalism*

But it is the rise and role of the expert-professional strata within neoliberalism that I find of particular interest. Because experts occupy a position between the elites and the public, their political proclivities tend to go unnoticed. Yet as political elites turn to technoscience to "act at a distance," they also empower this group in ways that are not clear. Frank Fischer (2000: 22) has posited that the growing influence of experts can be seen in the ascent of 'policy communities." These communities, Fischer (2000) argued, have had a disproportionate influence not only over the definition of specific policy issues—such as water pollution—but also over decisions regarding both the advisability and the feasibility of various solutions. How water pollution is defined and then acted upon in southern Ontario has been a direct function of the experts involved in the process. As such, the public policy agenda rooted in technoscience is increasingly becoming "a struggle between those who have expertise and those who do not" (Fischer 2000: 23). Expertise, then, is increasingly becoming the means with which to participate in the political process.

In many ways this preeminence of expertise is analogous to a modern day House of Solomon described by Francis Bacon (1626) in his novel *The New Atlantis*. In this fictitious world the House of Salomon was a secretive scientific society that superseded the state as the highest authority. In fact, in Bacon's *New Atlantis* we find a world whose very order is sustained by a cadre of scientific experts. And as such, politics are no longer needed as governments are replaced by technocratic administrations. Within this technocratic administration—i.e., the House of Salomon—scientific experts debated democratically, but only those experts are deemed worthy of participation in the discussion. For selection into the house of Salomon is not a democratic process but one based on credentialism and merit (Busch 2000).

The similarity of Bacon's (1626) House of Salomon to today's discourse of expertise is truly striking. For example, Bacon (1626) denigrated magicians and alchemists for "wrapping the study of the natural world in obscure rituals and works. He attacked superstition, old wives' tales, and tradition" (Busch 2000: 11). In other words, for Bacon knowledge was conducted in modern day laboratories—the House of Salomon—and constituted a specific method—the scientific method. The dismissal of practical and indigenous knowledge today is analogous to Bacon's disparagement of tradition and rituals practiced previously by magicians and alchemists. Thus such knowledge must be banished from technoscience "as it was always a source of error" (Busch 2000: 13).

Credentialism represents a modern day version of the House of Salomon for First Nations. The new Safe Drinking Water Act of Ontario (Government of Ontario 2002) has mandated that all water treatment operators in the province become licensed before

they can legally operate a water treatment plant in the province. Larry Smith, an engineer with the Ontario First Nations Technical Services Corporation (OFNTSC) described the process of operator training this way,

> They have to go through this process of operator and training. Then go to class 1, class 2, and class 3, and class 4. Operator training is the first step towards getting certified as an operator if you want to work in a water treatment plant. And according to the (new) regulations you need a minimum of grade twelve [a high school diploma] to enter into that profession. [For] First Nations it is very hard to find [someone with a] grade twelve [education]. Some [of the current] First Nations [operators] don't have [a] grade twelve [education]. So they are having problems getting through these theories and exams and stuff like that. Some operators have been grandfathered but that is coming to an end.

In fact, Smith informed me that the Minister of Indian and Northern Affairs Canada declared that all water treatment plant operators will have to be certified by 2006. "When I go to the communities," Smith continued, "I tell the administrator that if you are selecting any operators, it would be to the best advantage if you could find somebody with a grade twelve" education so that they can be licensed by the province. For Smith and others that I spoke with this was a foremost concern for several reasons. First, as Smith pointed out, it is difficult to find someone on the reserve with a high school diploma. Second, it is far more difficult to find someone with a diploma that is also interested in a career as a water treatment operator. Most people who get a diploma leave the reserve for more education or reasonable employment, both of which they cannot find on the reserve.

Many of the operators I spoke with were not unlike Stan Strong, a supervisor in his late forties. Strong explained further, "I have been working here for eleven twelve years ... I have a grade ten education but" am trying to update my education ... to

[legally] operate the water plant." But as they struggle to meet the new demands of credentialism many operators question its function and purpose. Skeptical of this new mandate, Karen French, a coordinator with the Aboriginal Water and Wastewater Association explained her concern this way.

> Their knowledge is based on whatever plant they are working at, and they usually know their systems inside and out. Whether or not they have that little piece of paper that says ya, I have taken this training doesn't mean anything on a First Nations' [reserve].

This type of knowledge Ingold (2000: 55) suggests, is gained by moving about in the world, "exploring it, attending to it, ever alert to the signs by which it is revealed." Knowledge, then, for French and other First Nations, is a matter not of deference to "institutions of interpretation" and authority—i.e., the state and science—but in acquiring ways of understanding that are much more communal and localized, and as such much more meaningful for First Nations.

The Walpole Island First Nations are water quality experts, I argue. They simply have to be because of their social, economic and spatial relationship with "Chemical Alley." Because of this knowledge they resemble what Antonio Gramsci (2000 [1935]) coined as "organic intellectuals," intellectuals capable of opposing and transforming the existing social order because of their marginalization—their situated knowledge (Haraway 1991). One clear example of this practical knowledge occurred when scientists from the University of Windsor went to Walpole Island to investigate contamination uptake in ducks. "So they went out and harvested some ducks," a local guide recalled "and then they said we are going to have a problem here because [some] ducks are migratory and we don't know which ducks are migratory and which ducks are domestic."

At that point the guide replied, "that is easy, these are migratory, these are domestic." When asked how did he know this? The guide pointed to the different flight paths of the ducks. The scientists replied, "sure, sure." But they kept them divided as per the guide's advice and took them back to their laboratory, and "sure enough the contamination levels were distinct in each group." The migratory ducks had less contamination than the pile of domestic ducks. "So they thought that that verified and helped them in their research," the guide recalled.

The major reason why local knowledge and its proponents are denigrated, particularly in the hegemonic discourse of scientific knowledge, James Scott (1998: 323) argued "is that its 'findings' are practical, opportune, and contextual rather than integrated into the general conventions of scientific discourse." In other words, indigenous knowledge, like that of the Walpole Island First Nations, is denigrated at the onset because its inclusion would seriously challenge the hegemony of scientific expertise and discourse. This local knowledge, Scott (1998) insists, is confusing, incoherent, and unassimilable for purposes of statecraft. And because regulatory science continues to use proxy information to assess the human risk of environmental pollution, where laboratory data stands in for human experience, or short term experiments are supposed to represent long-term exposure, or where proximity to hazardous substances substitutes for actual exposures (Tesh 2000), statecraft continues to privilege the discursive practices of accredited experts and professionals. At the same time, however, credentialism serves to marginalize, exclude, and denigrate local and indigenous ways of understanding environmental pollution because it is judged by those in power to be *anecdotal*.

But the point I really want to stress here—the point that was repeated to me in so many interviews—is that the licensing of First Nations' water treatment operators will not have any affect on the environmental pollution that so many of them are concerned about, and have no control over. Furthermore, credentialism will not ameliorate the institutional inequality, poverty, and racism that in one way or another condone these environmental injustices in the first place. As such First Nations' advance a fundamental socio-cultural critique of the established social order because they insist that their "environmental problems are—in one way or another—the negative consequences of techno-industrial society" (Fischer 2000: 90). And because they present a fundamental challenge to the legitimacy of both experts and governments, their ways of knowing are excluded and "Othered."

### *Neoliberalism, Technoscience and Morality*

First Nations stand at the threshold of the modern day House of Solomon. For on the one hand, if they enter and become credentialized they may gain legitimacy in the many policy circles that have typically excluded their participation. Many First Nations operators, anxious not to be left behind, have either enrolled or are currently taking the province's operator training courses in an effort to become a licensed operator. Credentialism may provide them with the legitimacy to participate in environmental policy communities that influence pollution control and risk assessment—a modern day House of Salomon. On the other hand, in participating in these policy communities, they

run the risk of undermining their own cultural knowledge, both in their own eyes, and in the eyes of those experts they choose to collaborate with: a true Faustian bargain.

I should note that I am not advocating a dualism between local and scientific knowledge systems; in fact nothing is further from the truth. For example, in their protest of the ICI pollution permit, the Walpole Island First Nations used toxicologists, biologists and engineers and well as local expertise. So while appropriating western scientific methods for their own needs, they are also changing science because they continue to situate it in ways that western science cannot. In appropriating science, then, First Nations try to resist experts' normalizing inscriptions by challenging their prescribed role as passive victims, and in so doing attempt to change the very structures that oppress them (Torres-Velez 2005).

As Sheila Jasanoff (1990) argued, the struggle for control over regulatory policy is increasingly being played in the fields of discourse, where what constitutes "science" and "policy" are being redefined to fit the values and interests of those in power. But as the state increasingly defers to the expertise of policy communities in order to "act at a distance," they also yield to the demands of this political group. And in much the same way as the mercantile class challenged and dislodged the aristocracies' hold on power and control over early industrial Europe, today's expert-professional strata seem posed to do the same. As agents of expert discourse and practice, policy communities are increasingly able to engage in forms of disciplinary power and social control over both those in political office that look to them for evidence to support their policies, *and* the general public who they alienate from political debate. This observation is in contrast to many critical theorists, like Jurgen Habermas (1975; 1981), who called for an arena of

open public discourse to re-establish social, scientific and political debate essential to a proper functioning of a democratic society.

The enrollment, and subsequent rise to power, of policy communities, I believe, is a unique phenomenon of the Neoliberal state. For where as under the Keynesian Welfare State, technoscience seemed to resemble a negotiated compromise between maintaining the values and interests of the ruling class and those of its citizens, Neoliberalism has no such umbilical cord. In fact the increasingly technocratic style with which contemporary social and environmental problems are couched, gives rise to increasing credentialism. This, Fischer (2000: 7) argued, "puts the Western polyarchies in the position of being replaced by a "quasi-guardianship" of autonomous experts, no longer accountable to the ordinary public." And while morality was bantered around the halls of the Welfare State, and its citizens could always hold the state accountable, under neoliberalism morality becomes eclipsed under—ironically—the rhetorical devices of transparency and accountability that come with technoscience.

## 8. Neoliberalism, Environmental Justice and Being Indigenous

> *... the law of a country could not be responsible for persons insisting on a different nationality,* Hanna Arendt.
>
> *... modern nationalism is a blueprint for ethnocide at best, genocide at worst,* Pierre van den Berghe.
>
> *The numbers of people worldwide subjected to the violence of their own states are staggering,* Carole Nagengast.

This research has elucidated the many different ways in which neoliberalism discriminates along racial lines. I have argued that state sponsored neoliberal reform has facilitated the reorganization and redistribution of resources and power along racial lines. Furthermore, I have argued that by emphasizing the technocratic nature of governance reform, neoliberal advocates have been able to successfully exclude First Nations and other laypersons from participating in these governmental decision-making processes. And because the discourses of science, efficiency, technology, and accountability dominate these policy circles other issues like morality, justice, and equality become easily eclipsed. As such, conceptualizing environmental racial injustice as an outcome of neoliberal polices will help to engender sociological connections between nation-states—arguably the key institutional structure responsible for capitalist expansion—and environmental and social problems of particular (groups of) citizens. In other words, by focusing on neoliberalism, environmental "problems" can no longer be seen only as local problems but as a function of larger institutional networks and associated practices—as a form of social injustice and racism that violates basic human rights.

### *Neoliberalism*

Neoliberalism is arguably the most powerful political and discursive attack on contemporary social and ecological relations. In a matter of two decades nation-states and transnational capitalists have successfully undermined and annihilated the social contract between citizen, country and nature, a contract that took several hundred years to establish. "Thatcherism," "Reaganism," "New Federalism," "State's Rights," "The Common Sense Revolution," and countless other appellations and euphemisms have successfully "roll backed" environmental laws, worker health and safety regulations, consumer protection legislation, and other regulatory safeguards seen by those in power to hinder the efficiency of the free market, in order to popularize the technocracy of re-regulation, and to limit the "choices" of consumers.

A combination of self-regulating markets, privatization, and a focus on technoscientific questions has ratcheted up the use of environmental exchange values—both withdrawals (natural resources, water, air) and additions (pollution and waste). This, of course, is occurring in concert with a ratcheting up of surplus value from labor, where people are forced to work longer hours for less pay, with little or no job security. This differs from previous phases of capital accumulation where profitability was primarily rooted in price increases and efficiencies in production processes (Faber and McCarthy 2003). Thus, Faber and McCarthy (2003) contend that neoliberalism and contemporary environmental and social injustices (that neoliberalism produces) are different sides of the same coin. In fact, they (2003: 45) assert that neoliberalism and contemporary environmental and social injustices "are now so dialectically related (if not

essential) to each other as to become part of the same historical process." Neoliberalism is unique, then, in that the primary force behind profitability has been the increased economic exploitation of working people (labor power), indigenous peoples, and nature.

However, the hegemony of neoliberalism is most obvious (and subtle) in its ability to mask (by externalizing) its social and ecological costs. Furthermore, those most severely subjected to its unequal development are either enrolled into, or marginalized from, the discursive practices that continue the appropriation via privatization (and where necessary the militarization) of public assets and resources from water to social security. Yet with its monopoly on violence and definitions of legality and democracy, these neoliberal state sponsored mandates and policies continue to allow for the "safe" expansion and concentration of capitalist accumulation at their citizens' expense. But as this research has illustrated, not all citizens equally bear the externalized cost of neoliberal policy reforms. In this respect, Faber and McCarthy (2003: 39) contend that the prosperity of neoliberal policy reform "is predicated on specific forms of unsustainable production that disproportionately impact oppressed peoples of color and the working poor. For First Nations in Canada, neoliberalism represents an assault on their social, economic, and environmental well-being and welfare. In other words, neoliberalism is premised on socially (and environmentally) unjust principles because it robs from the poor to pay the rich; or in the case of indigenous peoples, neoliberalism robs from the (land) rich and powerless to pay the rich and powerful. Consequently, Al Gedicks (1994: 196) writes that "this means the question of 'who *pays* and who *benefits* from current industrial and development policies' is not seriously addressed."

## *Being Indigenous*

If I can say one thing about the Canadian government it is that they have been consistent and insistent in their employment of racist policies and relations with their indigenous people. And in that way Canada's economic and political development has been no different than any other modern industrial state—one of homogenizing different cultural groups or nations into one nation-state. Whether one looks at the hanging of Louis Riel, the Metis leader who led his people in their resistance against the Canadian government in 1855, or the "police assisted" murder of Neil Stongechild, the 17-year-old Aboriginal man who was found frozen to death in a field on the outskirts of Saskatoon in November 1990, the pattern of discrimination and racism has been integral to Canada's heritage.

In fact, Carole Nagengast (1994) argues, that since its inception, the nation-state, in one way or another, has been responsible for the majority of its citizen's killings. The indigenous legacy, in Canada and elsewhere, has proven to be particularly ruthless. This legacy was generally based on a formula of extermination—which usually failed—then forcible assimilation of those that remained, followed by a policy of "benign neglect" (Robbins 2005). In Canada, examples of benign neglect include the fact that aboriginal women are disproportionately represented in the "illegal" sex industry, or that aboriginals are overly represented amongst the working poor or underclass of Canadian society. Not surprisingly, those Aboriginals in search of a better education and a better quality of life are forced to leave the reserve. An elected Chief I spoke with gave this reflection on out-migration from the community:

> I was born in my grandfather's house a number of years ago and I feel apart of this community. So my kids even though they are away now working and going to school, hopefully someday they will be back here representing our nation, either in this chair, or in a council chair or working for the community in some fashion. Like right now, I don't blame anyone for going where they have to, to earn the money that they can earn. There is basically no economic stimulus here right at the present time. So they have to go to British Columbia or they have to go to Toronto, that is where my kids are right now trying to earn a living.

And, of course, many children in Canada leave the parents and families in search education, employment and adventure. However, unlike so many First Nations who leave, theirs is not a choice that is essential for (any) human flourishing.

Institutional racism towards Canada's indigenous people, and, in fact indigenous groups worldwide, is a direct consequence of the fact that they are not considered true *citizens* by their occupying nation-state. In fact, Aboriginals in Canada were only permitted to vote in Federal elections in 1960, although most of them continue to abstain from this political process. In other words, to borrow from Hanna Arendt (1968), First Nations, like other indigenous peoples, are "stateless" people. In fact, their very identity, that of the *first nation*, defines a *nation-ness* (Anderson 1983) that is distinct and separate—yet one that has co-evolved with colonialism—from that of the Canadian nation-state. However, since homogenization remains one of the main tools for nation building, First Nations in Canada have been, and continue to be, the victims of racist policies that attack their cultural identity by exploiting their environmental and socio-economic welfare. But it is *because* their identity challenges the power, idea and legitimacy of the nation-state, because they continue *to get in the way* of the modern

project of nation-building and capitalist expansion, that such racist policies are condoned and, in fact, encouraged under neoliberalism.

### *Citizenship and the Nation-state*

Since its inception, the nation-state has been the primary vehicle in the expansion and control of the global political economy (Arendt 1968; Busch 2000; Marx 1978; Wallerstein 1989). Indispensable to its development and expansion has been the use of violence, genocide, and institutional forms of racism and Othering (Arendt 1968; Nagengast 1994; van deb Berghe 1992). "Nation-building and nation-killing," van den Berghe (1992: 196) insists, "become complementary aspects of the same policy of fostering the ethnic, religious, linguistic, political and economic interests of those who control the state at the expense of all others."

But as Michel Foucault (1977) observed, the use of violence and punishment is not just about inflicting pain but also about establishing a disciplined citizenry—what he called "docile bodies." The most important goal of neoliberal policy reform, Faber and McCarty (2003:42) insist, has been "to re-establish corporate 'discipline' over trade unions and other social movements" that threaten market stability, market share, and (most importantly) corporate profits. Along with labor costs, environmental protection measures under neoliberal policy reform are considered burdensome, unreasonable, and inefficient. Neoliberal policy reform therefore is seeking to protect and expand corporate profits "not only by 'downsizing' the labor force," and eroding the social contract, but also "by cutting investments in pollution control, environmental conservation, and worker

health and safety" (Faber and McCarthy 2003: 42). In other words, the primary affect of neoliberal policy reform, particularly for the working poor and indigenous peoples, has been increased economic, social and ecological exploitation—arguably violating basic human and citizenship rights (see Nakano Glenn 2002).

Carole Nagengast (1994: 122) expanding on the work of Foucault (1977) and others (Martin 1987) argued that (state sponsored) institutional violence produces "punishable categories of people," which serve to forge and maintain boundaries that specify and enforce behavioral norms that in turn legitimate and delegitimate the actions of specific groups. In other words, state violence, she argues, is a way to create an Other—an underclass, with whom no *normal*—read good—citizen would want to be, or be associated with. The legitimacy of the nation-state becomes inextricably tied to a homogenous cultural identity, one that can be "distinguished" from the Other, in Canada it's being Canadian. And while variations of this identity—like Indo-Canadian, Chinese Canadian, Jamaican Canadian, etc.—are permissible, in fact encouraged, to give the impression of a democratic, pluralistic, multicultural, and modern nation-state (Gramsci 2000 [1935]), the state, in an effort to legitimatize its nationhood, leaves no room—materially and discursively—for other culturally or economically distinct nations—alternative ways of knowing and being known—within its state boundaries (van den Berghe 1992).

Critical perspectives regarding the relationship between citizenship in a liberal democracy and capitalist rule have been inspired by Karl Marx's early work, particularly *The German Ideology* (1845-46). For it was here where Marx declared that "the ideas of the ruling class are in every epoch the ruling class ideas" (Marx 1978: 172). For Marx,

those who owned the means of material production—the bourgeoisie—also controlled the means of mental production of society, and by extension those who lacked the means of mental production—the proletariat—were subjected to ruling class ideas. Seen this way those in control of the liberal state have been able to turn universalistic ideals of citizenship into a means for organizing and reproducing class rule (Nakano Glenn 2002).

Building on Marx's concept of ideology, Gramsci's (2000 [1935]) notion of hegemony describes the process where the ideas and interests that support the development and expansion of the ruling class are diffused through the major institutions of society as a general system of values, beliefs, and ideas. Gramsci (2000 [1935]: 205) posited that with the ruling class coordinated concretely with the general interests of the subordinate groups, the life of the state became a continuous and consenting association between the ruling class and those of the subordinate groups, a process in which the interests of the ruling class prevailed.

Neoliberalism is therefore hegemonic because the reform that has engendered swift changes in drinking water regulation and management in Ontario, and elsewhere in the world, has also served to limit public input, discourse, and debate by making it difficult, and in some cases impossible to legitimately participate in these decision-making forums. Furthermore, those citizens who may potentially offer alternatives to the current neoliberal paradigm, such as First Nations, are usually suppressed or marginalized to the extent that their inclusion (and citizenship) is ineffectual. Thus the techno-scientific state by enrolling expert-led science and audit-type practices into the institutions, systems and practices of water governance is simultaneously able to preserve the hegemony of its ruling class and obtain the consent necessary to operationalize this

ideological and political project. Thus liberal citizenship under neoliberalism not only fails to address material inequality between citizens, but it actually helps to justify and perpetuate it (Nakano Glenn 2002).

### *Indigenousness and the Nation-state*

For sociologist Max Weber (1999 [1864-1920]), the crucial defining feature, or "reason of state," of the modern nation-state is its ability to successfully claim the monopoly of legitimate use of physical and symbolic violence over a definite territory and citizenry. The root of this legitimacy, which forms the basis of nation-state authority, argues Weber, comes from a relatively autonomous system of institutional laws and practices. This system of laws, rules, regulations and procedures gives the mental and physical impression of a formal authority independent of political and bureaucratic power.

Building on the work of Weber, Pierre Bourdieu (1998: 42) suggests, "it follows that the construction of the state proceeds apace with the construction of a *field of power*. This is a *field* inspired by prejudices or political impulses, where those in control of the promotion, standardization and normalization of ways of acting and thinking, neoliberalism being just one example, foster the monopolization of the few and the dispossession of all others (Bourdieu 1998). Through the framing it imposes upon discursive and material practices, the state has been, and continues to be, perhaps the key institution in the establishment and normalization of neoliberalism as a universal, "common sense," point of view—an ideology. Yet in spite of this state sponsored system

of domination and stratification (Weber 1999 [1864-1920]), Bourdieu (1998: 36) argues, "when it comes to the state, one never doubts enough." In fact, Bourdieu (1998:56) argues that what is "problematic is the fact that the established order is not problematic; and that the question of the legitimacy of the state, and of the order it institutes, does not arise except in crisis situations." But as I have argued neoliberalism is not only an ideological project by a hegemonic one, where, with very few exceptions, the point of view of those who dominate, by dominating the state, have constituted their point of view as in the public's best interest (Bourdieu 1998: 56).

Indigenousness presents one of the last remaining challenges to the unproblematic legitimacy of the nation-state (and of the order it institutes). In fact, I have argued that Indigenous peoples, like First Nations in Canada, remain peripherized peoples for the very reason that they challenge the idea, power, and legitimacy of nation-states.[23] And it is because they continue, rightly I might add, to challenge the culture of capitalism and notion of the nation-state—perhaps the two primary institutions of modernity—that indigenous peoples, like the First Nations of Canada or Native Americans in the United States or the Maori of New Zealand—savages, flattened of their humanity (Said 1979)—are forced into statelessness. This is best articulated in the passionate work of Hanna Arendt (1968: 275) who insisted that "the law of a country could not be responsible for persons insisting on a different nationality." And because indigenousness presents a

[23] Indigenous cultures challenge nation-state authority in several ways. First because they tend to be mobile, they challenge the very notion of boundaries. Second, indigenous peoples support communal ownership of resources, particularly land. Third, indigenous peoples tend to have a kinship-based social structure, what Emile Durkheim (1933) referred to as "organic societies." And fourth, indigenous societies tend to be relatively egalitarian (Robbins 2005). In fact, this was such a problem, that many nation-states appointed tribal leaders in response to state demands.

serious challenge state legitimacy, indigenous people continue to be punished via economic and social sanctions that dispossess them of wealth, well being, citizenship and humanity.

This is most evident in the fact that First Nations and Native Americans are forced to share in a disproportionate amount of "the waste stream" when compared with their white middle class counterparts. Furthermore, under neoliberal reform and rationalizations—Roger Summers' being the most stark—indigenous lands globally are becoming redefined as the preferred location for everything from toxic wastes and landfills to sewage plants and recycling depots. In her ethnography *The Tainted Desert,* Valerie Kuletz's (1998: 10) writes that a nuclear landscape encompasses most of the Southwest—"much of New Mexico, Nevada, southeastern California, and parts of Arizona, Utah, Colorado, and Texas. (To the north, in the West, we can also add parts of the state of Washington and Idaho)." This area, she writes, includes "large land masses for uranium mining and milling, the testing of high-tech weaponry, and waste repositories" that include weapons' stockpiles and nuclear production facilities. This region is also "home to the majority of *land-based* American Indians today on the North American continent" (1998: 10).

First Nations in Canada are forced to live with similar experiences. 2,000 Ojibwa, Potawatomi, and Ottawa peoples are located downstream of the infamous "Chemical Alley," a stretch of the St. Clair River that connects Lakes Huron and Erie. Between 1974 and 1986, a total of 32 major spills, as well as 300 hundred minor ones, contributed to approximately 10 tons of pollutants in the St. Clair River. Furthermore, since 1986, the Ministry of Environment has recorded an average of 100 spills per year (Canadian

Broadcasting Corporation 1985; Walpole Island First Nation 2005). This does not include the significant agricultural runoff of pesticides and fertilizers, as well as other non-point pollution sources from nearby livestock producers, that enter the watershed and River every year.

In recent years the rural center that makes up the Sarnia-Windsor-London triangle in Southern Ontario expanded the capacity of the region's landfill, as well as approved a 4 million gallon per day sewage treatment plant (for the City of London). These new waste industries are in addition to numerous other landfills that dot the countryside, and the heavy agricultural use and highway of electromagnetic towers (and wires) that span this area, not to mention heavy industry, particularly in Windsor and Sarnia area. It is also home to eight First Nations' territories. These are the people that aren't supposed to exist, posits Arundhati Roy (2001) particularly under the welter of neoliberal piousness. These, she contends (2001: 20) are "the 'noncitizens' who survive in the folds and wrinkles, the cracks and fissures" of modern society—they are *the excluded.*

Racism—either overt or covert—has clearly played an integral role in the sitting and maintenance of these uneven and exploitative land use patterns. "Whether by conscious design or institutional neglect," argues sociologist Robert Bullard (1993: 17), "communities of color in urban ghettos, in rural 'poverty pockets,' or on economically impoverished Native-American reservations face some of the worst environmental devastation in the nation" (cited in Gedicks 1994: 196). Valerie Kuletz (1998) attributes this uneven social and physical development to a loss of commitment by modern nation-states to particular lands or regions—a *deterritoriality* of nation-states. These patterns of deterritoriality, Kuletz (1998: 7) argues, are lands—usually indigenous lands—"where

extensive zones of sacrifice are allowed to emerge as the price for, and inevitable result of, a particular set of power requirements." As such, deterritoriality represents a particular form of disembodiment between society, science and nature (Kuletz 1998). First Nations' understandings of land and water as something cultural, as well as economic, comes into stark contrast to the neoliberal ideas about land and water—something to be privatized and managed for profit. Given these stark differences, Kuletz (1998) argues that the practice of deterritoriality can also be seen as form of cultural imperialism.

Environmental racism is most evident (and virulent for some) in this latest phase of capitalist accumulation, a form of accumulation by dispossession. And as Michael Hardt and Antonio Negri (2001) argue this form of accumulation represents a passage from a disciplinary society to a society of (technoscientific) control. Neoliberal water governance reform in Canada has systematically excluded First Nations from participation in the decision-making process. This becomes an even more egregious act when one considers that First Nations are not responsible for the environmental pollution with which they are forced to live. Whether it is the Department of Indian and Northern Affairs' inequitable economic policies and sanctions; or the insistence on expertise, credentialism, and technocracy in defining *what counts as pollution*; or by downplaying the environmental impacts of waste disposal proposals, like the Southside Sewage Treatment Plant in London, Ontario; or by ignoring First Nations' objections or concerns, the voices of First Nations, while most directly affected by these polluting projects and technologies, are systematically silenced, marginalized, and ignored by the decision-making processes and policies that continue to reproduce their subjugation.

### *Environmental Justice*

Over years of painstaking research and emotionally charged activism, environmental justice scholars have been able to successfully link questions of social justice, equity, rights and people's quality of life (Agyeman, Bullard, and Evans 2003). Originally forged from a synthesis of the civil rights movements, anti-toxic campaigns, and environmentalism, environmental justice has focused on the class, and later racial, inequalities of pollution (Bullard 1990; Bullard 1994; Szasz and Meuser 1997; Taylor 2000; United Church of Christ Commission on Racial Justice 1987). The growth of tragic and high profile cases like Love Canal, New York, and Worster, Massachusetts, has increased the publicity and power of this largely grass roots movement. Furthermore, such publicity later inspired legislation in the U.S. that identified hazardous waste sites—commonly known as Superfund sites—and established a protocol for remediation (Tesh 2000).

For environmental justice scholars and activists, environmental problems are social problems; the two are often inseparable. This is because "toxic victims are, typically, poor or working people of modest means. [Thus] [t]heir environmental problems are inseparable from their economic condition" (Szasz 1994: 151). As Andrew Szasz (1994: 82) clearly argued, integrated in demands for clean and healthy communities are larger assertions for "the restructuring of the current relationship between economy and society." Consequently, Dorceta Taylor (2000) has posited that

environmental justice is as much about civil rights, self-determination, and power, as it is about the questions of health and environmental quality.

As the narratives in previous chapters illustrate, First Nations in Ontario, Canada, continue to bear a disproportionate share of the social and environmental "bads" associated with neoliberal water governance reform. This is because indigenous populations, like First Nations in Canada, are subjected to overt and covert forms of institutional racism that prevent their access, in one way or another, to fundamental decision-making and policy-making processes. Indigenous peoples, like First Nations in Canada, represent a distinct form of accumulation by dispossession because they possess rich and cheap resources in the form of sinks for pollution and additions—water, air, forests, and etc.—that are desperately needed for capitalist expansion. However, without the political power to defend these resources, they are continually dispossessed from their ecological and social welfare. I have also argued that the key institution in the reasoning and prominence of neoliberal environmental governance reform has been the nation-state. In other words, neoliberalism is a form of state sponsored social and environmental inequality.

Framing environmental racial injustice as an outcome of neoliberal polices will help to engender sociological connections between nation-states and environmental and social problems of particular (groups of) citizens. In other words, by focusing on neoliberalism, environmental "problems" such as the contaminated water outbreak that occurred in Walkerton, Ontario can no longer be seen only as local problems but as a function of larger institutional networks and associated practices—as a form of social injustice and racism that violates basic human rights. I am not suggesting in any way that

environmental justice has been unsophisticated in its analysis and explanations of environmental problems. In fact, the environmental justice movement has been essential to contemporary understandings and legislation regarding the environment and its many social problems. However, I am advocating that an exploration of the networks that connect neoliberalism (state-sponsored capitalist expansion) with environmental injustices and inequalities can be a politically powerful empirical and theoretical tool for environmental justice scholars and scholarship. I have found this approach particularly useful in explaining the indigenous experience with neoliberal policy reform.

> *Seeing neoliberalism as an environmentally unjust project is important because the environmental problems produced by neoliberal governance reform are first and foremost, social problems. For First Nations' in Ontario, environmental problems associated with the provision of safe drinking water are inseparable from their economic condition. This perspective breaks, at least with early environmental justice research and theory, in that it does not focus on specific toxic waste case studies, but instead focuses on the networks of neoliberalism. In tracing neoliberalism in this manner, connections between power, institutional change, and environmental inequalities—connections between the universal and the particular—although various, complex, and often contradictory, may appear to be more sociological apparent.*

### *Environmental Justice and Human Rights—Some Concluding Thoughts*

An underlying theme that has run through this and similar research (see Gedicks 1994; 2001; Kuletz 1998; Shiva 1997; 2000) concerned with the exploitation and injustices of indigenous peoples has been the rising influence of human and Aboriginal treaty rights as a possible and powerful discourse of resistance to the hegemony of neoliberalism. Many indigenous groups, desperate to have their human rights acknowledged and then defended, have turned to the United Nations for relief and direction. The Universal Declaration of Human Rights, in a similar fashion to the

Minority Treaties that preceded WW I, are specifically designed to protect people from violence perpetrated by their own state. These legally enforceable statutes are supposed to hold nation-states accountable for human rights violations. However, van den Berghe (1992) insists that state violence has been allowed to continue because state controlling elites have been able to convince international agencies, like the United Nations, that their genocides and ethnocides are internal affairs. Nagengast (1994: 128) concurs:

> As far as the UN is concerned, maintaining the existing territorial integrity of member states trumps any nascent disposition toward self-determination on the part of self-described nations, ethnic groups, or indigenous peoples.

And as long as the UN remains committed to the sovereignty of the nation-state, they will continue to be unable to define general human rights that are distinguishable from the rights of citizens (Arendt 1968). As such those who continue to challenge the legitimacy and power of the nation-state are destined to remain its second-class citizens and second-class humans—indigenous humans. And while claims of human rights violations may embarrass nation-states into considering more sympathetic policy options, this form of resistance is likely to be short lived (if effective) and inefficacious in changing longstanding institutional racist proclivities (cf. Hardt and Negri 2001).

In fact, Native Americans argue that Indian water rights, as they view of Western water development, must be seen against a backdrop of nation building and capitalist expansion. Sam Deloria (1985), a Native American, contends that "ever since the arrival of the European on the continent, an important current in the development of the legal system has been to define Indian rights and then develop an orderly process for taking

them away" (cited in Berry 1998). Neoliberalism, then, can be seen as another way to "technically" remove water rights from indigenous peoples.

However, Al Gedicks (1994) writes that in the most recent draft of the United Nations' Universal Declaration on the Rights of Indigenous Peoples explicit provisions have been made for the right of native peoples to participate in the decision-making processes that affects their welfare and well-being. Article 17 underscored the

> [r]ight to require that states consult with indigenous peoples and with both domestic and transnational corporations prior to the commencement of any large-scale projects, particularly natural resource projects or exploitation of mineral and other subsoil resources in order to enhance the projects' benefits and to mitigate any adverse economic, social, environmental, and cultural effect.

In addition to the right of consultation, Article 17 also declared that "just and fair compensation shall be provided for any such activity or adverse consequence undertaken" (cited in Gedicks 1994: 204). This declaration doesn't deal with the issues of pollution definition and participation raised earlier but it may provide the foundations for policies of equality and emancipation that continue to evade indigenous peoples.

Indigenous treaty rights, however, may present a stronger form of resistance to neoliberalism and other injustices perpetrated against indigenous peoples. What is perhaps most important about Indian treaty rights," says Anishinabe treaty rights activist Winona LaDuke, "is the power of the treaties to clarify issues which would otherwise be consigned by nation-state apologists to the realm of 'opinion' and interpretation.' The treaties lay things out clearly, and they are matters of international law" (cited in Gedicks 1994: 190). In effect, indigenous treaty rights foist indigenous suffrage onto an international legal platform. And in so doing, are able to distinguish general human

rights for indigenous peoples from the rights afforded by nation-states to (some of) their citizens. And because the nation-states continue to withhold the legal and institutional resources that would allow indigenous peoples the control over their welfare and well-being, indigenous treaty rights may provide a strategic offensive to the power that nation-states hold over their indigenous peoples.

"One of the most far-reaching recommendations of the World Conference of Indigenous Peoples on Territory, Environment, and Development, held at Kari-Oca Villages in Brazil in May 1992," Gedicks (1994: 202) writes, was the call for a war crimes tribunal, modeled on the Nuremberg trials after World War II. The purpose of such a tribunal would be "to focus international public attention on those corporations and nation-states which impose megaprojects on native lands without obtaining consent or involving native peoples in the decision-making process" (Gedicks 1994: 203). Such failures would be considered "crimes against indigenous peoples" and those responsible would be tried in a "world tribunal within the control of indigenous peoples" (Gedicks 1994: 203). Such a tribunal Gedicks (2003) suggests may provide an effective counterweight to the environmental and social injustices waged on indigenous peoples by transnational corporations and nations-states.

Indigenous peoples, like First Nations in Canada, are increasingly becoming the target of the externalized social and environmental costs associated with neoliberal policy reform. This is because indigenous peoples still maintain ownership to vast resource streams, many still held in common, such as water, oil, diamonds, forests, and, of course, labor, to name only a few, which are desperately needed for this phase of capitalist expansion. Neoliberalism, then, is a concerted effort by those in power to disconnect,

and in some cases remove, indigenous peoples from to their resources and land. I have also illustrated that, because First Nations in Canada are considered second-class citizens, they continue to be subjected to a disproportionate amount of the social and environmental burden associated with neoliberal reform. In other words, I assert that environmental injustices inflicted on First Nations in Canada, and other indigenous peoples, are primarily the result of social inequalities and injustices.

The dominant institution that continues to withhold the legal and institutional resources that would allow indigenous peoples the control over their welfare and well-being has been, and continues to be, the modern nation-state. In fact, more often than not, they support policies that maintain this asymmetrical relationship. Through both its ideological and oppressive state apparatus (Althusser 1971), nation-states employ neoliberal (Western technoscientific) practices and policies to overtly and covertly discriminate against indigenous peoples. In other words, indigenous peoples continue to be excluded from participating in the citizenship of their nation-state. As such First Nations, and other indigenous peoples, are increasingly seeking assistance of international human and treaty rights organizations with which to expose and resist the practices and polices of environmental justice and racism at the hands of nation-state. These *social sovereignty movements* have the potential to link questions of environmental and social injustice with issues of equity, rights, and self-determination for indigenous peoples. For it is in elucidating this state sponsored system of domination and stratification, particularly against its indigenous peoples, that the question of the legitimacy of the state, and the order it institutes, becomes a real one that can no longer be ignored or seen as a "natural" social phenomenon.

## Appendices

## *Appendix 1*

**The Interview Instrument**

Below is a general list of questions. Please note that the questions are in no particular order.

- Tell me a little about your background and education?
- What made you get involved in water quality issues?
- Where do you get your drinking water?
- What is the source of your water?
- What do you think of your water?
- Have you had problems with your water?
- What is going on with Canada's public drinking water?
- What do think about legislation used to manage public water?
- What do think about legislation used to monitor public water?
- What do you think about the Federal Government's guidelines approach for protecting water quality
- What role should the provinces have?
- What role should the municipalities have?
- Does science and/or current testing practices give us a good indication of the health and welfare of watersheds/water quality?
- What role should science play?
- Is privatization in the public's best interest?
- What about issues of accountability?
- What are some alternatives ways to manage/provide/test public water supply.

*Appendix II*

**First Level Codes**

100 plus FNs plants in Ontario, MOHAMMED KARIN, p. 3
350 homes on system, WF&AR, p. 2
80% of people on reserve buy water, JJ & ES, p. 3
A staggering number of rural and small communities that are not complying to the new regulations, ADELE HURLEY, p. 3
Aboriginal and treaty rights to fish, MARTIN POWLESS, p. 10
Aboriginal title to lands underwater, DEAN JACOBS, p. 13
Aboriginal water works association, DEREK KAMINGA, p.7
Abuses and mistrust by FNs, LANA WILLIAMS, p. 4
Access to resources is political, WF&AR, p. 10
Accountability of spending of FNs dollars by INAC, JJ & ES, p. 7
Accountability, LANA WILLIAMS, p. 3
Accounting for water supply confusing, DUNCAN ELLISON, p. 3
Accreditation Board of Certification standard, DEREK KAMINGA, p.7
Accredited labs listed on MOE website, GP & MVD, p. 1
Adding watermains and not looking at the system as a whole, WF&AR, p. 2
After Walkerton everything seemed to be kicked into high gear, LANA WILLIAMS, p. 4
After Walkerton government is interested in drinking water, DEREK KAMINGA, p.11
After Walkerton government started to look at serious problems on FNs, WF&AR, p. 2
After Walkerton MOE created a division of chief water inspector, MOHAMMED KARIN, p. 8
After Walkerton more monitoring, MOHAMMED KARIN, p. 3
After Walkerton new certification and training requirements, WF&AR, p. 5
After Walkerton taking more samples, WF&AR, p. 3
After Walkerton there has been a focus on filtration, WF&AR, p. 4
After Walkerton we are in a semi-political crisis, DUNCAN ELLISON, p. 2
After Walkerton, INAC development this coordinated committee, LANA WILLIAMS, p. 11
After Walkerton, new water awareness, MOHAMMED KARIN, p. 2
After Walkerton, required to make information available to public, MOHAMMED KARIN, p. 3
After Walkerton, wasting a lot of money on studies and testing, LANA WILLIAMS, p. 5
Agricultural fecal wastes, WILL ROBERTSON, p. 6
All FNs are different, MOHAMMED KARIN, p. 4
All FNs operate differently, MOHAMMED KARIN, p. 4
All provinces are now requiring more monitoring, DUNCAN ELLISON, p. 4
All services affected by new regulations, DUNCAN ELLISON, p. 4
Alternative systems, WILL ROBERTSON, p. 6
Alternatives for delivery of drinking water, WILL ROBERTSON, p. 3

Amalgamating of municipalities, DEREK KAMINGA, p.12
Amalgamation of municipalities, MARTIN POWLESS, p. 3
Annexation with London, MARTIN POWLESS, p. 3
Applied practical research, DEAN JACOBS, p. 2
arrogant, MARTIN POWLESS, p. 13
Asserting aboriginal treaty rights, MARTIN POWLESS, p. 11
Attitudes have to change before meaningful participation can happen, MARTIN POWLESS, p. 13
AWWAO funding, LANA WILLIAMS, p. 2
AWWAO is a resource centre for FNs' operators, LANA WILLIAMS, p. 2
AWWAO provides informatio, LANA WILLIAMS, p. 2
AWWAO, LANA WILLIAMS, p. 1
Before Walkerton government had no interest in drinking water, DEREK KAMINGA, p.11
Before Walkerton no policing or enforcement of the regulations, CLAYBOURNE DOCKSTEDER, p. 6
Before Walkerton plant operator were relaxed, CLAYBOURNE DOCKSTEDER, p. 5
Before Walkerton we could take as many samples as we wanted, now we have to cut back because of cost, WF&AR, p. 4
Before Walkerton, no accreditation or way of proving competency, GP & MVD, p. 7
Best available technology, DEAN JACOBS, p. 9
Better management of funds, MOHAMMED KARIN, p. 6
Better water treatment will help FNs communities, WF&AR, p. 14
Biggest constraint is lack of funding, HARRY DOXTATOR, p. 7
Blockades by FNs, DEAN JACOBS, p. 4
Boil water advisories, LANA WILLIAMS, p. 7
Bottled water revenues exceed municipal water supply systems, DUNCAN ELLISON, p. 3
Broad scope needed in the drinking water act, GP & MVD, p. 3
Building capacity costs money, DEREK KAMINGA, p.9
Building capacity, DEREK KAMINGA, p.9
Burden of proof on FNs, MARTIN POWLESS, p. 12
Burn out, CLAYBOURNE DOCKSTEDER, p. 14
Canada Public Health Act, WILL ROBERTSON, p. 8
Canadian Association of Environmental and Analytical Laboratories, WILL ROBERTSON, p. 5
Canadian guideline for drinking water quality, DUNCAN ELLISON, p. 2
Canadians not used to publicly owned and operated facilities, ADELE HURLEY, p. 5
Cannot approach FNs like they are another municipality, LANA WILLIAMS, p. 5
Careless funding, CLAYBOURNE DOCKSTEDER, p. 11
Cattle farming causing cryptosporidium in water, GP & MVD, p. 11
CERP, MARTIN POWLESS, p. 11
Certain groups of people more susceptible to health risks from bad water, GP & MVD, p. 11
Certification to licensing, CLAYBOURNE DOCKSTEDER, p. 2
Certification/licensing doesn't mean anything to FN operators, LANA WILLIAMS, p. 5

Changing ministers of the environment, MARTIN POWLESS, p. 5
Chemical companies have been allowed to pollute both legally and illegally, DEAN JACOBS, p. 3
Chemical contamination calculation, WILL ROBERTSON, p. 9
Chemical plants upriver are our major concern, JJ & ES, p. 2
Chief and council cannot afford to pay any more for operator wages, WF&AR, p. 4
Chiefs of Ontario lack resources, DEREK KAMINGA, p.8
Chlorination contact time insufficient, WF&AR, p. 6
Chlorine contact time, GP & MVD, p. 10
City of Hamilton is a poster case on how not to privatize, ADELE HURLEY, p. 1
Civil engineering and consulting firms, DUNCAN ELLISON, p. 7
Co management agreements, MARTIN POWLESS, p. 13
Coliform contamination, GP & MVD, p. 24
Combined sewer outflows, MARTIN POWLESS, p. 5
Commercial fishing shut down, DEAN JACOBS, p. 3
Community based research group, DEAN JACOBS, p. 2
Community education, CLAYBOURNE DOCKSTEDER, p. 16
Community Employment, HARRY DOXTATOR, p. 2
Community spirit, DEAN JACOBS, p. 12
Complexity and discretion of operator's work, WF&AR, p. 5
Complexity of WTP operation, DEREK KAMINGA, p.5
Concern for future generations, HARRY DOXTATOR, p. 9
Concern for future of community, HARRY DOXTATOR, p. 9
Concerns about aquifer regeneration, WF&AR, p. 7
Confusing/changing regulations, CLAYBOURNE DOCKSTEDER, p. 4
Consequences of new regulations for FNS, CLAYBOURNE DOCKSTEDER, p. 5
Conservation Authorities siding with London's plans for the expansion of SSSTP, MARTIN POWLESS, p. 12
Consultants design, build and operate water systems, DUNCAN ELLISON, p. 4
Contaminated water plus bio accumulation through the food chain, DEAN JACOBS, p. 4
Contamination from landfill, MARTIN POWLESS, p. 8
Contamination spills in the river, DEAN JACOBS, p. 8
Cooperative efforts with other FNs, HARRY DOXTATOR, p. 10
Cooperative efforts with other FNs, HARRY DOXTATOR, p. 10
Cost of new plant about 4 million dollars, JJ & ES, p. 2
Cost of new sampling regime, WF&AR, p. 3
Cost of testing for landfill leachate prohibitive, MARTIN POWLESS, p. 8
Cost of treatment plants, CLAYBOURNE DOCKSTEDER, p. 14
Cost to supply alternative source, WF&AR, p. 15
Costs of contracts, WF&AR, p. 12
Costs of monitoring water quality, DUNCAN ELLISON, p. 4
Costs of new regulations, CLAYBOURNE DOCKSTEDER, p. 4
Costs of new regulations, HARRY DOXTATOR, p. 4
Cover up by governments, LANA WILLIAMS, p. 3
Cradle to grave regulatory programs, DUNCAN ELLISON, p. 6
Crown corporations, DUNCAN ELLISON, p. 4

Cumulative environmental effects of pollution plants not addressed, MARTIN POWLESS, p. 3
Current Ontario drinking water act is a piecemeal process, GP & MVD, p. 3
Currently the regulations do not flow very well, GP & MVD, p. 3
CWWWA concerned with impacts on municipalities' water and waste water systems, DUNCAN ELLISON, p. 1
CWWWA liaison between federal agencies and municipalities, DUNCAN ELLISON, p. 1
CWWWA submit comments to try to influence water policy, DUNCAN ELLISON, p. 1
Declining fish populations, JJ & ES, p. 6
Definite split between responsibilities and the federal government, WILL ROBERTSON, p. 2
Designing alternative systems, DUNCAN ELLISON, p. 11
Devolution of provincial responsibility through regulations, HARRY DOXTATOR, p. 8
DFO and INAC reluctant to participate in OMB hearing and London SSSTP development, MARTIN POWLESS, p. 7
DFO deferring to Conservation Authority, MARTIN POWLESS, p. 12
DFO will not act outside of its jurisdiction, MARTIN POWLESS, p. 6
Different treatment technologies, DUNCAN ELLISON, p. 12
Different views amongst FNs on how to tackle pollution, DEAN JACOBS, p. 10
Difficult to make sure that the provision of drinking water remains a health issue, WILL ROBERTSON, p. 10
Difficulty accessing federal government funding, HARRY DOXTATOR, p. 7
Difficulty attracting business and industry to FNs lands, WF&AR, p. 15
Disappointed with MOE, JJ & ES, p. 5
Dispute resolution hearings, DEAN JACOBS, p. 5
Do we all need the same quality water, DUNCAN ELLISON, p. 10
Downloading programs unfair, WILL ROBERTSON, p. 4
Drainage problems on FNs lands, HARRY DOXTATOR, p. 9
Drinking water guidelines based on best available science, WILL ROBERTSON, p. 1
Drinking water is a health issue not an environmental issue, WILL ROBERTSON, p. 10
Drinking water is vital to FNs, LANA WILLIAMS, p. 4
Drinking water testing not profitable, GP & MVD, p. 1
Drinking water treatment devices, WILL ROBERTSON, p. 7
Drought, WF&AR, p. 7
E. coli results the day after is a huge health risk, GP & MVD, p. 10
Economic benefit in the community long term, DEREK KAMINGA, p.9
Economic driving the decision making process of SSSTP, MARTIN POWLESS, p. 4
Economic opportunities, DEREK KAMINGA, p.8
Economics & development, HARRY DOXTATOR, p. 4
Economics and farming, GP & MVD, p. 12
Economics/industry, DEAN JACOBS, p. 7
Economies of scale in water supply system, DUNCAN ELLISON, p. 4
Educate community on importance of water, LANA WILLIAMS, p. 10
Educate operators, MOHAMMED KARIN, p. 5
Educate public, WILL ROBERTSON, p. 7

Education of new regulations, HARRY DOXTATOR, p. 4
Education regarding conservation, LANA WILLIAMS, p. 4
Education, CLAYBOURNE DOCKSTEDER, p. 1
Electromagnetic fields, MARTIN POWLESS, p. 9
Employment concerns, CLAYBOURNE DOCKSTEDER, p. 15
Enforceable bylaws for FNs, DEREK KAMINGA, p.8
Environmental assessment of 15 high risk systems, DEREK KAMINGA, p.3
Environmental assessment required on FN Lands, CLAYBOURNE DOCKSTEDER, p. 13
Environmental bill of rights, GP & MVD, p. 15
Environmental protection, DEAN JACOBS, p. 2
Environmentally sound practices, DEAN JACOBS, p. 8
Equal say in regulatory regimes, DEAN JACOBS, p. 13
Equity through the courts, advocacy or demonstration, DEAN JACOBS, p. 13
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*Appendix III*

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Accreditation
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Amalgamating of municipalities
Before Walkerton
Building capacity
Devolution of authority
Difference and disparity between FNs community
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INAC
Lack of education
Lack of funding
Lack of trust
Municipal governments
New regulations & monitoring
Noncompliance with new regulations
OAWWA
OCWA
OFNTSC
Piecemeal planning
Privatization
Rationalization of need
Risk assessment
Source protection
SSSTP, London and OMBH

Technology
Traditional knowledge
Upstream pollution sources
Water and FNs communities
Watershed planning
Weather, global warming

## *Appendix IV*

**First Level Codes**

1. First Nations Category
2. Institutional Change Category
3. Consequences Category

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