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Ecology in Canada

Sonic Waterscapes, Literary Waterways, Photo-Lyric Water Soundtracks

Abstract

In this essay I intend to demonstrate how soundscapes might be harbingers of environmental crises and, consequently, how literature translates those same soundscapes and the stories they have to tell. While exploring soundscapes as theorized by Raymond Murray Schafer (1933-2021), one of the most renowned Canadian composers and communication scholars, this contribution also aims to detect his influence on Canadian writers and artists in their literary and creative renditions of Canada's most characterizing waterscapes.

Keywords: *Literary Ecology, Canadian Studies, Soundscape, Water, R. Murray Schafer, A. Michaels, M. Creates*

The notion of ecology is predicated on two main assumptions. In the first instance, as the study *Material Ecocriticism* implies, everything can be considered as “storied matter” (Iovino and Oppermann 2014, 7, emphasis in the original); secondly, as the well-known volume *Silent Spring*, by Rachel Carson, warns, a variation in a soundscape might be regarded as a sign of an environmental crisis (Carson [1962] 1999, 22).¹ The combination of these two propositions suggests the reading of literary texts in search of soundscapes and the story they might tell about ecological crises: “Imagine the potential for sound in generating a shift in consciousness in a way that might provoke critical awareness for world issues, such as climate change” (Barclay 2012-13, 29).

The purpose of this study is to explore the notion of ‘soundscape’ as theorized by Raymond Murray Schafer (1933-2021) in his seminal work *The Soundscape: Our Sonic Environment and*

¹ “Its subject was the human poisoning of the biosphere through the wholesale deployment of a myriad new 20th-century chemicals aimed at pest and disease control. Carson was already the most respected nature writer in the United States, and a pioneer in that field” (Atwood 2012).

The Tuning of the World (1977; 1994),² and to detect the influence it has exerted on Canadian writers and artists in their literary renditions of Canada's most characterizing waterscapes.

Water might be considered a “*storied matter*” insofar as it has voice, it makes noise, it is capable of creating a soundscape:

We may speak of a musical composition as a soundscape, or a radio program as a soundscape or an acoustic environment as a soundscape. We can isolate an acoustic environment as a field of study just as we can study the characteristics of a given landscape. (Schafer 1994, 9)

1. Sonic waterscapes

Undoubtedly, Canada is a land rich in water, to the point that it is home to approximately one-fifth of the world's fresh water reserves, characterized as it is by innumerable lakes, rivers and streams, but also surrounded by three mighty oceans. Therefore, water might easily turn into a tonic note or keynote:

Keynote is a musical term; it is the note that identifies the key or tonality of a particular composition. [...] The keynote sounds of a landscape are those created by its geography and climate: water, wind, forests, plains, birds, insects and animals. (Schafer 1994, 9-10)

Water is one of the fundamental constituents of the Canadian landscape, as well as of Canadian culture, and, as a consequence, of Canadian languages. In this case, the plural is compulsory, because—apart from the official bilingualism of the Canadian Federation—innumerable Indigenous languages must be taken into account. Water, ice, snow and clouds characterize Canada. Hydrogeology is one of the disciplines that best explain Canada as a whole. In the field of humanities, of *beaux arts*, and of environmental studies, Canadian waters acquire archetypal meanings through literary and artistic representations (Ricciardi et al. 1998).

As a first case study, it is worth highlighting that being an artist himself, in 2015 Schafer composed a musical score for choir entitled *Miniwanka (or 'The Moments of Water')*, a composition that imitates the many sounds water produces in its different states. The text consists of words for water, rain, stream, river, fog and ocean, in various North American Indigenous languages: Dakota, Wappo, Crow, Chinook, Achumawi, Otchipwe, Salish, Natick,

² Raymond Murray Schafer is the most renowned Canadian composer, musician and former Professor of Communication Studies at Simon Fraser University, Burnaby, British Columbia, founder of the World Soundscape Project (WSP).

Klamath, and Luiseno. The aim of the piece is to chronicle the transformations of water, from rain, to streams, to quiet lakes, to broad rivers, to the ocean.³

Schafer started with phonetics and the sounds of multiple languages. He distilled the sonic landscape of the United States and Canada and combined it with the soundscape of water in its variety of forms: dripping water, streaming water, splashing waves, sea storms, waterfalls, ripples in the distance, even submarine currents, to use his own words. This experimental sonic composition—executed by the Vancouver Chamber Choir—is a complex, multivocal and unique choral performance dedicated to water.

This composition is based on the principle of tuning human voices and human languages to more-than-human elements, in order to recreate a “site specific” soundscape, which speaks of—and translates—Canadian waters. Schafer believed in a sort of ‘sonic turn,’ or, better, he promoted a cultural paradigm shift, in order to counterbalance the power of images and of visual culture, what he called “eye culture”: “A soundscape consists of events heard not objects seen” (Schafer 1994, 8). His aim was also to educate the audience to pay attention and listen to what is normally ignored, misheard, and aurally unacknowledged. He claimed that the contemporary soundscape of noises and sounds that determine the acoustic pollution of our world might lead to universal deafness.

To what extent, then, are we aware of the sounds of water? Or, even more simply, to what extent are we aware of the onomatopoeic sounds we produce to name or describe or imitate water? These questions intersect soundscape studies: “In onomatopoeic vocabulary, man unites himself with the soundscape about him, echoing back its elements. The impression is taken in; the expression is thrown back in return” (Schafer 1994, 42).

Schafer’s musical composition is an answer to these questions. Its site specificity is provided by the presence of the languages spoken by First Nations People in Canada. What flows, rings, pitches, rises and falls in vowels, consonants, syllables and words, sibilants, murmurs, voiced, unvoiced, prolonged, instantaneous, alto, basso, major, minor, fading, glissando notes is Canadian water, sung in the local languages. It is a typically Canadian landscape/soundscape and a uniquely Canadian experience.

Schafer has influenced Canadian culture and literature in ways that are difficult to circumscribe. He has contributed to a widespread Canadian consciousness of aural culture, and an example by poet Marlene Creates could be part of this consciousness. Schafer illustrated

³ For further illustration of the complex, peculiar and unique graphic notations see <https://biblio.uottawa.ca/omeka2/schafer360/sight-of-sound>.

some bird calls in his own study by quoting from ornithologists and Creates produced a poem based on bird calls and songs.

Hawfinch Deak...waree-ree-ree Tchee...tchee... tur-wee-wee
Greenfinch wah-wah-wah-wah-chow-chow-chow-chow-tu-we-we
Crossbill jibb... chip-chip-chip-gee-gee-gee-gee
Great Titmouse ze-too, ze-too, p'tsee-ée, tsoo-ée, tsoo-ée ching-see, ching-see, deeder-deeder-deeder, biple-be-wit-se-diddle
Pied Flycatcher Tchéetl, tchéetl, chéetl, diddle-diddle-dée; tzeit-tzeit-tzeit, trui, trui, trui
Mistlethrush tre-wir-ri-o-ee, tre-wir-ri-o-ee-o; tre-we-o-wee-o-wee-o-wit
Corncrake crex-crex, krek-krek, rerp-rerp
Common Snipe tik-tik-tik-tuk-tik-tuk-tik-tuk-chip-it; chick-tchuck; yuk-yuk.
 (Schafer 1994, 30)

I wish I could transcribe the river's repertoire
 like the field guide that renders
 the pattern and pitch of the twitters and
 chirps that I've heard in these woods.

wick wick wick wick wick (northern flicker)
 per-chick-o-ree (goldfinch)
 yank-yank, yank-yank-yank-yank (red-breasted nuthatch)
 zi-zi-zi-zi-zi-ZI-ZI-ZI-ZI-ZI-zi-zi-zi-zi (blackpoll warbler)
 chut-chut-chut-chut (redpoll)
 chee-chee-chee, chip-chip-chip-chew-chew-chew (northern water-thrush)
 queedle-queedle, queedle-queedle (blue jay)
 chick—che—day—day (boreal chickadee)
 sweet sweet Canada, Canada, Canada (white-throated sparrow)
 cheer-up, cheerily, cheer-up, cheerily (robin)
 (Creates, *All the sounds*)

The quotations above are possible transcriptions of wild bird calls (Nicholson 1946, n.p.; Schafer 1994, 30) as well as of Canadian, or Boreal, bird calls and songs. Some of the latter have been transformed into a poem (“All the sounds”), which was recited aloud, in front of an audience, during one of Marlene Creates’s *in situ* walks through The Boreal Poetry Garden, a patch of boreal forest where she lives and works in Portugal Cove, Newfoundland.

The poem is also part of a project that can be defined as web-literature or e-literature, because it is available on the artist’s official website, while the text has not appeared in print. The digital *medium* facilitates the use of natural sonic background, field recordings and acoustic ecology. Therefore, the passage from traditional poetry in print to digital performances with *in-situ* acoustic background is, today, much easier. Constantly, literary works have been easily adapted into opera librettos and accompanied by musical compositions, thus kinship between literary texts—not only poems—and music has always been very close. The relation of music and nature

has been further explored in a volume by David Tothenberg and Marta Ulvaeus, *The Book of Music and Nature* (2001). It collects writings of innumerable artists, among whom, John Cage with his “Happy New Ears” and “Emma Lake Music Workshop 1965,” Schafer with his “Music and the Soundscape” and Michael Ondaatje with an excerpt from his novel “Coming through Slaughter”—just to mention a few names relevant to this essay—and thus gathering international composers and writers. Finally, bird songs are also the subject matter of Canadian poet Don McKay, in his *Songs for the Songs of Birds* (2008), a CD of spoken word poetry read by the author, accompanied by field recordings of birds. It must be noticed that the transposition of bird songs into classical music goes back to ancient times, but almost in the same years of Schafer’s theorization, the French composer, organist, and ornithologist Olivier Messiaen (1908-1992) started incorporating bird songs into his musical compositions, as for instance in his 1953 *Réveil des oiseaux* (Arlati 2014).

Another example of the ways in which Schafer has influenced Canadian authors is to be found in the suggestive parallelism between one of his chapters on ‘The sounds of water creatures’ (Schafer 1994, 36-38) and a sonic image in Michael Ondaatje’s above-mentioned novel, *Coming Through Slaughter* (1976). Among a variety of sounds, Schafer introduced whale songs:

The songs of whales have been a subject of considerable recent study and some recordings of the humpback whale were produced commercially in 1970. The immediate and spectacular attention they received was partially attributable to the poignancy that the singers were an endangered species; but more than this, the songs were hauntingly beautiful. (1994, 37)

Enchantingly beautiful, the sonic production of whales also speaks of their possible extinction. Therefore, the technical possibility of capturing and recording those sounds becomes extremely important, in order to preserve a trace of their quality. Thus, it is not surprising to find the photographic reproduction of three sonographs of dolphin sounds placed as an epigraph to Michael Ondaatje’s 1976 novel about the black jazz cornetist Buddy Bolden, *Coming Through Slaughter* (henceforth CTS), commented on in a long caption, only partially reproduced here:

Three sonographs—pictures of dolphin sounds made by a machine that is more sensitive than the human ear. The top left sonograph shows a “squawk.” Squawks are common emotional expressions that have many frequencies and pitches... (CTS, n.p.)

These literary examples of translation, transcription and adaptation of Schafer’s acoustic ecology, intuitions and scientific results show how appropriate and successful his pedagogical and cultural interventions have been.

Indeed, the 1970s in Canada were a time of renewed environmental consciousness: Margaret Atwood wrote her *Survival: A Thematic Guide to Canadian Literature* in 1972 where theorizations around nature writing and the Great North had a prominent role; Schafer initiated *The World Sound Project* at Frazer University in the late 1960s and early 1970s. Sherrill Grace claims that Schafer demonstrated how “music, especially classical music, has contributed to the representation of Canada as a northern nation” (1998, 102). The *Handbook for Acoustic Ecology* was published in 1978 by the Simon Frazer team, theorizing on music, nature, linguistics and soundscape studies. After the wave of feminism in the 60s, the 70s were also years when First Nations’ literature was acknowledged and anthologized, and postmodernism and postcolonial theory were accommodated in a new national and cultural consciousness. For some feminist writers, such as Di Brandt, “the postcolonial is a struggle to move from inherited patriarchal, religious modes of living,” for some other writers speaking on behalf of ethnic minorities, for instance Dionne Brand, “postcolonial Canada is a place of exile and racism to be combated through a militant poetic counter discourse” (Lane 2011, 150-151). Thus, feminism and postcolonialism meet on the same fertile ground. In those same years, as a means of moving away from “colonial systems,” the first anthologies of Aboriginal literature in English appeared (Lane 2011, 161). It is within this setting that Schafer’s influence became increasingly relevant.

Schafer dedicated his attention specifically to soundscapes and to promoting music and acoustic education. In order to explain what he meant when speaking about our auditory perception, he quoted Chateaubriand:

[W]hen Chateaubriand tells us that in 1791 he heard the roar of Niagara eight to ten miles away, he provides us with useful information about the ambient sound level, against which that of today could be measured. (Schafer 1994, 8)

Canada’s colonial and industrial reality was prosperous and nature sounds were all the more important, because modern economic and technological progress were producing new types of noises and acoustic pollution: “The very emergence of noise pollution as a topic of public concern testifies to the fact that modern man is at last becoming concerned to clean the sludge out of his ears and regain the talent for clairaudience-clean hearing” (Schafer 1994, 11).

2. Literary waterways

Another example of the emulative response to Schafer’s dissemination of acoustic consciousness is to be found in Anne Michaels’ novel *The Winter Vault* (2008, henceforth WV), and particularly

in her sensitivity to sonic waterscapes, not dissimilar from that of Chateaubriand, as the following passage demonstrates:

They left Avery's car at the edge of the forest. [...] The low canopy of leaves *pounded with the sound of the rapids*. Mist was caught between the trees, as if *the earth were breathing*. The cabin was still some way from the Long Sault, yet even here *the roar exploded*. [...] Inside, a wooden table, three chairs, a bed too old to be worth the trouble of moving. [...] Stepping inside, Jean could hardly believe *how loud the Long Sault boomed—it seemed an acoustical mirage—as if amplified by the small bare space*. Immediately the coldness of the cabin and the smell of cedar and woodsmoke became *inseparable from the crashing of the river*. She felt she would either have *to talk with her mouth against Avery's ear, or shout, or simply mouth her words*. [...] After a time, said Avery, *the sound becomes part of you, like the rushing of your own blood when you cover your ears*. [...] *Because of the noise of the river, neither spoke much*. (WV, 54-55, emphasis added)

The author describes two lovers, Avery, an engineer, and Jean, a botanist, who spend a weekend in a cabin in the forest, close to the St. Lawrence River's rapids, at Long Sault, Ontario (McKay 1975; 2014). They are immersed in the overwhelming sound of water. In this natural ecosystem, where the cabin testifies to anthropic activities, the rapids determine the "keynote," or even the "soundmark" of the place. The sound of water invades the forest, and the small space of the cabin becomes an amplifying harmonic chamber. The sound of water is so powerful that it even prevents the protagonists from speaking and thus imposes silence between them, or, it reduces their words to whispers. According to Schafer,

Even though keynote sounds may not always be heard consciously, the fact that they are ubiquitously there suggests the possibility of a deep and pervasive influence on our behavior and moods. The keynote sounds of a given place are important because they help to outline the character of men living among them. (1994, 9)

The domineering sound of the rapids imposes a new behavior—whispering—on the protagonists, thus amplifying their intimacy as if to underline the sacrality of place and moment. Moreover, the seemingly casual reference to the sound of one's own blood rushing through the veins when one covers one's ears is a possible, indirect reference to an experiment conducted by John Cage. The experimental American composer and musician shut himself into a soundproof room, hoping to be able to hear pure and sheer silence, and thus grasp its essence. The episode is narrated by Schafer. When John Cage went into this room, however, he heard two sounds, one high and one low: "When I described them to the engineer in charge, he informed me that the high one was my nervous system in operation, the low one my blood in circulation." Cage's conclusion: "There is no such thing as silence. Something is always

happening that makes a sound” (Schafer 1994, 256). Surprisingly, Cage claimed he could hear the pulsing of his own blood in his ears. He concluded that silence—negative silence, as absence of noise—does not exist. It is an acoustic illusion, as Schafer reports in his chapter “Western Man and Negative Silence” (1994, 256). Only a recovery of contemplation can lead us, “the modern, western man,” to positive silence, he warns: “still the noise in the mind” (Schafer 1994, 259).

In the passage of Michael’s novel quoted above, the waterscape and the thick forest belittle the spartan cabin even more and seem to recreate a pristine, wild and uncontaminated place; a sort of noisy Eden for the couple. Indeed, even though the ear is the predominant sensorial receptor in this passage, all the senses are involved: sight, touch, smell, sound and even taste, because the two protagonists are ready to eat their meal. The quoted passage, conceived in such lyrical lexicon and imagery, is full of sensorial details: “as the room grew darker, *the noise of the Long Sault seemed to increase*. For the first time, Jean thought about *the intimacy within that sound*, the continuous force of water on rock, sculpting every crevice and contour of the riverbed” (WV, 56, emphasis added).

The sound of the rapids translates the erosive force of water against rocks, a geological, natural force. However, the novel is not only evocative of natural beauty, it also provides the setting for anthropic forces mightier than the natural, geologic ones: the force of men on the landscape, capable of changing the environment and the ecosystem in a way that today we consider constitutive of the Anthropocene.

Anne Michaels’ novel is partly dedicated—in its Canadian setting—to the building of the St. Lawrence Seaway (1954-1959). This gigantic engineering enterprise, which took shape in the second half of the 1950s, thanks to an agreement between Canada and the United States, is one of the clearest examples of human geo-morphic interventions in the planetary environment. In the novel, this project is matched with a similar titanic enterprise: the reconstruction of the Abu Simbel Temples uphill, as a consequence of the building of the Aswan Dam, in Egypt, in the 60s and with the bombing and re-construction of the city of Warsaw after the Second World War. These are three of the Anthropocene actions that require man-made materials and machines, which produce an indelible change in the landscape and soundscape:

From the moment the Soviet brought their excavators to the desert at Aswan, the land itself rebelled. The sharp desert granite ripped the Soviet tires to strips. [...] The banks of the river overflowed with shouting men, pounding machinery, shrieking drills, and excavators tearing into the ground. Only the Nile was mute. (WV, 23-24)

In this passage, the dumbness of the river metaphorically humanizes nature and causes it to witness and embody death.

Watching *The Story of the St. Lawrence Seaway*, the documentary footage of the time, is quite telling of the type of rhetoric and propaganda that triggered and then dominated the whole project. For instance, one might watch the online documentary to understand the vastity and permanence of anthropic agency in our world.⁴ Quite strikingly, the documentary never mentions the number of people displaced because of the flooding of small riverine towns and villages, even historical early settlements. In contrast, the novel mourns the lost villages and towns: “In the flooding of the shoreline, Aultsville, Farran’s Point, Milles Roches, Maple Grove, Wales, Moulinette, Dickinson’s Landing, Santa Cruz, and Woodlands would become ‘lost.’ [...] Thousands would become homeless as through some act of negligence” (WV, 38). Thus, Anne Michaels lists all the names of those fragile landscapes, combining environmental damage and social injustice, while also indulging in the sound of toponyms.

The two main reasons for building a wide navigable canal, where the river was, are boosting trade and the very fact that cargo ships were becoming bigger and bigger. The laws of free commerce, liberalism and increasing industrialization in the post-war economic boom years inspired this project. The North American and Canadian Lake system started being envisioned as an eighth sea, an inland sea that needed a direct connection to the Atlantic Ocean. The St. Lawrence River provided this natural connection, but rapids, waterfalls and unlevelled passages made navigation impossible, in spite of the existing locks and artificial canals along the route that also run parallel to the river’s flow. Therefore, the landscape had to be modified, irreversibly. A long and huge navigable canal, with a more complex system of locks and dams had to be created in order for bigger vessels to travel to the very heart of the industrial pulsing cities all around the Great Lakes: Montreal, Toronto, Detroit and Chicago, among others.

In the documentary about the building of the Seaway, it is possible to see how human intervention is meant to change the profile of the river, of its banks and of the lands around it. The plastic model, manufactured for demonstrative and persuasive purposes, perfectly exemplifies how chunks of land might be removed and re-modelled by human hands and human work with the employment of heavy machinery. In particular, here water is the object and protagonist of massive human interventions and manipulation. Thus, that body of Canadian and American water would be changed forever. Ocean-river-and-lakes would be forever connected so as to form an organic system, called an eighth sea. This seaway is the protagonist

⁴ The documentary is available at youtu.be/AKupuyjX9IQ.

of Anne Michaels' novel as an exemplary prototype action of our Anthropocene. It is the result of extractivist logic and "capitalocene," as Donna Haraway would say, and, above all, of man's capacity to modify the land as a geological force. As I will explain in the following pages, the result is also a change in the soundscape.

As Jan Zalasiewicz notices, "[l]andscaping and earthworks associated with building construction and demolition are included in the definition of artificially modified ground" (2019, 63). Moreover, he adds, "[u]rban areas, modified for residential and commercial purposes may amount to something like 17 trillion tons of buildings and foundation deposits" (64).

Anne Michaels re-produces this same staging of modernity in the Anthropocene in her novel with a detailed and accurate use of sources that allow her to measure the vastness of the enterprise:

Thirty tons of explosives lay nestled into the rocks of Cofferdam A-1, the barrier that had kept the north channel of the St. Lawrence riverbed dry. [...] From this single blast, one hundred square miles of fertile farmland would be inundated. [...] The water pushed past the blasted dam in a torrent. But very soon the flood slowed and narrow runs of muddy water slithered into the dry bed. The water seeped, two miles an hour, toward the dam, where it would become Lake St. Lawrence.

Then the very slowness of the rising water became the spectacle. (WV, 66)

Tons of explosives were used to divert the course of the river. "Three major dams would be built, and cofferdams to allow the work to proceed, diverting first one-half of the river and then the other, leaving each half in turn drained for construction" (WV, 48); and tons of concrete were poured down into the riverbed:

Repeatedly the seaway engineers had tried to still the Long Sault. Thirty-five tons of rock had been unloaded into the river, but the current had simply flung these gargantuan boulders aside, like gravel. Finally they built the hexapedian, a huge insect of welded steel, and now this, at last had pinioned the rocks into place.

The detonation of silence.

Jean lay next to Avery, unmoving. Even the leaves on the trees were mute; so absolute the stillness, all sound seemed to have been drawn from the world. [...]

Jean felt she would give almost anything to hear the heart-pounding sound of the rapids again. (WV, 63-64)

In the passage quoted above, the two protagonists, Jean and Avery, revisit the cabin in the forest, this time after the building of the seaway, when the rapids have been tamed and silenced forever. The silence that now pervades the landscape is a deadly silence. There is nothing to listen to, to the point that silence is compared to an explosion: "The detonation of silence" (WV, 63), in opposition to the previous mention of the sound of the water, described as an explosive

“roar” (WV, 54). Nature might lose its aura in the age of mechanical intervention, not dissimilar to art losing its aura in the age of mechanical reproduction, as Walter Benjamin famously claimed. In Michaels’ novel, it is not only a landscape that is lost, but its aura, its soundmark:

The term soundmark is derived from landmark and refers to a community sound which is unique or possesses qualities which make it specially regarded or noticed by the people in that community. Once a soundmark has been identified, it deserves to be protected, for soundmarks make the acoustic life of the community unique. (Schafer 1994, 10)

A certain degree of ecological awareness was strongly connected to a missing soundscape, if we accept the assumption that a new eco-consciousness began with Rachel Carson’s *Silent Spring*, in which the absence of bird songs and calls silently announced the death toll for the aviary fauna, due to the massive use of pesticides and biocides in agriculture. In Michaels’ novel, it is the absence of the sound of turbulent waters that decrees the death of a landscape.

The novel is pervaded by such a feeling and a repertoire of mourning. The loss of landscape is witnessed and lamented as in a funeral and in a burial. What is not flooded by water, such as the little riverine towns of “Farran’s Point, Aultsville, Maple Grove, Dickinson’s Landing, half of Morrisburg, Wales, Milles Roches, Moulinette, Woodlands, Sheek Island...” (WV, 35), is buried under a pouring of concrete and steel in order to remodel the riverbanks and to make locks and levers work properly. In the novel, the Anthropocene is clearly at work, through figures—the quantities of concrete and the type and number of heavy machineries employed; stones and soil removed—and historical details—factual archival data, punctually reproduced about the Egyptian and Canadian campaigns of construction—even acoustic details—the change in the soundscape before and after the building of megadams—based on accurate historical and documentary research.

Anne Michaels dedicates her work to loss: the loss of a landscape, of little towns, the early submerged colonial settlements, the loss of family members, of rivers and cities, the loss of Warsaw under the bombing of World War II. Loss of landscape—metaphorically war on landscape—is crucial in this novel and is depicted through massive engineering activities of destruction and reconstruction, for the city of Warsaw was rebuilt, piece by piece, exactly as the Abu Simbel Temples were cut into pieces and then rebuilt uphill.

In the novel, water and soundscapes are protagonists of most of these stories of loss. One interesting parallel in the narrative is that of the building of the Aswan Dam, in Egypt, a project not dissimilar in its effects to the building of the Seaway in Canada. There, too, the waterscapes had been changed forever: “The Nile had already been strangled at Sadd el Aali, and its magnificent flow had been rerouted before that [...] Avery knew that a river that has been

barraged is not the same river. Not the same shore, nor even the same water” (WV, 4). In spite of being chief engineer, Avery acknowledges his work as “a betrayal,” to the point that “he might break down, not with triumph or exhaustion, but with shame” (WV, 5).

Once again diverting the course of a river is likened to the death of the landscape. Thus, Michaels creates a literary waterway connecting the St. Lawrence’s and the Nile’s destiny. Avery, too, shows a special sensitivity for water and a refined ear attuned to it:

When Avery lay next to his wife, waiting for sleep, listening to the river, it was as if the whole long Nile was their bed. [...] The river, he felt, heard every word, wove every sight into itself, until it was filled with dreaming...

He spoke to the river, and he listened to the river. (WV, 7)

Waterways are also waterscapes which produce sounds and are able to speak in their own language and tell stories; the loss of a waterscape is also the loss of a soundscape. The novel pays homage to a specific and special practice of listening. Listening to the Other. Both Other people and the more-than-human is extremely relevant, and listening to the other is what all the characters in the novel do. The capacity and predisposition to listen is their predominant moral quality. As such, besides pertaining to the field of postcolonial studies and environmental literature, Michaels’ novel is also an important example of acoustic ecology in prose.

3. Photo lyric water soundtrack

There is an artist in Canada who also seems to echo Schafer’s work. Marlene Creates has chosen water as the soundtrack for many of her own artistic works, such as, among others, her video poem “River of Rain,” or her video “From the Ground Tier to a Sparrow Batch: A Newfoundland Treasury of Terms for Ice and Snow, Blast Hole Pond River, Newfoundland 2012-2013,” which won the Grand Jury Award at the Yosemite International Film Festival in 2014.⁵ Water is present also as a background to her bio-portrait.⁶

Creates is also the recipient of a 2019 Governor general’s Award in visual and Media Arts, and in 2021 she was invested into The Order of Newfoundland and Labrador and received “Artist of the Year” in the Best of Portugal Cove-St. Philip’s Community Awards. These honours testify to her innovative artistic creativity. When speaking of her video art, one should be aware of a multimedia and multimodal approach to video production. Her videos include her voice reading

⁵ The video “River Rain” is available on Marlene Creates’ website marlenecreates.ca/virtualwalk/aerialphoto.html; “From the Ground Tier to a Sparrow Batch” is available at <https://vimeo.com/89396222>.

⁶ See “Portrait of Marlene Creates” (2019) at www.youtube.com/watch?v=7apC0qVneE8.

poetry and sometimes still images that are, in fact, art photographs; they also present a suggestive aural impact, for the soundtrack is no less important, no less artistic or effective. All this is only possible through careful montage.

One suggestion that Marlene Creates seems to have further developed from Schafer's ideas is to artistically shape the sound of water, ice and snow, as in her "sonic waterscapes":

All the way down the path –
silence.
Then at the river,
consonants gurgling in the gaps and
low vowels sounding in the hollow
between the water and the layer
that has sished over since yesterday.⁷

Schafer, too, wrote a chapter dedicated to "The transformations of water" (1994, 18-21) from liquid to snow and ice, where he provided an overview of the various voices, tones and arrangements water, ice and snow might create in a variety of landscapes:

While seascapes have enriched the languages of maritime peoples, cold-climate civilizations have invented different expressions, of which the numerous Eskimo words for snow is the most celebrated though by no means the only instance. *The Illustrated Glossary of Snow and Ice* contains 154 terms for snow and ice in English and matches them with terms in Danish, Finnish, German, Icelandic, Norwegian, Russian, French Canadian and Argentinian Spanish. Many of the expressions—for instance, permafrost, icebound, pack ice—are absent from the vocabularies of other languages. (Schafer 1994, 20)

Marlene Creates, similarly, tries to give voice to snowy and icy landscapes, creating her own illustrated glossary. One example is her video *Sea Ice, Conception Bay, Newfoundland, March 2014*.⁸ The piece lasts 14.14 and consists of an audio-video recording of a ferry trip. Thus, Marlene Creates describes her artwork as follows:

It is not uncommon for Arctic ice, or *drift-ice*, to be driven by wind and currents into Conception Bay from more northerly latitudes. But the winter of 2013-2014 was so cold that, by March, Conception Bay itself—which is, of course, salt water—froze for the first time in decades. I took this video in one shot from the Bell Island ferry as it passed through many different formations of *local ice*, or *bay ice*.⁹

⁷ "To sish over is to form a thin layer of ice on the surface of a body of water" (Creates 2015, 48-49).

⁸ The video is available at vimeo.com/169694402.

⁹ See the description of the video *Sea Ice, Conception Bay, Newfoundland, March 2014*. www.marlenecreates.ca/works/2013ice.html.

The ferry itself is never visible, the camera focuses on the surface of the water and the ice. The microphone captures three different frequencies: one is the ferry's engine, according to its speed; the second is the sound of it cutting through the ice and water; and the third is the wind and air produced by velocity and movement (windward). "The wind, like the sea, possesses an infinite number of vocal variations. Both are broad-band sounds and within the breadth of their frequencies other sounds seem to be heard" (Schafer 1994, 22). Towards the end of the video, when the ferry slows down and manoeuvres near the dock, the wind noise stops, and sounds change slightly (leeward). In opposition, a variety of ice formations constantly parade past the boat and in front of the viewer's eyes in a quasi-silent procession and in a unique, site-specific spectacle.

This peculiar waterscape is also given voice through the subtitles that appear (superimposed) on the lower part of the screen. They run along with the ice, although more slowly: "pummy; clumpets; scattering ice; big ice, close ice, or a knot of ice; slack ice; slatchy water; a swatch; tippy pans; rafting ice; pancake ice; way ice; a neck of water; a jam of ice, pack ice, standing ice, or embayed ice; slob; the inside cut, the inside run, or the inside water" (Story 1990).

In reality, what is to be observed in the video is the varied dance of sea ice on the salt water: floating, swirling, clashing, bumping, diving and resurfacing, rolling; azure or whitish; rounded, sharpened, in slates or clusters, in miniature icebergs. This is the grammar of sea ice with its soundscape, although the ferry, too, contributes to that soundscape. In a way, even though in the audio/video recording it is not possible to discern or distill clearly the sound of ice, to single it out from that of the wind or that of the ferry, this, too, might be called an experiment in 'cryophonics': "the term accurately describes the sound world of ice, and in this context, I am using it to describe *naturally occurring ice sounds*" (Braden 2014-15, 13, author's emphasis).

Marlene Creates seems to share with composer Carmen Braden not only an interest and a practice in acoustic ecology or, more appropriately, "cryophonics," but also the same ideas: "ice is connected to other actors in the environment such as temperature, pressure, wind, gravity and human activities" (Braden 2014-15, 14). The personal experience of the two artists, their being-there, in a specific season, under specific weather conditions, makes their productions a cooperative partnership with nature.

Marlene Creates's work was dictated by the weather conditions of the place in that specific moment of that particular year (March 2014); Braden chases, so to speak, ice sounds in various seasons and produces musical compositions that might be performed by instruments such as the piano, among others. One more difference between the two artists is that Marlene Creates recorded ice on salt water, while Braden worked on a frozen lake. In spite of their diverging

poetics and practices, their looking at / listening to ice and making it speak, or translating its sounds into music, as both Braden and Creates did,¹⁰ is an indirect and groundbreaking homage to the work and genius of Raymond Murray Schafer and his theory of soundscape.

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Works cited

- Arlati, Chiara. "Il canto degli uccelli nella musica classica." 30 Ottobre 2014. <http://leboisdesarts.altervista.org/chiara-arlati/canto-degli-uccelli-musica-classica/>. All websites were last visited on 11/06/2022.
- Atwood, Margaret. "Rachel Carson's *Silent Spring*, 50 Years On." *The Guardian* 7 December 2012. <https://www.theguardian.com/books/2012/dec/07/why-rachel-carson-is-a-saint>.
- . *Survival: A Thematic Guide to Canadian Literature*. Toronto: Anansi, 1972.
- Barclay, Leah. "Sonic Ecologies: Exploring the Agency of Soundscapes in Ecological Crisis." *Soundscape. The Journal of Acoustic Ecology* 12.1 (Winter-Spring 2012/2013): 29-32.
- Braden, Carmen. "Cryophonics: Re-performing the Ice-Songs of the Canadian Sub-Arctic." *Soundscape. The Journal of Acoustic Ecology* 14.1 (Winter-Spring 2014/2015): 13-15.

¹⁰ Braden composed a work for piano trio and electroacoustics that evokes the sounds of canded lake ice. Titled *Candle Ice*, the work was premiered by the Gryphon Trio at the Ottawa International Chamber Music Festival in August 2014. "A Devil's Blanket" was composed by Duane Andrews, based on Marlene Creates's photographic series, *A Newfoundland Treasury of Terms for Ice and Snow*. Premiere performance by the Harbourlight Piano Quartet, First Light Centre for Performance & Creativity (at Cochrane Street United Church), St. John's, Newfoundland, November 25, 2021, at 8 pm.

- Cammisa, Edoardo. "For the Ecology of Sound.' New Perspectives on the Sound in the Marlene Creates's Environmental Literature." *Ethnomusicology Review* 22.2 (March 2022): n.p..
<https://ethnomusicologyreview.ucla.edu>.
- Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin, 1962.
- Creates, Marlene. "A Newfoundland Treasury of Terms for Ice and Snow (2011-2014)." www.marlenecreates.ca/works/2013ice.html.
- . *Brickle, Nish and Knobby: A Newfoundland Treasury of terms for Ice and Snow*. Portugal Cove-St. Philip's: Boulder Publications, 2015.
- . "From the Ground Tier to a Sparrow Batch." 2014. vimeo.com/89396222.
- . "Sea Ice, Conception Bay, 2014." vimeo.com/169694402.
- Creates, Marlene and Elizabeth Zetlin. "A Virtual Walk of the Boreal Poetry Garden." 2010.
<http://marlenecreates.ca/virtualwalk/aerialphoto.html>.
- Iovino, Serenella and Serpill Oppermann. *Material Ecocriticism*. Bloomington: Indiana UP, 2014.
- Lane, Richard. *Canadian Literature*. London: Routledge, 2011.
- McKay, Don. *Long Sault*. London, Ont.: Applegarth Follies, 1975.
- . "Long Sault." *Angular Unconformity: Collected Poems 1970-2014*. Fredericton: Goose Lane Editions, 2014. 11-44.
- . *Songs for the Songs of Birds*, CD. Newfoundland: Rattling Books, 2008.
- Michaels, Anne. *The Winter Vault*. 2009. London: Bloomsbury, 2010.
- Ondaatje, Michael. *Coming Through Slaughter*. 1976. New York: Penguin, 1977.
- Ricciardi, Caterina, et al. *Acqua. Realtà e metafora*. Roma: Semar, 1998.
- Schafer, Raymond Murray. "Miniwanka." youtu.be/R60Cx70V4nU.
- . "Notations." biblio.uottawa.ca/omeka2/schafer360/sight-of-sound.
- . *The Soundscape: Our Sonic Environment and The Tuning of the World*. 1977. Vermont: Destiny Books, 1994.
- Sherrill, Grace. "From Landscape to Soundscape: The Northern Arts of Canada." *Mosaic* 31.2 (June 1998): 101-122.
- Story, G. M. et al., edited by. *Dictionary of Newfoundland English*. 2nd edition. Toronto: University of Toronto Press, 1990.
- Tothenberg, David and Marta Ulvaeus, edited by. *The Book of Music and Nature*. Middletown: Wesleyan University Press, 2001.
- Truax, Barry, edited by. *The Handbook for Acoustic Ecology*. WSP: Simon Frazer University, 1978.

Zalasiewicz, Jan, et al. *The Anthropocene as a Geological Time Unit*. Cambridge: Cambridge University Press, 2019.