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Listening to Noise: An Interactive Soundscape Installation that Transforms Place in the Service of Intangible Cultural Heritage

Résumé

Les nouvelles technologies offrent des possibilités sans précédent pour la création et la préservation du patrimoine culturel immatériel. L'intégration de ces technologies, cependant, pose à la fois de nouveaux défis à notre connaissance et à la préservation du patrimoine culturel, alors que de nouvelles pratiques surviennent lors de l'échange entre les pratiques traditionnelles et les technologies d'aujourd'hui. Dans le domaine de la musique, ces nouvelles pratiques affaiblissent une distinction déjà fragile entre la musique et le bruit, ce qui exige une définition plus à jour du patrimoine culture immatériel en ce qui concerne le son. Cet article prendra l'exemple d'une installation sonore interactive qui a sensibilisé les visiteurs au bruit environnemental sous la forme d'un portrait sonore de Québec, utilisée comme une lentille à travers laquelle explorer les questions ci-dessus.

Abstract

Emerging technologies offer unprecedented opportunities for creating and preserving intangible cultural heritage. At the same time, these technologies pose fresh challenges to both our understanding and preservation of cultural heritage as new practices emerge through the interchange between traditional practices and current technologies. In the field of music, these new practices have blurred an already tenuous distinction between music and noise, which requires a more inclusive definition of intangible cultural heritage with regard to sound. This article will examine the case of an interactive sound installation that engaged the local community with environmental noise in the form of a sound portrait of Quebec as a lens through which to explore the above issues.

According to UNESCO, the performing arts play a vital role in intangible cultural heritage (ICH). Among them, music is described as "perhaps the most universal," not only for its ubiquitousness in world cultures, but also for its role in accompanying many other forms of ICH (UNESCO 2003: 54). Despite its universality, however, music alone does not sufficiently represent the true breadth and nuance of human—sound interaction when it comes to ICH; it is, in fact, a subset of a much larger sound world that is being drawn increasingly into cultural heritage practices—namely, the world of noise. During the last several decades, organizations such as the World Forum for Acoustic Ecology, cultural practices that promote awareness of and appreciation for environmental noise such as sound walking, fields of study such as acoustic ecology, and new information and communication technologies have all contributed to the increasingly important role noise plays in ICH.

In this article, I will make the case for noise's inclusion in UNESCO's definition of ICH, tracing its oft-overlooked yet long-standing relationship with music. I will then demonstrate how noise can be made relevant to cultural heritage practices through the example of a pilot project sound installation in Quebec City in February 2013 that used new technologies to create a sonic portrait of the city. Based on the results of a brief survey that collected visitors' impressions of their experience at the installation, there were telling indicators that noise, like music, plays a meaningful role in ICH, particularly in how members of the community were able to appreciate noise as a defining feature in Quebec's cultural identity. Before proceeding, however, it will first be necessary to distinguish between music and noise.

Music versus Noise

Music and noise can be understood as subsets of sound, which, for present purposes, means "the sensation perceived by the sense of hearing" (*Merriam-Webster Dictionary online*, s.v. "sound"). As such, "sound" is a neutral, all-inclusive term that refers to everything heard. It is when sound is parsed into music and noise that some form of judgement becomes necessary. In his influential tome, *On the Sensations of Tone as a Physiological Basis for the Theory of Music* (1863), physicist Hermann von Helmholtz distinguished between music and noise by contrasting the "uniform" sound of a musical tone with the "irregularly mixed up" sound of noise (Helmholtz and Ellis 1954: 8). He offered as examples of the latter, "the rattling of a carriage over granite paving stones, the splashing or seething of a waterfall or of the waves of the sea, the rustling of leaves in a wood" (7).

A century later we find resonances of Helmholtz's conceptions of music and noise in Allan Merriam's *Anthropology of Music*, in which music is distinguished from noise due to the fact that music is "patterned" and not random (Merriam 1964: 27). For both physicist and ethnomusicologist, then, it is music's qualities of order and regularity that set it apart from noise. Merriam further adds that music must be "agreed upon" by members of the society, and that "there must always be human beings doing something to produce it" (27). The necessity for human agency in music becomes a sticky point, however, in his discussion of an African tribe that considers as music "the sound of the wind in the trees"—a case where human agency appears to be absent (63). Because the tribe attributes those sounds to "superhuman" rather than "nonhuman" beings, Merriam is able to assert that it remains a human activity (65).

Besides music's order and patterning, repetition is also said to set it apart from noise by imbuing it with meaning. In his influential music treatise, *Harmony*, Heinrich Schenker wrote that it was strictly by virtue of music's "recurring series of tones," that it "became art in the real sense of this word" (Schenker 1954[1906]: 4). In another century-long connection, W. Tecumseh Fitch mirrors Schenker's view, when he states that it is music's "combinations and permutations of a limited number of 'notes'" that enable it to generate "structured signals" (Fitch 2006: 6). Elizabeth Margulis focuses on music's repetition as "a fundamental characteristic" in its social and biological "shareability" (Margulis 2014: 5-6).

As can be seen from the above, noise and music have generally been considered in an antipodal relationship to each other: if music is enjoyable, noise is annoying; if music is harmonious, noise is discordant; if music focuses our senses, noise befuddles them, or so it goes. The inadequacy of distinguishing between music and noise solely based on their sonic characteristics, however, becomes clear enough when one considers the abundance of regular, patterned and repetitive noises—or aleatoric music—that exist. Hegarty proposes thinking of noise "in a differential relation to society, to sound, and to music" (Hegarty 2007: 5). Like Merriam's definition of music, Hegarty's definition of noise is bound to culture: "Noise ... occurs in relation to perception," which varies according to "historical, geographical and cultural location" (3). It is also worth noting that a sound can be both music *and* noise simultaneously, such as in the case of rock 'n' roll for each side of the generation gap.

In Claude Shannon's seminal 1948 paper on information theory, noise is a "chance variable" that intercepts and "introduces errors" into a message on its path from transmitter to receiver (Fig. 1) (Shannon 1948: 19-20). Here, noise is not merely unordered, but also an external interference, a threat to communication. In a more radical description—one that clearly borrows from Shannon—economist Jacques Attali writes that "noise is violence: it disturbs. To make noise is to interrupt a transmission, to disconnect, to kill" (2009 [1977]: 26). Attali's and Shannon's definitions highlight noise's relationship to its environment, how it requires that a distinction be made between desirable and undesirable sounds. Bijsterfeld offers an intriguing observation: "In war, revolution and ritual, the irregular and

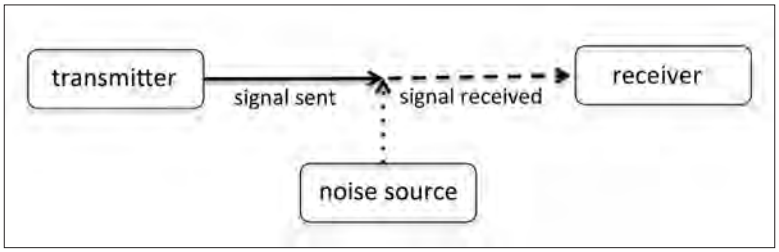

Fig. 1
Claude Shannon's information theory model of noise.

extremely loud use of drums and bells usually expresses intimidation, change and chaos, whereas a restoration of rhythm stands for situations being in control" (Bijsterfeld 2012: 153). The unpredictability of noise thus carries connotations of threat or danger, and musical instruments may be performed in a manner which pushes them toward the noise end of the spectrum by emulating these threatening qualities, that is, by becoming less intelligible ("irregular") and more disturbing ("loud"). Besides the characteristics of the sound itself, then, the element of intention becomes an important factor in distinguishing between music and noise. Noise, however, has increasingly been drawn into musical and cultural practices such that the above differential ways of thinking about it no longer hold. Composer, Edgard Varèse, perhaps most adeptly, if prosaically, demarcated the music-noise boundary when he defined music as "organized sound" (Varèse 1966: 18), a term that has gained currency and come to succinctly define music for a large number of musicians.

Music-Noise Rapprochements

The relationship between music and noise in Western music[1] has engendered impassioned debate. Several of the above definitions, for example, post-date an historical turf war between music and noise whose border has been regularly breached. Merriam alludes to this when he acknowledges a "lack of complete accord as to what constitutes the distinction" between the two (1964: 64). Surveying some of the significant events in this turf war will help to contextualize the noise-music rapport and to formulate an argument for noise's inclusion in ICH.

Western musicians have long been engaging with noise by way of imitative gestures, new performance techniques, and even its wholesale incorporation in pieces of music. The practice of imitating animal sounds, for example, has been present in Western music for hundreds of years. A few prominent examples are the imitative calls of a rooster, hen and quail in Baroque composer Heinrich Ignatz Franz von Biber's *Sonata Representativa* (ca. 1669); bird calls played by the violins in Antonio Vivaldi's *Four Seasons* (1723); and bird and duck calls played by the flute and oboe respectively in Sergei Prokofiev's *Peter and the Wolf* (1936). Prokofiev's assigning the nasally sounding oboe to the duck is a fitting timbral rapport between noise and music. With the advent of recording technologies, animal sounds no longer needed to be mimicked; they could be recorded, such as in Ottorino Respighi's *Pines of Rome* (1924), which calls for playing a phonograph recording of a nightingale, or in Alan Hovhaness's *And God Created Great Whales* (1970), which combines orchestral instruments with recorded whale sounds.

Composers have likewise embraced noise through new performance practices, such as in Hector Berlioz's *Symphonie Fantastique* (1830), in which he instructs the violinists to strike the strings with the wood of the bow (instead of drawing with the horsehair)—today, a standard technique known as *col legno*. There are many such extended techniques that introduce noise into the sound of an instrument, including "flutter tongue" on wind and brass instruments to produce a growling effect, or striking multiple adjacent keys on a piano to produce tone clusters. Perhaps the noisiest example in classical music is Tchaikovsky's *1812 Overture* (1880) written in celebration of Russia's holding off the invading Napoleonic army, whose score calls for firing a canon sixteen times during the performance.

It was the technologization at the turn of the 20th century, however, that catalyzed, more than anything else; noise's coming of age within traditional musical culture. Industrial sounds were permeating people's consciousness at the same time that traditional Western music had appeared to reach its expressive limits in the already cacophonous, insubordinate sonorities of composers like Igor Stravinsky and Arnold Schoenberg, each of whose unique musical language seemed to pull music in the direction of noise, albeit from a different angle. Alex Ross writes, "The urban noises in Stravinsky's score—sounds like pistons pumping, whistles screeching, crowds stamping—suggest a sophisticated city undergoing an atavistic regression" (Ross 2007: 100). If it was mostly "in the zone of rhythm" (96) that Stravinsky's music challenged musical conventions, it was the tones, for Schoenberg, that tugged music toward the noisy abyss, a transformation that Ross attributes to the physics of sound:

> Certain intervals[2] attack the nerve endings while others have a calming effect. At the head of Helmholtz's rogue's gallery of intervals was the semitone, which is the space between any two adjacent keys on a piano. Struck together, they create rapid "beats" that distress the ear.... Similar roughnesses are created by the major seventh, slightly narrower than an octave, and by the minor ninth, slightly wider. These are precisely the intervals that Schoenberg emphasizes in his atonal music. (Ross 2007: 61)

Schoenberg's new musical language rearranged former elements of music to draw from them more noise. For the young composer and future noise pioneer, John Cage, "there were only two things you could do: one was to follow Schoenberg and the other was to follow Stravinsky" (qtd. in Kostelanetz 1987: 103). Schoenberg and Stravinsky both taunted the music-noise boundary from within the musical tradition.

There were also challenges from the periphery. Avant-garde musicians at the turn of the century reacted against Helmholtz's distinctions between music and noise, incorporating noise with greater zeal into their music (Kahn 2001: 79). Kahn tells us that "the line between sound and musical sound stood at the centre of the existence of avant-garde music" and represented "a border that had to be crossed to bring back unexploited resources ... and rejuvenate Western art music" (69). In the 1913 landmark Italian Futurist manifesto, *The Art of Noise,* Luigi Russolo advocated the "renovation" of music through the "art of noise": "We must enlarge and enrich more and more the domain of musical sounds ... [and] replace the limited variety of timbres of orchestral instruments by the infinite variety of timbres of noises" (Russolo 1913: 12).

To render this more palatable, Russolo argued that noise was not a foreign element to music, but rather was already present in the form of percussion instruments and in the noise inherent in different instrumental timbres (Kahn 2001: 80). He went on to point out that the reverse was also true, namely, "each noise possesses a pitch" which could theoretically assist in orchestrating noises (9) (Fig. 2). Russolo's assertions that noise was inbred in music were later paralleled in a short article by American composer Henry Cowell titled "The Joys of Noise," in which he cautioned those seeking a "music based on pure tone" (i.e., one without noise), for "there is a noise element in the very tone of all our musical instruments," and even in the "pronunciation of most consonants" in vocal music (Cowell 1929: 23). Cowell concluded: "Since the 'disease' of noise permeates all music, the only hopeful course is to consider that the noise-germ, like the bacteria of cheese, is a good microbe" (23).

It was only five years after the publication of "The Joys of Noise" that the twenty-seven-year-old John Cage would take Cowell's course on contemporary and world music at the New School for Social Research in New York (Bernstein 2002: 66). Cowell was to exert an important influence on the young composer, who went on to embody, perhaps more than any other composer, the efforts to dissolve the boundary between music and noise. This was epitomized in Cage's 1952 piece titled *4'33"*, which instructed performers to *not* play, forcing the audience to sit in "silence" during the entire four and a half minute duration of the piece. Their expectations thwarted by an uneventful stage, the idea was that their attention would be transferred to the

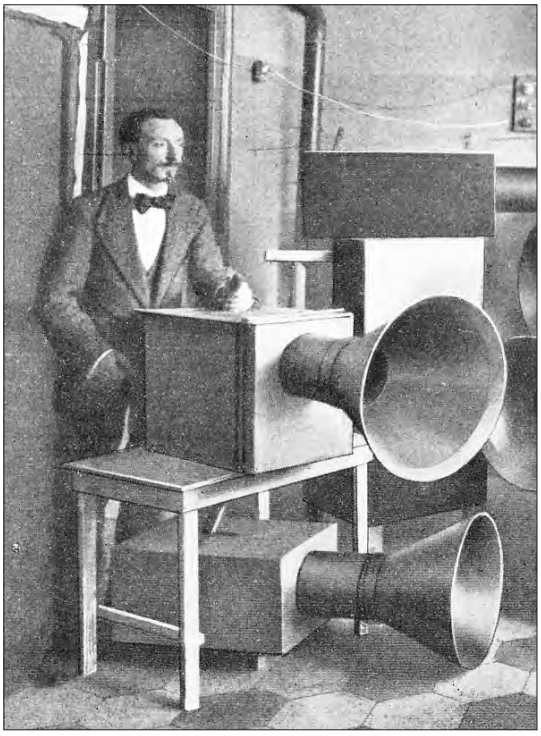

Fig. 2
Luigi Russolo with his noise-making instrument, the "intonarumori," in his Milan laboratory. Luigi Russolo - Nel laboratorio degli Intonarumori a Milano by lliazd is licensed under CC BY-SA 2.0 (http://creativecommons.org/licenses/by-sa/2.0/deed.fr).

sounds of their own presence in the hall. Those sounds, their own noise, became the "music" of *4'33"*. Cage wrote of his piece that he "hoped to have led other people to feel that the sounds of their environment constitute a music which is more interesting than the music they would hear if they went into a concert hall" (Gann 2010: 16). As Nikil Saval puts it, "by reducing the performer to silence, the hierarchy between music and noise was obliterated and the ambient sounds of the world set free" (Saval 2010: n.p.). Hyperbole aside, *4'33"* is widely regarded as a pivotal piece in the history of experimental music (Hegarty 2007: 12). Through a sleight of ear, four minutes and thirty-three seconds of noise thus became an expression of cultural heritage.

While *4'33"* represented a break with traditional notions of musical performance, it was equally, if not more so, a challenge to traditional conceptions of music as sounds produced by musical instruments or by the human voice. Cage said he was "more interested in noises than ... in musical sounds" (Cage 1993: 118). Even earlier, starting from the late1940s, Pierre Schaeffer was working at the RTF (Radio Télévision Française) studio, incorporating recorded noises into his compositions as raw material for a future field of sound art known as *musique concrète*. While Schaeffer's interest in noise was in the lineage of the Futurists and their search for new sonic materials to use within the musical tradition, Cage's interest was in upending that tradition so that all sound, all noise, became music, or as Hegarty put it, Cage "sought to signal the potential musicality in everything" (Hegarty 2007: 139). For this reason, he posed an existential threat to music. There is little doubt that it is at least partly in response to the noise movement that Merriam goes to great lengths to define music as "a uniquely human phenomenon ... made by people for other people ... [which] cannot exist by, of, and for itself," and "cannot be defined as a phenomenon of sound alone" (Merriam 1964: 27). With the same stroke, Merriam's definition of music distanced itself from a philosophical tradition dating back to ancient Greece that allowed for a kind of "music" produced via celestial movement (Mathiesen 2008: 115).

Underlining the primacy of music as an activity, rather than as sound, musician and author Christopher Small, declared that "there is no such thing as music," but there is such a thing as "musicking," a term he coined to include all the activities of participating in music making (Small 1998: 2). Music, for Small, was "not so much about music as it is about people" (8). This shift from product to producers underscores the importance Small attributed to the tangible activities that define music's social role; as for music's *sounds*, they were "as ephemeral as smoke" (203).

Fig. 3
A comparison of R. Murray Schafer's measures to promote the soundscape in The Tuning of the World (1977) and UNESCO's measures to promote ICH in the 2003 Convention for the Safeguarding of Intangible Cultural Heritage.

	Schafer (from *Tuning of the World*, 1977) - measures to promote the sonic environment	UNESCO (from Convention for the Safeguarding of ICH, 2003) – measures to promote ICH
IDENTIFY	Ask soundscape analyst to identify the "sounds that matter" (p.12)	Ask states to identify and define their own ICH (Art. 11)
DOCUMENT	Create a system of classification (p.9)	Create an inventory (Art.12)
PROMOTE	"Preserve, encourage, and multiply" desirable sounds (p.4)	Adopt a policy for promoting ICH (Art.13)
INVOLVE COMMUNITY	Ask community to participate in identifying sounds of importance (p.10)	Ask community to participate in identifying ICH (Art.15)

Noise and ICH

According to Marliena Vecco, the catalyst in that evolution from tangible to intangible cultural heritage was the recognition of the "capacity of the object to arouse certain values" for the community to which it belonged (Vecco 2010: 324). Taking noise to be a "sounding object," one may ask what values it can impart. In response to the question, "What do you regard as being the purpose of your music?" John Cage replied, "Changing the ears (changing the minds) to the sounds in the world around us" (1993: 118). Once our ears are "changed," noise is no longer negatively perceived; it returns to the domain of sound, which opens the door to cultural practices such as "sound studies" and "sound art."

Since the late 1960s, the World Soundscape Project, founded by composer and environmentalist R. Murray Schafer, has sought to draw people's attention to the sonic environment—the soundscape—with a view to appreciation and preservation. The measures Schafer proposed for preserving the soundscape in 1977 bear striking

similarities to those proposed by UNESCO for preserving ICH in its 2003 Convention for the Safeguarding of Intangible Cultural Heritage. These can be viewed side by side in Fig. 3. Citing John Cage's piece *4'33"*, Schafer declared, "Today all sounds belong to a continuous field of possibilities lying *within the comprehensive dominion of music.*" (1993 [1977]: 5). Schafer's work, along with the work of several colleagues at Simon Fraser University, set the stage for a number of other cultural practices centred on noise, among them, sound walking.

Composer and founding member of the World Forum for Acoustic Ecology, Hildegard Westerkamp defined a sound walk as "any excursion whose main purpose is listening to the environment" (2007 [1974]: 1). She described many different ways to practice sound walking: alone or with company, with or without a blindfold, covering a wide area or a limited one, focusing on the sounds of oneself in the environment or on the environment itself. She included anecdotes of noise-based cultural practices, such as how ship captains used to determine their position relative to the shoreline through "echo whistling"—whistling, then listening for an echo from two directions to determine when the ship is in the channel—or how Inuit could orient themselves in conditions of low visibility near the coastline by listening to the sounds of the surf and of the nesting birds at the shoreline. It is also from these cultural-heritage practices that sound walking emerged. According to Westerkamp, the wide variety of sound walking modalities was designed to develop one's "acoustic consciousness," which is not only inherently good, but will also inspire people to "no longer accept bad acoustic situations" (9), thus suggesting that sound walking has social implications.

Paquette and McCartney propose additional sound walking formats, such as where a researcher guides a participant through a location as the participant "is encouraged to describe what they perceive and experience," which is then recorded for later study (2012: 139). In a study done by the Positive Soundscapes Project, a consortium of universities in the U.K., sound walking was used as a methodological tool to study how people respond to environmental noise (Davies et al. 2013). The practice of sound walking has developed online as well. A website hosted by the New York-based international collective, Soundwalk.com, offers immersive audio-visual sound journeys of locations around the world. Occasionally the sound walks take on imaginative dimensions by mixing fiction and reality to create new narratives that are rooted in the real sounds of a place.[3] The possibilities for sound walks are expanded in the digital domain, where distances covered may exceed what is possible by foot or feasible in a single day. Sound walks become "sound journeys." One such example is Ulysses Syndrome, a sound journey in the form of a collection of recordings taken from a sailboat in the Mediterranean Sea, including intercepted radio waves from the shore. The composite work aims to recall "Homer's Odyssey in the form of a sonic fresco totalling 24 hours."[4] Significantly, these works incorporate both music and noise into a unified form of art that ignores the distinction between the two. Software applications are now available for mobile devices that offer narrated sound-walk tours that, similarly, treat music and noise equally.[5]

The central role noise plays in these diverse practices, and the implicit value attributed to it attest to its cultural value. Moreover, if cultural heritage "as praxis ... may be regarded as a context wherein meaning is created" (Esborg 2012: 77), then sound walking and sound mapping, as meaning-making activities, may be considered cultural heritage practices. UNESCO's definition of ICH provides that the spaces associated with cultural practices are included in the Convention's definition of ICH and are thus considered "cultural spaces" by the Convention" (UNESCO 2003: Art. 2). The practice of sound walking illustrates the difficulty in separating the tangible from the intangible, for it derives its meaning through a synthesis of the two; places along with their noises become cultural spaces. The noises, then, may be understood as sharing the status of the "cultural spaces" to which they lend meaning. This also raises the question of which sounds to consider as ICH among the miscellany of sounds encountered in a typical sound walk, without extending the definition of ICH to include all the sounds—which, while not necessarily untrue in one sense, threatens to render current definitions of ICH meaningless.

There are currently projects underway that seek to identify and share the sounds of entire

cities, regions, and even countries. This ambition finds its expression in the practice of sound mapping, which involves recording the sounds of a given environment, then making those sounds available, usually via an online map interface, whereby visitors can visually and aurally associate individual sounds to the places of their origin. Needless to say, new technologies play a central role in facilitating this kind of practice. Major cities around the world have begun cataloguing the noises of their environments and making them available online, among them London, New York, Montréal, Belfast, Toronto, Barcelona, and Seoul.[6] The practice of sound mapping has taken on creative dimensions as well. The Berlin Wall of Sound project, for example, collected sounds along the former route of the Berlin Wall, in commemoration of the 20th anniversary of the fall of the wall in 2009.[7] More than merely for archival purposes, sound maps are one of the ways in which members of a community valorize those sounds that they deem worth preserving, and their decisions may have little to do, in fact, with the sounds themselves, but rather with the places associated with those sounds, or with a theme that unites the sounds and places.

In some cases, entire countries have begun mapping their noises, such as New Zealand and the U.K.[8] There are also international sound map collaborations that focus on a particular theme such as Nature Sound map, a project that focuses on recording "natural sounds of our planet."[9] Visitors to the website are greeted with an interactive world map showing "pins" that identify field-recording locations. Clicking on a pin brings up a small window with an image of the sound source (an animal, a natural habitat, etc.), a "listen" button that activates a sound file, and a description of the location, including the name of the recordist (Fig. 4). Though the map is curated, visitors may also submit new sounds to the map online through a review process.

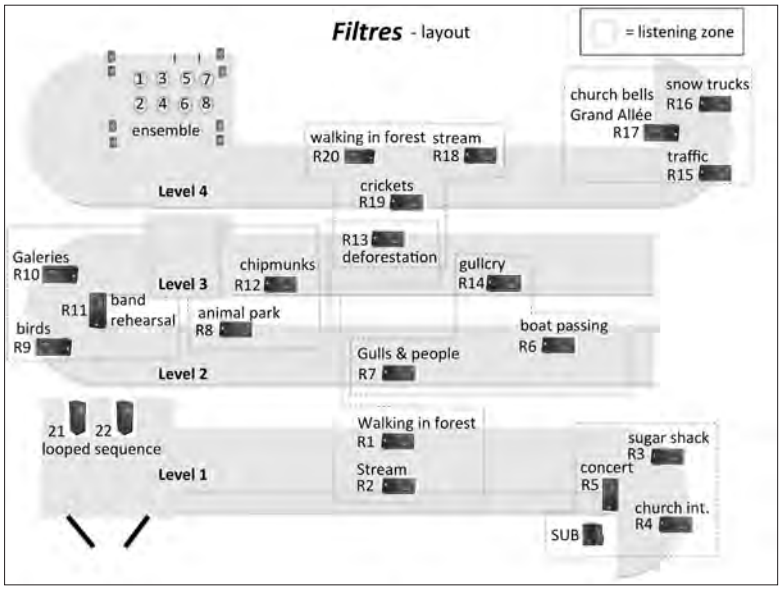

Fig. 4
Schematic of sound installation "filtres." Dotted lines indicate listening zones.

The expanded conception of the role that noise can play in narrating human culture has led to ambitious cultural preservation projects as well. In Mexico, the Fonoteca Nacional aims "to preserve sounds that could be headed for extinction, as cities modernize and certain customs disappear" (Villagran 2013). The Fonoteca's focus on sound rather than music distinguishes it from national recorded music collections. To better understand how noise can become heritage, consider the case of the Mexican tradition of public scribes who, seated outside government offices in Mexico City with their manual typewriters, transform the words of the illiterate into material documents for their personal or business needs. The clicking sounds of their typewriters were among the sounds featured in a government-run radio spot upon announcing its National Sound Week in 2010 (Hawley 2010). As literacy increases in Mexico, and as technology proliferates, these sounds of a specific era and all they signify will disappear from the living culture and will instead become part of the country's preserved ICH. For the moment, they are endangered sounds, and it is precisely because of their cultural importance to the community that they may be thought of as such. These sounds are not only of a particular era, but also a particular place, for it is their proximity to the government buildings that facilitates the economic exchange between the scribes and their customers. The sounds of the typewriters over time yield economic information, as well, such as the intensity of business activity, or they can serve as a window into culture by providing insight into public illiteracy levels. These kinds of considerations may also play a role in attributing cultural importance to sounds.

In recognition of the importance of sound to the national heritage of Mexico, the Fonoteca instituted a program in 2011 called *México suena Así* (Mexico Sounds Like This), in which Mexicans can upload sound recordings they

capture to a shared public database.[10] A larger part of the community can thus participate in the identification and preservation of cultural heritage, due to the broad array of technologies employed, including cell phones, mp3 players, digital cameras, handheld recorders and, of course, the Internet, that enable them to contribute their sound files to the database.

There is, it turns out, a growing number of such programs, where sound as a cultural element is being embraced, collected as part of a community effort, aestheticized as art, or even turned into a social network activity. As part of the project Silence of the Lands, for example, Boulder Colorado community members can upload their own field recordings to a shared online interactive soundscape, where metadata from their recordings (time of recording and location) is automatically fed to the website. In addition, they can comment on other people's sounds, add descriptions of their own sounds, or indicate their like or dislike of sounds using a colour scheme. Eventually, users "collaboratively construct the ideal soundscape they would like to preserve and in which they would like to live" (Giaccardi and Palen 2008: 287).

Noise, then, can play an important role in ICH, and while it is perhaps not the first thing that comes to mind when one thinks of cultural heritage, it can provide valuable social, cultural, and economic insights into a people and their environment. As Schafer put it, "The general acoustic environment of a society can be read as an indicator of social conditions which produce it and may tell us much about the trending and evolution of that society" (Schafer 1993 [1977]: 7). Jacques Attali similarly described music as "a tool of understanding ... that reflects the manufacture of society" (Attali 2009 [1977]: 4). Noise, too, can become a tool of understanding. Jean-Jacques Delétré explains how workers on a construction site can judge the efficiency of a worksite solely from the noises of an on-site recording, based on whether the noises sound "coordinated and competent" or "disorganized" (Delétré 2006: 173).

I would like to suggest that just as noise in music is organized according to certain human-made conventions, the noise of our built environment likewise follows human conventions that are manifested through a place's history of countless decisions: the kinds of structures built and the physical spaces they occupy. While it is human agency—that is, human decisions—over time that shape a place's soundscape, it is not necessarily with the intention or foresight of producing a particular soundscape. Indeed, noise's ubiquitousness in modern society is a testament to the minimal consideration it is generally accorded. But being unaware of the connection between our own social and economic structures and the noises they produce does not mean that we cannot benefit from their preservation, or, at the very least, from becoming more aware of them and what they mean for our culture.

An Interactive Sound Installation

"We cannot simply listen to our urban past," proclaims the publisher's website for the book *Soundscapes of the Urban Past,* "yet we encounter a rich cultural heritage of city sounds presented in text, radio and film" (Bijsterfeld 2013).[11] For Bijsterfeld, the sounds of a city are part of its cultural heritage, and it is the same hypothesis that inspired the creation of an interactive sound installation pilot project that I and a team of four students created on the campus of Laval University in Quebec City, called Filtres (Filters).

Quebec City is already recognized by UNESCO as a World Heritage site for its visual splendours. The idea behind our installation, however, was to create a place where visitors could consider Quebec City and its environs as a site of aural splendour as well. Field recordings representative of the city were played back through a multi-speaker system in the installation, while motion detectors altered the sounds in response to visitors' movements; each visitor's trajectory became a personal sonic exploration of the places of the city, a kind of virtual sound walk. An iPad survey stationed at the entrance to the installation (which was also the exit) collected visitors' impressions of their experience, and although responses were sparse—perhaps due, in part, to there being only a single iPad on which to answer the survey questions—the few we did receive boded well for a future iteration of the project.

Method

The first step in creating the sound portrait was to select the sites where we would make our field recordings, keeping in mind that they would only

be portrayed sonically. In order to do this, we needed a conceptual framework for our installation. We decided we would arrange the sounds around themes relevant to Quebec.[12] In meetings over the course of several weeks, my students and I identified several themes that we agreed were central to Quebec's culture: its proximity to and dependence on water, its abundant forests, the importance of tourism and consumerism in its economy, its growing urban population, and industrialization. Of the four students on the team, two participated in this activity, while the other two concentrated on technical aspects of the installation. As a teacher whose job it is to interact with youth on a regular basis, I wanted my students to take part in decisions relating to ICH, particularly since encouraging "the transmission of ... knowledge, knowhow, and skills to the younger generations" has been one of UNESCO's larger initiatives since the 1990s (Lenzerini 2011: 105).

Once our themes were decided, we began the process of selecting potential sites that could speak to these themes. Our goal was to present a wide variety of sounds of the city and its environs, so as to make our sonic portrait as inclusive as possible. The more places represented at the installation, the more likely our visitors would be able to recognize and connect with them. In addition, the different recording locations' diverse sounds would result in a more interesting aural experience. To this end, we expanded our recording range to include the Greater Quebec City area, beyond the city's six boroughs. This way, we could capture nature sounds that were more removed from the urban centre, or so we thought. As it turned out, even in the forest, we could still detect the sounds of chainsaws and deforestation, forcing us to reconcile with the fact that it is becoming more and more difficult to find places that do not bear the sonic imprints of industry. These sounds, this phenomenon, too, are a part of Quebec's heritage, and were embraced in our installation, along with the snow removal trucks that perennially adorn the twilight hours of Quebec winters.

Excursions were organized to scout out the proposed sites, and a report was made to assess their viability in the project, based on their relevance to our themes, their accessibility, the feasibility of setting up our recording equipment on location, and their contribution to a diverse sonic portrait of the city. The student observations from these excursions indicated a heightened awareness and, occasionally, a heightened appreciation, of the noises of the environment. At a traffic intersection, a student noted "how the cars need to really accelerate between the stop lights as they go up the steep hill"; at a riverbed in the forest, "in certain spots, [besides the river] you can also hear the wind through the trees"; in one of the more touristic parts of the city, "what makes this place interesting are the street performers"; or, on one of the most trodden streets in Quebec, Rue du Petit Champlain, there are "so many foreign tourists here that you can't really make out what anyone is saying, which is really interesting" (Paradis-Dionne, field notes, June 8, 2012).

These observations show a way of thinking about place as more than merely a site of sounds. The interrelationship between the steepness of the road, the multiple stoplights at short distances, and the revving engines of cars that ensues is an observation of how the topography of a place can be revealed through its noises. The acknowledgement of street performers as a unique sonic identifier of a certain neighbourhood prove them to be a "sound mark," to use Schafer's term: a sound that "possesses qualities which make it specially regarded or noticed by the people in that community" (Schafer 1993 [1977]: 10). While Schafer employed the term to refer to environmental noises carrying symbolic power—such as a 12 o'clock horn or a cathedral bell—here, the noises of humans performing ICH became themselves "sound marks."

It is also noteworthy that asking students to help identify culturally significant sounds facilitated a perceptual transformation that enabled them to hear pedestrian noise not as something intrusive or undesirable, but as something "interesting." The concentration of languages heard would enable a listener to associate the sounds to certain touristic areas in Quebec. That is, the sounds help to identity the place. Additionally, the particular languages overheard among the street sounds speak to a specific tourist demographic, and, as the tourism demographics of Quebec change, different languages may become more or less prominent in the bustle on the Rue du Petit Champlain. The noise level in decibels may similarly rise or fall according to seasonal

or long-term tourism trends. These are some of the unique forms of information conveyed in the noises of a place.

Over the course of around two months during the fall, one of the students and I made field recordings at our selected sites around Quebec. Due to practical considerations, we weren't able to record all of the identified sites, but we settled on an acceptable variety of sounds. For the theme of consumerism, we chose the hubbub inside the Galeries de la Capitale shopping mall; for the theme of forests, we recorded the sounds of our steps in the forest at Stoneham, a neighbouring town within the greater Quebec Metropolitan Area; for the theme of the growing urban population, we chose a particularly busy street intersection in the lower city; for the theme of Quebec's water dependence, we chose the Parc de la Plage Jacques Cartier, from where one can hear cargo ships and seagulls; for the theme of tourism, we chose a recording of a summer music festival concert at the Plains of Abraham. The Plains, as it is affectionately called, is a large city park considered fundamental to Quebec's identity, both for its geographical importance, spanning a large part of the city's waterline, and for its symbolic significance as the site of clashes between the British and the French that ultimately led to the occupation of Quebec by the British. Recalling this location in sound also has the potential to recall the place's prior cultural and symbolic associations, lending layers of cultural meaning to the noises of the installation.

There were other sounds, however, that had been identified as central to Quebec's culture that were specific to certain seasons and could not be immediately recorded, such as the spring sugar shack festival, and the winter snow removal trucks. Just as noise and place share an intimate relationship, so, too, do noise and time—of which one becomes keenly aware while waiting for seasonal environmental noises to appear. Sounds may be thus heard "as time of day [or] season of year" (Feld 2001: n.p.).

Once the recordings were made, the sounds were organized into categories: sounds of water, sounds of the forest and sounds of the city. No limits were placed on the themes; a water sound could mean anything from the tides of the St. Lawrence River to a fountain in a city square. Within each theme, we also aimed for a diversity of timbres, or tone colours. Through the breadth of our cultural themes and the variety of recording locations, we were able to present visitors with a broad sonic palette of Quebec. This systematic approach to collecting sounds fostered a more objective attitude toward noise and resulted in a more comprehensive sonic portrait.

In addition, we had to consider how we were going to sonically represent the sites within the confined four-storey interior rampway of our installation space. We divided the space into listening zones comprising two to four speakers playing sounds linked by a common theme (Fig. 4). The listening zones (indicated by dashed lines in the figure) sometimes spanned two levels, to provide an immersive experience—just as in our quotidian soundscape, in which sounds come from all directions. Because the installation was going to make use of a multi-speaker sound system, we made our field recordings using a surround microphone: one that records from multiple directions simultaneously (Fig. 5). This way, we could independently control in our installation from which direction sounds emanated as well as their volume levels, in order to reproduce a site as it was heard or to creatively alter it as desired. The following sounds were ultimately selected to form the portrait:

- live music at a sugar shack festival (a traditional annual Quebec celebration of the maple syrup harvest)
- pop music concert heard in the distance on the Plains of Abraham (an historic park in Quebec)
- local rock band (Leafer) rehearsing in an apartment as heard through an open window from the street below
- traffic noises at a busy intersection in Quebec's Lower Town
- treading on dry leaves in a local forest
- sounds of a brook in a local forest
- tides at the Parc de la Plage-Jacques-Cartier
- animal sounds captured at an outdoor zoo
- deforestation machinery heard in the distance in a local forest
- snow removal trucks working in the middle of the night in Quebec's Upper Town

Fig. 5
Making field recordings with a surround microphone in a local forest near Québec City, taken 2012.

seagull cries at the Parc de la Plage-Jacques-Cartier

ambient noise in the Galeries de la Capitale (the largest indoor amusement park and shopping complex in the province of Quebec)

church bells from several churches around the Upper and Lower Towns

passing boats on the St. Lawrence river

The sounds were not labelled, though a poster at the entrance mentioned a few of them (the Parc de la Plage-Jacques-Cartier, Galeries de la Capitale, church bells from the St-Jean Baptiste church). The linear path of the installation enabled us to arrange the space into a kind of sonic narrative: Quebec's natural environment, a highly valued facet of its cultural identity, served as the opening and closing theme heard on both the first and fourth levels of the installation. Quebec's proximity to nature is often used to maintain the perception of it as a small town not too far removed from nature. The city's own official tourism site plays into this common trope, referring to "natural splendours, just minutes from town" (www.quebecregion.com/en). Despite this perception, the city's population is growing at its fastest rate in almost two decades,[13] and construction is underway throughout the city and its environs. As Quebec changes, so, too, do its noises.

The gradual process of these changes was mimicked in the design of the installation. The deforestation sounds, for example, were on the third level, so that as visitors proceeded through the installation, the noises were gradually integrated into the more "pristine" natural soundscape. This could also be understood as representing the forest's proximity to the city. At the same time, the deforestation sounds were played from a different level than the forest sounds, so as to sound distant, just as we had experienced them at the site. The design of the installation also helped to pace visitors' aural experience: the lengthwise paths—those that took the most time to traverse—consisted of outdoor sounds (the forest, the waterfront, animals), while the turns in the ramp introduced either indoor sounds or sounds that are typically considered more noise-like (the interior of a shopping mall, snow plow trucks, etc.). This way, noises entered the soundscape gradually and in measured doses. To reinforce the idea that all the sounds—not only the more pleasant ones—form part of Quebec's ICH, two speakers at the entrance played a looped sequence of sounds representing all of the themes. Similarly, at the top of the installation, an array of sixteen small speakers played all the sounds of the installation together as a microcosmic soundscape of Quebec.

While many of the sounds are not associable with a specific place, some are immediately recognizable, such as the lively accordion songs traditionally played at a sugar shack or the interior of the Galeries de la Capitale, whose indoor amusement park rides carry identifying musical themes and sounds. For someone who is familiar with them, these sounds would recall not only that particular place, but even a specific ride, or perhaps a memory of having visited the park. The same can be said for the church bells; for members of the local community who recognize the different timbres and melodies of the bells among the different churches around the city, each sound is a marker of a place, a kind of sonic parish. Historian Alain Corbin discusses how bells in 19th-century France "helped create

a territorial identity for individuals living always in range" of their sound (Corbin 1998: 95). He goes on to write that "the Angelus was rung at different times in summer and winter [in order to] tie the length of the working day to that of the actual day" (115). The bells thus marked season as well as space. In Quebec, certain church bells play melodies in anticipation of the Christmas season, while others remain unchanged. Locals who are aware of this would be able to know both the parish and the season *through their sounds*. Noise can thus convey both temporal and spatial information. It should be mentioned that bell sounds skirt the line between music and noise, as they contain frequencies that are considered harmonic, or musical, as well as noise-like, or aleatoric (Samolov 2010: 82). This helps to explain why a simple chime may be perceived as noise, while a carillon may be perceived as music.

For a newcomer to Quebec, the sound of a snow plow grating the asphalt past one's window in the middle of the night is far from endearing. To my foreign ears, it constitutes noise in the most common sense of the term: unwanted, intrusive, and interfering. For locals, however, I learned that these noises were capable of other associations; my students didn't find the noise of snow removal trucks as disturbing as I did, and one colleague described it as giving him feelings of security and even comfort. This illustrates how interpretation of noise is culturally dependent: members of one community can perceive it differently from—even opposite to—members of another. In addition, one must be familiar with life in a snowy climate to recognize this particular sound; otherwise, its associations would be lost. For members of the local community, however, it serves as a sound mark, signifying, among other things, their adaptation to the snowy climate of their city, and that the city is "taking care" of them by making the streets safer for travel. At the social level, then, these sounds can potentially carry a sense of collective pride.

The musical field recordings in our installation, it should be emphasized, were recorded not as performances, but rather as sounds heard in passing, as part of a larger environmental soundscape. The sugar shack music, for example, contains the sounds of people bustling through the crowded space of the dining room, plates and glasses clinking, and laughter; the pop music concert in the park is heard from a distance, along with the wind, the crowd and other noises of the park; the field recording of the local rock band is not a performance, but a rehearsal, and the visitor hears from the perspective of an accidental eavesdropper who catches snippets of songs and conversations that take part among the band members. Each of these sounds derives its identity and multifarious powers of association both from the musical and noise elements it comprises.

Observations

Taken collectively, all of these sounds coalesce into a portrait of Quebec that highlights its traditions, natural heritage, industry, culture, and challenges going forward. Its changing history is told through the sounds of its celebrations, from its older traditions such as a sugar shack, to its modern ones such as a pop music concert in the park. Quebec's religious culture is heard through the sounds of its church bells, whose sheer variety is also testimony to the important role the church has played in the development of the city. To members of the community who have had the opportunity to witness Quebec's development over time, the sounds of traffic, both automotive and human (such as in the Galeries de la Capitale mall), or of boats along the St. Lawrence river, attest to Quebec's demographic, economic, and industrial growth, as well as to the sonic consequences of that growth. That same growth is responsible for the sounds of deforestation that offset the tranquility of a running brook and the solitude of footsteps through the leaves in the forest. It is precisely in the interpretation of these sounds that the "potential to enrich the experience and understanding of heritage" resides (Affleck and Kvan 2008: 270). By featuring not only the more traditionally recognized cultural sounds of the city, such as its sugar shack celebration or its church bells, but also the noises of its demographic and industrial growth, such as its busy traffic or the buzz of its deforestation machines amidst its bucolic "splendours," the installation created a dialogue between noise and ICH; it offered an opportunity for visitors to reflect not only the value of culturally established sounds, but also on the value of the noises that make up the city soundscape.

Having gone through the effort to collect a wide variety of sounds, we were curious to see if, in our visitor feedback, people felt our sonic portrait of Quebec was inclusive enough. As it turned out, notwithstanding the limited data we received, feedback was encouraging; in response to our survey question, "What do you believe this installation is trying to achieve?" two people directly stated that the installation succeeded in representing the sounds of the city: 1. "It was a good representation of the sonic components of the city; and 2. "It paints a nice portrait of the city with its different soundscapes." A third person seemed to indicate that she/he became more aware of the sounds of the city as a result of her/his experience: "The city has a varied sound profile, from nature sounds to machine noises, passing through the music." A fourth respondent noted a sense of lightness, elevation, and a slightly disorienting change of scenery.

Another important aspect of the installation was its interactivity. To provide a more engaging experience for visitors, we chose to "enable both interactions with content and with other users" (Affleck and Kvan 2008: 269) through a series of motion detectors throughout the installation that reacted to visitors' movements by using software filters to subtly modify the volume and/or tone colour of the sounds heard in a variety of ways. By mapping the input from one motion detector to a more distant speaker, the effects of a visitor's movement in one area of the installation could be heard by someone in another area, making their aural experiences interdependent. In these cases, the two areas were not so far apart that a visitor listening attentively could not hear the effects of her/his movements in the distance. Occasionally, two people would position themselves in different spots such that one could hear the sonic effect caused by the other's movement. This was especially noticeable on the second level, where the sounds of passing boats and seagulls in the middle of the pathway were altered not only by the visitor closest to that speaker, but also by someone rounding the preceding corner. That visitors could, through their bodily movement, affect their own and others' experiences of the place endowed them with a sense of shared agency in relation to the sounds heard, what Affleck and Kvan call a "discursive approach to cultural heritage" (Affleck and Kvan 2008: 269).

Through the installation, we sought to preserve heritage not by forging links to the past, but by reconceptualizing links with the present through a mediated, embodied, interactive experience. Just as antiquarians would piece together eclectic sources from both fact and fiction in order to allow the past to "to manifest itself ... in its traces, through practices and performances" (Shanks 2006: n.p.), we sought to allow the present to manifest itself through its varied sounds filtered and recombined in a virtual and interactive soundscape. Visitors to the installation heard a current and inclusive sonic portrait of Quebec that comprised not just its music, but its noise. Our purpose was to create what Giaccardi and Palen call a "socio-technical infrastructure," or the use of multiple media and technologies to offer visitors "new ways of exploring and articulating ... [their relationship] with the physical and social settings" of their heritage (Giaccardi and Palen 2008: 281-82). These technologies provide the potential to forge new relations to places and to create new virtual places. They do so not only through enhancing methods of cultural transference, but also through elaborating new models of assigning value to heritage. The ability to collect and reproduce several soundscapes in a common interior space has several potential ramifications for how visitors interact with the sounds of their city: first, visitors could explore, in a single stroll, multiple sites' soundscapes in an intimate way, giving them access to a broader variety of sounds—some of which they may not normally hear in their quotidian routines; second, the installation encouraged a more attentive listening, due to the sounds being framed as a sound portrait of their own city; lastly, by soliciting visitor feedback through a survey about their experience, the installation encouraged reflection on the value of the sounds as they relate to Quebec's ICH.

These interactions constitute new "structures of conversation" between the community and its "physical and social settings" in order to promote heritage (Giaccardi and Palen 2008: 284). Through a focused attention on the sonic qualities of these places, people come to know them in a new and more profound way, such that the places "become significant," and "no longer natural but also cultural" (283). Further, if one accepts that our kinaesthetic sense can play "a

central role in integrating all the senses" (Foster 2013: 51), then the interactive element can be understood as encouraging a more profound exploration of, and potentially deeper connection to, the soundscape through their bodily movement. These novel means of accessing sounds permit a heightened and aestheticized experience with noise as cultural heritage.

At the same time, we were keenly aware that however accurate or interesting a sonic representation is it cannot replace a living soundscape, as it were. Rather than aspire to recreating the reality of a place, the installation was a heavily mediated portrait, one whose value lies in what it can impart to a new way to engage with a place through its noises, its sounds. By offering visitors an opportunity to listen to the noise of their city framed in a culturally meaningful encounter, the installation promoted an engagement with noise as ICH. There was, in fact, not one portrait, but many portraits, as each visitor's interactions with the sounds resulted in a unique sonic representation of familiar places around Quebec. The installation, along with its feedback survey, preserves a collective memory of Quebec, as much through the sounds as through the personal memories and associations those sounds recalled for visitors. In this regard, it "transforms its audience—the local community—into active heritage," while serving as a focal point around which members of the community could interact with and negotiate their own meanings to create heritage (Giaccardi and Palen 2008: 284).

Questions of authenticity may nonetheless be raised in the context of so much technologically mediated reproduction, whether of places, sounds or experience itself, due to motion sensors altering each visitor's individual experience. Our pilot project did not seek to quantify the degree to which visitors' perceptions of the noises changed as a result of their experience. In other words, there are still links that need to be explored between actuality and virtuality when using new technologies in ICH, especially with regard to the intimate relationship that sound and place share, and how it can help bridge the tangible-intangible cultural heritage divide. It should likewise be pointed out that technological mediation does not equate to inauthenticity when it comes to ICH, Although the kind of access to cultural heritage that digital technologies offer, whether tangible or intangible, seems substantively different from experiencing those same objects or practices directly, it may be possible to evoke in visitors the same or similar qualitative responses to a simulated environment as to an actual environment, something that Davies et al. call "ecological validity" (Davies et al. 2013: 230). This suggests that new technologies can be an effective means of transmitting and preserving ICH.

The use of new technologies in ICH also raises questions regarding definitions of "community," which is not defined in UNESCO's 2003 convention. For example, when a heritage practitioner creates an online sound map of a distant place she/he has never visited, is it equally as valid an instance of ICH as a sound map created by members of the community in question? According to UNESCO, one must be part of the community to be endowed with the right to decide which sounds constitute ICH for that community. How, then, can someone with no physical connection to a geographical region and/or people claim membership in that community? It is helpful to think of communities as "networks of people" with a shared "sense of identity or connectedness," rather than as people inhabiting a particular place (ACCU 2006: 5). While this is obviously a question beyond the scope of this paper, it highlights another of the challenges in using new technologies for ICH.

When one visitor's movements in the installation can affect another person's aural experience; it becomes difficult to distinguish between shared experience and personal experience. It is also challenging to locate the agency in these kinds of interactive experiences, or to know in more detail if and how people perceived a sense of place in the installation. There is a constant tension between space and place, since sonic portrayals of places, and all their attendant noises, involve transplanting them to a different space with its own sonic and spatial characteristics. This mobility and ephemerality of place is uniquely characteristic of today's technologized and globalized climate.

Conclusion

We are at the junction of three larger societal trends: 1. a profound integration of technologies in our daily lives and even in our selves; 2. a growing emphasis on the intangible aspects of heritage and tradition; and, according to Harrison, 3. an

exponential growth in what can be considered heritage (2013: 6,13). New technologies enable and foster the kinds of far-reaching networks of knowledge and participation that have the capacity to draw more and more people, places, and objects into powerful nexuses of meaning and heritage. And what are we to make of the noises that constitute a city? They, too, are being more commonly recognized as part of its cultural fabric, and it is due, in large part, to the possibilities of new media that this intangible aspect of a city's heritage can be included at all. The sounds don't just re-present the places as abstractions, removed from human agency, either; they can re-create them for us anchored to specific moments in time or place in the same way that musical performances preserve and re-enact ICH. For example, our field-recording excerpt of the concert on the Plains of Abraham situates the sounds spatiotemporally for those who happen to recognize the artist or were present at the concert. There is also the sound of the Parc de la Plage-Jacques-Cartier, whose pedestrian and marine sounds will no doubt change over time, historically marking the demographics and geographics of the place.

By addressing noise in a sonic portrait of Quebec, our installation sought to encourage reflection on noise's role in the identity of Quebec City. While the project's modest resources and limited visitor feedback preclude an objective assessment of its success or failure, it can nonetheless serve as an example of one way in which noise may be brought into a dialogue with ICH. In our visual-centric society, we are often unaware of the degree to which the noises of our environment are imbued with cultural meaning. The sounds of the sugar shack in our installation, for example, convey meanings and memories that are both personal and shared. For members of the community, they recall countless annual excursions during springtime with family and friends, a culinary menu everyone knows by heart, and festive music, all of which binds the community through food, song and dance. The sounds of the sugar shack also speak to larger cultural themes that are part of the community's shared history and traditions, such as celebrating the passing of maple harvesting knowledge from the natives to the French settlers, and, more recently, the important role maple trees play in geographically defining Quebec and marking it as the world's largest producer of maple syrup[14]—a point of pride among Québécois.

Such layers of meaning can be ascribed to all the sounds in the installation. By juxtaposing these culturally familiar environmental sounds in the context of an immersive sound installation, we aimed to focus visitors' attention on the sounds themselves as vehicles of meaning and values, i.e., of heritage. A future project would have to take into account the "highly cultural" nature of visitor responses to the soundscape (Dubois, Guastavino, Raimbault 2006: 865). More specifically, visitors' evaluations of a soundscape are both individual, based on their own sensory experience, as well as collective, determined by their membership in a particular community and the shared values of that community with regard to the sounds in question (869). This explains why, as mentioned earlier, the sound of a snow plow could be perceived differently by the author than by local community members, based on feelings of pride that transcend any disturbing physical features of the sounds themselves. The difference between sound (including music) and noise, then, can be thought of as "essentially an emotional one" (Davies et al. 2013: 230).

Even before opening, however, the installation had begun accomplishing its objectives of recasting noise as "sound," as evidenced in the student's field notes. This suggests that the activities leading up to the creation of the installation (reflecting on the soundscape of one's environment, collecting sounds, categorizing them, etc.) have the potential to change how one thinks about noise. If practising cultural heritage is "an activity with a purpose—a question for identity" (Esborg 2012: 77), then the process of selecting and making the field recordings that represent Quebec may be considered a new form of practising of cultural heritage. Similarly, visitors to the installation showed an appreciation both for the musical sounds as well as the noises of Quebec, although it is less clear whether that appreciation was based on a genuine change in perspective about noise, or on a more nationalistic pride in the sonic portrait as a homage to Quebec. That our installation was framed as a sonic portrait—that is, as a celebration of Quebec's diverse soundscapes—certainly suggests that the latter may have played a role in the acceptance of noise

as a pleasant part of Quebec's cultural heritage. It would be interesting to have the opportunity in a future study to excise the portrait aspect of the project and focus instead on the perception of different sounds and their relative importance in Quebec's ICH. A different portrait would likely emerge.

As Quebec grows, one wonders whether its urban population will develop a different auditory culture from the more rural areas of the Quebec Metropolitan Area. There is evidence that people tend to perceive soundscapes "reflecting human activity" as more pleasant than those «where mechanical sounds were predominant» (Dubois, Guastavino, and Raimbault 2013: 865). Any of the above-mentioned factors in Quebec's growth (industrial, economic, demographic) could influence which sounds resonate, in a nationalistic way or otherwise, among the community, whether bustling sounds of a boardwalk in the city or of a brook in the country—both may be noise, but their acceptance as ICH may depend more on who is surveyed than on the noises themselves.

Celebrating the sounds of Quebec City wasn't the only objective, however. The installation also sought to provide ways of relating to places through their sounds that brought to the forefront issues surrounding noise in society. More research is necessary in order to better judge the installation's efficacy in this regard, including a more developed visitor evaluation system that includes questions targeting visitors' perceptions of the sounds, and a more systematic study of how the interactive element plays a role in visitors' experience of the sounds. These are a few of the questions that will guide a new project currently underway with the Musées de la Civilisation to create an installation based on *Filtres* that will take place at the museum. In addition to on-site iPad surveys, it will include post-visit interactive online activities that gauge, over time, how visitors' perceptions of ICH change as a result of their experience at the installation.

Given that "identifying," "promotion," and "enhancement" (UNESCO 2011: 8) are all ways to safeguard ICH, then we can relate these to the project's multiple objectives: identifying culturally significant sounds for the community; promoting those sounds as ICH among the community; and enhancing the transmission of ICH through an interactive installation (sonically constructed from real places already recognized as part of their own tangible cultural heritage). In our visitor feedback, the installation also showed promise as a means of raising awareness of the role that noise can play in ICH. From this history of organized sounds, new instrumental techniques and focused attention on soundscapes, one finds ample support for accepting noise into ICH, if not for the mere fact that it is already present in current practices. Today, there are whole musical genres, such as noise music, industrial music, and lo-fi(delity) music, dedicated to the inclusion of noise as a creative element. In experiencing sound installations, *musique concrète*, or other forms of organized sounds, it is worth reminding ourselves that one of the fundamental goals of drawing our attention to the world of sound is for its inherent value to be recognized. Once recognized, we will be in a better position to make decisions about the future of our own sonic environment.

Notes

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1. Unless otherwise specified, the scope of this article will be confined to Western music, by which is understood the musical heritage from Europe that made its way primarily to North America and other Anglophone countries.
2. An interval is the distance between two musical notes.
3. See http://www.soundwalk.com/#/ABOUT/
4. See http://soundwalkcollective.com/index.php?/ulysses-syndrome/
5. See http://parisapps.paris.fr/content/soundwalk-0.
6. For the London soundmap see http://www.soundsurvey.org.uk/index.php/survey/soundmaps/ ; New York, http://www.soundseeker.org/ ; Montréal, http://www.Montréalsoundmap.com/?lang=fr ; Belfast, http://www.belfastsoundmap.org/ ; Toronto, http://torontosoundmap.com/index.php ; Barcelona, http://barcelona.

freesound.org/ ; Seoul, http://som.saii.or.kr/campaign.

7. For more information about the Berlin Wall of Sound project, see: http://www.netaudioberlin.de/berlin-wall-of-sound/.
8. For the New Zealand soundmap see: http://soundmap.co.nz/ ; for the U.K. soundmap see: http://sounds.bl.uk/sound-maps/uk-soundmap
9. See http://www.naturesoundmap.com/about-the-project/.
10. See http://www.mexicoescultura.com/actividad/41191/M%C3%A9xico%20suena%20as%C3%AD....html#.UvnlYl45hjp.
11. See http://www.transcript-verlag.de/978-3-8376-2179-2/soundscapes-of-the-urban-past.
12. In this article, Quebec refers to Quebec City, unless otherwise noted.
13. Based on a 2013 study from the Institute de la statistique du Québec, the population of Quebec grew at an annual rate of 2.8 per cent from 1996-2001, 4.5 per cent from 2001-2006, and 8.5 per cent from 2006-2012 (the most recent year for which figures are reported).
14. See http://www.maplesyrupworld.com/pages/Top-Regions-Producers-of-Maple-Syrup.html.

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