

Of Ice Shields, Oceans, and Train Yards:
Research-creation towards mythological contact with a feral terrain

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Abstract

Of Ice Shields, Oceans, and Train Yards:

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This artistic research project is a speculative account that reflects on the artist-as-witness to the de-enchantments and re-enchantments of a feral terrain in post-industrial Montreal, Canada. Taking advantage of the confluence of this research and a renewal in the city's interest in the site, called the *Falaise Saint-Jacques*, the project calls into question the stark binaries that the idea of a separate "nature" implies. It builds on the work of art educators and academics who have resisted the siloing of art, focusing on the merging of public policy and place histories into an environmental art project. Content provided by implicated community members, the author's own experience, and scholarly and archival research coalesce into mythologies, articulated through visual arts. Artworks, used in this way, act as filters through which the viewer's understanding of geological scale may be shaped, translating the stories of millennia into decades, years, or moments. Finally, following from Indigenous Canadian knowledge, this research aims to model how mythologies that foreground connections to the land may offer a literal framework for seeing and relating to urban forms of nature. A field guide and zoetrope installations function as an analogue augmented reality machine that superimposes geological and mythological time onto the immediate present, literally and figuratively animating the landscape for the viewer, and creating a space for a mythological contact that introduces different, even opposing, conceptions of time to one another.

Keywords: Research creation, Anthropocene, deep time, urban nature, environmental art, mythology, zoetrope, fieldwork

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Finally, without the group *Sauvons la Falaise*, and especially Lisa Mintz, this project would look very different. Their radical passion, tireless activism, and unflinching optimism are testaments to the power of an engaged community.



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Research question and introduction

What role can an art practice have in rethinking relations and cultivating connections between humans and environmental sites? A work of environmental art designed to supplement community interest and forge new mythologies may be particularly well-suited to draw out the idiosyncrasies of this nuanced relationship. The idea of mythology implies epic narratives, verging on the exaggerated or the impossible, while gesturing to popular histories and common stories. The literal and figurative pathways where humans and nature interact may chart a far-reaching model of the ways that humans could, should, or do respond to a disturbed or damaged environmental site. This interaction might be understood as a pedagogy of encounter—a system in which the contact between a site, its visitors or users, and its attendant mythologies can be seen and felt with intimacy and transparency.

Much like nature writers and other naturalists within the humanities, I believe that a new environmentalism is called for. By forging new kinds of connections with the environment, doomwatch activism might be replaced with excitement for the future. Tapping into the desire to make the spaces we live beautiful, this arts-based research endeavours to shine a light on the profound ways that an "unprogrammed terrain" (Hammond, 2014, p. 210) in Montreal has affected the city culturally, physically, and ecologically. The work owes a debt to contemporary environmental artists as well as studios that are grounded in the traditions of architecture and design¹.

¹ For example, see the work *Universal Play Machine* (2016) by Mobile Studio Architects and *À propos du blanc* (2004) by Espace DRAR .

This is an arts-based research project that examines my personal experience of coming to know a reticent urban site called the Falaise Saint-Jacques² in the Southwest borough of Montreal. It attempts to answer Suzi Gablik's 1991 call for "a new cultural coding for the ecological age" (p.43), understanding now that the "ecological age" is defined by ecological disaster. By fostering new and distinct points of contact with the natural, the non-human place may be translated into a "cultural landscape" (Lippard, 2018, p. 69). Following a year of site visits, which are recorded in illustrated field journals and a series of pencil drawings (see appendix 1), I identify extant mythologies that are projected onto the Falaise by implicated human parties. A field guide (see appendix 4) and environmental art installations (see appendices 2 and 3) reflect on these mythologies, combining them to communicate an experience of the place that superimposes its deep, geological history with its contemporary existence.

In this paper, I will begin by defining some of the obscure or specialized terms that I think are important to understanding the project. I will tell you what the Falaise Saint Jacques is, in real terms, including its far and recent past, and introduce some of the human activity that affects it. I will turn towards the theoretical in a chapter describing my methodology, and in a literature review. Both chapters are illustrative of an interdisciplinary approach to this kind of urban environmental research. Though the methodology is situated in a framework of research-creation, multiple qualitative methodologies serve as conduits through which speculation³ can materialize. Art and art history constitute the majority of the literature review and establish a

² For the majority of this paper, I will be using the shorthand "the Falaise," which is its colloquial name, and fitting for the bilingual socio-political context in which it exists.

³ I use "speculation" in this paper to describe the processes of forming a theory or explanation that precede the processes of seeking evidentiary support.

lineage for this sort of inquiry, but in order to situate the research in an ethical environmentalist discourse, environmental humanities and art education define the outer limits and problematics of this proposal, which would otherwise run the risk of laying claim to the place of research by virtue of familiarization.

Much of this theorization occurs retroactively. Recounting my artistic process will offer an explanation for why this was necessary. The Falaise is positioned in relation to me, specifically, and to the community and surrounding territories. I describe the expansion of my knowledge and familiarity with the place in different contexts to justify the processes involved in finding the content for the artworks. The role of the art practice in forging connections between the human and the non-human is thus described from a subjective account of myself, as a human, taking action and documenting it with both semantic and semiotic modes of communication.

Definition of terms

Falaise: Although originally called a *couteau*, or cliff, by European cartographers, the Falaise Saint-Jacques is now known to be a *falaise*, or escarpment, which describes a topographic ridge that is formed by tectonic or volcanic activity rather than erosion (Service de la mise en valeur du territoire et du patrimoine, May 2018).

Feral terrain: To avoid terms such as "nature," "wildness," or "wilderness," all of which require a qualification that I am not working within a human-versus-nature binary, I have chosen the word "feral" to describe this land. This term acknowledges the domestication that has affected the Falaise, as well as the lack of domestication, or neglect, that has likewise shaped it.

Environmental Art: I use environmental art as a catchall term for works of art that engage with environmental processes. Sub-genres include but are not limited to eco-art, land art, earth art, earth works, and site-specific art.

Mythology: Grounded in Roland Barthes' 1957 contention that "Myth is a type of speech" (Barthes, 1972, p. 107), mythology is used in this paper to theorize popular histories that touch on the epic and the mundane in equal measure, grounded in both fact and fiction. Take, for example, the continual rising and setting of the sun. It is perhaps the most literally quotidian of all phenomena, turned epic upon noticing: think of Helios, son of Titans, riding a golden chariot with his head aflame. Myth and mythologies are unifying forces that may also serve to differentiate human cultures from one another.

Pedagogy of encounter: I use this phrase to describe the exchange of knowledge that occurs at the intersection of physical presence, embodied sensation, and a revelatory unfolding of

experience. It describes how a person would, for example, understand the ocean uniquely after having engaged physically with the water⁴.

Agent: It is out of necessity that I refer to individuals and groups with the vague Kantian "agent" in this paper, as they are varied in presence and practice. They are unified, however, in their autonomous capacity to take action in a way that affects their environment.

Kanien'kahá:ke: This nation is one of the members of the Haudenosaunee Confederacy, whose large traditional territory includes the unceded island of Montreal.

Turcot: The train yard, interchange, and the infrastructure project that is being undertaken in-between the boroughs of Cote-des-Neiges-Notre-Dame-de-Grace and Sud-Ouest in the southwest of the island of Montreal all bear the name Turcot. The the interchange connects three major highways, and is being rebuilt in a five-year project that began in 2016. For more information, see <https://www.turcot.transports.gouv.qc.ca/fr/projet/Pages/default.aspx>.

⁴ Although it is nested within theories of experiential learning and public pedagogy, pedagogy of encounter insists upon intention, reflection, and the inclusion of more objective kinds of data in the learning process, than what is described, for example, in Kolb (2015) or Ford & Jandrić, (2019). Pedagogy of encounter, here, is likewise differentiated from embodied pedagogy because it does not require that the spaces between bodies are substantial, as described in Dixon & Senior (2011).

Background: The Falaise Saint-Jacques

An unpopulated, negligibly-developed terrain is the subject of this work. Known as the *Falaise Saint-Jacques* (the Saint Jacques escarpment), it is designated an eco-territory⁵. It spans about four kilometres, beginning three kilometres west of downtown Montreal. It is a compelling place, wrought with contradictions: it is protected and desecrated; imaginary and historical; influential and victimized; both at the core of the neighbourhood's identity and a menace to it. The troubled taxonomy of the place reflects these binaries, being beautiful like a wilderness but frightening like the wild. For the purposes of this research, I have settled on "feral terrain" to address the liminal zones in which the Falaise is situated, as well as its deeply urban character and its history of industrial interventions.

The agential potential of the Falaise is explicit from the earliest chapter in its history—a vein of magma pushing against an ice sheet 124 million years ago (Shultz, 2017), and revealed in its current state only 8,000 years ago, at the end of the last glacial maximum (Ullman, N.d.). The Falaise has protected itself from destruction by virtue of its own geology: though the steep pitch has been mediated by landfill, it is a sufficient slope for keeping development at bay, as well as all but the most confident hikers. An aerial view reveals the way in which the Falaise has shaped the very settlement of Montreal, as the roads, railways, and the canal follow the formation's curve. Figures 1, 2, and 3 illustrate the extent of the development surrounding the Falaise, and the degree to which it is the lone natural form in the vicinity.

⁵ An "eco-territory" is defined as a natural space that deserves special consideration for protection, without being officially protected by law (Ville de Montreal, 2018).

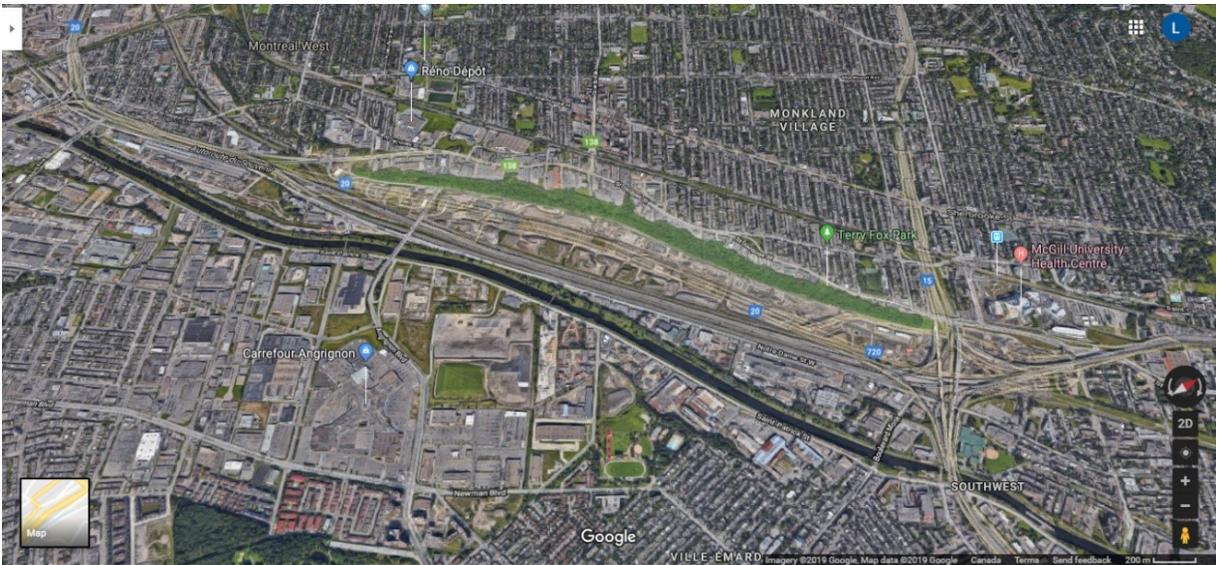


Figure 1. The built environment surrounding the Falaise, including the canal to the south, and the winding path of Saint-Jacques Street to the north, are indicative of its influence on the city of Montreal. Image: Google Maps (2019)

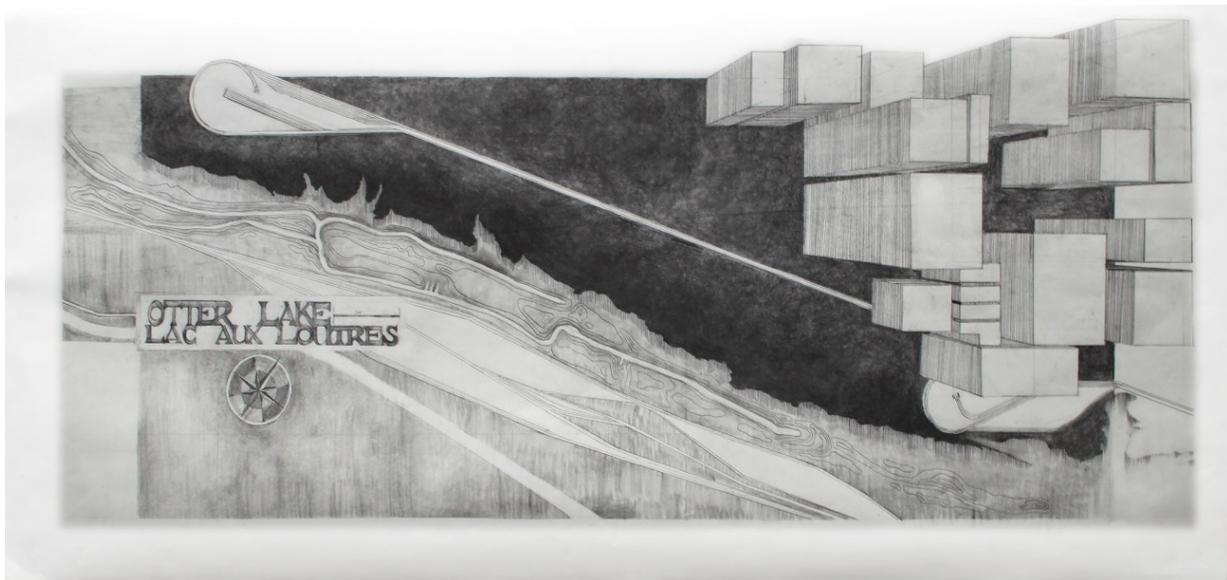


Figure 2. Two train lines follow the contour of the Falaise: the Grand Trunk / Canadian National and the Pacific National. Urban development followed these lines eastward.

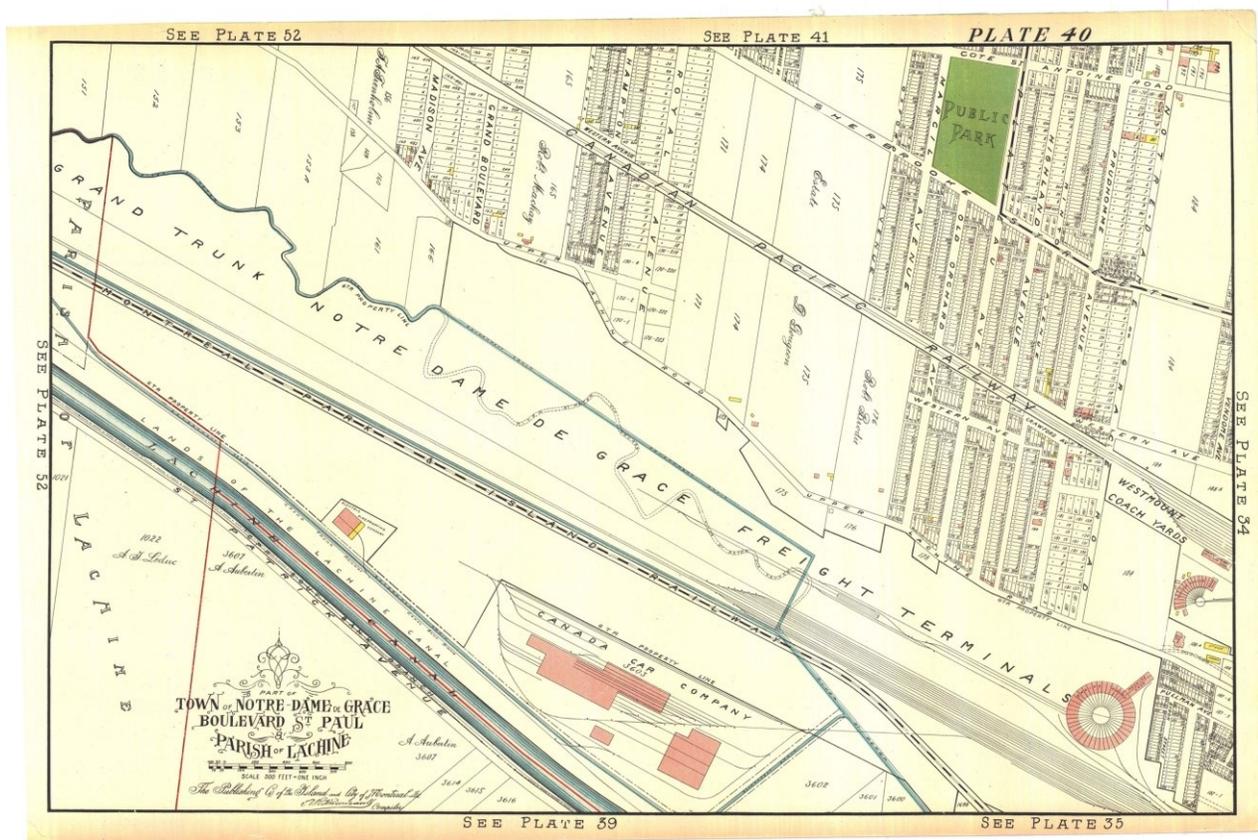


Figure 3. Even without an indication of the Falaise on this 1907 map, its location can be easily inferred by the built surroundings. Image: Goad, C.E. (1907)

Rather than anthropomorphizing the Falaise into a willful (human-like) agent, my research projects a different sort of agency onto the site. My arts-based approach intends to overcome the limitations of a language invented by humans in order to talk about human things. The art products of this research spotlight key traits of the Falaise using a mode of expression that is semiotic and embodied, revealing the concealed space to the public and pointing to foci where life and space connect with each other. It identifies and describes these sites of connection with myth instead of simile. In an environmentalist message, for example, the simile would be a call to care for this land *as though it were* a dear friend, but the myth might ask for care *because it is* a dear friend.

Mythology and time scales

In order to identify how and why certain myths are projected onto the Falaise by the human actors concerned with it, I confine my understanding of "mythology" within a framework based on Roland Barthes' 1957 essay *Myth today*, which he opens by saying "myth is a type of speech... it is not *any* type of speech...[b]ut what must be firmly established at the start is that myth is a system of communication, that it is a message" (1972, p. 107). Cultural journalist Robert Enright opens a 2019 film review with an alternate phrasing: "The fiction connected to a myth is what makes it true" (p. 22). For the purposes of this research, I apply this basic tenet to the concept of "deep time" as "a mode of signification, a form" (Barthes, 1972, p. 107). Barthes' forms are unlimited in a universe of objects, as any object that has passed "from a closed, silent existence to an oral state" is a myth, within the confines of "human history which converts reality into speech...[and which] alone rules the life and death of mythical language" (pp. 107-108). Myth, then, may be understood in an analogy: myth is to language as plot is to story. It is by designating some bits of information as meaningful that mythologies gain form.

In 1788, a Scottish geologist named James Hutton coined the term "deep time" in an attempt to reconcile the generally-accepted timeline of the Earth that the Christian Bible puts forward with the much-larger timeline that geological evidence describes (Farrier, 2016). In the simplest sense, then, it is synonymous with geological time. More abstractly, however, it references a mode of thinking that addresses the inconceivably large without attempting to map it—an awareness that the past and the future extend infinitely. It is a term that offers a counter mythology to not only a biblical narrative of humanity, but to a sequential understanding of history rather than a connected, ecological one. When considered alongside Barthes' definition of myth as "a type of speech chosen by history" (1972, p. 108), the simple phrase "deep time" could

constitute an entire myth. By virtue of its emergence, deep time is an example of Barthes' notion of myth as "material [that] has *already* been worked on so as to make it suitable for communication" (1972, p. 108). In Hutton's case, deep time reworks two competing historical chronologies to make them more suitable for modern communication.

The agents of the Falaise

Through past activities, three parties have affected and been affected by the Falaise. They are: the people of the Kanien'kehá:ka Nation, the group *Sauvons la Falaise* and associated community activists, and commercial and municipal entities. Each of these actors forms an articulated or implied mythology about the land. Manifested through significations such as language, action, and assembly, their mythologies about the place range in content in terms of utility, spirituality, and reciprocation.



Figure 4. Marked by a red circle, the Saint-Pierre river widened into Lac Saint-Pierre. Image: The Isles of Montreal as they have been survey'd by the French Engineers (1761).

The Saint-Pierre River and Otter Lake (also known as Lac aux Loutres and Lac Saint-Pierre) (see figures 4, 5, and 6) provided an efficient way to avoid the Lachine rapids at tsi-tkahná:wate ("Where the rapid is," now called Lasalle), as precolonial inhabitants of the land

travelled along the water. Horticultural evidence indicates that the banks of the Saint-Pierre River were places of settlement as well.



Figure 5. This map illustrates how the Saint-Pierre River widened into a lake before the Lachine Canal was built. Image: Plan de partie de l'isle de Montréal (N.d.)

In the origin myth of the Kanien'kehá:ka, humans are descended from a human-like deity who falls from Karonhá:ke (the Sky World). With the help of the animals below, she builds Turtle Island (the North American continent) in the image of the Sky World on the back of a turtle, and populates it with her descendants. Corn, beans, and squash grow out of her daughter's body, and her grandsons are responsible for the flowers, rivers, and human beings that make up the world today (Mohawk Language Custodian Association, 2016). This story emphasizes the

connection between humans and nature, and characterizes it not simply as a belief system, but an obligation, if they are to ensure their survival:

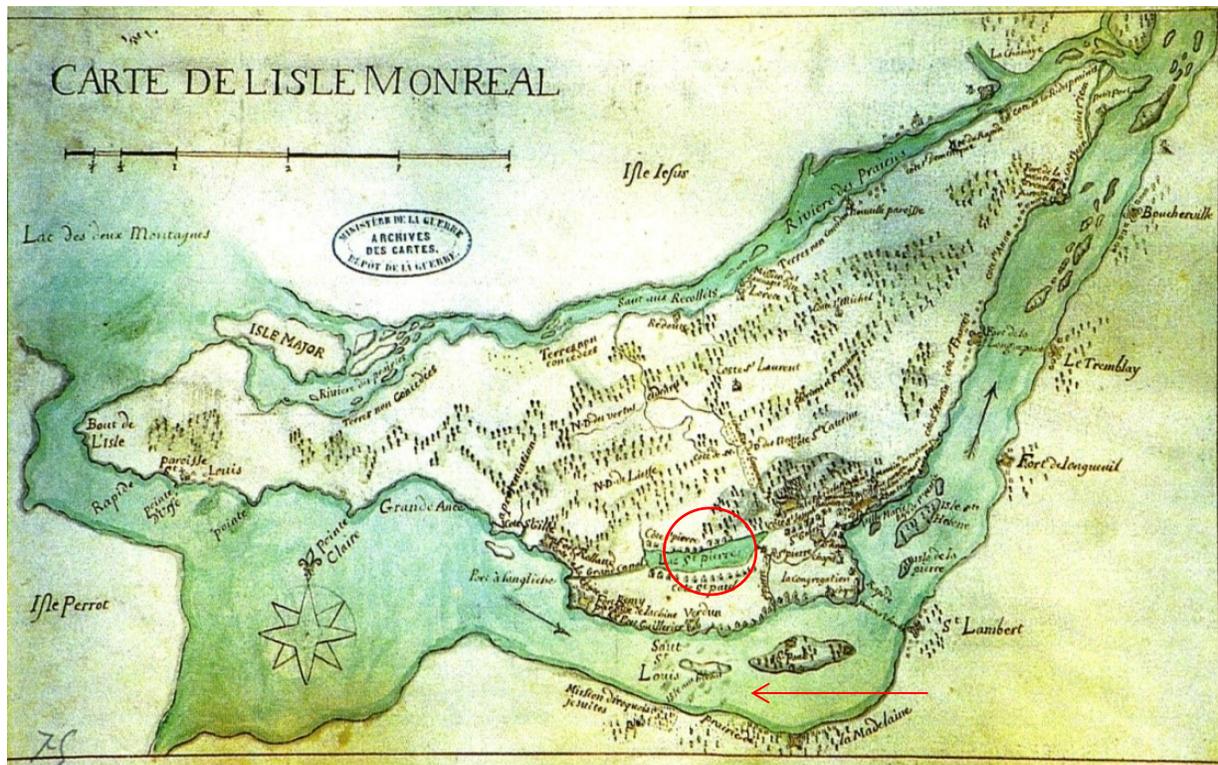


Figure 6. Lac Saint-Pierre (indicated by a red circle) was the largest body of water within the island of Montreal, and its northern shore ran was situated at the base of the Falaise Saint-Jacques. It was used to bypass the rapids of the Saint-Lawrence River (indicated by a red arrow). Image: Travail des sulpiciens (1700).

Pre-contact, the Haudenosaunee [six nations, of whom the Kanien'kehá:ka are one,] were bound together through a powerful democratic covenant, the Great Law of Peace (Kaianere'kowa) with a world view based on a cosmological belief system connecting humans with nature in the supernatural realm. The orally transmitted Creation Story taught how humans came to live on Mother Earth. The Creator gave direct instructions for beautifying the earth and making it more pleasing for human habitation, and enjoined humans to see to it that Mother Earth is taken care of for the next 7 generations (a generation that will never be seen by the present generation)⁶ (Kirmeyer et al, 2011, p. 87).

⁶ The Seven Generations Principle is a guideline for building future visions based on past knowledge. Rather than focusing on the inheritance of one's children or grandchildren, it reminds

The specificity of the timeline here is noteworthy because it prevents the past and the future from being taken as mere abstractions. There is a simultaneity that, rather than building a timeline too big to conceive of, creates a tangible link between generations. An ongoing discourse between the human inhabitants and Mother Earth creates an ongoing renewal of their commitment to each other⁷.

Environmentalist, educator, and activist Lisa Mintz started the group *Sauvons la Falaise* in 2015, after 10% of the semi-protected land was destroyed, in conflict with assurances from the Quebec Ministry of Transport (MTQ) that no trees would be cut during the Turcot infrastructure project (Conseil Régional Environment Montréal, 2015; Mintz, 2015; Hernandez, 2015).

Sauvons la Falaise's primary mission is to protect the Falaise from further destruction. Since October 2015, the group has been hosting walks of the Falaise to which the public are invited.

The walks, or visits, often have a theme, including an annual Jane's Walk⁸, birdwatching, snowshoeing, or cleaning up (Sauvons la Falaise, N.d.). Along with their many partners, they

one that actions taken in the present will affect the future for multiple generations, which one will not live to see (Jojola, 2013).

⁷ Especially given that this work takes place on unceded indigenous lands, an interesting parallel can be drawn between the mythologizing actions that the research undertakes and the ways in which decolonial theory strives to pull the action of decolonization out of the realm of metaphor into a literal space (see Tuck & Yang, 2012).

⁸ Inspired by urban geographer Jane Jacobs, multiple "Jane's Walks" take place in hundreds of cities around the world during the first weekend of May. These guided walks "encourage people to share stories about their neighbourhoods, discover unseen aspects of their communities, and use walking as a way to connect with their neighbours" (Jane's Walk, N.d.).

attend *bon voisinage* (town hall) meetings, press conferences, and organize rallies in defense of the Falaise as well as other endangered spaces (Sauvons la Falaise, N.d.). Their members consist of cycling activists, environmental activists, artists, politicians, scientists, and wellness professionals, all of whom feel that they have a personal stake in the protection, conservation, and restoration of this green space. In June 2019, the City of Montreal's public consultation commission (OCPM) released 20 recommendations for expanding the planned green park, which would repurpose a section of the train yard at the base of the Falaise, including a north-south bridge that will enable cyclists and pedestrians to travel over the highway and train yard in order to access the Falaise and the Lachine Canal (Bruemmer, 2019). The nature park will also include a wetland and an east-west bike path which are designed to be accessible to the public (Service des grands parcs, 2018).

Finally, closely tied to *Sauvons la Falaise* and their partners are the actors from whom the Falaise is being protected. This includes the Ministry of Transport, whose 2015 destructive actions instigated the community activism. The commercial buildings to the North are likewise accountable for the excessive dumping of garbage and contaminated snow (Mintz, 2019). Where the fence that runs along the crest of the Falaise is damaged, garbage tumbles down the slope in excess, including large items like ovens and mattresses, demonstrating premeditation on the part of the dumpers (see figures 7 and 8).



Figure 7. A river of garbage (bottom left), a futon mattress (bottom right), and a plastic bathtub (centre back) on the northern portion of the Falaise.



Figure 8. The damaged fence at the top of the crest gives the business owners there ample opportunity to dispose of their wooden pallets on the Falaise.

The prevalence of old car tires on the Falaise corresponds to the prevalence of auto shops and car washes along this stretch of Saint-Jacques street. In the winter, box stores such as

Canadian Tire and Provigo supermarket plow the snow from their large parking lots up to the fence, where it melts into salted, dirty water⁹.

These are the three human actors on the Falaise, each with a distinct lens through which they project value onto the site. Pre-colonially, the utility of the place was framed in a mythology of reciprocal care. As the land was colonized, the population of Montreal grew, commerce developed, technology changed, and infectious diseases such as typhoid and polio affected the relationship between the human population and the waterways they depended on, reconfiguring the Falaise into an absent space at best, and a problem to be overcome at worst. In the light of a capitalist mythology, the land came to serve a kind of non-reciprocal commerce, devoid of humanity. The community's humanist mythology returns life to the place, arguing that the plants and non-human animals that benefit from the Falaise are crucial to maximizing human benefit. Natural beauty plays an important role for both the Kanien'kehá:ka and the community's perception and reception of the Falaise, and is noticeably absent from the commercially interested parties' practices.

Barthes might summarize these mythologies as "acoustic image[s]" (1972, p.112), the signifiers that play in the mind's eye between the concept and the entity, the word and the language. For The Kanien'kehá:ka, the Falaise remains a part of the unceded territory of Tiohtià:ke/ Montreal. For *Sauvons la Falaise*, it may be a place for leisure and recreation, possessing innate natural value. For the MTQ and commercially interested parties, the land may be an obstacle to expansion, or a resource that provides a way around paying disposal fees.

⁹ Montreal is one of the snowiest major cities in the world, with an efficient but ecologically problematic snow removal system for public areas (Shillington, 2019).

Utility, protection, and abuse are the tints that distinguish the agents from one another according to the mythologies that they project onto the Falaise.

This project endeavours to supplement these extant, epic, overlapping mythologies by playing with the idea of a "mind's eye"—in this case, my mind's eye.

Methodology

An arts-based, multi-methodology frames the design of this research-creation. Because it uses a systematic artistic process as the primary procedure for reflecting on and communicating a nuanced understanding of place (McNiff, 2008, p.29), this methodology is appropriate for a project that describes emergent mythologies as places of contact between the human and the non-human. Jagodzinsky and Wallin theorize that arts-based research is uniquely suited for generative fictions, the making of "a place for a fabulation of a-people-yet-to-come...a people for which there exists no prior image ...[nor a] transcendent organizing myth" (2013, pp. 7-8). Furthermore, the project values multi-sensory ways of knowing (Leavy, 2015, p.20) as well as focusing on the synthesis and connection (Cahnmann-Taylor & Seigesmind, 2008, p. 45) that is at the core of ecological thinking.

My artistic methodologies use old technology and slow creation practices to counter the immediacy of the impression. As I was struck by a feeling, a fact, or a sense of place, slowing down to make slow artwork transforms the impression into an encompassing sense—and the attendee into a witness. Michael Taussig (2011) esteems the inclusion of drawings in field notes when he writes that "the notebook becomes not just the guardian of experience but its continuous revision as well" (p. 25). The attempt to capture the facts of what occurred during field visits transform, in the hand-design of the pages, into a record of "atmosphere and imagery, where and when spaces between words are mined by gesture..the world of play" (Taussig, 2011, p. 100). These methods encourage speculation, emergence, and exploration through their dependence on material and the body, both in the duration and labour involved in their making as well as the evidence of that labour in their outcomes, as they reveal the process of their own making (Taussig, 2011, p. 43). Combining raw materials and wondering into a collection of artefacts is

about taking the time to engage in "the imaginative logic of discovery" (Taussing, 2011, p. i). The act of drawing pulls reality out of time (Taussig, 2011, p. 11) or, as John Berger says, "encompasses it." (Berger, 2005, p.43).

In order to situate the research in ethical environmentalist and humanist discourse, environmental humanities, including art histories, provide much of the work's theoretical precedent. The practice of contemplative fieldwork aligns with non-representational methodology, which focuses on events, encounters, movement, and the body, without paying any special consideration to data collection (Vannini, 2015). Though my final project takes visual form, the research developed from an array of fieldwork experiences, including site visits and community interaction. Like the arts-based research that Jagodzinsky and Wallin (2013) describe, non-representational methodologies "highlight not instrumental plans...but rather the possibility of alternate futures, the failed representations, the contingencies of interventions, and the effervescence with which things actually take place" (Vannini, 2015, p. 7).

Procedurally, the project employs a multi-method approach that borrows from qualitative geography texts in order to join theories of embodiment, experience, and encounter while reading the landscape as a sort of text. Fieldwork, if it is taken simply as "the act of collecting information from outside" (Hubbard, 2015, p.5) is supplemented and triangulated with archival research and journaling in order to establish the context of the place and to generate content for the artistic outcomes. Within the framework of a non-representational approach, the place is permitted to transfigure into a "background," which Phillip Vannini describes as "sites that fall out of common awareness...the places in which habitual dispositions regularly unfold" (p. 9). Vannini writes,

The non-representational idea that there are other diverse ways of knowing (e.g., see Hinchcliff 2000) is perhaps more than anything else at core of the ethos of *animation*. By animating lifeworlds non-representational research styles aim to enliven rather than report, to render rather than represent, to resonate rather than validate, to rupture and reimagine rather than to faithfully describe, to generate possibilities of encounter rather than construct representative ideal types (see Thrift & Dewsbury, 2000). (2015, p. 15)

The literal/ figurative duality of "place" and "animation" here is addressed in non-representational methodologies, including performative, affect-based (Dewsbury, 2010), and visual (Crang, 2010) methods, as well as auto-ethnography (Reed-Danahay, 1997; Anderson & Glass-Coffin, 2013). Nancy Duncan and James Duncan (2010) argue that this multitude of methodologies can be reconciled under the heading of discourse analysis when the landscape is read in the same way as a text:

Discourse analysis is perhaps the more relevant methodology because it seeks to relate ways of seeing landscape to the larger discursive fields, the various ideologies, practices, institutions, texts and concepts which structure a specific way of looking. This type of analysis requires the use of various primary and secondary historical sources to gain an understanding of the relevant institutions, texts, practices and power relations that make up the larger discursive field (Duncan & Duncan, 2010, p. 236).

The heterogeneity of the methods described here is due to my commitment to a process of emergence in which I could respond organically to affect. It was clear to me from the outset that my physical presence in the place was crucial, but different instances of my presence revealed themselves as variably meaningful. Therefore, much of this methodology is attributed retroactively.

Dewsbury writes:

[O]ne has already begun researching by implicitly setting up research questions in relation to an economy of knowledge...this methodological questioning is further complicated by no longer being scripted by disembodied contemplation but rather being apprehended by the very open sensations and connections of the body itself (2010, p. 323-324).

Duncan and Duncan attribute an inverse agency to the place in a place-based investigation when they propose that landscape can be used as a verb that means an activation of the community—a turning of the community into something that is place-based (2010, p. 237). Rather than the content of the landscape, they say, it is "the sensible affects that [landscapes] activate" that research can reveal (2010, p. 240). As the body moving around space is activating the landscape as a perceived surface, the landscape is likewise affecting the body. Responding to the dynamic flux between site, person, and myth, my approach embraced multiple strategies: research-creation, fieldwork, and discourse analysis.

Literature review

This project grounds a conversation surrounding the nuanced terminologies of art and nature discourses in an art historical context. It draws from environmental humanities in order to explain and problematize the Falaise as a physical place and as a cultural idea. Finally, it calls upon thinkers in art education, public policy, and environmental education to develop a pedagogical praxis.

Art History

As I use the term, "environmental art" is comprehensive, and points specifically to works of art that engage with natural environments and excludes, to some degree, public art and monuments. These engagements have been theorized under a number of names, including "site-specific art," "earth art," and "land art," to name a few examples. What all of these labels have in common is that the content of the work is the discourse that occurs between the location and the artwork.

Art critic Rosalind Krauss brought environmental art into the mainstream in 1979 when she distinguished it from contemporary sculptural practices built on the traditions of minimalism. She claimed that a rupture occurred textually in scholarship and criticism, which repositioned art history as an outcome of logic, rather than an inevitable system of lineage and inheritance from past artistic knowledge. In other words, rather than building on art movements that came before, artists tried to react to stimuli provided by their environment. Historians and critics "began to construct [their] genealogies out of millennia rather than decades" (Krauss, 1979, p.31). Environmental artists expanded their time scales to include processes from tectonic movement to water condensation, and their work reflected these time scales back to the environment. Michael

Heiser, for example, dug into dry lake beds in Nevada, constructing massive gorges and fissures reminiscent of natural tectonic phenomena, eliciting a visceral knowledge of the fragility of the earth's crust while at the same time designing a highly architectural, built space (figure 9).



Figure 9. Heizer, M. (1968) *Nine Nevada depressions: Isolated mass/ circumflex*. To create this artwork, Heizer removed six tons of earth in a line that was one foot thick and 1,198 feet long at the dry bed of Massacre Lake in Nevada, USA.

The boundaries that determine where the environment is located are less certain and more varied today in the 21st century than they were in the 1960s and 70s, following institutional acceptance and diversification of the field (Kaiser & Kwon, 2012). Contemporary writers on environmental art follow in the tradition that Suzi Gablik articulated in 1991, when she wrote that landscape art is a conduit which can make "the beauty and grandeur of the world more perceptibly concrete for others" and that by materializing the otherwise ineffable goodness of the

world, a sense of participation, connectedness, and responsibility to it will inevitably emerge (p. 42). Current theory on environmental art is adjacent, and inextricably linked, to questions of morality and responsibility. These writers are interested in the ways in which the art object or action functions as a mechanism through which the environment opens itself to the viewer, instead of as a self-referential artwork (Kwon, 2002, p. 2, 11). Andrea Boetzkes uses the term "biomachine" to describe artworks with the technical function of relaying some element of the natural to the viewer (2010, pp.130-131). The body is itself a biomachine—one that consumes sensual information and delivers it inwards towards the self (see appendix 4a, page 15). The active verbs of viewership, framed within the concept of the biomachine, are diverging from a traditional concept of passive looking, towards active metaphors of acquisition, mapping, and weaving (Boetzkes, 2010, pp. 42-46).

This art-historical summary lists legitimized 20th and 21st century engagements with environmental art, but it is crucial that I acknowledge that, like any canon, it excludes many practices and practitioners that do not fit into a dominant narrative. Krauss makes reference to ancient geoglyphs in Peru called the Nazca Lines (see figure 10) and summarily declares that they are "exactly *not* sculpture" (1979, p.33). A brief illustrative list of works that exist beyond the boundaries of the art world but are nonetheless a mechanistic, artistic outcome of an engagement with the environment, should illustrate ways of understanding environmental art that contradict Krauss' dictum.

Anonymous artworks are difficult to fit into the art world. Unsanctioned art may be deemed litter or vandalism by a governmental or other authority. Instances of this include crop circles, yarn bombings, and public tree swings. Projects such as "Weird Terrain," a digital map of the Leslie Street Spit in Toronto (Weird Terrain, N.d.), or the fairy houses of Overland Park,

Kansas (Herizon, 2015) are imbued with a satirical, conspiratorial secrecy due to their anonymity. However, many other practitioners have been anonymized by external forces—those same patriarchies that write mainstream history. Starting from the disengagement of the (masculine) profession of landscape architecture to the (feminine) horticulture (Way, 2009, p.2; Norwood, 1993, p.144), the art historical conversation surrounding environmental art has shifted from a two-sided discourse between the artist and the site to a rounder, more triangulated dialogue between the artist, the viewer, and the place (as a cultural landscape). By asking the viewer to be an active participant in the dialogue, the systems of authority that set the distinction between exhibition space and natural living space are put into question, and the Nazca Lines may be allowed into the canon.



Figure 10. This geoglyph is approximately 260 feet (80 metres) long, and is formed by shallow depressions in the surface of the Nazca Desert, Peru.

What Krauss is observing about the sculptural turn of the 1960s is that the logic of sculpture was separating from the logic of the monument, when the monument was understood as an object with a direct link to history. When, in the case of the Nazca Lines or Stonehenge, the actors are obscured, the connection to history becomes likewise obscured. While Krauss is motivated to distinguish this turn as an art movement, Lucy Lippard feels quite differently. In the preface for her 1973 book, she states clearly that she is not writing about a movement but a phenomenon, which she identifies as "the dematerialization of art." By doing so, she preemptively addresses any conflict of critic-as-gatekeeper, or expert-as-knowledge-maker, outrightly acknowledging that any inclusions or omissions are pure personal prejudice (Lippard, 1973, p.5).

In setting environmental art as a sculptural outcome, Krauss builds a definition in which the art exists in a "negative condition" (1979, p. 34), "what [is] in the landscape that [is] not the landscape" (1979, p. 36). Lippard, on the other hand, is unconcerned with artistic lineage. Her collection, which she calls a "cross-reference book" (1973, p. 1), goes past the negative condition to utter absence of material—these artworks are not in the landscape at all. It is in reconciling how art can be non-material and yet still exist that Lippard and Krauss intersect: environmental art holds the mutability of time scales at the core of its media. Lippard excerpts the artist Les Levine (who one would not normally associate with environmental engagement)'s 1969 article, where he writes

Environmental art can have no beginnings or endings. Beginnings and endings must be contemplated. It can have no time. Time is the essential difference between theatre and environmental art. Theatre strongly depends on illusionistic time. A two hour theatre performance may take you through five hours of imagined time. With environmental art there is no change in time. It begins when you enter and ends when you leave. Time in itself is a beginning and an end (1969, pp. 41-42).

Much like Krauss' "negative condition," the theorization of time as crucially absent from environmental art presupposes that time is the crucial medium of environmental art. It would be easy to get bogged down, Lippard warns, obsessing over what it means to be de-materialized. To argue about the objectness, massiveness, or material of a work of art would miss the point. More than two decades later, Lippard reiterates the primacy of time, saying "how we understand space is affected by how we understand time. What *was* here is inseparable from what *is* here: it must all be considered together, without recourse to nostalgia or amnesia" (1997, p. 116).

Many artists who are engaging with the environment today are doing so in a way that holds to Lippard's approach to seeing (or reading) the landscape. In Gillian Dykeman's 2016 work *Dispatches from the feminist utopian future*, the artist plays on monumental artworks by Robert Smithson and Nancy Holt, initiating a conversation that takes place over a chasm of four decades in recorded performances that use the old artworks as a stage (Nurming-Por, 2018). Meagan Musseau similarly initiated a conversation over time, "[honouring] the land while [working] to learn from it" (Sutherland, 2018, p.119) in her 2017 work *when they poison the bogs we will still braid sweetgrass*, a performance that resulted in an installation of orange flagging tape that the artist slowly braided into long connections between the trees in the woods of Banff, Alberta (Sutherland, 2018). The 2014-2114 work by Katie Paterson, *Future Library*, is an example of using time as a medium by stretching it just ever-so-slightly larger than human scale. In this work, a forest planted in 2014 will grow for 100 years, at which point the trees will be felled and turned into books which will be the first printing of 100 texts, written at the pace of one per year by 100 writers (Future Library, N.d.). There is a playful interaction in these works that occurs between art-object-as-time-capsule and landscape-as-time-capsule.



Figure 11. This work, *Lemonade Igloo* by Scarlett Hooft Graafland. responds to the concerns of a community in the Canadian Arctic that has observed the loss of traditional hunting knowledge in the younger generations due to encroachment by colonial culture (Fotografiska, 2019).

The interrelation of time and myth, or Barthes' overturning of the supposition that, rather than underlying history, nature is itself historical (Barthes, 1972, p. 101), inspires the surreal or magical content of Cree artist Kent Monkman and Dutch artist Scarlett Hooft Graafland. Hooft Graafland photographs site-specific interventions which are designed in dialogue with the local community (Fotografiska, 2019). She composes allegorical choreographies based on what the community identifies as pressing issues of culture and survival (see figure 11). Monkman, on the other hand, is in dialogue with his own cultural biography. Though he is known primarily as a painter, his interdisciplinary practice encircles an alter ego named Miss Chief Eagle Testicle who features prominently in his paintings, engages audiences with live performances, and, for the 2019 exhibition *Shame and Prejudice: A Story of resilience*, published a booklet of excerpts

from her memoir of the same title. In these excerpts, Miss Chief inhabits an impossibly broad time scale, from meeting Montcalm and Wolfe (presumably in the mid-18th century) (Monkman, 2019, p. 60), to reflecting on the HIV/AIDS epidemic (p. 67). What these two artists demonstrate is a process of reconstructing a people's mythology that begins with a static, historical landscape. Through the superimposition of an ongoing cultural dialogue, the landscape is activated into something responsive.

Environmental Humanities

The environmental humanities¹⁰ draw from a range of disciplinary authorities who are engaged with art and the environment. They explore what it means to find a point of contact with the natural world, as well as what a pedagogy of encounter might look like. While anthropologists like Eduardo Kohn (2013) or Tim Ingold (2011) describe dissimilar ways that different peoples comprehend nature, texts from landscape architecture (Way, 2009; Jacobs, 2004; Heatherington, 2012), urban planning, and architecture analyze the ways nature is used (Hammond, 2014; Arendt, 2004). Environmentalism and post-industrial theories such as Steven High's "radical nostalgia" (2013, p.144) and Joern Langhort's "aesthetics of ecological performance" (2014, p. 1111), are both concerned with the symbolism that post-industrial sites hold in local consciousness. Though the history of land-use claims is not laid out in this research

¹⁰ By way of a definition, the journal *Environmental Humanities* publishes "interdisciplinary scholarship that draws humanities disciplines into conversation with each other, and with the natural and social sciences, around significant environmental issues" (Environmental Humanities, N.d.). Also called "ecological humanities."

project, post-industrial urban studies provide an important footing for acknowledging the contested nature of the space.

The Anthropocene is an emergent area of study within the environmental humanities, which deals with the permanent trace of humanity in the earth's fossil record. It has embraced art and artistic ways of knowing centrally to its process, as evidenced by the exhibition *Anthropocene* at the National Gallery of Canada (18 September 2018-24 February 2019). Jennifer Baichwal and Nicholas de Pencier's films, which were featured in the exhibition, "work from an intense engagement with place, examining how the character of a specific landscape can shape cultures" and illustrate this deep link by highlighting how moments of change to the environment are simultaneous to "fundamental change to our being" (Hackett, 2018, p. 14). Anthropocenic¹¹ thinking engages with transience, temporality, and human self-awareness in a way that is similar to environmental arts. The collections *Art in the Anthropocene* (Davis & Turpin, 2015), *Architecture in the Anthropocene* (Turpin, 2013), and *Future remains: A Cabinet of curiosities for the Anthropocene* (Mitman, Armiero & Emmett, 2018) are all a testament to the need for a truly interdisciplinary approach to the environment today—one that has everything to gain from an artful way of communicating that can shift easily between a documentary and a conceptual mode.

Rob Nixon problematizes the very idea of the Anthropocene because, put simply, it is entirely anthropocentric. It is borne from the false equivalency of impact and control—the more

¹¹ I use "anthropocenic" here to describe the interdisciplinarity of this field, including geological, historical, and ecological understandings, as opposed to "anthropocentric" which is focused solely on human thought and activity.

impact humans have on the planet, the more they control it (Nixon, 2018). In the context of an environmental crisis, the logical sequence of this thinking must be, humans made a huge negative impact so it must be resolved by an equally large positive impact. Integrating literature from education that emphasizes connection and perception (see, for example, Song, 2012; Dixon & Senior, 2011; Coles & Pasquier, 2015), with Nixon's reasoning forms the praxis of a pedagogy of encounter. With the encounter at the centre of learning processes, this praxis cannot be built out of chronology but rather on a web of relationships—once something has been touched it will always have been touched; if something will be touched, it will always have been. Understanding and conveying the simultaneity of the deep past and the deep future might replace Nixon's "impact" with something more like contact, and "control" with connection.

Before the environmental humanities emerged as a discipline in the early 21st century, many thinkers who could be categorized "naturalists" dealt with similar ideas about the connections between humans, nature, and policy. Though their backgrounds are varied, naturalists distinguish themselves by prioritizing popular consumption and relatability in their work, most often through writing, but occasionally in other forms. Their work, then, can tend towards the evangelical. Among these thinkers are Ralph Waldo Emerson and his student Henry David Thoreau, as well as more modern writers like Rachel Carson. Scholars whose work calls for new ways of reading place are Greta Gaard, Jane Bennett, and Donna Haraway¹², who use artful prose in order to create connections with nature and site. In a way, these writers are

¹² I am thinking, in particular, about the biographical narratives formed by Gaard (2003), the self-reflective approach of Bennett (2001), and the speculative science/fiction of Haraway (2015).

environmental artists as well. Their use of language for literal meaning-making, however, situates their influence on this research more resolutely in the humanities than art histories.

Education

This project is fundamentally a work of public pedagogy, in that it positions the learning action in an un-institutionalized space, where the education may tend towards "a subtle, embodied mode, moving away from the cognitive rigour commonly associated with education and toward notions of affect, aesthetics, and presence" (Sandlin et al., 2011, p. 348). With its ties to an activist community group, and having an accidental audience, the work lists towards "publicness" rather than a "public" that consists of individuals, and supposes that creating the opening for "publicness" is a matter of education rather than politics (Ford & Jandrić, 2019).

The focus on synthesizing trans-disciplinary ways of knowing in this project is reflected in environmental education. In his 1990 manifesto-like article, David Orr lays out seven propositions for what he calls "earth-centred learning" (p. 49). Taken together, the propositions describe a pedagogical praxis that encourages "a quality of mind that seeks out connections," or, simply, "ecological literacy" (p. 51). Decades earlier, Rachel Carson encouraged parents to teach their children how to cultivate a sense of wonder of the natural world using the same open techniques of cultivated perception: a magnifying lens, a keen nose, and attentive ears (Carson, 1956). Though she did not use Orr's terminology, the essence of learning remains the same. Facts, figures, and taxonomy may come, but it is the "recognition of something beyond human existence" (Carson, 1956, p.48) that constitutes the knowledge gained.

In the field of art education specifically, Hilary J. Inwood, Young Imm Kang Song, and Mark A. Graham examine the benefits of giving environmental art and curricular crossovers between environmental studies and art a place in the classroom. Inwood argues the benefits of art education in both fostering connection and encouraging synthesis (Inwood & Sharpe, 2018), as

well as directly supporting environmental literacy (Inwood, 2010). She further asserts that place-based and environmental education can be reciprocally beneficial to art education by offering a way for "the visual arts (and the arts in general) [to] be used to develop a deeper understanding of [learners] or their communities, or the ways in which the arts can be used to create meaning in their lives or bring about social change" (Inwood, 2008, p. 32). Song likewise takes for granted that educators are obliged to cultivate a sense of environmental responsibility in learners, and sees the arts as a powerful tool for doing so (Song, Creegan-Quinquis, Min & Kang, 2017; Song, 2012). She states that the natural world can heighten the positive attributes of art itself, such as art's ability to reveal "new connections, identify new patterns, and think in entirely different ways that break from a more constricted viewpoint" (2010, p.97). Graham contextualizes a moral obligation in critical place-based pedagogy that would extract art and environmental education from "the margins of the educational landscape" (2007, p. 376) through an emphasis on the local. He posits that "[b]lending place-based education with critical pedagogy generates an approach characterized by blurred boundaries between artmaking, social critique, scientific inquiry, and activism" (p. 379).

Description of the work

Getting to know a place and a community

Sitting in my home office, I can look over my shoulder and see the trains roll by on the CN tracks. The freight trains last for several minutes: a low, rumbling pulse paired with the constant squeal of steel on steel. The passenger trains are relatively silent and only last a few seconds. Upon leaving downtown, they move through my neighbourhood on the way to the Turcot train yard. Some of the freight trains stop there for a moment to rest, but the passenger trains speed through on their way West.

From the right-side windows of westbound passenger trains, a tree-covered ridge offers visual respite from the landscape of infill and highway as they move through the train yard. At one time, it would have been possible to walk from my current home in the neighbourhood of Saint-Henri to this escarpment in less than half an hour. Today, a combination of infrastructure projects has all but blocked the eastern entrance. Despite the open artery of train tracks, Saint-Henri is separated from its adjacent residential neighbourhoods except in the most controlled ways: three roads cut under the highway and commuter rail to the north, and three foot bridges traverse the canal to the south.

It took more than six months for me to find a way to access the Falaise Saint-Jacques after I learned of its existence. Blogs and news sites verified that it was there, a mere kilometer down my street, but that research all predated the Turcot construction project, which blocks civilian movement. I finally found an imminent Jane's Walk, enabling me to tour the space without fear of bodily harm or a citation for trespassing, in addition to giving me access to an expansive knowledge base, from both the guide, whose background was in biology, and the

group, many of whom were active community members. I learned that residents of the neighbourhood of Notre-Dame-de-Grace, which sits to the north of the Falaise, are the population who interacts with the Falaise most in their daily lives.

A Jane's Walk on May 7, 2017 was my first visit to the Falaise. The group was age-diverse, including several seniors and four young children. Two dogs also joined, and it was a delight to notice how both the children and the dogs, uninterested in the official programming, experienced the space, noticing layers of the environment that were not apparent to me. After this walk, I found the group *Sauvons La Falaise* on Facebook and wrote a carefully-worded private message to them. A quick and enthusiastic reply from one of the principle members invited me to call her whenever I liked. She shared a large file of reports, presentations and news items surrounding the municipal government and its policies relating to the Falaise, as well as initiatives of the community.

I find myself reflecting on this period, between the Jane's Walk and the initiation of a relationship with the community group, in terms of "making contact." The narratives that this language implies are at once tongue-in-cheek for their Odyssean enormity, and genuinely problematic for the inherent colonial othering embedded in them. I am indebted to the Falaise community, who mediated my "contact" with the site; and to the Kanien'kahá:ke peoples, the long-time protectors of the lands and waters of Montreal/Tiohtià:ke. I learned, too, of other artistic interventions aimed at documenting this space. Owen Chapman's 2015 soundmap of the Falaise, for example, was made by a team of sound recorders and composers who explored the Falaise with mobile devices, creating a collective work that was both representational and symbolic (Chapman, 2015). Photographer Andrew Emond followed the Saint-Pierre River in a five-part photo essay (Emond, N.d.), and a "music route" art walk (Emond, 2012).

Subsequent visits to the Falaise expanded my mental map of it incrementally. When I took on the mantle of guide with a visiting friend (September 18, 2017), I did not venture farther than my initial tour, but the late summer weather made the warm microclimate more apparent, and the overwhelming mosquitos were a visceral reminder that where there was a river there was also a wetland, buried by time. Because the leaves of the flora were maximally open, the species were easier to identify. Two weeks later (September 30, 2017), a tour by *Sauvons la Falaise* with a political emphasis took me past the southern border of the Falaise and onto mounds of rubble on the grounds of the train yard. In the winter, I donned a pair of children's snowshoes, in order to see this space with no green and no ground—nothing but wood, snow, and slope (February 18, 2018). This tour took me farther East than I had been before. I found snowbanks up to 12 feet high along the fence at the crest, where the large commercial parking lots are plowed. When *Sauvons la Falaise* hosted an end-to-end walk, I was delighted, having never been to the westernmost end (April 22, 2018). In the first minutes of the walk, I entered via a slope so steep that I would not have thought descent possible before. The dogwood shrubs were leafless and a shocking red. The guides pointed out large asphalt shingles on the ground, which were there to count and record the threatened population of Montreal's brown snakes. Two leashed dogs had an experience entirely unlike the humans who were holding them. What's more, how different their experiences seemed from the unleashed dogs who had joined me last May!

I may have approximated the feeling of being an unleashed dog when I joined a large group of volunteers to pick up the garbage on the Falaise (May 4, 2018). Because there were so many people present, I could venture alone to places beyond, knowing that someone would pass by eventually. Because the amount of trash was hopelessly large, I had a reason to venture off the path, up and down the slopes around me, to collect soccer balls, cages, or bottles and put

them in my heavy-duty garbage bags. Five days later I attended a Jane's Walk for the second time. After a year of collecting information and impressions, this same science-based guide confirmed, explained, and contextualized much of what struck me over the last year.

It is not possible, in the space available, to list all of the small details about the Falaise that enriched the way I felt about it as a place. Choosing just a few may suffice to describe the multilayered process of getting-to-know, in the literal sense of getting to know a subject of study as well as metaphorically, as in getting to know a new friend. The Jane's Walk guide paused at a widening of the path where the train yard was visible through the trees, and told the group how, despite a near-consensus by engineering consultants, the rails were moved to the North rather than the South, where the old lake bed proved to be so unstable that two train engines sank beneath the surface (Asch, 2017). By the murmur of the group, it was clear that this chapter of the place's history connected with them. This same guide listed the non-indigenous trees that indicate pre-colonial villages, such as the butternut hickory tree, which produces edible fruit, and the hawthorn fir, which is an effective defensive barrier and has needles that can be used for sewing. With the exception of the snowshoeing excursion, each visiting group also took a moment of pause over the culvert where the path forks to check in on a small stand of bloodroot, a delicate rhizomatic flower whose roots release a bright red dye, giving it its name.

Twice, Lisa Mintz of *Sauvons la Falaise* described how it is by following the feisty sound of birds that she stays cognisant of any actions that go against the protection of the Falaise as an eco-territory. A drain that was installed on the protected side of the snake fence, which runs

the length of the Falaise at its base, disrupted the ground there.¹³ By following the vocalizations of the crows, Mintz found the drain and reported it to the authorities.

The more familiar I became with the Falaise, the more details emerged. David Orr might frame this as a development in my ecological literacy, Jane Bennett could say that my world was coming "alive with a collection of singularities" (2001, p.5). Taken together, phenomena might be called ecological enchantment, where "enchantment" is distinguished by "the temporary suspension of chronological time and bodily movement" (Bennett, 2001, p.5). First, hidden pathways revealed themselves, enabling me to move in the space without consciously thinking about it. Then, I learned that the vines that had been nothing but an obstacle are covered in edible grapes. I looked up the parsley-like greenery that covers the ground, and found out that by high summer it will be three feet high and flowering. I could see from a sawed off section of fallen tree that someone had been there, and that the wet spring brought more land snails up to the surface. I grew accustomed to the heat of the Falaise, I knew that it was not coincidental.

Despite its multilayered history and the profound, visible impact it has had on the shape of Montreal, the Falaise is in many ways a forgotten non-site, caught and rendered invisible by the highways that pen it in. The creation portion of this research-creation project culminates in a site-specific installation on the Falaise, designed to minimize intrusion on the site, as well as to

¹³ The snake fence is a black tarp, about four feet high, strung between vertical metal supports. Intended as a protective measure for the endangered brown snakes, it keeps the snakes in the woods as much as it keeps the train yard's contaminated soil out. Interestingly, the natural habitat of the protected brown snake is open field—they would rather be on the other side of the fence (Lowrie, 2018).

bring the fact of the seeing eye to the reflective forefront of the viewing experience. It is accompanied by a field guide. The artwork endeavors, as an analogue augmented reality device, to reveal the Falaise as a storied place, and to play with scale in terms of time and size.

Limitations

Reflecting on the early days of the Land Art movement, Lucy Lippard writes that the artists' "purported focus on place ... was actually a focus on site." She explains, "Place, or the cultural landscape, is where land and lives meet," and accuses mid-century land artists of engaging with "an 'aesthetics of distance,' [that forecasted] the appropriation and cultural imperialism implied by the now-infamous practice of artists parachuting in to suck up *place* and use it merely as *site*" (2018, p.69). Therefore, while the art produced in this project acknowledges the debt owed to the practices of the 1960s, I tried neither to "parachute in" nor make any grand claims at expertise. Instead, the research-creation work represents the incremental expansion of the map, if a "map" is understood to be a simplified or symbolic representation of relationships.

Early on, I included the community voices in the mass of foundational data I built in order to inform my personal artistic output rather than in the actual execution of the work. Yet, as the research listed towards an emphasis on a single actor coming to know a place, it became limited to the extent that it was less about how the community was teaching, and more about the ways that I was learning. In order to make the art, in other words, I found that I had to position myself as the subject, relegating the Falaise to a position of object. I have said that much of my methodology is attributed in hindsight and explained my reasoning for that, but I must acknowledge the limitations and risks of that sequencing.

Description

There are three distinct artistic undertakings in this project: the environmental art installations (the zoetropes) (see figures 18-20; see appendices 2 & 3); the drawings (see appendix 1); and the field notes (see figures 12 & 13) and field guide (see appendix 4). I will discuss each in turn as distinct projects before I describe how they also contribute to the singular outcome.



Figure 12. A page from the first field notebook: musings on light and the canopy (left) and layers of the forest (right).

The field notes are a collection of navy blue five-by-eight inch notebooks that I began in spring of 2016. I intended to use them as a place to ponder, in the first person, what my personal relationships with the natural world are, and why. Early on, they are replete with personal writings and mind maps. They shift to include notes on specific subject headings and, increasingly, drawings of natural concepts, such as botanical illustrations of specimens that I collected, and the layers of a forest (see figure 12). After my first visit to the Falaise, my notes begin to take on an almost tidal cycle. Following site visits, I execute an obsessively site-specific

outpouring of data, including scale maps, Latin taxonomies, and notes that record any new information I gleaned from the guide or group. The more time passes between visits, the more theoretical my thinking becomes, including, for example, a headline that scolds "stop idolizing Thoreau," and a perplexing drawing of an astrolabe (see figure 13).



Figure 13. A page from journal number three featuring a Victorian astrolabe design (left) and a reference to "Codex" and "Palimpsest" (right).

Much of the content of these notebooks is not particularly or specifically relevant to a project about the Falaise Saint-Jacques. Embedded within the irrelevant information, however, is a structure made of play, circumventions of the questions posed, and pauses in thinking that reveal themselves to be the scaffolding by virtue of which a person (myself) can *get to know a place*.

The field guide is illustrated in large part with a series of pencil drawings that I executed between 2017 and 2019, in direct response to the Falaise (see appendix 1). Unlike the notebooks,

the drawings are self-edited due to their large size and the long process of executing them. Although I have hundreds of photographs, videos, and sound recordings of the Falaise, they fail at conveying the impression of being in a body in the space. Early pieces in the series try to rectify that failure, by either interpreting source photographs or abstracting the senses into visual language. Overgrowth, for example, means many different things, touching on topics from invasive plant species to counter-erosion measures and animal habitat, but the drawings of the overgrown parts of the land are about how, when I was in the space, I felt enclosed or enchanted. Ranging from animal life to human activity, the subjects of the drawings are determined by a combination of my specific interests (such as the shoreline) and the interests of the people who I joined in exploring the site (such as the fisher).

In the same emergent spirit, the field guide is designed to mimic the field notes. The drawings are re-ordered to describe a general, unfolding, exploration of the Falaise. Beginning with maps and diagrams, it zooms in and out from humans and non-humans living on the Falaise, and reverses into deep time before shifting to photographs of traces. Illustrations, scientific information, and captions are included according to my attraction to the points they make—how is it that one point, and not another, expanded my relationship to the place?

The zoetropes are the final outcome of this research. Two main concepts inform their design: the idea of environmental art as "a biomachine" (Boetzkes, 2010), and the idea of mythology augmenting reality. The object (the zoetrope) transmits perception between the environment and the viewer, literally animating aspects of the place. Each animation is a combination of two aspects of the Falaise that contradict each other's scale in terms of size and time (see appendix 3). The growth cycle of a bloodroot plant (*Sanguinaria Canadensis*) is superimposed on a glacier that appears and disappears in a seasonal cycle. A canoe, which shares

a silhouette with that of an Algonquin birch bark canoe, floats on the water and transforms into a train engine as it sinks beneath the surface. A crow, landing on a poplar tree and gesturing to the ground with a spotlight, is interrupted by its earlier self, and so cannot have a rest (see appendix 3d). The crow, destined to continue a Sisyphean loop, manifests both environmental pessimism as well as a suggestion of healing through interspecies communication.

The contradiction of mythology is that it is both epic and quotidian. Creation myths cope with the problem of it being at once a simple matter to know that we exist, and the most profoundly unknowable knowledge that we possess. The myths that I animate in the zoetropes attempt to engage in conversation over gaps in time and species, to strike the viewer with a sense of connectedness.

The labour-intensive, elemental media of the drawings and zoetropes (graphite, paper and galvanized steel) all build on the sense of deep time. The weight of the metal and its controlled oxidation should elicit thinking about the earthly origins of the materials. The graphite is applied to the paper to emphasize its own texture—thick and shiny in some places, thin and dusty in others. The zoetropes' position on the crest of the Falaise forces a perspective from the viewer: they are obliged to stand with their backs to the familiar, developed landscape and look into the wilderness that they may have missed. By raising their eyes slightly, the slits in the zoetrope offer some transparency that superimposes the animation on to the Falaise (see figures 17 & 18).

Furthermore, the installation plan mitigates problems of safety and access. As an unprogrammed place, entering and walking on the Falaise can be a dangerous project. While I was climbing over the fence in September 2017 I tore a gash in my leg, and twice the Jane's

Walk guide pointed out a field of nascent poison ivy¹⁴. Due to fallen trees and unstable ground, the clearest path is replete with obstacles to trip any hiker who loses focus, and occasionally becomes completely blocked so that one is obliged to either walk up a steep incline, crawl through it, or grab a branch and swing around and over a drop off. Reporter Andy Riga, who explored the Falaise in 2007, draws the comparison between the Falaise and a *Law & Order* shooting location, wondering if he would stumble upon a corpse or, for better or worse, if anyone would someday stumble upon his. For these reasons, I have avoided obliging anyone to venture into the Falaise alone.

I am also interested in the idea of drawing attention to the boundary there, which is mostly marked by fencing that can be read either as a safety measure (keeping people out of the dangerous Falaise) or a demarcation of private property¹⁵. Thanks must be given to artist-scholars Cynthia Hammond, Kim Thompson, and Kathleen Vaughan for the idea to install the work on accessible fences, after their 2017 research on a private Venetian garden (Hammond, Thompson & Vaughan, 2017).

The audience for the zoetropes is accidental and self-selecting because the only requirements are 1) being in the space, and 2) being just inquisitive enough to approach

¹⁴ Having been raised in the Northeast United States, and being extremely allergic to poison ivy, I consider myself an experiential expert, and conclude, myself, that the offending plants were in fact young Virginia creeper.

¹⁵ The nature of the commerce there can be traced back to the 1950s, when CN sold the lots cheaply in order to transfer liability after an infant was found dead on the Falaise (Tot's body found frozen in Creek, 1951).

something unfamiliar. Zoetropes are toys—a single action applied to them will activate them for amusement. They will, as such, invite the audience to approach in order to play.

Process

I have already described the procedure of getting to know the Falaise as a place. The art objects that resulted from that work were diverse and emergent, so I went through several iterations of each. The greatest challenge for me was the construction of the zoetropes, as I had no past experience creating animations, nor working with metal.

Over the course of 2018 and 2019, I made a number of prototypes in order to decide on the scale and proportion of the zoetropes (appendix 2). I also attempted to rethink the mechanism by which the animation occurs, hoping that I could recreate a multilayered projection on to the site (see figure 14). It became clear that although there are a number of ways to achieve the effect of animation, transparency effects would require an environment with controlled lighting, as opposed to an uncontrolled outdoor space. Furthermore, although it was possible to perceive the animations when they were staggered between the openings in the zoetrope, they present much more smoothly when they face the openings directly (see figure 15).

Steel, in addition to being available and durable to outdoor conditions, adds massiveness to the work that I hope elicits a sense of geology and deep time—the objects may exist for longer than a human life. I chose 12 frames in order to make reference to a clock face and calendar year—because the animations must loop there is a necessary solstice-like crescendo in each. A dodecagon is easily rendered, at any scale, using nothing but intersecting circles and straight lines (see figure 16). The circle is a motif that runs through my drawings as well, in order to call to mind a lens focusing sight, as well as to symbolize ecological connectedness.



Figure 14. In earlier stages of the project, I conceived of a zootrope made of one-way glass, which would reflect the viewer back to themselves and overlay an animation onto the landscape. The unpredictable lighting conditions of an outdoor site precluded this option, however, as the interior of the zootrope would have to be more brightly lit than the outside in order to achieve transparency.

To test the zootropes, it was important to have an animation strip. I found a six-frame image online, which became my source for many of the prototypes (figure 17). I began with the crow animation. Knowing that the point I hoped to get across was the interspecies communication between the crows of the Falaise and the human protectors, I attempted to become adept at manipulating the image of the crow. I planned to depict a crow vocalizing as it landed on a branch, then pointing down while making eye contact. In order to achieve this unrealistic scenario, I constructed a stop motion animation, which I then simplified in Photoshop (appendix 3a).

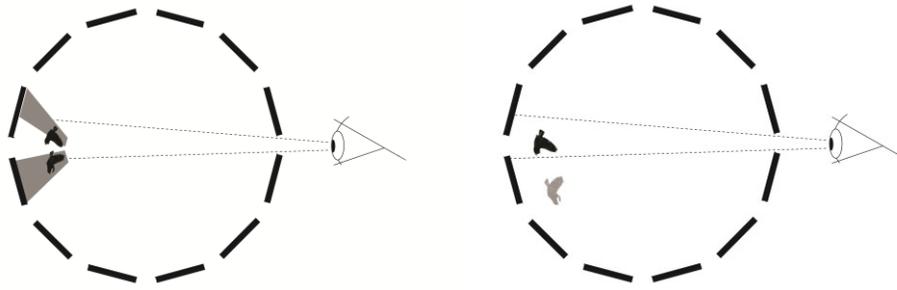


Figure 15. When viewed through a $\frac{1}{4}$ inch slit, the eye must use peripheral vision to reconcile movement (left). When the images are placed directly in line with the slit, however, the animation effect is easy to perceive (right).

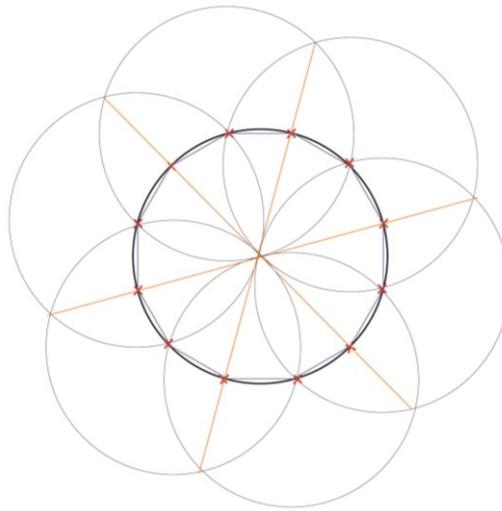


Figure 16. With a single circle in the centre, 12 equidistant points are articulated by aligning points of intersection.



Figure 17. A six-frame animation of an American crow in flight.

I followed a similar process for the bloodroot/glacier animation, pulling pre-existing material from the internet (see appendices 4b, 4c) and using digital and manual techniques to

simplify it. Ultimately, it became clear that the image had to be as uncomplicated as possible in order to make the movement visible to the viewer in just twelve frames, which resulted in the animations as they are now—simplified and graphic (see appendix 3d).

Constraints of finances, scheduling, and logistics obliged me to simplify the final stages of the zoetropes' construction. I initially identified three spots at the crest of the Falaise where I would install them—roughly at the extreme ends and the centre. I planned them as permanent installations that used metal clamps to affix them to the structures that were already in place. However, because it was recommended that I construct the cylinders completely before adding the decoration, my plan to stencil enamel paint into the interiors was prohibitively difficult. Surface variations made my lines blurry, and the precision I needed in layering the stencils was hindered by the limited space of an eight-and-a-half-inch tube. Ultimately, I printed my animations onto adhesive vinyl that I pressed on the interior (see figure 18). Although the vinyl is itself fairly weatherproof, the adhesive is not.



Figure 18. An installation view shows the printed vinyl interior of a zootrope.

Given that the installations would not be permanent, the plan could evolve. Instead of welded steel, I affixed swivel plates to five-inch rounds of wood which were screwed into two-inch-square poles of scrap wood. The swivel plates were then joined to the zootrope bases using epoxy glue. I chose a single location, Terry Fox Park, to install the work so that I could observe a few hours of public interaction, and could easily return and check on the pieces—whether they had been removed or vandalized by humans or nature.

Terry Fox Park runs along Saint-Jacques road. It is about 15 metres deep and 200 metres long. Small grass-covered dales separate the dirt walking path from the street. It has a few benches along the path and many trash cans, which belies its primary use as a dog walk for the neighbourhood. The path follows a four-foot tall, vine covered chain-link fence that keeps people off of the Falaise. For all of these reasons, it is an ideal place for a simple installation (see figure 19).

I placed the wooden poles on the back (Falaise) side of the fence next to the fence's vertical supports, and held them in place with cable ties. The canoe zootrope is the easternmost site, as the train yard is visible through the overgrowth (though barely in high summer). Ten metres or so to the west, the bloodroot animation overlooks a section of level ground before it falls off, so that one may imagine the flowers of *Bloom* taking root. Finally, the crow animation is another ten metres west, where the sky is visible through the canopy (see figure 20). Virginia creeper conceals the poles and ties, so the cylinders appear to float above the fence.



Figure 19. Along a 30-metre stretch of the chain-link fence at Terry Fox Park, I installed three zootropes at a height of just over four feet. Red circles indicate the zootropes. From left to right: *Canoe train*; *Bloom*; *Crow*.



Figure 20. The westernmost zoetrope features crows landing on a poplar tree, so it was installed at a site where the canopy opens. Dense Virginia creeper vines conceal the support mechanisms that hold the zoetrope onto the fence.

The installation occurred on a Saturday afternoon in early August. My partner helped me to transport the lightweight but cumbersome zoetropes, and stayed with me for several hours after the installation, observing people as they walked through the park. Despite the summer weather and weekend schedule, there were no more than ten individuals who passed the installation, not including canine companions and a pair of police cadets on bicycles. Many showed interest in the zoetropes as objects, but none of them approached closely enough to spin them.

Although it is unfortunate to have left the park with such an utter lack of data, it does reinforce to me that the audience for the work must be accidental. Connection is an intimate thing, and play is very personal. These few people were being observed. Perhaps they will come back later and play in solitude—perhaps they will steal or vandalize the work. This project simply cannot be about the collection of information, but rather the tracking of a process and the translation of connection into art.

As someone who frequently works in more standard modes of exhibition design, I am excited to design the work produced here—the drawings, field guides, and zoetropes, as well as the photos and video that did not make it into the final outcomes—into an exhibition¹⁶. While I could not collect data on the strangers, passers-by, and users of the park who saw the installation, what I do have is more than two years of anecdotal material on my community. I presented the work to friends, family, neighbours, colleagues and acquaintances, in person and on social media. It was something I had not anticipated, so my research design was not prepared to record

¹⁶ An exhibition, titled *Orienteer*, featured nine of the series of pencil drawings as well as textile work by artist Kay Noele, in February 2018, in the ArtESpace Gallery, Concordia University.

it: the artworks carried a little bit of the Falaise out into the world. With all my intention to draw people bodily towards the site, I fixated on the art as a mediator between physically present beings, not considering that the art could be a diplomat as well. It did more than increase awareness of the Falaise's existence, it introduced this community to it in a way that prepared them for enchantment. Regardless of if they are too allergic to mosquitos or unable to jump a fence, they can get to know the Falaise via documentation recorded from my encounter—from my mind's eye.

In the limited scope of this thesis, I was obliged to choose a single route of inquiry to arrive at my destination—in this case, art history and fieldwork. In the future I would like to explore the paths that I did not take. Specifically, I am interested in theorizing the art as a toy, and in incorporating natural ecosystems into the media of the installation. In the former, the understood "instructions" of a toy-like object (pinwheels turn, kites catch wind, zoetropes spin...) are the mechanism that mediates the encounter and encourages discourse between the viewer, object, and site. Art involving the immediate ecosystem—for example, the object could move with the wind or become illuminated with solar energy—may enrich that discourse by further decentering the viewing human.

Contribution to knowledge

This research builds on the work of art educators and academics who have resisted the siloing of art, focusing instead on the merging of public policies and place histories into environmental art. It is fortunate that the Falaise Saint-Jacques is back in the consciousness of the Montreal public because this moment can be taken as a turning point in an otherwise imprecise timeline. How does the art attenuate issues of access, education, and availability to create a meaningful relationship between the larger community and the space of the Falaise? Does the work make the valorized, ineffable, and privileged sense of enchantment something more democratic?

I agree with Eduardo Kohn's assertion that "[s]igns exist well beyond the human, and those signs are not always word-like" (Haraway, Kohn & Dayan, 2013). By positioning itself between human perception and uninhabited space, this series functions as signage that conveys the relationship between the two. Inwood, Song, and Graham demonstrate the efficacy of art education to support environmental literacy and ecologically-minded citizenship in others. My ambition is that this research outcome aligns with their stance, and I personally hope that, as art, it carries an innate value for its own sake. The necessity of an interdisciplinary bibliography for this research is a verification that art theory and practice can be at the center of an inquiry into an experience of "being alive" (Ingold, 2011). As an artist¹⁷/scholar/educator, I may sit at the same

¹⁷ I am conflating "artist," "curator," and "exhibition designer" here, based on my similar approach to all three, in which the viewer is understood as a body existing and moving in space with a personal history and future.

table as a practitioner, activist, or scientist, and contribute my perspectives on movement, subjectivity, and unfolding. I may complicate the idea of "data"¹⁸.

¹⁸ This insight was gained after I had the good fortune to sit at transdisciplinary tables at the 2019 summit for The Nature of Cities in Paris, France (June 4-7, 2019), as well as the conference "Re-enchanting urban wildness" in Perpignan, France (11-14 June, 2019).

Conclusion

Those natural spaces to which I have a deep connection are largely located in my hometown on Cape Cod, Massachusetts. I think it is no coincidence that Cape Cod and New England in general are overrepresented in the work of naturalists. We (if I may count myself among them) grew up within enchanted forests, and our common mythologies reinforce our fantasies. I have no such claim to the Falaise Saint-Jacques—no collective memory of it, no common mythology in which I was born fluent. Like learning a language, coming to know this space was slow, rife with errors and misunderstandings. Yet by tracking my process of getting-to-know, my journey to forge a relationship, this research is itself a point of contact. For one, the installations transfer information to the public, activating in the same moment that they stand between the viewer and the landscape. The field guide, on the other hand, is activated by inquisition—a person who wants to know more may open the pocket-sized booklet and explore the site, or they may imagine, from far away, what exploring the site might be like.

The meaningful natural places in my life are places that I have exchanged with, as though we were playing a game with each other: a clearing down an overgrown path that I could pretend was only mine; a rotten hole in a tree trunk transformed into a vessel for making potions; a sculpted hedge that, in its hollow interior, offered secret passageways around the garden; a seashore with waves I knew so well I thought they broke on my command. For me, the secret to Gablik's "new cultural coding" may rest in play and imagination. The dialogue between concept and action, or speculation and exploration, occurs semantically, but also semiotically in the space between the verb and the preposition: in all the ways that to caring *for* a place is like and unlike caring *about* a place.

I have said that the unexpected outcome of this project was that the static artworks—drawings and field guide—were finally the effective tools for disseminating multilayered knowledge about the Falaise to the public. These are works that were by and large produced during times of isolated contemplation. However, I believe that it was by keeping a site-specific environmental artwork in mind as the final crescendo of this creative process that my studio practice remained committed to telling the stories of the agents of the Falaise. Under the scrutiny of an artist's isolated contemplation, quotidian stories of use and abuse inflated into mythologies. Through the initiatives of public pedagogy that were already at play, I accessed the land and learned facts and rumours about it. By contemplating emergent familiarity that repeated encounters with the land brought about, I made myself—as an individual and as a representative—the protagonist of a narrative about the land and the person becoming acquainted.

Including works of art in the larger struggle to educate citizens about the landscape and environment addresses the need for active care and radical compassion in the ways that we think about the places we live. Education, by showing the ugly present as a blip between a long cultural and ecological past and a beautiful and protected future, is essential to making change. That perspective—making the immediate present a change point—can be presented by visual arts when they strive towards a mode of representation that emphasizes simultaneity while acknowledging the single point in space and time that a viewer occupies. We are each at the centre of the universe, and the universe is all ways.

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Appendices

Appendix 1) Drawings



Strata, 2017. Graphite on paper. 17 ¾" x 17 ¼".

This is the first drawing of the series, made immediately after my first visit to the Falaise. By layering styles of drawing and content, it describes the multifaceted reality of the place, including its importance for migrating birds such as the Cooper's hawk (top) and brown snakes (second from top). Bioersivity is hinted at with desiduous trees (top and third from top), Virginia Creeper (second from top), bloodroot (second from top), grape vine (centre), and phragmites (centre). There is an abstracted train engine (bottom) embedded in layers of sediment, referencing the rumour that there are sunken train engines in Turcot train yard.



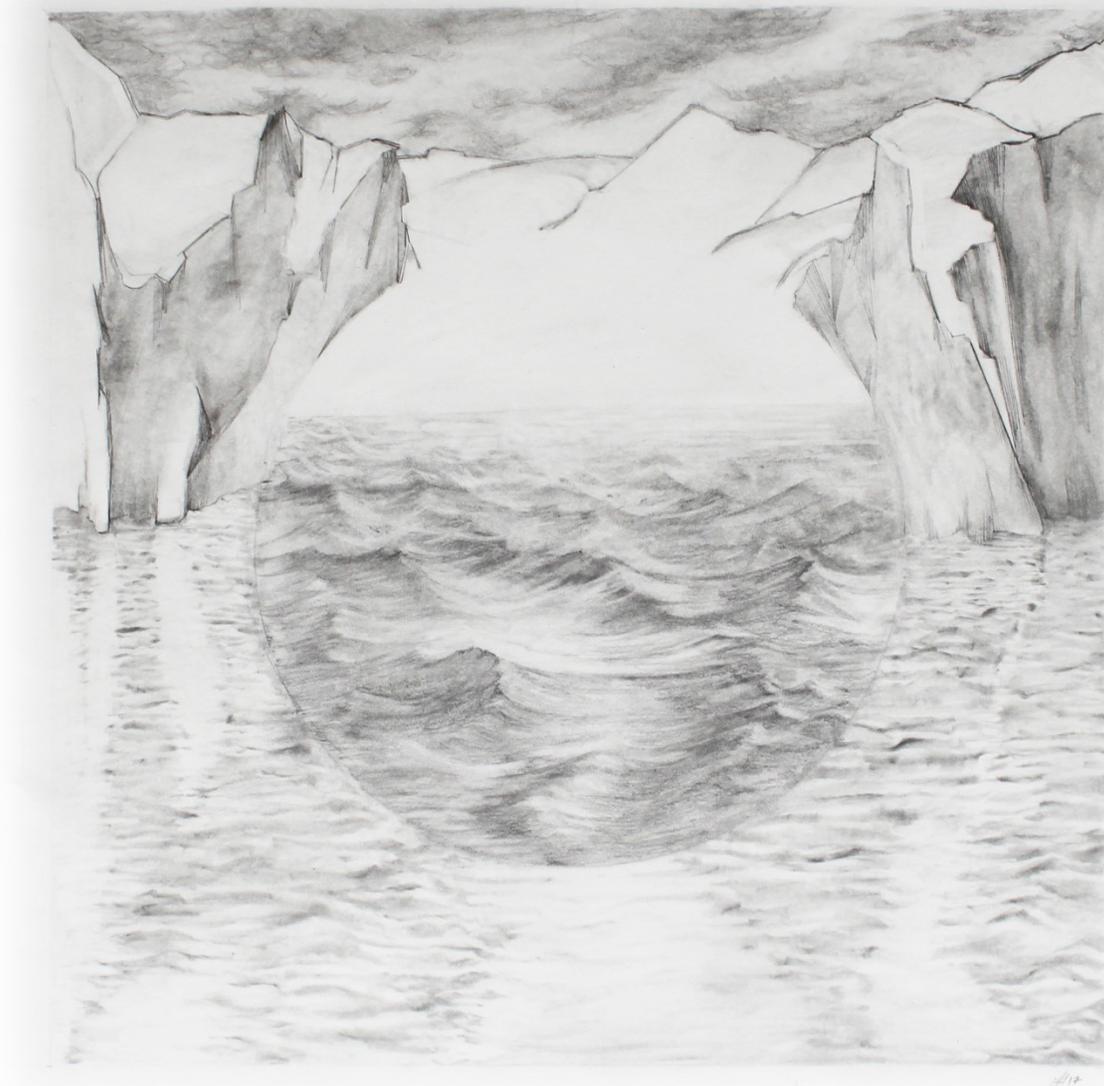
Culvert, 2017. Graphite on paper. 20 x 18 ½"

This drawing attempts to represent the feeling of standing on the escarpment rather than the facts of it. A figure stands on a small path with the ground rising up on one side of her and dropping off drastically. In the foreground, the presence of a culvert is evidence of the human intervention in the landscape. The outline of a spyglass floats in the middle of the composition, as well as an ocean landscape seen through it (centre right). An early drawing, the idea of a spyglass here is repeated in many subsequent works of the series—circular breaks in the images reference a telescopic perspective.



The Pastoral, 2017. Graphite on paper. 18 ¼" x 14 ½"

This drawing was done from memory, of the same place where I took the source photograph for *Untitled* (below). I was interested to render overgrowth and tight space minimal details, and create a dreamy, contemplative landscape. The dark mass on the right represents the looming slope. The circle motif contains a lush and flowering plant, imagining a different seasonal position.



Laurentide, 2017. Graphite on Paper 15 ½ x 15 ½"

I am particularly interested in the traces that the Laurentide ice shield has left on the island of Montreal. This drawing imagines a towering wall of ice surrounded by a shifting ocean landscape, bringing to mind the mutable surface on which we live.



Vortex, 2017. Graphite on paper. 16 ½" x 15 ½"

The most abstract of the series, I initiated this drawing as a technique study. As a form began to appear, I found that it expressed a perspective on the enchantment and simultaneity I felt emerging as I stood on the Falaise learning its history.



Untitled, 2017. Graphite on paper. 20" x 17 ½"

Sourced from a photograph of the western end of the asphalt path. The ground is covered largely with coltsfoot and vinca vines in this drawing, but it would be more accurate to early spring if it were covered in wild parsnip. While there is a dense stand of phragmites at the southern edge of the Falaise, by the snake wall, the light here breaks through the canopy enough that a small stand, pictured here, grows among the trees.



Fisher, 2017. Graphite on paper. 11" x 11"

A great point of interest during the Jane's Walks of the Falaise was a small hole in the face of an eroded slope of the Falaise, which the guide pointed out with the speculation that it was the den of a fisher, a small but vicious member of the weasel family. The fisher in the drawing sleeps through the winter in a nest of poplar leaves.



Snake fence, 2017. Graphite on paper. 19 x 16 ½"

Based off of a photograph that I took, this drawing shows two of the driving forces behind the activist organization *Sauvons la Falaise*. In the foreground, Lisa pauses the tour to address the public about what actions are being taken at the municipal level to protect the ecoterritory. In the background, John has climbed to the peak of a pile of rubble, taking stock from a new perspective. The black band that runs behind Lisa is the "snake fence," an evidently ineffectual barrier, distinguishing the train yard from the eco-territory.



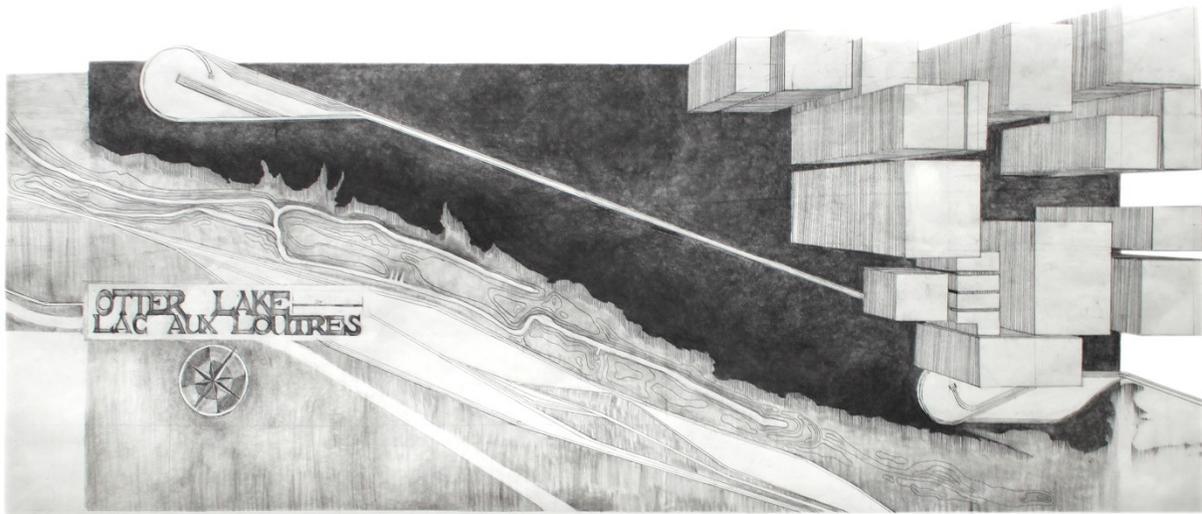
Nest, 2018. Graphite on paper. 16 ½" x 13"

During the 2018 annual *Corvée dans la Falaise!* volunteer cleanup, I happened upon a mass of garbage that had collected in the folds of a black tarp. The degree to which the tarp was buried indicated to me that it had been there for several years already. I lifted it by a corner and began to shove it into my garbage bag, but then I noticed that the damp, dark space beneath it was replete with land snails. This drawing represents phenomena like this, which acutely illustrate that actual wilderness is impossible—we are living in a new kind of ecosystem.



Boundary, 2017. Graphite on paper. 16 $\frac{3}{4}$ " x 15 $\frac{1}{2}$ "

When I visited the Falaise without the company of an organized group, I was surprised to find the hole in the fence stitched up. The friend who accompanied me and I looked for a section of fence that would be easier to climb, but we returned to the entrance I was familiar with because I knew what degree of slope to expect on the other side. This image is based on a photograph of my friend as she hopped over the fence to exit. In addition to the homage to urban exploration, I was interested in showing the stark contrast between the sterile but safe asphalt landscape on one side of the fence, and the lush but hazardous landscape on the other.



Otter Lake, 2017. Graphite on paper. 38 ½" x 17"

I felt it would be beneficial to have an accurate topographic map of the Falaise for reference, so I began this drawing, the widest of the series. I stitched together a surveyors' map from the Montreal department of public works and printed it large in order to see more detail*. As I began to map the topography lines, it became apparent that the narrowness of the area made the details both difficult to render and not particularly enriching as points of data. As the drawing emerged, I was drawn to the rerouted Saint-Pierre River, which can be seen in unnatural lines here to serve as irrigation channels for the train yard. I also noticed the Canadian Pacific railline to the North of the Falaise, and subsequently the degree to which the post-industrial and urban development follow contours parallel to the Falaise. I imagined a slow westward march of built environment along this same path, symbolized by the rectangular shapes on the left of the drawing.

*Cité de Montreal, Service d'urbanisme, service des travaux publics (1961 & 1962). Utilisation du sol, Montréal, échelle 1:2 400. [Document cartographique]. Retrieved 18 December 2017 from <http://numerique.banq.qc.ca/patrimoine/details/52327/2436797>



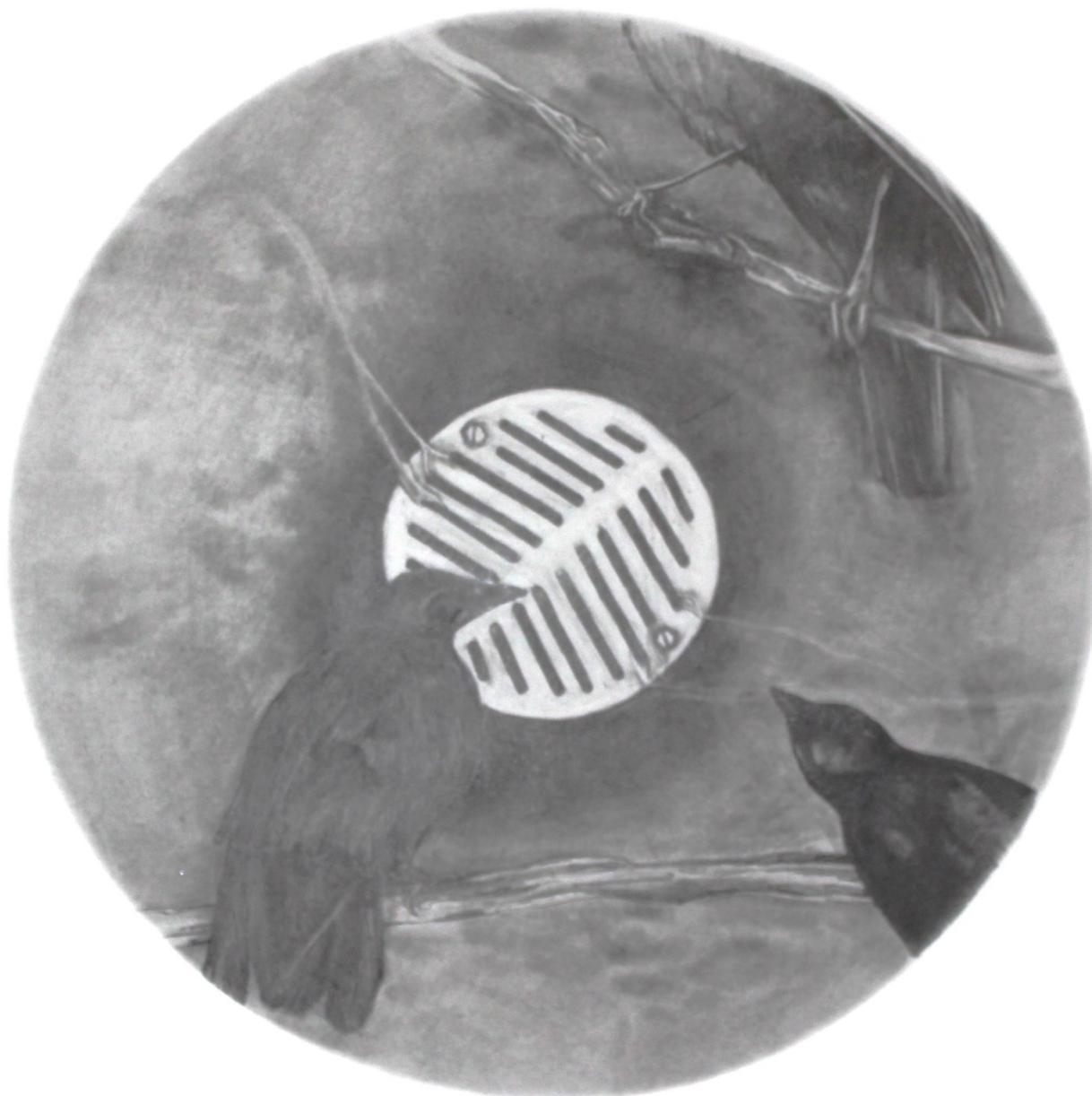
Snowy slope, 2018. Graphite on paper. 16 ½" x 13 ½"

Not being a winter sporting person, I was nervous and excited to go snow shoeing with the members of Sauvons la Falaise. I summoned the courage I needed by remembering that this might be my only chance to get a source photograph of the Falaise under snow cover. The path in the centre of the image is made by the tracks of a dozen people in snow shoes. By staying accurate to the source photo, this drawing also gave me the chance to describe the pitch of the Falaise in more precise degrees, which can be seen in the circle insets at the bottom left (46°) and top right (53°) corner.



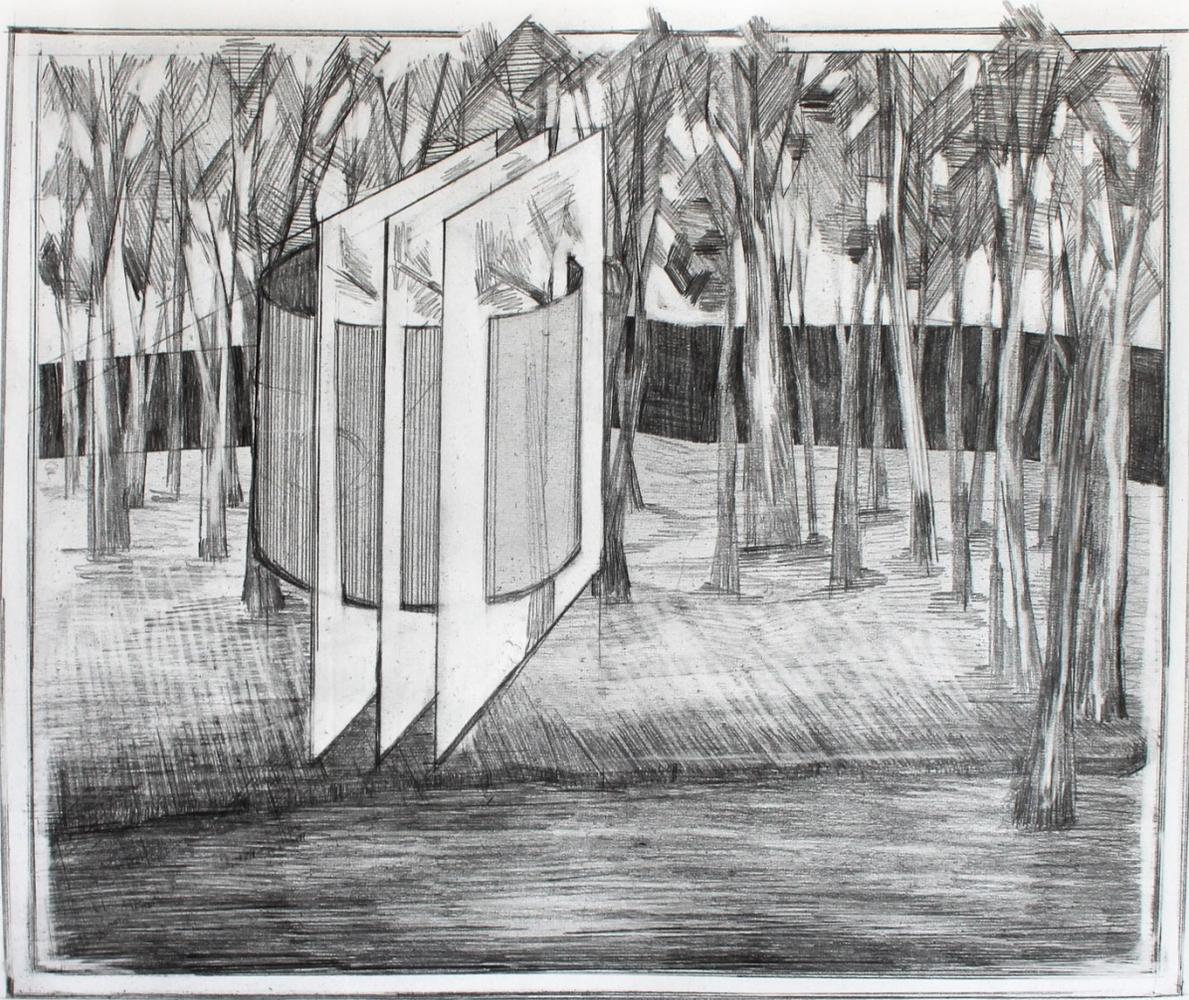
Direction, 2018. Graphite on paper. 15" x 12 ½"

This is a fairly faithful representation of the landscape where one turns off of Saint-Jacques street to enter the Falaise via the old access road. The majority of the commerce along this stretch of Saint-Jacques road takes advantage of the large lots, such as auto shops and showrooms. The sign in this picture, now falling apart, points to an empty space that was once a furniture showroom. In addition to enjoying the Route 66 aesthetic of a decrepit sign, I find a good deal of humour in a 12-foot-tall sign pointing the way to an illicit entry into the restricted space of the Falaise.



Custodians, 2018. Graphite on paper. 15" x 15"

Like the zoetrope featuring a crow, this drawing puts three American Crows in the role of human-Falaise liaison. Here, they gather over a storm drain that has encroached on their land.



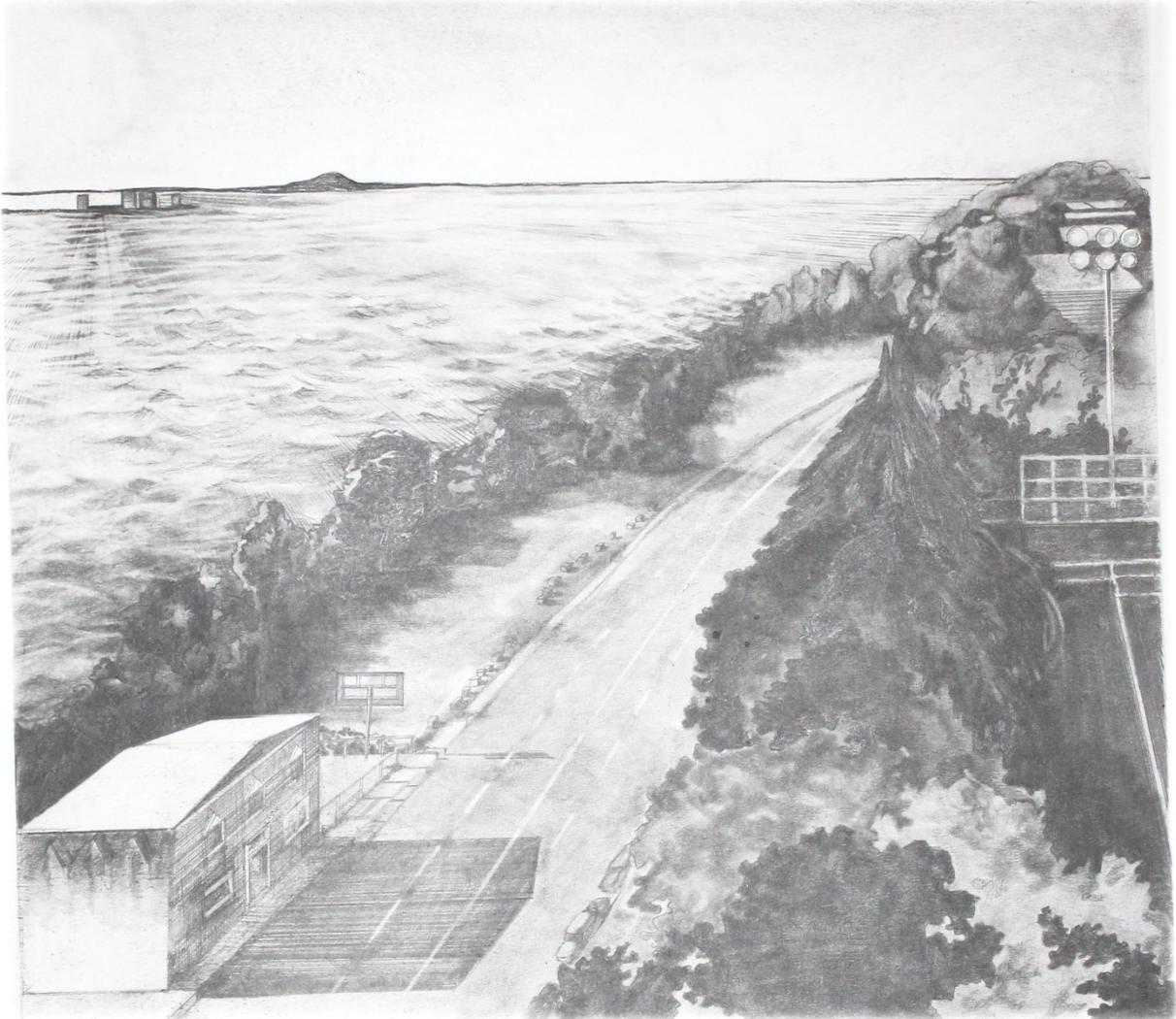
Biomachine, 2019. Graphite on paper. 11 ½" 10"

This drawing was made specifically for inclusion in the field guide in order to link Andrea Boetzkes' 2010 idea of the "biomachine" and the zoetropes that were the environmental art outcome of this research project.



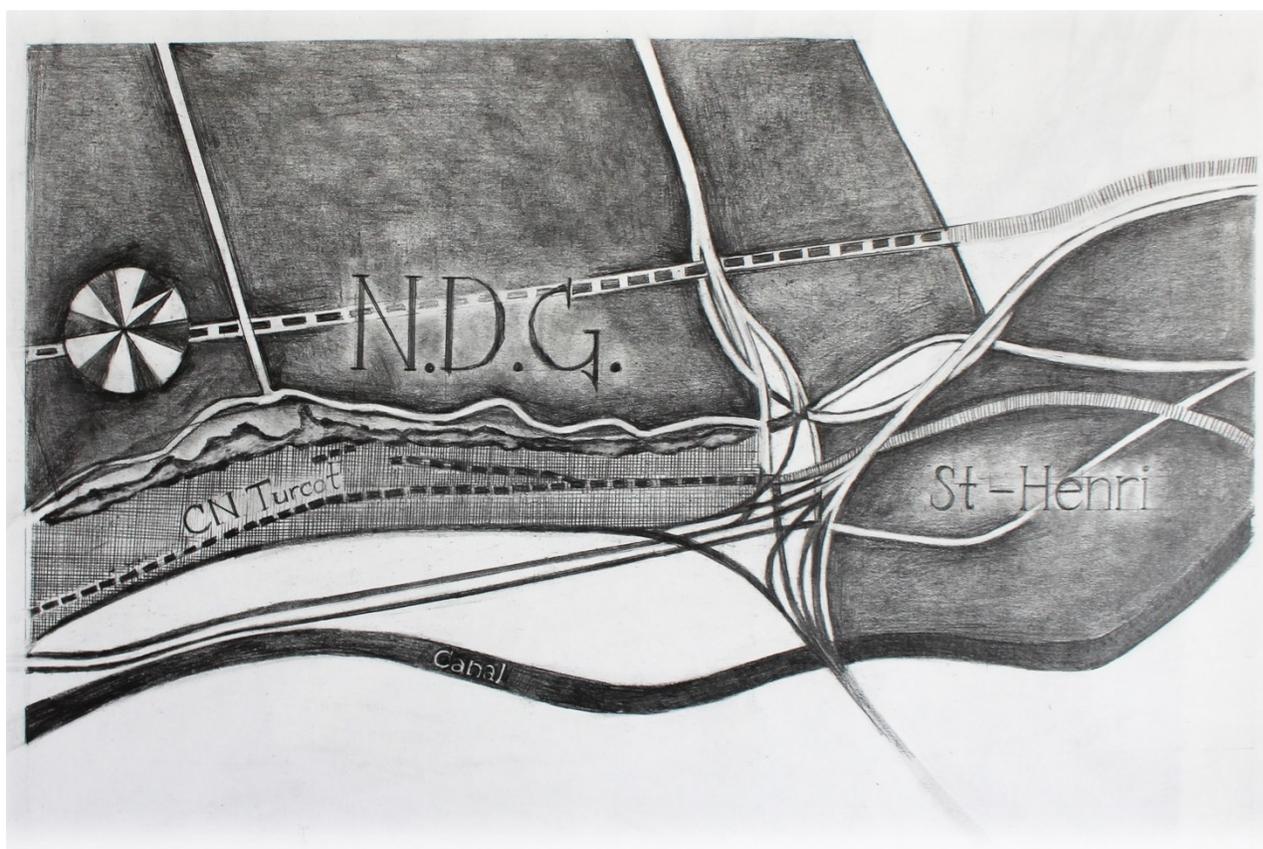
The geology of Montreal, 2019. Graphite on paper. 23 ½" x 9"

Using the diagrams in Mattias Shultz's 2017 article, I made this drawing to describe how the gentle topography of the Falaise (left) and Mount-Royal (right) were formed by intrusions of magma. This piece was ultimately left out of the field guide because I felt that it required too much explanation and was not aesthetically consistent with the story.



The Edge of the sea 2, 2019. Graphite on paper. 16" x 14 ½"

Like *The Edge of the sea*, this drawing imagines the crest of the Falaise as the shoreline to a vast body of water. The base image is an aerial view taken from Google Earth, and modern developments are included, such as the field lights of Parc Georges-Saint-Pierre (right), a building, parking lot, and billboard (bottom left), and an apartment park in the background, accompanied Lyon Mountain in the far distance.



The Knot, 2019. Graphite on paper. 13 ¾" x 9"

Given the deeply local nature of this project, I felt it was necessary to provide a cultural context for the Falaise and the Turcot train yard, emphasizing the barrier between neighbourhoods formed by the highway interchange.



The Edge of the sea 1, 2019. Graphite on paper, 17" x 13 ³/₄"

The foreground of this drawing is based off of a photograph I took from a spot on the crest of the Falaise where the fence is installed a few feet down the slope, so that one can visualize the drop-off more clearly. In this drawing I imagine this place as a shoreline of the Champlain Sea.



Ground detail, 2019. Graphite on paper. 8 ½" x 7"

This relatively small drawing was made specifically for the field guide, to supplement more general landscape drawings with a detail of the ground. Featured here are phragmites, ivy, and vinca.



Title Page, 2019. Ink and graphite on paper. 8 ½" x 16 ½"

This image is based on the tile page of *Flora Graeca*, a 19th century botanical survey by John Sibthorp Smith, illustrated by Ferdinand Bauer.

Appendix 2) Zoetrope prototypes.



Image: Ten prototypes that represent a year-long process of iterating the design of a zoetrope. Through the prototyping and development process of the zoetropes, three things remained consistent: I knew I wanted to make them out of steel; I wanted them to be the basic size of a human head, and I wanted them to be 12 segments a piece. In addition to testing different technologies (as in models (A), (C), and (H)), they provided much insight on accessible and aesthetically pleasing proportions. With very few exceptions, all materials were sourced from the Concordia University Centre for Creative Reuse (CUCCR). Legend follows.

Legend:

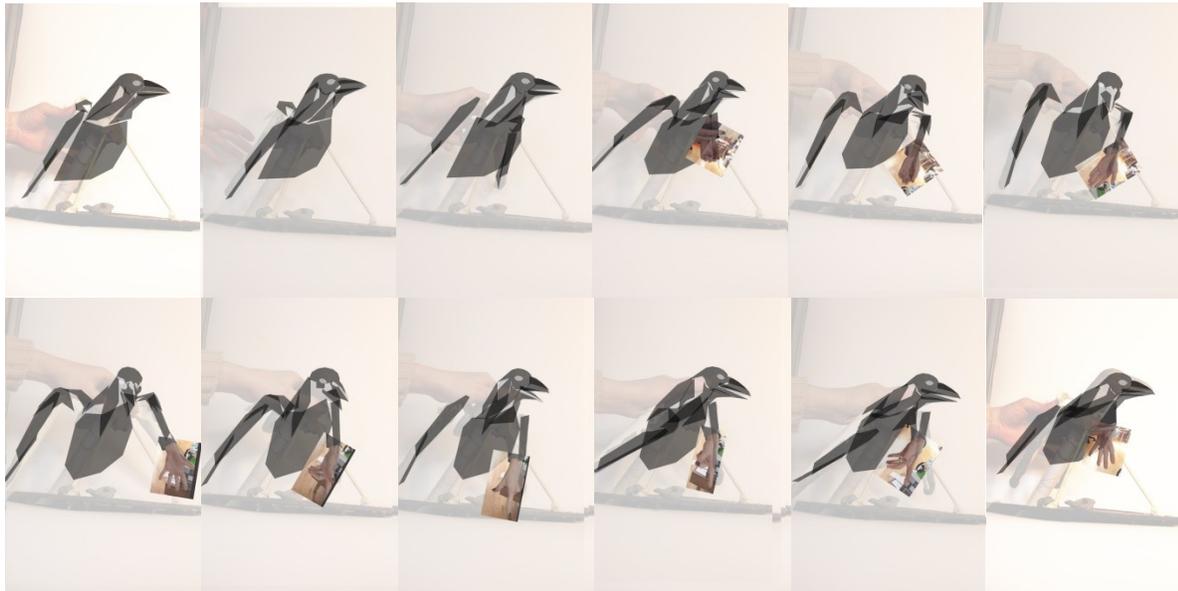
- A. Although the circular holes in this prototype re reminiscent of the circle motif in my drawings and provide more translucency, I realized that the ratio of opening-to-surface had to be smaller in order to achieve a strobe effect.
- B. Approaching my final proportions, this prototype made me consider that keeping the walls of the zoetrope connected at the top would add to its stability.
- C. I played with the idea of cut-out shapes to replace the opaque animation strips. Several problems revealed themselves with this prototype. First, the animation was only easy to perceive when viewed against a solid and bright light source. Second, it was impossible to maintain a twelve-frame animation, as the eye would never be looking at the cut-out straight-on. Finally, after consultation with the Concordia University metal shop, I learned that creating cut-outs in steel is only possible to a ¼-inch level of detail. I was disappointed to discover these limitations, as this model, in my opinion, is the most beautiful object of all of my prototypes.
- D. I had hoped that by covering the "roof" of the zoetrope somewhat I could increase the width of the gaps and therefore the transparency of the animation, but found that this design darkened the interior animation cells and made them more difficult to perceive.
- E. This wind-catching design is modeled after the phenakistoscope. I had hoped that I could have a continuous, wind-powered animation, but I discovered upon researching and testing this prototype that this design did not provide enough strobe effect to fulfill a smooth animation.
- F. This model, made from double-layers of reused banner signs, is the model on which I based the final steel designs as far as structure and proportion.
- G. More stable than the soft plastic model (F), this corrugated cardboard prototype was useful for testing animation strips. In using it, I realized that an easy-to-measure circumference would be more useful to me than an easy-to-measure diameter. That is, rather than designing a zoetrope on an exactly eight-inch dodecagon, I designed them for an exactly 27-inch cylinder, with a base that was approximately 8 5/8" in diameter.
- H. I had hoped to achieve transparency with the use of one-way glass, until I learned that one-way glass is only effective when the transparent side is more brightly lit than the reflective side. Someday, I would love to create a self-illuminating zoetrope to test this system in an unstable lighting situation. Instead, I created this prototype using black paper and plexiglass from the Concordia University Centre for Creative reuse and black paper. Rather than a silver reflective

surface, it uses a black mirror, which has a connection to wiccan meditation practice. However, the flat surfaces made it very difficult to perceive my own reflection when this model spun at the appropriate speed to animate the cells. A smooth cylinder might provide a consistent, if warped reflection, in a future iteration.

- I. Although the height, width, and depth of this prototype are accurate to my final design, this model demonstrated the value of a deeper solid base strip for my animations. Like prototype (B), it reinforced the structural benefits of keeping the top connected.
- J. An early model, this prototype was invaluable for animation testing. Through those tests, I decided that increasing the zoetropes' proportionate height would make the animations easier to perceive by viewers of diverse height.

Appendix 3) Animations

3a) Stop motion test.



By superimposing translucent shapes over stop motion animation of a plasticine crow and hand pointing, I hoped to create an anthropomorphic representation of a crow communicating to humans.

3b) Inspiration: Crow animation.



Image: Still from a film by Mike Patterson. Source: Patterson, M, (N.d) Experimental animation meets pottery. [Vimeo video]. Crafts Council: UK. Retrieved from <https://vimeo.com/82012299>

Animator Jim Le Fevre paired up with RAMP ceramics to make this zoetrope bowl. The simplicity of the design was a big inspiration for my zoetrope animation.

Source: Jobson, C. (30 December, 2013) Pottery meets experimental animation in this spinning ceramic phonotrope. *Colossal*. Retrieved from <https://www.thisiscolossal.com/2013/12/pottery-meets-experimental-animation-in-this-ceramic-phonotrope/>

3c) Inspiration: bloom animation



Image: Flower phenakistoscope. Retrieved from <https://atlasofaffinities.tumblr.com/post/76326935892/flower-phenakistoscope>

This image helped me to simplify the budding and dying process of a flower for my bloodroot animation.



Bloodroot grows into a blooming flower

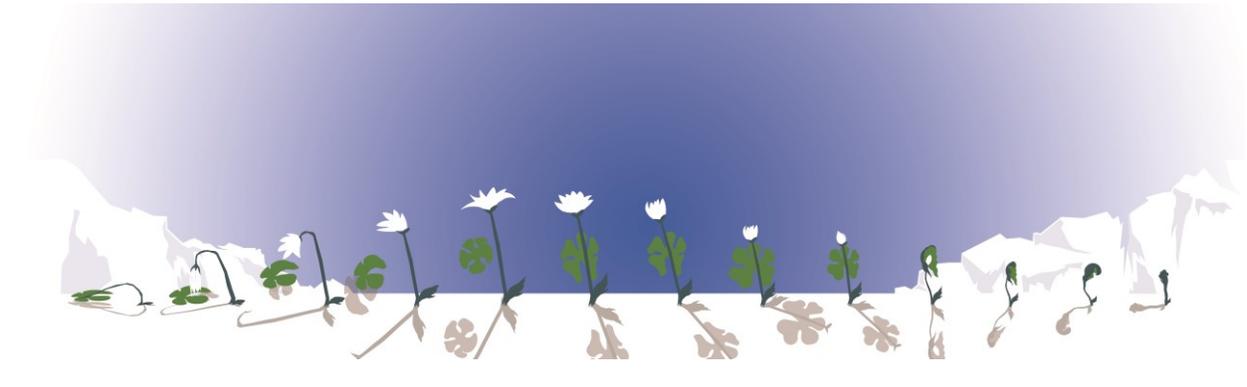
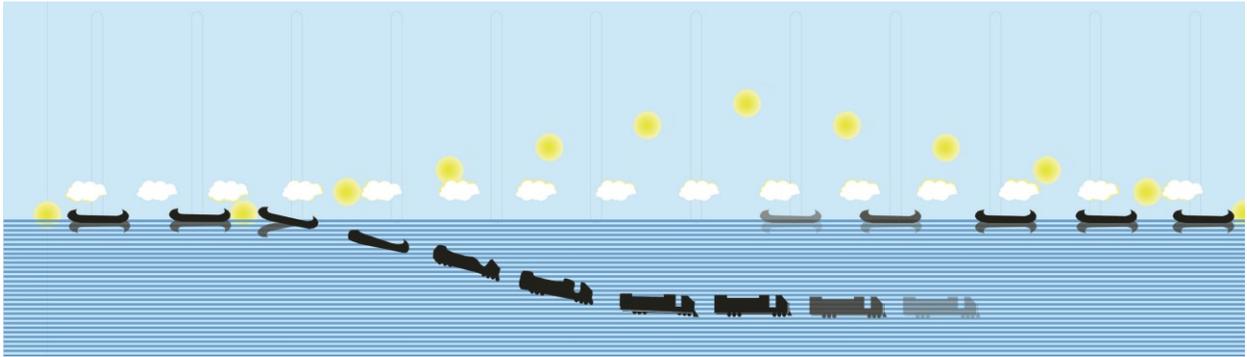
258 views

4 0 SHARE SAVE ...

Image: Still from a video by Sean Solomon. Source: Solomon, S. (7 May, 2013) Bloodroot grows into a blooming flower. [YouTube video]. Retrieved from <https://www.youtube.com/watch?v=NgLIIFJtGJs>

This time-lapse of a stand of bloodroot flowers blooming helped me to make the growth patterns in my animation accurate, including the way that the leaf of the bloodroot uncurls, revealing a white bud.

3d) Final animation results



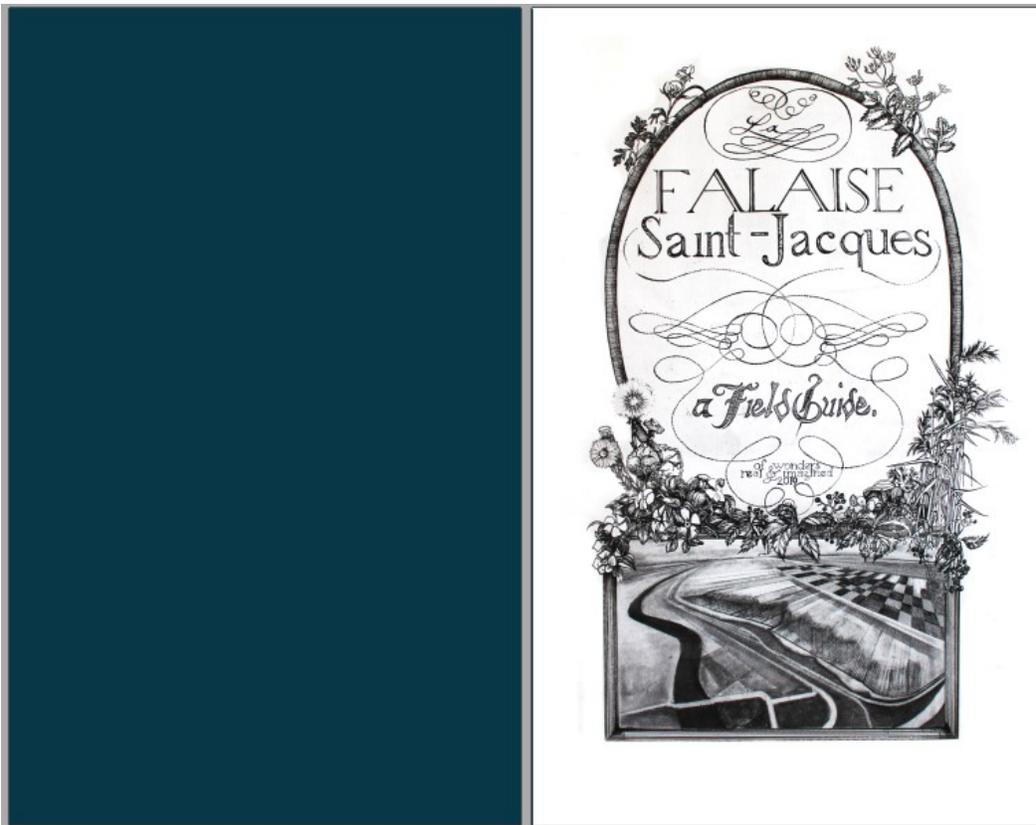
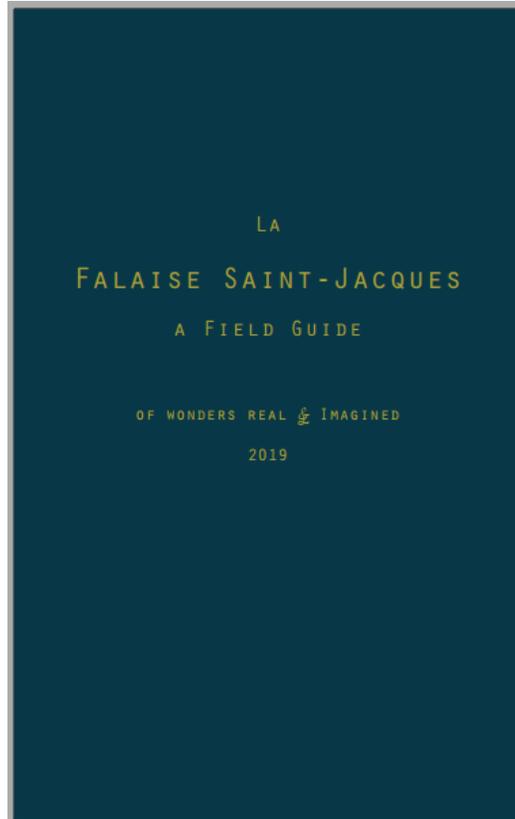
These three digital images were printed 27-inches long on adhesive vinyl and affixed to the interior of the steel zoetropes. From top: *Canoe train*; *Bloom*; *Crow*.

[If you are viewing this work on an internet-enabled device, click here or on any of the above images to see the animations in action.](#)

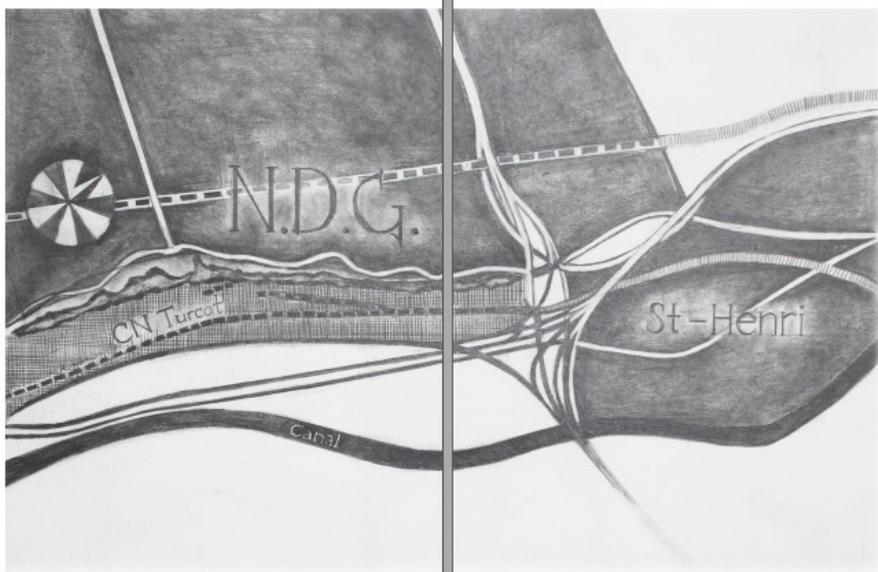
Appendix 4) Field Guide

4a) La Falaise Saint-Jacques, A Field Guide of wonders real & imagined.

[If you are viewing this paper on an internet-enabled device, click here to download or view the field guide online.](#)

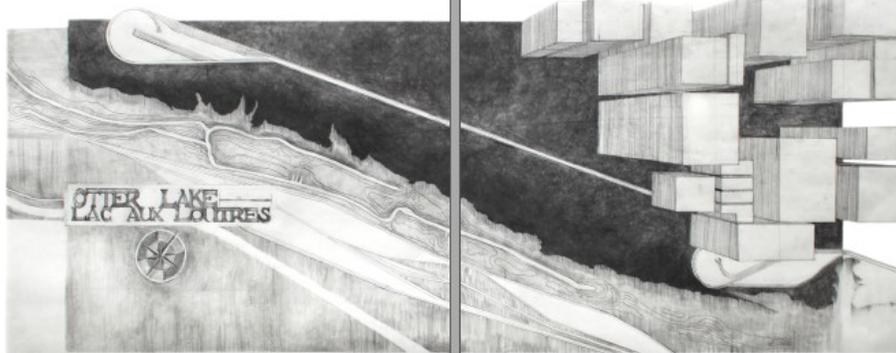


Especially at night, especially in the summer when the windows are open, I can hear the freight trains .



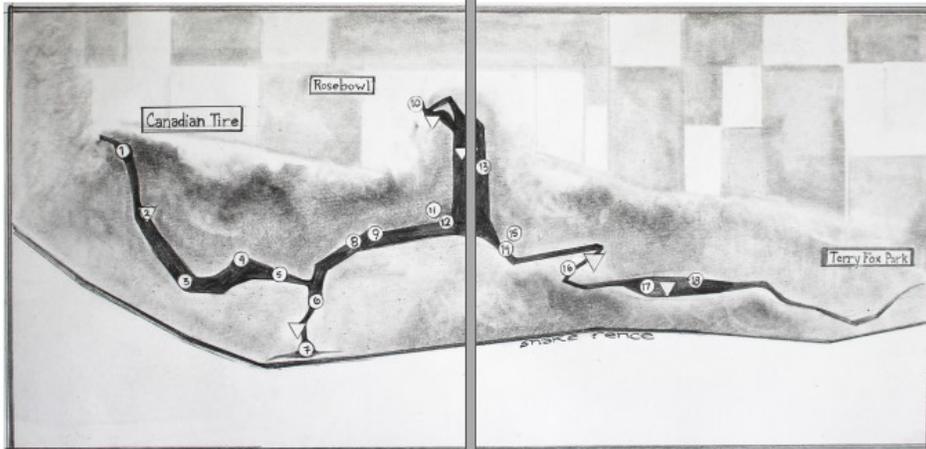
They pass cleanly through the knot on the way to the Falaise .

I can't get through that knot .



The trains speed right over this place.
It was a lake once, then it was a river.

This was not very long ago.



- ▽ dangerous terrain
- ① you can see far
- ② steep, but possible
- ③ don't touch the asphalt shingles
- ④ a river of trash
- ⑤ the path vanishes
- ⑥ cut through the phragmite
- ⑦ cross over the fence to the train yard
- ⑧ end of the asphalt

- ⑨ look down for coltsfoot
- ⑩ entrance
- ⑪ fisher den
- ⑫ concrete like a sitting room
- ⑬ wild grapes
- ⑭ over the culvert
- ⑮ don't harm the bloodroot there
- ⑯ single file here
- ⑰ the path widens at a fallen tree
- ⑱ red chair



I tried to write it all down, but writing was wrong
 because words have to go in order,
 one after another .
 I felt this place was not in order, it is all at once .

Who else walked here ?

Paths signal care, resistance of the ruin .
 Details, like sawed-off branches and trail markers,
 show me how this place has friends .

traces of the past • traces of the future



10



10



9

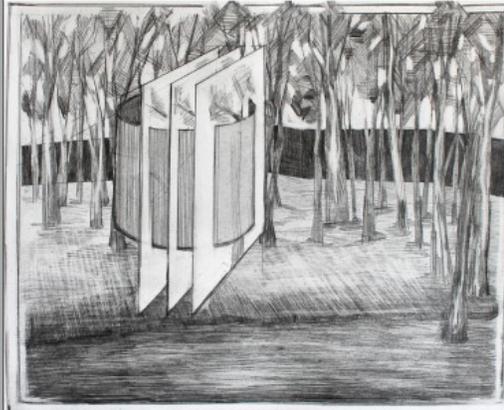


17



"If all life once was there,
that which remains
presents the means
to craft ... sensitive geographies."

16



The artwork is a **biomachine** -- it relays the
natural through the technological .
The body is a machine of circular
perception & so is the earth .

we see you ; we are seen



8





11



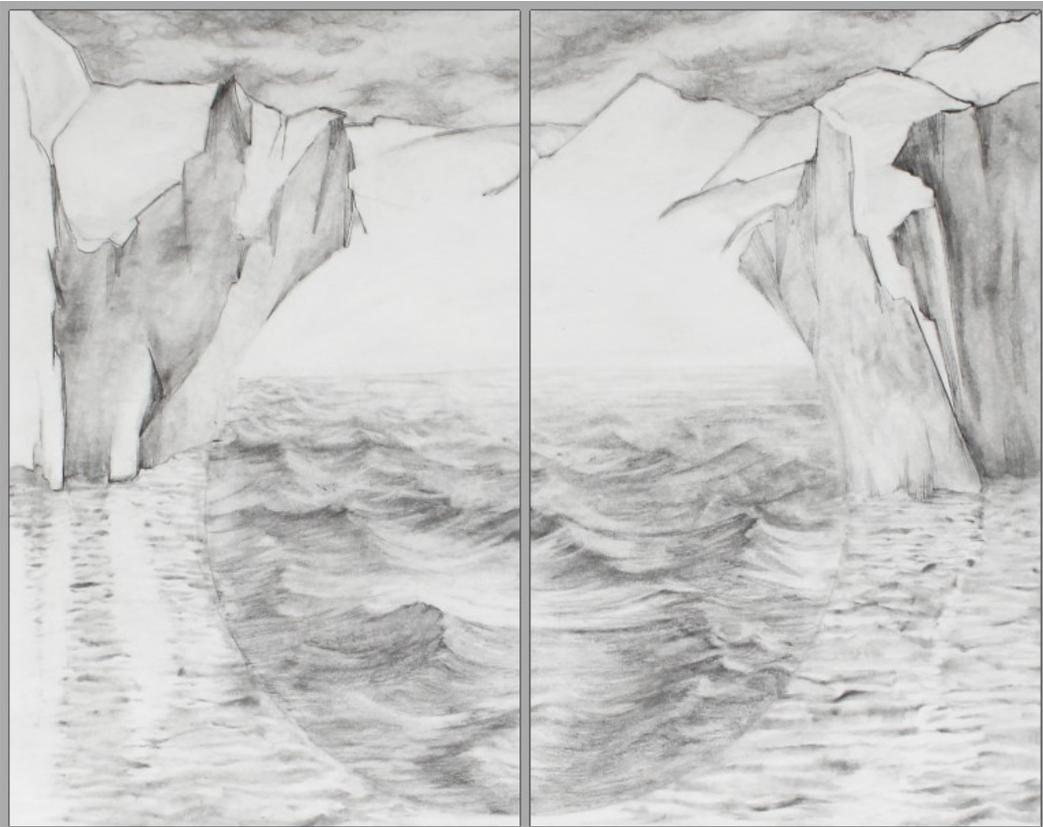
There are new protectors of this land .
There is an invitation to pause, and listen .

7



Listen: this used to be
the edge of the sea .

4





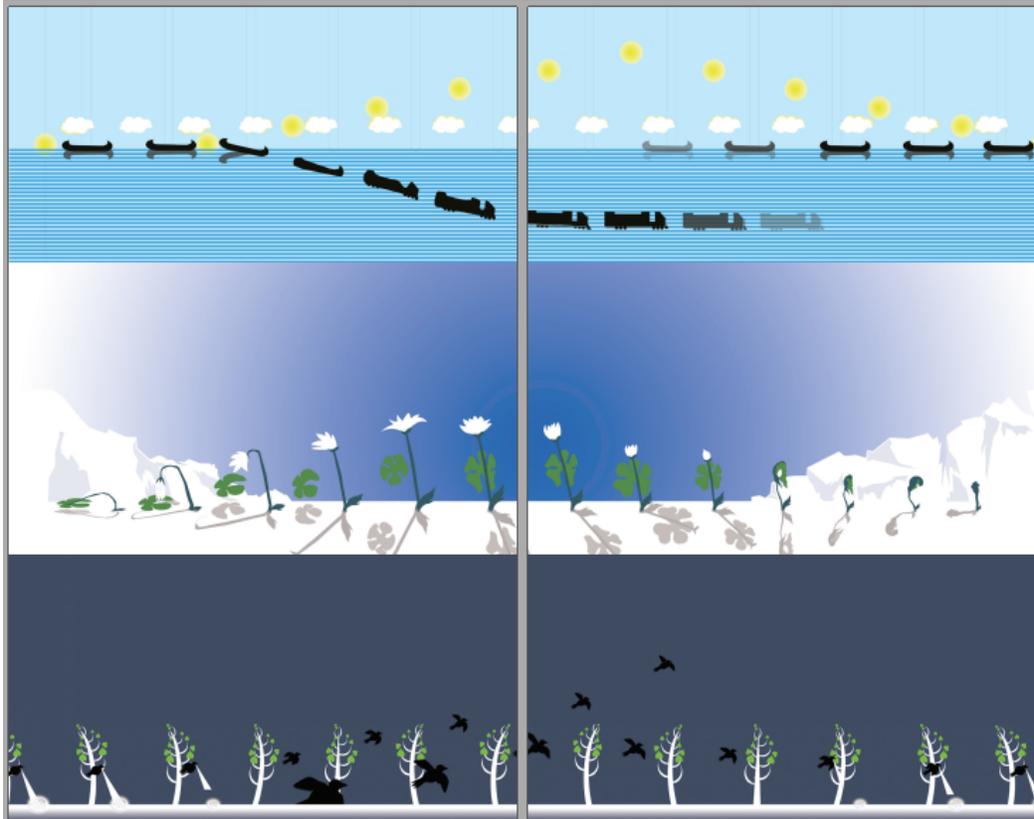


and life leaves things



behind .





ACKNOWLEDGEMENTS

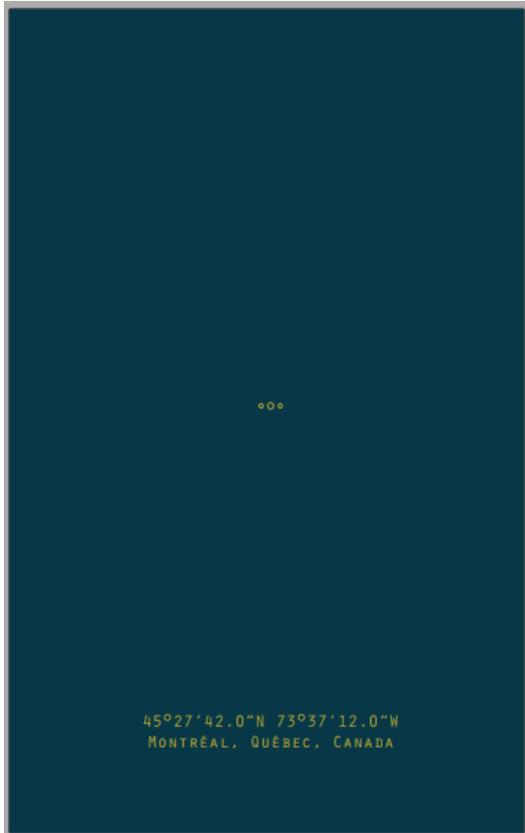
AJ
Gage
Keith
Lazer
Lisa
MJ
thank you .

NOTES

Words and pictures by Lucie Lederhendler,
except page 13, from Hayden Lorimer *Caught in
the nick of time: Archives and fieldwork* The Sage
handbook of qualitative geography . Sage, 2010 .
& page 14, from Andrea Boetzkes, *The Ethics of
earth art* . University of Minnesota Press, 2010 .

More information about Sauvons la Falaise!
can be found at <http://sauvonslafalaise.ca>
or on their facebook page.

18



Text: "Especially at night, especially in the summer when the windows are open, I can hear the freight trains.

They pass cleanly through the knot on the way to the Falaise. I can't get through that knot.

The trains speed over this place. It was a lake once, then it was a river.

This was not very long ago.

I tried to write it all down, but writing was wrong because words have to go in order, one after another. I felt this place was not in order, it is all at once.

Who else walked here?

Paths signal care, resistance of the ruin. Details, like sawed-off branches and trail markers, show me how this place has friends.

Traces of the past = traces of the future

'If all life once *was* there, that which remains presents the means to craft...sensitive geographies"^a.

The artwork is a biomachine^b—it relays the natural through the technological. The body is a machine of circular perception & so is the earth.

We see you : we are seen

There are new protectors of this land. There is an invitation to pause, and listen.

Listen: this used to be the edge of the sea.

There's so much life here

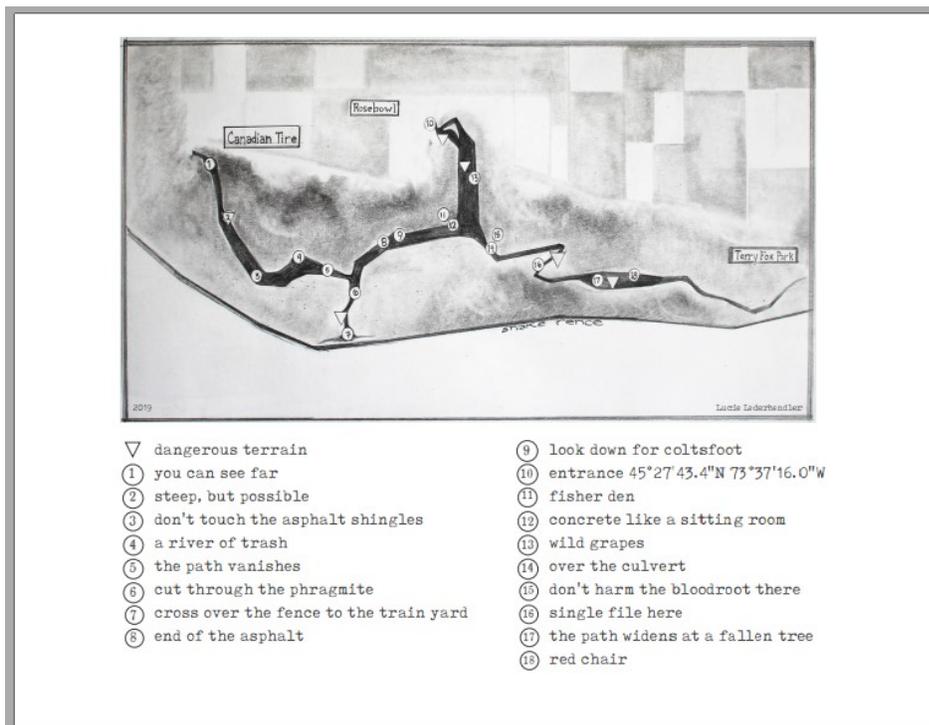
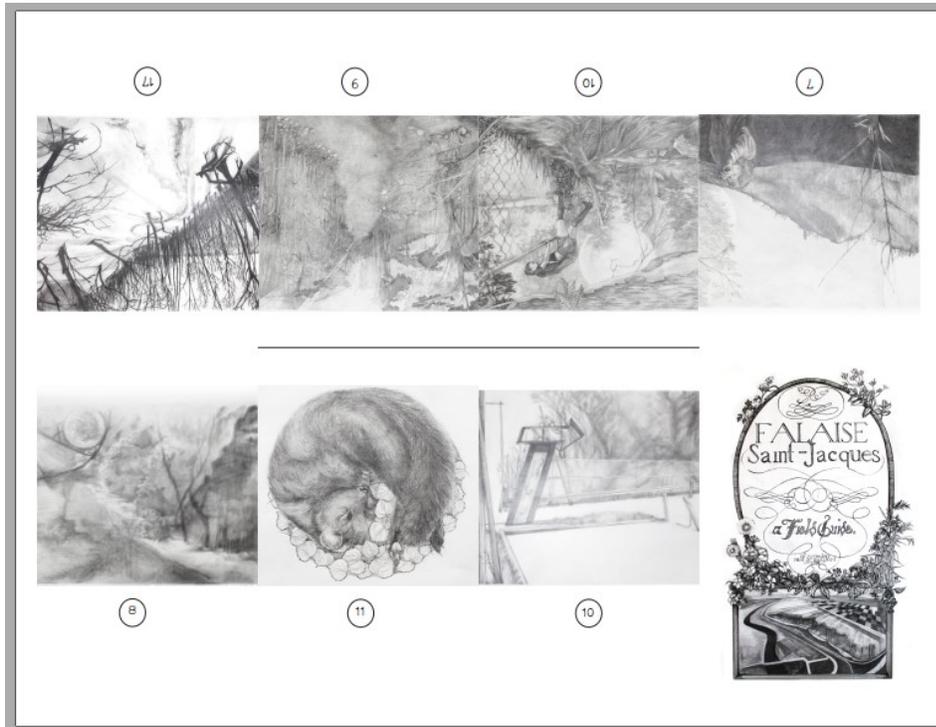
and life leaves things behind.

Notes: Words and pictures by Lucie Lederhendler, except page 13 [a], from Hayden Lorimer *Caught in the nick of time: Archives and fieldwork*. The Sage handbook of qualitative geography. Sage, 2010. & page 14 [b], from Andrea Boetzkes, *The Ethics of earth art*. University of Minnesota Press, 2010.

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4b) Pocket-sized field guide to the Falaise Saint-Jacques (Insert).

This double-sided paper is folded into an eight-page booklet with a walking map in the centre.



4c) Photos: Limited edition (18) hand bound field guide, assembly.



The hand-bound field guides are covered in paper made by La Papeterie Saint-Armand, an independent paper maker in Southwest Montreal, and consist of pure recycled cotton denim. The text is lino-printed in gold.



Each book has a pocket on the back inside cover that holds the pocket guide, and is printed with a stamp that reads "2019 L.L."



The back cover is printed with the coordinates of the Falaise: 45° 27' 42" N 73° 37' W.