10 Other Voices: Acoustic Ecology and Urban Soundscapes

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> Now I will do nothing but listen,
> To accrue what I hear into this song, to let sounds contribute toward it.
> I hear bravuras of birds, bustle of growing wheat, gossip of flames,
> clack of sticks cooking my meals,
> I hear the sound I love, the sound of the human voice,
> I hear all sounds running together, combined, fused or following,
> Sounds of the city and sounds out of the city, sounds of the day and night[1]
>
> – Walt Whitman, 'Song of Myself'

In an age characterized by its restless activity, relentless productivity, and unprecedented volume, it may seem quaint or idealistic to advocate a slower pace of life and the development of one's capacity to listen sensitively, rather than speak forcefully. Yet, this is perhaps the fundamental ethical message of environmentalism – to stop and listen to the world around us, and to respond to the imperative for change that can be heard beneath the surface noise of our present existence. Surely, in order to live a life that is socially and ecologically responsible, we must begin by learning to listen to the other voices that surround us. I am referring not to the familiar drone and chatter of our dominant speakers, with their loudspeakers, satellites, and sound bites, but to the voices of those others, human and non-human, who are marginalized, neglected, and poisoned by socially and ecologically harmful practices. Mindful listening, then, is not simply an aesthetic practice that brings us closer to our surroundings, but an ethical practice that allows the voice of the other to speak to us without interruption, to provoke a genuine response in us.

The aesthetic and ethical dimensions of listening are pervasive themes in acoustic ecology, a relatively obscure field of study initiated by the Canadian composer R. Murray Schafer in the early 1970s. Acoustic ecology explores the relationships between sound, environment, and society primarily from a phenomenological perspective, drawing our attention to the ways in which the acoustic environment or 'soundscape' shapes our experiences and understanding of the world. There are strong parallels between acoustic ecology and the field of environmental phenomenology that has been built upon the philosophical foundations laid by Martin Heidegger, among others. Both acoustic ecology and environmental phenomenology recognize a mutual interdependence between human experience and the surrounding environment, demonstrating how self and world interpenetrate one another. Both fields also provide a critique of modern society, undermining the dominant view of environment as material resource and commodity. Schafer shares Heidegger's concern about the radically individualistic and anthropocentric values of the modern world. His work can also be seen as an attempt to provoke a critical rethinking of the relationship between humanity and technology. In his essay 'Radical Radio,' Schafer describes his position in terms that clearly evoke the spirit of the Heideggerean critique: 'Let the phenomena of the world speak for themselves, in their own time, without the human always at the centre, twisting, exploiting and misusing the events of the world for private advantage.'[2]

Particularly in this critical mode, acoustic ecology and environmental phenomenology have both tended to emphasize the positive qualities of wilderness spaces and rural environments, while representing urban environments as manifestations of the negative qualities associated with industrialization, mechanization, and modernity. Schafer, for example, places particular emphasis on the ways in which urban environments encourage a loss of connection with the non-human world, silencing non-human voices beneath the din of modern technology. This anti-urban view can of course be found within much environmental thought and writing, but is increasingly being challenged by volumes such as this one that urge us to consider urbanization as the product of interdependent social and biophysical processes rather than as the antithesis of nature. In the pages that follow, I argue that acoustic ecology opens up new avenues for understanding the city as a socio-ecological hybrid, provided that we think beyond the divisions between culture and nature suggested by some of the more influential writings on this subject.

The Musicality of the World and the Noise of the City

During the late 1960s, concerned by what he perceived as a growing insensitivity to sound, accompanied by the proliferation of loud, obtrusive forms of technology, R. Murray Schafer began studying and writing about noise pollution within the broader context of the relationship between sound and society.[3] In the effort to promote greater public sensitivity to this issue, he proposed that we consider our acoustic environment or 'soundscape' as a musical composition to which we necessarily contribute and for which we must take responsibility. His writings on 'soundscape analysis' propose various methods for studying the perceptual and symbolic qualities of acoustic phenomena. This initial work led to the formation of the World Soundscape Project at Simon Fraser University, where Schafer was employed as a professor of communications studies. In collaboration with a group of his colleagues and students, Schafer began to conduct a detailed study of acoustic environments within the city of Vancouver, the results of which were documented with a booklet and two vinyl recordings in 1973.[4] This study, the first of its kind, has inspired numerous other soundscape projects over the last decades, ranging from strict documentation of a given environment to more artistic endeavours that use location recordings as inspiration and source material.

Based on this project, along with related sound studies in Canada and Europe, Schafer and company developed the notion of 'soundscape design,' calling upon 'scientists, social scientists and artists' to assist in the development of principles and techniques that could improve 'the social, psychological and aesthetic quality of the acoustic environment.'[5] Schafer championed this cause in his influential book *The Tuning of the World*, which explores the relationship between sound and society throughout history, focusing particularly upon the contrasting features of pre-industrial and post-industrial soundscapes.[6] His writing illuminates the link between the acoustic environment and personal and cultural identity, making use of numerous examples and anecdotes from the past and present. Within this text, Schafer also introduced a new terminology that had been developed during the World Soundscape Project, allowing one to more accurately distinguish and classify sounds on the basis of their prominence, frequency, and significance within a given soundscape. For example, 'soundmarks' refer to unique sounds that characterize a particular community, while 'keynotes' designate the dominant background sounds that often go unnoticed, such

as the sounds of automobile traffic and computer systems within the modern city.

The Tuning of the World draws our attention to the dominance of the visual modality within modern culture, engaging in a critique of our fascination with speed, power, and the visually spectacular. Schafer describes 'visual culture' as a society obsessed by the desire to discover the unseen and expose the concealed, engaging in a relentless search for knowledge and control in the name of human progress. The fetishism of the visual and the gradual deterioration of our ability to listen to our surroundings are linked in his writing with urban environments, evoking a familiar critique of cities as places that encourage individuation and estrangement from the non-human world. Schafer suggests that the cluttered 'lo-fi' quality of the modern urban soundscape reflects and promotes insensitivity to one's surroundings and the natural rhythms of life. Whereas the 'hi-fi' soundscape of natural and rural areas is said to be characterized by its depth, clarity, and balance, allowing each sound to be heard distinctly, the urban soundscape is dominated by the monotonous, low-frequency sounds of modern technology, creating a 'sound wall' in which individual sounds are often distorted or obscured entirely. Schafer argues that this shrinkage of the individual's range of hearing and the blurring of distinct sounds into a narrow frequency range diminishes one's sensitivity to one's surrounding environment. In the 'hi-fi' soundscape, one's sense of place is shaped by aural information about the environment; this information can be heard over a great distance. However, in the city, the constant presence of excessively loud sounds diminishes our capacity to distinguish individual sounds and the meanings they convey. Indeed, the average sound level of urban environments reportedly doubled from 1982 to 2002.[7] On a busy street, the roar of traffic may be so loud that we cannot even hear our own footsteps, let alone the voices of others around us. Schafer contends that this diminished sonic awareness contributes to the isolation and self-absorption that he associates with urban life. In this environment, ambient sound easily becomes 'noise,' a meaningless irritant to be blocked out by earplugs or personal stereos.

Complementary to the ecologist's efforts to preserve and restore the biodiversity of ecosystems, the acoustic ecologist advocates the preservation and restoration of diverse and informative acoustic environments. Encouraging the development of greater sensitivity to the sounds around us, acoustic ecology aims to foster a deeper awareness of the social and psychological significance of sound. To this end,

Schafer and others have suggested various 'ear cleaning' techniques designed to develop one's listening skills.[8] The most simple of these is to take a walk with the mouth closed and the mind still, focusing exclusively upon the sounds that one hears. A notebook and tape recorder are often used to document the 'soundwalk,' so that one can later analyse the context and significance of the sounds. This can be a surprisingly revealing experience because, when one listens carefully and attentively, one begins to notice the presence and complexity of sounds that were previously taken for granted. This practice of 'deep listening'[9] provides the foundation for a number of contemporary artists who use sound recordings as raw material, creating audio compositions that explore the aesthetic and social significance of acoustic space.

Schafer notes that sound is increasingly used to consciously shape the atmosphere of private and public spaces in the city, from the living room to the waiting room. We are now able to amplify and broadcast subtle sounds across massive distances, and digital recording and production technology allows us to radically modify and recombine sounds with increasing sophistication. During the past century, the distinctions between music and environmental sound have blurred, leading to the discovery of the musicality of ambient sound, the recognition of music as an inherently spatial art form, and the conception of music-as-environment. Schafer argues that music now often serves as an acoustic backdrop for urban life, an ever-present accompaniment to our everyday routines, whereas, in the past, music was used to designate a break in that routine, such as a celebration or ceremony. While driving and working, we listen to music and news on the radio. While shopping, we are surrounded by the syrupy strains of Muzak. While relaxing, we immerse ourselves in the sounds of the dance club, the concert hall, the cinema, or the home theatre. Schafer claims that sound often functions as an 'audioanalgesic' in the modern city, preventing the relative stillness that is necessary for reflection.[10] In a world of constant activity and noise, silence is frequently associated with boredom and disconnection from life, while the dissociating effects of modern technology, exemplified by the virtual worlds of the television and the computer, are often overlooked or ignored. Schafer and others argue that the undynamic and excessive soundscape of urban life encourages a fear of silence – or, rather, a fear of the other voices, the buried dreams and desires, that may arise in moments of silence.

Soundscape studies demonstrate how the unique character or atmosphere of a place, be it a suburban home, a city street, or a rural marsh, is

greatly determined by acoustic phenomena. Sound orients us in space, reflecting and revealing to us the physical and social features of the surrounding environment. We also know that sound is implicated in the basic functioning of the body, contributing to our sense of balance and constituting the perceptual 'ground' of conscious awareness. Indeed, the world disclosed to us through hearing is very different from that which is given to us by the eye. Visual awareness extends forward, in one direction, revealing a world of independent objects with clearly discernible boundaries, the majority of which are stable and persistent. Visual space is thus easily divided, measured, and represented. In contrast, aural awareness reveals a world of dynamic, transient, and indeterminate events that surround the listener, endlessly moving into and out of existence from a multitude of directions. The aural world is a world in flux – omnidirectional, unbounded, and difficult to divide, measure, or represent. Schafer contends,

> The territorial conquest of space by sound is the expression of visual rather than aural thinking. Sound is then used to demark property like a fence or wall … Not only does the notion of bounded shape give us our physical sciences (which are concerned with weights and measures), but it also contributes to the establishment of private property and by extension to the private diary and the private bank account. Once the bounding line becomes a strong perceptual distinction, the whole world begins to take on the appearance of a succession of spaces waiting to be filled with subjects or shattered by vectors.[11]

'Aural culture,' according to Schafer, is characterized by cooperation rather than competition, displaying a general lack of concern for the accumulation of personal wealth, and related notions of progress and development. Schafer suggests that genuine listening, particularly within a 'visual culture' such as ours, can foster a more receptive attitude to the world that is free of the desire to impose absolute boundaries, be they conceptual or physical, upon the phenomena of one's experience. For the acoustic ecologist, mindful listening can be an act of engagement with the world that temporarily suspends the boundaries between the self and the other, the perceiver and the perceived. Listening becomes a metaphor for thinking, representing a more inclusive and respectful awareness of the world. To listen attentively, one must be silent, stilling the voice and the chatter of the mind in order to allow other voices to speak.

These ideas have provided inspiration for many sound artists who have put them into practice by documenting various acoustic environments and/or using location recordings to create sound compositions that aim to convey a sense of place or raise questions about the relationship between place, identity, and environment. Sound artist Hildegaard Westerkamp, another prominent participant in the World Soundscape Project, regards this process of listening, recording, and composing with environmental sound as a means of exploring, articulating, and celebrating the unique characteristics of a place. She maintains that the responsible sound artist is one who is mindful of the original context of her recordings, preserving this context in an exploration of the sounds and their personal, social, and/or environmental significance. The creation of soundscape compositions, based upon the phenomenological study of a particular locality, is understood as an artistic practice that can deepen our understanding and appreciation of our surroundings. For Westerkamp, this is a way of resisting the cultural homogenization brought about by economic globalization, which threatens to efface our 'sense of place' – our sense of belonging to a place that is grounded in the unique features and relationships within our environment.[12] Like poetry, this approach to sound art aims to provoke the development of greater sensitivity to one's surroundings, uncovering the beauty and complexity of the familiar. Listening and composing with sound can become a form of poetic expression that draws us nearer, in the sense of concerned and meaningful involvement, to the local environment.

Acoustic Ecology and Urban Environments

Barry Truax, one of the original members of the World Soundscape Project, describes the mediating role that sound plays between the individual and the environment as a process of 'acoustic communication' – an 'information exchange' in which our awareness of and orientation to our surroundings are shaped by the soundscape, just as we in turn shape that acoustic environment through our daily activities.[13] By exploring the unique manner in which sound contributes to our personal and cultural sense of identity, we can provide a more comprehensive account of the reciprocity between human existence and environment. This recognition of the significance of sound, and the complexity of contextual meaning that it conveys, draws our attention to the visual bias of environmental studies, encouraging geographers, urban plan-

ners, and ecologists alike to consider sound as an integral component of both natural and built environments.

Beyond this descriptive moment, acoustic ecology also advocates the preservation and improvement of soundscapes. Unique acoustic phenomena that contribute to the particular character of a place must be preserved if its inhabitants wish to preserve that character. This preservation requires that much more thought be given to dramatic changes in the acoustic environment, and encourages including the public in the making of such decisions. Similarly, acoustic ecology promotes the improvement of the local soundscape, asking us to look beyond the question of mere noise abatement when considering the acoustic qualities of the built environment. Rather than simply attempting to block out the unwanted 'noise' of the urban environment, we should consider ways in which to enhance our acoustic spaces, actively working towards the creation of more diverse, informative, and harmonious soundscapes. Again, such considerations must be based upon the knowledge of how members of the local community perceive their acoustic environments, determining which sounds they find pleasing or otherwise significant.

Within the realm of urban environmental planning and policy, the impact of the ideas introduced by acoustic ecology has largely been confined to noise abatement measures. Indeed, noise-level standards have been set in many cities, and noise abatement has become an essential part of large-scale infrastructure and development project planning, particularly for roadways and airports. These efforts are supported and encouraged by citizen organizations that are dedicated to limiting or eliminating the excessive 'noise pollution' generated by vehicles, outdoor appliances, and stereos.

Another major focus in acoustic ecology has been the recording and preservation of endangered sounds, including the sounds of threatened animal species, ecosystems, human settlements, and cultures. More recently, there has been a flourishing of new publications and events exploring the relationship between sound, space, and human behaviour.[14] However, the writings of Schafer and other advocates of acoustic ecology suggest a humanistic framework for urban design that goes further, foregrounding the need for public participation and cultural sensitivity in the *collective* recomposition of urban soundscapes. For acoustic ecology, what is at stake in the deterioration of the modern urban soundscape is nothing less than our very humanity. Schafer writes,

> When, as today, environmental sound reaches such proportions that human vocal sounds are masked or overwhelmed, we have produced an inhuman environment. When sounds are forced on the ear which may endanger it physically or debilitate it psychologically, we have produced an inhuman environment.[15]

How, then, might acoustic ecology contribute to the creation of more humane urban environments? I identify four avenues for inquiry and action here. First, acoustic ecology has much to contribute to the study of urban environments within more established disciplines, including urban geography, sociology, political science, and environmental studies. By encouraging consideration of the vital role that sound plays in shaping our understanding and use of urban environments, acoustic ecology can open up new lines of research in these fields and contribute to a more comprehensive understanding of urban space.

Recent work in urban political ecology seems particularly amenable to such considerations as it encourages us to view the city as a complex hybrid of interwoven social and biophysical relationships, produced through flows of matter, energy, ideas, money, and symbols.[16] This approach to urban research reveals the city as the product of interconnected networks or 'city-nature formations'[17] that extend beyond the familiar conceptual and physical boundaries of the urban. Thinking outside the limits of rigid categorical distinctions between society and nature, urban and rural, and global and local, cities appear as significant nodal points or concentrations in these networks rather than as distinct and discrete entities. Recent work in this field has explored the role that discursive and visual representations of urban nature play within conflicts over the course of urban development.[18] This approach could fruitfully be expanded to consider how contested processes of urbanization are influenced by the amplification or silencing of different voices: human and non-human.

Reciprocally, acoustic ecology would greatly benefit from a stronger engagement with social scientific research. As Henrik Karlsson has noted, this field has 'been dominated by aesthetic-artistic rather than social-scientific attitudes and this has impeded a development of theory and methodology.'[19] I believe that it is this focus on aesthetics, art, and ethics that makes acoustic ecology so compelling as a tool for exploring the relationship between place and identity, but agree with Karlsson that closer engagement with social science research on sound, space, and environment would greatly expand the horizons of acoustic ecology by

encouraging dialogue and debate over goals and methodologies. This would also open up some of the basic principles of the field, rooted in the writings of Schafer, to more critical scrutiny. How tenable, for example, is Schafer's distinction between hi-fi 'natural' soundscapes and the degraded lo-fi soundscapes of the city? Are these generalizations useful and can they be sustained in the light of analysis of the varying qualities of urban soundscapes, or more detailed analysis of the actual sound preferences of urban dwellers?

This brings me to a third avenue for acoustic ecology research and action – further inquiry into the sound environments that citizens value, why they value them, and how they are connected to particular place-based identities. From the early work of the World Soundscape Project, this has been a strong emphasis in acoustic ecology, but Schafer's categorical distinctions between hi-fi and lo-fi soundscapes have been unhelpful for interpreting the results of such studies, insofar as they presume that urban acoustic environments are inherently offensive and oppressive. Furthermore, there has been a tendency to focus on the elimination of unwanted noise within urban environments, rather than to identify and enhance valued sounds and acoustic qualities.

Finally, little attention has yet been paid to creating effective mechanisms for integrating public valuations of urban soundscapes into planning processes.[20] As Ursula Franklin has noted, we continue to witness the 'privatization of the soundscape' as the acoustic environments of public spaces remain outside the realm of democratic control. In Franklin's words,

> … the soundscape has become increasingly polluted by the private use of sound in the manipulative dimension of setting and programming moods and conditions. There is a desperate need to be aware of this, and to be aware of it in terms of the collectivity rather than only in terms of individual needs … Just as we feel we have the right to walk down the street without being physically assaulted by people, preferably without being visually assaulted by ugly outdoor advertising, we also have the right not to be assaulted by sound, and in particular, not to be assaulted by sound that is there solely for the purpose of profit.[21]

Franklin encourages us to recognize the urban soundscape as a crucial part of our environment, vital to the health and well-being of living things, and, as such, as something over which the public should have control. What is needed, then, is not only enhanced sensitivity to the

acoustic dimensions of urban life, but also effective means of collectively creating the kind of urban environments we desire and deserve. This is, of course, by no means a simple task, and forces acoustic ecology to engage more directly with timely debates over the theory and practice of democratic governance and environmental citizenship. Furthermore, as both Ursula Franklin and Henrik Karlsson suggest, it requires more serious consideration of the political and economic impediments to advancing democratic control over the urban soundscape and urban environments more broadly.

This brings us back to one of the most compelling aspects of acoustic ecology: its emphasis on listening to other voices. This ethics of listening is vital to the struggle to create more ecologically harmonious and socially just cities. Acoustic ecology has long advocated the need for urban life to open itself up to the non-human voices that are silenced or obscured by the solipsistic din of modern technologies. Numerous sound installations and recordings have pursued this theme, ranging from profound works that challenge our understanding of the boundaries between humanity and nature to the now ubiquitous cliché of ambient 'relaxation' soundtracks featuring the sounds of whales, birdsong, or babbling streams. More recently, sound artists have been exploring the interaction of human and non-human life within the city, and the blurring of boundaries between nature and culture, through sound. For example, *Buildings (New York)*, a recent work by the renowned sound artist Francisco Lopez, uses location recordings from the infrastructural networks of the city to create a sound world of seemingly organic origins, drawing attention to the biophysical processes that sustain the city while challenging conceptual divisions between nature and the urban, and between organic and synthetic. The Los Angeles–based artist collective Ultra-Red focuses attention on marginalized *human* voices, using location recordings from a wide variety of urban spaces, ranging from office buildings to sweatshops to large public protests, to explore themes of resistance to poverty, cultural and socio-economic exclusion, environmental injustice, and other forms of oppression within the contemporary city. Another example is provided by Darren Copeland's *Toronto Sound Mosaic*, which combines archival research, location recordings, and interviews with local citizens to create a socio-ecological history of the city in sound.

These kinds of projects point us towards an urban acoustic ecology that moves beyond the familiar and misguided division between natural perfection and urban degradation to consider the urban soundscape

as a space of potential for creating more equitable and sustainable cities. Combined with, but not subsumed by, a stronger engagement with relevant research in other fields of urban and environmental research, and a stronger commitment to the creation of positive urban soundscapes through community organizing and democratic participation, acoustic ecology has much to contribute as a tool for better understanding urbanization as a product of interconnected social and biophysical processes and as a means of raising public awareness and engaging citizens in reflection and action.

NOTES

1 R. Murray Schafer uses a modified version of this quote to introduce his most famous book, *The Tuning of the World* (New York: Alfred A. Knopf, 1977). I use it here to introduce an effort to reconsider and expand his approach to urban soundscapes.
2 R. Murray Schafer, 'Radical Radio,' in *Sound by Artists*, ed. Dan Lander and Micah Lexier (Toronto: Art Metropole, 1990), 214.
3 Schafer's early writings include *Ear Cleaning* (Toronto: Berandol Music, 1967), *The New Soundscape* (Vienna: Universal Editions, 1969), and *The Book of Noise* (Wellington, New Zealand: Price Milburn, 1970).
4 R. Murray Schafer, ed., *The Vancouver Soundscape* (Vancouver: ARC Publications, 1978).
5 Barry Truax, ed., *Handbook for Acoustic Ecology* (Vancouver: ARC Publications, 1978), 5.
6 Schafer, *The Tuning of the World*. This text was republished as *The Soundscape* (Rochester, NY: Destiny Books, 1994).
7 Detlev Ispen, 'The Urban Nightingale or Some Theoretical Considerations about Sound and Noise,' in *Soundscape Studies and Methods* (Helsinki: Finnish Society for Ethnomusicology, 2002).
8 In addition to *The Tuning of the World* and *Ear Cleaning*, see *A Sound Education: 100 Exercises in Listening and Sound* (Indian River, ON: Arcana Editions, 1992).
9 'Deep listening' is a phrase coined by composer Pauline Oliveros, whose theories of sound and 'sonic awareness' have much in common with acoustic ecology, albeit with a more explicit focus on ethics and spirituality.
10 Schafer, *The Tuning of the World*, 96.
11 R. Murray Schafer, 'Acoustic Space,' in *Dwelling, Place and Environment: Towards a Phenomenology of Person and World*, ed. David Seamon and Robert Mugerauer (Dordrecht, Netherlands: Martinus Nijhoff, 1985), 92.

12 Hildegard Westerkamp, 'The Local and Global Language of Environmental Sound,' paper presented at the 'Sound Escape' conference on acoustic ecology at Trent University, Peterborough, Ontario, Canada, 28 June–2 July 2000. This essay can be accessed from the website of the World Forum for Acoustic Ecology: http://interact.uoregon.edu/MediaLit/wfae/home/ (accessed 18 October 2008).
13 Barry Truax, *Acoustic Communication* (Norwood, NJ: Ablex Publishing. 1984).
14 See, for example, Steve Roden and Brandon LaBelle, *Site of Sound: Of Architecture and the Ear* (Santa Monica, CA: Smart Art Press, 1999); Peter Grueneisen, *Soundspace: Architecture for Sound and Vision* (Basel: Birkhauser, 2003); *In the Place of Sound: Architecture, Music, Acoustics*, ed. Colin Ripley, Marco Polo, and Arthur Wrigglesworth (Newcastle: Cambridge Scholars Publishing, 2007).
15 Schafer, *The Tuning of the World*, 207.
16 See, for example, Erik Swyngedouw, *Social Power and the Urbanization of Water: Flows of Power* (Oxford: Oxford University Press, 2004); Maria Kaika, *City of Flows: Nature, Modernity and the City* (New York: Routledge, 2005); and *In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism*, ed. Nik Heynen, Maria Kaika, and Erik Swyngedouw (London: Routledge, 2006).
17 Steve Hinchliffe, 'Cities and Natures: Intimate Strangers,' in *Unsettling Cities: Movement / Settlement*, ed. John Allen, Doreen Massey, and Don Pryke (London: Routledge/Open University, 1999).
18 See, for example, Matthew Gandy, *Concrete and Clay: Reworking Nature in New York* (Cambridge, MA: MIT Press, 2002); Gene Desfor and Roger Keil, *Nature and the City: Making Environmental Policy in Toronto and Los Angeles* (Tucson: University of Arizona Press, 2004); and Kaika, *City of Flows*.
19 Henrik Karlsson, 'The Acoustic Environment as a Public Domain,' *Soundscape: The Journal of Acoustic Ecology* 1, 2 (Winter 2000): 10–13.
20 A recent notable exception is the Positive Soundscapes project, which has brought together researchers from a number of disciplines and universities in the United Kingdom 'to acknowledge the relevance of positive soundscapes, to move away from a focus on negative noise, and to identify a means whereby the concept of positive soundscapes can effectively be incorporated into planning.' For more information, visit http://www.positivesoundscapes.org/ (accessed 18 October 2008).
21 Ursula Franklin, 'Silence and the Notion of the Commons,' *Soundscape: The Journal of Acoustic Ecology* 1, 2 (Winter 2000): 14–17.