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Home Is Where the Heart Is
Lived Experience in Aamjiwnaang

Citizens of the Aamjiwnaang First Nation who reside in closest proximity to Canada's Chemical Valley experience a unique set of concerns vis-à-vis their Sarnia neighbours. Here, spills, leaks, chemical releases, and accidents are frequent occurrences. When such incidents take place, sometimes members of the industry are the first responders, and other times residents of Aamjiwnaang call the 1-800 line of the Ministry of Environment's (MOE) Spills Actions Centre, which collects concerned citizens' calls. At that time, a MOE environmental officer may opt to check out the event in order to determine an appropriate course of action. Sometimes the alert sirens may sound; however, more often than not, the sirens' shrilling is no more than an everyday occurrence. Most often, when a serious incident occurs, the Chemical Valley Emergency Coordinating Organization issues a code associated with the incident. Commonly, what results is an "information code 8," referring to an "internal non-emergency situation, that may be noticed by the public" (CVECO 2011). Frequently, these accounts accompany the statement that there is "no offsite impact" (*Sarnia Observer* 2011). Sometimes spills are not reported at all. Residents are expected to call the MOE 1-800 line if they smell something abnormal. Some citizens are alarmed by the normalcy of this situation for those living in Chemical Valley, whereas others have accepted that this scene is part of the everyday life of this place. A close look at the citizen's experiences of living in this sacrifice zone reveals the entwined impacts of this place on physical and cultural survival.

To the naked eye, smokestacks framing the reserve appear as majestic cigarettes, spewing up into the atmosphere. The bike lanes that trace the reserve's riverfront and then snake up along South Vidal Street leave much to be desired as the community's most accessible transit route. In the words of one resident, "When we go by Vidal Street, the air is really bad. It hits you in the chest. I'm always covering my face. I should just walk around with a mask" (Lily). Cognizant that "you can't go through your life wearing a respirator," individuals make the most of their environment (Olivia). Visions of citizens jogging along Highway 40, Vidal Street, or the riverfront illustrate the irony of attempting to manage a healthy and active lifestyle in Chemical Valley: "I like to go running, but it's hard to do. Oh, maybe I will hold my breath when I go by" (Heidi). Vidal offers the only viable bike route from the reserve to the town. Putting this scene into perspective, another citizen astutely stated, "I'd rather have pollution than get hit by a car" (Stew). Citizens carry on, living their lives much as citizens do elsewhere while trying to enjoy their surroundings.

The only reprieve – leaving – is a limited option for community members who consider this place home. From Sarnia, the glowing landscape on the horizon reminds citizens that their existence hinges on Chemical Valley's persistence. Moving to town provides little respite. Although some citizens have the means, ability, and desire to move off the reserve and into the city, they cannot escape the presence of smokestacks and plumes or the sound of sirens in their dreams (Tonia). As a result, citizens residing both on and off the reserve raise families and try to carry on while accepting the severity of their circumstances.

Living amid the hub of Canada's densest concentration of polymer and petrochemical industries is a matter of life and death. Citizens here dwell between light and darkness. As a community member recounted, a "nightlight" can be an ominous presence in Aamjiwnaang: "I remember being at my parents' house back near LaSalle Line, and the flare would light the whole room up – on Waboose Street. Even here sometimes it lights up everything" (Quinn). During the spring of 2011, one of Suncor's stacks lit up not only the sky but also the ground, as the gaseous ditch caught fire, startling citizens and regulators. MOE's "last ditch effort" to punish the perpetrators left Aamjiwnaang citizens perplexed, as little, if any, regulatory redress occurred.

At times, darkness marks the bodies of children in Aamjiwnaang. One individual recounted a serious event: "The supervisor from the daycare called me. There was black soot on the kids' clothes and on the ground, and I called MOE

and they said they can't prove where it came from" (Nathan). At the time, the daycare was adjacent to Highway 40 and across from the former polymer plant, now replaced by Lanxess. With the support of industry, the daycare relocated to the heart of the reserve. Yet the band office, a resource centre, and a family services building remain in this location. Older community members recalled this sensorial scene: "There's a smell that comes off the styrene plant ... and it reminds me of being little, when I was there. It puts me right back. When I was in daycare" (Ken). As soot fell on the clothes of young children at the daycare centre and on homes, driveways, and cars, citizens assessed the damage: "There was a release ... it was on my car, on the trampoline, on my deck; it was all this black soot" (Quinn). The pittance of citizen compensation arrived in the form of $300 per exposed household. Monetary compensation is a stark reminder that citizens pay the price for both corporeal and community survival.

Children grew up with these facilities framing their horizon: "I remember my parents saying, 'Stay indoors and close the windows.' Not to swim in the river. I even heard, 'Don't eat the deer.' Everything was contaminated" (Quinn). The presence of these facilities even shaped children's games: "When I was a kid, we would play a game and scoop up mercury" (Billy). And it provided them with unique experiences: "It's like mercury. When I was a kid, our biggest thing was, you'd get mercury. Put mercury on a penny and you'd get a dime, use it to get candy" (Kirk). Eventually, this prompted some to ask, "So if it's on the shore ... what is on the bottom?" (Billy). Curious citizens have received few answers. Still today, parents speak of how toxic barriers frame youthful enjoyment of the landscape:

> You can't do too much with your kids. Sometimes it stinks. You don't know what's in the ground or waters here. At the powwow ... in the creek back there, there were a bunch of kids playing, and I thought, where are these kids' parents, why are they letting them play there, when there is a sign that says it contains toxic materials? When your kids go outside, you worry about them because you don't know what they are going to get into when they get out there. (Candace and Blair)

With the castle-like majesty of the smokestacks, some children find them enthralling, whereas for others they signal potential harm. As one mother shared, "My son always points it out too. He says it stinks. He knows they're not good for us; he's only three. He says, 'Put them in the garbage! It's stinky'" (Nancy and Bella). Enthrallment with the smokestacks reveals but one of the ways that

the sights of Chemical Valley capture the imagination. Some in the community recounted that when gazing up at the sky, they would imagine seeing novel shapes in the fluffy atmosphere. At Christmastime, the twinkling stacks deceptively brighten the landscape:

> Something used to burn over there ... and you could see the smoke for miles and miles. The smoke was so big. I was a child. You know how a child will look at the clouds and say "that looks like a bear," or whatever ... The smoke looked like that. I would sit out there and never thought that smoke was going to hurt me. I don't know if they covered that up or what. They used to take everything back there ... at Christmastime, light it up. I thought that was really pretty ... They were bright, all different colours, like a bunch of Christmas trees. (Nancy and Bella)

The stacks that perforate the sky, these manufactured nightlights, affect the bodies of Chemical Valley's closest neighbours. Citizens feel and hear the rumble on a recurring basis (Quinn). These vibrations remind citizens that the rhythm of this environment is set by the beat of an industrial drum. Many community members worry about these effects on their children and future generations. One concerned mother said, "I still have a young daughter who is being exposed to a lot. There are leaks down here – benzene and whatever. So I think she's, you know, being exposed. The sooner I move her away, the better for her health" (Tiffany). Whereas some members noted concerns about their own health, many expressed frustration and sadness about the impact on the generations to follow.

And it was not only the adults who expressed worry. Families told stories of children speaking up during community consultation proceedings, simultaneously evoking rage and admiration that youth are propelled to voice their ongoing fears. "I've noticed our young people know a lot more because they are very concerned ... I get scared thinking, 'We're just surrounded.' It just takes one day ... for something to blow up and everything is gone" (Larry and Sonja). Worried about pollution's impact upon the creeks, trees, and deer, citizens refrain from catching game and wildlife on their land. Many spoke of experiencing a range of emotions, from "fear of mutating" to apathy (Stew), when sirens, evacuations, or shelters-in-place occur.

Citizens are frustrated with hearing from local officials that there is "no offsite impact." Impacts are felt, smelled, and feared: "They always say, when there is a spill or release, that there is no 'offsite impact' ... They think about their property but don't think about us living next to them" (Sam). According

to one community member, "They say 'no offsite impact' ... That's a good one; it's not like the fumes or anything stop right at the gate line" (Tiffany). The persistent declarations of several facilities that their releases have "no offsite impact" infuriates some individuals: "That's the stupidest thing I ever heard. It's airborne. That stuff gets carried around for miles" (Edward). The plants cannot control the wind direction. Bright orange windsocks frame the reserve's perimeter, offering a symbolic and recurring reminder that at any given time, noxious fumes could be pouring over Aamjiwnaang.

In the case of spills, high-frequency emergency sirens alert citizens and prompt them to take action. There are three sirens situated within the Aamjiwnaang reserve's boundaries. Sounding at three-minute intervals – of five-second tones and a beat of silence – the sirens inform locals to head indoors, close all windows and doors, turn on the radio, and either shelter-in-place or evacuate. If a shelter-in-place is ordered, "The first thing you should be doing, unless advised otherwise ... it's like close the windows and shut the air off. Turn on the radio. It takes about a half hour more before you're notified. It could be all done with before the radio gets it. That's probably an emergency management point of view" (Tiffany). Some residents simply "turn the radio on ... and carry on" when the sirens sound (Candace and Blair). Citizens know the drill: turn on the television or radio and wait.

Aamjiwnaang citizens are constantly on alert. On Mondays at 12:30 p.m. sharp, the test sirens sound. As one resident explained, "I forget sometimes. That scares me. I'm always scared, worried, and still think some days, what if we all have to evacuate? Where are we going to go? Are we actually going to get out that fast?" (Larry and Sonja). For others, the frequent sound of the sirens, akin to the "boy who cried wolf," has had the opposite effect, causing them to grow complacent: "The thing about it is, it's normal. Really, when the sirens go off, I ignore them. I've grown accustomed to them. They honestly do not bother my children either. It's normal. It shouldn't be" (Elle).

Some community members claimed that when the sirens sound "it's not a big deal" and that there is no point "running around with your head chopped off" (Billy). These individuals laughed off community distress around this routinized sensorial existence. Characterizing the everyday normalcy of the sirens' presence in this place, community members described the perpetual chime that helps them keep time:

> Especially when you test them – every Monday at 12:30 – I set my watch to them. It doesn't bother me. I hear them go off and I know it's Monday. I don't know if any of their systems work all that well. There are different systems.

> One system would automatically dial residents' phone numbers. They do put it over Cogeco – I would get a test alert on Mondays. The idea is that if there is a real emergency, you turn on your TV ... If there was an emergency and I was supposed to evacuate, I don't know how I would ever tell. (Edward)

One plant worker described hearing the sirens "when you go for lunch break" (Frank). The shrilling sirens become a normalized part of everyday life in this environment.

Sirens, thunder, and lightning are common audible signals causing fear and anxiety among Aamjiwnaang citizens. Community members recalled being sent to neighbouring "safe havens" like the Holiday Inn, St. Clair High School, and the Lambton College cafeteria. Memories imprinted upon the psyches of the community's adolescents fuel their fears of potential strikes to the adjacent petroleum holding tanks each time a thunder or lightning storm occurs (Ken). As outlined in the Preface to this book, a 1993 incident resulted in a community evacuation when lightning hit an adjacent chemical holding tank. This event remains fresh in the minds of citizens living in Chemical Valley: "It was really traumatic for me. Ever since then, I've never trusted a lightning storm" (Elle). The explosive impact of this incident left a lasting impression on community members: "When a Suncor tank got hit by lightning, we got evacuated. It was scary. I was living near Esso, [and] I was worried about my mother and brothers" (Frank). Residents recounted, "I remember. I was fifteen when the one caught on fire. We had to leave. They tell you to stay inside. It's weird to live like that. We live ... being scared of your own ... Your home is like a refinery" (Edwin). As some discussed, if the plants were to "blow up," there would be a "chain reaction; all the plants would blow up, so that's what I think about too" (Candace and Blair). Concern with the possibility of a "chain reaction" event was a common theme: "Everything would be wiped out. I heard Sarnia is on the top-ten bombing list ... because it would cause a chain reaction if a bomb went off" (Candace and Blair). Understandably vexed about their livelihood and well-being, citizens asked, "We get blown up – who's responsible?" (Nathan).

The threat of evacuation remains constant. One elder recalled the past public service announcements – via megaphone – alerting citizens to leave their homes: "I have experienced a few ... There hasn't been sufficient protective gear" (Kimberly). Each time there is a thunderstorm or severe weather alert – as are frequent in Lambton County – many citizens cower in anticipation of the worst. Such circumstances have prompted some community members to ask, "What if we have a tornado and it hit those places: what would happen? Would we all

blow up?" (Nancy and Bella). For many, the end seems near: "I know a lot of people are proud of their heritage and don't want to just give up and leave, but my fear is that with everything going on in the world and with stuff getting closer to home, it's going to be the end with no warning, and there's nothing we can do to stop it" (Charlotte). Hope is a concept with limited meaning for individuals struggling against such circumstances at the edge of industrial civilization. In its place, fear resounds.

Whether they are subject to the smell of rotten eggs or to the orange glow that glazes the sky, individuals living within the valley experience a stimulating and terrifying sensorial, aesthetic environment. Benzene exposure continues to be a visceral concern: "I've seen it. I've tasted it ... Workers were asked to dump coveralls in benzene. It would eat the oils right off"; moreover, repeated exposure has prompted speculation about whether it can affect one's reproductive health (Ken). Chemical Valley leaves a poor taste on this community's palate.

Over the years, fish consumption patterns have changed: "I grew up on it. You can taste the toxins. You can smell 'em when you're cooking them. You're used to it. We ate quite a bit during the fishing season. That was our dinner" (Ken). For many, it takes leaving the community to recognize the ongoing environmental health concerns. Some individuals noted differences in comparison to the neighbouring Kettle Point Reserve: "When I used to come to Sarnia before [from Kettle Point], it just stunk. After living here, you just get used to those smells" (Tiffany). Others described their appreciation of nature when vacationing. For example, one community member said, "I was looking at a palm tree [while in Florida]. I'm going to take a picture of that. It just looks so nice. I realized it's because there was a blue sky ... We never get to see blue sky. It's always grey with smog" (Tanya). In Chemical Valley living in a constant state of alarm, continuously on alert, has become a routinized, everyday experience.

Many community members feel helpless against the plants' presence in their everyday lives. Moving away provides little solace. After moving her family off the reserve, one mother said, "I don't think I can change things. So I don't think about it. It's not something you think about when it's there every day. So you just lay down and take it. It's all you can do" (Tonia). She said that being stuck, weighed down, and helpless can feel like "an arranged marriage gone wrong." Few are compelled to voice their discontent: "I probably could [speak out], but it doesn't do any good. If Shell is going to expand, or Suncor, or whoever, or build a new plant or a new plant comes in, there's not much we can do about it;

we can't say, 'We don't want you here, you're killing us.' They say, 'But the money! Look at the jobs we provide'" (Edward). At the same time, several individuals remained unfazed by their surroundings: "Right now, when you catch this ... your body either stops it or it doesn't. There's nothing they can give you" (Kirk). What to some would be upsetting or distressing is to others just another daily occurrence, another experience, another instance of a toxin impacting their life.

Accountability to Aamjiwnaang citizens for industrial releases is not a transparent process. Sometimes the reserve's boundaries are policed: "We call it the 'yellow canary.' We say there is a strong odour coming from an area, can you go see what it is? What happens if you go there [to the site of a release] ... There is a strong odour, but you don't get out of there; they don't prepare you for stuff" (Quinn). Some chemicals cannot be sensed at all.[1] This "sniff test" is but one tactic employed by those charged with addressing issues of environmental concern. Those who are employed to police the plants worry too about their health. Exposed to benzene, one individual sought compensation, only to be brushed off: "What do you do? Someone says seek legal advice? It's a billion-dollar [industry] ... I don't have the money for a lawyer ... so I never did" (Quinn). Benzene is but one chemical released here.

Although some citizens used to believe that the government was protecting them, they are increasingly less certain: "I know we've lost a lot of our people from some kind of cancer ... Whatever is coming out, you breathe it in. But they don't realize, someday down the road ... They never come to the rescue" (Sam). There is an acknowledgment that the environment is harmful and a concern that nobody – neither the government, nor industry, nor media – monitors the plant activity closely enough:

> Sometimes they don't tell us or whatever when there's like a chemical spill or whatever. They don't say and they're supposed to ... It seems they keep it right out of the media or something. Like when you had that flare, it landed in that ditch on Vidal [Street], and that wasn't even in the media. But people took pictures of it. But after it was out, it was burnt. Great big burn marks on the grass. (Nancy and Bella)

Distrust of both the industrial facilities and neighbouring regulators is an ongoing issue. The flare's dominance does not go unnoticed. At night, "you can really hear the flaring. I don't think that's normal. To me, they are not informing the public about what they are burning" (Evelyn). Moreover, "with the smokestacks you can constantly see them flaring, and I don't think that's normal ...

With the flaring, they are releasing something but they are not telling you what they are releasing. They are so high at times" (Evelyn). There is confusion around who is to blame for this situation. Perplexed, individuals struggle for governmental recognition of their concerns:

> It's mind-boggling how the plants, they can get away with it. I don't know if it's the government or what. Somebody's got to step in and say it's affecting peoples' health. People in the plants have health concerns. But they need the money to pay for their mortgage or put their kids through schooling. So they risk their health for that benefit. That's not right. (Evelyn)

Community members feel trapped, and that they are at the mercy of limited state protection for their health and environment.

Despite the harrowing, swirling, and nauseating landscape of Chemical Valley, it is home and it is familiar. The deeply affective familiarity of this place is at once felt and smelled. According to one community member, "That's how I knew I was home ... You get that 'home feeling' from that nasty chemical smell" (Bob). And what do you do when you smell something out of the ordinary? There are some – limited – possibilities: "First thing is look the way the wind is blowing. If the wind is blowing the other way ... I don't think you have to move. If you smell something ... you should take shelter. Even if you can ... if there's an offsite leak, you can't prove it. The wind will blow it away ... They are like, 'What? We didn't do nothing'" (Bob). Some citizens stand their ground. If there was another evacuation announcement, not everyone would be hasty to leave the reserve "vulnerable and defenceless" and thus subject to foreign occupancy (Bob). You have the option to evacuate your home; you cannot evacuate your body.

Citizens' everyday experiences reveal a multiplicity of sensorial relationships to this place they call home. The atmosphere evokes light and dark, fear and hope, smell, taste, and touch. It is a region enabled by policy decisions and nondecisions. Bodies encounter, interact with, and bear direct witness to these decisions. Responding to this alarming sense of place, Aamjiwnaang citizens do not sit idle. In their ongoing practices of resistance, they access, deploy, and articulate experiential knowledge as they mobilize for justice. The next section discusses citizen agency and these actions as forms of resistance to ongoing toxic exposure. It then assesses the intersection between physical and cultural survival in Aamjiwnaang, which is directly affected by the reserve's geopolitical location within Chemical Valley.

Bodies Exposed: Taking Action

For many local community members, Chemical Valley is a sickening environment. One heartbreaking incident entailed a family's rude awakening when their son rose one morning with a bloody nose and his body covered in bruises. After he was diagnosed with leukemia, his swift passing rocked the community. Family members began to take action. They participated in numerous studies and mobilized knowledge to protest their toxic exposure – from body-mapping, to biomonitoring, to blockades – hoping to make their environment and home a safer, better place for future generations. Sickness abounds:

> As long as we are living in this area, we are always going to be sick. No matter how much they reduce the emissions from the smokestacks. You can see it. You can smell it. It affects the breathing, your sense of smell ... We're always going to be sick people ... I just don't think it's fair that we're sick. It shouldn't have to be that way. (Elle)

Citizens living in this community worry about a range of health issues, including physical and mental ailments. Some individuals reported difficulty focusing and noted that many children in their community grow up with learning disabilities (Elle; Ken). As one community member stated, "I've noticed the younger generation, teenagers and that, have commented that they all have ADD or ADHD: 'You name it, we've got it.' They're all on pills for some kind of condition they believe was due to the environment. I found that kind of amazing that so many were diagnosed with learning disorders" (Tiffany). Widespread psychological and physical health concerns affect the community.

Reproductive, respiratory, cardiovascular, and cancer-related illnesses are commonplace health concerns in Aamjiwnaang. Frequently, citizens connected these ailments to the environment: "I've seen many people die from complications from whatever comes out of these releases; there's been a lot of cancer; we're loaded down with asthma" (Sam). Residents expressed concern about the breadth of health concerns in this community, from thyroid issues and fibromyalgia to arthritis and a declining birth rate (Kimberly; Stew). Cancer is so present that it prompted some to say that "good health" in Aamjiwnaang can be reduced to being free from cancer (Edward). There was a common sentiment that Aamjiwnaang is facing an "epidemic of cancer" (Ken). Many feared that residents are not dying from "natural causes" internal to the body, such as heart failure, but are passing away from external factors, such as contaminants penetrating citizen bodies (Candace and Blair; Elle; Nathan; Tiffany). Mention of

the omnipresence of cancer prevailed: "This year, if I took a number of people who've passed on, 99 percent is health related somehow to the environment in this community ... I've yet to see a natural death. That's a concern" (Nathan). As a result, citizens have begun to mobilize for change in order to raise awareness about the health circumstances plaguing the community.

Frustration with this noxious environment has propelled many citizens to assume responsibility for safeguarding their lives. Thus they are interpellated into being citizens on alert. They keep spill calendars, document the frequent releases, smells, and accidents, experience shelters-in-place, close their windows at night, evacuate, monitor wind direction and speed, and assess general air quality. These citizens have employed a variety of tactics and strategies for seeking recognition of their concerns. To increase awareness, with raised voices, community members have joined various environmental campaigns, which periodically receive flurries of local, national, and international media attention.

At the turn of the twenty-first century, while numerous local and national environmental initiatives garnered attention, Aamjiwnaang began to take a more active role in approaching and engaging with government and industry associations. Thus local citizens pick up responsibilities where government authorities fall short. By 2002, under the leadership of Ron Plain, the Aamjiwnaang Health and Environment Committee formed in response to Suncor's desire to establish Canada's largest ethanol plant just metres away from the community's band office.

In 2004 a flurry of outside interest regarding the high volume of accidental releases in Chemical Valley poured over the community. Aamjiwnaang's new emergency response planner, Nathalie Nahmabin, claimed that community members felt like a big "sitting duck" in Aamjiwnaang (Mathewson 2004b). Members of the Health and Environment Committee wrote to the Ministry of Environment, Natural Resources Canada, Environment Canada, and Health Canada to protest the federal government's provision of $22 million in funding for Suncor's site expansion as part of Canada's Ethanol Expansion Program. The community refused to be idle. "Enough is enough," they said, and a roadblock ensued in protest. The protest placed Aamjiwnaang on Canada's media and geopolitical landscape. Industries, government officials, and researchers began to notice ongoing concerns.

Angry sentiment persisted in February 2004 when Imperial Oil released 150,000 litres of solvent into the river, followed by a Suncor release of 44,000 litres of crude oil (Poirier 2004b, 2004c). In communication with the Sarnia Police Department, Suncor asked Aamjiwnaang residents to shelter-in-place.

A few months later, Suncor spilled 140 litres of gasoline, benzene, toluene, and other chemicals into the St. Clair River. Drinking water downstream in Wallaceburg, Walpole Island, and Stag Island was shut off for the fourth time in eight months, and radiator fluid was detected in the water both on Walpole Island and in the city of Wallaceburg (Mathewson 2004c). Finally, provincial officials took action.

Following this increase in the number of detected spills, Environment Minister Leona Dombrowsky and the ministry's thirty-member Industrial Pollution Action Team conducted a year-long sweep of regulatory compliance within Chemical Valley between 2004 and 2005 (MOE 2005). The high-profile team inspected thirty-five facilities,[2] finding all but one to be noncompliant with one or more of the regulatory requirements (ibid., ii). The sole compliant facility, a chemical plant, merely stored products and off-specification materials. Common deficiencies included a lack of spill-contingency and spill-prevention plans; no certificate of approval (COA) for wastewater collection and treatment or for air-emission control and treatment; altering equipment, systems, processes, or structures contrary to the COA for air or waste; and improper chemical handling, storing, and identification. Overall, 260 instances of noncompliance with environmental as well as legislative and regulatory requirements were identified. As the MOE team conducted its activities in Chemical Valley, environmental and human health issues caught the media's attention. In February 2004 CBC's *Disclosure* broadcast a series that investigated health impacts in the valley following a recent Imperial Oil spill (Mathewson 2004a).

The sequence of spills, accidents, leaks, and explosions caused community members to look at their local environment and their own bodies with alarm. Aamjiwnaang citizens mobilized to learn more about the impact of toxins within their community. In addition to emergent environmental concerns about toxins in Talfourd Creek, which swirls through the reserve, ongoing research documenting both the presence of "gender-bending," or endocrine-disrupting, chemicals in the nearby waterways and the impact of hormone-mimicking chemicals on wildlife, such as intersex fish, feminized amphibians, and other reproductive abnormalities, has caused citizens of Aamjiwnaang to look at their own population and birth patterns with raised eyebrows (Scott 2009; Weisskopf et al. 2003). Endocrine-disrupting chemicals – PCBs, cadmium, arsenic, and lead – were detected in Talfourd Creek. For years, this creek served as a drainage ditch for industries like Suncor, Praxair, and Dow.

Members of the Aamjiwnaang Health and Environment Committee teamed up with the Occupational Health Clinic for Ontario Workers – Sarnia (OHCOW)

to conduct a door-to-door body-mapping survey of ongoing health concerns in Aamjiwnaang. As Scott (2008, 319) discusses, body-mapping is an epidemiological technology that pools the collective complaints of a community to identify patterns. This technique makes community concerns visible by affixing colour-coded sticky dots on human-size body maps to visually reflect symptoms (see Figure 3 below).

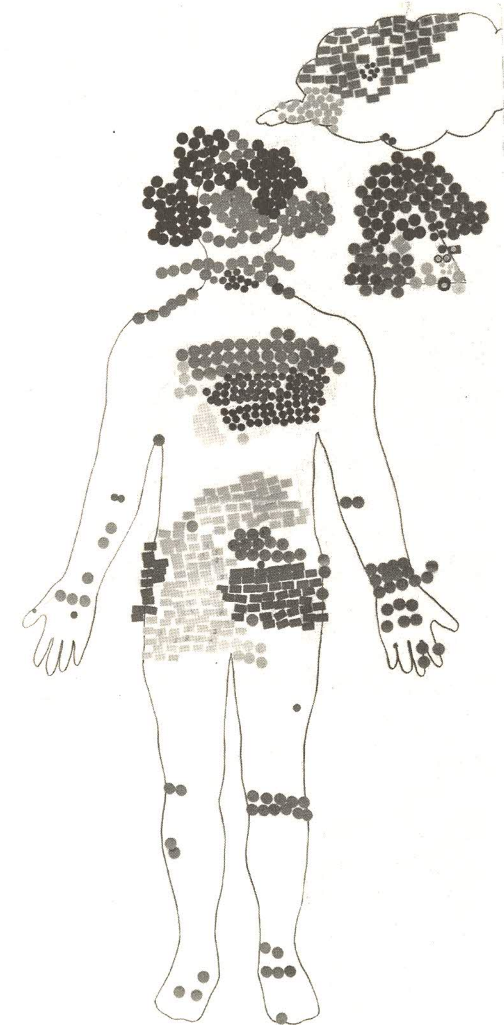

Figure 3 Body map

At the same time, a team of researchers, including OHCOW and Aamjiwnaang community members, engaged in community-mapping, a participatory research strategy to document community health concerns. Community-based researchers tracked birth ratio data over a twenty-year period, noting that between 1999 and 2003 eighty-six girls and forty-six boys were born, thus illuminating a birth ratio of nearly two females to one male (Mackenzie, Lockridge, and Keith 2005). The study revealed that since 1993, the male birth rate had declined significantly. News that women were giving birth to a disproportionate number of girls received national media coverage (Mittelstaedt 2004, 2005). These findings caused considerable fear about the potential loss of culture within the community and elsewhere. Consequently, a movement for environmental and thus also reproductive justice was born.

Shortly thereafter, recognition of Aamjiwnaang's situation within Chemical Valley began to reach policy makers at various levels of government. Emergent concerns regarding the twin issues of *health* and the *environment* on a First Nations reserve illuminate the nebulous, ad hoc dimensions of multi- and trans-jurisdictional policy making. Aamjiwnaang citizen Wilson Plain and his family participated in the ongoing national biomonitoring study Toxic Nation, which uses blood and urine samples to determine individuals' body burdens across the country (Dobson 2006b). In response to Aamjiwnaang's birth ratio study, a former president of the Sarnia-Lambton Environmental Association, the mayor of Sarnia, and Lambton County representatives called for a federally funded, comprehensive public health study focused on Lambton County (Dobson 2006a). Health Canada agreed, provided that local health authorities would play a leading role. Negotiations between local stakeholders regarding the establishment of a governance structure ensued.

Meanwhile, Ecojustice published a revealing report, *Exposing Canada's Chemical Valley*, which highlighted the results of the community-based body-mapping activities and detailed ongoing health concerns in Chemical Valley (Ecojustice 2007a). Community-based participatory activities continued, including "toxic tours," biomonitoring, body-mapping, participation in nearly a dozen documentaries, and community-based air-monitoring initiatives, such as bucket brigades, with the help of the California company Global Community Monitor. The bucket brigade

> allows residents of contaminated fenceline communities to actively participate in environmental monitoring and regulation. In essence, those residents are equipped to sample the ambient air in their communities at times and locations of their own choosing. The team consists of "sniffers" and "samplers" in a coordinated network using low-cost grab samplers that are explicitly designed to be inexpensive, easy to use, and made of materials that can be found at a local hardware store. (Scott 2008, 336)

Bucket brigades are a form of citizen-based epidemiology, or citizen science, a frequent strategy in Aamjiwnaang. Global Community Monitor showed Aamjiwnaang citizens how to collect air samples when a spill occurs using a plastic bucket approved by the US Environmental Protection Agency.

Residents thus take samples, log the time and wind direction, document physical sensations and any smells, and subsequently send the samples to a California lab to be tested for toxic chemical composition. According to one community member, "The bucket brigade picked up stuff ... but the Ontario government doesn't recognize that. We got this information from California. It was a lot of money to send down a sample to pay for it. They said, 'No, it's American. It's no good in Ontario, Canada'" (Sam). The ongoing costs of the bucket brigade fall upon the reserve. When community members detect any smell above a six – on a "stink scale from one to ten" – they are advised to take a sample (Sally). Citizens wonder about the chemical composition in the air around their cemetery. They are frustrated with the government's response to their environmental health concerns: "They keep saying it's our lifestyle factors ... choices that come into factor" (Sally). From smoking and drinking to using carpets, fabric softeners, cleaning products, and makeup, "lifestyle factors" or "choices" are targeted as health matters of personal responsibility. This response offends community members because it decontextualizes and distorts their lived realities.

In the years that followed, Aamjiwnaang citizens employed a variety of strategies to raise awareness about their corporeal and environmental concerns. In 2008 Health Canada funded a health symposium held in Sarnia. Although it drew an international crowd, Health Canada representatives refused to speak publicly about its fiduciary responsibility for Aamjiwnaang's environmental health. That year, Aamjiwnaang received its own air monitor, which remains located adjacent to the band's health centre.

The regulatory instruments available to them appear in a context of what the ministry calls an oversaturated airshed. According to Ontario's Environmental Bill of Rights, when industries wish to change their operations, the public is entitled to a thirty-day window for submitting comments and objections to be reviewed by the ministry (Government of Ontario 1993). Given the high concentration of facilities adjacent to Aamjiwnaang, staff responsible for providing input and feedback on the bill's website stated that "this does not work for

Aamjiwnaang" (Tina).[3] Consequently, the community has sought an alternative, nonstandard notice procedure and consultation arrangement.

Refusing to be idle, community members become accidental activists in response to their environment. At one community event, Ada Lockridge described her experience learning about her neighbourhood:

> I didn't know that we had a say on what goes on in the plants. I didn't know what was being released, or how much, or the known health effects from it. I didn't know to call the Ministry of Environment's Spills Action Hotline to report any unusual smells or happenings or to ask for a copy of the incident report. I didn't know that when there is an evacuation, that I should check the wind direction and know which plant it is so I can take the safest route away ... I didn't know that it wasn't safe to play here, in the river, or the pond, or the ditches. I didn't know that it wasn't safe to eat the fish, or the deer, or the rabbits here. I didn't know that I should keep my windows closed at night since the flares from the stacks mostly burn at night, so as not to bother so many people. I didn't know which government is responsible for what ... I didn't know that when Suncor was digging their first flare stack, they were digging up human remains. I don't know what they did with them ... These are some of the things that I didn't know, but I do know now. (Lockridge, Field Notes, First United Church, Waterloo, Ontario, April 6, 2011; Kiijig Collective 2012)

Officials frequently disregard residents' claims as speculative, unrepresentative, and unscientific. Although this community lies beyond the technical point of impingement by industrial emissions, residents occupy a middle ground, living with their bodies on the line between the insecurity of these "unknowns" and the security of what they "know" about their homes, bodies, and environments (Wiebe 2012). Citizens thus assume the responsibility for serving as stewards of land and life.

For some, it wasn't until joining community organizations that they began to notice their surroundings: "When I got on these subcommittees, I started realizing this" (Sam). Citizens situated in this place share knowledge and join together as they articulate harm. Political mobilization includes joining committees and organizations such as Victims of Chemical Valley, participating in door-to-door health studies, and sharing information on issues arising within the community through Facebook groups like Aamjiwnaang and Surrounding Area against Chemical Valley as well as Save Aamjiwnaang Forest and Ecosystems. Youth also mobilize creative voices to raise awareness about everyday life and to defend their home and land. Through groups such as the Aamjiwnaang

Green Teens and the Kiijig Collective, they organize to raise awareness, share knowledge, and seek social change.

While alive, citizens here do their best to survive. Many seek knowledge about their corporeal condition. As one community member noted, Aamjiwnaang officials, particularly the Health and Environment Committee, "are trying to get blood samples" of its citizens in order to gain a better understanding of the community's body burden (Kirk). Some community members continue to seek answers about their biological makeup: "I'd like to take a blood sample or something" (Sam; Sonny; Walter). Citizens participate in biomonitoring studies with the hope of better understanding the chemical composition of their biology for a variety of reasons. As one individual stated, "Knowing all these things are here, to me, just means I'm closer to the fight. I can keep working to try ... You may not ever get these plants and chemicals out of here, but you can at least make people aware and smarten up" (Walter). Those community members taking action and mobilizing for change are living on alert, trying to keep their industrial neighbours accountable. Citizens often cite the importance of keeping an eye on Chemical Valley to ensure that authorities follow appropriate standards and regulations (Sally; Walter). Engaging in biomonitoring studies is a recurring activity in Aamjiwnaang.

Whether or not the results of biomonitoring will be enough to achieve regulatory redress is a topic for future analysis. There exists a common fear that without the ability to generate credible, scientifically proven data that link one's biological makeup to harmful chemicals attributed to specific chemical refineries, environmental health concerns will not be an immediate policy priority and that report findings will continue to be silenced by officials and policy makers (Sonny). These individuals thus fear that it continues to be easy to discredit such data as merely "experiential" – unscientific and unproven.

Charged with calling MOE regulators and government officials to address environmental health concerns, citizens grow weary of living in a state of alert. The onus of environmental monitoring on the reserve is tiresome: "All the work that we do, we have to search and find everything before they take action. Why are they making me do this and making my body like this? I can feel the stress. When I do hear the sirens, I do feel my body tense up. I try to find which way the wind is blowing" (Sally). Hearing the shrill sirens is but one deeply felt lived experience.

Stress and bodily impacts are constant. The visceral effect of the sirens is an ongoing affective dimension of everyday life here: "When it turns towards you and hits you, the sound wave hits you, hits me; I could feel it vibrating my entire body from inside out" (Steve). According to another, as the plants burn off excess

gases, "You can feel it; you can actually hear it because it's so loud" (Evelyn). Citizens mobilize, articulate their corporeal injury, and await response.

Mental health impacts cannot be understated. Finding solace among the chaos of contamination remains a challenge for community members trying to cope. Citizens note that on excursions into the bush, they are not exempt from Chemical Valley's sensorial residue, as the constant whizzing of the stacks accompanies hunters and gatherers on their expeditions deep into their territory. To find a healing place, community members will park along the reserve's service roads or drive into the community of Corunna, which is a town south of the reserve, and not within the reserve itself. One resident explained, "It's not just the visual and the smell. It's the sound, the noise pollution. There's no real place to be in solitude, no matter where you go. Even if you're in the middle of the bush, you can hear the trucks go by, flames, cars going down the 40 highway. No real peaceful place" (Charlotte). Citizens residing here try as they might to turn a blind eye – or ear, or nose – to Chemical Valley.

Many cope with this slow-moving, latent catastrophe by carrying on and living their lives: "You know it's there. You have to drive right through it. Not look to the left or right. And sometimes you smell that crap ... I just stay in my house. It's sad because it gets depressing when you have to lock yourself up" (Charlotte). Living like this functions as a kind of self-imposed shelter-in-place. As a community member noted, "There's no way you can deal with pollution. It's around us. You're going to go outside and walk around and breathe in pollution. What can you do? Put on a mask and walk around Aamjiwnaang?" (Mike). Feelings of helplessness coincide with apathy, despair, and loss. Despite this overwhelming situation, the community continues to survive as a distinct group of Indigenous peoples and to practise an Anishinabek way of life.

From sheltering-in-place to documenting spills and releases, biomonitoring, body-mapping, and bucket brigades, members of the Aamjiwnaang First Nation assume responsibility devolved from external authorities for protecting their health and local environment. The current regulatory environment, formalized through procedures such as the Environmental Bill of Rights, expects citizens to be on alert and to respond to ongoing noxious releases. For communities like Aamjiwnaang, these processes do not adequately account for cumulative effects and cumulative affects: citizens' bodies in this place are subject to exposure unlike that experienced by their Sarnia-based neighbours. Many ask why they do not leave. As stated, the Anishinabek people have a long history in this place, having established treaties with the Crown prior to Canadian Confederation. It is their home, and their territory is central to being Anishinabek.

A Matter of Cultural Survival

> I wouldn't move. No way. We are in the heart. The whole heart. You know Turtle Island? Aamjiwnaang is the heart of Turtle Island. North America is shaped like a turtle, we are where the heart is supposed to be ... It's the heart ... You can hit every major artery; every town that was booming back in the day you could hit from here in a day's travel.
>
> – **Bob**

Pollution profoundly, physically, and culturally affects the inextricable link between health, home, and habitat in Aamjiwnaang. In the words of community members, "Once that pollution's in our bodies, it's not going to leave, ever ... [So] your body must become immune to it ... [We're] used to it" (Larry and Sonja). Citizens of the Aamjiwnaang First Nation are thus frequently asked, "If your land is so toxic, and your health suffers, why don't you just pack up and leave?" Their responses to this question resounded with resignation: "For our future, healthwise it's definitely going to be a lot healthier for our community if we move" (DJ). In the words of another community member, "I'm already thinking that if they don't move the reserve, I'm going to move myself eventually. I don't want to move. I don't want to live in this cloud of pollution. I don't want to expose my kids to this when they don't need to be. I don't want this for them" (Diane). Fear of losing their connection to the people, community, and land deters residents living both on and off the reserve from leaving this area: "I would consider moving [but] I want to stay. I have a dedication to the Friendship Centre and to help out the people that way, but also being a pipe carrier, and this community doesn't have too much culture or faith keepers, so I have to go away to learn those things" (Frank). Some stay and many leave. Some return.

Moving away is a possibility always confronting citizens of Aamjiwnaang. Individuals living in this environment suspect that things will be better elsewhere. In Aamjiwnaang there is a concern that "people live here for a few years and get asthma ... They move away and aren't angry anymore ... They live here and start to get nosebleeds" (Elle). Relocation is a possibility that receives mixed reviews within the community. The question of why people do not move evokes a variety of responses. Notably, one resident said, "Well, this is my home. Why don't you make it safe?" (Kimberly).

Mobility, leaving, and relocation may be ideal in theory; however, freedom of movement is a concept imbued with privilege. Citizens are torn: "I love my

community, but at least one time per week, I want to move off Aamjiwnaang. But I feel helpless. This is our home. We shouldn't have to go off where we grew up. It angers me – a lot" (Elle). Despite what citizens do or say, there exists a strong sentiment that little change will occur.

Movement is a privileged notion. For many reasons, citizens attach meaning to this place, Aamjiwnaang, their home:

> That's why community members want to stay here. It's their home. When I was younger, the land used to be so fresh, and we used to respect the land more and live off the land. Nowadays, with all the talk about pollution back then, maybe they are cleaning it up a little more or trying to hide it with the technology they got now. It's still in people's minds though, I think. You take a car, look how many years it takes to rust if you leave it sitting there ... It's the same way with the land. When I was younger, it was nice and green ... Then they moved in, and it took all these years for it to affect the land and animals. (Denny)

Leaving is not a viable option:

> I would never want to move away from here. This is my home. This is where I was raised. I've lived here my whole life ... So many memories I have. This is my home. This is, right here, a house, that we call our real home. We wouldn't have this place if this world wasn't here. Our Mother Earth. That's our real home. This whole place, this house, is going to be gone if we keep doing the same actions to this world. It is going to be gone someday. (Larry and Sonja)

This is a place to "be" Anishinabek: "Even though we are in the plants, it's the freedom. If you want to blast around, go fishing ... it's not as regulated as in the city ... I feel really close to nature" (Ken). When asked whether it would be viable to move the reserve, one citizen explained, "This is where they are going to lay me to rest, here, 'cause it's my home" (Sam). The environment is a matter of life and death for these citizens.

In lieu of family portraits, funeral cards adorned the mantelpiece of one interview participant. As some suggested, industry "might put food on the table and pay the bills, but it might put you in the ground. That's the pay you get" (Nancy and Bella). Making a living in this community is a perilous affair. A worker noted, "When I got this job, I said, 'I guess I'm sentenced to die' because of the air here" (Lily). Black humour and dark comments are revelatory of death's persistent visceral affront to daily life. As one citizen put it, "I plan on

going to our noisy cemetery. That's where I plan on going" (Bob). Another added, "I grew up here, I live here, I'm going to die here" (Nathan). Reserve passersby take note of the community flag's unrelenting half-mast status. One resident said, "If you're not losing someone, you're supporting someone who's going through a loss to cancer all the time" (Lily). When citizens gather together in the reserve's cemetery to pay their respects to the departed and to mourn the loss of their loved ones, ceremonial song, drumming, and tears coincide with the sound and sight of whizzing, vibrating, flaring stacks. The location of the reserve's cemetery, encircled by industrial refineries, further demonstrates that dead or alive the reserve is not a place where one rests peacefully.

In this setting, ecological vitality cannot be separated from cultural vitality. Although "just being here is fine enough" for survival, citizens' loss of a connection to the land constitutes a much deeper disconnect: "When the youth lose that identity, being part of the land ... it takes away from personal growth ... all those areas, land and resources, and way of life that we live. Talk about cultural genocide" (Ned). This notion of "genocide" is not simply about the loss of people – as Canada's colonial history reveals – but also about the loss of a way of life. In the words of another community member, "People have already given up. They've already kind of figured that we've lost it. The habitat is destroyed. It's gone" (DJ). The idea of relocating from this place is difficult to accept given the community's lengthy history and deep attachment to and rooting in this place: "A lot of things tie us into the land, for a long time, since the 1600s. That's a long time just to move" (DJ). To maintain an Anishinabek way of life and sustain their inherent rights, citizens must practise their teachings about fishing, hunting, gathering, and so on.

Although they are indeed concerned about the loss of culture and traditional ties to the land and about the impact of pollution on present and future generations, the reserve is one of the few remaining places where citizens maintain a connection to their way of life, no matter how contaminated. They cope with catastrophe and contamination to maintain cultural ties, teachings, and traditions. Despite acknowledging that the chemical plants make Mother Earth sick, a former Suncor worker and current community member noted:

> When you go up top, you can see how the river bends. It snakes through. When you look at the reserve, you cannot see a house. All the trees are surrounding it. It hugs the reserve. It protects it all. You look over, and you can't see a single house. It's like Mother Nature is just hugging the First Nation like that. You can't see anything. They say the leaves do protect. I do enjoy being here, hiking, sweats, absolutely. (Ken)

Citizens lamented the imminent possibility of relocation: "To survive, our people, that is probably what we will have to do" (Ken). Cultural loss is consistently on the minds of many community members.

It is difficult to dispute that changes to the landscape impact how citizens practise territorial and ceremonial ways. One resident said, "I was sitting here with another committee member. He won't pick the heart medicine" (Frank). The pollution impacts healing practices in this community. According to an elder, "We have four medicines – cedar, sage, sweetgrass, tobacco – which I use from here. I have cedar. We put our tobacco down when we use it. I feel that if you do it in a good way, then it's okay ... but people are afraid to use the cedar because of the pollution" (Kimberly). Ceremonies, too, are not exempt from contamination's impact: "When we go into a sweat, which is a ceremony which we call the womb of Mother Earth, we have steam coming up from the grandfathers [heated rocks] in the sweat. That is going to be the purest air in Sarnia [but] you can still smell the pollution" (Mike). The impact of contamination on culture continues to affect the way of life in this community.

Cultural survival includes the preservation of community, land, and language. Some refuse to use the sacred medicines of the community; few carry on as usual. Language, too, plays a part in the loss of a "traditional," or Anishinabek, way of life: "It's almost like our language died out ... held on a little bit, and it's growing again" (Frank). Elders articulated a dire need for ceremonies to preserve a way of life (Kimberly). Examples are the jingle dress, which is a sacred dance of healing, and the fancy dance, which can be performed for visitors. Such dances are not done for money but for deeper spiritual healing and connection to the four directions. In describing entanglements of community, land, and language, one community member stated, "It's all connected" (Ken). Relationships are formed, maintained, and mediated by song, drum, and dance. Connecting with the North, East, South, and West through acknowledgment of the elements of earth, water, air, and fire, community members attempt to survive and thrive in this place through the preservation of customary and ceremonial ways of life.

Loss of this lifestyle continues to threaten their livelihoods. Citizens expressed concern about not knowing where to turn to remediate this loss: "Don't really know too much about the process of what it would take to get the land back to normal, other than healing itself" (Frank). The surroundings clearly impact citizens' daily realities. They feel that they have lost control. Many feel trapped because of limited options:

> I honestly think it's too late for my generation. Every single day I think about the cancer rate around here. I just think to myself, when is it going to hit me? What type of cancer am I going to get? ... Every day. Maybe that contributes to my anxiety. I do have anxiety. I am a worrisome person. I do worry about my family a lot. I do think about the environment and how it's affecting us. Now that this interview is happening, I'm beginning to wonder now. (Elle)

When asked whether there is "hope" for future generations and what their role might be, one community member lamented, "Will there be a role? That is what I ask. Will there be?" Is there hope for cultural survival? How can community members connect to a "traditional," or Anishinabek, way of life when encircled by this "modern" environment?

Making life better in the present involves thinking differently about human–more-than-human relationships. This entails reimagining citizenship. Rather than existing in an environment where toxic plumes blanket individuals, citizens wish to "be in an environment where culture blankets an individual" (Ned). This kind of cultural preservation and consideration of an individual's rooting in larger environmental processes offers an alternative way of thinking about relationships between humans and their environments – an alternative ontology. Ned's story offers an embodied and embedded way of thinking about citizenship as *ecological citizenship*, illuminating the inherent deep-seated interconnection between human and more-than-human life. Acknowledging the importance of this perspective, a provincial environmental official stated, "The Aboriginal thinking is far better. It is far more consistent with ecological theory and a sophisticated science approach than our general conception, which is set down by the bureaucratic separation, our institutional separations" (Gerry). This advanced ecological thinking – about humans and their relationships to each other and to the more-than-human world – not only offers an alternative way to think about citizenship as ecological citizenship but also provides a framework for addressing reproductive injustice, fusing physical and cultural survival with human and more-than-human life.

This Anishinabek perspective contests an egocentric view of the individual body. Discussing the body and its relationship to the surrounding environment, an elder said,

> I was told one time about a story about a filter that is within the human bodies. That filter is the liver ... I would say that breathing all this air from

> the industries in here, we have to filter that air. A lot if it is toxic air, we have to filter that, so that filter is the liver. It's going through our bodies ... When that filter is damaged or polluted with toxins that come into our body, then it dilutes or blocks any emotions, emotional concerns, that we have within our bodies. We just don't care about ourselves, our community. We show less care about what to do. (Mike)

In contrast to the atomistic stance of the predominant Western biomedical mode of thought, bodily function and emotional capabilities are connected to one's relationship with Mother Earth. As this elder further stated, "Your emotions travel to your heart, from your liver, which emit[s] these emotions. They travel to your heart and brain. When the emotions aren't pure and don't travel to the heart and brain, then you lose the sense of a happy lifestyle. You lose the ability to shed tears about things and acceptance" (Mike). Citizens in this community look on as fellow members pass away. This affects the emotional register: "There was an elder who stopped here one time on a walk. Passing through First Nations territory, she said, 'There's no spirit in Aamjiwnaang.' There's something lacking" (Mike). That reveals a community perspective that pollution has killed the spirits of Aamjiwnaang citizens and the spirits of their land.

Some ceremonial practices take place on the reserve, whereas others occur in a more serene setting with the aim of bringing knowledge back to the community. One practice is the humbling experience of a vision fast, which situates one's human relationship with nature: "You get to understand yourself and see what you appreciate in life. You sit out there and look around and see the trees and plants and animals. You find out how weak and pitiful you really are. You look at those little birds – you can crush it and kill it. A human is just a blanket. That's how you look at yourself as pitiful" (Frank). This ceremonial endeavour serves to remind humans of their place in the world. As one elder suggested, "Let's not be so egotistical to think that it's the only thing the pollution is killing – the birds, trees, have to breathe in just as much as us. They're part of the territory – animals, fishes, and all of life upon the waters and the land" (Mike). Animals, life, land, and humans share this relational connectivity. Confronting the egocentrism of our modern liberal society, the vision fast allows Anishinabek people to "see how the earth could swallow you up and make you disappear. It makes you humble" (Frank). Thus citizens of Aamjiwnaang live in a continuous state of dwelling between "modernity," "progress," "industrial development," and "technological advancement" on the one hand, and the humbling knowledge that as humans we cannot master or own nature, on the other hand. They are but one element among other animate beings in a complex world.

Facing the severity of our circumstances involves rethinking the individualism and egocentrism of our roles in, responsibilities for, and relationships with the "natural," or more-than-human, world. Community members contended that "if you respect Mother Earth," she will "respect you back" (Larry and Sonja). Some citizens said that environment takes on a deeper meaning in this place: "When I say environment, I'm talking about everything – human, animals – [and the] direct impact it has on the land and all those upon it." Furthermore, "we've all got a role. We all have a role and responsibility. We want an environment. It can be ... as an individual, family, community, nation. You want an environment that is going to be safe, healthy, and sustainable" (Nathan). Environmental protection is a shared practice. This connection between people and place highlights an ecological, embodied, yet territorial approach to citizenship. Such an understanding challenges technocratic and institutional models of environmental health policy. It also contends with Western, Eurocentric, liberal subjectivity.

An Indigenous approach to "ecological citizenship" can be understood through the words, actions, and practices of citizens trying to maintain an Anishinabek way of life in Aamjiwnaang. Citizenship, according to many Anishinabek beliefs, takes on multidimensional meaning in relation to a set of social, political, and civic entitlements. Citing an inherent right to the land, one community member said, "When we have a Constitution in place, it will speak about citizenship and the natural laws that we always had" (Ned). He spoke of the Anishinabek people's inherent right to the land and the inexorable tie they maintain to their territory and ways of being: "We do have, as an inherent right, land. That is the reason why we have continued to be here. If we lose that land, that is when the state governments or colonialism really takes effect. We have to have that identity – drums, dances. We have to have those traditions. Ancestors speak about that." These activities, or practices, are essential for cultural survival. Ongoing interaction and engagement are core components of Indigenous citizenship: "You take tools from the environment. You give respect and ask for permission" (Ned). Respect for the earth in the present is rooted in knowledge of the past. For example, the "medicine wheel, circle, continuum of knowledge, passed down for thousands of years," informs an Anishinabek ethic or way of being on the land and in the world today (Ned). This practice, a way of life, prompts residents to think about citizenship as interactive, relational, and placed.

Anishinabek ontology – as a way of being in the world – considers a multiplicity of relationships to be an inherent component of how we relate to ourselves, to each other, and to the environment. This approach takes into consideration the medicine wheel teachings, clan system, and a view of health

that focuses on a "way of life." As elders note, this is "not just a governance and governing system but a way of life" (Mike). The residential school legacy sought to extinguish "traditional," or Indigenous, ways of being and of governing the world. In contrast to a hierarchical ordering of humans above nature, from an Anishinabek perspective, responsibilities were bestowed upon individuals by the Creator: "We talk about Nanabozho, who had a relationship with everything. So when you start talking about that relationship between Anishinabek and creation, you start to realize the importance of the mutual respect we have for one another" (Ned). In contrast to a hierarchical model, an Anishinabek approach examines the fluidity between humans and the more-than-human environment: "Environment is Anishinabek [and] Anishinabek is environment. Our passion in life is a clean Mother Earth, a clean environment" (Mike).[4] According to an Anishinabek worldview, respect for Mother Earth constitutes a crucial foundation for ecological citizenship.

To situate oneself and relationships, community members adhere to an Anishinabek view of citizenship that regards "natural law" as including the place of humans among the four elements: earth, water, air, and fire. Moreover, citizenship is corporeal, territorial, and practised. It cannot be separated from consideration of land, treaties, and the environment: "When we start talking about that natural law – for instance, one of the treaties up north talks about the sun: 'As long as the sun shines, and the grass grows, and the water flows' ... And they were encompassing the different ... spheres. You could talk about the 'stratosphere,' or 'biosphere,' or 'lithosphere' ... which is the ground" (Ned). Citizenship from a "traditional" view includes all of that and more: "It's kind of like the medicine wheel, with four directions, winds, grandfathers/mothers, four medicines ... Within that, we talk about the life cycles: child, youth, adult, elder. There are many other teachings [that are] a part of the medicine wheel" (Ned). Rights and responsibilities are inherently attached to the lived practice of caring for and building a *relationship* with the land.

As Ned's interview emphasized, citizens must advocate for both humans and more-than-humans and reimagine (in)animate relations, "for those [other] species, because that was the responsibility that was given to us" (Ned). Nature's resources are to be cared for, nurtured, and respected. According to Ned, "The oak tree provides either shelter, structure, or warmth." Acknowledging the significance of these resources to the community's sense of wellbeing is crucial to community development, identity, and culture. Adverse health outcomes result when this relationship with nature is ruptured:

> For people to be trapped, and to feel unprotected in our environment, either to go swimming, hunting, or to play, you know, it's tough for them to realize the opportunities that we do have, especially when we do have twenty-four hours a day, 365 days of ... pollution of noise, light, air ... and that affects not just us but the land itself. Some animals, all they see is light every day. It's affecting their lifestyles as well. (Ned)

The location and articulation of this community's struggles refocuses our gaze by drawing it away from an autonomous model of self-management, responsibility, and healthcare. It moves beyond a stewardship model of environmental management and toward an intersectional, experiential, place-based understanding of health and well-being. It is this very place, the Aamjiwnaang First Nation's home in the polluted heart of Canada's Chemical Valley, that is at stake in the preservation of the community's vitality. As a matter of physical and cultural survival, it is a matter of environmental reproductive justice.

Conclusion

The lived experiences of Aamjiwnaang citizens trying to come to terms with their environment reveals how making a home in Aamjiwnaang is a bittersweet endeavour, combining a mix of anxiety and attachment. As the voices, stories, and everyday experiences of citizens living in Canada's Chemical Valley depict, the impacts of pollution and their interpretations are multifaceted. On the one hand, daily activities and concerns reveal a disciplined responsibility for coping with and responding to encroaching threats; on the other hand, they bring into focus the deep relational connection that citizens of this First Nation have to their home and territory. An intersectional, affective, place-based focus on situated practices of citizenship presents an alternative way of thinking about *sensing policy* and about citizenship in Canada. In this respect, citizenship encompasses more than a status. It is not something to be attained. It takes place from below. It is embodied and corporeal, situated on the ground, rooted in place.

The experiential dimensions of citizen articulations, actions, reactions, and responses to living within Chemical Valley highlight connections to place and outline various ways that individuals interact with their toxic environment in everyday life. Such actions are heavily imbued with meaning. By revealing the embeddedness of individuals in their environments, an intersectional account of citizen interactions with "place" move us beyond an approach to political

science or public policy that focuses solely on "individual responsibility" for the environment. This relational, embodied, or experiential, view of citizenship emphasizes the important role of attachment to the land in one's relations with the spiritual world, which is in stark contrast to a model of citizenship that considers "good citizens" to be individual, property-owning humans set apart from broader socio-political, economic, and environmental forces and processes.

The tie between physical and cultural survival is crucial to reproductive justice. A *sensing policy* framework draws this into focus. This perspective highlights the role of the body as a conduit for knowledge generation and mobilization. As Parr (2010, 1) suggests, "Our bodies are instruments through which we become aware of the world beyond our skin, the archives in which we store that knowledge and the laboratories in which we retool our senses and practices to changing circumstances." Relationships between humans and the more-than-human world are mediated through the body and involve practices and experiences that produce corporeal knowledges. This perspective is crucial to rethinking relationships between humans and their environments and to rethinking citizenship, expertise, and policy. Chapter 6 illustrates how policy arrangements mediate and interpret "truth" claims while privileging some claims over others. This chapter does so by examining the relationships between citizens, public officials, and "experts." In discussing citizen efforts to contest scientific expertise, it highlights how situated bodies of knowledge within this community encounter, confront, and interact with the following discursive fields: *science, scale, lifestyle blame,* and *jurisdictional ambiguity.* The findings in Chapter 6 reveal how large-scale epidemiological surveys fail to account for the specificities of small-scale, placed, ecological knowledges rooted in site-specific locales. Chapter 5 first turns to how this site came to be.