Sarah Marie Wiebe

EVERYDAY EXPOSURE

Indigenous Mobilization and Environmental Justice in Canada's Chemical Valley

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Figures and Tables

Figures

Tables

Foreword
A Canadian Tragedy

JAMES TULLY

Every once in a while, an outstanding work of scholarship comes along that transforms the way a seemingly intractable injustice is seen and, in so doing, also transforms the way it should be approached and addressed by all concerned. Such a work is *Everyday Exposure: Indigenous Mobilization and Environmental Justice in Canada's Chemical Valley* by Sarah Marie Wiebe. The injustice is the systemic social and ecological suffering of Indigenous peoples and their communities within the jurisdictions and policies of the Canadian federation. She shows how this unjust system persists and deepens despite well-meaning attempts to address it in what is perhaps the worst case: the horrendous "slow violence" of health and ecological suffering of the Aamjiwnaang First Nation surrounded by Chemical Valley. In meticulous detail, she delineates the complex system or assemblage of private and public law, power relations, different types of knowledge, ambiguous jurisdictions, history of treaty making, geopolitical interests, consultations, deliberations, partnerships, protests, reviews, and differentially situated actors in which policies are developed and applied. With this multilayered policy assemblage in clear view, she shows precisely how it repeatedly fails to generate and enact policies that effectively address either the unregulated production of petrochemical and polymer toxins and pollutants that devastate the lives and homeland of Aamjiwnaang citizens or the ongoing intergenerational human harms and ecological devastation to Aamjiwnaang citizens and their home.

Sarah Marie Wiebe developed a unique method to carry out this research. She draws on the best critical literature in a wide range of fields: policy studies,

Indigenous scholarship, political theory and science, ecology, health studies, feminism, intersectionality, governmentality, decolonization, reproductive justice, and most important, in-depth interviewing and engagement. She brings the useful insights of these diverse approaches together in a comprehensive method and fashions them to fit this specific case. However, her objective is not only to bring to light this made-in-Canada tragedy and to provide a method for studying it in other cases; her objective is also to show us that there is a way to transform this unjust system into a just one.

Through her "creative engagement" with the Aamjiwnaang people, Sarah Marie Wiebe learned that a way of transformation already exists here and now in the daily lived experience of Aamjiwnaang citizens taking care of themselves and their home. At the heart of this alternative, place-based, relational, and embodied way of being in the world with human and more-than-human relatives is the practical knowledge that humans acquire primarily through their sensuous and perceptual participation with the living earth they inhabit – that is, knowledge of the anthropogenic ecosystems in which humans and the earth's ecosystems co-evolve. And the basic mode of participation is gift-gratitude-reciprocity relationships of interdependency and mutual responsibility with the living earth. The animate earth takes care of us, and we in reciprocity take care of "it" – "all our relatives."

This Indigenous (Anishinaabe/Anishinabek) way of being is learned through practice and stories. It is mobilized in the ecological citizenship practices through which Aamjiwnaang citizens attempt to take care of their contaminated bodies and home. Yet it is misunderstood, discredited, and marginalized or co-opted from the perspective of the dominant nonrelational forms of being and knowing of the policy assemblage. From this perspective, as Sarah Marie Wiebe documents, what happens within Chemical Valley is said to be unrelated to what happens without. There are no "offsite impacts." Scientific research has not shown a verifiable causal relation between health and environment, and the Aamjiwnaang methods of gathering data are said to be unreliable. If there are unusual health problems in Aamjiwnaang, they are said to be due to "lifestyle choices," and biomedical knowledge treats the diseased bodies in isolation from the environment. In this atomistic world, no one has responsibilities that derive reciprocally from relationships of interdependency and interbeing because no such relationships exist. Even if some responsibility is shown to be due, given the structure of corporate law and the ambiguity of jurisdictions in Canadian federalism, it is almost always possible to shift the responsibility to someone else or, if this fails, to shelve the report, commission another study, or prolong

the response indefinitely. And so on, time after time. It is a vicious social system that generates and rewards an ethos of irresponsibility.

The most important and challenging argument of *Everyday Exposure* is that this tragedy can be overcome. The key is to base policy on Aamjiwnaang interdependent ways of being and knowing in the first instance – that is, on the perceptual relationship of the senses and nervous system of the human body with the living earth and on the epistemology and practices of reciprocal responsibilities that follow from it. This is what she calls "sensing policy." This would involve a radical decolonization and transformation not only of policy but also of the whole policy assemblage of Canadian federalism. Indigenous people cannot achieve this outcome on their own, as this case study shows. It requires the mutual aid of non-Indigenous policy communities and partners throughout the assemblage. Securing this aid is not impossible. As Sarah Marie Wiebe points out, the embodied, place-based, relational, and responsible way of Aamjiwnaang citizens resonates with recent approaches in holistic health studies, deep ecology, eco-phenomenology and eco-feminism, ethnobotany, the Gaia hypothesis in the life sciences, ecological citizenship, scientific responses to global pollution, climate change and the Anthropocene, the shift from linear to cyclical cradle-to-cradle economics, and community-based lifeways. These place-based forms of research, participation, and engaged policy making are slowly finding their way into the ways that local communities around the world self-organize and coordinate with policy communities, universities, and governments.

As difficult and challenging as this transformation appears, the point is surely that there is no alternative. The policy assemblage that is devastating the Aamjiwnaang people and their ecosystems is part of the Canadian federal policy assemblages that are devastating other Indigenous communities and, more slowly yet just as inexorably, non-Indigenous communities. No one is offsite or not responsible. The choice is change or self-destruction. This is the deep truth of the relational view that Sarah Marie Wiebe learned from Aamjiwnaang citizens she worked with and that she explains so clearly in this remarkable book. The rest is up to us.

Preface

Fighting for life, a large eastern cottonwood digs its roots deep into the earth. Branches outstretched, arms spread wide, trunk standing tall. Anchored. Confident. Resilient. Day and night, it breathes. Soaking in sunlight, giving back to the atmosphere. Dark reactions take place. Assimilating carbon into organic compounds, the tree exhales. Humans inhale. A reciprocal human–more-than-human dance ensues. Come spring, its veins sprout hope, transporting water and nutrients throughout the core of its being and into the air.

Located a stone's throw from the Aamjiwnaaang First Nation's band office, the steadfast tree holds its ground. Adjacent to the community baseball field – a periodic source of pleasure and play – the tree stands alone. It rests metres away from the densest concentration of pollution in the country and quite possibly the world. Only a barbed wire fence separates it from the noxious neighbours across the street. Vast bulbous plumes of chemical effluent burst into the air, over the highway, and onto the community, engulfing the tree. This image is an acute reminder of how life becomes compromised. Like the eastern cottonwood, citizens living here survive. Struggling to thrive, they fight back while defending their land, their culture, and their home.

Like this tree, stories have roots. As numerous Anishinabek scholars emphasize, stories are rooted in "both the origins and the imaginings of what it means to be a participant in an ever-changing and vibrant culture in humanity" (J. Borrows 2013, xii; Doerfler, Sinclair, and Stark 2013; L. Simpson 2011). Stories provide a methodological and theoretical approach to Anishinabek scholarship. They embody "ideas and systems that form the basis for law, values and community"; thus they are "rich and complex creations that allow for the growth and vitality of diverse and disparate ways of understanding the world" (J. Borrows 2013, xii). Stories haunt and heal. As Lindsay Borrows (n.d., 4) states, "when governments make decisions without stories, people suffer." This book tells the story of a community fighting for justice in an environmentally compromised setting, which impacts residents' entire way of life. From my vantage point as a privileged academic who is committed to creative, intersectional policy and to decolonizing scholarship, I tell this story through images, poetry, voices, and documents, and I express my gratitude with the greatest respect to those who generously shared their knowledge with me. As a collection of stories that travel through time, this book aims to engage diverse knowledges, incite critical thought, and inspire reflection. Creating space for dialogue about the tough matter of environmental and reproductive injustice in Canada's Chemical Valley is an ongoing concern. Indeed, this story is not over yet. Looking backward helps us to understand where we've come from so that we may better understand just how far we have yet to go.

A benzene leak at the neighbouring industrial facility Novacor sparked a partial evacuation of the Aamjiwnaang First Nation Reserve during the summer of 1992. It included Tashmoo Avenue, home to the reserve band office, adjacent to the Chippewa Day Care Centre. Police and firefighters remained on standby as local officials issued an advisory and rerouted a school bus full of children headed for home. Neither plant officials nor the Ontario Ministry of Environment called the community daycare. Novacor spokesman Frank Barber noted that the "monitors located on the property line didn't detect benzene vapors leaving the site" (Mathewson 1992). In other words, there was "no offsite impact" beyond Novacor's fence line. Only after daycare workers noticed heavy, stinking, steaming air spewing toward their community were seventeen resting children whisked away to another location on the reserve. With financial support from industry, the daycare has since been relocated, although the band office, resource centre, and recreational facilities remain in place. Living with the potential for emergency has become a permanent feature of this community's daily landscape.

Citizens in Aamjiwnaang live in a perpetual state of alert. The following year, in 1993, a Suncor toluene release highlighted communication breakdown between industry, citizens, and government officials. That year, lightning struck a neighbouring chemical holding tank, simultaneously striking fear in the minds of local residents about their vitality. At 4:00 a.m. the local St. Clair High School became a safe haven for some evacuated residents, whereas others had been mistakenly sent home early, prior to an "all-clear" declaration

(McCaffery 1993). Chief Phil Maness demanded answers as Sarnia's mayor, Mike Bradley, expressed concern about the apparent communication gap between the plants, emergency planners, radio, and Aamjiwnaang residents (ibid.). In response, Police Chief Murray McMaster claimed that "uncoordinated good intentions created confusion during the Suncor emergency evacuation" (Bowen 1994). The police report called for better emergency management and cooperation between stakeholders in the Chemical Valley area. Sarnia's emergency planning coordinator, Bruce Middleton, acknowledged his concern about the delay in reaching the radio stations and said that it was likely due to over-committed personnel (ibid.). As a release that extended beyond plant boundaries, this Code 6 incident generated calls for better offsite planning.[1]

Public safety response beyond the fence line falls heavily upon the shoulders of Aamjiwnaang citizens. Police Chief McMaster has argued that, as part of a municipal primary control group comprising police, fire, and civic officials, a point person must be designated by the band to direct the community whenever an emergency affects the reserve (Bowen 1994). He recommends that residents must act responsibly to spread the word according to established protocols in the event of evacuation (ibid.). During Suncor's release, the siren system failed to alert residents due to a malfunction caused by a dead battery. Mayor Bradley's response reiterated the importance of regular siren testing (ibid.). Now, each Monday at 12:30 p.m., sirens wail in Chemical Valley as Aamjiwnaang citizens safeguard their land and life.

Fast-forward to over a decade later when children, staff, and supporters of the Aamjiwnaang Binoojiinyag Kino Maagewgamgoons Day Care Centre took to the streets on Wednesday, January 16, 2013, to claim their right to a cleaner environment.[2] At an Idle No More demonstration,[3] concerned citizens demanded better communication between industry officials and local residents. The previous Friday, a mercaptan leak from an adjacent Shell refinery had caused a stink, resulting in road closures, renewed rerouting of school busses, and a shelter-in-place warning. Alert sirens, which enframe the reserve, had once again failed to sound. Reports of nausea, headaches, sore throats, and swollen eyes had surfaced over the weekend. On Wednesday citizens marched from the daycare toward the band cemetery along the St. Clair Parkway at the reserve's northwestern perimeter. Whether or not this community can find shelter in this place is a matter of continued dispute.[4] The normalization of scenarios like these deeply affects the community, heavily impacting human and more-than-human life.

Acknowledgments

While writing this book, the spiral of my life took me back and forth between Coast Salish, Algonquin, and Anishinabek territories. In June 2015, as I finalized my reflections, at least for the time being, Canada's Truth and Reconciliation Commission released its final report. Thinking about Indigenous-Canadian relationships, mutual respect, and reconciliation has led me to reflect upon the places and people that informed and inspired my intellectual growth as a scholar. Many fuelled the pages to follow: family, friends, my academic mentors, the Aamjiwnaang Environment and Education Departments, Green Teens, and the Kiijig Collective. I could not have asked for more engaging and academically rigorous mentors than Michael Orsini, Dayna Scott, and Martin Papillon. Kathryn Trevenen and Andrew Biros's voracious engagement with this manuscript also significantly enhanced these pages as they went to press. It was a pleasure to learn about the world of bio-monitoring and environmental science from Nil Basu and his research team. Furthermore, I am especially grateful to Ottawa- and Lambton County–based archivists Jason Bennett, Dana Thorne, and Luke Stempien. Their assistance from a distance significantly contributed to the book's historical depth.

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Sarnia
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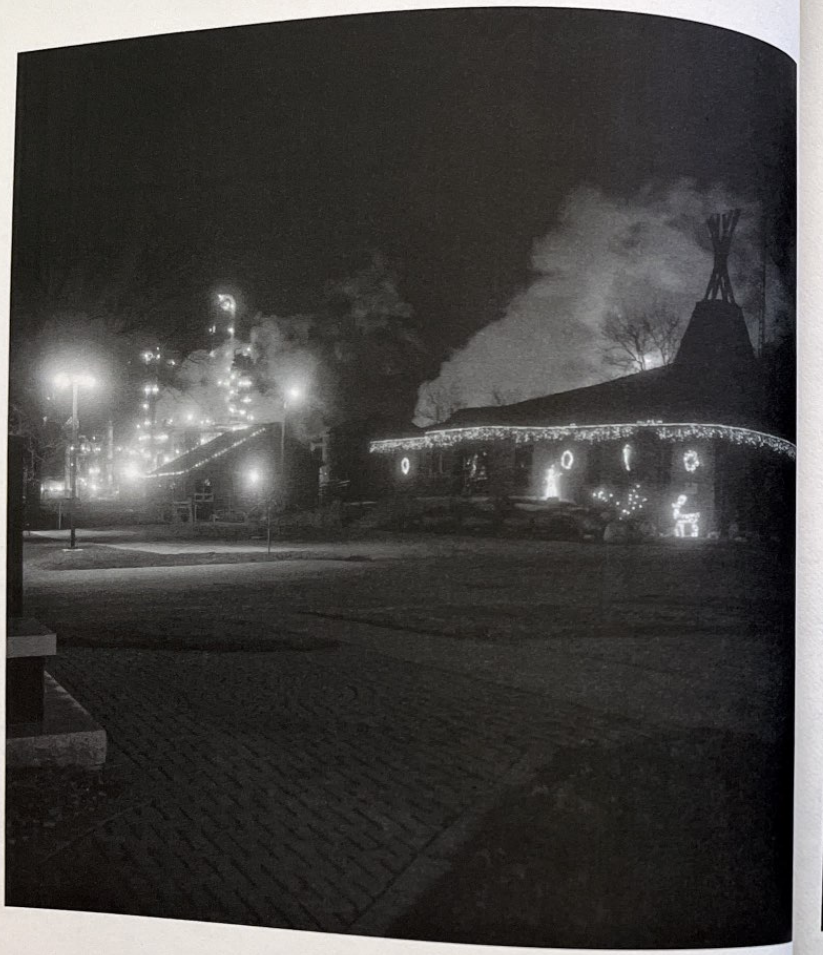
5 INTERCHANGES



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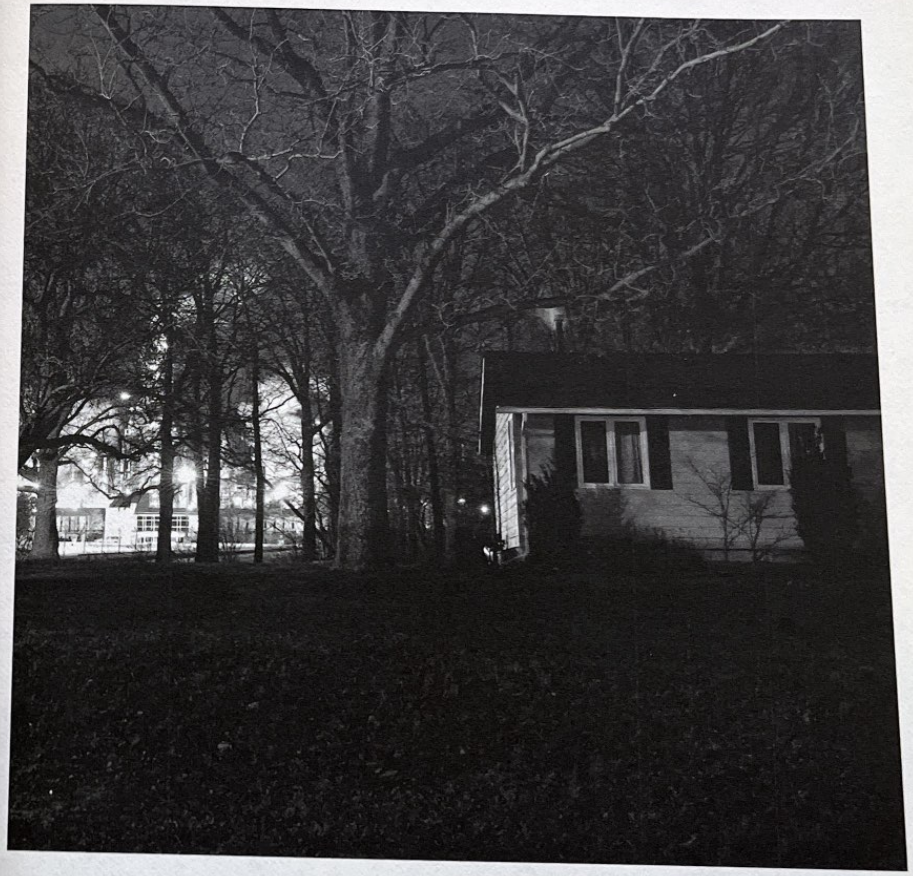

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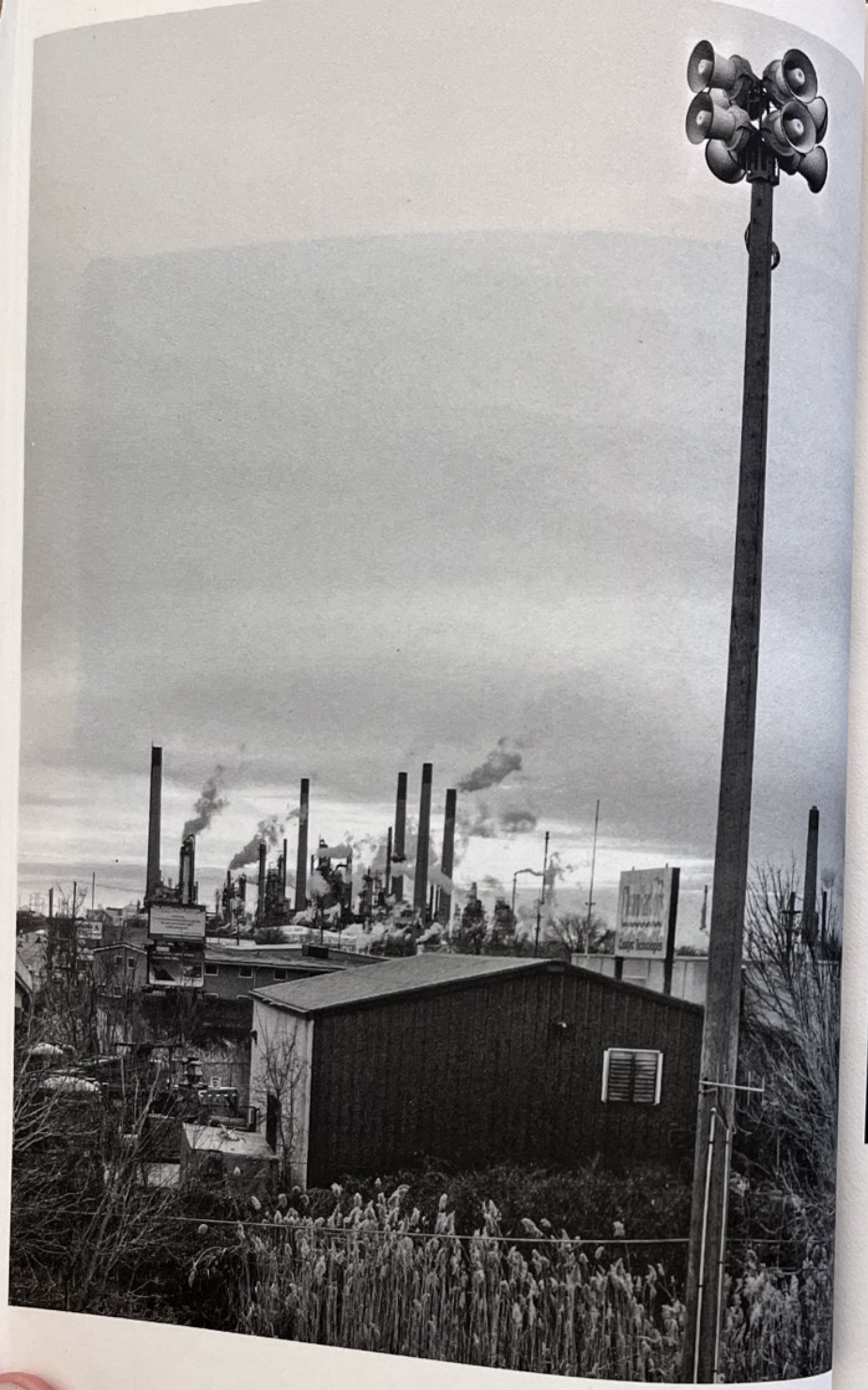

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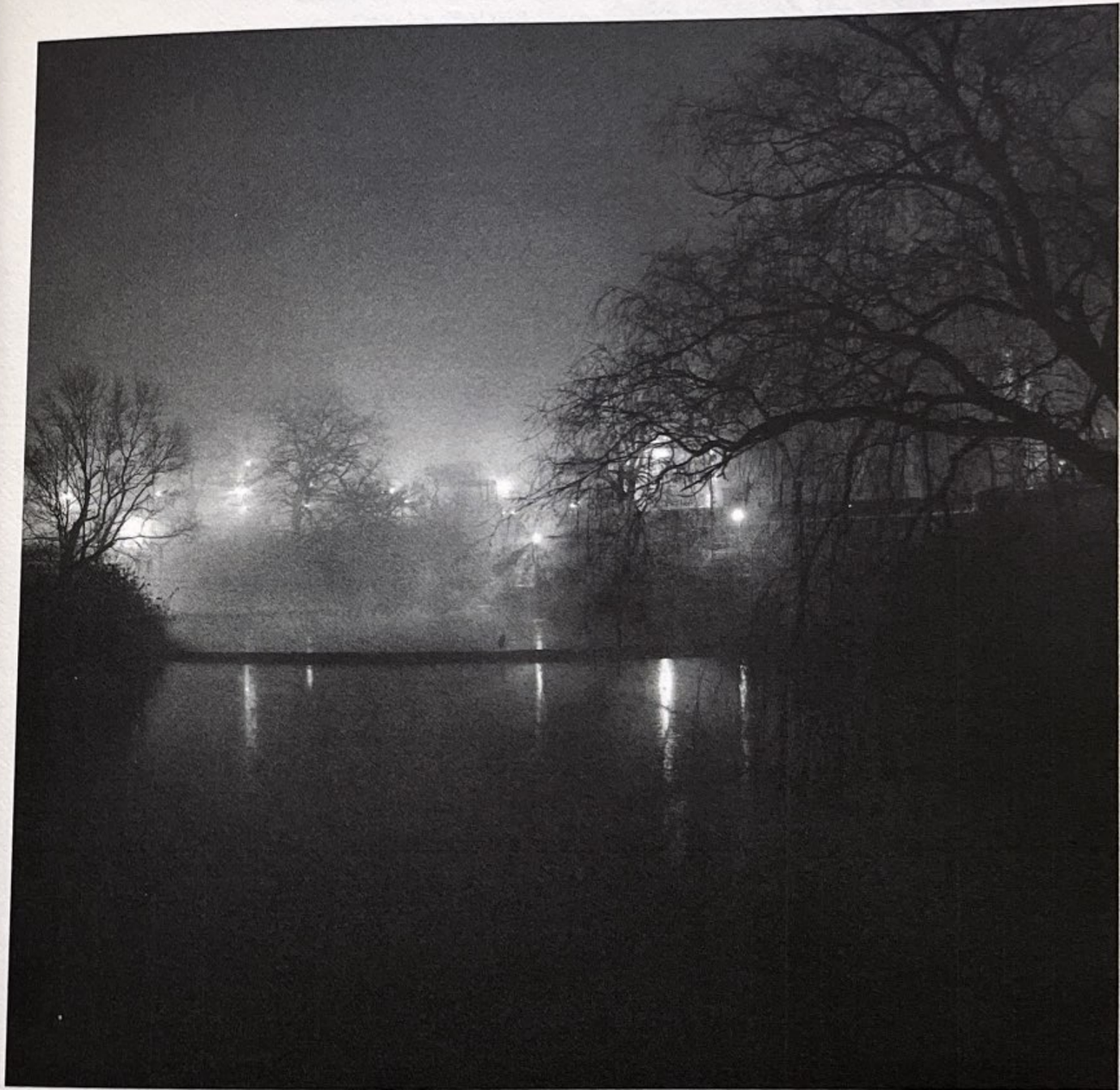
Atmosphere

Home, bittersweet home

Arriving in Sarnia at night, you are greeted by an orange glow that extends its embrace. It hovers permanently over the city. Visible from miles away, it guides you forward like the Northern Star. As you approach, it spreads beyond the pines, beyond the fields, over the road. You gaze upward, wondering when you will see its edge. It feels like you are entering a twilight zone. You are then met with a bouquet of strange scents: rotten eggs, decaying onions, burning gasoline, and many more that don't compare to anything you've ever smelled before.

Such a grisly welcome would turn away most visitors. But, in the heart of Canada's Chemical Valley – an industrial complex housing the country's densest concentration of petrochemical plants – rests a home and a haven for over 850 Anishinabek people who inhabit a patch of land measuring 12.57 square kilometres where trees still reign tall and where the occasional deer or wild turkey still roams freely in the bush. By continuously safeguarding this territory, the Aamjiwnaang First Nation prevents it from suffering a dismal fate, one where its value would rest in the money that can be made from its exploitation rather than in the lives it spawns.

Although a refuge, their surroundings also act as a constant reminder of what they've lost, of the atrocities perpetrated against Indigenous communities in the country, and of the enduring injustices they come up against. Behind each towering smokestack is a legacy of scorn; each wailing siren acts as an omen, warning us all that we continue to disfigure and destroy the beautiful yet haunting landscape that Aamjiwnaang residents call both prison and home.



CAPTIONS

1 Located at the confluence of the St. Clair River and the Great Lakes along the St. Lawrence Seaway, Sarnia quickly became an industrial hub. Every major multinational petrochemical company impresses itself upon the landscape with a facility in the area. Their activities are responsible for the orange glow that can be seen from afar, welcoming you to Chemical Valley. December 2010.

2 Approximately 60 percent of releases of air pollutants by the industries located in Sarnia happen within five kilometres of Aamjiwnaang First Nation. Ineos Nova and Lanxess, respectively specializing in polystyrene and polymer products, are located across the road from the band office, the playground, and a community resource centre. January 2012.

3 On the Canadian side of the Canada-US border, more than forty large industrial and petrochemical facilities surround Aamjiwnaang. They spew out more greenhouse gases than the province of British Columbia and more toxic air pollutants than Manitoba, New Brunswick, or Saskatchewan. The nighttime light is courtesy of Suncor. December 2010.

4 The sirens around Chemical Valley remind people that the release of unwanted and dangerous chemicals into the air, water, or ground could occur at any given time. However, many locals consider this system less than reliable since it provides little information as to how one should react. December 2010.

5 There is no place to rest in peace in Aamjiwnaang. Even its cemetery lies in the shadow of Suncor's facilities. Constant mechanical humming is heard in the background. Every Monday at 12:30 p.m., the test sirens wail. Given its location on the other side of a mere chain-link fence, it further infiltrates this place of meditation. January 2012.

6 Talfourd Creek runs through the Aamjiwnaang First Nation Reserve and alongside the Suncor facilities until it reaches the St. Clair River. PCB, nickel, cadmium, arsenic, and lead contamination render it dangerous for humans and wildlife alike. What was once a source of pleasure – bathing, food, fishing – is now a source of constant worry. January 2015.

Photos and text by Laurence Butet-Roch

1

Skeletons in the Closet
Citizen Wounding and the Biopolitics of Injustice

Home is both refuge and prison for citizens of Canada's Chemical Valley. There, human and more-than-human residents dwell on a threshold between a state of normalcy and emergency. Chemical Valley is a heavy industrial zone, located in southwestern Ontario and responsible for approximately 40 percent of Canada's chemical manufacturing, with sixty-two plants on both sides of the Canada-US border. It is Ontario's worst air pollution hotspot (Ecojustice 2007a; Scott 2008). Chemicals from Aamjiwnaang's industrial neighbours include benzene, hydrogen sulfide, and sulphur dioxide. In Chemical Valley, individuals must be prepared for hazardous incidents at any given time. In general, alerts occur in the case of a chemical spill, fire, explosion, nuclear emergency, extreme weather event, or transportation accident. In Aamjiwnaang, such occurrences have become the norm.

Because warnings can be heard over loudspeakers, megaphones, and sirens, Chemical Valley is an audible place, which deeply affects those who live there. Noise pollution bears upon those living in this "sacrifice zone" (Lerner 2010). Each Monday at 12:30 p.m., the test sirens sound. These relics of the Second World War remind citizens of the constant invasion of their air by the neighbouring chemical facilities. Alongside wailing sirens, bodies clench as individuals jump for their radios, phones, and televisions to see whether there is any imminent threat. For some, this is little more than the everyday scene, which has destroyed the previous serenity of this place; they barely flinch. In such a seemingly post-apocalyptic environment, sounds mask the silence with which invisible chemicals penetrate bodies.

On June 8, 2011, community members gathered and laid yet another cancer-stricken loved one to rest in their cemetery. The graveyard – whose perimeter is surrounded on all sides by a chain-link fence, smokestacks, junkyards, somewhat clandestine surveillance cameras, and conciliatory cedar trees – looks like an island, displaced from the remaining reserve territory. During the ceremony, as is customary, members gathered around to sing, dance, and drum. That day, the neighbouring industrial vibrations accompanied the beat of the drum as the corpse was lowered beneath the earth's surface, drowning out the audibility of ceremonial song. Although one might expect that being laid to rest is a peaceful procedure, here it is anything but, as industrial flaring overbears ceremonial reverberations. Not only is Chemical Valley heard, but it is also a stunning aesthetic masterpiece. Sirens, stacks, and steeples dominate the airspace and ensconce the Aamjiwnaang First Nation.

According to Anishinabek beliefs, the world we live in is not "the real" world.[1] It is a mirror, reflecting what is to come in the spirit world. As bodies enter the spirit world in Aamjiwnaang, the earth perpetually vibrates in response to what is felt above and below the ground. Elders state that the spirits are trapped; they haunt this place, unable to reach the world they are destined for. The greatest grievance here is that not only do Indigenous peoples in Canada experience the ongoing effects of the tragedies of colonization and the legacy of the residential schools, but now their spirits also remain captured between past and future, which affects the ability of Indigenous peoples to survive and thrive in the present. As the Royal Commission on Aboriginal Peoples (RCAP 1996) has emphasized, many wish to keep such secrets – "ghosts of the past" – hidden. The haunting semblance of these ghosts lingers today. Although all is not lost, the residential schools were but one nail in the coffin marking what has been lost in this community. With colonization came warfare, epidemics, and the reduction of a vast population to the mere "sample size" remaining today. The Aamjiwnaang First Nation graveyard is the ultimate symbol of Canadian entrapment, a living trace of our collective history and reflective of all that we would like to store away beyond immediate vision and out of mind: our skeletons in the closet.

Sensing Policy

To breathe life into Canadian policy, a site-specific, experiential, and place-based account of everyday struggles for environmental reproductive justice is needed. According to the US Environmental Protection Agency (2011), environmental justice "is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies." With origins in the US African-American, Hispanic, and Indigenous communities, the environmental justice movement in the United States is well documented (Bryant 1995; Bullard 1993; Soja 1996, 2010). Much of this movement is grounded within individual and community experiences in particular places as they seek environmental justice. Although there have been some studies in Canada, the discourse of "environmental justice" and substantive policy making has been minimal. Nevertheless, some academics are actively engaged with research on environmental justice (Clarke and Agyeman 2011; Agyeman et al. 2009; Haluza-DeLay 2007; McGregor 2009; Scott 2005, 2008). Moreover, *environmental reproductive justice* – the inextricable connection between physical and cultural survival – is less prominent than environmental justice in research and practice (Hoover et al. 2012). This is especially the case within the Canadian context.

In 2005 members of the Aamjiwnaang First Nation teamed up with health researchers to conduct community-based participatory research. One key finding rocked the community: a stark decline in the number of male births (Mackenzie, Lockridge, and Keith 2005; see Appendix 1). As discussed in Wiebe and Konsmo (2014), the term "reproductive justice" originated within US organizations to promote the rights of women of colour and Indigenous women and to link "reproductive rights" with "social justice." That discussion evaluates struggles for reproductive justice in Canada to make crucial connections between the reproductive body, social justice, and place. Configured historically, geographically, and experientially, this approach considers bodies to be "contextually specific" (Parr 2010, 1). In this respect, the affected, feeling, *sensing* body is a conduit for knowledge. Parr (ibid., 9) focuses on the robust materialities of everyday encounters as "directly and fleshly as possible." This emphasis on "flesh" underscores the significance of the body and embodied ways of knowing. Reframing environmental justice to account for reproductive justice helps us to examine how citizens in Aamjiwnaang employ and mobilize experiential knowledge.[2] This approach draws into focus the following components of analysis: *multilayered analysis, lived experience, geopolitical location,* and how *situated bodies of knowledge* make the living sense of policy both more visible and sensible. These four features are crucial to making policies that account for diverse experiences and ways of knowing and that are ultimately more democratic and just.

In telling the story of ongoing struggles for environmental reproductive justice, it is crucial that place and cultural knowledge be made central to citizen

claims. Cues from Indigenous scholarship, gleaned both from relevant literature and from narratives presented to me in conversations with local carriers of that knowledge, are integral to this project (Alfred and Corntassel 2005; J. Borrows 2002, 2010, 2013; Coulthard 2014; Doerfler, Sinclair, and Stark 2013; L. Simpson 2011). Counter to a discursive framing that separates individuals from their environment and aligned with Alfred and Corntassel's (2005, 597) argument that some expressions of Indigeneity offer a radically different kind of "being," or place-based subjectivity, I situate bodies in place to document citizen struggles for environmental reproductive justice. To examine ongoing citizen struggles for knowledge in Aamjiwnaang, a biopolitical and interpretive analysis inspired by the works of "postmodern" theorists Michel Foucault, Gilles Deleuze, and Félix Guattari demonstrates how all knowledge is power-laden and thus political.

At the core here is a concern with the individual, neoliberal, biopolitical subjectivity assumed and offered by much of official and unofficial public health discourse and policy. In addition to framing what we can or cannot say, discourse can be understood as "actions, sites of production, practices, embodiments and images that support or resist a particular way of thinking and talking about a subject" (Rutherford 2011, xxiii). Discourse is ultimately about the construction and enactment of power through repressive and productive means. It entails an ensemble of institutional, linguistic, practical, visual, and embodied sign systems. To examine the ensemble, or *assemblage*, of Indigenous environmental justice, both a textual analysis of Canadian public policies and a discursive analysis of concerns raised by citizens of the Aamjiwnaang First Nation are employed in answering the following questions: How do environmental and reproductive injustices impact Aamjiwnaang citizens, and how do they respond?[3] Moreover, what do citizen struggles in Chemical Valley tell us about the meaning and expression of citizenship in Canada and beyond? What are the implications for our understanding of citizenship if we take seriously the practices and discourses of Aamjiwnaang community members articulated in their own terms?

To address these questions, Chapter 3 contextualizes citizens' *multilayered* struggles over knowledge by discussing the relationship between biopower and the *policy assemblage* for Indigenous environmental justice, encompassing Canadian jurisdiction for on-reserve environmental health. Biopower involves twin biopolitical poles: population management and individual practices of citizen responsibility for self-care and rule. Subsequently, Chapter 4 documents local citizens' corporeal concerns and practices to account for *lived experience*. Chapters 5 and 6 examine the Aamjiwnaang First Nation's activities on the ground as they cope with their health and habitat to make sense of how they should respond to their slow-moving pollution problem. Whereas Chapter 4 documents citizens' stories presented in their own terms, Chapter 5 examines *geopolitical location* and discusses how Aamjiwnaang came to be situated in the middle of Chemical Valley. Chapter 6 then assesses *situated bodies of knowledge* based upon in-depth interviews with residents and policy makers. In doing so, it examines struggles over knowledge and scientific expertise in the context of a local health study as the community seeks recognition of the impacts of these exposures on their reproductive health. This focus on knowledge illuminates the contested nature of what constitutes data, science, expertise, and ultimately "truth."

The term "biopower" refers to the ways that biological processes of daily life become infused with politics in disciplinary and productive ways. As much biopolitical scholarship reveals, in addition to being a concept about how the "vital or productive processes of human existence" become implicated in new forms of power through the "capacities of bodies and conduct of individuals," biopower is a form of both repressive and productive power (Braun 2007, 8; Dean 2010; Rose 2007). As the following chapters demonstrate in visceral detail, disciplinary techniques include the maximization of bodily forces through efficient systems of population management; at the same time, biopolitics takes the nation as an object and makes it legible through various knowledge systems. Moreover, examining bodily interrelations and interactions with policy offers a *multilayered* approach to policy analysis that extends from the community to the provincial and federal governments. Such an account takes into consideration how ongoing struggles have developed over a century of settlement, industrialization, and cultural dislocation. The components of *multilayered analysis, lived experience, geopolitical location,* and *situated bodies of knowledge* are crucial to the enhancement of scholarship on environmental reproductive justice in Canada.

We must bear in mind that this situation of injustice is not a matter of historical accident. As Brown (1995) contends, due in large part to the institutional configurations of state rule, citizens live within "states of injury." The apparent "policy void" that has resulted in the lack of environmental reproductive justice in Canada can be attributed to the same systemic problem. How, then, can we make sense of citizen concerns in a climate of state withdrawal, and how can situated stories speak back to decision makers in order to inform better policy making in Canada? Turning to community members' concerns highlights the ways that their experiences and voices interact with and confront the policy assemblage for Indigenous environmental justice. Such a textured approach

sheds light on the prismatic ways that biopower operates today. It also provides some visibility to the ongoing injustices, with the ultimate aim of contributing to how this situation can be seen, lived, and felt to be otherwise in order to enable escape from the ensnarement of this "biopolitical trap" (Rancière 2004, 301).

Introducing Wounded Citizens

On October 29, 2010, Ecojustice – a national charitable legal firm dedicated to defending the right of Canadians to a healthy environment – launched constitutional litigation against the Province of Ontario's Ministry of Environment (MOE) and Suncor Energy Products Incorporated on behalf of two members of the Aamjiwnaang First Nation: Ron Plain and Ada Lockridge. The case challenges the "deficient manner in which the Ministry of Environment regulates pollution in the area around Ada and Ron's community of Aamjiwnaang" (Duncan, field notes, Queen's Park, Ontario, November 1, 2010). Following close to a decade of local and global environmental activism in a battle against the province's environmental legislation, the litigants articulated frustration with the ministry's continued approval of permits to allow the advancement, expansion, and encroachment of pollutants on their land, in their homes, and on their bodies: "I felt as if my family's health and well-being was being sacrificed, at a cost" (Plain, field notes, Queen's Park, Ontario, November 1, 2010). Fatigued by the lack of attention to the cumulative impacts of the pollutants and to the consequential health effects, members of this First Nation took action to speak out against the provincial government and industry. A ministry approval to allow Suncor, a petroleum and ethanol refinery, to expand its chemical refining production in an oversaturated industrial area within a few kilometres of their reserve was the coup de grâce for these individuals. They contend that the approval constitutes a violation of their basic human rights under the Canadian Charter of Rights and Freedoms, particularly Section 7 on the right to life, liberty, and security of the person and Section 15 on the right to equality for all Canadians.

Citizen bodies in Aamjiwnaang are continuously exposed to creeping contamination. This exposure causes alarm: "I was taught growing up that it was a good thing when the flares are going, 'cause it's more dangerous down on the ground, and not to burn off, but I never thought about what was burning and how it can affect our health" (Lockridge, field notes, Queen's Park, Ontario, November 1, 2010). Flaring – the act of disposing of gas that cannot be processed or sold by burning it off and releasing it into the atmosphere – is meant only to be an emergency practice for when gases build up. In Chemical Valley citizens live with this practice in a perpetual state of emergency, resonant of what Nixon (2011) refers to as "slow violence."[4] Such chronic violence takes place over time and is often state-sanctioned, invisible, and not considered to be violence at all. Shedding light on the policy assemblage of Indigenous environmental justice brings into focus the operation and inner workings of uneven power relations in Canada's colonial present.

To examine these asymmetrical relations and the ways that they establish a certain kind of political order, we can understand the policy assemblage of Indigenous environmental justice as a deeply political social technology. This assemblage of *institutional configurations, discursive fields,* and *citizen practices* thus presents structural and discursive ways of thinking about power relations that enable a particular kind of slow violence, injury, and ongoing wounding (Jain 2006, xi, 2–3; Nixon 2011).[5] These relations reveal that the contemporary manifestations of colonial biopower in Canada, from universal state policies to intimate sites and lived experiences, are distributed through policies across scales from the Canadian Constitution to the individual citizen. Injury and wounding in Chemical Valley thus emerge as incidental features of Canadian politics with direct consequences for the meaning and practice of citizenship. Although this injurious culture appears to be fixed to the Canadian policy landscape, writing about power relations in this way requires nuance and respect for the agency of those resisting on the ground. As assemblages are fluid, there exists the possibility that this landscape can be thought of, felt, lived, and experienced otherwise. A turn to the visceral weight of policy in Chemical Valley brings to life the everyday impact on citizens.

The Ministry of Environment grants approval to facilities that seek to emit certain substances in Ontario. Pursuant to the province's 1993 Environmental Bill of Rights, all approvals appear on the Environmental Registry's website, which contains "public notices" about environmental matters proposed for a thirty-day period of public consultation. The conventional process for obtaining a certificate of approval (COA) outlined in Section 9 of the Environmental Protection Act (EPA) depicts how industries must estimate maximum emissions to air, soil, and water based on standards for specific pollutants established by the Act's regulations. These criteria are commonly referred to as "point of impingement" (POI) standards.[6] They set a limit on the concentration of a pollutant that can be present at any POI, often defined as the fence line, or property line, of an industrial facility (Ecojustice 2010, 7). Under the EPA, the minister has the discretion to consider cumulative effects beyond the fence line. In contrast to the COA procedure, under Sections 18, 157, and 196 of the EPA, the

ministry has the authority to permit companies to operate outside the POI standards (ibid., 9). The ministry allowed Suncor to enhance its production through amendment of one such control order, a discretionary, industry-government negotiated process that did not require public consultation.

This particular incident allowed a 25 percent increase in chemical production – up to 180 tonnes of sulphur a day – at the Sarnia refinery, a facility that produces transportation and heating fuels, liquefied petroleum gases, residential fuel oil, asphalt, feedstock, and petrochemicals (Ecojustice 2010, 9, 13). Approximately 75 percent of the crude oil at Suncor's petroleum refinery in Sarnia is synthetic crude supplied from Suncor's tar sands operations, which contain high levels of sulphur. In its productions, it emits sulphur dioxide, hydrogen sulphide, oxides of nitrogen, carbon monoxide, particulate matter, and benzene (ibid., 10). Each entails corollary adverse health effects; yet some of these chemicals, such as benzene, remain unregulated under the EPA rubric. Benzene is sweet and colourless. It evaporates quickly in air and dissolves slightly in water. It is highly flammable, can cause bone marrow not to produce enough red blood cells, and has been known to cause anemia and leukemia (MOE 2005). Others, such as hydrogen sulphide, are known neurotoxins that are frequently released in the flaring process. Several adjacent neighbouring facilities produce similar chemicals. However, the cumulative effects of such a high conglomeration of facilities continue to be unregulated by the existing legislative framework. The applicants became aware of the specifics of this amendment only through a formal request under the Freedom of Information and Protection of Privacy Act, shifting the burden of responsibility for monitoring Suncor's production from the government to this community. Suncor is but one facility among sixty-two located on both sides of the Canada-US border (Ecojustice 2007a; Scott 2008).

Suncor's presence affects every angle of the reserve's perimeter. Not only does this facility encircle the traditional burial ground, dislocating it from the reserve, but the stacks also pierce the sky at such a height that they are visible from nearly every residential home on the Aamjiwnaang First Nation Reserve. Resting easy in death is no simple feat, as noise and vibrations are some of the sensations felt when citizens of this community lay loved ones to rest. Children play in their yards amid a landscape bearing sounds akin to jets blasting for takeoff. Residents and their children express fear of entering the streams and creeks, perceived to be a toxic stockpile. Against the backdrop of sirens, smells, and soot, as rates of cardiovascular and respiratory illness rise, individuals look at their surroundings with distress.

Members of this community experience and articulate numerous physical and psychological health harms. In addition to respiratory, cardiovascular, reproductive, and skin diseases, fear is an everyday reality (Ecojustice 2007a). Knowing neither the contents of what is spewing into the air, soil, and water nor their impact on individual bodies is a cause of discomfort. Individuals become susceptible to these unknown substances; yet bearing the burden of proof for bodily harm remains onerous. Over the years, Aamjiwnaang residents became frustrated with hearing that their "lifestyle choices" were to blame for adverse health effects. A leading community advocate stated, "Don't tell me that nowhere else in the world people don't smoke, don't drink, they don't use drugs, they don't use makeup, they don't have carpets in their house. I always thought, like many others have, that the government was taking care of us. But now I believe that's not true" (Lockridge, field notes, Queen's Park, Ontario, November 1, 2010). Many Aamjiwnaang citizens wish to live a healthy and productive life; however, they have lost some of their personal autonomy with respect to health outcomes, and they bear a disproportionate responsibility for proving toxic exposure and adverse health effects. Some residents have moved away and have never turned back. This forced mobility follows a long history of cultural dislocation and socio-economic disadvantage for First Nations peoples within Canadian society at large and Aamjiwnaang in particular.

Subsequent to nearly a decade of responsible neighbourly activities, which included documenting spills, odours, noises, and vibrations, calling the ministry's Spills Actions Centre, "bucket brigades," biomonitoring, body-mapping, shutting vents and windows, and sheltering-in-place, this community became weary.[7] When communities mobilize to gain expertise, the interactions between community members and the makers of public policy are charged with political meaning and laden with asymmetrical power relations. Communities facing environmental injustices frequently bear a disproportionate burden of environmental risk exposure as well as the costs associated with gaining expertise and knowledge about this exposure. Thus the polluted become "powerless" when faced with pollution (Scott 2008, 335). As communities embark upon resistance strategies, from biomonitoring to bucket brigades, they seek to make inroads and change environmental monitoring and regulation. Although bucket brigade activities in Aamjiwnaang served as a precursor to getting an air monitor on the reserve, the burden of "proof" and responsibility for environmental management continues to fall upon the shoulders of Aamjiwnaang's citizens at a distance from governmental regulation. As Scott (ibid., 338) discusses, citizens transition from "victims" to "agents of change." They are simultaneously co-opted and empowered by this kind of agency.

Aamjiwnaang: A *Place* Where Spirits Live in the Water

Despite the alarming landscape, this place is *home*. The Aamjiwnaang First Nation Reserve, or Sarnia Reserve 45, is home to approximately 850 Anishinabek people, also known as the Chippewas of Sarnia. Located just across the Canada–US border from Port Huron, Michigan, the reserve is at the southernmost tip of Lake Huron, approximately seven kilometres south of Sarnia's core. For nearly half a century, Aamjiwnaang's land has been almost completely surrounded by one of Canada's largest concentrations of petrochemical manufacturing. Much of the original reserve, founded by Treaties 27½ and 29 in 1825 and 1827, has dwindled over the years due to various surrenders, the peak of which occurred through controversial land deals in the 1950s and 1960s when development companies sought to purchase the entire reserve. This attempt was enabled through the federal government's fiduciary responsibilities, in line with the Indian Act. The land base has since been compressed as a partial consequence of land sales and surrenders, highway expansion, and municipal annexations. According to one local historian, the Anishinabek people effectively became "prisoners in their own home" (Plain 2007). Pipelines, factories, and petroleum storage tanks occupy today's territory and encircle the reserve.

In September 2011 the World Health Organization (WHO) surveyed 1,100 cities in ninety-one countries and declared Sarnia to have the worst air quality in the country (Jeffrey 2011). Canada ranked third in the world when it came to air quality; yet the airshed above Sarnia was found to have the highest concentration of particulate matter per cubic metre in all of Canada, on par with a population-dense city like New York. According to Dean Edwardson, general manager of the industry-funded Sarnia-Lambton Environmental Association, housed at Suncor's Sustainability Centre, "60% of what's measured comes from the U.S." (ibid.). Pointing to coal-fired plants across the river, he considered the WHO's findings to markedly differ from local monitoring statistics. This discrepancy raises the question of who is responsible for providing accurate information to citizens of Sarnia about the contaminants in their environment.

The Sarnia area, including the city of Sarnia and the township of St. Clair, can be further characterized by a dense concentration of industrial facilities. A MOE (2005) report identified chemical plants, natural gas sites, petroleum refineries, plastics recyclers, fertilizer plants, electric generation stations, a wastewater treatment plant, and a landfill site. This report did not include inactive sites, which also house and store waste products and litter the landscape in this area (see Figure 2 below). It hosts Canada's largest hazardous waste dump

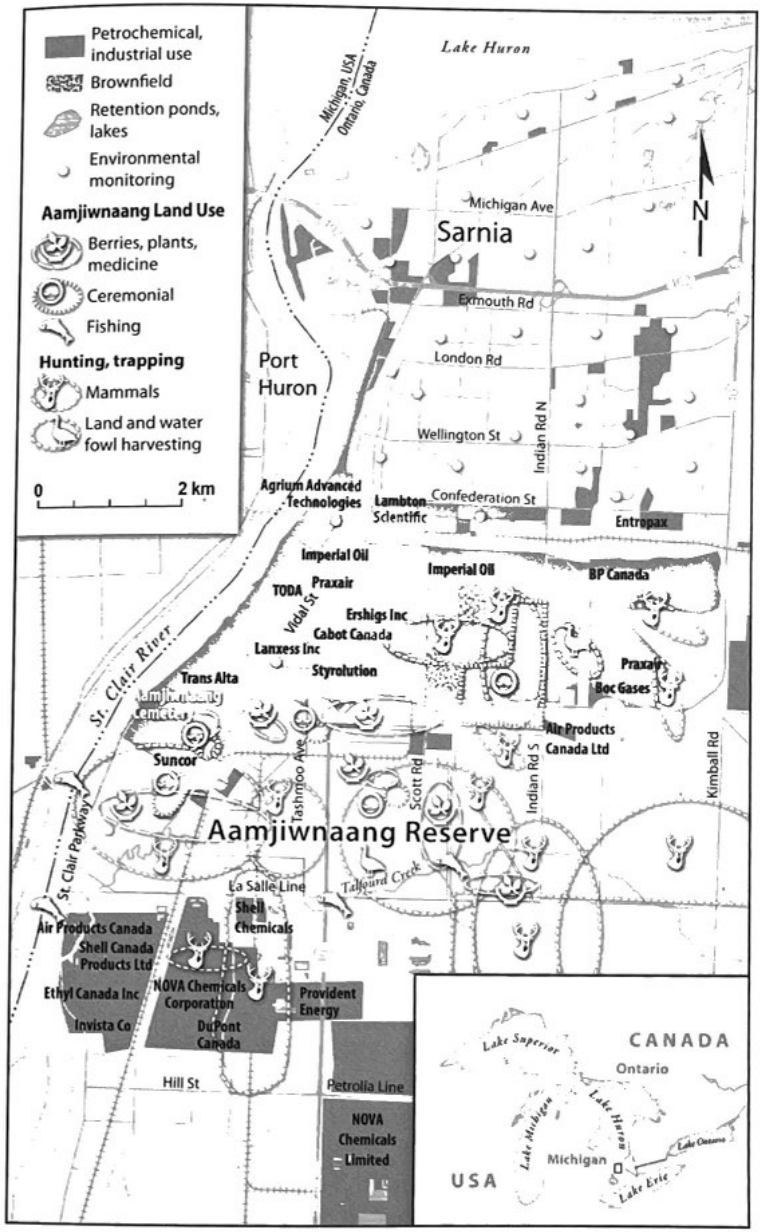


Figure 2 Map of Aamjiwnaang traditional land use and industrial sites. Cartography by Ken Josephson.

and is a hub for the production of synthetic rubber, polyvinyl chloride, and plastics.

According to this report, a common risk of petroleum refining is exposure to hydrogen sulfide, which contains a rotten egg smell. However, "concentrations above 150 ppm may overwhelm the olfactory nerve so that the victim may have no warning of exposure" (MOE 2005). Whereas low-level hydrogen sulfide may cause irritations in mucous membranes and the respiratory system, high-level exposures result in more neurological and pulmonary symptoms, including possible loss of consciousness. Very high concentrations lead to cardiorespiratory arrest because of brainstem toxicity (ibid.). Several researchers point out the corresponding correlation between ambient air pollution and elevated hospital admission rates for respiratory and cardiovascular disease in London, Ontario, 100 kilometres east of Chemical Valley (Fung et al. 2005). In 2005 citizens and stakeholders met to discuss their concern about the impact of pollution on health and wellness within Lambton County. As Chapter 6 discusses in depth, by 2008 they had formed a board of directors and commenced the Lambton Community Health Study.

Tourism literature and accolades from the Chamber of Commerce tout Sarnia, population 73,000, as a beautiful and desirable place to live and work. Located within the county of Sarnia-Lambton, it is part of a gorgeous region affectionately referred to as Bluewater Country (Tourism Sarnia-Lambton 2011). With a total population of 128,204, headquartered in Wyoming, Ontario, the Corporation of the County of Lambton encompasses eleven municipalities and the four regions of Sarnia and Point Edward, St. Clair River District, Lambton Shores, and Central Lambton (Statistics Canada 2006). This is truly a rich place in material and natural beauty. The reported 2005 median income for couple households with children was $90,929, approximately $3,000 higher than the average Ontario income level (ibid.). Adjacent to Lake Huron, the county boasts miles of scenic waterfront, sandy beaches, and breathtaking sunsets. It is a place to "discover your inner explorer"; "experience a festival of fragrance"; and "escape to a place that puts it all in perspective" (Tourism Sarnia-Lambton 2011). In under an hour, Sarnia citizens can escape to Pinery Provincial Park, host to the last remaining oak savanna in North America, or continue fifteen kilometres to reach the stunning site of Ipperwash Provincial Park.[8]

In addition to boasting a relaxed waterfront lifestyle, Sarnia is a hotbed of industrial activity. Oil was first discovered and produced in the area during the 1850s, which spawned the emergence of an oil boom and industrialization. Imperial Oil Limited soon followed. The affectionately coined "Chemical Valley" moniker emerged after the Second World War, during which time the

Crown corporation Royal Polymer came into being, effectively starting an empire of rubber manufacturing. It even graced the country's ten-dollar bill (Bellamy 2007). Sarnia's central position within the Great Lakes waterways and its accessibility to the United States make it an ideal location for industrial development. With deep-port access on the St. Lawrence Seaway, it is an international water corridor. Moreover, Lake Huron and the St. Clair River cater to the industrial sector, connecting it to the waterways for processing, cooling, fire protection, marine docks, and effluent discharge. In addition, Sarnia is serviced by the Canadian National Railway and the rails of CSX Transportation, as well as by the Chris Hadfield Airport. Chemical Valley's industrial complex in South Sarnia contains an extensive network of hydrocarbon raw materials, such as natural gas, crude oil, ethylene, and natural gas liquids (SLEP 2011). It is a world leader in plant construction, process engineering and operations, metal fabrication, sustainable energy production, and environmental technology and management. Sarnia is also at the forefront of petrochemical production and its relevant spinoff industries. For instance, when the Gulf of Mexico oil spill disaster hit, British Petroleum turned to a Sarnia firm to "mop up" the devastating mess (Dobson 2010). However, Sarnia's own cleanup efforts remain a matter of dispute.

After nearly a century of heavy industrial manufacturing and refining, and following the 1985 "blob" incident at Dow Chemicals – the release of perchlorethylene, a dry-cleaning solvent, into the St. Clair River – this stretch of sixty-four kilometres along the river was identified as an "area of concern" in the Canada–US Great Lakes Water Quality Agreement (Environment Canada 2012). This designation rode the coattails of Dow's legacy of releasing mercury into the river for many years. Prior to the introduction of environmental legislation, regulation, and standards in the 1970s, some Aamjiwnaang residents played with and collected mercury during childhood. In 2002 Dow began dredging to remove methyl mercury from the riverbed. In 2005 Pollution Watch added three Chemical Valley industries to its list of the top ten respiratory polluters (Ecojustice 2007a). As these environmental concerns began making waves, Environment Canada, the Ontario Ministry of Environment, and the US Environmental Protection Agency met to discuss a remedial action plan. Shortly thereafter, wetlands, wastewater treatment sites, and various restoration projects appeared on the landscape.

Local residents residing in this area face a large pollution problem. Dow Chemical is but one facility among sixty-two located within twenty-five kilometres of Sarnia and Aamjiwnaang (Scott 2008). Community-based participatory research between members of the Aamjiwnaang First Nation and the

Occupational Health Clinic for Ontario Workers – Sarnia (OHCOW) has revealed a range of health concerns within the community, including headaches, diabetes, thyroid issues, asthma, skin rashes, high cancer rates, neurological, reproductive, and developmental concerns, and a declining male birth rate, in addition to a loss of cultural practices on the land (Ecojustice 2007a; Hoover et al. 2012; Mackenzie, Lockridge, and Keith 2005). With the help of OHCOW, these concerns were tracked on large "body maps" with colour-coded stickers and shown to the community (see Chapter 4). In addition to bodily concerns, industrial sources of air pollutants pinch the reserve on all sides and are located directly across from the band office, the church, the cemetery, a resource centre, and until recently, the daycare centre (Ecojustice 2010). Lead levels beyond acceptable MOE guidelines were found in Talfourd Creek, which weaves through industry and the burial grounds and into the St. Clair River.

Red-lettered signs with a skull and crossbones that tell people to "KEEP OUT" demarcate Talfourd Creek's course in Aamjiwnaang. Figuring out the composition of the creek's contamination requires sustained monitoring sanctioned by the reserve in partnership with government officials and researchers. Although the testing continues, questions are still being raised, and concrete answers are few and far between. Despite the signs with the skull and crossbones, as life goes on, many citizens swim, fish, and play in the waterway.

These living conditions are unsatisfactory to several community members and activists. To raise awareness, residents like Ron and Ada often provide public "toxic tours" (Garrick 2015). In 2009 Ron and Ada requested a legislative review under the Environmental Bill of Rights. Upon receiving no response, these individuals had to resort to the court. Soon thereafter, I participated in one such "toxic tour" and ended up in Sarnia.

My Place

> Aaniishnaa
> Sarah, dizhnikaaz
> Vancouver, ndoonjibaa
> Niizhtana niizhwaaswi niin doonsibboongis
> Anishinabek nigee ndaw.[9]

During my time residing in Sarnia, I joined a weekly Ojibwe class. We spent the first few weeks discussing the meaning of introductions. As my teacher continuously emphasized, who you are connects to where you are from. While attending and participating in many events and ceremonies, I learned that community members often used Ojibwe words to introduce themselves to each other. I introduce myself as such here and explain how I came to live in Sarnia to research environmental reproductive justice in Canada's Chemical Valley.

While I was growing up in British Columbia, Indigenous concerns were always part of the political landscape, aesthetic, and life of the province. The ongoing treaty process exemplifies this reality today. My analysis is motivated by an effort to think through our inherited political histories and spaces. To investigate politics, we must look both elsewhere and nearby. I grew up in the village of Belcarra on a body of water called Indian Arm just outside of Vancouver in Tsleil-Waututh territory. As a youth, I spent many summers volunteering as a "beachkeeper" to inform park visitors about "environmentally friendly beach behaviour," working as a day camp leader, and enjoying recreational activities in Belcarra Regional Park. Only as a graduate student at the University of Victoria did I come to realize the importance of this park for the Tsleil-Waututh people. Years later, while meeting with a member of the Tsleil-Waututh band council, I learned about the ceremonial uses of both the park and the island across the bay, a stretch of water that demarcated my home from the reserve. The island was once a burial ground, and the park was a residential area. Today the island is filled with waste, and the park is open for public use while the Tsleil-Waututh look on from across the bay.

While I was a research assistant at the University of Ottawa doing work on contested illnesses such as multiple chemical sensitivity and fibromyalgia, a CBC documentary film entitled *The Disappearing Male* caught my eye. It drew my attention to Aamjiwnaang and the ongoing struggles for environmental reproductive justice. The film pointed me toward an environmental movement there, premised upon corporeal health concerns and ongoing challenges to various regulatory authorities. I became curious about the ways that citizens within the movement organized, articulated concerns, and sought redress. Health policy and environmental policy are both domains of Canadian governance that fall within shared provincial-federal jurisdiction according to the constitutional division of powers. When the twin issues of environment and health impact citizens on a First Nations reserve, responsibility for this *policy assemblage* is even more opaque. If there is a normative motivation present in these pages, it is both to reduce the obfuscation of the qualities of this policy assemblage and to put forward a plea that we take seriously environmental reproductive justice in Canada in pursuit of a more equitable, decolonial policy in Canada.

In Chemical Valley citizens of the Aamjiwnaang First Nation reside on "Crown" land set aside for them – a reserve – with their exposed bodies at the

fence line of an industrial complex that has the densest concentration of petrochemical manufacturing in the country. Examining contemporary power relations extends beyond sovereign spectacle and transcends into the tentacles of government, executed through practice, on the ground. In Canada's colonial present, when Indigenous citizens' bodies are continuously exposed to chemical contamination such as in Aamjiwnaang, the politics of life itself are at stake. Questioning the administration of life as a relation of power is one of the most compelling intellectual challenges of our time. Following Rabinow and Rose (1994, 25), this task must not be undertaken by claiming that there is some "deep hidden secret of modernity to be revealed"; rather, it requires meticulous attention to life's grey matter, namely the details and practices of life and death that we construct, inhabit, and contest. This task is simultaneously banal and profound.

Contrary to visible practices of corporeal violence in the public domain, citizen bodies live at the forefront of pollution exposures. The everyday, chronic penetration of these toxins remains out of immediate sight and out of mind for governments, neighbouring industries, and most Canadians. Thus it is a kind of "slow violence" (Nixon 2011). The placement of their bodies in this precarious place continues below the radar of public consciousness. As a result, residents here face a dilemma that reveals the multiple edges of citizenship. On the one hand, they are forced to respond instrumentally to environmental violence. On the other hand, they voice a strong, relational attachment to this place. Citizens' practices, activities, actions, and resistances expose this dilemma as a paradox of freedom and draw attention to the deeply interconnected relationships between their bodies and this place that they call both prison and home.

Facing this dilemma, citizens of Aamjiwnaang refuse to be complacent. Following over a century of cultural distillation and a decade of aggressive activism, latent concerns propelled members of this community forward in a movement for environmental reproductive justice. Aligned with Schlosberg (2013), this research contributes to an emerging body of scholarship enhancing and reframing the discursive dimensions of environmental justice in theory, method, and practice. It goes beyond recognition of environmental injustice and beyond a discussion of the inequitable distribution of risks and goods to include consideration of the more-than-human world as a condition for social justice. Critical scholars must pay attention to the ways that the body is central to ongoing struggles and that experiential knowledge is a core conduit for justice. Thus it is clear that reproductive justice cannot be separated from environmental justice. Hoover and colleagues (2012, 15) claim that environmental reproductive justice entails the right and ability to reproduce in culturally appropriate ways:

"for many Indigenous communities to reproduce culturally informed citizens requires a clean environment" (see also SisterSong 2013). Here, empirical research on the community's struggles and on the corresponding assemblage of policy responses and encounters forms the ground for theorization of justice from below. These encounters provide new ways of thinking about the political subjectivities of citizenship. Achieving environmental justice, when understood through a feminist and prismatic biopolitical focus on politics of the body, requires an intersectional and placed treatment of reproductive justice. Thus our legislative and policy processes must adopt an affective and situated approach to *sensing policy* that begins with citizens' *lived experiences.* These processes both generate and encounter *situated bodies of knowledge.* A sensing policy approach must entail a *multilayered analysis,* scaled from the global to the local through *geopolitical location.*

Intersectional Policy Analysis: Insights from Feminist Biopolitics and Geopolitics

Thinking about the body politically is not new. It has always been part of the art of politics. "Bodies" formulate bounded systems. Literally and figuratively, bodies construct boundaries between self, mind, and the outside world. For Aristotle (1962), participation in the civilized political community – the polis – required *bios,* or qualified life, which was distinct from *zoe,* or bare apolitical existence. Superior to the bare, unqualified life of *zoe,* the cultivated life form of *bios* led to citizenship. In this political depiction, the body was considered to be a separate entity from the natural uncivilized body. Hence notions of political community operated within an exclusive logic.

Contending with gendered systems of meaning draws attention to the body. As Massey (1994, 4) highlights, Western dualisms have "coded masculine" predominant ways of thinking, privileging a "disembodied, free-floating generalizing science." Western thought predominantly continues to maintain primacy of mind over matter. Best known for a mechanistic view of the body, seventeenth-century French philosopher René Descartes put forward the idea "cogito ergo sum" (I think, therefore I am), which still holds traction in our current time. This conception treated the body as inferior to the mental faculties of the cultivated mind. The body functioned as a system of parts, as matter constructed of bones, nerves, muscles, veins, blood, and skin; it moved only through an act of will. This dualistic depiction of the body created a mechanistic and determinist model that separated body as "matter" – associated with the physical, private, and natural world – from the superior rational mind.

Consequently, there has been an overemphasis in political thought and practice on the primacy of the rational individual, where the body is considered to be an organism that is distinct from the mind and separate from nature and place. This bodily ordering bears upon the meaning of citizenship today, which merits interrogation.

Classical political thought treated the body as emotive and thus outside the reasonable public realm of political life. As Young (1989, 254, 253) notes, women have been conventionally relegated to the private realm as guardians of "need, desire and affectivity," whereas the public arena remains filled with masculine "discourse framed in unemotional tones of dispassionate reason." Citizenship, following a long line of liberal political thought, functions as an "expression of the universality of human life" and as a "realm of rationality" that is distinct from need, interest, and desire, which are designated feminine (ibid., 253). This role of citizenship has considerable implications for the private "apolitical" domain of existence – where classical political thought tends to (dis)place femininity, the body, and desire. A relational approach to citizenship and democracy conceives of this public-private relationship otherwise.

Life in a democracy is far from smooth. Contending with this demarcation draws attention to the emotional, conflictual, and affective dimensions of "the political" as such. Drawing attention to the paradoxical nature of modern liberal democracy, as well as informing the orientation to radical and relational democracy in this manuscript, Mouffe's (2005b, 28) critique of "rationalist" political life sheds light: "the theorists who want to eliminate passion from politics and argue that democratic politics should be understood only in terms of reason, moderation and consensus are showing their lack of understanding of the dynamics of the political." Discussing embodied dimensions of politics aligns with both Young and Mouffe. Advocating for *sensing policy* chimes with Mouffe's (2005a, 11) call for a "life politics," which reaches into the areas of personal life to create a "democracy of the emotions." Doing so problematizes the superficial dividing lines between the public and private, the masculine and feminine, and the rational and corporeal realms of "the political" to carve out new space for thinking differently about citizenship, subjectivity, and belonging.

Interrogating biological subjugation is central to feminist political thought. Matter – bodies and the "natural" world – has conventionally been considered something to control, to tame, and to temper. Feminist analyses tackle the separation between mind and matter, seeking to bring the body "in" to political analyses in material and discursive ways (Brown 1988; Butler 1993). Early waves of feminist thought – concerned with suffrage and with social and legal equality – are largely credited with making the personal political. Although respectful

of these motivations, the argument advanced here is not about "making room" for women in politics or directly about critiquing gender-based assumptions about political behaviour and action. Rather, this study offers a discursive account of the body as a site of political analysis uniquely situated in Canada's Chemical Valley. Following Brown (1988), this methodology is about interrogating the gendered nature of political life. Citizenship, as a defining feature of political life, is a gendered concept at its core. According to Gabrielson and Parady (2010, 375), "written into the very concept is a privileging of the epistemic that constructs political space through the reinforcing dualisms of mind/matter, nature/culture, reason/emotion, men/women, public/private and so on." A biopolitical feminist approach to citizenship thus contests any notion of a disembodied citizen.

The most obvious manifestation of the gendered nature of political life is the persistence of Cartesian dualism. Grosz (1994) eloquently inverts these dualisms by building upon "postmodern" theorists, including Friedrich Nietzsche, Michel Foucault, Gilles Deleuze, and Félix Guattari, to demonstrate how subjectivity can be thought otherwise.[10] Challenging the egocentricism of liberal theory's rejection of the atomistic body in political thought and practice advocates for a relational body to examine, interpret, and assess citizen agency in Canada's Chemical Valley. At the heart of this approach is an interpretive and intersectional attempt to dissect the body-mind and body-place dualisms that continue to dominate Western philosophy and science.

Bodies are personal and they are political. In fact, the body is powerful and regenerative. The body is a "force to be reckoned with" (Grosz 1994, 120). A body is no simple "thing." Bodies are "the centers of perspective, insight, reflection, desire and agency" (ibid., xi). Bodies give life; they are productive and they are placed. Bodies interact, they produce, and they act and react, generating what is "new, surprising and unpredictable" (ibid.). Bodies challenge rigid demarcations between private and public life, merit political inquiry, and tell us about the constitution of political life itself. Such understanding deconstructs or displaces the inadequacies of Western, liberal thought that demarcate between body and mind, nature and culture, and human and environment.

To decentre the primacy of a rational, atomistic individual charged with mastering an unruly body, and to situate the reproductive body in *place*, this approach to citizenship and policy contributes to a fledgling field of "intersectionality-based policy analysis" (Gabrielson and Parady 2010; Hankivsky 2012; Hankivsky and Dhamoon 2013; MacGregor 2006). As discussed elsewhere, there are three central types of gendered approaches to citizenship: formal, substantive, and discursive (Wiebe 2010). Although components of

each are present in various stages of the analysis here, the discursive, corporeal, and felt dimensions are brought front and centre as a means to discuss emergent forms of citizenship.

To avoid a discursive overemphasis on "lifestyle blaming" for wound and injury in Aamjiwnaang, and consistent with an environmental reproductive justice framework of inquiry, individual subjects should not be considered placeless individuals. Ontological questions of *place* draw insight from scholarship in feminist geopolitics (Dixon 2014; Dixon and Marston 2011; Dowler and Sharp 2001; Massaro and Williams 2013; Sharp 2011) and respond to Western, liberal notions of rationality and "individual responsibility" for the management of land and life. The feminist and intersectional body of scholarship provokes a turn away from institutional dimensions of power relations and an examination of embodied and situated knowledges that ground discourse and practice in place. Although indeed concerned with the intersection of geography and politics, feminist geopolitics is to be distinguished from conventional notions of "geopolitics," which as a field of study tends to examine international relations and the geographic, economic, and political forces confronting state boundaries. Feminist geopolitics examines power relations through the hidden workings of everyday life. Thus it focuses our attention on local practices and embodied struggles for knowledge. A feminist geopolitical lens scales from the global to the intimate. It interrogates the impact of macro-level policy assemblages on individual bodies as they encounter these situated, placed ensembles of political forces.

Places are affective; they entail strong emotional commitments and visceral feelings. Whereas space is broad and abstract, place is specific. Although it can range conceptually between the macro and micro levels – from "nation" to "home" – this analysis hones in on place and place-making practices that are rooted and local. Moreover, acknowledging and respecting the cultural knowledge of place is a core axiom of reproductive justice analysis. "Place" is a centre of meaning constructed by experience. Following Tuan (1975, 159), I emphasize that shared meanings and feelings produce "bodies of knowledge." Knowledge forms as individuals interact with place through experience. Relationships between individuals and places disrupt rational accounts of individual subjectivity that hierarchize individuals above place. Humans are directly involved with place through a phenomenal encounter. Places are sensed, felt, breathed, and lived. Bodies encounter places over time and through spaces that are mediated by daily life and experiences. As bodies guide us into place, we encounter cultural knowledge. Whereas "space" is a broad and general category, place is relational and particular.

Places give character to people who inhabit or dwell in them. Thus the characteristics of people and places are intertwined. Those who inhabit places come to share features with the local landscape, but they also mark land in particular ways. Bodily encounters, actions, and positions – such as posture, word, sensation, memory, image, and gesture – shape and inform place through common engagements and configurations. Places are never coherent or fixed (Massey 2005); they are relational and multilayered like a mille feuille cake. By engaging with places, one can gesture toward generating local knowledge, which can challenge, unsettle, and dispel overarching generalizable terms. Aamjiwnaang's location, intruded upon by Canada's Chemical Valley, entails no set number of representations or categorizable "Truths"; there are numerous articulations.

The fleshing-out of place is made possible by piecemeal snapshots, read through an analysis of citizen practices and conversations with Indigenous knowledge carriers who graciously shared their teachings with me. These carriers form a diverse group, including elders, community members, artists, and poets. According to John Borrows (2010, 242), for many Anishinabek, the earth "grows and develops or dies and decays because it is a living being subject to many of the same forces as all other living creatures." Many Anishinabek people characterize the earth as a living entity with thoughts, feelings, and agency. In this respect, the earth has an animate personality, which is a notion in stark contrast to much of Western political thought. Caution is important here. On the one hand, this claim may appear to construct a single "Truth" and to generalize about Anishinabek ontology. That is not the aim. Although reality is diverse and there is no one "Truth," there are also some sophisticated metaphysical teachings illuminated by an Anishinabek ontology that speak to the heart of tensions between contemporary Western life and an alternative way of being in today's world.

Furthermore, a desire to understand the subtle and not so subtle violences and injustices that citizens encounter provides the ideational and institutional motive for this theoretical undertaking. Following Shaw (2008), the unfolding discussion contributes to a conversation about how our inherited circumstances constitute and legitimate some forms of authority and marginalize others. Why study the plight of Indigenous peoples in a precarious place? One should not take on a social justice project for particularly noble or just motivations. Such situations are neither markedly deplorable nor righteous. These situations reveal core issues of "our" contemporary colonial politics, illuminating relations of power between the state, the Canadian public, and residents of Chemical Valley who are citizens of the Aamjiwnaang First Nation. Moreover, the situation for

many Indigenous peoples is especially revealing about the character of modern politics because many reside in political states and spaces that are defined by colonial settlement: "Our own identities are constituted partly in relation to" Indigenous peoples, "our economies and political communities are enabled by resources colonized from them," and "their situations reveal most profoundly the violences inflicted by our own modes of life and understanding" (ibid., 5). The experiences of Indigenous peoples in Canada are a condition of possibility for our all-too-settled existence.

The claims made by many Indigenous peoples and movements seek to profoundly unsettle the sedimented foundations of Canadian sovereignty. In the process of developing an understanding of what motivates Indigenous mobilization – inequitable distribution of resources, in addition to structural, discursive, ontological, and epistemological conditions – the acknowledgment of this unfavourable context is not a licence to "solve" their struggles; rather, these tensions offer a stark reminder that we must understand uneven social conditions and power relations to conduct a critical ontology of ourselves and our contemporary political life.

Chapter Overview

This body of work – a corpus – unfolds sequentially through seven anatomically correspondent chapters. Chapter 1 highlights the ongoing, slow-moving, and latent yet viscerally penetrating pollution problem as a matter of environmental reproductive injustice in Aamjiwnaang. It advances the central argument that policy in pursuit of environmental justice in Canada must account for reproductive justice and, in doing so, offers a *sensing policy* approach that entails four intersectional analytical facets: *multilayered analysis, lived experience, geopolitical location,* and *situated bodies of knowledge*. By locating concerned citizens' bodies in *place,* Chapter 1 underscores the implications of these struggles for environmental justice policy, for the concept of citizenship, and for political life itself. An intersectional and prismatic biopolitical analysis informs the overall theoretical orientation of sensing policy.

Chapter 2 explains and fleshes out the nuances of a sensing policy framework for analysis. It situates citizen narratives in *place*. To make sense of ongoing struggles, it outlines the theoretical and methodological approach undertaken, as well as setting the stage for the interpretive unfolding inquiry, grounded within an *affective* intersectionality-based policy analysis. This chapter also contributes to ongoing scholarly debates regarding environmental justice and citizenship studies in Canada and beyond. Using an interpretive and intersectional method, this section explains the qualitative approach undertaken, namely in-depth interviews, archival research, political ethnography, and community-engaged scholarship. I discuss the relationship between engaged research, lived experience, and decolonizing methodology, which inform the empirical chapters that follow.

As Chapter 3 draws into focus, Canada's official treatment of Indigenous peoples reveals biological beliefs and values across macro (federal), meso (provincial), and micro (community) layers of policy making. This chapter discusses the numerous institutional and discursive ways that the Canadian state has regulated the bodies of "Indian" citizens in Canada and Aamjiwnaang. It reviews both official and unofficial policies of the state that affect Indigenous bodies. Illuminating the multifaceted dimensions of Indigenous environmental justice, Chapter 3 presents three components of this policy assemblage: *institutional configurations, discursive fields,* and *citizen practices.* Specifically, the chapter assesses the changing governance structure and citizenship policies for First Nations – or "Indians" – in Canada through an analysis of the Indian Act, as well as broader policy initiatives. This section concludes with an assessment of the paradox of freedom that is created by the dilemma of citizenship and with an account of the related policy implications. Citizenship is thus at once disempowering and empowering, as citizens assume responsibilities for the management of their land and life as disciplinary stewards, while advocating for a radical form of recognition and belonging embedded within the more-than-human world.[11]

Inspired by Foucault's genealogical method, the treatment of history builds upon a textual analysis to investigate the shape-shifting nature of this policy assemblage, which entails relevant laws and policies, jurisdiction, and governance for on-reserve environmental health. According to Adkin (2009, 298), "when citizens become involved in environmental struggles, they very quickly find themselves enmeshed in a much broader web of relationships and issues." These webs can be understood as assemblages, ensembles, or regimes of power that define the limits of our contemporary democratic existence. Following Mouffe (2005a, 18), counter to purely instrumentalist terms for liberal democratic theory, we can think of modern democracy as a "regime." This political form of society considers the wider context for democratic life, including the symbolic ordering of social relations in site-specific places.

Drawing directly from interpretive and ethnographic observations, Chapter 4 highlights citizens' lived experience as expressed by residents of the

Aamjiwnaang First Nation. It engages with everyday lived experiences articulated by citizens in their own words. It presents a discursive analysis of concerns about the experienced and sensed pollution problem in Aamjiwnaang and a discussion of the various ways that citizens and stakeholders in Aamjiwnaang and Chemical Valley practise citizenship. They articulate a simultaneous disdain for and attachment to the place they call both prison and home, where they live with their bodies on the frontlines of toxic chemical exposure, with limited state intervention. Chapter 4 introduces the experiential knowledges employed by citizens and stakeholders who mobilize their bodies as they seek recognition of environmental health concerns. Following Orsini and Smith (2010), I emphasize that contrary to conventional modes of public policy analysis, which explore the ways that problems are to be "solved" by accessing or shaping the healthcare system, *sensing policy* begins from the view that citizens are active agents who mobilize distinctive knowledges. Aligned with Foucault (1977, 59) and Tuan (1975, 159), we can understand these as "bodies of knowledge."

Adding to the personal interviews, published materials, and archival documents, Chapter 5 highlights a "regulatory gap" in on-reserve environmental health and the ongoing problem of jurisdiction (Mackenzie 2013; Moffat and Nahwegahbow 2004). It subsequently explores some of the continuities and discontinuities of official citizenship policies and practices in Canada as they affect Aamjiwnaang's specific geopolitical location. It traces historical links between citizenship, Indigenous governance, and the body. In doing so, Chapter 5 provides an overview of the historical formation of the Aamjiwnaang First Nation's social location through official public policies at the federal, provincial, and municipal levels. The material reviewed includes regulations, policy statements, and media articles to examine the multilayered effects, techniques, and strategies of biopower from Canada to Chemical Valley.

Chapter 6 anchors a discussion of *situated bodies of knowledge*, while highlighting relationships between citizens, expertise, and knowledge in various forms of activism. These bodies of knowledge can be categorized as *experiential, external,* and *engaged*. Focusing on how these struggles play out in an ongoing countywide health study, this chapter demonstrates how the community seeks recognition of its environmental and reproductive health concerns in this politically charged and deliberative process.

The final chapter is both a closing and an opening. Chapter 7 looks at continued citizen involvement in Idle No More, at Attawapiskat chief Theresa Spence's high-profile hunger strike, and at the final report of the Truth and Reconciliation Commission of Canada (2015). Moving forward, rather than offering closure, this chapter weaves together implications of each action as part of an ongoing movement for justice, democracy, and citizenship. It includes a distillation of the previous empirical chapters and offers directions for future environmental justice scholarship in Canada, beginning with the lessons and teachings offered by Aamjiwnaang. Bringing the findings into conversation with selected literature on Canadian politics and policy, citizenship studies, and environmental studies, Chapter 7 draws attention to how sensing policy is both practically and conceptually crucial to the formation of environmental reproductive justice. The chapter closes by pointing toward the promising potential of collaborative and creative arts-based approaches to environmental reproductive justice as an avenue for addressing many of the themes and concerns taken up in the book. Throughout the writing journey, by collaborating on this project with artists both inside and outside the community, I sought to share voice, knowledge, and power. Ongoing involvement with the Aamjiwnaang Green Teens through collaborative photography and with the Kiijig Collective through participatory community filmmaking exemplifies this objective, as does my collaboration with international photojournalist Laurence Butet-Roch, whose brilliant and arresting images illuminate and visualize the text.[12]

Conclusion

Setting the atmosphere and location of Chemical Valley surrounding the Aamjiwnaang First Nation provides a sense of place that informs the following chapters. With the intention of situating ongoing citizen struggles for environmental reproductive justice in place, this book advocates for a different way of thinking about citizenship and policy. A *sensing policy* lens, which entails four components – *multilayered analysis, lived experience, geopolitical location,* and *situated bodies of knowledge* – presents a new vantage point and framework for analyzing complex policy assemblages such as Indigenous environmental justice. Creative photographic works enhance this textual lens to illuminate themes of atmosphere, daily life, and cultural resurgence while drawing into focus lived realities in order to diversify representation and ultimately democratize knowledge.