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Indigenous Experience, Environmental Justice and Settler Colonialism

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Environmental justice (EJ) commonly refers to the problem that people of colour, indigenous peoples, women and people with disabilities, among others, are more likely than privileged white populations to live in toxic environments that are bad for human health and community cohesion. The idea underlying this conception of EJ is that justice concerns how the distribution of certain environmental nuisances, such as pollution, or environmentally related harms, such as asthma in children, burden populations who already face multiple forms of oppression, from structural racism to systemic poverty. Environmental nuisances and harms are treated as so many objects or states of affairs for which social institutions bear responsibility either to distribute equitably or to strive to lessen and, if possible, eliminate. Social institutions include environmental and natural resources agencies, legislative and executive branches of government, nongovernmental organizations, legal codes and enforcement processes, among other examples, that are accountable to human populations to protect human health and well-being (Mohai, Pellow and Roberts 2009; Shockley 2012; Shrader-Frechette 2002).

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In this conception of EJ, injustice is rooted in how social institutions are structured and operationalized in ways that favour powerful and privileged populations. These same populations, in turn, influence the structures and operations of social institutions in ways that protect their own interests without taking responsibility for the disproportionate burdens on other populations and communities. The conception of EJ just

outlined covers many important dimensions of the nature of injustice, especially the impact of social institutions on the distribution of environmental quality across different populations.

Understanding EJ in this way maps on to many important facets of how indigenous peoples have been affected by colonialism. Indeed, indigenous peoples suffer environmental injustice due to the development of settler nations such as Canada and the United States through military invasion, capitalist exploitation of resources and the anti-indigenous policies of central and subnational governmental units (e.g., federal agencies, municipalities, provinces and the like). Environmental degradation—through commodity agriculture, deforestation, damming, mining, industrial air, water and soil pollution and nuclear energy and weapons development—produce multiple intersecting environmental hazards for which indigenous peoples are put particularly at risk relative to privileged settler populations (Agyeman et al. 2010; Coates 2004; Coombes 2013; Grinde and Johansen 1995; LaDuke 1999; Weaver 1996; Whyte 2011, 2015; Wilkinson 2005).

Consider the Aamjiwnaang First Nation of 850 members that is situated within 25 kilometres of 62 major industrial facilities, from oil refineries to manufacturing, in a region often called ‘Chemical Valley’ (by Sarnia, Ontario). The resulting air quality issues affect First Nation members disproportionately: Some 40 percent of Aamjiwnaang residents must use inhalers and asthma affects approximately 22 percent of children and 17 percent of adults. Chemical contamination ‘interfered with the community’s cultural life, affecting hunting, fishing, medicine gathering, and ceremonial activities’ (Hoover et al. 2012, 646; MacDonald and Rang 2007). Clearly, the nuisances and harms faced by Aamjiwnaang First Nation are disproportionately bad. Much of the responsibility falls on Canadian social institutions that make it possible for so much pollution to be focused on an indigenous people for the sake of the development of the settler Canadian industrial economy and the ways of life of settler populations.

Yet indigenous peoples’ EJ movements and scholarly work focus on additional dimensions of injustice beyond the responsibility of social institutions for the distribution of nuisances, harms and goods. For many indigenous peoples, I will argue, injustice also occurs when the social institutions of one society systematically erase certain socioecological contexts, or horizons, that are vital for members of another society to experience themselves in the world as having responsibilities to other humans, nonhumans and the environment. Injustice, here, involves one society robbing another society of its capacities to experience the world as a place of collective life that its members feel responsible for maintaining into the future.

I seek to show how this understanding of environmental injustice is highlighted in theories and research from the domain of indigenous peo-

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ples and settler colonialism (Lefevre 2015). Settler colonial societies, such as the United States and Australia, are societies that seek to permanently settle the territories of indigenous peoples instead of *only* exploiting resources in that territory and sending the resources and profits back to a metropolitan homeland. In other words, settler colonial societies seek to inscribe their own homelands over indigenous homelands, thereby erasing the history, lived experiences, social reality and possibilities of a future of indigenous peoples. Settlers seek to inhabit the territories they newly inhabit as if they are—so to speak—the ‘indigenous’ populations. Settler colonialism can be interpreted as a form of *environmental injustice* that wrongfully interferes with and erases the socioecological contexts required for indigenous populations to experience the world as a place infused with responsibilities to humans, nonhumans and ecosystems.

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I will begin to outline these points in this chapter through engaging with some articles in the literature on indigenous EJ in relation to settler colonial societies. I will then elaborate on the idea that for indigenous peoples environmental injustice is rooted in one society’s interference with and erasure of another society’s way of experiencing the world as infused with responsibilities. While here I cannot even come close to elaborating a convincing phenomenology or theory of justice, I aim to highlight some key dimensions of how some indigenous peoples connect EJ and ways of experiencing the world.

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Moral Terrains

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Indigenous social movements and scholarly work on indigenous peoples and EJ often focus on dimensions of injustice that have to do with how one society interferes with and erases the socioecological contexts through which another society experiences the world. For now, a socioecological context refers to any arrangement of humans, nonhumans and ecosystems that involves particular cultural, economic and political practices. A series of papers by Figueroa, Waitt and McGee explore environmental injustice in the Australian settler state through the experiences of tourists who visit Uluru (the indigenous name of the monolithic rock) in Australia’s Uluru-Kata Tjuta National Park. The original people—Anangu people—and the Australian government co-manage this place, which is significant to the Anangu according to their own system of Tjukurpa law:

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According to *Tjukurpa*, the Anangu collectively bond together in place through *Tjukuritja* (ancestral beings) that shaped the landscape from a void, creating mountains and living creatures on journeys, whilst also leaving some of their spirit being in each. Individual responsibilities

towards spirits present in particular sacred sites clustered around the base of Uluru and the potential to release their power are only shared on the basis of the right to know by the appropriate indigenous person (Layton and Titchen 1995). *Tjukurpa* as law establishes an indigenous terrain of power that both names the rock-place as Uluru and identifies socially infused biophysical processes, allowing them to read Dreaming tracks of their peoples on the rock face. (Figueroa, Waitt and McGee 2007, 253)

Uluru through Tjukurpa law creates a socioecological context through which the Anangu experience the world as replete with meanings of moral responsibility such as being accountable to one's ancestors, having responsibilities to take care of the land for future generations and respecting the authority of different knowers in their community. Owing to this significance, the Anangu people do not climb the rock and they wish that others also refrain from climbing.

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Yet for settler Australians and many other visitors, Uluru is primarily a tourist attraction that they desire to climb as a matter of national pride or personal interest, which creates the following conflict:

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Yet, the most prominent car park locates the visitor at the foot of the climb. The path, created with chain linked rail-supports in 1958 by the park's first chief ranger, Bill Harney, remains open and highly trafficked. Indeed, any visitor passing the foot of the climb is confronted with a moral contradiction. In the foreground stands an unmistakable billboard, conveying in many languages the *Tjukurpa* law against climbing; in the background stretches the evidence of colonial habits sketched across the spine of Uluru in the form of a singular scar, a moral pathway for future climbers to endeavor. The park must also commit resources to rescue climbers in danger, and ward off would-be climbers during inclement weather conditions of extreme heat and/or high winds. (Figueroa and Waitt 2008, 334)

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The tourists, for some reason, do not even notice the Anangu's prohibition against climbing as something worth respecting. This lack of respect both interferes with and erases *Tjukurpa* law and its significance to the Anangu.

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In this case, it is possible to conceive of the major EJ issue as the desecration of a sacred site by a settler colonial population. The settler population is able to influence social institutions so that the Anangu have no rights to stop them. Yet as the authors show in their papers, the Anangu do not police or forcefully prohibit climbing because such forms of enforcement are not part of their *Tjukurpa* law. First, the Anangu see acts of respect as significant only if tourists do so genuinely. Second, the Anangu see policing as of a piece with problematic colonial strategies. Third, it would be even worse if the Australian government enforced Anangu law; that would replicate settler paternalism. Figueroa and Waitt see this problem as one of a 'relational vision of environmental justice' because it

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has to do with how different societies live within and negotiate different socioecological contexts (Figueroa and Waitt 2008, 346).

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For Figueroa, Waitt and McGee, there is a socioecological context underlying how communities interact with humans, nonhumans and environments according to their own societal, spiritual, moral, economic and political systems and conceptions of how different entities may have diverse forms of agency. Here, ecologies are entire systems that orient how living, non-living and spiritual beings and aspects of the world are expected to coexist through relations of reciprocity, responsibilities and other ties and bonds (Dotson and Whyte 2013). They call these 'moral terrains'. Moral terrains are composed of 'the web of value layered over places through discourses that establish normative practices and socio-environmental belonging' (Figueroa and Waitt 2008, 328). A moral terrain consists of values, normative practices and states of belonging that are socially, historically and environmentally informed. 'Moral terrains are inscribed onto bodies through affective responses' (Figueroa and Waitt 2008, 328). That is, bodies express moral terrains through affective responses. These affective responses should be understood as 'living, performative emotions that enable people to come *to know and build or negate relationships* with other human body-selves as well as non-human entities' (2008, 328; see also Dotson and Whyte 2013 for an analysis of these concepts). For Figueroa, Waitt and McGee, the environmental injustice of tourists climbing the rock represents an interference with and erasure of the meaningfulness of Uluru as a moral terrain for the Anangu. As a consequence, Uluru's role as a socioecological context for Anangu affective and experiential lives is undermined.

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Systems of Responsibilities

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In 'Honouring Our Relations: An Anishinaabe Perspective on Environmental Justice', McGregor seeks to interpret EJ in terms of her perspective as an Anishinaabe scholar-activist who has worked on water quality initiatives on behalf of First Nations living in the Canadian sphere. McGregor has worked on a number of water-related issues such as the problems of drinking water in Canada. She discusses the Walkerton tragedy, in which seven people died from contamination of drinking water in Canada in 2000. In a report, it turned out that First Nations communities do not enjoy the same level of protection as non-Aboriginal communities in terms of the quality of drinking water. In 2005, the First Nation community of Kashechewan had been under a boil water advisory for two years because of E. coli, the Ontario government declaring a state of emergency (McGregor 2009, 36).

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She begins with the idea that 'relationships based on environmental justice are not limited to relations between people but consist of those among all beings of Creation' (27). People-centred EJ for McGregor in-

cludes issues of 'cultural dominance, of environmental destruction, and of inequity in terms of how certain groups of people are impacted differently by environmental destruction from others, sometimes by design' (27). She contrasts this notion of EJ with an Aboriginal one from her Anishinaabe 'world view'. EJ is

about justice for all beings of Creation, not only because threats to their existence threaten ours but because from an Aboriginal perspective justice among beings of Creation is life-affirming. Aboriginal authors such as Anishinaabe environmental activist Winona Laduke refer to this as 'natural law.' While people certainly have a responsibility for justice, so do other beings (e.g. water and medicinal plants). . . . In the Anishinaabe world view, all beings of Creation have spirit, with duties and responsibilities to each other to ensure the continuation of Creation. Environmental justice in this context is much broader than 'impacts' on people. There are responsibilities beyond those of people that also must be fulfilled to ensure the processes of Creation will continue. (McGregor 2009, 27)

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While 'natural law' is perhaps not the best term given the history of its usage in the field of philosophy, McGregor is really referring to notions of Anishinaabe law to designate *systems of mutual responsibilities* that include humans and non-human beings and entities. She cites LaDuke and also Anishinaabe scholar Borrows on how to understand the inadequacy of environmental laws.

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LaDuke argues that 'natural law, which has existed for thousands of years, is a source of justice that has served Aboriginal people for thousands of years and that can continue to do so' (LaDuke 1993; McGregor 2009, 30). Borrows claims that 'Aboriginal peoples developed spiritual, political and social conventions to guide their relationships with each other and with the natural environment. These customs and conventions became the foundation of many complex systems of government and law'. Borrows goes on to say 'If the Anishinaabek do not honour and respect their promises, relations and environments, the eventual consequence is that these resources will disappear. When these resources are gone, no matter what they are, the people will no longer be able to sustain themselves because . . . while the resources have an existence without us, we have no existence without them' (Borrows 2002; McGregor 2009, 30). For McGregor and her interlocutors, then, experience within a particular socioecological context is what gives rise to people experiencing themselves as being part of a system of mutual, interconnecting responsibilities.

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For McGregor, the drinking water threat represents a larger erasure of indigenous systems of responsibilities:

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It has been shown time and again in the history of Aboriginal-non Aboriginal relations in Canada that environmental destruction (of

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forests, lands, animals, waters) threatens the existence of First Nations peoples. Water quality, then, is not just an environmental concern; it is a matter of cultural survival. Among Native peoples, water is recognized as the lifeblood of the earth (a living and conscious being). In turn, water is therefore the lifeblood of the people in numerous ways (physically, mentally/intellectually, spiritually, and emotionally). Water is integrally tied to the cultural survival of the people. First Nations activists who have formed alliances to advocate and 'speak for the water' are at the same time resisting the genocide of their people. (McGregor 2009, 37)

[12.25] Environmental injustice, then, concerns interference with and erasure of the systems of responsibilities—based in socioecological contexts—that are integral to the fabric of McGregor's society. In terms of systems of responsibilities, she discusses how 'All beings have responsibilities to fulfill, and recognizing this contributes to a holistic understanding of justice. Our interference with other beings' ability to fulfill their responsibilities is an example of a great environmental injustice, an injustice to Creation' (McGregor 2009, 40). Summing these points, she argues that

[12.26] As an example, water is a living, spiritual being with its own responsibilities to fulfill. . . . Similarly, it can be argued that because of their intimate relationship with the land, any injustice to Aboriginal people is an environmental injustice to the extent that it impairs the ability of Aboriginal people to fulfill their responsibilities to Creation. Conversely, any injustice to the environment that impedes the ability of creation to fulfill its duties to Aboriginal people is an injustice to Aboriginal people. (McGregor 2009, 40)

[12.27] Similar to the idea of moral terrains, McGregor, along with her interlocutors Borrows and LaDuke, discusses environmental injustice as a form of interference with or erasure of a way people experience the world as infused with responsibilities that form the fabric of their lives as members of collectives. In Figueroa, Waitt and McGee and McGregor, LaDuke and Borrows, 'law'—whether Tjukurpa or Anishinaabe law—is often used as a concept to describe these complex cultural, societal and political systems of responsibilities that guide people's relationships with other humans, nonhumans and ecosystems.

[12.28] *Collective Continuance and Ecologies*

[12.29] Indigenous scholars have advanced similar EJ themes to those just discussed across a variety of literatures in Environmental Studies and Native American and Indigenous Studies. I seek to focus here on my interpretation of the idea that the presence of certain forms of environmental change and variability, whether triggered by pollution, landscape degradation or climate change, alter how people experience their place in the world as saturated with systems of responsibilities connecting differ-

ent persons, animals, plants and ecosystems; these systems of responsibilities are supposed to endure into the future and serve to support the capacities of societies to adapt to socioecological change. In this section, I will describe in additional detail my own interpretation of how many indigenous peoples discuss environmental injustice as tied to their capacity to experience the world as imbued with responsibilities.

To begin, consider some cases of how indigenous persons have interpreted environmental injustice as a form of interference with and erasure of the ways in which they experience the world as part of *collectives* that are constituted by systems of responsibilities. Haudensaunee peoples, including the Mohawk Council of Akwesasne, have borne the brunt of some of the most severe industrial pollution in North America (Arquette et al. 2002). Hoover, a Mohawk scholar of environmental justice working on issues with pollution and the decline of Mohawk fishing, quotes a community leader:

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As Henry Lickers describes, the language and culture around tying knots in nets as well as the social interactions that occurred around the process of creating these nets are lost when there is no longer a use for those nets: 'People forget, in their own culture, what you call the knot that you tie in a net. And so, a whole section of your language and culture is lost because no one is tying those nets anymore. The interrelation between men and women, when they tied nets, the relationship between adults or elders and young people, as they tied nets together, the stories . . . that whole social infrastructure that was around the fabrication of that net disappeared.' (Hoover 2013, 5)

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For Lickers, the pollution of the waterways his nation depends on for fishing interferes with and erases the fabric of relationships that connect people, nonhumans (e.g., fish) and places (e.g., rivers, lakes) through mutual responsibilities to continue practices that are vital to the continued survival of the nation.

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Climate justice has increasingly become an umbrella issue in which indigenous peoples discuss many environmental injustices. For, as scientists have pointed out, indigenous peoples contributed relatively little to the burning of fossil fuels and deforestation that drives global climate change today, but are suffering many of the consequences (Wildcat 2009). Willox, a scholar working on psychological responses to climate change in the Arctic among indigenous peoples there, interviewed a young female hunter about her perceptions of change in the Arctic as the habitat for certain animals she hunts changes:

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I think once it starts affecting one family it will start with the rest . . . once it starts affecting a couple of families really hard, it's not usually affecting those couple of families cause they choose it, it just happens to be those are the first ones to be affected, and then affect reaches out right? So I think if more and more people can't be going to the cabin

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and can't be hunting and can't be dependently going on the land that they just start to see a community shifting not knowing what they're supposed to be doing, not knowing what you're good at, not knowing what your self-worth is, not knowing what you should be doing with your time. (Willox et al. 2011, 20)

[12.35] In Willox's work with indigenous peoples in the Arctic, perceptions of the disintegration of the fabric of community life have many ramifications. Willox discusses how 'For many elders, increased weather variability and unpredictability also have an emotional and personal impact. For much of their lives they have been able to advise the people around them confidently about when and where to travel, providing weather predictions. As their skills no longer work, some elders are now less confident and feel sadness that their advisory roles have changed'. (Willox et al. 2011, 82). For those persons Willox talks to, the rapidly occurring climate change in the Arctic interferes with and erases their senses of responsibility to themselves ('self-worth'), to their collective societies, to the environment and to future generations.

[12.36] In these cases, environmental injustice cuts at the fabric of systems of responsibilities that connect people to humans, nonhumans and ecosystems. Environmental injustice can be seen as an affront to peoples' capacities to experience themselves in the world as having responsibilities for the upkeep, or continuance, of their societies. According to my interpretation, responsibilities refer to the reciprocal (though not necessarily equal) attitudes and patterns of behaviour that are expected by and of various parties by virtue of the different roles that each may be understood to play in the various relationships that make up their collectives. For Lickers, cited in Hoover's work, people of different genders and ages had responsibilities to one another for the construction of nets, a key dimension of their culture and economic subsistence. In Willox's work, the elders have responsibilities to advise youth, which was an important system of knowledge exchange and mentorship. For McGregor, protecting water quality can depend on whether people see themselves as bound in relations of responsibility to water, with water as well having responsibilities to humans and nonhumans alike.

[12.37] Systems of responsibilities are the actual schemes of roles and relationships that serve as the background against which particular responsibilities stand out as meaningful and binding. That is, one's particular responsibility for having a role in the process of making nets becomes important against the backdrop of the fact that net making contributes to the community or nation enduring into near and long-term futures. Systems of responsibilities also provide the feedback loops through which members of a collective can evaluate whether certain traditions should continue, change or be allowed to expire. For many indigenous peoples in North America today, what we refer to as our 'traditions' are respon-

sibilities that were developed many hundreds of years ago in response to the socioecological issues of the time. So the relationships constitutive of systems of responsibilities also contribute importantly to a society's being able to recognize and facilitate new or improved responsibilities (Whyte 2013). My interpretation, then, involves the idea that *operating* systems of responsibilities both maintain vital traditional responsibilities and engender innovative responsibilities.

To bring this discussion back to EJ, environmental injustice can be seen as occurring when these systems of responsibilities are interfered with or erased by another society in ways that are too rapid for indigenous peoples to adapt to without sustaining preventable harms. That is, certain external forces may occur so quickly that there is not sufficient time or resources for a group to adapt without facing significant harms that they would not ordinarily have faced. In another case involving threats from oil to indigenous peoples in the Yukon Territory, Norma Kassi, speaking of her Gwich'in community, says: 'We cannot, however, simply change our diet. If we were to change suddenly and start eating store-bought foods more, then disease would increase and our rate of death would be higher, because it would be too rapid a change, too much of a shock to our systems' (Kassi 1996, 80).

I use the idea of *collective continuance* to describe my interpretation of the idea of systems of responsibilities adapting without sustaining preventable harms. Collective continuance refers to a group's capacity to adapt to external forces, from naturally occurring environmental change, such as the medieval warm period, to more obviously human-induced changes at several scales, such as the transatlantic fur trade or pollution of a fishery by an automobile manufacturing plant. Collective continuance is relevant to EJ because if one society interferes with or erases another society's capacity to adapt to external forces, then the former society—in promotion of its own interest and benefit—can impose preventable harm on the latter society's members. Harms can range from early death, to excessive pain and health problems, to limits on self-determination, to the erosion of cultural integrity, to many others. For many indigenous peoples, plants, animals and other nonhuman beings, entities and places are understood as among those capable of experiencing harm. In the literature I have been reviewing so far, I would argue that harms are understood as arising in a context where one society puts stress on another society's ability to have operating systems of responsibilities.

Environmental injustice, then, in the sense described in this chapter, occurs when one society succeeds in interfering with or erasing another society's collective continuance. The former society does so wrongfully when it seeks to protect its own collective continuance at the expense of the latter society's collective continuance. There are many things I can say about collective continuance that I will not be able to cover here; but I do want to highlight the institutional, ecological and experiential aspects.

Collective continuance involves both the operationalization of systems of responsibilities (and their capacity to both rely on past traditions and transform appropriately into the future) *and* the simultaneous development of social institutions that can protect the operations of these systems. For example, institutions can include those geared to contest direct hardships imposed by colonial and other human interference, anticipate future challenges for which a group's political, social, cultural and economic systems must adjust, and facilitate decision-making processes that can guide decision makers through the most difficult circumstances, such as forced relocation or the extinction of a significant plant or animal. Examples of social institutions used for protecting systems of responsibilities range widely, from indigenous governments to laws, policies and treaties, to forms of activism, to indigenous knowledges such as traditional ecological knowledge, to indigenous economic enterprises (Whyte 2013).

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Collective continuance is a coupled socioecological concept that can be thought of alongside the idea of moral terrains and Anishinaabe law discussed earlier. That is, the systems of responsibilities and social institutions can only operate when societies can adjust to certain ecological dynamics. Here, I will discuss further some ideas that are similar to the idea of socioecological contexts that I referenced earlier. Systems of responsibilities operate within what I will call an ecology, that is, an ecological system, of interacting humans, nonhuman beings (animals, plants, etc.) and entities (spiritual, inanimate, etc.), and landscapes (climate regions, boreal zones, etc.) that are conceptualized and operate purposefully to facilitate a society's aptitude to make feasible plans for the future—from the design of social institutions to the evaluation of traditional and emerging responsibilities for meeting new challenges. For example, systems of responsibilities that are tied to fishing must operate within ecosystems that can be taken care of in ways that ensure those fish populations are sufficiently abundant. Social institutions such as elders' groups or indigenous science agencies (such as the Akwesasne Environmental Task Force) serve the purpose of protecting the fishery (Tarbell and Arquette 2000). Or systems of responsibilities tied to interpretations of Uluru require that people do not disrespect the rock. Co-management arrangements, such as that between the Anangu and Australia, should protect the significance of the socioecological context. Similar to the earlier analysis of Figueroa, Waite and McGee on moral terrains, an ecology provides a context for people to experience the world as full of responsibilities and future possibilities for which it is worth their effort to plan actively.

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The idea of an ecology highlights an experiential aspect of collective continuance. A collective's capacity to adapt depends largely on whether members of that collective see themselves as having a future in which it is possible to lessen or eliminate another society's interference with or era-

sure of that future. Here, future can be understood in the sense of looking forward to future generations, but also in the sense of the continuance of enduring nonlinear cycles. This is why for the Anangu, for example, the settler society climbing Uluru is a major affront to them regarding their affective experiences, for the rock represents a basis for thinking cyclically about the future. Willox's interviewees expressed losses of self-worth and a sense of enduring into the future. For this reason, a key part of collective continuance involves people's experiencing the world within a socioecological context that provides a horizon that motivates them to participate in a system of responsibilities. Environmental injustice can be seen, then, as an interference with and erasure of a way of experiencing the world as imbued with responsibilities.

In some of his other work, Figueroa's concepts of 'environmental identity' and 'environmental heritage' relate to the idea that societies' relationships to their environments are important parts of how they envision a future for themselves that accounts for the ecological and experiential aspects of collective continuance. He writes that

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An environmental identity is the amalgamation of cultural identities, ways of life, and self-perceptions that are connected to a given group's physical environment. . . . Environmental identity is closely related to environmental heritage, where the meanings and symbols of the past frame values, practices, and places we wish to preserve for ourselves as *members of a community*. In other words, our environmental heritage is our environmental identity in relation to the community viewed over time. (Figueroa 2006)

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In Figueroa, we see the ecological and experiential aspects of collective continuance understood as part of a person's identity and heritage as a member of a collective. Figueroa sees EJ as a community's designing and implementing social institutions that advocate for and protect environmental identity and heritage (Figueroa 2013).

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There are many examples in the indigenous world of what I at least would interpret as offering similar concepts to the institutional, ecological and experiential aspects of collective continuance. The Sustainable Development Institute (SDI) of the College of Menominee Nation describes what I would call an ecology in terms of six dimensions that are always in tension with each other. In the 1990s, members of SDI felt they needed a model that can deal with the uncertainty and complexity of climate change impacts as integrated socioecological issues that connect diverse aspects of indigenous nations and communities and experiences with colonialism, from government to culture. For example, SDI was concerned with better understanding what the Menominee had learned through having to resist colonialism, especially its adaptation from a tribe primarily known for harvesting species such as wild rice to one known more today for its sustainable commercial forestry.

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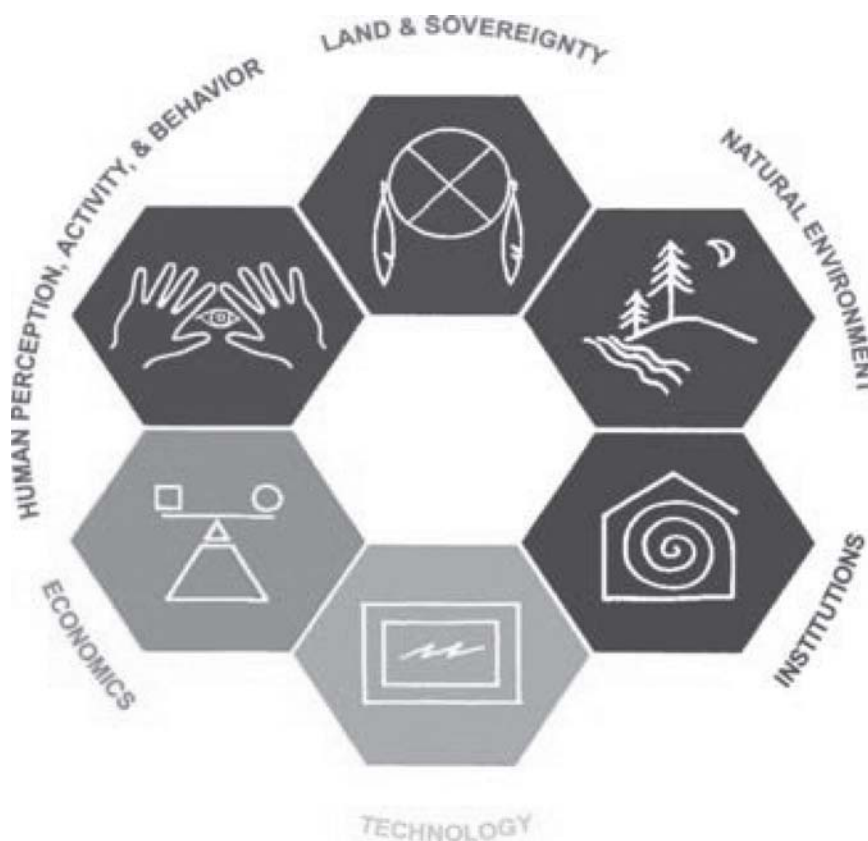
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To express such complexity and uncertainty, the model defines sustainability using six interrelated dimensions: (1) land and sovereignty; (2) natural environment (including human beings); (3) institutions; (4) technology; (5) economics; and (6) human perception, activity and behaviour (Dockry et al.).

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According to the SDI model, sustainability is the process of maintaining balance and reconciling tensions within and among these six dimensions of sustainability. Because all dimensions are of the same size, the SDI model implies an equal balance that expresses sustainability. Yet this model does not mean to imply that there is a functional equilibrium or a 'natural' balance, which can be challenged scientifically. Rather, change is an explicit feature of sustainability expressed by the model. Therefore, change in one dimension will influence other dimensions in an iterative cascade of changes. These changes are both externally driven and inherent to all of the six dimensions. Furthermore, as the model is brought back 'into balance', new tensions and states of disequilibrium will arise.



[12f1] Figure 12.1.

Thus, sustainable development is a constant and iterative process (Whyte et al. 2014). I would say the same for collective continuance.

A key part of the Menominee model is the experiential dimension called 'human perception, activity and behaviour'. This dimension involves the idea that certain tensions can change how people perceive their relationship to the environment, have affective responses and feel motivated to behave. That is, for example, pollution affecting a fishery that lessens net making changes how people perceive their relationship to fish, to other people in their community and their levels of motivation for responding. So societies such as Akwesasne as described in the literature cited are finding ways to reinvigorate senses of stewardship, which may involve other trade-offs, if we follow the Menominee model, such as using new tools for fishing, investing in science education for tribal members or investing in language preservation programs. The Menominee model emphasizes how social institutions play a role in protecting what I am calling systems of responsibilities in the midst of tensions across the natural environment, economics, politics (land and sovereignty) and technology.

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SETTLER COLONIALISM AND ENVIRONMENTAL JUSTICE

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The institutional and ecological aspects of collective continuance are closely associated with the importance of how humans experience the world as a place imbued with enduring systems of responsibilities that they are motivated to continue. Widely cited concepts on the oppression of indigenous peoples connect very closely to this idea of environmental injustice and indigenous experience. I will conclude with some thoughts on how the concept of settler colonial oppression in particular connects experience and EJ in the ways I have discussed here. The literature cited in this chapter all arises from contexts of settler colonialism. I can only touch on a few aspects of settler colonialism in broad strokes given that ideas that have eventually become part of what this concept refers to today have been developed over many years by diverse scholars and activists (Lefevre 2015).¹ I hope to show in what follows that settler colonialism involves a structure of oppression that specifically targets indigenous people's ability to experience the world as imbued with responsibilities. Settler colonial theory presents important possibilities for further work elaborating phenomenologies and theories of justice related to EJ.

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As a normative concept, settler colonialism refers to an arrangement of social institutions that support a structure of oppression. To understand the structure of oppression, we have to understand settler societies as those who relocate seeking to establish their own homeland in the homeland of another society. Here, I will use binary terminology, settler and indigenous, for expository clarity in this chapter, and will refer the

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reader to the literature cited for more complex accounts of settler colonialism. Settler societies are motivated to relocate and establish a new homeland for themselves as part of their own adaptation to external forces. So settler societies are, as any society, concerned with their collective continuance. Given the institutional, ecological and experiential aspects of collective continuance, settlers can only make a homeland by creating social institutions that physically carve their origin, religious and cultural narratives, social ways of life and political and economic systems (e.g., property) into the waters, soils, air and other environmental dimensions of the territory or landscape. That is, settler ecologies have to be inscribed into indigenous ecologies. Yet, for settlers, the indigenous ecologies testify to origin, religious and cultural narratives, societal ways of life and political and economic systems that owe nothing to those same aspects of the homelands settlers seek to inscribe. For settlers, indigenous socioecological contexts challenge settlers' claims to have honourable and credible religious missions, universal property rights and exclusive political and cultural sovereignty (Whyte 2015).

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To expunge any markers or physical barriers challenging their legitimacy, settler societies engender social institutions designed to erase the socioecological contexts required for indigenous collective continuance. Settlement seeks to erase indigenous peoples' social institutions, ecologies and ways of experiencing the world for adaptation as a means of engraving settler social institutions, ecologies and ways of experiencing the world. In doing so, the goal of settlers is actually to eliminate themselves *as settlers*. Settlers seek to make another society's homeland *their* homeland, which literally involves making manifest the permanence and inevitability of the way they wish to experience the world in that place, from settler origin stories that seek to rationalize their arrival and development of land ownership to the political formation of their own political systems, from national governments to municipal and subnational governments, that serve to protect the homeland creation process. Indigenous peoples become entirely forgotten and invisible in the experience of settlers through settler educational systems that do not include curricula on indigenous peoples, laws and policies that ignore indigenous land claims, and cultural traditions that mock, romanticize and appropriate indigenous ways of life, among many other examples.

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The physicality of the homeland inscription process of nations such as the United States and Canada cannot be deemphasized here, for the establishment of the social institutions of settler societies is interconnected with the very industrial activities that factor importantly into environmental degradation and anthropogenic climate change. Since settlers know little about the land that is new to them and hold cultural and economic values associated with their expectations for a certain way of life, the settler homeland establishes collective continuance through rather unsustainable means: deforestation, extraction, water and air pollu-

tion, commodity agriculture, urban sprawl, widespread automobile adoption and so on. These means are both built into the settler narrative of a homeland (e.g., narratives of entrepreneurs changing the world through industry) but are also sometimes hidden in plain sight (e.g., narratives of American wilderness mask histories of displacement of indigenous peoples). The industrial inscription of the settler homeland forms the background conditions needed for settler collective continuance in indigenous territories. Industrialization, then, is tied to settler ecological systems of relationships connecting humans, nonhuman beings and entities (often taken just to be inanimate resources) and collectives, such as forests cleared for agriculture, mountainsides stripped for mining and places of beauty separated from human non-recreational activities such as indigenous traditions (Whyte 2015).

Settler colonial theory, on my interpretation, offers a structure of oppression based on one society's interference with and erasure of another society. Given that the process described earlier is deeply ecological, settler colonial theory is always about environmental injustice. That is, settler societies seek to establish their own collective continuance at the expense of the collective continuance of another society. Settler societies impose preventable harms on indigenous peoples to facilitate the former's process of homeland inscription. The homeland inscription process replaces indigenous social institutions, ecologies and experiences with settler social institutions, ecologies and experiences. The cornerstone of this conception of EJ is its phenomenology of how people experience the world. A form of environmental change is unjust when one society robs another society of the institutional and ecological conditions required for members of another society to experience the world in ways that motivate their engagement in the operation of systems of responsibilities. While some accounts of environmental injustice focus on the distribution of environmental nuisances or burdens, this dimension concerns relationships between how societies negotiate different socioecological contexts.

Considering the themes raised in the literatures cited in this chapter, from Figueroa, Waitt and McGee to Hoover to the Menominee model of sustainability, understanding EJ in relation to systems of responsibilities, collective continuance and settler colonialism can serve to suggest very different solutions for remedying environmental injustices. Different from improving how social institutions distribute environmental quality, indigenous scholars, activists and allies often call for the resurgence of operating indigenous systems of responsibilities based on institutional, ecological and experiential aspects of collective continuance that can meet the challenges of negotiating settler colonialism today. I conclude by suggesting that those interested in the intersection of phenomenology and environmental justice can look to literatures on indigenous planning (Walker, Natcher and Jojola 2013), research methodology (Smith 1999)

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and resilience (Grossman and Parker 2012), among many others, for further insights.

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NOTE

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1. Settler colonialism has been linked explicitly to EJ (Hoogeveen 2015) and related concepts such as the relationship between health and historical trauma (Walters et al. 2011), education and visions of the future (Tuck and Gaztambide-Fernández 2013) and gender (Calhoun, Goeman and Tsethlikai 2007), among other connections. There seems to be an important trend of scholars exploring the connections between environmental justice, settler colonialism and important social and health issues. Scholars such as Emma Elliott, enrolled member of the Cowichan Tribes, are pursuing doctoral research at the University of Washington connecting suicide, environmental justice, and settler colonialism.