

# *Soundscape*

VOLUME 8 NUMBER 1 | FALL / WINTER 2008

**PIONEERS, PATHFINDERS AND EARCLEANERS**



*The Journal of Acoustic Ecology*

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*Soundscape* is an English language publication of the World Forum for Acoustic Ecology (WFAE). It is conceived as a place of communication and discussion about interdisciplinary research and practice in the field of Acoustic Ecology, focusing on the inter-relationship between sound, nature, and society. The publication seeks to balance its content between scholarly writings, research, and an active engagement in current soundscape issues.

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The World Forum for Acoustic Ecology, founded in 1993, is an international association of affiliated organizations and individuals, who share a common concern for the state of the world's soundscapes. Our members represent a multi-disciplinary spectrum of individuals engaged in the study of the social, cultural, and ecological aspects of the sonic environment.

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Ideas for journal themes, proposals for new sections, as well as visual materials, are welcomed. You may submit either a proposal or a complete manuscript of a potential article to *Soundscape*. The Editorial Committee would generally prefer to communicate with you beforehand regarding your idea for an article, or receive a proposal, or an abstract (contact information below). Please also download our Guide to Contributors: Instructions for the Preparation of Materials for Submission to *Soundscape* (PDF) on the WFAE Website at: <http://www.wfae.net>

**Submissions.** Texts can be submitted for the following sections in the journal: *Feature Articles*; *Current Research*: a section devoted to a summary of current research within the field; *Dialogue*: an opportunity for editorial comment from readers; *Perspectives*: reports of events, conferences, installations etc.; *Sound Journals*: personal reflections on listening to the soundscape; *Soundwalks* from around the world; *Reviews*: of books, CDs, videos, websites, and other media; *Students' and/or Children's Writings*; *Quotes*: sound and listening-related quotations from literature, articles, correspondence, etc.; *Announcements*: of events organized/sponsored by the WFAE Affiliates.

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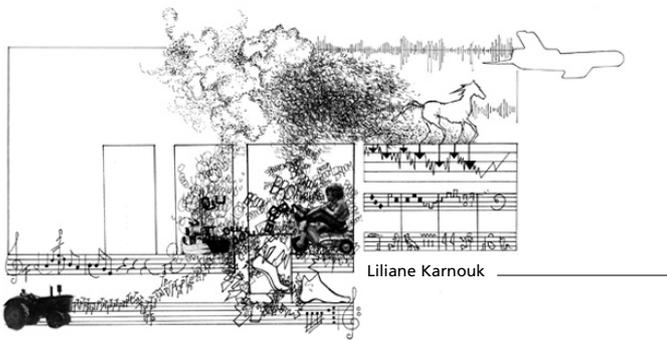
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# Soundscape

## The Journal of Acoustic Ecology

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**On the cover:** Lecturer Liisa Tenkku guiding children to add movement to musical elements. *Aamulehti* – newspaper, 27.6.1973.

### Editorial

This year's *Soundscape* is edited by the Finnish Society for Acoustic Ecology. We sought texts dealing with pioneers, pathfinders and ear-cleaners, especially those concentrating on research of sonic environments. The historical views concerning the matter were especially welcomed. We certainly got what we were asking for. As a result we now have feature articles from six writers tackling the subject from diverse viewpoints ranging from early groundbreaking innovators to current researchers.

Phylis Johnson takes a pioneering point of view in a strict sense: her article deals with the soundscapes of the American Frontier. The sound culture of the Old West is reheard and ear-witnessed with the help of the early woman travellers and their chronicles instead of conventional or mythical masculine descriptions of the frontier created by media.

Ros Bandt takes a close look at Percy Grainger's contribution to soundscape research and art. The Australian forerunner's electro-acoustic music and philosophy of Free Music are presented, as well as how his music was brought alive by theremins sixty years after being composed.

Finnish geographer J.G. Granö's book *Pure Geography* from the 1920s was an attempt to categorize the sensed environment, including the aural sensations. His work is introduced and compared to the Canadian soundscape tradition, especially R. Murray Schafer's book *The Tuning of the World*. Heikki Uimonen's article introduces the terminology and the ideological currents behind both books.

Pierre Schaeffer's *Musique Concrète* as one of the preliminary steps to Acoustic Ecology is pondered by Frank Dufour. The article presents the composers' phenomenological philosophy including the concepts he developed.

The educational aspects of pioneer work are the focus of Olli-Taavetti Kankkunen's article. He gives voice to two Finnish soundscape pedagogues from the 1960s, Mrs. Liisa Tenkku and Mrs. Ellen Urho. Heather Ruth Spence writes about Dr. Robert E. Knowlton's work with the snap-

ping shrimp that are an integral part of coastal soundscapes and ecosystems.

Almost needless to say, R. Murray Schafer's immense contribution to soundscape research and art were taken into consideration and reflected in several aforementioned articles. In addition, the editors were lucky to receive two interviews with Schafer, from Laura De Caro and Carlotta Daró. The conversations reveal not only the origins of soundscape research but also his current thoughts on the sonic environment, ecology, the importance of sound education and *temples of silence*, equally important to all of us. Those who are keen on the influences behind acoustic ecology and acoustic communication will be delighted to hear about Schafer's collaboration with such innovative thinkers as John Cage, Pierre Schaeffer and also Marshall McLuhan, who contributed to the diffusion of soundscape thinking.

Schafer's work was celebrated at the *Vancouver Vibrates* Festival, too, which is reported in the Reviews section by Pessi Parviainen and Eric Powell. The section also includes Michael Fowler's article about Shin Ryoan-ji, Japanese garden design, and John Cage's examinations of it. Helmi Järviluoma reports from the Music and Sound Conference in Cambridge last April. Check out also current research, upcoming events and new publications.

FSAE wishes to thank all the writers and co-operative members of the soundscape community that volunteered to co-edit, proof-read and lay-out this issue. We are truly grateful of your time, energy and support that not only helped us but also encourages international teamwork in editing this annual publication in the future.

Now that the work is finished it is time to move on. The Finnish Society for Acoustic Ecology is proud to announce the call for papers for the 'Ideologies and Ethics in the Uses and Abuses of Sound' International Conference of the World Forum for Acoustic Ecology. The conference takes place in the breathtaking environment of Koli, in Eastern Finland in 15–19 June 2010. The Editorial Committee and the FSAE hope to see you all there.

**Heikki Uimonen,**  
For the Editorial Committee

Firstly I would like to congratulate Heikki Uimonen and his colleagues from FSAE, our Finnish affiliate, on producing this volume of *Soundscape – the Journal of Acoustic Ecology*. This is our second issue under the new rotating editorial structure. On behalf of the WFAE Board I would like to thank them for their efforts and willingness to dedicate the time to this enterprise.

The WFAE Board has grown to 11 members with the addition of Perla Olivia Rodriguez representing the Foro Mexicano de Ecología Acústica (MFAE) and Andreas Mniestrís representing the Hellenic Society for Acoustic Ecology (HSAE). Contact details for each of these new affiliated organisations can be found on the inside cover of this journal. We welcome both organisations into the fold and look forward to their involvement in the decision making and ongoing operation of the WFAE.

During the year most of the WFAE Board attention has been focussed on the Soundscape Editorial Committee and the upcoming International Conference in Mexico, March 2009 (further details inside this issue). Various board members are assisting the organisers as steering committee members and the paper and presentation committee. Almost 70 proposals were received to the Call for Papers featuring a broad spread of topics and presentation modes, from video to sound installations. The interest in attending our international conferences continues to grow and we are anticipating a lively and engaging conference in Mexico City next year.

With the end of another year fast approaching the WFAE Board will be looking to resolve a number of important issues. Funding the production of this journal in paper form continues to be a big challenge for us. The financial structure of some of our affiliates is changing and is likely to cause us to review the way we operate financially. The age old problem of managing workflow in a volunteer run organisation is also something we continue to confront.

Resolving these issues and looking to another productive year next year will require active engagement from all Board members and I would like to thank each of them on behalf of the membership at large for being prepared to take on these challenges. In particular I'd like to acknowledge the non-representational or 'invited' board members, Gary Ferrington (our webmaster and Online Newsletter editor) and Hildegard Westerkamp (Soundscape Editorial Committee), for their ongoing support and the knowledge and experience they bring to our discussions and deliberations.

I look forward to seeing you all in Mexico!

**Nigel Frayne**  
Chair, WFAE Board

## Australian Forum for Acoustic Ecology (AFAE)

by Jim Barbour

Our small band of members at the AFAE continue to apply Acoustic Ecology principles in their daily professional activities and seek to expand their influence to others. Our varied interests include sound art and sound installations, architectural and environmental soundscapes and spatial audio in professional and academic settings. Several projects are emerging from the group to advance the principles of Acoustic Ecology in Australia, including a pilot for a One Hundred Soundscapes project and possible interaction with other professional organizations around recording endangered sounds to raise awareness of the ephemeral nature of our aural world. While our activities have been minimal, Nigel Frayne must be congratulated on his continuing and time-consuming leadership of the WFAE, which is a challenging task given our global reach and organisational structure. It is hoped that new members and more space in our professional schedules will allow a growth in forum activities.

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## Canadian Association for Sound Ecology (CASE) Association Canadienne pour l'Écologie Sonore (ACÉS)

by Andrea Dancer

The Canadian Association for Sound Ecology is busy planning their retreat, which will be on Gabriola Island in the spring, the beautiful Gulf Islands community where Darren Cope-land's recent "Fish on Air" acoustic installation took place.

Barry Truax and Hildegard Westerkamp were invited to speak at Acoustics Week in Canada, Conference of the Canadian Acoustical Association, in Vancouver, October 6–8, 2008. Barry was invited as Plenary speaker and spoke on the topic of "From Micro to Macro: Composing Microsound and Soundscapes" and Hildegard was invited to contribute to a special panel entitled "Embedding acoustics into the integrated design process" together with architect Greg Johnson, UBC School of Architecture and Brenda Martens, B.Sc. LEED® AP, RECOLLECTIV. See: [http://www.caa-aca.ca/old\\_site/conferences/Vancouver2008/index\\_e.html](http://www.caa-aca.ca/old_site/conferences/Vancouver2008/index_e.html)

Hildegard Westerkamp also presented at two conferences in Europe recently: a lecture, "Soundtracks Everywhere", at Non-Simultaneity and Immediacy: Utopia of Sound, a Symposium at the Akademie der Bildenden Künste, Vienna, May 29–31, 2008 and a Keynote Presentation "MusicAsEnvironment – Environment AsMusic" at Sounding Out 4, international symposium in sound, at the University of Sunderland, UK, September 4–6, 2008.

The CASE website is still under construction, and there are lots of exciting things in the works -- but you'll have to wait until our next report to hear about the fruits of these months' labors. Until then, enjoy listening to autumn.

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## American Society for Acoustic Ecology (ASAE)

by Andrea Polli

**A**SAE members meet face-to-face in San Francisco this summer: Members of The New York Chapter of ASAE, NYSAE ([nyacousticology.org](http://nyacousticology.org)) participated in the Move>Sound Festival and while there, had an opportunity to have a coast-to-coast exchange with the newest ASAE Chapter, BASE ([basoundecology.org](http://basoundecology.org)) at a BASEbot event with Jeremiah Moore, Aaron Ximm and others.

Inside/Out NYC, New CD by NYSAE: NYSAE has just come out with a new CD celebrating 3 years of their monthly webradio program, Giant Ear)). The CD, Inside/Out NYC provides various perspectives of the New York City soundscape and features compositions by NYSAE members and friends. Inside/Out NYC was selected to be part of the free103point9 dispatch series and is available on <http://free103point9.org>.

### NYSAE at Ear to the Earth

In October, NYSAE hosted several events as part of the Ear to the Earth Festival ([eartotheearth.org](http://eartotheearth.org)):

- 1) A public forum at Judson Church called 'Citizen Sound' featuring Geographer Amanda Huron with speakers Andrea Polli and Jonny Farrow and breakout discussion leaders Andrea Williams, Edmund Mooney, Kevin T. Allen, Julia Haslett, Blake McDowell and Robin Locke Monda.
- 2) A concert featuring a NYC Sounds collage performed by Jeremy Slater, Andrea Williams and Edmund Mooney and SOUNDBOX2 by Jonny Farrow, Edmund Mooney and Andrea Williams.
- 3) Public soundwalks called 'Walking Through Sound' guided by Andrea Williams, Edmund Mooney, Victoria Estok and Kevin T. Allen.
- 4) Performances of Andrea Polli and Chuck Varga's 'Cloud Car' at Eyebeam and The New York Hall of Science [eyebeam.org/cloud-car](http://eyebeam.org/cloud-car).

### NYSAE and The Canary Project

NYSAE members Jonny Farrow, Edmund Mooney, and Andrea Williams led soundwalks in the Brooklyn neighborhoods of Fort Greene, Red Hook, Crown Heights, and Gowanus in September and October as part of The Canary Project's 40,73: Works at the Intersection of Art and Ecology ([http://www.canary-project.org/project\\_4073.php](http://www.canary-project.org/project_4073.php)). Following the soundwalks, NYSAE member Andrea Williams participated in an artist talk at the (OA) Can Factory in Brooklyn. Guest speakers were Tom Angotti, Director of Hunter College Center for Community Planning & Development and Amy Lipton, Director of The Fields Sculpture Park in Ghent, NY.

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<http://www.AcousticEcology.org/ASAE>

## Finnish Society for Acoustic Ecology (FSAE)

by Noora Vikman

**T**he Finnish Society for Acoustic Ecology is proud to edit this year's Soundscape Journal. Many of the past, present and future projects will be presented in more detail in the pages of this issue, so here is just a short description of our activity. We are aware of the narrowness of our membership base and we are working to broaden it in the future. Our aim has been to raise public awareness about the meaning of sound and the role of sound environments in our everyday life, as well as to advance the study of soundscapes. We also try to help to protect soundscapes and sound landmarks that local communities think are important.

The 100 Finnish Soundscapes Project mobile exhibition has been set up in different places around Finland and is still on the road. The project gets a follower in Tampere region: FSAE obtained financing for the new project which is charting the soundscapes of Pirkanmaa (Pirkanmaan äänimaisemat). It will be realized in the near future in cooperation with various institutions and students of art and media including an interactive soundscape exhibition for children.

The FSAE contributed to popularizing the research of sonic environments by participating in the "Researcher's Night" in Joensuu on September 29. This international event was funded by the EU Commission and was organized simultaneously in 31 countries and 150 cities all around Europe. Joensuu citizens participated in a sound walk and had discussions with Helmi Järviuoma and Noora Vikman accompanied by noise researcher Erkki Björk from the University of Kuopio. Our board member and sound artist Simo Alitalo's soundscape exhibition was presented at the Kluuvi Gallery in Helsinki in September 2008. Noora Vikman defended her dissertation on November 16, 2007.

The FSAE is currently making arrangements for the WFAE international soundscape conference called *Ideologies and Ethics in the Uses and Abuses of Sound*. The conference will take place in June 2010 in Koli, Eastern Finland.

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## Forum Klanglandschaft

by Clemens von Reusner

**T**he Soundscape Forum (or Forum Klanglandschaft – FKL in German) deals with all kinds of sounds that fill our environments. Objectives are widening sensitivity for the sonic environment and improving its quality, as well as supporting active and creative listening.

Our website is meant to be an information platform for all people who are concerned with acoustic environments and sonic spaces. This site lives from your input, so your contributions are always welcome.

We are now preparing the next international FKL-Symposium 2009 in Austria. More information is on our website: <http://www.klanglandschaft.org>

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# Regional Activity Reports *continued*

## Japanese Association for Sound Ecology (JASE)

by Keiko Torigoe

As the JASE is one of the operating divisions of the Soundscape Association of Japan (SAJ), I would like to report SAJ's recent activities.

For the last two years, SAJ has been focusing its activities on the theme of "Soundscape and Our Present-day Society". Under this theme, the SAJ has been preparing special features for its Japanese language journal *Soundscape*. For example, the feature articles for vol. 9, published in August 2007, were related to a court case where the concept of soundscape was introduced for the first time in order to fight against construction of a motorway penetrating a holy mountain. Also, the members of a new working group "Sound Education" organized by Yoshio Tsuchida (Kanazawa Institute of Technology), have prepared the feature articles for vol.10.

On 25 May 2008, the SAJ held its annual meeting and symposium in Tokyo, with the title *What Do We Listen in Ghostly Drum-beating by Raccoon Dog?*, which is based on a Japanese traditional aural illusion. This symposium was also designed to understand our present-day society and its urban environment including invisible images and memories of olden days of Japanese common people who lived in cities.

The symposium started with two keynote speeches: one by Masayuki Nishie, the president of the SAJ, who talked about what the raccoon dog is, and on the basic relationship between the raccoon dog and the Japanese; and the second one by Junko Konishi (Shizuoka University), who lectured on what is "Ghostly Drum-beating by Raccoon Dog" and its several stages through the history of Japan.

These speeches were followed by a traditional Japanese form of comic storytelling performed by Heiji Katsura, a professional storyteller. After enjoying his story, *Raccoon Dog Dice*, two panelists joined in the last discussion. Masamichi Ohira, the president of Shigaraki Raccoon Association, gave his talk on the raccoons from the cultural perspective, and Shinobu Gotoh (Fukushima University) explained the raccoons as an environmental indicator in city planning and regional development.

A working group organized by Teruyo Oba (Natural History Museum and Institute, Chiba) carried out fieldwork of the festival *Soundscape of Sahara City* on July 10.

The SAJ is now preparing a Soundmap Contest in Yokkaichi City on November 23, organized by Masako Nishimura (SAJ in Mie) and Tazuko Kobayashi (Nagoya Women's University); its Annual Academic Meeting held in Kyoto City University of the Arts on December 13 which is organized by Masaaki Ueno; and a lecture by Tsunenobu Ohkuma, as well as a workshop entitled "Measuring Japanese Temple Bell" in Kyoto Bunkyo University on December 21.

From the year of 2008 on, Mieko Shimizu (Jiku-Sozo inc.) replaced Kazuya Minoura (Yamanashi Women's University) on the SAJ's secretariat, and the office of SAJ moved from Yamanashi to Osaka. The SAJ is now about to change its communication system among its members from the current paper-based newsletter to a digital mail magazine. Also, regarding the editorial secretary for the journal, Junko Konishi replaced Hiroyoshi Shiokawa (Nihon University).

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## United Kingdom, & Ireland Soundscape Community

by John Levack Drever

UKISC is currently undergoing a transitional period with its mechanism. Nevertheless, individual members of the group as ever have been working with fervour. Tsai-Wei Chen is in the final stages of her PhD at Goldsmiths, titled, "Mapping Sojourners' Soundscapes: listening experiences of Taipei sojourners in London". Matthew Sansom devised a permanent sculptural installation with a soundwalk for Huddersfield Contemporary Music Festival. It involves two 2m diameter parabolic dishes (acoustic mirrors) on the side of the Colne Valley near a picnic area in Slaithwaite. And together with Tony Whitehead, Matthew presented a piece for the opening festival of Kings Place – consisting of a soundscape composition and projected extracts from a sound journal based on the soundscape of King Cross. I led a soundwalk of Leeds, an event related to the current exhibition *Licht auf Licht* by Gerhard Kassner and Hans Peter Kuhn, organised by Project Space Leeds. And I presented my latest soundscape composition "Ochlophonic Study #3: Hong Kong" at the international colloquium, *Faire une ambiance / Creating an Atmosphere*, organised by the "Ambiances Architecturales et Urbaines" laboratory. As an organisation we have much in the pipeline. More to report shortly.

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# American Frontier Soundscapes: Rehearing the Old West

By Phylis Johnson

## The American Soundscape

Our journey starts on the East Coast in the mid 1800s. Henry David Thoreau's cabin was nestled among the Concord, Massachusetts' woods less than one quarter mile away from the Fitchburg Railroad stop. The train crossed near the southern tip of the pond, and its morning arrival was often cloaked by its own billowing clouds of smoke and the woods that stood between society and Thoreau (1884: "Solitude"):

I have my horizon bounded by woods all to myself; a distant view of the railroad where it touches the pond on the one hand, and of the fence which skirts the woodland road on the other. But for the most part it is as solitary where I live as on the prairies [*Italics added*]. It is as much Asia or Africa as New England. I have, as it were, my own sun and moon and stars, and a little world all to myself.

For Thoreau, daily soundscapes became the soundtracks to his life. He could only imagine the sounds beyond his *hearing range*, as his mind wandered from Walden to the American frontier in the passages above. The New Englander of his time was as fascinated with the West, as those who would later experience it through film, television and radio. The sound of horses, hawks, insects, and dust storms provided an undercurrent, albeit subconscious, of sound that served as an acoustic reference point in the early days of media, locating the listener within a particular geography – imagined or real. The sounds of the West are composed of the often ignored, but always present, soundtrack that accompanies daily life. Consider how R. Murray Schafer (1977: 76) contextualizes the arrival of the train as a symbolic note of change across America:

...Whenever Noise is granted immunity from human intervention, there will be found a seat of power....thus enabling the railroads to establish themselves more emphatically as the "conquerors"...The train would become the link between the mapped nature trail (representing the known) and the ancient human desire toward exploration and conquest of the frontier.

The low, powerful whistle of the North American train that crossed the Western frontier is noted by Schafer (1977: 81):

The train's whistle was the most important sound in the frontier town, the solo announcement of contact with the outside world. It was the stop clock of the elementary community, as predictable and reassuring as the church bell. In those days, trains spoke to the heart of every man, and small boys came to greet the panting engine.

Trains were the clock keepers and the bells of society: "The church bell, as with the train, is an icon of civilization – although far more ancient" (Schafer, 1977: 54) Thoreau in his chapters, *Sound* and *Solitude*, gave us a platform upon which to begin to hear sound within the unfolding expansion and industrialization of America. Schafer helps us to understand the significance of sound within American (and all) culture.



Photo: Phylis Johnson

## Definition of Sound Culture

By the turn of the 20<sup>th</sup> century, the Old West had become romanticized as a place of adventure, heroism, and individualism. The rise of the motion picture, radio and television industries would propel this myth. Carolyn Merchant (1980; 2003) has discussed how perception has shaped our framing of the environment and the very image of the Old West has been conceptualized in masculine terms.

In a sense, the dusty wind-torn frontier terrain, the steam from the locomotives, and the billowing and puffing smokestacks of the factories deafened listeners from noting the disappearing soundscapes of a wilder America. Nineteenth century travel journalist Sarah Margaret Fuller exclaimed that there was little time for reflection among this new breed of frontiers people. The nation was in the mood to claim and conquer nature as well as their fears of outlaws, hunger, and sickness.

Neil Evernden (1992) presents a view of nature as a social construction that is held captive by those who attempt to tame it through definition. Thomas Dunlap (2004), in *Faith in Nature*, calls attention to Euro-American writers who mistakenly propelled the myth of individualism during the time when the ideals of frontiers people were colliding with ambitions of an increasingly industrialized society. Max Oelschlaegger (1993), William Cronan (1996), and others have wrestled with man's place in nature and the idea of wilderness, and it seems upon retrospection that individuals did not conquer the West as much as did communities of settlers. Emily Thompson (2002: 1–2) demarcates this transitional era from the Old West to industrialization as pivotal to the making of the "soundscape of

modernity,” which might be thought of as a unique culture of listening that began at the turn of the 20<sup>th</sup> century (also see Sterne 2003).

At this time, media soon began to reinterpret the past through present technologies – film, radio, and television. *The Great American Train Robbery* (1903) debuted at the turn of the 20<sup>th</sup> century, and other silent films soon followed. Grandiose frontier legends were being re-conceptualized from literature and comic books to the big screen. Motion pictures, and soon radio and television, began to reinvent Western legends, scenery and in some cases soundscapes. Much of what we perceive the American frontier to have sounded like is based on constructed soundscapes we have heard in movies and radio shows. Diaries, letters and journals from travelers in wagon trains to the elite observations of journalists and writers such as Fuller and Thoreau lend themselves to a fairly authentic sonic portrayal of the Old West. And that is the precisely the intent of this essay, to rehear the American frontier.

## Hearing Western Expansion

The free spirit of the horse and its rider encountered the heavy rhythm of the train and industrialization – a downbeat that offered entrance into mass culture. U.S. industrialization, particularly 1890–1930, produced a new type of modern noise that challenged prior ways of interpreting life through one’s sonic environment. The train, as icon, became a sonic reference point on the plains and across urban regions, both East and West. This noise became assimilated into the soundscape of society (Attali 1985; Thompson 2002). Fuller (1844: 18) writes of her dismay about the new immigrants’ “inability” or unwillingness to appreciate the beauty of nature, aside from its material value. That was particularly true of the settlers in the Upper Midwest. Fuller’s 1844 edition of *Summer on the Lakes* logs her travels through Wisconsin, Michigan, and Illinois, and she documents the sounds of conversations, against a backdrop of steamships and natural surroundings.

Fuller documented a new America challenged by wilderness and inescapable industrialization. She was the first woman on staff at the *New York Tribune*. Fuller was a pioneer reporter of this new frontier, and eventually became the first U.S. foreign and war woman correspondent. Biographies on Fuller describe her as a transcendentalist and feminist. Her first recorded stop at Niagara on June 10, 1843 indicated an awareness of the larger cultural soundscape that surrounded and encompassed the physical environment:

The perpetual trampling of the waters seized my senses. I felt that no other sound, however near, could be heard, and would start and look behind me for a foe. I realized the identity of that mood of nature in which these waters were poured down with such absorbing force, with that in which the Indian was shaped on the same soil. (Fuller 1844: 5)

She struggled to shake off imbedded stereotypes from her New England upbringing and found wisdom in a river that “seem[ed] to whisper mysteries the thundering voice [of the waterfall] above could not proclaim” (p. 6). She recasts the natural beauty and intellect of women, they being in a similar predicament to nature, as comparatively underappreciated and silenced by frontier men (and likewise dismissed by many frontier women). Immigrants and settlers came to the Midwest to claim a material freedom: “To a person of unspoiled tastes, the beauty alone would afford stimulus

enough” (p. 59). Thoreau would read of Fuller’s summer travels in 1843, and then self publish *Walden* nearly ten years later. Thoreau heard the train as a signal or warning of modernization and expansion encroaching upon personal Waldens across the nation.

It is interesting that Thoreau’s discussion of the Fitchburg train is heavily concentrated in the chapter “Sound” of *Walden*. Thoreau sensed a power that emanated from the “iron horse” that raced swiftly, howling, across towns and countryside. In his last months of his life, Thoreau moved to Minnesota to hear the Old West first hand. He died in 1862. For Thoreau and Fuller, nature and machine blended into composition.



## Chronicles of Wagon Women

In Sarah Raymond Herndon’s 1865 diary *Days on the Road: Crossing the Plains*, she describes a soundscape fueled by restlessness, ambition, and bullets. Herndon, 21, took turns “driving the horses” with her mother and the hard ride would take its toll on her ears and patience (Herndon 2003: 32): “There is such a sameness to our surroundings that we seem to be stopping in the same

place every night, with the same neighbors in front and back of us, and across the corral.” She began to enjoy even the simplest of sounds, like being awakened by the “sweet” music of the morning bugle (p. 32). She looked forward to the singing and instrument playing that would sometimes accompany the night rest stop in the midst of the solemn prairie and vast wilderness. Listening and then writing what they heard were often the only ways that women could express their emotions. The diaries of women became popular reading among other women, and it is in this way we can hear the emergence of a female Western voice.

Diaries and letters from frontier women presented a tale set in a picturesque landscape that whispered danger – such beauty was accompanied by the “song of the locusts” (Stewart 1998: 20): the “sound of the dashing, roaring water” invited travelers to move forward carefully. The “road, being so muddy” and “full of ruts” made it nearly impossible to converse on the stagecoach, according to homesteader Elinore Priutt Stewart (p. 4): “the stage acted as if it had the hiccoughs and made us talk as though we were affected in the same way.” Frontier women could not escape nature, so they admired it as a worthy partner and sometimes opponent. In the winter, Stewart (1998: 33), upon seeing the white blanket outside her window, writes, “I could hardly remember where I was when I awoke, and I could almost here [sic] the silence. Not a tree moaned, not a branch seemed to stir...Such a snowstorm I never saw.”

In a letter to the editor of *Kansas’ Junction City Union* (dated July 28, 1875), Angie Brigham Mitchell, 21, shares observations regarding her travels from Kansas to Arizona, particularly commenting on the fierce weather along the Arkansas Plains (Holmes 2000: 13–14):

The greater part of the showers come in the night, and sometimes catch us unprepared. At such time there is a general gathering up of beds that have been spread in the open air, and a hasty retreating to the “big tent.” The camp resounds with calls of “Turn out boys, make the tents fast!” “Cover the wagons” etc., and then echoes of mattocks and tent-pins, and shouts can be heard for a long distance. Last night we had three showers, but our canvas houses afforded an excellent protection, as the wind was not high. To-day is very warm,

little air stirring, and the clouds warn us that to-night we may look out for our usual shower... We are about 2,600 higher than Junction City (Kansas) and find at this early day quite a difference in the atmosphere, it being clearer. Sounds can be heard at a greater distance, and one becomes sooner wearied by exercise.

In 1878, from the diary of Mary Riddle, 38, on her way from Iowa to Oregon, we begin to hear the expansive sound of the wagon train, and sense how quickly the disposition of travelers change as they weary from hunger, thirst, and long harsh soundscapes across the bumpy terrain (Holmes 2000). Men fighting nature and hunger (“bullets...like hail”) as well as each other (“quarrelling”) emerge as part of the Western soundscape. We hear the implied sounds from 17 wagons that follow along mostly silent rails. Ironically, the wagon train follows the rail tracks. Lucy Clark Allen, 37, adds voices to this sonic layering in the documentation of her wagon train ride from Minnesota to Montana during 1881. She writes on hearing rowdy men not too far from her camp, with their voices accompanied by sounds of gunfire (for sport or as a response to libations, she does not know for sure) (Holmes, 2000). Other women writers also mentioned that some men needed little provocation to shoot at each other.



Photo: Phyllis Johnson

We also begin to hear sound as a battle cry, as sojourners sense victory behind the metaphorical storms that they confront daily, along with the real ones that pop up with little warning. The thunderstorm, with its boisterous voice pounding on the wagon canvas, was a common theme in women’s diaries, including that of Allen (Holmes 2000: 141–2):

It was of course impossible to sleep, and I could hear above the thunder and the torrent of rain on the cover, the voices of the girls singing to the tops of their voices, and they kept it up, they and the rain until morning.

At one point along her travels, Allen rides on the train through a storm. She writes during the noon day in a late May entry, while crossing the Badlands:

... It seemed as if we were going through places just wide enough for the train to pass through. The black walls toward high up above us, so that the din and noise of the cars were perfectly deafening. The screeching of the brakes (as they were all put on) and clanking and roar of the wheels, on the rails; and the rails were laid on rock all combined with the occasional thunder claps and lightning flashes, made the scene [an]ything but pleasant. (p. 150).

Allen notes more pleasant memories as well, such as boys playing hide go seek in the moonlight; other women describe children playing with antelope during rest times. In Yellowstone Valley, Allen writes that she could see and hear “friendly Indians...yelling and their dogs barking” as they beat “their buffalo hide drums (p. 168).

In the Summer of 1881, Emily Towell, 52, in her travel journals from Missouri to Idaho, states, while in Plum Creek, Nebraska, “[L]ightning danced across the heavens in bold streaks of fire; the thunder rolled and crashed; the wind howled and shrieked like wild and fearful demons” (p. 204). She complained about how wagons raised “great clouds of dust” and their team never received much

relief from it, other than when they “stop[ped] long enough to eat and water horses” (p. 216).

## An Authentic Western Soundscape Emerges

Common to the letters, journals, and notes were mentions of wind, dust, and dirt. Clouds of wind and dust, particularly together, created a deafening pounding across the eardrums. The sound became trapped within the cloud. The wagons pushed forward, with more than a dozen teams of horses leading the way. The constant

pounding of hooves on dry ground created a sense of drone. All sounds came together to unsettle the senses and stomachs of men, women, and children. Such descriptions let us re-hear the times and conditions. It was impossible to see at times, and nearly impossible to hear – until the wagon train would settle down for the night. During winter months, snow brought a dangerous silence and solitude to the ground that warned of famine. In the spring, the whoosh of mud under wagon wheels was as much heard as felt and seen. The sound of

gunfire was common on the plains, as desperate and hungry trail-blazers became hunters eager and anxious to shoot down wild game that crossed their path. At nights, and on the outskirts of so-called civilized towns, drunken men could be heard shooting their guns in the air for fun and folly. Stars filled the open sky – and thundering crashes and lightening balls of fire warned of approaching storms. A time was coming when the West would be re-imagined on radio and across the big screen, rather than experienced on the open plains and under the great sky.

## Settling into the Western Soundscape

People moved to and fro land, depending on the conditions for crops, transportation, and economic opportunity (Stratton, 1981). The acoustic characteristics of dirt, dust and wood blended into the constant rattle of wagons and horse hooves to create a dull roar. Many towns had at least one saloon, but usually several centered in the town center. A few squeaks across wooden plank sidewalks added to the soundscape. Music blared from dance halls as people went in and out of them. The hotel offered no real solitude for patrons, in that it was typically located near the center of town. Bagpipes heard through an open window of a hotel room, a violinist playing outside the steps of the general store, church hymns sung on Sunday mornings, and other sounds brought familiarity to settlers. The traditional church bell was a luxury, and rarely heard in the early days. Needless to say, the weary travelers’ senses had been transformed through their journey. They began to shape a soundscape that would become characteristic of the American West, somewhat reminiscent of the past, yet unique because of the landscape that surrounded them and the personal journey that they had ventured.

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Photo: Phyllis Johnson

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# *Hearing the Free Music: Percy Grainger, Australian Visionary of the Soundscape, Creator of Electro-Acoustic Free Music and Sound Machines*

By Ros Bandt

**ABSTRACT:** *In the Free Music Statement of 1938, Percy Grainger clearly articulated his philosophy of music as coming from an intimate relationship he had to the environment and his attentiveness to the sonic world around him. From this he imagined a new free music, following contours of the physical and acoustic landscape to create a microtonal graphic and sounding world of polyphonic complexity like the world of nature. So too the introduction of machines such as trains and planes was a metaphor for the kind of sound pattern and automatic machines he was to develop. This article identifies these relationships, showing how Grainger passionately interpreted the soundscape into a new sonic world of free music heralding the new age of electronic music. Grainger himself said the Free Music was his only important contribution to music and that the theremin was the most perfect of all instruments. The world premiere of the Free Music for multiple theremins did not occur for another sixty years in 1998 when I curated it for the Beaming the Theremin event for the Melbourne International Festival of the Arts at the Grainger museum. This article articulates these events and asks why Grainger's pioneering contribution to the soundscape and electro-acoustic free music has been so largely ignored.*

The Australian born composer, performer and inventor, Percy Aldridge Grainger, 1882–1961, is often better known as a concert pianist than for his numerous innovations as a composer and inventor. These include complex multi-metre rhythmic systems, the development of automata through piano rolls, music machines, colour graphic notation, electronic musical instruments, wax cylinder recordings, and audiovisual experiments such as his third free music machine, the electric eye tone tool. The impetus for these inventions came from his attention and curiosity to the sounding world around him. By 1938 Grainger had articulated his philosophy of *Free Music*, clearly stating his position in relation to the soundscape and showing ways forward into uncharted territory (Grainger 1938).

## **Grainger and the Soundscape, the surrounding sonic habitat**

In 2008 the word soundscape has a long history. Coined by the Canadian composer R. Murray Schafer in 1968, *The New Soundscape* and fully discussed in his seminal book *The Tuning of the World*, 1977, the term soundscape has had many applications in many nations over the past three decades. Environmentalists, composers and scholars in many disciplines have embraced it (see e.g. Järvi-luoma 1994; Truax 2001; Thompson 2002; Hedfors 2003; Feld 2004; Oliveros 2005; Duffy 2007; Hiramatsu 2007; LaBelle 2007; Torigoe 2007). Its common acceptance shows in CD and book titles, which

use the word even without defining it (Richards 2007).

In 1938 the consciousness of sound in the environment was just as strong for Grainger, but not so commonly accepted in the musical world at that time:

Out in nature we hear all kinds of lovely and touching “free” (non- harmonic) combinations of tones; yet we are unable to take up these beauties and expressiveness into the art music because of our archaic notions of harmony. (Grainger 1938.)

Percy Grainger was very clear about the influence that the natural environment had upon him, from a very young age. His early notebooks and diaries recount in detail his impressions of his immediate environment, particularly Albert Park Lake and Brighton Beach in Melbourne, Victoria, Australia. He was mesmerised by the constant lapping and movement of the wind on the surface of the water and the different sounds it produced rising onto the shore. In the *Free Music Statement* of 1938 he writes:

Personally I have heard free music in my head since I was a boy of 11 or 12 in Auburn, Melbourne. It was my only important contribution to music. My impression is that this world of tonal freedom was suggested to me by wave-movements in the sea that I first observed as a young child at Brighton, Vic., and Albert Park, Melbourne.

Further from home he recounted detailed descriptions of the Adelaide Hills and Dales, noting their endless merging contours. One of his childhood notebooks has sketches of these shapes in multiple coloured waves, using different coloured pencils to distinguish between them, picking out different relationships of the rising and falling in each line. Grainger codified these forms throughout his life referring to the continuous environmental fluid curves rising and falling “as the Hills and Dales”. They are instantly recognizable in the rising and falling continuous curves of the *Free Music* for theremin notations and also in the undulating patterns of the brown paper rolls that drive the kinetic music machine called the *Kangaroo Pouch* of 1952. From the outset it was a set of relationships such as we see in nature having fluid convergences and divergences, the horizontal and vertical relationships being irregular and unpredictable, unlike the metricality of the prevailing music of his period.

These perceived wave movements were translated into microtonal pitch undulations in continuous sounds, working together and in clusters singly and polyphonically. This thinking brought about a revelation in the structure of music. In it he found a viable alternative to the confines of the traditionally composed music based on harmony and rhythm and beats. Space notation rather than bars prevailed and sinuous line against line of melodic glissando replaced harmonically conceived vertical motion. In looking at the scores for the *Free Music* one can see in the graphic notation precursors to the oscilloscope and sonogram, electronic calibrators of frequencies and amplitudes



Ex 1. Photo of the **Free Music Statement** and the **Free Music I, and II**, 1936–7.

Courtesy of the Grainger Museums, The University of Melbourn. Black and white framed copies, not the colour originals

of electronic music. These two parameters are the dominant creative tools used by Grainger in these works. Great specificity of detail is given to the dynamic dimension, with markings from ffff-ppppp, relative concepts of the day but expanding the dominant understanding of dynamic range to include smaller units of change and variation.

Grainger is taking us into the immersive analytical realm of each parameter, microtonal intervals changing over indeterminate lengths of different dynamic contours. Inspired also by the glissandos heard in aircraft and environmental machines, Grainger advocates this as socially relevant music making: “It seems to me absurd to live in the age of flying and yet not be able to execute tonal glides and curves” (Grainger 1938.)

He is calling out for a new approach for musical composition, one that is based on the sounds of modernity, natural and man-made, that has the freedom for individualistic lines to move against each other as multiple aeroplanes would. Grainger is envisaging a flexible and moving counterpoint where all tones are acceptable to intercept, free of the laws of fixed harmony and timing schemes. He is designing sound spatially. The same could be said of soundscape composition and the electroacoustic and electronic musics of our time.

## Technology and Sound Machines

Grainger was curious about all technological inventions of his day. He recorded songs all over the world on the best available wax cylinders showing his respect and sensitivity to sites and the sounds that belonged to them. He immersed himself in the texts, languages and syntax of what he heard. He was aware of the sound/site relationship, the natural and artificial, the conventional and the yet to be made. His idea was to create machines that would eliminate the performer. The Grainger Museum at the University of Melbourne houses these numerous early experiments, an automatic foot controlled page turner, the sixth tone butterfly piano, slide whistles and recorders, free music systems and experiments powered with hand drills, sewing machines, vacuum cleaners. He adapted materials from all walks of life, cotton reels, buttons and acetate discs, gleaning everything from the world around him and seeing the recyclable opportunities for the simplest materials to contribute to creating sound machines. It was an idea that never left him and he spent the latter years of his life in White Plains N.Y. doing just that, collaborating with his friend and scientist Burnett Cross, building several extensive music machines, the Reed Box Tone Tool, the Electric Eye Tone Tool and the Kangaroo Pouch Machines. According to Burnett Cross the sole purpose of these automata was to trial the free music “so that he could hear in the room what he heard in his head. That was the first and really only objective of the business...” It is clear Grainger could see many new possible musical outcomes from exploring the interfaces of art and science as a basis for his original inventions, sound-ing machines and automata. The free music statement December 6, 1938, was typed in his own hand with the too-narrow margins. It can be regarded as his life long credo:

But Free Music demands a non-human performance. Like most music, it is an emotional, not a cerebral, product and should pass direct from the imagination of the composer to the ear of the listener by way of delicately controlled

machines. Too long has music been subject to the limitation of the human hand, and subject to the interfering interpretation of a middle performer. A composer wants to speak to his public direct. Machines (properly constructed and properly written for) are capable of niceties of emotional expression impossible to a human performer.” (Grainger 1938.)

Grainger was impressed by the electronic musical instrument, the theremin. He singled it out as “the most perfect tonal instrument(s) I know.” Capable of microtonal glissandi, and very subtle dynamics, they served his purpose well for the free music. The first performance for string quartet was in 1935, the *Free Music for String Foursome* conducted by Percy Code as part of the Melbourne Broadcast lectures Grainger gave at the Australian Broadcasting Commission. This recording does not seem to exist any longer. In 1936–7 he revised the piece for four theremins and composed a new piece for six of them. He also adapted his multi-metre *Sketch for Sea Songs* for theremins under the title *Beatless Music*, October 15–16, 1937. In 1938 Grainger describes the compositional process of the *Free Music* colour graphic notation as follows:

In the original scores (see Ex. 1) each voice (both on its pitch-staves and on the sound strength staves) is written in its own specially coloured ink, so that the voice is easily distinguishable, one from the other. (Grainger 1938.)

## Hearing the Free Music, Recordings

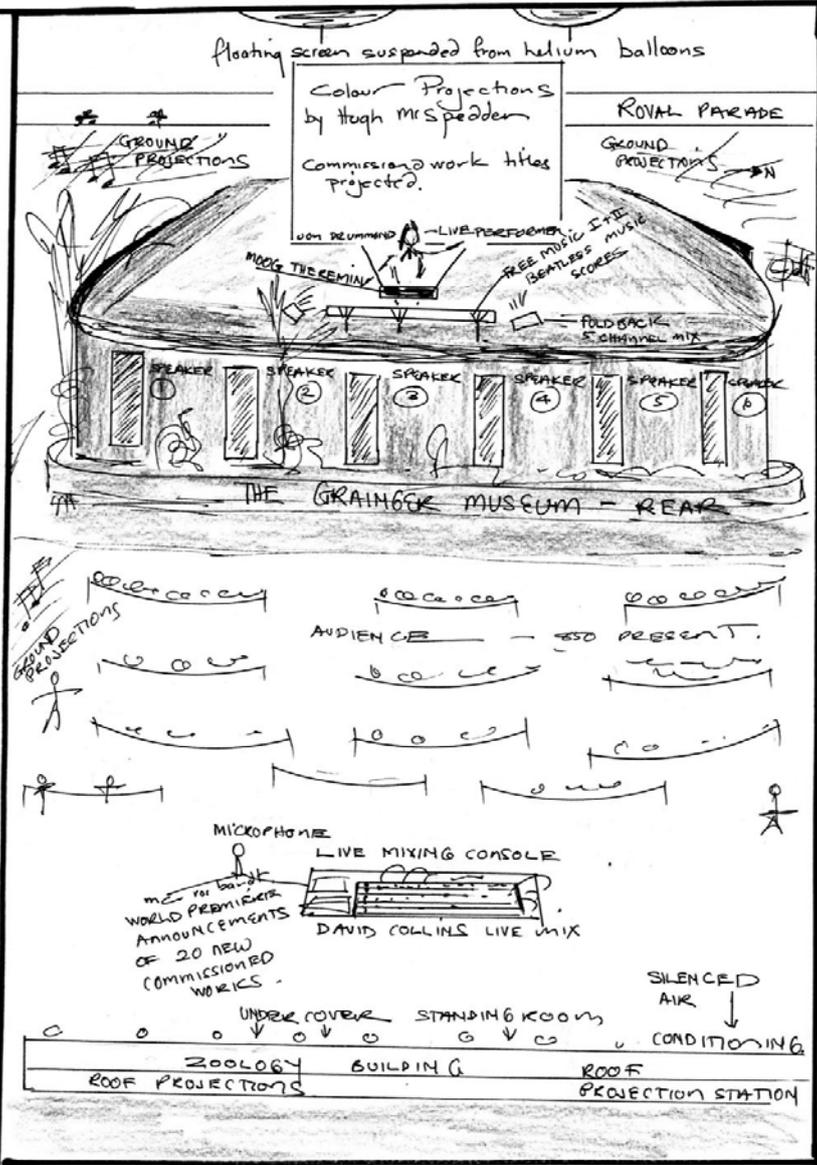
During my time in the museum as artist in residence researching and exhibiting my fluid multi-channel sound installation *A Garden for Percy's Delight*, 1997, several questions presented themselves to me in my research on Grainger's *Free Music*. I wanted to hear *Free Music*. In the museum I made direct dubs onto my DAT



Photo: Alessandro Servadei

Ex. 2. Dr Ros Bandt in the Grainger Museum making a performing edition by re-drawing Percy Grainger's **Free Music I, II** and **Beatless Music**. 1998.

# Beaming the Theremin



## as bandt. installing the Grainger in sound + light

Ex 3. Concept Drawing for curating the *Beaming the Theremin* Event, Ros Bandt

machine from the reel-to-reel recordings of Burnett Cross's *Kangaroo Pouch*, from experiments for the reed box tone tool, as well as Les Craythorn's version for the Synthi 100. I was given permission to incorporate these recordings into my floating world of my three-dimensional spatial sound installation. These were combined with many other recordings of free music experiments and instruments in the museum, which had not been taken out of their glass cases since Percy had put them there. It was my intention to air them, outside and into the ear. They were heard from eight suspended parabolic speakers emitting a fluid multi-channel random free music of over 100 computer files. I knew Grainger would have loved to have heard his free music fly about through the courtyard of his own museum, in amongst the recorded and real sounds of aeroplanes and the general soundscape ambience, had he been alive with today's technology. But these were reconstructions, not as Grainger had written, for theremins. (See <http://www.abc.net.au/arts/lroom/gardel.htm>.)

I wanted to hear *Free Music* for the instruments Grainger intended, the theremins. Yet there were difficulties to overcome:

1. There was no record that a theremin performance had ever occurred.
2. Surprisingly, there was no theremin in the Grainger Museum despite Grainger's vast and eclectic world music instrument collection.
3. The original colour graphs of *Free Music* could not be located. Barry Ould had emailed me that Teresa Balough had sighted them at the Library of Congress, New York, at the time of working on her complete catalogue. But they could no longer be located. I would have to make do with the black and white photographs in the Grainger museum.

I found these things mystifying, especially as the composer himself was emphatic that *Free Music* was his only important contribution to music.

In 1998, I was invited by Naomi Cass and the Board of the Grainger Museum to curate an event, which would feature the world premiere of these works as a free event for the Melbourne International Festival. I set about redrawing all the scores into a performing edition, which took some weeks.

Through this process I understood intimately the relationship of parts to the whole, the intersection of the undulating pitched hills and dales and their corresponding dynamic trajectories, one hand for each side of the theremin. How sensible. Next the sound source. I investigated various commercially available theremins and settled on a signed Bob Moog assembled kit having spoken at length with Bob about the Grainger museum and Grainger's work.

I had decided to acquire the theremin for the museum as a lasting tribute to *Free Music* and to fill the gap in the collection. The theremin arrived. It was clear it would take some time to be able to perform the graphs accurately. I invited Jon Drummond, electronic composer and scientist to collaborate with me to bring the sound to life. We recorded 5 tracks on Pro Tools at Move Records studio and left one track for Jon to perform live.

## Reconstructing *Free Music* for Multiple Theremins for the Melbourne International Festival 1998

I conceived *Beaming the Theremin* event (see Ex. 4) as a sound and light show to feature and celebrate the world premiere of *Free Music* for theremins. The Grainger museum would become a radiant lotus flower of free music, and projections of Grainger's scores would surround the building. Grainger's *Free Music I and II* and *Beatless Music* would be played on the hour, three times in all, played live from the Grainger Museum itself. *Free Musics* for multiple theremins would be heard for the first time on the theremin, sixty-one years after they were composed for it.

To effect this celebratory homage, six large speakers were attached outside the rear wall of the building. Jon Drummond performed from the roof (see Ex. 5), with the free music scores projected on a floating helium balloon screen above the museum. The world



Photo: Pouch Hawkes, Courtesy of the Grainger Museum and The Australian Sound Design Project.

Ex 4. Jon Drummond performing on the theremin for the world premiere of Percy Grainger's *Free Music*, October 18, 1998, from the roof of the Grainger Museum at the University of Melbourne.

premiere of the Free Music performances framed the electro-acoustic concert of twenty new innovative electro-acoustic works, commissioned especially for the event from Australian electro-acoustic artists in the spirit of Grainger. These were Aether (Leigh Perdrisat & Steve Oakes), Roger Alsop, Warren Burt, Brigid Burke, Densil Cabrera, Tristram Cary, Roger Dean, Paul Doornbusch, Ian Fredericks, Andrew Garton, Michael Hannan, Karlin Love, Gordon Monro, Paul Moulatlet, Ron Nagorcka, Jon Rose, Alessandro Servadei, Phil Slater and Mitchell Whitelaw. Two of these works, one by Andrew Garton and another by Warren Burt used the theremin. Grainger's pioneering work with the Free Music, his graphic notations based on the environment, his use of lighting in the third music machine the electric tone tool, were celebrated here in the surrounds of the museum he left to the nation. We heard *Free Music* through the beaming of the theremin as it was played. Grainger went on to invent the music machine with Burnett Cross in 1952, the *Kangaroo Pouch* with its three oscillators (hear them in Bandt 2001) which eliminate the performance altogether. But it is amazing how similar the sound is.

## Grainger's *Free Music for Multiple Theremins* as Australian Cultural Heritage

But what of its longevity? I felt the fruits of this research and sonic outcomes should be published as important cultural heritage. A few years later, (as the founding director of my newly formed online digital gallery, The Australian Sound Design Project, funded on an ARC grant), I decided to publish some of the documentation of the *Beaming the Theremin* recordings, videos, photographs and statements, on the website. This would enable future students, scholars and the community at large to listen to and "hear" *Free Music for Multiple*

*Theremins* at its first performance from the roof of the Grainger Museum. *Beatless Music* and *Free Music II* were formatted for the web in MP3 files, images as well as a written statement. In its searchable online database, gallery and papers the Australian Sound Design Project pioneers audible research of 150 sound designs in public space in Australia. It is fitting that it has this first heritage component as a free and living searchable resource. (See <http://www.sounddesign.unimelb.edu.au/web/biogs/P000299b.htm>)

Happily, commercial recordings have now been made of these wonderful pieces by the great virtuoso thereminista, Lydia Kavina, the last protégé of Leon Theremin. *Music from the Ether* (Mode Records 76) includes her recordings of *Free Music I*. Another recording, *Spellbound* (Mode Records 199, 2008) includes *Free Music I, II and Beatless Music*, erroneously claiming they are the first performances of these works. However, it is heartening to see international interest in these works by such prominent and connected artists and it is exciting to have international commercially available recordings of such quality available so that this music can finally be heard. The New Zealand filmmaker John Mandelberg also made a documentary of the *Beaming the Theremin* event, which has been applauded in Russia and is used as important teaching material there and in Australia. Warren Burt and Catherine Schieve have reconstructed the third free music machine, the electric-eye tone tool. They have created wonderful audio-visual performances with Catherine's beautiful coloured acetate graphs, which emit the music from the light cells. A recent performance at the National Film and Sound Archive for Australia's National Sound Day, June 18, 2008 confirms renewed interest in Grainger's free music and its interpreters. The Grainger museum as well is undergoing a reappraisal and renovation at the present time.

## Conclusion

Grainger's innovations as a visionary of the soundscape and creator of colour graphic notation, microtonality and free music can be traced prior to 1938. This situates him in a prominent position in the canon of Western art music history as a leader of the soundscape. Eleanor Wrobell, curator of many exhibitions from the Grainger collection, entitled the 1998 exhibition, *Percy Grainger and the Sea: From water, wind and the sea, evolved the soundscapes of Percy Grainger's mind*. Grainger responded to the soundscape in all of its complexity, pioneering attitudes that would be developed later in ethnomusicological and world music practices, and electro acoustic, electronic music and soundscape composition. Grainger expanded and interpreted his acoustic world by shaping microtonal polyphony, inventing free and indeterminate music, and making electric machines. His vision and contribution to innovative art music and the soundscape necessitates greater recognition (See also Tan 1971; Balough 1975; Anderson 1979; Linz 1997; Doornbush 2000; Bandt 2000 & 2001; Burt 2005.).



Ex 5. The lit pavements using elevated overhead projections by Hugh McSpeddon.

## Credits

Thanks to the curators of the Grainger Museum: the late Rosie Florimell who allowed me extended access to record the Grainger collection in the mid nineties; to Alessandro Servadei for facilitating my installation in 1997 and access to the framed free music for a complete re-draw in 1998; and to Astrid Krautschneider for making the collection in storage available for research and facilitating photographic permissions, in 2008. Thanks to the History of the University Unit of the University of Melbourne, for funding this research through a 2008 research grant.

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# *Pure Geographer. Observations on J.G. Granö and Soundscape Studies*

By Heikki Uimonen

Senses and aesthetics are fundamental elements in constructing the relationship to environment. The environment perceived as a work of art does not consist just of an aesthetic experience, but it could contribute to the critical evaluation of the environment (Niskanen 1996, 45; Karjalainen 2004, 55). These aesthetic and critical evaluations of the environment are both included in two groundbreaking books of different disciplines and eras, *Pure Geography* and *The Tuning of the World*.

Finnish geographer Johannes Gabriel Granö's *Pure Geography* was originally published in German (*Reine Geographie*, 1929), then in his native tongue Finnish (*Puhdas maantiede*, 1930), and finally in English nearly 70 years later (*Pure Geography*, 1997). Contrary to fellow scholars of his time, Granö aimed to utilize all senses in his geographical research and in order to do so, he needed to create a terminology for visual, auditory, olfactory and tactile phenomena sensed in the environment and to construct a cartographic representation of landscape (see also Wojciechowski 2008).

In the late 1960s Canadian composer and professor R. Murray Schafer and his colleagues set out to create a multi-disciplinary field of research in sound. Schafer presented his ideas in *The Tuning of the World* (1977) which has inspired academics, soundscape enthusiasts and environmentally conscious people with its multi-disciplinarity and wide-ranging topics, such as cultural history of sound, the qualitative research on sonic environment and basic concepts of soundscape studies.

In some respects Granö's thinking in the 1920s is parallel to Schafer's in the 1970s. This article seeks to shed light on the matter and contemplates on perceiving the auditory environment according to geography and soundscape research. The text includes explorations of terminology and basic concepts and takes a look at the ideological currents behind these two books.

## **Sensed environment**

Granö's *Pure Geography* was principally influenced by the systematic research of landscape in German geographical thinking of the 19<sup>th</sup> century. This includes the visual Humboldtian approach, which utilized painting as a way of researching the environment. Granö did not conceive regions merely as measurable objects for geographical study but also as subjective landscapes to be included in a more holistic research approach. *Pure Geography* emphasizes the role of a perceiving human being. However, the research could not be accomplished without proper terminology and classification (Granö 1996 47–49; Raivo 1997, 195).

Granö's work differed from the studies of his contemporaries in the fact that not just measurable characters were taken into account while evaluating the environment but also the senses of the perceiver. Granö was also rather conscious of science politics: he reasoned that this new approach would help to establish geography as a science

in its own right, and to eliminate the notion common in his time, that it was a sum of numerous other sciences. It should be noted, though, that he did not consider artistic work as a proper tool for that. Although Granö is not belittling the role of art in geographical research he is somewhat skeptical of the notion that aesthetic issues should be included in scientific research (Granö 1930, 4; see also Karjalainen 2004).

As Granö was influenced by German geography, so soundscape research of the 1970s was influenced by German industrial design and musicology. 20th century classical music created new ways of listening, not only to music composed of tones but also of everyday sounds and noises. *The Tuning of the World* is introducing Luigi Russolo whose works challenged conventional ways of listening (and concert behaviour, for that matter). John Cage's work and Pierre Schaeffer's musique concrète are also discussed (1977, 110–11). Some of the terminology of soundscape studies, such as keynote sound, concentrated listening and the notion of balanced soundscapes, can be traced back to the ideals or concepts of Western classical music, not to mention Schafer's idea that the soundscape should be approached as a "huge musical composition" (see Schafer 1977, 205).

Schafer's multidisciplinary approach was inspired by the works and ideas of Bauhaus, which "brought aesthetics to machinery and mass production" (Schafer 1977, 4). The famous school for design and architecture was operating during the Weimar Republic (1919–1933), combining various scientific and artistic expertise, to create a new discipline of crafts and design. The school's Industrial Design (*Industrielle Gestaltung*) was to show the way to acoustic design: new methods from social sciences, musicology, psychology and architecture were to be brought together in the methodological tool box of soundscape studies. Also, the idea of environmental sounds as carriers of cultural meanings was introduced into the discussion.

Whereas Bauhaus introduced aesthetics into the industrial design process, acoustic design could contribute new methods towards improving sonic environments. Unlike Granö, Schafer aimed not just to research but also to improve the environment, make the world a sonically better place by advocating listening and including pedagogical aspect to his work (Granö 1930, 170; Schafer 1977). This is not to say that Granö was not also engaged in a multidisciplinary approach. He was willing to amalgamate sociologists into the study of geography and the new discipline of home area studies (*Heimatkunde*). He called this human ecology, which resembles strongly the concept of acoustic ecology – a term closely connected to soundscape studies (see also Schafer 1977, 271; Granö & Paasi 1997, xvi; Järviluoma 1998).

Granö suggested that "human-centered" geographers should be experienced scientists who had studied their books in methodology and terminology, not laymen or "casual bystanders" (Granö and Paasi 1997, xvii). Soundscape studies aimed higher since its peda-

gological goal was to awaken citizens aurally towards all aspects of the soundscape, not just to the noisiest ones. One could compare this approach to the difference between creating awareness of health issues versus treating illnesses. Problems of the soundscape can be avoided if knowledge is gained about the importance of sounds as a source of well-being for individual and community.

One of the main principles of soundscape research is the maxim of sounds reflecting society and especially its changes. Granö was perhaps not so straightforward in formulating his thoughts, but the idea is parallel to Schafer's. According to Granö "the threads of activity end in phenomena, and our task is to investigate where these threads come from." These phenomena manifest themselves as spatial or temporal properties (Granö 1930, 10–11; 24).

Perhaps one does not want to jump to conclusions by searching the causalities between single sound events and changes in society. However, the ideas of Granö and Schafer can be used as a relevant starting point of such research. Changes in the sonic environment are perhaps not straight indicators of social change but at least they are referring to the changes in society in micro and macro levels, such as economy and legislation. All this is closely connected to a dialogue between sound, power and cultural values that are affecting sound making and restrictions of it (see e.g. Westerkamp 1990).

## Thinking in terms

Terminology is not only serving the practical purpose for which it is coined. Terms also have their political dimension: when researchers are conducting their analysis with the help of terms they have selected or created, they are representing their work and their relation to the environment within a certain terminological frame work.

Inspired by the Finnish ornithologist Mr. Jussi Seppäs book *Luon-non löytöjä. Lintunäkymiä ja -kuulumia (Findings in Nature: Ornithological Sights and Sounds, 1928)* Granö included sounds to the sensed environment. As a result he introduced the field of hearing (*kuuluma*) into his terminology (Granö 1997, 16). Granö drew a distinction between close and distant environments, which were called *proximity* and *landscape*, respectively. Proximity was to be perceived with all senses but physically remote landscape mainly with eyesight (Granö 1997, 19). This indicates, perhaps somewhat paradoxically, that according to his classification the distant sound events also were to be filed as proximities.

According to Granö auditory phenomena are considered to be "highly relevant factors in proximity". Because hearing provides more temporal information when compared to other senses, there is a good reason to call it the *sense of time*. To quote Granö (emphasis in original): "Things that occur are of greater significance in the auditory complex, the *field of hearing*, than things that exist, for everything that is heard is an occurrence: tones, sounds, noises, harmonies, and discords" (1997, 125–126).

According to Schafer the soundscape is any portion of a sonic environment regarded as a field of study. Just like Granö is stressing the relationship between a perceiver and the environment, the concept of soundscape is anthropocentric, since it underlines the ability of a person or a community to perceive and interpret the acoustic environment (1977, 274; Truax 2001, 50). If one wishes to make a Granö-like terminological distinction between the soundscape and the sonic environment one might think of a person or a community as being embedded in the sonic environment, since they are surrounded or encircled by the sounds (OED 2008). This environment can be transformed into a soundscape for further examination and to be scrutinized and analyzed in more detail. Thus the difference lies in a listener's and/or researcher's relationship to the sonic phenomena (Uimonen 2005, 34).

Granö tested his classification in practice, although auditory aspects were dealt with on a relatively small scale. In Schaferian

terms he was earwitnessing the sound events and acoustic rhythms mostly in a hi-fi environment (see Schafer 1977, 271–275). Granö classified and drew a visual representation of the quality and frequency of auditory phenomena in Valosaari, a small rural island in Eastern Finland. The time of year, the sounds of people, of domestic animals and birds and how often they were audible were registered. Transportation (boating route and ice road) was taken into consideration as well (1997, 126–127).

Like his fellow Finnish scientists of the early 20<sup>th</sup> century Granö was creating the terminology for academic purposes virtually from scratch. Because of the relatively short history of Finnish as a literary language, scientists considered it to be important to invent original terms instead of using words borrowed from Latin. This encouraged Granö to develop a terminology that is almost poetic in its eloquence. However, he is not systematic in defining all his neologisms. The terms of *Pure Geography* are derived from standard language as well as Finnish dialects. Single terms are part of the larger system and thus the meanings are constructed in relation to other concepts (Peltonen 1998, 4, 63; Uimonen 2005).

Self evidently one of the major differences between *Pure Geography* and *The Tuning of the World* is their relation to recorded sound. Soundscape studies was influenced by the environmental activism of the 1970s (see Truax 2001, 11) which might be the reason why some concepts were intentionally polemic and somewhat controversial. Despite or because of that they raised questions and perhaps some eyebrows and were thus suitable to promote the cause: they encouraged citizens to pay attention to the sonic environment also on a semantic level. The term *sound imperialism* was used to refer to a type of loud Western colonialism manifested particularly by aircraft noise. The widely known term *schizophonia* is used to describe an electro-acoustic sound and its inherent split from its original acoustic source (Schafer 1977, 77, 273). Especially the latter one, deliberately loaded with heavy connotations, can be interpreted as a reaction against the widely popular background music business of the 1970's. Indeed, the time was ripe to criticize piped music, since UNESCO had started its campaign against background music as early as 1969 (Lanza 1995, 156).

Granö divided auditory phenomena into natural and artificial proximities. The noise of traffic and industry were included in the latter and oddly enough, also the human voice (1997, 126). Without a doubt he would have included electro-acoustic sounds as well, had he continued his scientific work on the subject. It deserves to be noted here that one year before *Pure Geography* was published in Finland Granö's fellow countrymen bought over one million gramophone records and were also very eager to play them on their portable gramophone players.

## Towards the history of science

The methods, ideas and terminology developed by Schafer in *The Tuning of the World* are somewhat parallel to Granö's introduced in the 1920s. The focus of both books was to research the perceived environment systematically. Unlike *Pure Geography*, *The Tuning of the World* does not try to propose a definitive classification of acoustic phenomena in the sonic environment (see also Truax 2001, xxv). More detailed methodological improvements and reflections were introduced in publications such as *The Vancouver Soundscape* and *Five Village Soundscapes* (1974, 1977). In addition different ways to categorize sounds and interpret the environment from a cultural perspective were presented. What is common to both of the writers is their ambition to research the environment holistically and in a multidisciplinary way.

It goes without saying that there are also lots of fundamental differences. As Granö paid attention to the whole sensed environment

and how it should be taken into consideration in research, soundscape research concentrates on the aurally perceived environment. Granö was a “pure” geographer; Schafer had been doing not just research in acoustic communication but made a career as a composer, educator, and an environmental activist. A more profound clarification about the books and their writers is still unwritten. One of the tasks would be to connect the texts and the terminology to the *Zeitgeist* of the 1920’s and 1970’s, and evaluate how these pioneering books have affected the work of later scholars.

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## Mexico WFAE Conference

**Sound Megalopolis – 2009** will be held in Mexico City on March 23 – 27, 2009.

Researchers, teachers, sound producers, musicians, and acoustic ecologists will present papers, panel discussions, workshops, sound installations, and give sound art performances during the event.

The Conference planners have established a web site for the up-coming conference.

The site is currently in Spanish with an English version soon to be online. Sponsors include: The National Council for the Culture Arts and The World Forum for Acoustic Ecology – Through The National Phonoteque of Mexico.

[http://www.fonotecanacional.gob.mx/Web\\_FN\\_Test2/foromundial/foro\\_mundial.html](http://www.fonotecanacional.gob.mx/Web_FN_Test2/foromundial/foro_mundial.html)

# “Musique Concrète” as one of the Preliminary Steps to Acoustic Ecology

By Frank Dufour

*What are the theoretical and practical outcomes of “Musique Concrète” and their echoes in today’s practice of Acoustic Ecology? How does the discipline of Acoustic Ecology provide new elements for a better understanding of the foundations of “Musique Concrète”?*

## Pierre Schaeffer and the Invention of Musique Concrète:

I came to the Studio (d’Essai) “to get the noises to talk”, to pull out the best from a “dramatic auditory decor”...and I discovered Music. (Schaeffer 1966: 44)

In his *Studio d’Essai*, in the 1940s, while experimenting with the genre of the Radio Play, *Théâtre Radiophonique*, and questioning the modifications brought to the act of listening by new audio technologies, Pierre Schaeffer discovered a new attitude (*Acousmatic*) and a new concept (the *Sound Object*), both of which were to form the basis for “Musique Concrète”.

“Musique Concrète” is not a renewal or a modernization of music through a renewal of its auditory material. The purpose is not to introduce new types of sounds and make them available for musical compositions. “Musique Concrète” is also not a renewal of music through new methods and techniques of composing. “Musique Concrète” is a renewal of music in the sense of what Schaeffer names as the primordial activity involved in music: *Listening*. Exactly in the same way R. Murray Schafer names listening-to-the-environment as the foundation of Acoustic Ecology.

### The Acousmatic Situation

Pierre Schaeffer was examining sound and the perception of sound from the perspective of the listener placed into an acousmatic situation. One of the first consequences of this “blind” listening tends to be a liberation from the hierarchy dictated by the reference to the visible. What remains from this first reduction, is the act of listening to the sounds themselves. But the acousmatic situation should not be understood as the emergence of a pure subjectivity for the listener now freed from the visual reference towards the sound.

In the acousmatic situation, the question is not about knowing how subjective listening interprets or transforms “reality”, nor about studying reactions to acoustic stimuli; this is the act of listening itself that becomes the origin of the phenomenon to be explored... The questions aim towards the subject: what do I hear? . What do you exactly hear? ...The subject is asked to describe his own perception itself, instead of the external references to the perceived sound. (Schaeffer 1966: 92)

When R. Murray Schafer suggests that we should listen to the acoustic environment as we listen to a musical composition, he points to this acousmatic attitude and to the implied musical activity in which the emergence of the acoustic-environment-becoming-music, is revealed. Even without this strong awareness of the musical dimensions of the acoustic environment, Acoustic Ecology would certainly have developed as a measure for certain qualities or characteristics of sounds, mainly intensity and spectrum, combined with the appreciation of musical, sociological, or cultural conditions of the sonic environments. The goal in both situations, acousmatic and ecological, is the emergence of a way of listening in which sounds are not interpreted through preexisting sets of criteria and referred to as external causes, but are considered as components of an interactive ensemble.

We deliberately forget all of the references to instrumental causes as well as preexisting musical meanings, we attempt to focus entirely and exclusively upon the act of hearing, and to discover the instinctive pathways leading from the purely sonic material to the purely musical. This is what acousmatic suggests: denying the instrument and the cultural conditioning, and place ourselves in front of the sonic material and its possible musical becoming. (Schaeffer 1966: 98)

According to Schaeffer the acousmatic experience creates, what he calls “reduced listening”; in the sense of the phenomenological reduction: listeners must question the content of their perception or the intersection between their perception and the acoustic phenomenon itself. In the act of reduced listening, a sound is not only a sign or an index that represents something else; but a sound is also present in its own right, as an object, on which the listening perception is focused. The phenomenological dimension of the theoretical investigation of “Musique Concrète”, introduced by Pierre Schaeffer, is of great importance and ensures also that the acousmatic experience does not only consist of a *tabula rasa* of all the scientific, artistic and historical experiences and knowledge, but also of a fertile use and criticism of these. In fact, Pierre Schaeffer is in search of a bridge between the realism of the scientific description of sounds provided by acoustics, and the “psychologism” of its musical or cultural appreciation. This search is deeply inspired by Husserl’s search for the foundations of Logic as a criticism of both realism and psychologism who:

... stand in need of “criticism”, and indeed of a criticism which they are not able on principle to supply themselves, and that, on the other hand, the science which has the unique function of criticizing all the others and itself at the same time is none other than phenomenology. To put it more precisely: It is the distinctive peculiarity of phenomenology to include all sciences and all forms of knowledge in the scope of its eidetic

universality... (Husserl 1928/1962: 165–6)

Pierre Schaffer defines music similarly as

...an *interdiscipline*, properly speaking, an activity that, encompassing various specific disciplines, verifies through synthesis their respective partial outcomes should they relate to facts or to ideas, and presents itself as an activity of discovery and invention, that tends as much to set the grounds for knowledge than to create works of art. (Schaeffer 1966: 31)

Acoustic Ecology is thus to be defined as a similar *interdiscipline* whose practice necessitates "...training in acoustics, psychology, sociology, music, and a great deal more besides, as the occasion demands." (Schaeffer 1977: 206). Two of the most fundamental outcomes for "Musique Concrète" and possible inspirations for Acoustic Ecology are certainly the definition of music as an *interdiscipline*, centered on the questioning of the act of listening – a perspective from which Acoustic Ecology is defined primarily as a musical activity, and it reaffirms that the phenomenological approach is central to Acoustic Ecology.

## The Practical Outcomes of "Musique Concrète" – The Activities of Listening

What do I hear? How can I describe and witness the content of my perception? These two questions are instrumental to the practice of acoustic ecology. *Phonography*, regardless of its fidelity is not reliable when the scope is the transmission of a human experience. Pierre Schaeffer proposes an analysis of the function of listening that reveals four modes of listening, each of them referring to different dimensions and characteristics of sound: *Écouter* (*Hearing*), *Oùir* (*Perceiving* or *Listening 1*), *Entendre* (*Listening 2*), *Comprendre* (*Understanding*).

LEVEL 4 UNDERSTANDING Inside: Signs  Outside: Values Emergence of a content of the sound, and <i>reference</i> and <i>comparison</i> to extra-sonorous notions	LEVEL 1 HEARING Inside: Indexes  Outside: External events <i>Emission</i> of the sound	1 and 4: Objective
Level 3 Listening 2 Inside: Qualified perceptions  Outside: Qualified sound object <i>Selection</i> of some aspects of the sounds	Level 2 Perceiving or Listening 1 Inside: raw perceptions  Outside: raw sound object <i>Reception</i> of the sound	
3 and 4: Abstract	1 and 2: Concrete	

(Schaeffer 1966: 116)

- *Hearing* captures the sound as an index and points to its external cause.

- *Listening 1* refers to the sound itself and captures it as a phenomenon remaining identical throughout the various meanings one can assign to it, and the various impressions one can have of it.

- *Listening 2* refers to the qualities of the sound and the selection of some of its aspects: duration, intensity, pitch, timbre, grain...

- *Understanding* refers to the sound as a sign within a preexisting system of significations: musical, linguistic, social...

These four modes of listening are neither exclusive of each other, nor are they always performed in the same order. They all are performed within "listening cycles", practices, or habits, depending on the general context of perception, including the environment, the source, the listener, and the scope of perception. The criteria for a good soundscape, i.e. "meaningfulness and promoting active listening and sonic delight" (Truax 1998), can be thus formulated as a set of characteristics of the environment, allowing the performance of a balanced cycle of the four activities of listening.

Meaningfulness relates to sections 1 and 4 of the table, *Hearing* and *Understanding*. *Hearing*: the sounds in such a soundscape can be linked to plausible or acceptable causes and inform the listener about the various presences within this environment. *Understanding*: the sounds considered as signs, are linked to one or more semiotic systems and can be decoded as components of articulated sequences, and/or assembled into sequences allowing both memorization and anticipation.

Active listening and sonic delight relate to sections 2 and 3 of the table, *Listening 1* and *Listening 2*. *Listening 1*: the reception is such that each sound perceived in this environment has an identity; can be detached from a global background and seized as an element of a complex organization. The reception provides pertinent information on the spatial layout of the sound sources ("Hi-Fi"). *Listening 2*: because of the clarity of the reception, qualities of the sound can be perceived, analyzed, and compared. Sound acquires an identity through modulations and variations and can be understood as the result of interactions occurring in the environment.

It is possible to derive from this description of the activity of listening, the various dysfunctions of listening in degraded soundscapes by identifying the mode(s) affected by the situation. *Schizophrenia* for example affects primarily the first mode by depriving the perception of a sound's source.

As part of the necessary educational strategy towards "ear cleaning" the use of such a description of the activities of listening is also crucial for exploring and understanding the conditionings of various types of listeners, and for developing fruitful exchanges on the perception of sounds and their effects – beyond the traditional boundary set between objectivity and subjectivity and separating irremediably "What I hear" from "What you hear". Part of the educational strategy implied by "ear-mindedness" is the full and clear recognition of subjectivity in the activity of listening and the qualification of listening in various contexts. This awareness of personal strategies to listening is the necessary condition for developing an ecological approach to the sonic environment.

## Elements for Morphology and Typology of Sound Objects

Within the framework of the search for a music that would be as "general as possible" (Schaeffer 1966) emerges the necessity for establishing a typo-morphology, i.e. identification, classification and description of the possible musical materials, the sound objects. R. Murray Schafer, while acknowledging the important contribution of the typo-morphology elaborated by Pierre Schaeffer, points to two of its main defects: the first one is the difficulty to use such a complex system in field studies; the second one is the restriction of such a system to only discrete sound objects. Eventually, only two criteria borrowed from Schaeffer's typo-morphology are incorporated by R. Murray Schafer for use in acoustic ecology: *mass* (occupation of the field of frequencies) and *grain* (presence of continuous micro-variations of intensity or frequency that affect the surface of

the sound). These two criteria are very pertinent to the description of soundscape because they instantly relate to already established concepts, such as “broadband noise” and the material signature of sounds used by Schafer to establish his morphology of sounds. But they have to be complemented by a third one: *Gait*. Gait and Grain are presented together by Pierre Schaeffer in the chapter entitled *Solfège de l'entretien* (Schaeffer 1966: 547–60). There they appear to be more pertinent to the scopes of Acoustic Ecology because of their immediate and intimate connection to the inner dynamic of sounds and their links to their *facture or origin*:

...We preferred dedicating a whole particular chapter for the study of the gait and the grain, considering that the criteria of mass and dynamic profile refer to the *abstract* side of the sound object, i.e. its effects; however, the criteria of gait and grain represent perceptions that reveal the *concrete* side of the objects by linking tightly to the energetic history that in turn narrates the genesis of each instant of the sound. (Schaeffer 1966: 548)

The *gait* of a sound, defined by Schaeffer as the way the sound evolves through time in pitch, intensity, or spectrum, carries the signature of the sound's origin, and of the mode of being, of the agent conveying the sound's energy: natural (irregular variations), living (oblique variations), or mechanical (regular variations). The *grain*, associated with the perception of the sound's surface, can be divided into three main types relating to the three different types of the sound's energy articulation: sustained, impulse, iterated.

Because of the very concrete dimension of these two criteria, references to actual or plausible causalities spontaneously arise, opening the description of the sound object to images, gestures, and words, and therefore projecting this static description in a dynamic field of evolution and chains of interactions. It is the structural side of the object that is revealed and described by these two criteria and therefore its possible interactions and connections with other sounds and its possible compositions with the environment.

## **Phonography and Schizophonia**

In the two disciplines of Acoustic Ecology and “Musique Concrète” *Phonography* plays different roles and points to strong divergences, especially when it comes to assess the musical dimensions of recordings.

In Acoustic Ecology, *phonography* is primarily a way to extract acoustic elements out of their original spatio-temporal context for purposes of documenting, witnessing, or analyzing. The recording is maintained in close connection with the original context by a set of extra-sonic descriptions, such as date, time, and location of the recording, pictures, maps, and a list of the sonic agents present during the recording. This *meta-phonography* allows a reconstruction of

the original context, able to support a listening as close as possible to the original one and as far away as possible from a *schizophonic* situation.

The use of *phonography* in “Musique Concrète” is primarily *acoustic*. *Schizophonia* is assumed to be the very condition allowing the emergence of the Sound Object as a musical component. Thus *Phonography* which is considered to be a *schizophonic* activity, is the necessary foundation for Musique Concrète.

In fact music in general (and any other artistic expression) should be considered as a schismatic and technological activity: any musical instrument should be considered as phonographic and *schizophonic* because of its capacity to record, to fix together, and to make available, in any spatio-temporal environment, a gesture and the acoustical result of this gesture. Musical composition itself relies on a writing of the sounds based on a process of selection, extraction and abstraction of their qualities that constitutes the original schizophonia of Music.

Only the actualization of the composition, or its return to the environment by means of its performance, can constitute a possible remediation to the original *schizophonia* under certain circumstances, implying the necessity to redefine the roles of the audience, the composer, and of the performance.

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# *The Pioneers of Soundscape in Finnish Music Education: Listening to Liisa Tenkku and Ellen Urho*

By Olli-Taavetti Kankkunen

The history of soundscape education in Finland may be traced to the early 1960s and the pioneering work of Liisa Tenkku and Ellen Urho. These two pioneers, introduced in this paper, brought new and refreshing winds to the field of music education, from research in music education, psychology and the modern music of their time.

In the autumn of 1963 at Helsingin Suomalainen Yhteiskoulu (the Helsinki Finnish Co-Educational School), Tenkku's original intention was to only prepare her pupils for listening to contemporary music. At the same time, she happened to include nearly all of the most essential working methods and ideas: sound games, movement, recording the performance and a graphic score – which was later refined with Ellen Urho. These

lessons may be considered not only the origins of soundscape teaching in Finnish schools, but also important for music education, more generally in Finland. Now sound itself and active listening of sounds had become, in a new way, the starting point of music teaching. Music pedagogue Tenkku, Lic. Phil. (b.1918) tells a lively tale about one of the most *unforgettable* music lessons of her career:

I drummed with my fingers and began: "Now, when it's autumn, everybody remembers the feeling when it rains." Straightaway, all the pupils joined me instinctively with their hands. "But at the same time, it's blowing, isn't it? Yes, but over there is coming a huge cloud!" After we had recorded this performance – rain, wind, thunder and lightning – I continued: "How do we picture those sounds?" Well, the pupils acted spontaneously to draw it on the blackboard, and there we had the very first graphical score, suggested and done visibly by these children – and just by accident!

With her pupils, Tenkku initiated new soundscape worlds. In time, these were connected to illustrations and stories, which guided holistic presentations and performances. This process also led to the discovery and use of graphical scores, which was a small revolution in Finnish music education, normally based on traditional notation.

Besides music education, Liisa Tenkku also studied the history of visual arts, which guided her thinking about the common essence of all arts, the basic concepts of time (duration), space (acoustics), shape (form), power (dynamics) and colour (tone quality). These insights came to fruition in Holland by the end of the 1950s, where



Ellen Urho and Liisa Tenkku (right) with some of their teaching equipment. *Aamulehti* 17.6.1971

she participated in a pantomime course. The first task was to draw "The Imagination" on a blackboard. This affected her as a shock, a eureka moment: "My personal experience was like I was a key touched for the very first time, a lovely feeling that I am open minded and can do different things and synthesize them. All the arts belong together".

In 1949 and 1950, Tenkku worked as an assistant teacher and accompanist in America in a progressive school nearby Harvard

University. Afterwards, music suddenly appeared in a new way, as a liberating and expressive subject. In the year 1959, Liisa Tenkku obtained an LP-record "Poème Electronique" (1958) for electronic tape by Edgard Varèse. The fact that all concrete and vocal sounds from human voices to church bells were transforming electrically, carried Tenkku into a new sound world. The music of Varèse, which raises noise and timbre as equal to pitch, was the first impulse to be familiar with new music and its notation.

## **Ellen Urho – collaborator and co-author**

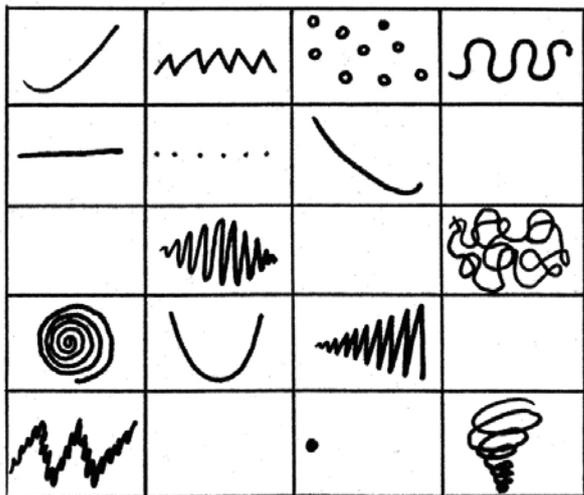
Music pedagogue, Ellen Urho, M.A. (b. 1920) had already become acquainted with the music of Varèse in the year 1960, when she was admitted to the master course of Eric Ericsson in Stockholm. "Pelagon" by Hungarian Zoltán Gaál was rehearsed there, which with its allusive, graphic notation demands creative participation: "Like a new world had opened! When tone colour was now 'discovered' again, could music education be founded on it?"

Urho tells how at that time related ideas began to appear in papers in I.S.M.E. conferences (International Society for Music Education). These presentations indicated how to create soundscapes in a class-

room, but there were no actual demonstrations. On the other hand, Urho remembers a week at the Salzburg's Mozarteum, in the castle Mittersill. During the course, music and arts teachers, actors, dancers and artists had to improvise an entire Oriental opera based on just a text and a few scales.

Listening to avant-garde music was the first spark to set fire to the idea of using it in music education. While new compositions were source materials, pedagogical literature (e.g. Paynter & Aston 1970) and foreign school books containing graphic figures were studied. Murray Schafer's publications (see 1965; 1967; 1969; 1970) and ideas were also known to Urho and Tenkku.

## ŠAKKIA ÄÄNILLÄ



KEKSI KUVIOT TYHIIN RUUTUIHIN. TEE RUUTUJEN KUVIOT ÄÄNELLÄ TAI SOITTIMELLA MISSÄ JÄRJESTYKSESSÄ HALUAT.

Chess with Sounds, *The Blue Music Box*, page 61

## The Twittering-Machine Project

The objective of one project was to produce a new type of music book series for comprehensive schools in Finland. The preliminary title: *Vihreä Viserryskone -projekti* (The Twittering Machine Project), illustrates the main features of the methods used, which were visual imagery, sound and musical instruments. This teaching program produced five books, ranging from preschool through the fourth grade of the comprehensive school. Each part has a student's book, a record and/or cassette, and a teacher's manual, in which both goals and instructions for singing, playing, movement, listening and discovering are included together with tips for teaching conversation and integration. The books are richly illustrated with reproductions of master paintings connected to the contents of the books. Teacher's manuals were published, too.

*Vihreä Viserryskone* (1972), (The Green Twittering-Machine), for Preschool and First Grade

Songs and exercises for active listening are included in practical teaching, for instance: how the aims of teaching timbre will be actualized when sounds are invented, collected, selected, imitated and combined together. This book contains up to 51 folk melodies from various countries – it was the “international education” of its time.

1 In the English brochure (1976) this book was called *The Red Hurdy-Gurdy*.

2 In the English brochure (1979) this book was called *The Yellow Bells*.

*Sininen Soittorasias* (1974), (The Blue Music Box), for the Second Grade

The book guides students to notation through play and discovery. The goals for teaching symbols are divided into two sections, old and new notation. The basic ideas are phrasing and the form of music.

*Punainen Posetiivi* (1976), (The Red Barrel Organ<sup>1</sup>), for the Third Grade  
Familiarity with composers is developed by listening to both new and traditional music.

*Keltainen Kelloveli* (1977), (The Yellow Glockenspiel<sup>2</sup>), for the Fourth Grade

The reading of notation proceeds from new towards the traditional.

*Sinivihreä Soittorasias* (1979), (The Turquoise Musical Box), for the mixed First and Second Grades

This book is a combination of the green and blue books (above).

Additional Finnish folksongs and traditional play songs are included.

During their project, Tenkku and Urho became aware that they had a coherent methodology. Their experimental program for elementary grades, which corresponds to the child's musical development, was a new way in guiding children to experience music. It was based on the actual information furnished by research in music education all over the world. It was not only activation, or inspiration for creativity and musical games, but a logical method designed to progress systematically through the whole of comprehensive schools in Finland (Urho 2000).

## The Discovery Method

Because tone quality, the starting point of this new music teaching method, arose as a basis for music education, the method was called Green Twittering-Machine. It was also named: *Sointivärikasvatus* (Timbre Education). By this name, Tenkku and Urho tried to highlight differences between their intention and that of the traditional music education starting from rhythm or melody.

Tenkku and Urho used the concept “Soundscape” to describe graphic scores, sound-made-visible, and performance, which depicts a certain milieu, situation or feeling with sounds. Because the term, as they launched it in music education, meant only one type of musical discovery, the limited meaning of this concept did not justify calling the method *Soundscape Education*. In Finland, this term, taken from R. Murray Schafer, has been used to represent (for instance) music teaching in sound workshops. Its practical meaning, *sound teaching*, is misleading according to Tenkku because it may wrongly refer to: e.g. acoustics, sound engineering, sound design, soundscape design or even voice training:

In music education there is no need for separate sound teaching, because in addition to tones, sound itself is a part of music. The sound per se can be whatever; sounds of the environment, including nature, speaking... all these are accepted materials of music.

In their summer interviews of 2008, Liisa Tenkku and Ellen Urho discussed what their method would be called today. They stated that although many of the 20<sup>th</sup> century methods were named after their developers (e.g. Dalcroze, Orff and Kodály), it is better to rethink and stress the foundations of the method. They suggest this method be called *The Discovery Method*, since it includes the most essential ideas as follows:

1. *Total Expression*. This way of working, using all senses simultaneously, is the principal idea behind all teaching.
2. *Creative Problem Solving*. The child learns skills and critical musicality in active and goal-oriented action. Music-making is interplay of thinking, feeling and action.



Making a "sounding tapestry" with sounds, movement and expressions. *Aamulehti* 17.6.1971

3. *Methodological Continuance*. All materials are designed and coordinated to progress systematically in affective, cognitive, and psycho-motor areas of development. The skills and concepts are learned concretely, through experience.

4. *Comprehensive Music Education*. Both new and traditional music, including its notation, leads concurrently to high standards of education.

In addition to writing music books for comprehensive schools, the writers began to create a new didactic for music education. The results of this work were published by name *Musiikin didaktiikka* (Linnankivi, Tenkku & Urho 1981; 1994) (The Didactics of Music Education). This was the very first coherent proposal for such a branch of music education study in Finland. In this book, sound/tone is characterized as a basic concept of didactics for music education. From the qualities of sound, namely: space, duration, pitch, loudness and timbre, are deduced from other main musical concepts (tone quality, rhythm, melody, harmony and dynamics) (Linnankivi, Tenkku & Urho 1994).

## Hear with Your Eyes – See with Your Ears

One of the basic intuitions behind this method is that music education is basically grounded on auditory perception. Music education, as a whole, is education towards active listening. Listening as a skill is emphasized right from the start. Sounds and voices are heard and experienced simultaneously with movement and/or visually with pictures, symbols or graphics.

The Discovery Method was a protest in its time to music teaching, which began from drawing a staff and a G clef. The easiest way to start an introduction to reading and marking of notation is a simple form of graphic notation, which, in fact, means a reversion to early times of notation. When music teaching, in this particular way, travels through the history of notation, modern music will be a natural thing for the children.

## Let's Play with the Sounds

Creativity, achieved in learning by doing, is not mentioned in the list of objectives, as it is so integral to the contents of the entire material. Creative activities, which are always present during the learning process, mean creating discovery projects using various sound materials in composing and tone painting. In such a creative approach, it is important that the children can create their own

music. It is also really important to record and listen to the compositions because it opens the children's ears to hearing details within tone quality.

In the 1960s Liisa Tenkku designed the so called *preparatory action*, consisting of project-type *sound games*. Their objective is to train the children in listening, toward understanding the sound world of the music they are going to hear next. Sound game, *sound colour game*, *graphic score* and *sound composition* are different names for total expression, where music is made visible or visible music audible. It is music making in a broad sense, because it nearly always includes drawing and/or paintings, inventive moving and working with music materials, sound and silence.

## Contemporary Critical Voices

Tenkku and Urho had great enthusiasm and a strong vision that the current system of music education could be changed. Their method was successful and warmly welcomed in several pilot schools and many international conferences. The developers gave courses to inspired teachers during school holidays, but soon the series of their books vanished from book markets. What actually happened?

According to the Method developers, the time was not ready for their ideas in the 1970s. On the contrary, teachers and parents criticised their books: music books without "real and correct musical notes" were not accepted and the rhythmical accompaniments were not considered suitable for school children. Ellen Urho recalls that so called territorial thinking was quite strong within art subjects, and that is why the total expression and pictures of paintings by great masters as illustrations irritated many people:

They even wrote in newspapers and asked why we start the teaching like this: there is no real singing and we don't give the musical staff to children. The G-clef on the staff was "the holy cow!"

Afterwards, it is easy to realize that the revolutionary ideas were misunderstood or adopted in fragments, which led to stereotyped use of the method. Attention was paid to secondary matters. For instance, the authors used, with good intentions, colourings which



Lecturer Liisa Tenkku guiding children to add movement to musical elements. *Aamulehti* 27.6.1973

followed the titles of the books. Perhaps their red colour and comics' style were ahead of their time. The Method also had to give way to "new waves" and "emphases" in music education. The interviewees' commentaries indicate three possible reasons why The Method was gradually pushed to the background:

1. Centricity of the teacher. This method requires an enthusiastic and competent teacher, who is a charismatic and creative leader. The role of the teacher can also be seen differently (e.g. teacher as a coach, if he or she doesn't want to be in the centre of the teaching situation).

*One has to pay attention to the personality of a student teacher and to the ability to encourage pupils. This must be recognized within entrance examinations for new students. Guidance towards a student's personal freedom and expression has to begin during studies.*

2. Modern art music. Actually, people were not interested in contemporary classical music.

*Any method or music genre, which is given as an alternative for the dominating and powerful pop music, is in trouble when the decibels are rolling in full swing.*

3. Listening. This essential, methodological emphasis on listening is more and more difficult to carry out when the general ability of children to concentrate on listening seems to be becoming weaker.

*It is for this reason we should now teach active listening. Silence is the right starting point. It is very important to find the very first experience or moment of stopping to listen. After that you can hear a dog running in the snow.*

## The Pioneers' Relations with Soundscape

In the 1960s, Finnish music education was not generally interested in sonic environment, but as early as in 1967 Liisa Tenkku proposed that an introduction to sound material and especially to tone quality should be included in the music curriculum.

Tenkku and Urho used and experimented with sound materials and graphic scores at school with the children. Then they systematically collected and formulated their ideas in books. This makes them the "soundscape pioneers" in Finnish music education. Their joint pedagogical ideas, creativity, improvisation, total expression and communication are topical issues of today. When we refer to their Discovery Method and to the historical circumstances in which they created it, we can consider them to be at the avant-garde of music education.

Ellen describes the music educator's relationship with the sonic environment as follows:

When I am sitting outside and listening to all those sounds I hear, I write a sound score. Then I take that to my next music lesson and tell the students: "Let's make what I have heard!" Thus, sounds I hear are transferred into visible form, and then this is implemented into music. As music educators with a keen ear, we listen sensitively to every sound and the whole sonic environment. At the same time we can be composers creating something new.

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Photo: Olli-Taavetti Kankkunen

Tenkku & Urho in summer 2008.

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# Dr. Robert E. Knowlton: Considering the Coastal Acoustic Carpet

By Heather Ruth Spence

A curious natural sound was described in 1943 in *The Journal of the Acoustical Society of America* –

When putting out to sea at night in a small boat one is concerned about little things. We imagined a leak or that we were dragging a blackberry bush under the keel, but there was no leak and no blackberry bush. ... As we proceeded on our course the sound grew louder until it was easily heard on deck and the separate ‘crackles’ were clearly noticeable. We imagined that it might come from pebbles on a beach rolled back and forth by surf, but the nearest beach was six miles away and there certainly were no pebbles rolling about beneath us. (Hulburt 1943)



Readers of *Soundscape* will likely guess the source of this sound. Snapping shrimp, described at least as early as 1818, by Thomas Say, are ubiquitous and some would say conspicuous, yet their reputation far exceeds their recognition. These same finger-sized decapod crustaceans (genus *Alpheus* and *Synalpheus*) that can individually create loud “snap” sounds are responsible for the dominant crackling sound of shallow tropical and subtropical waters (Johnson 1943, Everest et al. 1948). Yet much of snapping shrimp behavior, ecology and acoustics remains elusive.

These shrimp are a key part of the coastal soundscape. The sound is an impediment to antisubmarine detection, so military strategists investigate its physical acoustic properties (e.g., Chitre et al. 2003). Animal behavior researchers focusing on the animals themselves find snapping shrimp remarkable subjects, and the significance of their sounds includes defense, feeding and communication (e.g., Hughes 2000, Versluis 2000). Certain species of *Synalpheus* have taken the spotlight because they were the first discovered eusocial crustaceans, and even display defensive ‘coordinated snapping’ (Tóth and Duffy 2005). Reef sounds, predominantly snapping shrimp, have also been found important in attracting larval fish to settle (e.g.

Simpson et al. 2004). The sound is obvious when you focus on it, yet people are often not aware of the source. From Rachel Carson’s *Silent Spring*, people could foresee how they would miss the sounds of the birds, but while snapping shrimp are very much part of the familiar seashore soundscape and would be missed if they were silenced, it’s hard to imagine how different that would be.

Dr. Robert E. Knowlton says his first research with the snapping shrimp got him “hooked.” On an NSF-supported undergraduate program during his senior year at Bowdoin College (1959–60), he worked with Dr. James M. Moulton, known for a series of studies determining the morphological basis of sounds produced by marine fishes. Knowlton assisted in analyzing recordings of sound-producing fishes, yet his particular satellite study was an investigation of snapping shrimp sounds around Bermuda. Knowlton felt it was an honor to be chosen by Moulton to do these studies. It all started so innocently, yet how could he know that shrimp would continue to snap up his life.

Knowlton’s early work with Moulton on the snapping shrimp of Bermuda focused on a prominent sound producer at multiple scales and perspectives. Investigation of the morphology of the shrimp that could impact sound production ruled out some previous theories by linking morphology with behavior via examinations of live shrimp. For instance, the sound is not caused by movement of the wrist joint of the larger claw (Miner, 1950), because “[i]n the living animal, one can easily see that movement of the dactylus of the large claw immediately precedes the snap” (Knowlton and Moulton, 1963). Through various angles of research into the mechanism of sound production, Knowlton and Moulton determined the importance of the hardened tips of the claws coming together. Their work also describes a simultaneous water jet that might stun prey organisms but which was not associated with the sound. This study was on the frontier of bioacoustics.

Knowlton and Moulton paved the way for further research into the mechanism and physical implications of the loud individual snapping sound. Knowlton says, “We analyzed the sounds on the tapes by means of a ‘Vibralyzer,’ which gives a visual picture of frequency as a function of time, as well as a ‘section’ of a particular snap (measures intensity over a freq. range)...I wish we could have done this study 40 years later, now that the technology for recording sounds has improved so much.” More recently, studies have further elucidated the phenomena explored by Knowlton and Moulton, including the discovery that the formation of cavitating bubbles is the source of the surprisingly loud sound (Versluis et al. 2000).

In addition to investigating individual snaps, Knowlton and Moulton linked shrimp behavior and the physical environment, making connections between sheltering activity and sound reception. Along with lab investigations of size, spectrum, and species, field recordings were analyzed for the presence and characteristics of shrimp

and water ‘noise.’ Variables of station, depth, bottom substrate, temperature, spectrum and time (diurnal and seasonal variations) were examined. The contribution of individual ‘snappers’ was calculated by counting spikes in each vibrogram. Sounds generated by the same species, but in areas with and without the preferred sponge habitat, resulted in different spectra. Even the behavior of other animals was considered, and its potential effect of reinforcing the diurnal variation by stimulating more snapping due to these other animals’ increased activity. Knowlton and Moulton’s expansive approach in these investigations continues to provide a basis for further research.

Knowlton’s subsequent research includes further investigation of snapping shrimp, focusing on life history and other ecological studies. He worked with Dr. Austin B. Williams at the University of North Carolina for his PhD, studying larval development of “big claw snapping shrimp,” *Alpheus heterochaelis* Say. His extensive career at George Washington University continues to emphasize the importance of morphology and individual characteristics linked with broader ecosystem ecology and trends in time and space (e.g., Spence and Knowlton, 2008). The full story of Knowlton’s work is not necessarily contained in published research papers, as is often the case. His lab studies are painstaking (ask anyone who tries new approaches to rearing larvae!) and he keeps his balanced perspective examining the dynamics of the living shrimp in their natural habitat. His ear is experienced for finding the shrimp. Knowlton approaches his investigations by looking at morphology and behavior in context of the living organisms and ecosystems.

For Knowlton, teaching and research go hand in hand. His students go out into the field, to hear for themselves the soundscape that is better experienced than explained in a lab. All who have gone on a trip with him have a richer perspective on that ecosystem. He points out details, sounds, indentations in the mud: small things as well as connection to large processes. Students of Dr. Knowlton get a special appreciation and awareness of the natural wealth around them that is often overlooked. They are impressed by how everything is interconnected. His field expeditions are exciting opportunities to learn to really see and hear. As Knowlton says, “sound is one of many stimuli that humans use in generating an awareness of what is going on around them. In teaching activities, we tend to focus on using only visual effects (videos, etc.) to complement the spoken word (lecture), which is fine and dandy. But I believe that it is important to use any available stimuli to provide a fuller appreciation and understanding of scientific concepts, with possible side effects such as increased motivation and entertainment.” Even in the classroom, before each lecture he plays a song chosen to relate to the day’s theme. Training ears to listen is central to his curriculum and research.

The innovative approaches taken by Knowlton in his research and teaching can be used in varied soundscape studies. He links direct acoustic study with indirect insight through other means, especially morphology and behavior. He shows that individual morphology can influence behavior, which can dramatically impact the collective input to the soundscape. Even ‘silent’ creatures impact sound producing creatures, thus impacting the soundscape. Knowlton also highlights the importance of getting as close to the dynamic system as possible, because there you can recover the intricacies of the connections between creatures and acoustic phenomena. Collaborative and multi-scale, his work reiterates the necessarily interdisciplinary nature of soundscape investigation.

Knowlton’s expansive approaches are particularly important in



the context of increased noise pollution and endangered ecosystems. As Knowlton reflects on sound, nature and society, he remarks: “We (humans), even though we can hear, are not always content to listen.” He would like people to be made aware of snapping shrimps and their crackling sounds, and the other sounds around us. While he has developed what he calls a rather mechanistic view of sound, “as just one other manifestation of nature, a form of energy that is ‘available’ to humans since they have the receptors that are sensitive to this kind of stimulus,” he is intrigued by the importance of sound and the uses of sound in communication. However, as the general cacophony of society increases, we are subjecting ourselves to blocks to communication and other harmful and unknown effects. In

addition to listening, Knowlton adds that we should be paying more attention to the sounds we produce and their impacts, including “excesses in testing of sound production,” particularly testing of new technology where there is considerable evidence that it is harmful to marine mammals. Knowlton’s work highlights how changes in habitat and community structure can alter the soundscape, and we know that changes in the soundscape also affect the overall functioning and dynamics of the ecosystem. As noise pollution increases, and if we remain detached from our auditory surroundings, will we miss warning signs emitted from tiny claws hidden among the shallowly submerged coastal rubble?

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# *Meetings with R. Murray Schafer: Composer, educator and founder of Soundscape Studies*

By Laura De Caro and Carlotta Daró

## March 2007

**LAURA DE CARO: Mr. Schafer, what were your primary objectives when you wrote *The Tuning of the World*? You claim at the beginning of the book that your work is essentially lyrical in character, yet you state elsewhere that acoustic design can only be effective if it assumes a political and social responsibility. Was it also your intention to make a political statement?**

R. MURRAY SCHAFFER: Oh I think so, yes. When I wrote *The Tuning of the World*, I was in university, teaching in a Communication department. I was expected to do some research and it had to be an objective sort of approach to a new subject, soundscape, which no one had researched at that time. I actually had to invent new words to describe what I was going to study. At the same time, I was giving anti-noise workshops in the Vancouver area, because I was a member of the Citizens Committee against noise.

The 1960s were a very noisy decade. Just think of the developments that were happening in the 1960s: rock music was being played for the first time at volumes that were much louder than any music known before; the commercial jet aircraft had just come in and the noise profile around airports had grown larger. There was a lot of concern about noise pollution. But what I wanted to try to do was to expand the subject so that we would not just be concerned with ugly noises but with all the sounds of the environment. That is because when you are concerned with all the sounds of the environment, the noises become more conspicuous.

I taught a course in noise pollution at Simon Fraser University, but the students found it too negative. They would say to me “Well it is a noisy world, we agree but what can we do about it?” It was then that I decided to change the subject of the course to all the sounds of the environment. Students could choose what area they wanted to study and that was much more interesting for them. They started to think about the changes in the soundscape and interviewed people about the sounds of their environment. They were very interested in history and sociology. It gave us more opportunities for research.

**LC: I wanted to ask you what you thought about some of the things your critics have mentioned. One such criticism concerns the fact that you tried to find a new vocabulary for sonic perception but that you eventually adopted a correspondent vocabulary related to the field of vision. Is it possible to create a terminology that is strictly related to sonic experiences or do you find it effective to apply terminology that comes from the visual world? Should perception be considered more globally?**

RMS: You had to invent some new terms, some could come from sound, some from music and some from the visual world. But the

important thing is that unless you have a word to describe something, it probably doesn't exist. You could say that the soundscape concept didn't exist until it was given a name. Through history, while people wrote about sounds, they didn't really have a concept of sound as an abstract medium of study. The same thing is true of landscape. They say in fact, that landscape only came into existence when Petrarch climbed on top of a mountain and looked around to describe what he saw. Of course people would stand and look at a scene, but they didn't have a word for it. So it didn't really occur as a specific human activity and it certainly didn't exist as a concept until painters began to paint what they saw. We have to think that in certain societies there will be a larger vocabulary to describe sounds. But there may not be a word to describe everything that you hear during your entire lifetime. That's the soundscape.

**LC: Critics have pointed out the recurring tendency in *The Tuning of the World* to make no distinction between what results from perception and what results from imaginative and interpretative processes. According to the Italian philosopher of music Carlo Serra, for example, the perspective presented in *The Tuning of the World* does not take into account the interpretative potential of the individual, advocating a rather passive form of listening. How would you respond?**

RMS: There may be something in that. We were not so much concerned with making a distinction between perception, imagination and memory. What we were trying to do was to get people to describe the sounds of the environment and get some idea of what they thought about them: whether they were useful, whether they were irritating or pleasant, what kinds of function those sounds had. We were gathering information in order to try and fill in periods of the soundscape that had never been documented before.

The only information we have on sounds prior to the tape recorder are the descriptions of how people heard those sounds. Some critics have said this is an imaginative approach, but if I want to find out what kinds of sounds were heard in the Middle Ages or in Roman times, the only way I can do that is by reading and writing down all the accounts that I have. This way I can find out what people listened to and what they thought about it.

**LC: While some critics try to extrapolate a theory from *The Tuning of the World*, Albert Mayr<sup>1</sup> suggests that the work of WSP during the 1960s and 1970s was not primarily concerned with developing a scientific approach, but with recording and seeing what that brought.**

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<sup>1</sup> Personal communication.

RMS: That's probably true. You have to remember that it was the very first time that anyone had gone out and recorded the environment. Before that, all the recordings that had been done, by broadcasters and researchers had been done in a studio. Even ornithologists went out and only recorded bird song. So our environmental recordings are significant as the first document of the *other* sounds in the environment, that no one had ever bothered to pay any attention to. I would call the recording approach phenomenological, because in many cases we were not trying to direct the microphone towards a particular sound. We would not manipulate the sounds in the way that, for example, a broadcaster would. The broadcaster points the microphone at the sounds that he wants, like anyone who wants to record particular sounds like birds or animals. They're searching for particular things. We set out our microphones in an environment and recorded what was there. Then we tried to analyze what was on the recording.

**LC: In *Five Village Soundscapes* you make use of musical notation to represent the sounds heard, while in *The Tuning of the World* you make the *keynote* one of the central tools for the description of the soundscape. If we use the term *keynote* to denote hierarchical relations between sounds in music, can we apply it in its full meaning to the context of environmental sound? More generally, do you think musical categories can be effectively applied to describe the soundscape for analytical purposes, or do they intend to work as 'aural metaphors'?**

RMS: First of all, not all terminology comes from music. Ear witness, for example, comes from eyewitness. Everybody up until that time had been gathering eyewitness information, but no one had ever tried asking people about the sounds they heard: how sounds had changed during their lifetime, what they thought about them and so forth. Certainly sounds can be indicated in musical terms. Some sounds have a definite pitch and a definite rhythm. They can be indicated quite accurately in musical terminology. Other, more complex sounds, cannot be indicated in the same way. This is why we have graphic analysis to show other aspects of sound, like the frequency or the duration of the sound.

But if your question is if one thing is a replacement for the other, the answer is no, it isn't. It's a useful aid for study, an alternative way of describing, but it's not the same thing at all. You could look at a graph of a sound of a very large explosion and all you would get is little black dots! You wouldn't have the impact or the sensation of being next to the bomb that just went off. That's why I think we wanted to make some recordings to include with the publications, to have the actual sound. You don't get the volume, the context, you don't get other things, but you get some impression.

**LC: Your critics have pointed out the need for a more structured methodology in *The Tuning of the World*. Maybe because *The Tuning of the World* was the only one of your books to be translated into other languages and to have reached Europe in those days, it was judged not as the result of a work in progress and on the field, but as the presentation of a new discipline that needed a stronger base. There appears to be a substantial rejection of the experimental nature of your work.**

RMS: I remember when I was trying to get grants to study the soundscape, to go cross Canada and to come to Europe for *Five Village Soundscapes*, always there was a jury and always the jury would say 'you don't have a methodology'. Yet no one can say today that there isn't a methodology. It may need to be refined, you could criticize some aspects, but there are a lot of projects going on and they seem to be getting funding too.

## Carlotta Daró Talks to R. Murray Schafer, July 2008

**CARLOTTA DARÓ: Who are the figures that mostly inspired you to develop the notion of soundscape in 1969?**

RMS: Three persons are on the base to understand the birth of this concept. The first is Pierre Schaeffer, who I met in Europe during my stay (1956–61). I was strongly interested on his work because, as composer, he had a particular background. He was an engineer in telecommunication working in the *Radiodiffusion Télévision Française* (RTF). His idea of 'musique concrète' (1949) was first issued from experiments with recorded sounds. At this time the electro-acoustic manipulation of sound was a new territory to explore for technology and acoustic science, but Schaeffer started very soon to elevate this practice to "music".

The second one was for sure John Cage for the way he turned upside down the social conventions of the traditionally-settled rituals of concert, music and listening. I invited him the first year I was teaching at the Simon Fraser University, in 1965. He was doing a tour with the Merce Cunningham dance company and he came to give a lecture. The University was just opened and they were looking for people to increase the cultural prestigious of this new institution, especially coming from United States. But they were really disappointed. Cage did a lecture without any contents or particular conclusions and when the audience started to ask questions he just played his game card as he often did. He used to have a game card of papers with written sentences and choose randomly one of them to read as an answer. People from University were angry with me because I invited him. Anyway, he was really nice to me, he quickly understood the work I was doing on soundscape

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Photo: Carlotta Daró

What I feel is not helping us very much is that many of the people that are connected with the soundscape movement are doing environmental music. We made those recordings as *documents* of actual sounds. I'm not drawing conclusions onto why there are more voices in Cembra than in Skruv, but we made those documents for further research and reflection. There are a lot of people who are taking that material and manipulating it.

**LC: In relation to the idea of 'sonic naturalism' that Michel Chion has attributed to your work, do you see a direct relation between the physical characteristics of sound and its meaning, or is the construction of meaning exclusively cultural?**

RMS: It's social and cultural too, because if I came to Turin and I was to stand on the corner of a street, I would hear differently from you. You would hear the sounds that you know and you would know how to place them in a certain context. I would be a tourist and I wouldn't know how to put them in a particular context unless you explain them to me. What is this horn that I'm hearing? What is this bell that I'm hearing? I need to ask questions.

In order to understand sound you very often have to interview people who understand it more than you do. When we went on our Five Villages study we had to ask people a lot of questions that for them were natural about sounds they had lived with all their lives. But for us, they were absolutely new and different. The soundscape is not a neutral thing that we all experience; the soundscape needs to be interpreted by the listener. It has to be described and one person's description will be very different from another person's description.

I think most people have an enormous reservoir of sounds in their lives that they would find very difficult to describe or focus on in isolation. Altogether their surrounding soundscape makes it possible for them to navigate that soundscape comfortably, to know what is a dangerous sound or a pleasant sound. People feel comfortable in their own soundscape just as they feel comfortable in their own environment, town, or home. That's a very different attitude from the attitude of the researcher who comes in from outside. For instance, it would have been better for a group of Italian researchers to have researched Cembra instead of a group of Canadians who didn't know the language or the history of the place and had trouble talking to the local people. Yet it was not our intention to focus on a specific community in detail or to understand the Italian attitude to the soundscape; our intention was to gather enough information for comparison. We wanted to compare five villages of approximately the same size, in five different countries.

**LC: Do you think research in acoustic ecology could not only focus on community soundscapes but on smaller nuclei like groups, social gatherings or media-defined soundscapes? Would reduced objects of study help create direct links between individual interpretation and community-based processes of construction of meaning, with regards to sonic experiences?**

RMS: Yes, it would definitely be a good idea to do some research on smaller groups of people working closer together, a linguistic community or foreigners living in a new environment. The World Soundscape Project – what an ambitious title! We couldn't possibly be researching the world! We had to choose what groups we were going to study. Unlike the city of Vancouver, Five Villages gave us a smaller setting where we could get a better impression of what unified it as a sonic environment.

**LC: Mr. Schafer, your critics have read your ecological approach as a strong denunciation of what we call progress and technology. What was your position towards technology when you first**

**started working on soundscape? Did it change during your work on the soundscape and how do you feel about this issue today? Do you think that technology has succeeded in providing a more balanced soundscape?**

RMS: Yes, I think it did change. When I was young I was in love with technology. Many young people are. I wanted to have the best electronic music studio with all the latest equipment. In fact, when I first went to Simon Fraser University in 1965, the university had just been created. So I was able to buy the best equipment that was available and for a few years we had the best electronic music studio and sonic research studio than probably anywhere in North America. But with technology, you need to keep adding new equipment as things change and that became more difficult. By the time I left university ten years later, I felt I didn't need to have that technology in my life – it was very time consuming and very energy consuming to keep these studios equipped in the very best way.

Secondly, one of the models in my thinking has always been the Bauhaus. There were many painters and architects that worked there and they made a major discovery, industrial design. The Bauhaus had a motto, "more is less:" you can think of that in terms of architecture, like in baroque architecture, where there's a lot of activity, a lot of delicate stonework that you can't appreciate all at once. That is "less" than a good, clean line, a good clean shape or façade. So I began to think about that and realized that having more and more elaborate equipment was not necessary, it was not the best way *for me* to go.

By 1970 we were beginning to do soundscape research. I started out with an electronic music studio, with a lot of computer equipment. But soon we were finding the students wanted to go to Princeton or to California, where they had the best opportunities to have the latest equipment. So I had to think of "what are we going to do that is going to be important?" and I think that's when we started working on soundscape research. The studio then changed and became more of a research studio.

**LC: The *hi-fi* and *lo-fi* dichotomy has been interpreted by critics as the opposition between a more balanced soundscape of the past, which retains the qualities of interaction between man and environment, and today's *lo-fi* environments, that confuse our ability to receive information from the soundscape. Can you comment on the use of such terms?**

RMS: The word *hi-fi* was used by the technology enthusiasts in the recording industry in 1960, when hi-fi recording came into existence. It was a word that everybody was using. I decided to invent *lo-fi*, which was rather amusing, rather funny. What one meant by hi-fi was a recording that had a good signal-to-noise ratio. The signal was very clear and the noise was kept to an absolute minimum. So a lo-fi environment or sound would be one in which the noise is very prevalent and the signal is not very clear. It was very useful to me to explain to people in lectures what had happened to the urban soundscape: the noises were so loud, so dominating, that it made it very difficult for us to hear the sounds we wanted to hear. Whereas if you go out into the country, it's generally much quieter and you can hear the signals clearly. You can hear the birds on a summer morning in the country. I would call that a hi-fi environment because the sounds of the birds are very clear but the other sounds are minimal. I used those words deliberately to describe two different kinds of environment.

You could also say though, that the countryside can sometimes be a lo-fi environment. Even the sounds of the birds can constitute a lo-fi environment if they are covering up a sound that you want to hear.

**LC: Yes, I suppose they weren't considered as relative terms, but as a clear cut opposition between the urban context and the natural context.**

RMS: I used them that way, because I was trying to explain to people in cities that they had a problem they should recognize and that it was called noise pollution. It was political, I was using those terms to try and explain. It was educational, but also political, because I was trying to get people to complain more about noise.

**LC: What relevance does schizophonia have today and in what ways do you think a soundscape researcher should make use of such concept?**

RMS: I invented the word schizophonia, from schizophrenia. The idea is that of split sounds, just like schizophrenia is a split personality. I wanted people to understand that there is a difference between a sound that comes from a human being, or any animal, which is original and can only come from that person. It cannot be duplicated by anything else nor anyone else, not exactly in any case. In a radio broadcast in which a man or a woman sit in a studio and talk into a microphone, their voice is multiplied a million times. You're creating a million times the amount of disturbance with one voice on television than with your own single voice. I wanted people to realize that that multiplication of sound was a problem in the modern world, where we already have enough sounds. To add more sound to the environment made it impossible to find a quiet place in the city where you could simply sit and meditate. I was using these words to inform people and get them to think about their own environment.

I should emphasize that in addition to teaching in university I was doing a lot of lecturing in public forums. It was the era in which ecology had just come into existence. No one had heard about that before. So people were concerned about the environment, concerned about the destruction of the environment in the 1960s and the 1970s because, as I said before, it was probably the noisiest time in Western history. That's when all the big noises were really invented. I did a lot of talking to just ordinary people in gatherings concerned with pollution and ecology and I had to invent a vocabulary that they would understand. It was not so much invented for academics, but for ordinary people so that they could understand. I used terms they were familiar with, like hi-fi or schizophrenia.

**LC: Do you feel soundscape studies have succeeded in creating an interdisciplinary research environment?**

RMS: Indeed, if you look at the essays of the World Forum for Acoustic Ecology, you'll see that they come from many different disciplines. It's not just acoustics or music or architecture. The influence is interdisciplinary, there's no doubt about it.

**LC: It seems though that while there is an interest in different disciplines, researchers tend to apply the soundscape concept within their own discipline instead of working together.**

RMS: You're right, it would be better to have one school, for example, that wanted to go into that direction. I think we had the chance to do that when I was at Simon Fraser University.

**LC: Old and new media, along with motorized transport, have extended our individual soundscape to a global scale, while contributing in breaking some of the ties between the individual and the local acoustic dimension. Aural and visual experiences are increasingly mediated, and as your Preference Tests on school children have pointed out, it has become increasingly difficult**

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and he talked about it to other people to try to develop this project.

Another very important person was Marshall McLuhan. His approach to communication studies was based on the rule of senses. In particular, he thought that aural sense was necessary to understand the media revolution that was happening around us during 1960s and 1970s. He supported the soundscape project and helped to diffuse it. He helped to link many people and our work. As you know, he was a very charismatic and media-friendly man even if in some contexts he wasn't really appreciated, especially in the academic world, and was later in the University of Toronto where we actually are and where he taught.

When I wrote *The Tuning of the World* McLuhan thought this was a wonderful book because it validated many of his opinions, his thinking and teaching. It was an endorsement of what he was saying about communication changes. He used to say to me that the world has become audible and tactile. He was of great support when *The Tuning of the World* was written. He certainly talked about it in many of his own lectures. When he was talking about communication, it was a new subject in North America. Nobody had really talked about those things before he and Harold Innis began to. When we began to talk about acoustic communication and the soundscape, no one had talked about that before either.

**CD: So, McLuhan was sensitive to the aural sense ?**

RMS: Yes it's true. He was much more interested in the aural than visual sense. Visual medias – especially writing – were for him no longer useful in modern communication; they were the tools from an era that was being overtaken. Aural media was by contrast the appropriate system for communication. When he said 'the medium is the message' he wanted to signify that the choice of media designate the time and the society where we live more than the content of the message itself. Don't forget that he was influenced by Harold Innis who was teaching at the same University, just before him. There was already activity here in this field of communication. In a way, McLuhan developed ideas from Innis and made them more contemporary. Then, McLuhan became very popular because of the way he was a media-friendly man. He was very good for the way he communicated his thoughts, his answers were always unexpected and pronounced like a kind of aphorism. University people didn't like the way he was looking for success outside the academic world, especially in the press, so they were resistant to him. But outside, for artists and others, he was really important: a contemporary reference. You know, when Cage came here the only person he wanted to see was Marshall McLuhan.

**CD: What role did technology play in the creation of the WSP? Was the use of technology a support for your ecological intentions? And what is your relation with that now?**

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Interview continued from page 29

RMS: At the beginning I was really interested in using sound technology and that's why the engineering background of Pierre Schaeffer, for instance, fascinated me. I think that at the time of WSP we were the first to operate phenomenological recording. We did a lot of 24-hour recordings, just leaving the microphone in a place, in the environment, and then come back to listen and observe the results. Before that, microphone was used inside radio and recording studios, basically in closed spaces. It is true that our use of technology wasn't active and wasn't creative: it was just analytic. In a way, it was an ecological way to use technology. For me this practice was completely separate from music. Today many composers use recorded sounds in their music and they call it soundscape. It is no longer a practice involving in research, but you can't have the control of the way a word is employed, even if you invented it. Anyway, I have to say that I have never been a specialist in technology, in a practical way. In the WSP others people were in charge of it; for me it was just a tool to reach results. Today, I don't need to be involved in the progress of technology (internet, electronic mail) but it is not an ideological position. Maybe it is just a way to feel myself more independent, like leaving the academic world, having my own publisher, living in the countryside.

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**to discern between mediated and unmediated perceptual experience. Yet soundscape theory seems to focus on direct, unmediated experience. How does acoustic ecology find its place today?**

RMS: I think, first of all, acoustic ecology protects us from destroying our hearing. I think it should be part of the education of every human being, just like we get health education or we go to school. We have generations of people who have destroyed their hearing. This is very common and very well known. So I think that acoustic ecology is trying to remind people that you have to keep a balance between loud sounds and quiet times. Probably it wouldn't do any harm to people to introduce quiet times into their lives. In all religions there are quiet times. I think we need to rediscover that. People have renounced religion, they don't want to go to church anymore, they don't want to do the things their parents and grandparents did. But I think we should still have *temples of silence* somewhere in our lives. A place where to meditate, where to be quiet, and these could be public places. This is part of what I would call acoustic design. The acoustic design of the future could include places where you could just go and sit quietly and try to recompose yourself. It doesn't have to be religious. That could become part of the architecture of the future. So ultimately acoustic ecology leads to acoustic design.

It seeks the means to design environments of the future that will help us maintain our sanity and live lives that are full of rich and intense experiences but that will also allow us to live in quiet environments where we can recover. There are countries, like Japan for instance, where we just had our Forum for Acoustic Ecology, which impressed me a great deal. The Japanese are quite concerned with acoustic design and quiet environments, probably more than any other country that I know of.

Gradually soundscape concepts are beginning to influence designers and architects. I think that's a good sign. What will change the world is when we actually start to rebuild our cities, so that we can have a more rich and contrasted acoustic environment. The mayor of London has just introduced a new project called *The Sounder City*, to include soundscape in urban planning. These initiatives are



Photo: Carlotta Daró

the ultimate reward for the original work of the 1960s and 1970s. I always intended the work not just to be discussed. Our research objective was not just to analyze the situation, but to recommend changes. It's great to see some people paying attention to these recommendations. Whether they agree with me on every term, I don't think it matters.

LAURA DE CARO has an MA in Communication and Media Studies from the University of Turin, Italy. Following her master's thesis on the development of Soundscape Studies, she is currently pursuing her interest in soundscape, the relationship between the senses and the urban environment and its implications for museum space.

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## CALL FOR PAPERS

### 'Ideologies and Ethics in the Uses and Abuses of Sound'

International Conference of the World Forum for Acoustic Ecology, Koli, Finland June 15–19, 2010

The 2010 WFAE conference will be held at Koli in Eastern Finland. Koli is a plausible site for reflecting upon ideologies, ethics and soundscapes, since it was amongst the key places of the national romantic artist pilgrims in the late 19th century Finland. The Finnish Society for Acoustic Ecology (FSAE) invites researchers and artists from all disciplines to join this forum of discussion.

Proposals are invited for papers, workshops, roundtable, or artistic contributions relating to, but not limited to the following topics:

#### **NATIONS, NATIONALISM AND SOUNDSCAPE**

There has been an abundance of research on the topic of nationalism and music. What about nationalism and soundscape?

#### **WITHIN SOUND OF RELIGIOUS MOVEMENTS**

Martin Stokes mentioned recently that in order to understand certain Islamic movements today it would be crucial to understand their soundscapes. Collective listening or giving 'voices' to subjects and their religious experiences, are some examples.

#### **CONSTRUCTING PAST AND PROGRESS IN THE USES AND ABUSES OF SOUND**

Both past and progress can be used and abused as part of many ideologies. Have past soundscapes been used as a resource as part of these negotiations? The ideology of progress, then, is intimately related to the acceptance of noise as an inevitable phenomenon.

#### **ETHICAL CHALLENGES OF WORKING WITH THE SOUNDS**

How do soundscape researchers and artists answer to the ethical challenges of working with the sounds of other people – and of themselves. How do we understand cultural convergences, differences and sameness? Or would it just be more important to learn to tolerate the other? Should the researcher or artist make an intervention – or would it be best just to observe the uses and abuses of sounds from outside?

#### **THE COMMODIFICATION OF AURAL SPACE, SOUND AND SILENCE**

How does silence, its commodification and tourism fit under the same sky? What kind of strategies can citizens and planners develop in different localities in order to guarantee soundscape comfort, tourism as a means of livelihood and the touristic search of silence all at the same time? What about the urban environment with its ubiquitous transphonic phenomena? Who has the right to fill the urban space with music, and how is it currently happening?

Please send ABSTRACTS (max. 400 words) to the FSAE by October 1, 2009 to the email address [koli@akueko.com](mailto:koli@akueko.com). A web page will be opened giving more information about the program and accommodation (which will be a broad range from a hostel, cottages to a hotel). After the official program a trip will be organised across the border to Russia, to the beautiful monastery island Old Valamo with its famous bells.

# International Association for Cultural Studies in Architecture (IACSA)

**W**e are happy to announce that on September 17, 2008, the International Association for Cultural Studies in Architecture (IACSA) was founded in Zürich (Switzerland). IACSA is a non-profit organisation with free membership. It is committed to the study and practise of cultural lifeworlds in the built environment. It addresses scholars of all disciplines – scientific, practical and artistic – prone to contribute to an understanding of the creation and appropriation of built environment.

IACSA is an association according to Swiss law, founded on September 17, 2008. The association preserves the name «Cultural Studies in Architecture» from the prospective research institution «Centre for Cultural Studies in Architecture» at the ETH Wohnforum, Department of Architecture at the ETH Zürich, from 2006 to 2008. Its scientific director was anthropologist Johanna Rolshoven. The project was abandoned by August 1, 2008. In practical terms and pragmatically the association has:

- (I) A Founding Advisors' Board a group of personalities from different disciplines whose names stand for the field of Cultural Studies in Architecture.
- (II) A Working Board which is open for everyone interested and willing to contribute to build the network.
- (III) A Network Editor who maintains and stimulates exchange and prepares the information management.

Members of the Founding Advisors' Board (in alphabetical order):

Prof. Pauline von Bonsdorff PhD, Jyväskylä  
Finland

Prof. Dr. Ingrid Breckner, Hamburg,  
Germany

Prof. Catharina Dyrssen, Göteborg, Sweden

Prof. Dr. Elisabeth Katschnig-Fasch, Graz,  
Austria

Prof. Angela McRobbie PhD, London, United  
Kingdom

Prof. Colette Pétonnet, Paris, France

Founding members, first members of the Working Board: Lea Haller, Zürich; Gabriela Muri, Zürich; Johanna Rolshoven, Marburg; Friedemann Schmoll, Tübingen; Justin Winkler (Network Editor), Basel

Everyone interested in Cultural studies in architecture can become member of the Working Board. No fee is collected, yet the members are expected to contribute to the qualitative extension of the network. IACSA shall grow more in density than in size. The association is to be put in motion by network efforts on all three levels (I–III), but especially by the network editor and the working board members.

As it starts without membership fees, the basis of IACSA is volunteer work. As it evolves, the association learns which needs have to be considered and satisfied. For some time to come, the association exists merely through intelligent «flashes» of electronic communication and serendipity. For practical reasons the language for all IACSA transactions is English only. References to projects and events in other languages are very welcome, but should be complemented by English summaries.

The IACSA Newsletter is the first and essential communicational link between the members of the Working Board. It collects and lists periodically all issues and sends it to all members. The newsletter exists exclusively in electronic form. The establishment of a website, journal, conferences and book publications – the cherished projects of most associations like this – shall be achieved later, on the basis of future network capital.

If you sense that the idea of IACSA covers the field of your interest you are welcome to participate as a member of the Working Board. Simply write to [iacsa@mobileculturestudies.com](mailto:iacsa@mobileculturestudies.com) an informal demand. You will receive an electronic registration form along with an electronic copy of the bylaws. You are free to ask any question concerning IACSA which we will answer within the bounds of our capacities.

**IACSA**  
**Birmannsgasse 12b**  
**4055 Basel, Switzerland**  
*eMail: [iacsa@mobileculturestudies.com](mailto:iacsa@mobileculturestudies.com)*

# 新龍安時 *Shin Ryoan-ji: a digital garden*

By Michael Fowler

## The Japanese Gardening Tradition and 音庭師 –*Otoniwashi*

Japanese garden design has been an influential catalyst for a diverse series of spatial practises in the 20<sup>th</sup> and 21<sup>st</sup> Centuries. The composer John Cage, sculptor Isamu Noguchi and architect Mirei Shigemori have each examined and translated the Japanese garden through a variety of projects that have attempted to appropriate the spatial dynamics of such sites through various material manifestations and transformations. As a design space, the Japanese garden's use of natural materials, site topography, controlled variations of texture and number, and expert manipulation of the viewer's perceived presence, have led these, and numerous other artists, to explore the process of translation as a means to curate multi-sensory experiences within a range of environments.

In a manner that typifies the immediacy and concentration on visual design elements within Japanese gardens, various sensory studies of garden features (as generators of unique spatial paradigms) have focussed on the ocular

information inherent in such sites. For example, the work of Kondo and Ono (1994) is an examination of the spatial arrangements inherent in Japanese gardens as a potential rhythmic structure. This point has been similarly suggested at through the work of Furukawa, Haruyuki and Yashuhiro (2006), though both investigations negate a true multi-sensory examination through a privileging of ocular data in their respective examinations. Kinoe and Mori (1993) have speculated on the connection between Japanese cultural values concerning *soto* (outside) and *uchi* (inside) as generators of spatial paradigms within Japanese gardens, while numerous investigations into the geometry of rock placements in the famous *Ryoan-ji* garden at Kyoto have pointed to unseen spatial structures that mimic naturally occurring patterns (Van Tonder and Lyons 2005), or the creation of text-based methodologies for the interpretation of the garden's spatiality (Kuck 1968; Berthier 2000; McGovern 2004).

Given that Japanese garden design is not only a function of ocular articulations of space, but similarly, highly composed aural negotiations of site (through the use of designed water features), what are the implications for a transmediation of the proclivities of the Japanese garden for sound designers? Can the spatial aesthetics

of Japanese garden design provide a means to drive sound design, or become a catalyst for complimentary aural architectures? While the concern of the extant treatises, and contemporary research has mapped an analytical approach to describing spatial characteristics of Japanese garden design, the acoustic ecology, or soundscapes that are a product of such characteristics may provide analogous directions for composition and sound design.

Traditional artisans and garden designers are known as *niwashi* (庭師 gardening-professional), and though many large gardens contain water features that construct specific soundscape content and user interactions (i.e. waterfalls, fish ponds, *shishiodoshi*<sup>1</sup> and *suikinkutsu*<sup>2</sup>), the documentation of these features in the design process, the design intent, and the manner in which they are connected to the ocular articulations of space are seldom described in

the traditional literature. Recent investigations into the connection between the ocular and auditory realms within traditional garden design have suggested a proclivity in the use of designed aural features to balance the manipulations within a garden's visual articulation of space (Fowler and Harvey 2006).



Figure 1: The karesansui at Ryoan-ji viewed from below the temple veranda at the northeast corner

By adapting the role of the *niwashi*, and transmediating the idea of garden design as an act of composition with natural materials, a new role can emerge that predicates aural, and the materials that generate a spatial auditory awareness (Blessner 2006) through design. The discipline of the *otoniwashi* (音庭師 sound-gardening-professional) is my attempt to usurp the aesthetics and spatial characteristics of Japanese garden design for use in a sound design and installation practise that explores composition as an act of gardening with sounds.

## The karesansui at Ryoan-ji: a case study

One of the most identified gardens of Japan, and understood universally for its simplicity yet striking abstractness is the dry garden (*karesansui*) at *Ryoan-ji* temple, Kyoto. The garden offers a unique case for transmediation into spatial sound design given the site's negation of designed, or topographically embedded sound sources. Created somewhere in the late 14<sup>th</sup> Century by anonymous *Kawara mono* (garden workers), the site is a large rectangular area in which

a bed of raked sand contains 15 variously sized rocks. The groupings of the rocks follow a predilection within Japanese gardening aesthetics for odd numbering. The composition consists of a focal rock group of five elements, two groups of three elements, and a further two groups of two elements each.

The garden is an exemplar and precedent for Muromachi (1336–1573) garden aesthetics and represents a divergence in design principles to that of the large classical pond gardens of the late Heian period (794–1185). The recently established sect of Zen Buddhism had calmly spread throughout the country, acquiring landscape paintings and painting techniques from China, and implementing their physical manifestation in a new form of contemplative garden, the *karesansui*. Monk painters such as Sesshu Toyo (1420–1506) developed highly individual styles of landscape representation that were further translated into actual physical representations through garden design. The shift in style and composition of Japanese gardens in this period is indicative of the new manner to which such landscapes were composed, Holburn elaborates:

The image of the landscape painter acquired a depth far beyond the representational; its scale became literally cosmic. Likewise the physical boundaries of the gardens were reduced, its area became smaller, its images sharper and their intensity greater by virtue of the very simplicity and concentration of the design. As the physical space was reduced, the vision of space, or the illusion, expanded, and as the image moved from representation to abstraction, the potential of the image moved into previously unexpressed levels of experience. (Holburn 1978).

Previous to this period in Japanese garden aesthetics, the function of such spaces was as much didactic as they were contemplative. Often famous Chinese mountain peaks were represented, as well as mythical Buddhist triads and the famed island of immortals of Chinese mythology. What sets the *karesansui* apart from previous gardens is the focus on geometric relationships. The large pond gardens of the Heian period were representational objects that pointed toward the ideal landscapes of myth, born out of a strong sense of narrative, and seeking to embody the idea of an earthly paradise. The contrast between such spaces is manifested in the *karesansui* at *Ryoan-ji* in which the focus of the space points inwards rather than outward: ‘Interest lies almost wholly in their relative shapes and sizes and in their spatial relationships to each other and to the areas of the sand about them’ (Kuck 1968).

## Transmediating *Ryoan-ji*: the Cage precedent

John Cage (1912–1992) is perhaps the most well known composer to utilize the *karesansui* of the *Ryoan-ji* temple as inspiration for a creative representation. Cage developed both a series of etchings, carried out at Crown Point Press (*where R=Ryoanji*), and a collection of musical compositions for various melodic instruments with obligato percussion (*Ryoanji*). For the musical explorations, Cage’s aesthetic intentions are very clear:

Each two pages are a “garden” of sounds. The glissandi are to be played smoothly and as much as possible like sound events in nature rather than sounds in music...the score is a ‘still’ photograph of mobile circumstances. (Cage 1983.)

In this first version of the work for oboe, each of the pages are double sided and contain arrays of glissandi that were traced from 15 rocks that the composer had collected during his travels. These 15 rocks were representative of the number of rocks at the original garden.

The score contains 123 melodic figures, notated at their extremi-

ties by a pitch indication showing a relative microtonal sharp or flat quality. The glissandi are freely interpreted in terms of the topologic variation of each melodic line. The sense of the work as a presentation of ‘mobile’ circumstances is further enhanced through the direction that one or more of the pages can be performed in any order. The melodic figures of the score are the musical analogue to the original rocks of the *karesansui*, though through what might be understood as a changing visual perspective. The obligato percussion score is just as evocative in terms of its extra-musical meaning:

At least two only slightly resonant instruments of different material (wood and metal, not metal and metal) played in unison. . . These sounds are the “raked sand” of the garden. They should be played quietly but not as background. (Cage 1983)

Though the *I-Ching* was used to procure the number of melodic figure per page, and the number of sounds per measure for the percussion part, there is overall, a strong program present, which is made explicit by the composer in the introduction to each score. The specificity of the program of *Ryoanji* infuses a clear meaning in the work for it points distinctively towards an extra-musical object. Though the method to which Cage effectively transcribes the garden is poetic rather than formalist, the idea behind the composer’s musical analogue was as pure representation rather than to abstraction.

## 新龍安時 *Shin Ryoan-ji*

Cage’s precedent for translating the *karesansui* at *Ryoan-ji* into a musical work was driven both through a desire for a musical representation, or analogue to the garden, as well as to sustain his exploration of composition as an act that represented the myriad processes within nature. In terms of the scope of an *otoniwashi*, his ideas about the nature of musical systems seem an important catalyst to the concerns of sound gardening: ‘music as I conceive it is ecological. You could go further and say that it IS ecology’ (Cage 1995: 229). Both this observation, and the nature of his approach to translating *Ryoan-ji* can provide a stepping point for a deeper implementation of sound design as a gardening discipline.

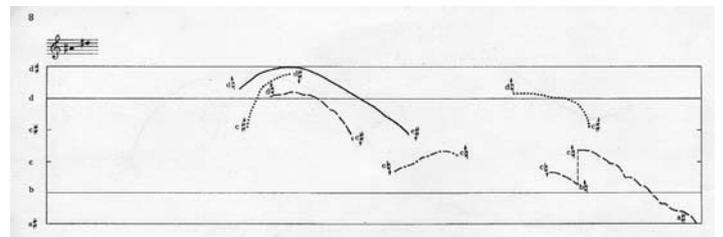


Figure 2: Page 8 of Cage’s *Ryoanji* (1983) for oboe and obligato percussion, secondary lines are to be pre-recorded for playback during performance and may be contained within separate sound systems (i.e. multi-channel environment).

As a response to the *karesansui* at *Ryoan-ji* that is predicated on a re-reading of the garden as a model for sound design, *Shin Ryoan-ji* (new-*Ryoan-ji*) is a multi-channel sound installation I developed that both maps the spatial proclivities of the original site, and constructs a framework in which a digitally curated ecology of sounds are distributed and periodically ‘fed’ to produce a digital garden as function of an *otoniwashi* sound design. The work then represents both homage to Cage and his ideas about music and its need to imitate nature, as well as a departure point for a sustained critical inquiry into auditory spatiality in Japanese garden design.

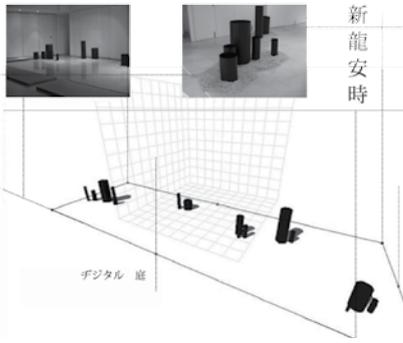


Figure 3: Perspective view of digital model of *Shin-Ryoan-ji* and installation images.

Given that the most striking element of the original *karesansui* lies in the geometry of the site, and the various perspectives obtained through viewing from the temple veranda, the representation of rock groupings in *Shin Ryoan-ji* retains the geometry of the original site, though is scaled accordingly to the

dimensions of the presentation space. In both an attempt to abstract the perceived rhythmic structure of the grouping, and provide a means to deliver an acoustic ecology into the installation site, open, black cylindrical representations of the rocks were designed to allow for various sized loudspeakers to be placed within the cylinders, as well as to facilitate a method by which sounds might be ‘tuned’ to the site through cylinder-sound source mappings (see Figure 3).

The sense of the installation as a digital sound ecology was produced through a use of open-source sound synthesis methods in Pd (object-oriented graphic language), that were duly driven by the program’s implementation of cellular automata modeling (mlife).

Figure 4: Table of synthesis techniques and sound sources produced in Pd.

SOUND ENGINE	DESCRIPTION
1. blockswap~	swap upper and lower half of any given signal-vector: break at 32 samples (swap) and 64 samples (signal-vector)
2. noish~ 25.92	bandlimited noise in which bandwidth is controlled by a drawing rate $n$ (Hz)
3. beatify~	audio amplitude modulator (ADSR + loop size)
4. quantize~	quantise a given signal with variable step number
5. swap~	byte swap a 16 bit signal; first conversion swaps the upper-lower byte
6. blockmirror~	playback signal vector reversed in time (break at 64 samples–signal vector)
7. disto~	distort signal with high and low pass filters
8. phasor~	sawtooth generator
9. beatify~_2	audio amplitude modulator (ADSR + loop size)
10. beatify~_3	audio amplitude modulator (ADSR + loop size)
11. readsf~	read a soundfile
12. readsf~_2	read a soundfile
13. sampler	store a soundfile in a table and playback utilising variations in pitch, sample rate, length
14. sampler_2	store a soundfile in a table and playback utilising variations in pitch, sample rate, length
15. ring modulator + qmult~	multiplying a complex tone by a sinusoid; multiplication of 2 quaterion signals

Fundamentally simplistic sounds that varied in pitch content and timbre spectrum were produced to appropriate an auditory analogue to the 15 rocks of the *karesansui* (see Figure 4). This sonic transmediation of the original garden’s rocks was curated in such a fashion as to allow for a maximum amount of sonic indeterminacy throughout the life and evolutionary output of the 15 sound engines. This was managed through periodically controlled parameter messages sent to the mlife object in which random seeding and neighborhood values were regularly updated.

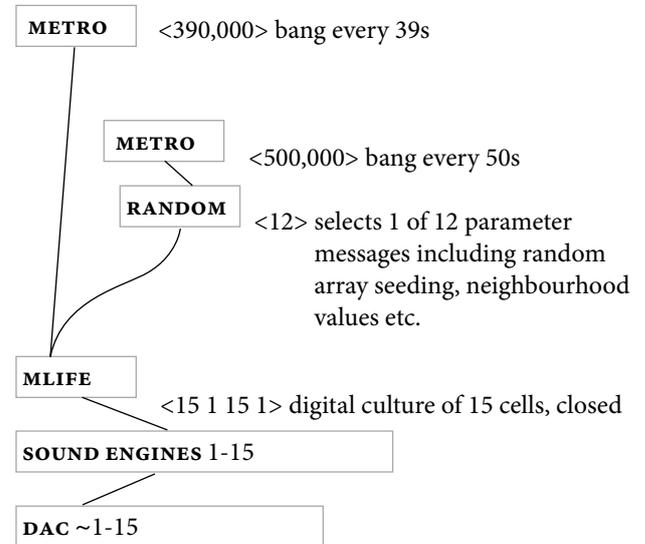


Figure 5: Schematic of Pd patch of *Shin Ryoan-ji*.

This means that while the general condition of each sound engine is a temporal function of an on/off (0/1) message from the mlife object (send out every 390s), additionally, each of the sound engines contain randomly controlled internal parameter manipulations. This allows for a large variation in the timbre, pitch, and general behaviour of the sound engine, as well as dynamism in the articulation of sound-space within the site. When combined with the other random messages sent to mlife to control the state of cells, individual cell values, or the neighbourhood values, an auditory environment arises in which sounds grow, evolve and atrophy across the 15-channels in a range of temporal states that manifest both the macro and micro unfolding of time, and are governed by the population flux densities of the digital cell culture. There is also a range of rhythmic variation among the sound engines in an attempt to balance both long flowing sounds, to sounds of sharp attacks or those that are repetitious in nature. The larger rhythmic continuity is duly controlled by the on/off messages of the mlife object, which means that long periods of stasis of only a few sounds active can be abruptly interrupted by an appearance of all 15 engines (See Figure 5.).

As a design space, *Shin Ryoan-ji* explores the notion of a group planting of sounds to which the ebb and flow of auditory information is indeterminate, or chaotic, yet the spatial locations fixed. As an analogue to the nature of gardening, the installation represents an exploration of the process of cultivation. The work is a function of both a mapping of spatiality within Japanese garden design, and an analogous, auditory dimension in which sounds mimic the lifecycle of organic entities. The potential for a varied, yet meditative soundscape to evolve within the installation site approaches the seasonal nature of Japanese garden design, in which the cyclic effects of the natural world have a profound effect on both the soundscape and visual elements within a garden. More specifically, the influence of Cage’s work to *Shin-Ryoan-ji* comes from the desire

to explore indeterminacy as a real-time process, and provide a point of continuation of Cage's musical aesthetics.

*Shin Ryoan-ji* also represents an initial investigation into the establishment of a sound design and installation practise that is concerned with transmediating the traditional approach of the *niwashi*. By establishing the approach of an *otoniwashi* as a practitioner and gardener of sounds, the *karesansui* at *Ryoan-ji* provided me an immediate extant design source for a re-reading of the space as a digital soundscape. Cage's precedent for a musical translation is evocative in its approach, though the reliance on chance operations and the *I-Ching* means that it displaces the spatiality of the original site. Though *Shin Ryoan-ji* has been an exercise in composing, or cultivating, a soundscape as analogue to the *karesansui*, the wider framework of the *otoniwashi* need not be relegated to pure digital synthesis as a means to populate an installation site with auditory content. Further investigations into sound gardening may usefully build on the work of Truax and Keller (1998), by examining other Japanese garden sites that contain extant designed water features. Other avenues of investigation may include a host of new construction and procurement procedures that make light of the recent trend in ecological composition strategies (Opie and Brown 2006; Keller and Capasso 2006). Similarly, the research of other important acoustic ecologists (Shafer 1977), and soundscape composers (e.g. Truax, Westerkamp, Schafer) can provide another investigative apparatus, in which soundscape analysis, and digital production methods create a potential for site-sampled materials to be integrated into sound designs.

## Conclusions

Given that the production means of *otoniwashi* sound design may potentially vary across future projects, the underlying nature of the discipline, as I define it, is one 'that seeks to manifest the traditions and aesthetics of the *niwashi* for an approach to gardening as an ephemeral process that explores, manipulates and cultivates sounds in an organic manner.' The Japanese garden is a highly considered design space, where spatial auditory experiences are a result of manipulations of natural materials, and a negotiation of site topography. By transmediating the aesthetic and spatial proclivities of the Japanese gardening tradition, new directions in composition and sound design may provide novel and innovative approaches to urban soundscape content and management, as well as provide a framework for the construction of innovative spaces for multi-sensory engagement in a variety of future environments.

## Endnotes

1. trans. 'deer chaser'; a bamboo device originally used to keep animals away from cultivated areas or gardens, but now used to provide an acoustic and visual interest. The *shishiodoshi* is a length of hollow bamboo positioned like a lever on a fulcrum below a water source and fixed to a stone base; when the device fills with water, the balance of weight shifts and causes the lever to tip in the opposite direction, emptying the bamboo and causing a percussive sound when the bamboo returns to its original position.

2. trans. 'water koto cave'; a type of Japanese garden sound installation. A *suikinkutsu* consists of an upside down buried pot with a hole at the top. Water drips through the hole at the top

onto a small pool of water inside of the pot, creating a splashing sound that rings inside of the pot similar to a bell, or a Japanese *koto*. It is usually built next to a traditional Japanese stone basin called *chozubachi*.

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## Il Paesaggio Sonoro: A Festival Report on *Vancouver Vibrates*

By Pessi Parviainen

In its 2007–2008 season, Vancouver New Music organized *Vancouver Vibrates*, a festival celebrating the works and influence of R. Murray Schafer.

This writer had the pleasure to participate in the festival's Soundwalk series.

This report looks at some ideas and motivations behind the festival and at the series of soundwalks that formed a part of it. The text is largely based on discussions with Vancouver New Music Artistic Director Giorgio Magnanensi, composer and sound ecologist Hildegard Westerkamp, and Soundwalk Group members Jean Routhier and Jacky Sawatzky.

R. Murray Schafer's *Tuning of the World* was published as an Italian translation in 1985. The title was *Il Paesaggio Sonoro* (Schafer 1985). For Giorgio Magnanensi, the book became such an inspiration that he eventually made the move from Italy to Vancouver in 1997 to work with the World Soundscape Project and granular synthesis.

In Canada, Magnanensi felt that, while Schafer's work was recognized, it wasn't as visible and supported as it could have been. The composer's 75<sup>th</sup> anniversary in 2008 presented a perfect opportunity to organize a festival.

The name *Vancouver Vibrates* took its inspiration from *Coimbra Vibra!*, a 2003 project by Schafer in Coimbra, Portugal, in which the whole town of Coimbra was "sonified." The project involved numerous workshops and rehearsals, "involving practically every musician, group, teacher and student in Coimbra". These preparations led to a final event, in which "all Coimbra, its authorities, inhabitants and organizations participated in one way or the other." (CCNC 2003.)

All this work was designed to create a consciousness for an acoustically balanced environment. It was aimed at changing both musicians, authorities and Coimbra's inhabitants in general into active, sensitive and critical listeners of the environment. Better listeners and with it perhaps better, more engaged citizens. (CCNC 2003.)

*Vancouver Vibrates* included a variety of events: numerous indoor and outdoor concerts, a community workshop project focusing on Schafer's Minimusica, and a series of Soundwalks. They were produced in collaboration with a number of arts presenters and organizations in Vancouver – Chor Leoni, Redshift Music, Vancouver Chamber



Jean Routhier's *Surf and turf* included a ferry ride on False Creek.

Choir and the Vancouver Youth Symphony Orchestra.

Discussing this variety, Magnanensi referred to the soundgarden concept: the traditional concert hall setting is, in a way, like cutting flowers and putting them in a vase. There is nothing wrong in that, but a gardener can do other things as well – the plant could be left wild, or planted somewhere, cared for in various ways, and so on. The intention was to present a variety, a gardenful of sounds. Inherent in this approach is its suitability for outreach, for engaging the community in refreshing ways.

For Vancouver New Music, Soundwalks have been a great outreach tool. A Soundwalk is a very accessible way to present to the community ideas about listening, of thinking about sound, of thinking *in* or *through* sound. According to Magnanensi, providing opportunities of these experiences of attentive listening is beneficial for an organization with a mandate of promoting new music: a Soundwalking experience may help an audience member to hear music *as sound*, as something that's available to the listener simply as sounds, requiring nothing more than listening, rather than as something incomprehensible and difficult, the understanding of which would require some secret special knowledge.

Soundwalks have been a regular part of Vancouver New Music's programming for the past five years. Hildegard Westerkamp began the work at Magnanensi's invitation. The first soundwalks took place in September 2003, in two locations: Kitsilano and Gastown. Each walk was done twice, so that the participants had the possibility to experience the locations at different times of the day.

From the start, Westerkamp felt the soundwalks ought to be community efforts, rather than being led by only herself. After each walk, the participants were invited to take part in designing and leading future soundwalks. Every time, there was somebody who was interested, and the group grew gradually into a flexible, fluid group, designing and leading four soundwalks a year: two in the fall, two in the spring.

*Vancouver Vibrates* included a series of seven Soundwalks and a poster project.

The series began in September 2007 with *Listening and relistening*, devised and led by Zoe Gordini. Exploring the streets and alleys of Strathcona and Chinatown, the route returned on itself, allowing participants to re-listen to it. The walk featured a number of planted sound sources – an electronic musician on a balcony, an invisible flamenco dancer's *zapateados* cascading down a stair-

## Reviews *continued*

way, and a choir of improvising vocalists (the Improv Choir, brought to the event by composer and musician Elliot Vaughan) taking their cues from the surrounding sounds, their voices blending and reverberating on the top floor of a Chinatown parkade.

In October, Chris O'Connor and Jacky Sawatzky's *Found/Roaming the Railbed* followed. Because of pouring rain, the media-enhanced walk had to be reconfigured in a very short amount of time. Instead of the originally planned location, an old railbed, the walk took place on Granville Island, the route being mostly sheltered from rain.

The Spring series began in May 2008 with *Baba Yaga's Journey: a storytelling soundwalk*, written and composed by Wende Bartley. The walk was an adaptation of a Russian folk tale, staged in the coastal rainforest of Lighthouse Park in West Vancouver. The walk featured an actor depicting Baba Yaga, and the newly formed Voxy Ensemble, a women's vocal group that sang wordless songs composed by Bartley. Bartley's version of the story echoed an often heard tenet of acoustic ecology: that the paradise is lost, that we live in a fading memory of an age when we were more connected to our environment.

On May 11, I presented my contribution to the series, *From Dawn Till Dusk: Wanderings in Orbit*. The walk was done twice, at sunrise (5 a.m.) and at sunset (8 p.m.). The route orbited Trout Lake in East Vancouver, and featured a chain of musicians surrounding the lake. Dave Chokroun, Chris Grigor, Janine Island, Sharon Kahanoff, John Mutter, Blythe Polreis, Andrew R. Smith and Dawn Zoe performed a simple piece, in

which improvised quick notes were played in sequence, circling the lake. This 'circular motion' alternated with a chord that all played simultaneously. The route first took the soundwalk participants into this musically prepared soundscape, then out of it, and back in again.

Along the route, Igor Santizo had installed his posters. In the posters, the artist was depicted eyes closed, listening, with the accompanying text: "*stop.listen simmer.*" Besides along the route of *Dawn till Dusk*, the posters were spread elsewhere in town, intending to spark spontaneous moments of acoustic attention among the city-dwellers.

Eric Powell's installation *Sound.Garden.Scapes* at VIVO Media Arts Centre on Main Street was a different take on the concept of a Soundwalk. Using portable radios, soundwalkers could explore an interactive representation of Vancouver's Gastown. Visitors to the installation were immersed in binaural recordings of Gastown locations, and had several control switches at their disposal. The switches affected the soundscape heard over the radio – for instance, pulling a cable would magically make the bus arrive.

Jean Routhier's *Surf and Turf* was presented on May 18. The walk was a journey on land and sea, around and in False Creek. The special treat of this walk was a ferry ride: one of the ferries that regularly take people back and forth along False Creek was booked solely for the soundwalkers. During the boat ride, the engines were shut off for a while, and a bagpipe player (Michael O'Neill) was heard; he was positioned on Burrard Bridge, some 200 feet above. The

ferry took the soundwalkers to Granville Island, where they could enjoy a silent beer at a brewery pub. At the end of the walk, in an underpass, Routhier had placed another musician, Alan Flint, equipped with a guitar and a tape player.

The concluding event of the Festival's Soundwalk series was the reprise of Chris O'Connor's and Jacky Sawatzky's *Found/Roaming the Railbed*, this time done more according to the original plan: "an audio and video enhanced soundwalk where participants are invited to imagine what was, is, and could be lying beyond an old railbed" (see <http://www.no-map.net/>).

A notable characteristic of this series of soundwalks is that they all featured embedded sounds, mostly musicians, planted along the routes. One might consider this a departure from the soundwalk concept, in which one deepens one's relationship with the acoustic environment *as it is*, without alterations. But the soundwalker cannot avoid bringing sounds to the world – there will be footsteps, breathing, a heartbeat... the listener is audible. Planting sound sources along the soundwalk route acknowledges this. And maybe this realization is what makes it possible to do what Giorgio Maganensi envisioned for *Vancouver Vibrates*: thinking *in* and *through* sound. If we were detached observers, we couldn't think *in* sound. We would be outside it, deprived of the immersion that can occur on a soundwalk. Like Merleau-Ponty's seer, who is inseparably a part of the Visible he sees, an intertwining of seeing and being visible (see for example Merleau-Ponty 1968), we are inseparable from what we listen to. This is ultimately an ethical notion. Since we are audibles inhabiting the audible, the sound environment is really everybody's business.

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Soundwalkers in Vancouver's Chinatown, during *Listening and Relisting* led by Zoe Gordini.



Photo: Pessi Parvainen  
 Voxy Ensemble singing along the route of *Baba Yaga's Journey: a storytelling soundwalk* by Wende Bartley.

See also online: *Soundwalking events in Vancouver, BC, Canada*

<http://soundwalk-vancouver.blogspot.com>

## sound.garden.scape: an Approach to Interactive Sonic Mapping

by Eric Powell

It is the spread between an active, embodied listening within a space and a form of listening that seeks to remove the sensation of space that has inspired my MFA Graduating Project at Simon Fraser University, *sound.garden.scape: Gastown*. This project is an interactive installation that is best described as a virtual soundwalk. Using portable radios, visitors are free to walk through an interactive re-presentation of Vancouver's Gastown area. This hands-on installation combines the performative singularity and participatory interaction of the soundwalking experience with the intimate sonic relationship we have with personal portable audio (ppa) to create an alternative, immersive sonic environment for dedicated listening. The installation was presented at Vancouver's VIVO Media Arts Centre from

May 15–17, 2008 as part of Vancouver New Music's Vancouver Vibrates soundwalking series.

The installation is made up of 8 short-range FM transmitters broadcasting binaural soundscape recordings collected from 8 locations around Gastown. These locations were selected by inscribing a series of circles onto a map, followed by exploratory listening walks and binaural recording sessions in each of the geographic areas within the circles. This mapping system was then applied to the floor space within the VIVO studio, and FM transmitters were placed in the centre of each circle. Each location is broadcast on its own FM frequency and the sound generated by the transmitter gets stronger and clearer as the listener moves closer to the broadcast location. Each broadcast area features a different hands-on interface, allowing the listener to activate their (and their neighbours') sound-space. Subverting the conventional schizophonic relationship between the use of personal audio devices and the ambient soundscape, this project uses environmental recordings and electro-acoustic compositions as a means for the listener to re-imagine the links between what they hear and the spaces they occupy.

Vancouver's Gastown area seemed to be the most logical choice in which to apply this mapping system. The area has a wide range of sonic environments contained within an area under one square kilometer. There are very distinctive soundmarks (the Steam Clock, for example) and a nice balance of open areas and areas heavily trafficked by vehicles and people

The eight locations I chose were:

- Waterfront Station
- Steam Clock (Cambie St & Water St)
- The Cambie (Cambie St & Cordova St)
- Crab Park (also known as Portside Park)
- Blood Alley (or Trounce Alley, between Water St and Cordova St)
- La Casita (Abbott St & Cordova St)
- Abbott St & Hastings St
- The 5 corners at the statue of Gassy Jack

The installation was organized as a collected series of eight individual soundscape compositions. Each of the eight locations could be heard on their own, but have been designed to allow the individual to create their own macro-compositions and they move through and interact with the installation. I chose not to process the recordings I collected or use anything more than transparent editing and layering techniques to

maintain a more direct relationship between the acoustic sounding space of each of these locations and their re-presented recordings within the installation.

There is a certain difficulty in mapping using only sound: the medium is time-based, and requires extended dedication to the act of listening from those exploring the mapped environment. Sonic mapping also requires a certain knowledge of the source location (if it is a direct mapping of a real place) or at least an expectation of what the sonic context is and what it should sound like.

Other forms of mapping can be explored as well, not just a direct link between a sounding space and the re-presentation of that space in an alternate venue. Other mapping models I have considered include mapping elapsed time from a single location, with each transmitter broadcasting a different hour or portion of the day. In this model, listeners could fast-forward or rewind as they moved through the installation venue.

With my *sound.garden.scape: Gastown* project, I was able to use interactive technology and ppa to create an alternate aural environment that presented the listener with an experience extremely similar to that actual location. In addition to exploiting the immersive audile technique associated with this technology, my project provided listeners with the active choice to engage with and to explore the 'noisy' sound environments they would conventionally use ppa devices to block out.

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## Sound and Music as an Integral Part of Space

Report from Music, Sound, and the Reconfiguration of Public and Private Space Conference at CRASSH, Cambridge University, on April 18–19, 2008

By Helmi Järviluoma

In a springlike Cambridge half a hundred researchers and artists, all interested in auditory culture, gathered to discuss the role of sound and music on the boundary between private and public. While the cows were enjoying their age-old rights to use the parks of central Cambridge as a common pasture, twentysome researchers gave theoretical as well as empirical papers on the changes of auditory commons. The conference was organised by professor **Georgina Born**, and post-doctoral researcher **Tom Rice**, both from the University of Cambridge, and CRASSH (Centre for Research in the Arts, Social Sciences and Humanities). Included in the conference was a concert at Kettle's yard with works by the four sound artists **John Drever**, **John Wynne**, **Brandon Labelle**, and **Cedric Maridet**.

At the conference I certainly felt blessed: how wonderful to be able to attend a gathering of so much intellectual and artistic energy! **Nicholas Cook** (Royal Holloway, University of London) was also delighted about the atmosphere of the conference. He mentioned in the final discussion of the seminar that twenty years ago, first, somebody might have spoken – let's say – about Schubert. Then, after a terrible rattle and noise of wheels, some light years later – and here professor Cook waves his hands to show, how clumsy the change of subject from classical to popular music was – someone might have been talking about the Beatles. Now, plurality is self-evident: the uses of music in everyday life are central to scholarly work.

The six session conference was started with *Urban and Mobile Music/Sound*. **Michael Bull** (University of Sussex) had interviewed a thousand i-Pod users in England and America. According to him, i-Pod users love seamlessness. They move to their own music as if in a bubble: at all times they have the possibility to control their mood. The hyperpostfordist relationship to the environment seems to be unadorned, but mediated. One interesting phenomenon deserves a mention: at places like gyms the experience of a collective soundscape seems to be diminishing, since each exerciser has his or her own i-Pod and soundscape. **John**

**Drever** (Goldsmith's College, London) drew attention to the fact that in Hong Kong i-Pod users wear their earphone only in one ear, the other ear has to be kept open in order to be able to react to the environment.

**Sumanth Gopinath** (Univ. of Minnesota) and **Jason Stanyek** (New York Univ.) gave interesting insight into the use of biofeedback in exercise equipment. Some of you may have encountered the advertisement 'Tune your run' in a sport shop. The sport kit in question directs the runner with music and spoken comments. The sensor in the shoe is 'talking' to the i-Pod nano on your sleeve when you are running. The user is not inside a bubble since some environmental sounds have to come through for safety reasons. After the run the 'result' card can be put into the computer, which indicates the user's development as a runner. An international discussion club, where people 'compete' with each other, already exists. After the session somebody draws attention to the fact, that there is a central difference between being connected locally and thus more intimately with each other and being connected with an imagined global community, where people want to be friends but, in fact, compete with each other.

In the session *Sounding and Sensing Musical Space* **Eric Clarke** from the University of Oxford gave insight into an ecological perspective on music, sound and space. It is very refreshing to hear a music psychologist talk in Gibsonian ecological terms: i.e. if you separate the organism from the environment you cannot understand it and vice versa. No wonder an acoustic ecologist like me found the paper interesting. It is also worth pondering upon another point Clarke made: he does not use the concept 'auditory space' because the space is the same; whether you hear, see or smell it, i.e. it is not exclusively auditory. **Martin Stokes**, also from Oxford, talked about sound, space, and sensorium from an ethnomusicological perspective. Here we hear an interesting statement from a man who for a long time has studied Turkish music and space. Religion has always inhabited an important place in the domain between the private and public. After the Hirschkind book *The*

*Ethical Soundscape* (2006) it has become more and more clear to Stokes that it is worth paying attention to both, public emotion and collective listening. According to Stokes, in order to understand the mid-Asian religious (mostly islamic) movements it would be crucial to understand their soundscape. **David Toop** discussed interestingly the non-sonic aspects of the sonic in the painting "The Eavesdropper".

The session *Designing Mediated Music/Sound* started with an intriguing history of MP3 and mapping the mind's interior, presented by **Jonathan Sterne**, author of *Audible Past*. Much of what we know about hearing (psycho-acoustics) comes from a phone company (Bell) that tried to make as much profit as possible – testing elaborately from the 1920s on, 'how little can you hear and still understand what the other person is saying'. So, even MP3 owes thanks to Fletcher's "Speech and Hearing" (1929) – of course, the development of computers and the changing attitudes towards them made MP3 possible as well. **Georgina Born** discussed the use of music on the continuum between private and public, using the ideas of nesting and zoning.

**James Lastra's** keynote lecture on sound and American cinema reflected on the *invitation to intoxication*: why do people – we, the perceivers – get thrilled when the helicopter soldiers play Wagner loudly, while destroying villages in Vietnam? *Music Sound and the Everyday* session had three fruitful lectures, including **Nicola Dibben** and **Anneli Beronius Haake's** The Experience of Music in Office-based Workplace Settings – how do people cope in their 'landscape offices' with the private use of music; what about the researcher in her 'cell'? **Tom Rice's** research on *Broadcasting the Body: the private made public in a London hospital* gets ever more interesting.

The session *Music, Indentity and Othering, and the Politics of Space* included papers by **Nicholas Cook** on classical music and the politics of space; by the ethnomusicologist **Philip V. Bohlman** on sounding the sacred in a post-secular Europe; and by **Ruth F. Davis** studying music in the re-configuration of sacred space, specifically of Djerba, a pilgrimage destination in Tunisia. The final session dealt with music, torture, healing and love. Although **Suzanne Cusick** could not attend, her paper on sound and music in the detention camps of "the global war on terror" was read to the conference delegates. Her paper caused perhaps the most intense discussion of all at the conference and raised

the following question: should the conference make its own statement or should we, as private participants, join the protest against the use of music and sound as violence. Sound induced anxiety is one of the most important means of no-evidence-torture. (See [http://www.sibetrans.com/trans/translo/cusick\\_eng.html](http://www.sibetrans.com/trans/translo/cusick_eng.html)). Tia deNora continues her fine work on music in everyday life. This time she was presenting on musical space as a healing space: community music therapy and negotiation of identity in a mental health centre.

What would be a more apt conclusion to this vivid conference than the paper by Richard Middleton on faith, hope and the hope of love: on fidelity in the era of phonographic technology. During a break I ended up in an interesting conversation with Middleton about the concept of soundscape – which as usual, was being targeted, for example, by geographers as too visual a metaphor. Both Middleton (a long-lost colleague from popular music studies) and I seemed to be of the same opinion: it is completely useless to try to stop people from using any term – in this case, the term soundscape, which has been in existence for some 40 years and which is in use across the globe from Korea to Mexico to Greece, to mention some of the latest regions concentrating on the study and artistic practice of soundscapes. As Middleton mentioned, the concept ‘popular music’ has been discussed and bandied about for an even longer period, but in fact, it is the discussion which is the most interesting. When it comes to the concept of soundscape it is similar: it is far more interesting to find out why some people want to distance themselves from the concept, and why others find it useful, developing it as a positive tool.

HELMI JÄRVILUOMA MÄKELÄ is professor of cultural studies at the University of Joensuu. She is a soundscape researcher and ethnomusicologist, who is in 2009 also starting as the head of the research project *Soundscapes and cultural sustainability* funded by the Academy of Finland.

# Current Research

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ABSTRACT OF A PHD-STUDY

## Tolerance of Noise as a Necessity of Urban Life

### Noise pollution as an environmental problem and its cultural perceptions in the city of Helsinki

by Outi Ampuja

This study looks at the noise pollution problem and changes in the urban soundscape in the city of Helsinki from the 1950s to the present day. The study investigates the formation of noise problems, the politicisation of the noise pollution problem, noise-related civic activism, the development of environmental policies on noise and the expectations that urban dwellers have had concerning their everyday soundscape. Both so-called street noise and the noise caused by specific parties (e.g. neighbours) are taken into account. The study investigates whether our society contains or has for some time contained cultural elements that considers noise pollution as an essential part of urban life. It is also discussed whether we are moving towards an *artificial soundscape*, meaning that the auditory reality, the soundscape, is more and more under human control. The concept of an artificial soundscape is used to crystallize the significance of human actions and the role of modern technology in shaping soundscapes and also to link the changes in the modern soundscape to the economic, political and social changes connected to the modernization process.

It is argued that the critical period defining noise pollution as an environmental problem was the years from the end of the 1960s to the early 1970s. It seems that among other things, the massive increase of noise pollution caused by road traffic and the introduction of the ‘utopian’ traffic plans was the ‘key point’ that launched the

moral protest against the increase of noise pollution, and in general, against the basic structures and mindsets of society, including attitudes about nature. The study argues that after noise pollution was politicised and institutionalised, the urban soundscape gradually became the target of systematic interventions, leading to questions about whether we are moving towards an artificial soundscape.

However, due to several reasons, such as the inconsistency of decision making concerning the soundscape, moving towards an artificial soundscape has not led to the soundscape becoming more healthy or pleasant. In fact the number of people exposed to noise pollution is increasing. It is argued that our society contains (cultural and other) elements that urge us to see noise as an essential or normal part of urban life. It was also argued that the possibility of experiencing natural, silent soundscapes seems to be the yardstick against which citizens of Helsinki have measured how successful we are in designing the (artificial) soundscape, and if the actions of noise control are effective. In the end of the study it is discussed whose interests it serves when we are asked to accept noise pollution as a normal state of affairs. It is also suggested that the quality of the artificial soundscape ought to be radically politicised, which might give all citizens a better and more equal chance to express their needs and wishes concerning the urban soundscape, and also to decide how it ought to be designed.

PHD OUTI AMPUJA is an independent researcher and an expert on history of noise pollution problems and soundscape studies in Finland.

ABSTRACT OF A PHD-STUDY

## The Lived Acoustic Environment: Cembra's Changing Points of Ear

by Noora Vikman

Noora Vikman's PhD thesis examines the acoustic environment or 'soundscape' of the Northern Italian village of Cembra. Her study focuses on the ways in which the people of Cembra relate to their place and environment and, specifically, how these relationships are constructed through their ways of listening and soundmaking. The research derives largely from the multi-disciplinary fields of Soundscape Studies, Ethnomusicology and Cultural Studies. In addition, some questions pertaining to the traditions of New Geography and Environmental Politics are also touched upon.

The work consists of six parts, an introduction and five essays. The first essay concerns the changing soundscapes of Cembra village. Here, the main acoustic aspects and composition of the Cembra soundscape are presented, along with the aims and methods of this research. Vikman collected data by listening to and recording the sounds of the village, as well as listening to the stories about the sounds of Cembra told by its inhabitants. This essay compares ways in which such knowledge is produced and asks how these acts of listening could form and appropriate methodology.

The second essay continues to examine the methodology of Soundscape Studies. It addresses the problematic of applying ethnographic fieldwork principles and theories to the everyday practice of fieldwork. Vikman discusses the role of the researcher in fieldwork practices and the flexibility or rigidity of 'the rules' when conducting and ethnographic study.

The third essay considers the silence of the village. The notion of 'quiet' broadens our point of view – or rather, our point of ear – of a changing culture in Cembra. Through it we hear about Cembra's inter-relationship with nature, ecology, tourism and commercialization amidst the forces of the world economy. Silence is not a common experience but a subjective value of perception. This essay also describes the role of different participants in the process of becoming more aware of silence in the soundscape.

The fourth essay concerns rhythmic variations in the everyday life of Cembra. At

the centre lies the relationship of hearing and listening to time and movement. The rhythm of the soundscape is realized by setting different acoustic details within various regular timeframes – e.g. daily or annual. The cyclical and repetitive nature of everyday life reveals itself, for example, through periods of quiet or "lapses" in the active sound making by the villagers.

The final essay "On the mountains, from the mountains, to the mountains", describes how the local male choir relates – both physically and emotionally – to the mountainous soundscape of Cembra. It discusses the past and future of this way of singing – as an enduring tradition and as a possible folkloric product. The article also deals with selecting suitable acoustic spaces and its effects while singing.

The publication also includes an annexed essay, discussing further the theme of human-environment relationship of this research. The data in the essay were collected in Finland by the 100 Finnish Soundscapes Project. The essay analyses how people listen, write about and construct notions of a "natural" soundscape and "Finnish-ness".

The Introduction of the dissertation sums up the themes, that are presented in the previous five articles. It goes on to further reflect upon certain aspects of these works within the broader topics of Cultural Studies – such as the concept of our "lived environment", the collision of "Nature & Culture" as interpreted through people's thoughts and behaviour, and the commodification of silence. It concludes with some questions about an acoustic-ecological future and asks what are the possibilities for Sound Design & Environmental Planning in today's economically oriented society?

**Dissertation "Eletty ääniympäristö"**  
available online: <http://acta.uta.fi/pdf/978-951-44-7126-1.pdf>. (Articles 1 & 2 are in English.)

NOORA VIKMAN is an ethnomusicologist and soundscape researcher. At the moment she works as a lecturer of musicology in University of Joensuu, Finland.

### Soundscape-related MA theses in Finland

*Riikka Hietala:*

**Luonnonrauhan kokeminen ja äänitasot. (Experiencing Natural Peace and Decibel Levels) MA thesis in bio science, University of Helsinki, Winter 2006**

The approach of this work is an example of how we still need to prove the connection between the decibel level and the subjective experience of natural peace.

It again shows two results: how the rise of the sound level diminishes the natural peace and how the expectations of listeners affect a lot to the experience.

Online: <https://oa.doria.fi/handle/10024/3920>

*Anni Ranta:*

**Kuluttamisen soivat kulissit. (The Sounding Setting of Consuming) MA Thesis in ethnomusicology, University of Tampere, 2006.**

This thesis shows that foreground music, i.e. vocal popular music, is replacing instrumental background music. Simultaneously, when the technical possibilities to produce different types of background music grow, the pieces chosen to be played in the background are more and more often of the same kind. The sound harnessed as a part of brand strategy is one form of image marketing and strengthens the symbol-economy based on images.

Online: <http://tutkielmat.uta.fi/tutkielma.phtml?id=16025>

# Resources

## Acoustic Environments in Change & Five Village Soundscapes (reprint) appear as a joint publication together with four CDs

Publication date: November 2008

Orders from [julkaisut@tamk.fi](mailto:julkaisut@tamk.fi)

In 1975, the Canadian World Soundscape Project research group visited five European villages. The villages, located in Sweden, Germany, Italy, France and Scotland were re-visited by the Finnish Acoustic Environments In Change project group, in the years 2000–2004, in order to study the changes in village soundscapes and undertake new approaches on the subject. In addition, the village of Nauvo in Finland was studied.

AEC formed one of the most extensive soundscape projects since the original World Soundscape Projects of 1970s. The project accumulated a large source of practical knowledge about grass roots level soundscapes of six European countries through narratives, memory and transitional documents. The collected data is presented and interpreted in the forthcoming publication. The work is based on international, multi-disciplinary studies of changes in the soundscapes. The study included European researchers, artists, journalists, local inhabitants and Canadian

pioneers of soundscape studies. All share an interest in the relationships between soundscapes, the environment, and its various inhabitants.

ACOUSTIC ENVIRONMENTS IN CHANGE  
Edited by Helmi Järviluoma, Meri Kytö,  
Barry Truax, Heikki  
Uimonen and Noora Vikman  
CD editor: Ari Koivumäki  
Translation editor: Bruce Johnson

FIVE VILLAGE SOUNDSCAPES  
(REPRINT, 1977)  
Editor: R. Murray Schafer  
CD editors: Barry Truax and Hildegard  
Westerkamp

Publishers: Tampere University of Applied  
Sciences together with University of Joensuu,  
Cultural Research

*The book and CDs are published in co-operation with the World Soundscape Project, Simon Fraser University, Canada*

## Isobue

Ros Bandt with Kumi Kato

Double CD with Japanese Haiku Insert

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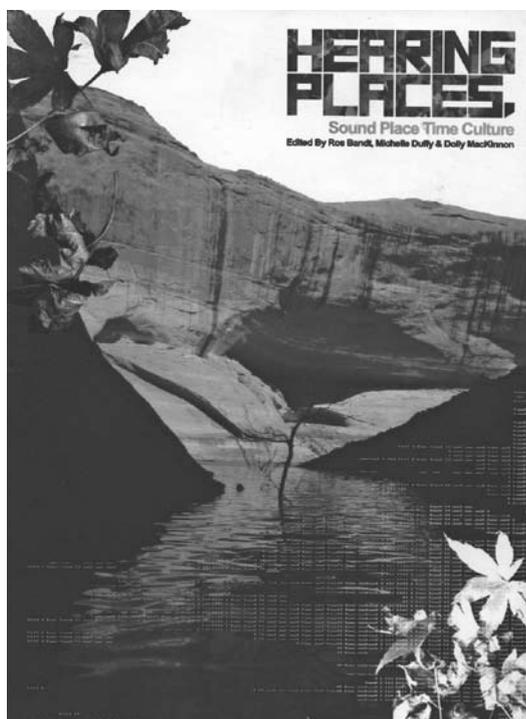
## Hearing Places: Sound, Place, Time and Culture

Edited by Ros Bandt, Michelle Duffy  
and Dolly MacKinnon (University of  
Melbourne)

450 pages & Audio CD (includes 36 tracks)  
Cambridge Scholars Publishing 2007

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How do we hear and respond to place? Thirty-seven international artists and scholars have responded to this question from their unique perspectives, interrogating place as acoustic space where sound, place, time and culture collide. This book transcends the boundaries of geography, time and discipline through its imaginative and scholarly writings and CD, provoking us all to pay attention to how we hear place.



## Remembering a Sound Installation

by Hildegard Westerkamp

Summer 1999. Wiesbaden, Germany.[1] I walk into a space that used to be a banquet hall, with high ceilings, tall windows, white walls, perhaps some ceiling decorations. I listen. The air is filled with a strange wash of orchestral sound, a cold bright sound that simply stands in the space. It creates a familiar atmosphere, but I cannot quite grasp what it is. In the middle of this otherwise empty room stands a lone banquet table, set for ten people. A chandelier with blue light is hanging over its centre. Almost everything is white, the tablecloth, the chairs, the cutlery, the serviettes. There are ten wine glasses, and ten yellow-golden trays are highlighted against this general whiteness. On each tray are a large and a small plate. Although the scene looks somewhat festive from the entrance, something seems very odd and disconcerting about it.

As I move closer the sound gets slightly louder and I see that *everything* is made of plastic or paper. In the place where I thought I saw a large plate is a loudspeaker and in the place of the small plate is a tweeter. Yellow wires move like decorative ribbons from one end of the table to the other, branching off to each tray. They are the cables leading to the speakers. Like a musical equivalent to the plastic white banquet atmosphere, muzak emanates quietly from the speaker plates. Or to be more precise, *different* muzak spills from each table setting into the room and produces a quiet cacophony that astonishingly, still sounds like muzak. German sound artist Christina Kubisch calls her installation *Tafelmusik 1999, Ein Tisch und zehn Klänge* (A Table and Ten Sounds).[2] I am thinking back to my Master's thesis of 1988. Remembering.

The dominant sound colour of muzak is created by the orchestra, which is the stronghold of Western musical high culture... By treating a large variety of tunes from light classical, popular, ethnic and jazz contexts with the instruments of "serious" music—by arranging them in the majority of cases for orchestral instruments—Muzak can give the superficial listener the impression of partaking in the sounds of dominant Western culture... (Westerkamp 1988: 43.)

The longer I stay in this banquet hall and take in the atmosphere, the more amazed I am. So-called "high" culture and mass culture are melting into each other here. Muzak is presented as *Tafelmusik*, plastic fast food utensils are used for a banquet table, and blue light emanates from a glittering chandelier. The ten sounds and the plastic table settings form a stunning contradiction to the sedate atmosphere in this old banquet hall and to the

visitor's initial impression of entering a festive scene. Remembering my thesis once more:

Muzak is trying to penetrate everyone of us a little bit, no matter what socio-cultural background we come from. It does this by absorbing, melting and blending various styles of music, musics from different cultures, into the uniform sound of background music. By doing this, it in fact "melts" the musical, cultural vitality out of them. It establishes itself—with the help of tools from so-called "high" culture—as the dominant musical sound that can contain all other musical sounds, even if they were once oppositional. The essence of the melting pot ideology lies in the dissolving of cultural vitality—the silencing of vital voices—of which Muzak is the most sinister expression. (Westerkamp 1988: 45.)

By mixing ten different kinds of muzaks together, Christina Kubisch carries the melting pot ideology to total absurdity in *Tafelmusik*. Not only is muzak already emptied of musical vitality as it spills out of the speakers, but the additional *mix* of ten muzaks fuses the orchestral sounds into a type of musical paralysis that moves nowhere, that simply stands in the room like stuffy air.

A shiver goes through my body and a knife-edge delight, which can only be produced by good satire. *Tafelmusik* is a brilliant caricature of capitalism's effects on culture, consumption and environment. And Attali's words of the role of music in today's consumer society underline this even further:

In this respect music is not innocent; unquantifiable and unproductive, a pure sign that is now *for sale*, it provides a rough sketch of the society under construction, a society in which the informal is mass produced and consumed, in which difference is artificially recreated in the multiplication of semi-identical objects. (Attali 1985: 5.)

Listening remembering writing. I have no idea whether Christina Kubisch would agree with any of this. It was years ago that I visited the installation and I only experienced it once. Today I am listening to my memories of it and to the way time has processed them. I have traveled back into the installation space, into its atmosphere, and my words are offering it now to you on these pages. German philosopher Gernot Böhme speaks of atmosphere in this way:

What is unique and also theoretically complex is that the term (the concept of atmospheres) describes a typical in-between phenomenon. Atmospheres stand between subjects and objects: one can describe them as object-like emotions, which are randomly cast into a

space. But one must at the same time describe them as subjective, insofar as they are nothing without a discerning Subject. But their great value lies exactly in this in-betweenness. Atmospheres combine what was traditionally divided up into Production Aesthetics and Reception Aesthetics. It is possible to generate atmospheres, of course, and there are developed art disciplines dedicated specifically to the creation of atmospheres. These involve the deployment of what are clearly objects plus all kinds of technical aids, whose presence, however, does not serve its own end, but serves to create atmospheres. Stage design is the paradigmatic example of this approach to atmospheres. On the other hand, however, atmospheres are experienced affectively, and one can only describe their characteristics insofar as one exposes oneself to their presence and experiences them as bodily sensations. (Böhme 2000: 15.)

### Endnotes

[1] This section is an adapted excerpt from my article "Listening Walking Remembering – A Sound Journey in Words", first published in *Sound Site Silence*, BlackFlash Magazine, Vol. 24, February 2007, Saskatoon, Saskatchewan, Canada.

[2] The word *Tafelmusik* refers to Georg Friedrich Telemann's three volumes of 'table' or banquet music or perhaps more generally to the practice during Baroque and Classical times in the courts of Europe, where composers were employed to compose music for the banquets of kings and nobels, creating a festive musical atmosphere as a background to the banquets themselves.

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HILDEGARD WESTERKAMP lectures on topics of listening, environmental sound and acoustic ecology and she conducts soundscape workshops internationally. By focusing the ears' attention on details in the acoustic environment, her compositional work draws attention to the act of listening itself and to the inner, hidden spaces of the environment we inhabit. For details check her website: <http://www.sfu.ca/~westerka>

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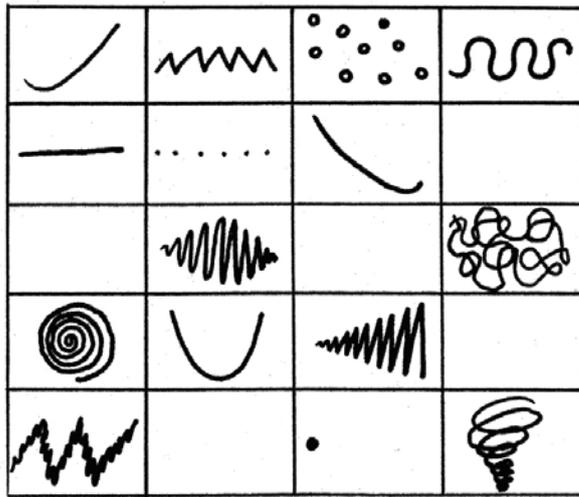
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