

Soundscape

Volume 4 Number 2 | Fall/Winter 2003

**...acoustic ecology...
an international symposium
Melbourne, Australia**

The Journal of Acoustic Ecology

Soundscape

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Soundscape is a biannual 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, focussing 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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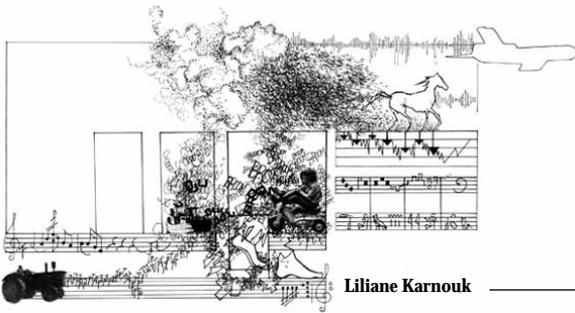
Contributions

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>

Future themes: Acoustic Design, Hearing Loss, Use of Music in the Soundscape, Sacred Soundscapes, Economics and Acoustic Ecology.

Submissions. Please send articles, letters, and materials for the following sections in this journal: Feature Articles; Current Research: a section devoted to a summary of current research within the field; Dialogue: an opportunity for editorial comment by the membership; Sound Bites: a summary of acoustic ecology issues found in the press; Sound Journals: personal reflections on listening to the soundscape; Soundwalks from around the world; Reviews: a section devoted to the review of books, CDs, videos, web sites, and other media addressing the theme of Acoustic Ecology (please send your CDs, tapes, books, etc.); Reports, articles, essays, letters from students and/or children; Announcements of acoustic ecology related events and opportunities; Quotes: sound and listening related quotations from literature, articles, correspondence, etc.; Random Noise: a section that explores creative solutions to noise problems.

Please send correspondence and submissions to: *Soundscape—The Journal of Acoustic Ecology* School of Communication, Simon Fraser University, Burnaby, B.C. V5A 1S6 Canada. E-mail: jwfae@sfu.ca. **Submission Deadline for next issue: February 1, 2004.**



Liliane Karnouk

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Editorial

This issue of *Soundscape* has been created around the International Symposium on Acoustic Ecology in Melbourne, Australia, March 19–23, 2003. Nigel Frayne's reports on pp 4-5 will give you a first-hand account of how the symposium came about and what was involved in organising it. In *Perspectives* you will find two reports by participants Paul Howard and Gordon Monro (pp. 37-39), whose differing ways of writing about the event make for interesting reading. Also in *Perspectives*, Helen Dilkes reports on Murray Schafer's ear cleaning work with Melbourne school children and its subsequent presentation at the symposium (p. 44). And Lawrence Harvey reports about a new education and research program at RMIT University in Melbourne, which investigates the aural dimensions of architectural teaching, practice, and design, as well as composition and listening.

Other activities and themes from Australia are scattered throughout this issue. In *Current Research* Peggy Rismiller tells of her research project in which she is exploring communication in short-beaked echidnas (p. 10), an animal of which I had never heard before my visit to Australia. Jim Cummings reviews two different CD series of Australian soundscapes, created and produced by Listening Earth and David Lumsdaine (p. 34). And on page 31 you'll find reflections on the two soundwalks I conducted during the symposium.

The bulk of this issue, however, consists of four major symposium presentations which are not included on the CD-ROM of the Proceedings (see p. 43 for ordering information): Paul Carter's keynote address "Auditing Acoustic Ecology" and Murray Schafer's "Open Ears," provide the reader with an opportunity to move into the deeper philosophical and historical realms of listening, soundscape studies and acoustic ecology. Lex Brown's article "Acoustic Objectives for Designed or Managed Soundscapes" gives us the much needed tools for bridging what he calls 'a major communicational divide that currently exists between the concepts of acoustic ecology and the large body of

knowledge and practice represented by conventional noise management.' And Sabine Breitsameter exposes us to an extensive investigation of how principles of acoustic ecology might be applied in the context of the "New Electroacoustic Space of Digital Networks." Together these articles offer a range of ideas and themes which is representative of the wide spectrum that could be found throughout the symposium.

This issue would not exist if it wasn't for Nigel Frayne's enormous commitment and energy that he put into the organising of the symposium event itself. In the name of the Editorial Committee I want to thank Nigel here for executing in such a successful way the vision he had for the symposium. It was his particular sense of how this event should proceed that created the extraordinary atmosphere of openness and exchange throughout the week. Hopefully some of this will be reflected here for all those readers who were not able to come to Melbourne. And those of you who were there, may be reminded of the communication and connectedness that did occur there.

Of course, there are additional items of interest not connected to the Melbourne symposium thanks to our contributing correspondents and others who have submitted materials for publication: reports of other exciting events in the world, such as *Coimbra Vibra!* in Portugal (see *Perspectives*); in *Dialogue* two sound artists address a very contemporary theme that occupies many of us these days: how to respond through our professional artistic/ecological practice to the world's overwhelming problems; as it happens we also present, scattered throughout the various sections of this journal, a lot of activity from Scandinavia: two research projects, a sound installation exhibition, several new books, a sound journal. And don't forget to visit our *Resources*, *Sound Bites*, and *Announcements* for all sorts of interesting information regarding soundscape studies and acoustic ecology. There is a lot happening out there!

Hildegard Westerkamp
for the Editorial Committee

Report from the Chair

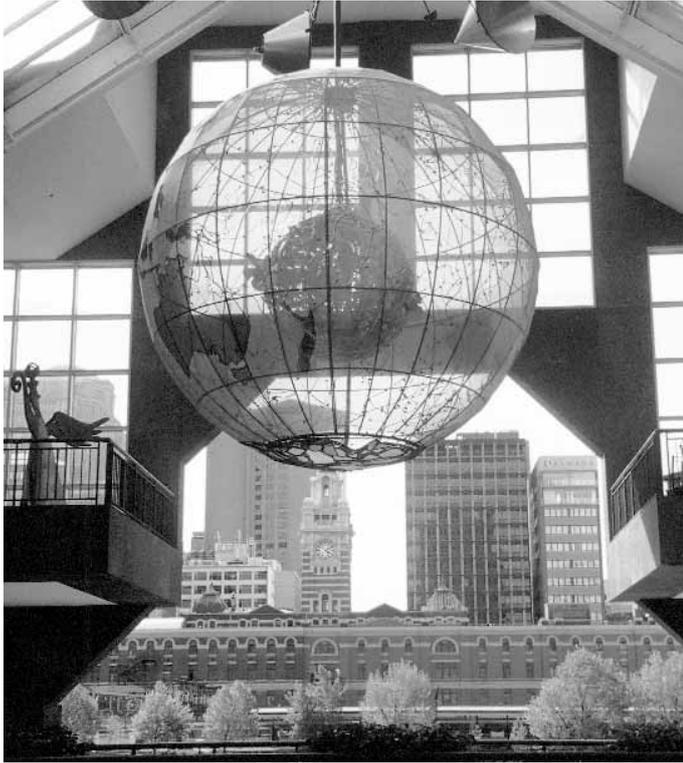


Photo: Gabriele Proy

During the International Symposium in Melbourne earlier in the year a meeting was held at which all of the current WFAE Affiliate organisations were represented. The opportunity for us to meet face to face does not come around often, a point which was itself discussed during the gathering. It is refreshing to be able to communicate freely rather than through the awkward medium of email which is the normal mode for the WFAE Board. The specific points of discussion will be noted and this report also raises a number of other issues and thoughts that have lingered subsequently, issues which I think comment in part on the future mode of operation of the WFAE.

One of the dreams that we had for the Melbourne Symposium was to provide an opportunity for the WFAE Board to spend some quality time together. Traditionally the only possible chance for us to meet is to piggy back onto our attendance at conferences and international events. What we would have hoped for was a 2-day retreat away from the Symposium where we could focus purely on the WFAE. Unfortunately this was not possible financially and so we had to make do with a 4-hour meeting in the evening when all of us were fatigued from travel and Symposium activities. If we are to crack open the vexed issues that are complicating the operation of the WFAE I believe we must work towards an international meeting which is purely focused on the future of the WFAE as an organisation.

In spite of that sentiment, the gathering in Melbourne was quite productive. In attendance were Kozo Hiramatsu and Keiko Torigoe (JASE), Murray Schafer and Hildegard Westerkamp (CASE), Nigel Frayne (AFAE), Noora Vikman (FSAE), Gabriele Proy (FKL), Gregg Wagstaff (UKISC) and Ray Gallon (CES, France).

One topic of discussion revolved around the administration of the WFAE and in particular 'person power'—who does the work. As board chair I feel that the administrative tasks are

overwhelming any opportunity for grander scheming. Hence there has been little movement in the area of co-ordinated global activities between the affiliates. Over the coming months the board will attempt to deal with this issue by examining the administrative and co-ordination tasks being undertaken.

The meeting turned its attention to just what kinds of activities the WFAE should be engaged in. There are a number of individual groups carrying out archiving type studies along the lines of the *100 Soundscapes of Japan* project of some years ago. It was felt that this is a worthwhile activity for the WFAE to support yet the actual work is so far focused at the local rather than global level.

In fact, when one considers the minimal interaction occurring at the global level compared with the local level one could question the very existence of the WFAE. So the meeting put this question to the test. Each affiliate in turn was asked to give a short rationale for their affiliation with the WFAE. In all cases it was strongly affirmed that the bond that binds us all within the WFAE is of great value. The question remains as to how this is manifested in action on the ground.

A suggestion which was well supported was to recognise the value of this assembly in Melbourne and strive to create more and regular opportunities for us all to meet face to face. Given the expertise within the group now there is a good argument that we should strive for an annual international conference. The lesson from the Australian Symposium is that an awful lot can be achieved even with quite limited institutional support — see the AFAE Report on page 5. With the possibility of gatherings in France, Japan, the UK and perhaps even the USA being discussed it would seem there is plenty of life in this idea of a regular conference. Our growing expertise in hosting events could offer planners useful insights for the structure of their event and develop more maturity in the setting of agendas.

The meeting adjourned until our next chance to meet. In summary the issues of note were, and still are, how to broaden the role of the chair into areas beyond administration and avoid terminal fatigue; how to further promote the idea of WFAE involvement in an annual world conference or event of some kind; continue with the valuable effort of sustaining the WFAE publication of the *Soundscape—The Journal of Acoustic Ecology* and consider how we might also involve ourselves in projects which sustain and archive the soundscape across the world.

In closing this report it is exciting to be able to say that a small group of individuals in the USA have been beavering away on the formation of an American Society for Acoustic Ecology. The process is almost complete and it will be a great pleasure to finally be able to welcome an affiliate from the USA into the WFAE group. In addition to this, during the WFAE meeting in Melbourne, Ray Gallon who is a founding member of the Collectif Environment Sonore (CES), France, announced that their group would also be incorporated soon and look to become an affiliated member of the WFAE.

Truly, acoustic ecology is an idea that just won't go away and the solidarity that is achieved through the WFAE is clearly seen as a strong and much needed bond that serves to sustain us all.

Nigel Frayne
Chair of the Board, WFAE

Regional Activity Reports

Australian Forum for Acoustic Ecology (AFAE)

by Nigel Frayne



From the start I want to mention here that in many respects this report is a personal statement rather than a representation on behalf of the AFAE. Since its birth back in 1998 the AFAE has dreamed of hosting an event in Australia. Many hours of talking, planning and searching for institutional partners and support were spent by a small core group of people in Melbourne. Gradually over the

years the dream faded as disappointments grew and the core group had to focus on careers and family. Ultimately it was the combination of a chance meeting and a set of personal commitments that bore fruit in the form of "Symposium 2003".

Without dwelling too much on the mechanics and financial arrangements that underscored the event it is worth indicating that the difficulties presented by the administration and management of the Symposium did naturally have an impact on the outcomes. Many of the ideas previously proposed for the event had to be scrapped and the desired guest list practically deleted. The reliance on goodwill and support of a number of generous individuals was not only personally gratifying for me but also enormously significant in terms of the ultimate success of the Symposium.

The willingness of Murray Schafer to make the trip to Australia and offer himself and his ideas to both the Symposium assembly as well as the general community was flattering, if not humbling. Murray not only participated in every forum in the Symposium schedule but he also spent three mornings in a local Primary school introducing children and teachers to "earcleaning" exercises. While this is a 30-year old activity for Murray it was a completely new and exciting experience for the children. Together with Hildegard Westerkamp, Murray attended a colloquium at RMIT University looking at the integration of acoustic ecology into the tertiary curriculum, as well as a special session with a group of academics and new media artists in Sydney, on the invitation of the Australian Broadcasting Corporation, Macquarie University and the University of Technology, Sydney. That Murray can sustain such energy and enthusiasm for acoustic ecology after all these years is surely enlightening.

The perspective presented by Murray in his address at the Symposium (see page 14 in this journal) is understandably rich and mature given his long history in the field. The presence of Hildegard Westerkamp (a collaborator with Murray from the World Soundscape Project of the 1970s) and the activity of soundwalking during the event further cemented a notion that,

while these are ideas and activities that have been around for going on 40 years, they are none-the-less relevant and powerful for us today.

The point of outlining this is that, while symposia and conferences may function to help us in our search for the new—the blue sky and distant horizons—we can gain much from recognising and repeating the valuable ideas of the past. Given the relatively poor penetration of acoustic ecology into the contemporary psyche it will be necessary to continue to balance this repetition of historical connections with new developments. This is the case not only for the isolated people of Australia but no doubt for any related event or activity throughout the world. The benefits of the Symposium for acoustic ecology minded people in Australia, and the many new and familiar faces from around the world, can perhaps best be gauged by the stream of positive feedback that we received. One can also lament the absence of many of the significant figures, the people with influence whose attendance would have been most desirable. We have to be more than happy that the Symposium attracted almost 100 people for at least a number of sessions during the 5 days. This included 33 members of the WFAE Affiliates, including 17 who signed up during the event. All of the WFAE Affiliate groups were represented and in total there were people from 14 different countries across the globe plus 5 States within Australia.

Financially the event was underwritten by my small company, Resonant Designs and received venue and some financial support from the Victorian College of the Arts through Roger Alsop in the Production Studio. The attendance of Sabine Breitsameter was supported by the Institut Goethe Internationales, Melbourne. *Hearing Place* and the *Audiotheque* were curated and installed by Ros Bandt through the Australian Sound Design Project and the evening concert was organised by Lawrence Harvey and Spatial Information Architecture Laboratory, RMIT University. To all of these people and organisations plus the band of volunteers and family members who assisted and supported in so many ways I offer my personal thanks and extend a further, sincere thanks on behalf of the WFAE and AFAE membership.

Let the next event roll on—we'll hope to see you there!

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Grant Sonnex presenting in Melbourne

Regional Activity Reports (continued)

Finnish Society for Acoustic Ecology (FSAE)

by Simo Alitalo

This spring we have been busy putting the FSAE's website together, which was finally launched in mid-April. It can be visited at: <http://www.akueko.com>. At this point the web site is in Finnish only. Our international friends can visit it if only to learn how rich in Umlauts the Finnish language is! The word for sound in Finnish is: *ääni* [aeaeni]

The 7th Symposium for Music Research in Finland was held at the University of Turku May 15-17. For this Symposium Finnish musicologists had joined forces with the Canadian University Music society. The theme of the symposium was *Northern Perspectives as a Vehicle for Cultural Transmission*. From the perspective of acoustic ecology the symposium was a real goldmine. I gather this was due to the FSAE's chairperson Helmi Järviluoma, who was also there as a member of the symposium's local organizing committee.

The first keynote speaker on Thursday was Steven Feld whose topic was "Schizophrenia and its Discontents." His paper discussed the ethical and legal questions of sampling and world music. Feld told an incredible story of how a Salomon Island lullaby was turned into a pygmy song, ended up on CDs by Deep Forest and Jan Garbarek and how in the process all possible intellectual and legal rights were trampled.

On Friday there were two workshops on Soundscapes and Cultural Transition. Both were chaired by Steven Feld and Helmi Järviluoma. The first workshop provided an interesting glimpse into the current phase of the *Acoustic Environments in Change* project <www.6villages.tpu.fi>. Helmi Järviluoma's paper for or against "method" discussed the methodological aspects of acoustic ecology. Heikki Uimonen analyzed narratives of sound memories that he had collected in the village of Dollar in Scotland. Noora Vikman described the different sound and music practices in the village of Cembra, Italy and pondered the role of the ethnographer in a village community.

In the second workshop Steven Feld described three soundscape/music projects with which he has been involved, *Charlie Keil & al.: Bright Balkan Morning, Bells*, winter festivals of Greek Macedonia, and Anarchist traditions of Carrara. In light of these examples he discussed soundscape recordings and the ethical and political issues they may raise.

In her paper "Jingle bells, bells and bell pendants" Riitta Rainio gave her audience an interesting perspective of the sound world of the Finnish iron age. Tarja Rautiainen closed the workshop with her paper about the practices of the modern lamenter. Both workshops were very well attended and there was a lively discussion after the presentations.

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Forum Klanglandschaft (FKL)

by Albert Mayr

FKL had its first public "coming out" last March 15 in Meran, South Tyrol (Italy). The four national sections of the association joined forces to put up a one-day meeting in the new art center "kunst Meran-Merano arte", with papers, workshops, sound-installations, audio-visual presentations, a concert of soundscape composition, and other events. (For the abstracts of the papers and descriptions of the workshops see our website.) The meeting aimed at involving primarily the local/regional population and this proved to be a successful strategy. There was co-operation (financially and otherwise) from local public administrations and firms and we had fairly good media coverage. To mention just one program point, the round-table on "The Acoustic Environment from the Institutional and the Pedagogical Viewpoint" turned out very well, where we had high-quality contributions both from representatives of local administrations and the public. Last but not least: thanks to the meeting the membership of FKL's Italian section has almost doubled.

From July 4 to 6 Hans Ulrich Werner and Detlev Ipsen (University of Kassel) organized, in co-operation with various other institutions, the conference (with concert) *SoundScapeDialogue*. For the full program see <www.uni-kassel.de/fb6/AEP>.

As an homage to Murray Schafer's 70th birthday, FKL's Italian section, in co-operation with the Canadian Embassy in Rome and ants records, held a meeting on September 25, "The Tuning of Italy", where we examined the impact of Schafer's work on Italian composers and researchers. The meeting went very well, with an attentive audience.

Member news:

Gabriele Proy, our president, is busy as usual on the soundscape-composition-front. For instance, on June 10 she presented a concert at the "Alte Schmiede" in Vienna. Her composition *Lagom* has appeared on the CD Hearing Place / Move Records.

Luca Miti and Francesco Michi have performed their piece *giocattoli* (based on minimal sounds of the technical environment) at the Pecci-Museum in Prato and the Peam 2003 festival in Pescara.

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FKL website: www.rol3.com/vereine/klanglandschaft

A REMINDER:

PLEASE RENEW YOUR
2004 WFAE MEMBERSHIP NOW!

Go to page 59 for contact information,
membership fees etc.

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

by Darren Copeland

The theme of this CASE report is Soundwalking, which is marked by two public soundwalks sponsored by CASE that took place in Toronto and Hamilton this summer.

The Hamilton soundwalk was organized by CASE board member Victoria Fenner and happened on Saturday July 19. Victoria lead people on a tour of some of the more sonically interesting parts of Steeltown, or "The Hammer", as it is known to the locals. This was followed by "a radio salon," in which participants were encouraged to bring their favourite radio or sound art piece and then play them for each other. Information about Victoria Fenner's soundscape activities can be found at www.magneticspirits.com.

In Toronto on August 8 and 9 as part of the fifth annual Sound Travels event, *New Adventures in Sound Art* lead participants across Centre Island, Toronto, on two different soundwalks. These served a number of purposes: one was practical—to lead audiences from the ferry dock to the main concert location; another was to prepare the audience for new sounds and new ways of listening; a third purpose was to celebrate and discover the charm of the island soundscape, where vehicle traffic is discouraged; and lastly, as was the case in Kathy Kennedy's soundwalk/performance on August 9th, the use of the physical spatial environment as part of a moving sound work. Details about the soundwalks can be found at www.soundtravels.ca.

In 2004 members of CASE and interested persons in acoustic ecology from Canada and the world will have the opportunity to investigate the Haliburton soundscape through soundwalks, meetings, and other exchanges that are being organized. For registration information, please contact CASE at cansound@interlog.com. This occasion will also serve as an opportunity for new persons to join the board of CASE and help shape the direction of acoustic ecology activities in Canada in the years to come.

Finally, I would like to report that this is the last time that I provide the report on CASE activities to Soundscape. My duties as CASE representative to the World Forum for Acoustic Ecology have been handed over to Andra McCartney. And on the theme of soundwalking, there are a number of worthy resources available on Andra's web site at www.andrasound.org. Happy Trails...

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**5 BACK ISSUES OF *SOUNDSCAPE*
AVAILABLE SOON ON LINE**

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<http://www.wfae.net>

United Kingdom and Ireland Soundscape
Community (UKISC)

by John Levack Drever

The past season has been an important developmental period for the UKISC. The membership has continued to grow. This is in part thanks to the success of the 43-paged issue of Earshot 3 "Time & Visibility", and in general to the growing interest in this emerging field. The next issue will pursue interests which surfaced in "Time & Visibility" as well as highlight some regional aspects of the soundscape.

On the artistic front the sound installation from *Sounding Dartmoor* (see www.sounding.org.uk) was moved to a second site in July, this time as part of a show titled Field Studies at Bridport Art Centre. An hour long soundscape composition by myself and Tony Whitehead from the Royal Society for the Protection of Birds, that charts the sounds of the Exe Estuary during wintertime (originally produced for Vermilion Sounds) has been presented as part of the Flock show at Spacex Gallery, Exeter, and has now moved to the Towner Art Gallery in Eastbourne.

Of significant note is the work of Peter Cusack and Isobel Clouter (from the National Sound Archive who we now welcome onto the UKISC Management Committee), who have done a sterling job producing Vermilion Sounds—a weekly radio show for Resonance FM <www.resonancefm.com>. Currently they are broadcasting *Crossing Canada*, a series of 10 radio programs by the World Soundscape Project in 1973, covering different aspects and approaches to the Canadian Soundscape. These programs have now been lodged in the National Sound Archive at the British Library (Collection No C1064). Vermilion Sounds has also been engaged in the UK soundscape, presenting a show comparing *Sounding Dartmoor* and TESE's *The Sounds of Harris & Lewis*, and most recently engaging the Greater London Authority who has been working on London's Ambient Noise Strategy. Resulting from this, an interdisciplinary group of earminded people has been formed, including representatives of UKISC, to discuss creative approaches to the sounds of London.

On the scientific front at Derby University, considerable technological progress has been made in the design and implementation of 3-dimensional artificial sound field displays, i.e. using speaker systems and proprietary encode/decoding techniques to represent audio energetic spheres. This in turn enables psychophysical testing of the relationships between sound-fields and sound environments. This relationship is not a deterministic one, as has been supposed in engineering circles in the past. The metaphysical problems thrown up by this line of enquiry impinge on the deep structure of theories of knowing the world and the items in it. In this sense, the 3-d sound systems are "metaphor projection systems" wherein we can test hypotheses about auditory perception in 'real' and artificial environments. A complementary line of experimentation will, it is hoped, focus on the creative input, facilitating access (to the technologies) for composers who are interested in notions of "3-d music" in various forms.

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Regional Activity Reports (continued)

Japanese Association for Sound Ecology (JASE)

by Keiko Torigoe

The JASE started its 2003 year with 16 persons. As the JASE is one of the operating divisions of the Soundscape Association of Japan (SAJ), our regional activity report of Japan brings you the activities of the SAJ.

On May 24 the SAJ held its 2003 Annual General Meeting and the Annual Symposium in Hirano Osaka, one of the oldest cities of Japan. In the meeting, the discussion focused mainly on a series of special events for the celebration of SAJ's 10th anniversary. These include the symposium in Hirano on the same day, the special academic meeting, held in the autumn of this year, the publication of *The 10 Years of SAJ* (temporary title), and the renewal of the SAJ web page. JASE reported about the March 2003 Symposium and the meeting of WFAE in Melbourne. Also, the subject of a possible WFAE 2006 symposium in Japan was discussed and approved.

The Symposium, entitled *Sound Bazaar*, was held in Dainenbutsu Temple, both inside the building and outside, in the temple yard. It consisted of several events including a concert of ocarina and harmonica, a live sound installation, presentations of an old ore radio, a gramophone and old records, a lecture and performance by a female storyteller and so on. At the end of the symposium, three old residents talked about their sound memories and the city's soundscape history in conjunction with the old visual film records of Hirano city. All these events were open to the citizens of Hirano as well as the members of the SAJ, which made the symposium particularly active and meaningful.

As part of our 10th anniversary celebrations, SAJ is now preparing for a special symposium on December 7, where we will discuss the history of SAJ: what we have done, where we are now, and what we are to do for the future in Japan. The discussion in the symposium is to be included in the above mentioned book, *The 10 Years of SAJ*, which we are also preparing for our future publication.

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WFAE—Electronic Contact Information

Website: <http://www.wfae.net>

Home to an extensive collection of Acoustic Ecology related materials—sembled and maintained by Gary Ferrington. (While you are at the WFAE Website—Join our Discussion List!)

WFAE Board: garywf@oregon.uoregon.edu
WFAE additional information: wfae@sfu.ca
Membership Secretary: wfm@sfu.ca

American Chapter Forming

In spring 2003, dialogue began among several American members of the WFAE, aimed at forming an American Society for Acoustic Ecology. About a dozen folks have participated in the email exchanges, with the first focus being the creation of a mission statement. From the interests shared so far, it seems likely that the new chapter will pursue projects related to education, public lands management, and the arts. We hope to help catalyze regional networking in different parts of the US, and provide some sort of unifying presence for these active regional nodes. There is strong interest in a *100 Soundscapes* project, modeled after those in other countries. We also hope to shape our activities to complement those already being undertaken by other chapters. Anyone interested in participating in the discussion is welcome to join in. See www.AcousticEcology.org/ASAE for an overview of what's been discussed so far, and email Gary Ferrington (asaelist@yahoo.com) to be added to our mail list. If you are not online, feel free to call Jim at 888-356-4918 to get connected to the process.

ASAE Mission Statement

The American Society for Acoustic Ecology (ASAE) is a membership organization dedicated to exploring the role of sound in natural habitats and human societies, and promoting public dialogue concerning the identification, preservation, and restoration of natural and cultural sound environments.

The ASAE will:

- Disseminate research results and curriculum materials, sponsor lectures, conferences and other events, and support creative exploration of the soundscape through sound art and installations.
- Foster cross-disciplinary research and discussion about the impacts of natural and human-made sound on the biosphere, including Earth's oceans, land, and air, and contribute to the development of guidelines to identify and modify human-generated acoustic environments that pose a significant ecological or health risk.
- Provide advice to public and private land managers about how best to study, manage, and interpret natural sound environments for the benefit of both visitors and wildlife, with sensitivity to the desire for both quiet and motorized recreation.
- Synthesize approaches to understanding and experiencing soundscapes as they exist in the United States, and actively collaborate with other like-minded organizations to contribute to the global awareness of sound's fundamental impact on all living organisms.

Contact:

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Dialogue



We invite your comments and criticism in response to anything you read in *Soundscape*, including other members' comments. Please send your reactions to: jwfae@sfu.ca, or to the mailing address at the bottom of page 2.

A Composer and a Sound Artist in Dialogue with our Times

[Ed. Note: The two texts below landed on my desk on the same day and even though they came from places located far apart (Alaska and Australia) they addressed similar concerns. One offers ways of thinking about creative work in these troubled times and the other tells of his newest sound installation as a way to raise issues and express concern of world events through an art work. Together they seemed to offer a type of question-response dialogue, hopefully useful for our readers in this journal. Many of us are often wondering—as professionals in acoustic ecology—how best to respond to the world's overwhelming problems, what stance to take. These are just two voices offering their way. HW.]

Global Warming and Art, by John Luther Adams (an excerpt). Art is not self-indulgence. It is not an aesthetic or an intellectual pursuit. Art is a spiritual aspiration and discipline. It is an act of faith. In the midst of the darkness that seems to be descending all around us, art is a vital testament to the best qualities of the human spirit. As it has throughout history, art expresses our belief that there will be a future for humanity. It gives voice and substance to hope. Our courage for the present and our hope for the future lie in that place in the human spirit that finds solace and renewal in art.

The object of art is truth. That which is true is that which is whole. In a time when human consciousness has become dangerously fragmented, art helps us recover wholeness. In a world devoted to material wealth, art connects us to the qualitative and the immaterial. In a world addicted to consumption and power, art celebrates emptiness and surrender. In a world accelerating to greater and greater speed, art reminds us of the timeless.

In the presence of war, terrorism, and looming environmental disaster, artists can no longer afford the facile games of postmodern irony. We may choose to speak directly to world events or we may work at some distance removed from them. But whatever our subject, whatever our medium, we must commit ourselves to the discipline of art with the depth of our being. To be worthy of a life's devotion, art must be our gift to a troubled world. Art must matter.

John Luther Adams, "Global Warming and Art," Musikworks, #86, Summer 2003, p. 8

Seed, by Nigel Helyer

In English, we speak of mines sown in fields or laid somewhat akin to an egg, or perhaps a cunningly laid trap. This is a domestic and agricultural lexicon whose familiar words belie the barbarous intent of these small kernels of violence.

Mines are ontological devices; they lie in wait for the future! Such a concept is resonant with the Old Testament parable of the sowing of seed, in which the germs of the future are broadcast, as if by chance, across a varied range of terrain, some fertile and fruitful, and some stony and barren, in an ecology of destiny.

In a more obvious combination of the fruitful and the fatal, we might recall the recent aerial seeding of Afghanistan with small yellow packages, some round and some square, some containing food but others deadly ordinance.

Whilst the physical geography of Islam acts as the historical context for the mytho-poetic spaces and narratives of the Old Testament so too it acts as a repository for hundreds of thousands of landmines—a testament to the failure of military solutions to generations of economic and political instability. Should we heed the adage "As you sow, so shall you reap" then an optimistic future in the region is less than assured.

"Seed" is a sonic installation that metaphorically collides our agricultural lexicon of the minefield with the narratives of the Old Testament and the contemporary disasters of military and ideological conflict. It does so by inviting the viewer/auditor to literally enter a sonic-minefield. Visitors may equip themselves with a simple mine-detector that will allow them to listen in to the sonic terrain emitted by the mines. Perhaps to their surprise, the small facsimile landmines, each resting at the centre of an Islamic prayer mat, do not voice strident political commentary, the sounds of battle or doctored media grabs! Instead the encounter is with a sonic world of looped Arabic music, some ancient and some contemporary, overlaid with voices, in Arabic and English, which enunciate the ninety nine names of Allah, each name supported by a brief extract from the Koran.

"Seed" therefore proposes a place of complexity and ambiguity within which to contemplate the simplistic and unilateral position of current military and political events. It is after all sobering to consider that the death toll inflicted by landmines (principally in the developing world) is equivalent to the appalling destruction of the World Trade Centre repeated five times each year.

*Nigel Helyer about "Seed", part of Gone to Earth, his sound installation recently exhibited in Sydney, Australia.
<http://www.boutwelldraper.com.au>*

From his home in interior Alaska, composer **John Luther Adams** has created a unique musical world grounded in the elemental landscapes and indigenous cultures of the North. His music includes works for orchestra, chamber ensembles, percussion and electronic media, and is recorded on Cold Blue, New World and New Albion. www.johnlutheradams.com

Nigel Helyer (a.k.a. Dr Sonique) is a Sydney based Sculptor and Sound Artist with an international reputation for his large scale sonic installations, environmental sculpture works and new media projects. During 2003 he is a visiting Professor at Stanford University and is also undertaking creative research work at the "SymbioticA" bio-technology lab at the University of Western Australia. Nigel is a co-founder and commissioner of the "SoundCulture" organisation and the curator of "Sonic-Differences" as part of the Biennale of Electronic Arts Perth 2004.

Current Research

Communication in Short-Beaked Echidnas?

By Peggy Rismiller



Silent, secretive and solitary living, the Australian short-beaked echidna is one of the most ancient mammals in the world. Its ancestors roamed the planet with the dinosaurs some 120 million years ago. What are the secrets behind their successful survival?

The echidna is an egg-laying mammal that may live in excess of 50 years. They mature late in life and have only a single young every 3 to 5 years. That means they have never over-populated and are not in competition with each other. Echidnas have a lower active body temperature than any other mammal, which they can down regulate to save energy in hard times. Echidnas eat invertebrates, all type of soil and plant dwelling bugs. Dining on a host of invertebrates, a group that has been around longer than any mammal, may be one of the decisive elements to echidna long-term survival.

So how do they find their prey?

All of the echidna's senses are extremely acute. The external eye is small, but sharp at registering movements. Olfaction (smell) is well developed even in pouch young who use scent to find the milk patch (echidnas don't have teats or nipples). There is no

pinna (external ear flap), but the large ear slit is surrounded by spines that move to help conduct sound, much as a barn owl adjusts the feathers around its ears for hearing. The lower jaws of the echidna are long, narrow, toothless bones that resemble a tuning fork. The arrangement of the inner ear and the unarticulated jaw provide an ideal pathway for vibrations from the ground to be perceived. We often observe echidnas walking and placing the bottom of their beak on the ground. They may stop suddenly, cock their head, adjust the spines around the ear and begin to dig. Inevitably they uncover a juicy morsel.

In 15 years of living and working in the field with echidnas I have only heard them audibly vocalise about 15 times. This was always a very soft 'mewing' sound. It occurred at unrelated incidences that had no apparent link. Yet long-term behavioural observations of known individuals in a population lead me to believe there must be some form of communication. Home ranges overlap, yet echidnas 'avoid' each other in the field. Once a year males travel great distances to find receptive females. Females place their young in a burrow after approximately 50 days of age, but return in a bee-line every 5 days to find and suckle it. Yet after weaning all contact with the off spring is shunned. In many of these situations we have seen the spines of the echidna vibrating.

So the mysteries of echidna acoustic ecology remain to be solved. What are they 'hearing' when they search for food? Are echidnas as cryptic and unsociable as they appear? Or does this species use an, for humans, inaudible form of communication and possess a complex social structure that has evolved during their millions of years on the planet.

Any ideas, suggestions or recommendations about recording soil dwelling insect sounds and software to use for analysis would be greatly appreciated.

Peggy Rismiller

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The Influence of Music on Hearing

A Study in Classical and Rock/Jazz Musicians

By Kim R. Kähäri

Abstract

The aim of this thesis was to assess hearing and hearing disorders among classical and rock/jazz musicians. Pure tone audiometry was performed in 140 classical and 139 rock/jazz musicians. The rock/jazz musicians answered a questionnaire concerning hearing disorders (hearing loss, tinnitus, hyperacusis, distortion, diplacusis) and psychosocial exposure (demands, control, support, stress and energy). The results were compared to age appropriate reference materials.

The results showed overall well-preserved hearing thresholds in both classical and rock/jazz musicians, considering the periodically high sound levels exposure. The female musicians were shown to have significantly better hearing thresholds in the high frequency area than the male musicians.

Among classical musicians, the brass players displayed slightly worse hearing thresholds than the other musicians. Rock/jazz musicians showed slightly worse hearing thresholds as

compared to classical musicians. Hearing thresholds showed a notch configuration indicating the inclusion of high sound levels in both classical and rock/jazz musicians.

When assessing hearing disorders (hearing loss, tinnitus, hyperacusis, distortion and diplacusis) a large number of different hearing disorders (74%) was shown among rock/jazz musicians. Hearing loss, tinnitus and hyperacusis were the most common disorders and found to be significantly more frequent in comparison with different reference populations. Sound level measurements during rock/jazz performance showed sound levels well exceeding recommended maximum levels.

A 16 years follow-up study was done in classical musicians to evaluate the risk of progressive hearing loss. Men showed a slightly more pronounced, although not significant, hearing reduction in the high frequency region and a higher threshold distribution within the 90th percentile than the females. No extended negative progress of the pure tone hearing threshold values was found in spite of the continued 16 years of musical noise exposure.

Psychosocial exposure (demand, control and support) as measured in the 139 rock/jazz musicians showed no convincing

evidence for associations between psychosocial factors at work and hearing disorders in general. The rock/jazz musicians reported low stress (negative valued) and high degree of energy (positive valued) and on the average, the rock/jazz musicians reported higher control, lower stress and higher energy than did a reference material of white collar workers.

Musicians are dependent on a very well functioning auditory system. A sensorineural or cochlear hearing loss may be devastating, creating difficulties with sound recognition, localisation, and reduced auditory dynamic range and loudness recruitment. It may further imply difficulties with perception of pitch, loudness, duration and timbre. Tinnitus, hyperacusis, distortion and diplacusis are among musicians considered to be an even greater handicap than a moderate high tone loss. Thus it is vital that hearing disorders among musicians includes tinnitus, hyperacusis, distortion and diplacusis.

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Silent Hum of the Forest

Soundscape classification for leisure time nature environments

By Virpi Poutanen (Finland)

*Thesis (in Finnish),
completed in May 2003*

*Commissioned by Metsähallitus Laatumaa Lappi (Finnish Forest
and Park Service www.metsa.fi). Number of pages 52 + 8
Includes a CD-ROM.*

Abstract

The purpose of this work is to create a classification for the soundscape of the natural environment. Classification coverage is agreed upon with the commissioner. It can be used as part of overall soundscape studies. The classification is developed in North-Finland and is therefore culture-specific to that region of the world.

Soundscape studies is a rather new topic. The broadness of the term soundscape makes availability of research material quite complicated. Specialists are spread out among many different professions, making co-operation difficult. In addition, this topic can be studied from many perspectives.

The commercial sector is willing to bring the benefits of soundscape studies to parts of larger schemes. For example tourism is interested in taking soundscapes into account in their marketing.

In order to create soundscape maps classification is required. Some previous classifications are based on noise level measurements. The classification in this thesis wants to give more detailed information. It is not only created through the sense of hearing or noise level measurements, but surrounding environmental variables such as buildings, terrain, waterways etc. are also included. Therefore rough conclusions for classification can be drawn from land use classification maps, but for an exact determination, field research is still required.

In this thesis, soundscapes are divided into four main categories: natural soundscape, natural cultural, built-up cultural, and urban soundscape. Each of the main categories has several subcategories.

Virpi Poutanen graduated from the Polytechnic in Rovaniemi, North Finland in May of 2003. She is a forest engineer and is currently working with Metsähallitus (the Finnish Forest and Park Service).

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Auditing Acoustic Ecology

By Paul Carter

Comparetti and Pitrè both published ['The Parrot'] at the beginning of their anthologies as a kind of prologue.
— Italo Calvino¹

Presented at ...*acoustic ecology... an international symposium*
Melbourne, Australia, March 2003

General definitions are not usually of much operational value. Attempts to systematise the body of research and practice denoted by the phrase acoustic ecology are likely to miss the more salient fact, which this international meeting recognizes, that it is a field which, ever since its initial mapping by Schafer, Westerkamp et al, has shown a remarkable capacity to lead to other events. Whether or not acoustic ecology *should* possess a disciplinary identity, its current state is one of bifurcation. One camp, primarily composed of sound activists (composers, sound artists) associates acoustic ecology with the aesthetic exploration of sound environments. The implicit object is ameliorative, to draw attention to a neglected dimension of the everyday world, and, by appealing to the listener's musical sensibilities, to enlist support for its preservation and protection. Another camp, mainly represented by anthropologists and historians, regards acoustic ecology primarily as a strategic tool for resisting the visualism of Western analytical thinking. Applied to diverse cultures and historical periods, it unveils dimensions of social and cultural signification that a deaf perusal would inevitably miss.

Obviously this contrast is overdrawn. Philosophers like Don Ihde or F. Joseph Smith, in trying to extract from Husserl an auditory phenomenology, have aspired to retune the world, as well as to make a practical, methodological contribution to cultural studies. Similarly, a number of anthropologists, included Roy Wagner, James Weiner and Steven Feld, have eloquently promoted the *general* lessons for bio-sphere sustainability, which they derive from their studies of the auditory cultures of certain New Guinean peoples. Still, the general point probably remains valid: the pluralist discourse of acoustic ecology displays considerable heterogeneity. Scholars of the silent discourses of image and text have recently attempted to prove that their differences are superficial. W.J.T. Mitchell, for example, proposes a discursive category he calls the 'imagetext.' Could something similar occur in the field of acoustic ecology, leading to an integrated theory and practice of 'soundtexts'?

To answer this one way or the other would mean, first, identifying limitations in the present constellations of acoustic ecology research. Any research program that takes a notion of harmony or reharmonisation as its ground and goal risks recapitulating the nostalgic trope which, already in the early 17th century according to Francis Bacon, characterized the empirical sciences, and which, in repairing fallen appearances, has as its goal the restoration of Paradise. In any case, it's hard to see (or hear) the role played in this program by noise or by the infinite species of inaudible sound which vibrate around and through us. On the other hand, semiotically-predicated accounts of the role sounds play in social organization and cultural production are deterministic in another way. They routinely discount the performative

character of sound production, transmission and reception: speakers, hearers and listeners participate in an immersive act of making sense at that place, a process which depends minimally on the sound's semiotic load. Were it otherwise, we would be mere channels of communication, like parrots.

If such limitations are real, they suggest that a theory and practice of 'soundtexts' would need to be non-musical and non-sociological in temper. What, it might be asked, does that leave? The question might better be: what features of an acoustic ecology might now assume epistemological value? The throwaway comparison at the end of the last paragraph didn't do parrots justice. It may be that the lowly status mimicry enjoys in our culture perpetuates a form of auditory Cartesianism. In this the voice of the other, and indeed the whole phenomenon of mimetic desire in dialogue, is discounted. Even the parrot, in saying back what is said to it, says something different. But these subtleties are lost so long as the auditory subject continues to be conceived as a silent listener. As Tomas reflects in his Montreal apartment, after listening to Feld's *Voices of the Rainforest*, the Kaluli 'can sing to us (to me) from track number 6 [but] I can never reply.'² Unless critically deployed, sound recording technologies prevent the addressed listener from satisfying his mimetic desire. They also prevent him from remaining silent; or better, they risk deafening him to the environment of sounds. Writing of Schafer's proposal to locate microphones in remote wilderness zones, and to transmit their sounds 'without editing into the hearts of the cities,' Virginia Madsen observes, 'The paradox is [] that Schafer, through this "radical radio" where no editing occurs (no cuts, no wounds), is present in nature as never before. The microphone does not open a window of transparency onto nature. Rather, the microphone and the whole machine attached to it, amplifies and heightens the sounds of nature (as well as those cultural intrusions), creating a hyperspace.'³

In other cultures parrots and parroting enjoy a higher status. It has been recognized that their uncanny ability to hear sounds and repeat them raises fundamental questions about self and other, and the dialogical contract binding them. How we hear the other will determine the freedom allowed to him, a freedom which also implicates us. On an ethics of listening social justice depends, and so might the sustainability of the non-human environment. The great Persian mystic and poet Rumi (d.1279) explores such matters in his dramatic poem, 'The Parrot and the Merchant.' Their dialogue has three phases. In the first, the Merchant (Ego) desires release from itself: 'I crave some other self. Only you understand, only you provide that other self I crave – by your voice, your beauty, your ... T: Self I crave ... M: Yes, yes. You understand perfectly, as always. T: As always. I understand perfectly, though I only echo you.' In the second, the *tuti* points out that the other the merchant addresses is, as it were, a sociological construction: 'I am an echo of yourself which you have caged. I have no other song to sing but songs of being caged to sing you songs of your old tired self that longs to hear some other song but can't because

you have that key around your neck to keep me caged.' In the third, the *tuti*, hearing of his free brother's death, imitates him. Believing his pet is dead, the Merchant unlocks the cage and casts the bird out of the window. The *tuti* revives mid-air and flies away. The moral? 'We are brothers, not creatures to be put in cages./ My brother taught me by his silent act/ My own voice kept me a prisoner./ We are two bodies, he and I, but one soul.'⁴

A parable about the ego and the soul, Rumi's play is also perhaps a challenge to acoustic ecology. To perceive the world's sounds in terms of their harmonization is, ultimately, to align acoustic phenomena with one's own interests. It is to evaluate them echoically, in terms of fixed (caged?) intervals, and the sense of an enlarged understanding that results may be narcissistic. The *tuti*'s second point, that the harmonies generated in

but transformationally. Mishearing and mispronunciation, providing the supplement of difference, which differentiates a performance from a repetition, would mark a social and environmental relation defined by a continuous retuning, free of nostalgia for ideal forms. American sound historian Bruce Smith has recently suggested that Barry Truax' ordering of sound (primal cries-speech-music-ambient sound) 'along a continuum of syntax that is temporally more and more extended' can be reconfigured as a circle that begins and ends in primal cries – 'Human exclamations of "oh," "ah," "mmm" and the like take their place in the ambient world of animal sounds, wind and rushing water.'⁷ But perhaps a better spatial representation is one derived from the etymology of *discourse*. Sound is constitutionally a to-and-fro, a running hither and thither. It is an activity of what

Michel Serres calls the multiple as such. Listening registers and mediates this process. Shaping the sounds it hears and speaks, it finds where they belong in the performance.

A prologue is not the place to develop these opening thoughts into a more sustained argument, one likely to stimulate conversation. At the same time, in parroting themes that the International Acoustic Ecology Symposium seems set to address, perhaps they will provide an echo in advance of discussions to come. As for the discussions themselves, may they heed the perhaps unsurprising information, that parrots only talk in captivity.

Paul Carter published *Repressed Spaces: the Poetics of Agoraphobia* (London: Reaktion) in 2002. His exhibition, *Mythform: the Making of Nearamnew*, and the soundscape *Nearamnew Speak*, documenting his four year collaboration with Lab architecture studio at Federation Square,

Melbourne, was recently at the Ian Potter Centre, National Gallery of Victoria, Melbourne. Paul is professorial research fellow at The Australian Centre, University of Melbourne.



Photo: Jean-Pierre Chabrol

Paul Carter, detail of 'Migrant's Vision', Nearamnew, Federation Square, Melbourne.

this way are violent, and the nostalgia attributed to them a form of acoustic imperialism, is a profound one. Here, even F. Joseph Smith's lofty ideal, 'a phenomenology of musical sound [that] takes in what we now call music, dance and speech,' and which 'restore[s] a unity that was lost since the Greeks,' sounds suspect.⁵ To treat the *tuti* as a machine for playing back fond memories is to anticipate the electroacoustic confinement of listening. When, for example, it is proposed to find relationships between 'ways that people conceive of their universe (cosmology), organize themselves into groups (social organization) and organize sounds (music and some of the sonic features of language),'⁶ the cultural construction of hearing is foregrounded at the expense of listening. What falls acoustically outside this pre-capitalistic, pre-missionary environment can only be characterised as encouraging an auditory freedom that is destructive. To neutralize such violence, the *tuti* plays dead. In Avital Ronell's terms, it refuses to take the call. It transforms mimicry from a sign of enslavement to a strategy of self-liberation. Demonstrating (by its self-sacrifice) that dialogue is performative, the parrot inserts into the speaking-hearing feedback loop the right to listen, and hence the capacity to hear and to speak differently.

The implication of Rumi's story is that a *listening* ecology is desirable, in which sonic relations are defined not harmonically

Footnotes:

1. Italo Calvino, *Italian Folktales*, New York, 1980, xxxi. 'Auditing Acoustic Ecology' was first presented as 'a kind of prologue' to the International Acoustic Ecology Symposium, held in Melbourne, Australia, in March 2003.
2. David Tomas, *Transcultural Space and Transcultural Beings*, Boulder, Colorado, 1996, 120
3. Virginia Madsen, 'The Call of the Wild,' in *Uncertain Ground: Essays between Art + Nature*, ed. Martin Thomas, Sydney, 1999, 32.
4. *A Legend of Alexander & The Merchant and the Parrot*, trans. H. Mason, Notre Dame, Indiana, 1985, 65-111
5. F. Joseph Smith, *The Experiencing of Musical Sound*, New York, 1978, 255.
6. Anthony Seeger, 'Sound, Social Organisation, and Cosmology among the Suya Indians of Mato Grosso, Brazil,' paper presented at *Hearing Culture: New Directions in the Anthropology of Sound*, Oaxaca, 2002, under the auspices of the Wenner-Gren Foundation, 3.
7. Bruce R. Smith, 'Listening to the Wild Blue Yonder: The Challenges of Acoustic Archaeology,' paper presented at *Hearing Culture: New Directions in the Anthropology of Sound*, Oaxaca, 2002, under the auspices of the Wenner-Gren Foundation, 14.

Open Ears

By R. Murray Schafer

Presented at ...*acoustic ecology... an international symposium*
Melbourne, Australia, March 2003

We have no ear lids. We are condemned to listen. But this does not mean our ears are always open. "The violent and the righteous are hard of hearing," said Günter Grass.¹ In every society it is possible to detect individuals or classes of people whose ears are open and those whose ears are closed. Open to change? Open to obey? Open to criticism? Open to new ideas? Open to messages from God? Or closed to them.

So far as I know, no historian has actually ever listened to history, that is, distinguished between good listeners and bad listeners, in an attempt to deduce what was happening or about to happen as a result of the clairaudience of some and the deafness of others. This is not to imply that listeners have always had an upper hand over non-listeners. Often the situation is reversed, as it seems to be at the present time, when we are increasingly ruled by the deaf. The three questions to ask are these:

1. Who's listening?
2. What are they listening to?
3. What are they ignoring or refusing to listen to?

Countless dictators have fallen because they failed to detect the sounds of revolution soon enough. And probably an equal number have been hurled into power by bawling multitudes who couldn't even pronounce their names. The deaf can lead the deaf just as the blind can lead the blind.

But there are also real flash-points in history where something revolutionary was heard for the first time. Big noises like cannons, steam engines, jets and cell phones have changed history as much as royal proclamations. So have whispers at clandestine meetings. In every case someone is listening and others are not. What follows are a few examples of significant social changes attributable to sound events.

The Ear of God

The notion of God as a microphone, hearing or overhearing everything, is at least implicitly present in many religions. When I was a child going to church with my parents, I always felt awkward when the minister said, "Let us offer up a silent prayer to the Lord." Then all heads would bow and all eyes would close. The church was silent until the minister broke the stillness to inform us that God had heard our prayers. He was confident about that. God always heard the prayers of earthly sinners. It amazed me to think that at any moment millions of people all over the world were speaking to God, and that God could understand all the languages, unscramble all the confessions, and even decipher the silent thoughts of the praying multitudes. Of course, Christianity functioned, and still functions, on the supposition that nothing can be concealed from God in darkness or in silence.

But if the ears of God are always open, why do we have to signal when we want to make contact? Why the rattling of bones, the blowing of the ram's horn or the ringing of church bells to announce our readiness for communication? Certain tribal societies could explain this simply: the gods were often sleeping and

needed to be awakened. I have shown how authoritative bells were in the convent of Bernardines of the Obedience of Martin Verga (1815) from a description given by Victor Hugo in *Les Misérables*.² Not only were prayers announced by bells, but all activities were directed by their ringing; and this was true wherever there were churches and monasteries.

Quebec City, 1857, Order of St. Augustine.

4 a.m. *Reveil*. Bell sounded for the duration of one "Pater and Ave."

4:30 a.m. Thirty tolls on the church bell.

5:15 a.m. *Les Petites Heures*. Bell sounded for the duration of one "Pater and Ave."

5:45 a.m. Mass, announced by thirty tolls on the church bell.

— Housekeeping, signalled on the monastery bell for the duration of two Ave Marias.

9 a.m. General lecture, signalled by the monastery bell and a hand bell for the duration of a De Profundis.

10:45 a.m. First announcement of the *Dîner des Pauvres* on the monastery bell for the duration of two Ave Marias.

11:00 a.m. *Dîner des Pauvres* signalled by hand bell and monastery bell sounding for two Ave Marias, separated by a pause lasting one Sancta Maria.

11:15 a.m. Examination. Thirty strokes on the monastery bell.

11:30 a.m. *Dîner des Religieuses* announced by hand bell and monastery bell sounding for two Ave Marias, separated by a pause lasting one Sancta Maria.

Noon Angelus. Three times three strokes leaving the duration of a Sancta Maria between each group.

1:25 p.m. *Chapelet*. Monastery bell and hand bell sounded for the duration of one De Profundis.

2:25 p.m. Catechism. Thirty tolls on the monastery bell.

2:45 p.m. *Lecture particulière*. Announced by the monastery bell and hand bell for the duration of one De Profundis.

3:10 p.m. Vespers. Hand bell and church bell sounded for the duration of one De Profundis.

4:45 p.m. First announcement of the *Souper des Pauvres*. The monastery bell sounded for the duration of two Ave Marias.

5:00 p.m. *Souper des Pauvres*. Hand bell and monastery bell sounded for two Ave Marias, separated by one Sancta Maria.

5:30 p.m. *Matins*. Hand bell and church bell sounded for the duration of one Pater and one Ave.

6:00 p.m. Supper for the monks announced on the monastery bell for the duration of two Ave Marias separated by a pause of one Sancta Maria.

6:30 p.m. Second refectory. The monastery bell sounded for two Ave Marias without pause.

7:45 p.m. *Examen*. Seven or eight strokes on the monastery bell, then thirty strokes on the church bell after having rung the hand bell.

8:45 p.m. Bedtime. The monastery bell is sounded for the duration of one De Profundis.³

In one sense all this bell tolling was intended for God's ears, since the durations were determined by prayers recited aloud or silently by the monks who tolled them. But the more obvious intention was to maintain the regimen of the monastery and, in

a broader sense, to regulate the behaviour of everyone living within Christian society. When the authority of Christianity weakened, church bells grew fewer. Perhaps God was no longer listening, or at least wasn't speaking. The many sounds once regarded as divine voices—the storms, the thunder, the mysterious voices of nature and of dreams—were rationalized differently. God became silent. With God's silence, human vocabulary changed. No more Pater Nosters or Ave Marias. Other ears opened to listen to the human predicament.

The Ear of the Tyrant

Dionysius of Syracuse (ca. 430—367 B.C.) was known as a brutal tyrant, though he made Syracuse a powerful city. His name, or rather his ear, survives eponymously in the famous S-shaped grotto that resembles the cochlea of a human ear in enormous proportions. The cave is about 210 feet long and over 70 feet high with a narrow, uniform channel a few feet wide at the top. The unique sound properties of the cave were studied by the acoustician Wallace Clement Sabine. "When being shown the grotto from below, one's attention is called to its very remarkable reverberation. When above, one's attention is called to the ability to hear what is said at any point on the ground. It is related that Tyrant Dionysius ... so designed his prisons that at certain concealed points of observation he could not only see everything that was done, but through remarkable acoustic design, could hear every word that was spoken, even when whispered only."⁴

The Ear of Dionysius is the prototype for all subsequent developments in acoustic surveillance by the state, passing through centuries of architectural curiosities intended to detect treachery through listening tubes (the seventeenth-century versions of which are preserved with faulty acoustics in the vivid illustrations of Athanasius Kircher's *Phonurgia Nova*)⁵ down to the reality of hidden microphones and wire tapping in the twentieth century.

The ears of the state have never been more curious and open. Everyone has a voice print and somewhere everyone's voice print is on file. The setting of Solzhenitsyn's novel *First Circle* is a top secret laboratory, committed to research on voice scramblers, simulators and decoders.

"Eavesdropping, censorship, recording, and surveillance are weapons of power," writes Jacques Attali. "The technology of listening in on, ordering, transmitting, and recording noise is at the heart of this apparatus ... Who among us is free of the feeling that this process, taken to an extreme, is turning the modern State into a gigantic, monopolizing noise emitter, and at the same time, a generalized eavesdropping device."⁶

Not all of this listening is carried out in secret.⁷ This is no longer necessary once mechanisms are created for society to express itself openly on every possible issue. Then all that's necessary is to monitor the radio phone-in shows and opinion polls to know where to release and where to apply pressure. Music is probably more informative. I refer, of course, to pop music, which is really the only kind permitted in the free world.⁸ Listen closely to its tempo, its beat, its vocal machinations and song texts and it will tell you all you need to know about the mood of the people.

... the music of a well-ruled state is peaceful and joyous and its government is orderly; that of a country in confusion is full of resentment and anger and its government is disordered; and that of a dying country is mournful and pensive and its people are in distress.⁹

Compare today's song literature with any collection of folk songs from the past—the ballads, the romances, the laments and

the marches—and ask yourself, which kind of government is reflected in each style? History is a songbook for anyone who would listen to it. Songs for war, songs for peace, and a heteroclitite of forms between them. Crooners giving way to marching bands and patriotic songs in times of war. Spirituals giving way to Afro drumming. The disappearance of Christian hymns. The emergence of Latin rhythms as Latin America bulges north. Pentatonic music as the Far East spreads everywhere. Rap music by bitter young men. New Age music for doodlers. Drug music for the smashed up. Techno music for flesh-machines. The world sings itself to death and back to life.

"Where you want to have slaves, there you should have as much music as possible," Tolstoy once said to Gorki. A society too drunk with music is incapable of other operational achievements, and the ruler who wishes to stay in power knows when to stimulate music and when to withhold it, as the Church did in the Middle Ages when they obliterated all secular music, or as Stalin did when he slapped Shostakovich and Prokofiev and strangled American jazz.

The Ear of the Confessor

Confessions rarely go unheard. There is always someone willing or required to listen to the confession of misdeeds, of apologies and repentance, someone to whom these confessions are of interest and value, perhaps to provide a catharsis for the sufferer, perhaps to scrutinize disorders that might upset the frictionless functioning of society.

The Latin word *audire* (to hear) has many derivations. One may have an "audience" with the king, that is, a chance to have him hear your petitions. One's financial affairs are "audited" by an accountant. Because originally accounts were read aloud for clarity.¹⁰ An accused person is given a "hearing," that is, a chance for the accused and witnesses to offer aural testimony in the courtroom. Of course, rooms are often constructed or appointed to favour the transmission of some voices over others, and the courtroom, like the royal court, is no exception, with the judge as the king occupying the most elevated position, reminding us that the Latin word *obaudire* meant "hearing from below," i.e., obeying.¹¹ Similar relationships have been noticed in other languages, for instance in German, where *hören* (to hear) is also the root of *gehören* (to belong to) and *gehörchen* (to obey). We hear sound. We belong to sound. We obey sound.

In his *History of Sexuality* Michel Foucault has shown how the sexual freedom in both action and vocabulary that existed in Europe in the seventeenth century was gradually repressed during the eighteenth and nineteenth centuries. The task of introducing and maintaining this repression was assigned to the churches and schools, and the reason, he claimed, was because the pleasures of sex were incompatible with the work ethic. "At a time when labour capacity was being systematically exploited, how could this capacity be allowed to dissipate itself in pleasurable pursuits, except in those—reduced to a minimum—that enabled it to reproduce itself?"¹² And if sex is repressed, that is, condemned to prohibition, non-existence, and silence, then the mere fact that one is speaking about it has the appearance of a deliberate transgression." Sexual discussion needed to be controlled, and the channel through which this was accomplished was the confessional. It was in the confessional, not the bedroom or the brothel, where the discourse of sex most regularly took place, where the confessor's secret lusts and weaknesses achieved their most intensified expression, and where the whole subject was given its most vivid coloration of iniquity. To a modern "liberated" person it seems outrageous that a celibate monk should have been empowered to deal with all the confessions of our sexual desires and appetites—doubly outrageous in respect to recent disclosures

about the behaviour of some priests; but the point Foucault wishes us to realize is that despite all attempts to invalidate sex during the nineteenth century, all that really happened was that it was spoken about in a different context, that the ear open to our confessions was less frequently that of the beloved than of a third party, inquisitive, seemingly neutral, but at root intolerant.

Freud's revelations did much to dispel this, though the technique of enquiry remained remarkably similar. One of Freud's most celebrated patients, the Russian aristocrat known only by the pseudonym "Wolf-Man," tells us in his "Recollections of Sigmund Freud" how the "psychoanalytic situation" came about.

This situation, as is well known, is that of the patient lying on the couch with the analyst sitting near the couch in a position where he cannot be seen by the analysand. Freud told me that he had originally sat at the opposite end of the couch, so that analyst and analysand could look at each other. One female patient, exploiting this situation, made all possible—or rather impossible—attempts to seduce him. To rule out anything similar, once and for all, Freud moved from his earlier position to the opposite end of the couch.¹³

The darkened room and invisible analyst perpetuate the confessional booth and the hidden priest, but the couch put the analysand in a more comfortable position to encourage free disclosure. It is well known that Freud spoke little during sessions with patients, but he listened intently, almost the way a music teacher listens to a pupil's performance; and like a music teacher, he saw his patients regularly, sometimes as frequently as every day. It is equally well known that Freud attached great significance to slips of the tongue (Freudian slips) and to other spontaneous and inadvertent sounds such as harsh breathing and the tapping of foot or fingers, sounds that he believed recalled the 'primal scene' of coitus between parents heard during infancy, and a frequent cause of later neuroses.¹⁴ That spontaneous or uncontrollable sound-making had important implications and could be deciphered like a secret language was a revelation. It was as if the human being was signalling in one way through controlled grammatical speech and in another way in the accents and accidents that surrounded the conscious communication. And yet Freud, and later Jung, failed to realize the implications of the acoustics of the unconscious, both in dreams as well as in music.

Neither Freud nor Jung seem to have been particularly musical. There are a few references to music in Freud's letters but none in his theoretical writings. Nor are there in the writings of Jung. This made them particularly unsuited to deal with patients who had obsessions with sounds, musical or otherwise. A tune, for them could only be analysed through the words that accompanied it. I have elsewhere mentioned the unsatisfactory manner in which Jung dealt with the acoustic contents of his patients' dreams.¹⁵ Freud once denied the auditory dimension of dreams altogether, "for, in dreams we see images but we hear nothing."¹⁶ At other times he admitted that we may hear voices in dreams, which he quite dogmatically considered memories of conversations from the previous day. The only accommodation he made to sounds was to acknowledge that occasionally an external sound, overheard by a dreamer, might signal a chance in the dream—that church bells, for instance, might take the dream in a different direction.

The indifference of early psychiatrists to sounds in dreams is unusual, and rather sets them apart from other interpreters of psychic experience. Most of the big dreams of the Old Testament were aural or had important aural elements. Among the North-

American Indians, the prophet's song comes out of a dream and is sung immediately on waking. Even in nineteenth-century Europe aural dreams seemed significant, as many of E.T.A. Hoffmann's *Tales* indicate.

As I was in the realm of dreams a thousand fears and pains tormented me. It was night and I was terrified of the leering masks of the monsters who dragged me one moment into the abyss of the sea and the next raised me on high. Rays of light came through the night, and the rays of light were tones which surrounded me with their serene purity. I awoke from my pains and saw a great, clear eye which stared into an organ; and as it stared, tones arose and wound themselves into more shimmering and majestic chords than I had ever thought possible. Melodies poured up and down and I swam their current and wanted to drown.¹⁷

Vivid acoustic dreams recounted by Nietzsche, Thomas Mann and other German authors rather fly in the face of Freud's assertion that we dream deafly. Freud evidently did not benefit from Novalis's suggestion that medicine is a musical art, even though passages like the following were quite well known during Freud's day.

Jede Krankheit ist ein musikalisches Problem—die Heilung eine musikalische Auflösung. Je kürzer und dennoch vollständiger die Auflösung—desto größer das musikalische Talent des Arztes.¹⁸

Novalis believed that the rhythms of the body move in harmonic order, and disease can be detected as a dissonance in the harmonic ordering. Paracelsus would have understood that, as would practitioners of holistic medicine today, but not the tone-deaf psychiatrist. In her study of Freud's listening habits, Edith Lecour makes the case that Freud was actually envious of the musical talents of others (for instance of Mahler, who briefly consulted him), talents he would gladly have developed had he possessed them. But, as I said at the beginning, history has been as dramatically shaped by closed or impaired ears as by open ears. Twentieth-century psychiatric practice has concentrated on the visual contents of dreams leaving the aural territory for others to explore.

The Ear Within

The ear of the dreamer, the ear of the shaman, the ear of the prophet and the ear of the schizophrenic have this in common: messages are heard, but no matter how clear or compelling they may be, there is no evidence of a verifiable external source. The transmission seems intracranial, from an interior sound source to an ear within the brain. Julian Jaynes, in his book *On the Origin of Consciousness in the Breakdown of the Bicameral Mind* (Boston, 1976), attempted to explain how we hear voices that are heard by no one but ourselves. Jaynes tried to demonstrate that while speech is normally a function of the left hemisphere, the right hemisphere may, at one time, also have had a speech-producing function, a freer, more hallucinatory activity of vocalizing that he called "the language of the gods,"—messages that were passed from the right hemisphere to the left by means of an "anterior commissure," to be heard as audible voices.

The whole of the *Iliad* is directed this way. Apollo speaks to Hector; Athene speaks to Achilles. As Jaynes explains it, "the Trojan War was directed by hallucinations." The formula "Yahweh said to Moses," repeated throughout Exodus and again in Leviticus, where the laws are dictated, might be interpreted this

way also, though some believers might prefer a god who shouts from on high to one who inhabits the head. What cannot be denied is that the voice of Yahweh was heard exclusively by Moses. "Speak to us yourself," they said to Moses, "and we will listen; but do not let God speak to us or we shall die," (Exodus 20:19) There is a parallel here with Zoroastrianism, where Srosh, "the genius of hearing," interprets the messages of Ahura Mazda for the faithful.

At some point (Jaynes dates it at about three thousand years ago) the commissure connecting the brain hemisphere was weakened, and the voices began to be stilled. Jaynes' theory has been criticized, though it has not been replaced by any more convincing explanation of why voices were heard with such astonishing force in ancient times, or that their presence has diminished today and is only found vividly among people society regards as mad. The steady development of consciousness and rational thought has transformed the inner voice into a symptom of psychic disorder. A person might ask: have they really disappeared or were they merely suppressed because they are too frightening or irrational for the modern mind? Even in the time of Joan of Arc one could be punished for the arrogance of claiming to hear them. "During the trial, worn out with questions and scholastic subtleties, she is asked whether she still hears the voices. 'Take me to the woods,' she says, 'and I shall hear them clearly.' " ¹⁹

Ear Muffs

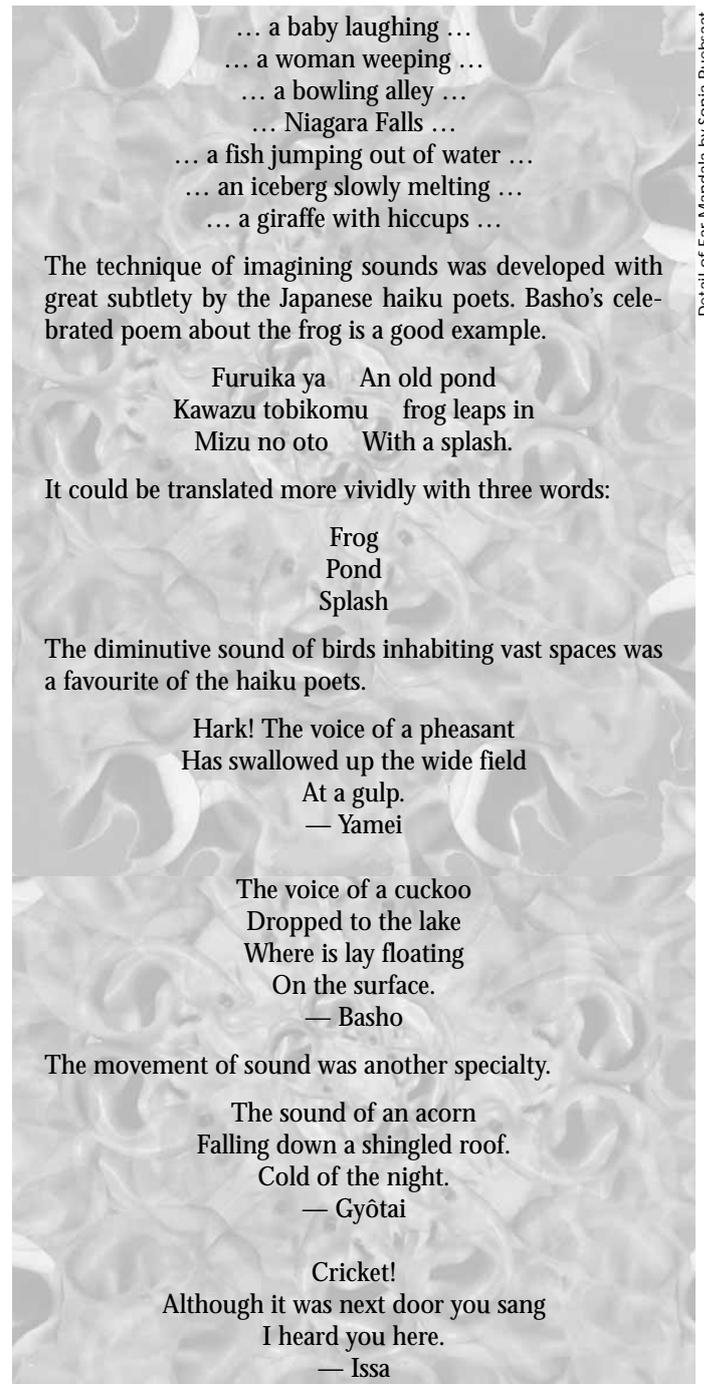
Rationalism extinguished the rich treasury of imaginary voices that once existed in Europe and still exists in many less civilized parts of the world. The empirical Greeks often referred to sound in their writings. Pythagoras created a musical system based on harmonics derived from listening to the heavenly spheres in motion. Socrates took counsel from this "demon," an interior psychic voice that warned him about danger and evil. In his *Problemata*, Aristotle asked many questions about sounds and attempted to answer them. In *De Rerum Natura* (On the Nature of Things) the Latin poet-philosopher Lucretius has a vigorous discussion on vocal sound and acoustics in general. Early philosophy was dialogue and debate, but by the time we get to St. Augustine, philosophy was beginning to settle into a quieter mode, for, as he said, "It might be contended that, though we utter no sound, we nevertheless use words in thinking and therefore use speech within our minds."²⁰ Logic, ethics and aesthetics became silent, contemplative disciplines, and remained so for centuries until Schopenhauer proclaimed music and noise as indispensable ingredients of philosophical speculation, noise because it can "instantly shatter the power of thought," and music because the "combined, rational, numerical relations set the brain fibres themselves vibrating in a similar way." ²¹ Still, a reader of Western philosophy might conclude that everything worth serious discussion exists in a silent vacuum: war, revolution, all social enterprise, and even the universe. This repudiation of sound passed over into science as well where major theories (the space-time continuum, the atomic structure of matter, the wave-corpuscular theory of light) were construed as silent, as were the instruments used in their measurement (the telescope, the microscope, equations, graphs, statistics and numbers). It's almost as if the great achievements of Western philosophy and science were produced in a huge anechoic chamber. Myriads of books written in silent rooms and read in silent libraries. But has the world become quiet and peaceful for it?

A person suffering from acousmata is taken to a psychiatrist. A person found mumbling in a public place is considered dotty. But we all hear voices in the mind and may converse with them out loud when alone, just to fill the solitude. A musician may also hear musical sounds, and while unmusical people often

express astonishment that a composer could hold the contents of a whole symphony in the head, playing it through at will while shaping and reshaping details, there is no doubt that this skill can be learned, and has been learned by countless musicians. A legend says that Mozart wrote the overture to *Don Giovanni* only hours before the première. In reality, he had accumulated it in his mind throughout the writing of the opera and needed only a few hours to write it down.²²

The Ear of the Imagination

Everyone has the power to imagine sounds; and fairy tales, literature and radio once developed this skill in ways that television cannot. Try this experiment. Imagine the following sounds. Take time to let each resonate in the mind before cross-fading to the next.



Detail of Ear-Mandala by Sonja Ruebsaat

One of the fundamental paradoxes of the listening experience is revealed in this poem. Is sound where it originates or where it is detected? Is it in the soundscape or is it in the ear? The reply "both" is not satisfactory because we do not hear sound in two places, but in only one. Issa recognizes this and opts for the subjective sensation of sound in the ear as more authentic.

At times an aural phenomenon may merge synaesthetically with the visual.

The sea darkens
And a wild duck's call
Is faintly white
— Basho

The Japanese also cultivated the suspense of waiting for sound to happen.

The butterfly rests on the temple bell, asleep.

Of course, the Japanese were not alone in hearing vibrating worlds beyond the visual appearances. A striking example by a Western writer comes from August Strindberg, who heard a cricket singing in his pillow. "Now assuming that these creatures once sang in a field of flax, do you not believe that Nature or the creator could use the vegetable fibre [of linen] as a phonograph, so that it plays to my inner ear which through suffering, deprivation and prayer has become willing to hear further than before?"²³

Attending to the immanence of sound in silent objects is stimulated by meditation, especially the unfocussed meditation of Zen Buddhism. The composer Toru Takemitsu explains the difference between the oriental and the occidental listener this way: "The bells of Westminster Abbey speak in terms of first person singular: they have an individual motive with a distinctive statement. The Japanese temple gong, however, speaks without personal identification: its sound seems to melt into the world beyond persons, static and sensual."²⁴ Sound objects in the oriental landscape encourage peripheral listening, while sounds in the West compete for focused attention—can this be true?

Most of the sounds busy people listen to are signals for activity. This explains their immunity to the sounds of nature. One of the essential differences between the natural environment and the engineered environments in which most people now live is that nature can't be shut off with a button. Things that can't be generated or shut off with buttons or switches attract little attention in the modern world.

The failure in our time to protect the natural habitats of birds and animals is largely due to the fact that we no longer hear nature or can put names to its voices. If you can't name the birds, if you don't know how to recognize the leaves of the trees by the sounds they make, or hear a cataract down the river, or recognize when a winter wind is bringing in a storm, nature is anesthetized, and its survival will depend on forces other than human.

The power of technology really comes down to a fascination with buttons and switches in an attempt to modulate information intake. As the twentieth century progressed there were fewer off switches; Society became media-massaged and constantly alert for instructions on where to go or what to do next.

The cellular phone, which the Germans appropriately called the "Handy," is the latest installment in this drama. Answer when your master calls. Life without secrets, without privacy, without freedom. The latest shackle for the technological prisoner to carry about.

In the 1790s Jeremy Bentham designed his "panopticon," a circular prison with cells in tiers facing a central rotunda where guards were able to observe all moves of the isolated prisoners twenty-four hours a day. At the time it was considered outrageous; but isn't this what today's tyrants want to achieve: a transparency of the population in which nothing remains secret? The Ear of Dionysius is the constant dream of anyone seeking power in the world. And accordingly we find that power seekers are never very far from media technology.

But no one can hear everything—unless God can. Beyond what fascinates your ear today is something else, though you can't or don't hear it yet—but whoever hears it first has a good chance of inheriting the future.

R. Murray Schafer is Canada's pre-eminent composer and is known throughout the world. In an era of specialization, he has shown himself to be a true renaissance man. His diversity of interests is reflected by the enormous range and depth of such works as *Loving* (1965), *Lustro* (1972), *Music for Wilderness Lake* (1979), *Flute Concerto* (1984), and the *World Soundscape Project*, as well as his 12-part *Patria* music theatre cycle. His most important book, *The Tuning of the World* (1977), documents the findings of his World Soundscape Project, which united the social, scientific and artistic aspects of sound and introduced the concept of acoustic ecology. His other major books include *E.T.A. Hoffmann and Music* (1975), *Ezra Pound and his Music* (1977), *On Canadian Music* (1984), *Voices of Tyranny: Temples of Silence* (1993), and *The Thinking Ear: On Music Education* (1986). Schafer's books and music can be ordered on line from: <<http://www.patria.org/arcan/>>

Footnotes:

1. *From the Diary of a Snail*, New York, 1973, p. 26
2. See: *Voices of Tyranny: Temples of Silence* (Arcana Editions: 1993), pp. 52-57
3. Source: "Sonnerie. Ode des Observances," *Reglements des Religieuses hospitalières de la Misericorde de Jesus, de l'ordre de St. Augustine*. Manuscript in the Archives du Monastère de l'Hôtel-Dieu de Québec.
4. Wallace Clement Sabine, *Collected Papers on Acoustics* (New York, 1964), pp. 274-75.
5. Athanasius Kircher, *Phonurgia Nova*, facsimile of the 1673 Kempten Edition (New York, 1966).
6. Jacques Attali, *Noise* (Minneapolis, 1985).
7. A remarkable example of this is recorded by Milan Kundera in *The Unbearable Lightness of Being*: during the communist era, Prague police evidently broadcast tapes from bugged apartments over the state radio as a public incrimination of the inhabitants.
8. Any other kind of music might be, and on occasion has been, considered conspiratorial.
9. *Book of Rites (Li Chi or Li Ki)*, section 19, in *Sources of Chinese Tradition*, compiled by William Theodore de Bary et al., (New York, 1960), p. 184.
10. cf. Walter J. Ong, *Orality and Literacy* (New York, 1982), p. 119.
11. Victor Hugo once said, "Kings have ears only in their feet," meaning that one had to grovel before royalty in order to be heard.
12. Foucault Reader, edited by Paul Rabinow (New York, 1984), p. 294.
13. *The Wolf-Man*, edited by Muriel Gardiner (New York, 1971), p. 142.
14. The best study of Freud's listening habits is: Edith Lecourt's, *Freud et la sonore: le tic-tac du desir* (Paris, 1992)
15. "Ursound," in *Voices of Tyranny: Temples of Silence* (Indian River, 1993), pp. 22-24.
16. *Aus den Anfängen der Psychoanalyse, 1897-1902* (London, 1950), p. 175.
17. "Ritter Gluck" in R. Murray Schafer, E.T.A. *Hoffmann and Music* (Toronto, 1975), p. 35.
18. "Every disease is a musical problem—the healing a musical solution. The shorter and more successful the solution—the greater the musical talent of the doctor." *Novalis: Auswahl und Einleitung* (Frankfurt/M—Hamburg, 1956), p. 184
19. Ernest Renan, "The Poetry of the Celtic Races."
20. St. Augustine, "On the Teacher," in *Medieval Philosophy*, ed. Herman Shapiro (New York, 1964), p.6.
21. Arthur Schopenhauer, *The World as Will and Representation* (New York, 1966), vol. 2, ch. 3.
22. Closer to home, Glenn Gould spent fewer hours practicing than most pianists, but he spent many hours studying scores and silently memorizing them.
23. *August Strindberg*, Olof Lagercrantz, New York, 1984, p.276.
24. Toru Takemitsu, *Confronting Silence* (Berkeley, California, 1995), pp.10-11.

Acoustic Objectives for Designed or Managed Soundscapes

by A.L. Brown

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Abstract

This paper describes acoustic objectives for designed and managed soundscapes, and suggests that these be called "Proposed Acoustic Environments". These acoustic objectives need to be defined on the basis of the information content of the sound, not, as is dominant in conventional noise abatement and control assessments, on the level of the sound. Starting with acoustic objectives specified in this way, there is a logical design process that can be followed that requires separate analysis and assessment of the wanted and unwanted sounds at a site and their appropriate management. Such an approach is essential if soundscape planning is to bridge a major communicational divide that currently exists between the concepts of acoustic ecology and the large body of knowledge and practice represented by conventional noise management.

Introduction

Various authors clearly link soundscape to physical planning and design activities. For example, Böhme (2000) argues that, "...city planning can no longer be content with noise control and abatement, but must pay attention to the character of the acoustic atmosphere of squares, pedestrian zones, of whole cities", and others (Anon, 1988) advocate that;

- *"Urban and landscape architects should take auditory perception into account. The perceptions of all senses should be dealt with to the same degree and the visual should not be favoured ..."*
- *"Urban and landscape planners and designers should create sonic environments which form part of their context over both time and space. ... (for example, the sounds of water, wind, songbirds and the human body)."*
- *"Design tools dealing with auditory aspects should be developed to fit into the process of urban and landscape planning and design ..."*

This paper provides examples of such a design tool. It suggests an approach to fit acoustic design into urban and landscape planning and design.

While there is a growing interest in, and literature about, soundscapes, much of it has been high in vision—but rather short in means for implementation. This paper attempts to break some new ground, the need for which has been noted by Cusack (2000), *"Where is all the critical debate, lively disagreement, alternative theory, polemic even, which one could expect if ideas are moving forward and breaking new ground? Am I alone in missing this? The basic tenets of soundscape thought, ground-breaking as they were in the 1970s, seem these days to be more often repeated than refined."* It lays the foundations of a pragmatic approach for planners, landscape architects, engineers, acousticians and others involved in the planning and design of the built environment, and for managers of rural, natural and recreational landscapes. The approach is also relevant to those interested in public installations that may have an acoustic component (see, for example, Australian Sound Design Project, 2001).

Appropriate Acoustic Objectives for Designed and Managed Soundscapes

What acoustic experience does the designer propose for users of the space? Putting aside the important issue of the diversity of preferences that will exist amongst different individuals and

groups of people (for visual, acoustic, or any other dimension of a place) what guidance exists regarding specification of acoustic objectives for outdoor environments?

Investigation of appropriate proposed acoustic environments outdoors has had little attention from the scientific community to date, primarily because of the over-riding emphasis in acoustic research on environmental noise. For example, there is copious data collected over decades on *What noises do you hear around here?* or *What noises annoy you the most?* (even as long ago as 1929 in New York (Noise Abatement Commission, 1930) but very little on *What sounds do you enjoy/prefer to hear in this place?* A study in Yokohama (Tamura, 2002) is an exception, reporting not only sounds (outdoor sounds heard indoors) that were observed by and were annoying to residents, but also sounds that they found favourable. Sounds regarded as favourable included the twittering of birds and sounds of insects and frogs, the sounds of festivals and fireworks, wind movement in trees and grasses, wind chimes, bells of temples and churches, whistles of ships and the sounds of streams and sea waves. Favoured sounds were mainly natural sounds and some specific cultural sounds, and distinct from sounds that they did not prefer. The latter were so-called daily life sounds (garbage collection, neighbours' sounds etc.) and sounds from traffic. Sasaki (1993) also sought to measure opinions on outdoor sounds that people preferred in urban areas, with somewhat similar results. While his methodology had significant limitations, including relying on surveying respondents away from the context of their own homes, his results are a salutary reminder of the diversity of opinion that will always exist. They show that, for any particular sound, individual responses were widely distributed across the like/dislike scale though the modal response shifted markedly between different sounds. Sasaki went beyond his survey results to proffer the opinion that, in soundscape design, proposed acoustic environments should not be loud, have good tonal qualities, emit sounds at appropriate times and for a suitable duration, match with surroundings and be acceptable to residents of the neighbourhood. He also suggested an important role for quiet.

Other scientific investigations into perceived quality of soundscapes include that reported by Berglund *et al* (2001) and Berglund and Nilsson (2002). Their work, in residential areas, is directed towards new tools to measure the way people perceive soundscapes, including sound-source identification,

quantification of loudness, and attribute profiling of sound quality. Some of their field results suggest labelling soundscapes in residential areas in four ways: adverse, reposing, affective (inducing feelings or emotions) and expressionless. There is also interest in Sweden (Anon 2001) with respect to how preferred soundscapes (particularly access to quiet in courtyards) can be supportive of health and well-being. Carles *et al* (1999) conclude that further research into soundscape preferences is required, after reporting the results of their laboratory study of the interaction between visual and acoustic stimuli on perception of the pleasantness of environment. Using images and sounds covering natural and semi-natural scenes and urban green spaces, they concluded that natural sounds, particularly of water, create positive feelings towards the landscape, but they also reported the importance of sound-image congruence in shaping environmental preference. In certain environments any acoustic disturbance can lead to a rapid deterioration in environmental quality, but natural sounds may improve the quality of built-up environments to some extent.

While these research results are in no way counter-intuitive, to date they still provide little or no guidance to any prospective designer/manager of outdoor space as to appropriate acoustic objectives. How then is a designer to set acoustic objectives? Borrowing limits used in noise control, based largely on minimising adverse human response, is not appropriate. Where 'quiet' is the intent, conventional acoustic measurements could be used to describe the objective, but even then, say in the management of a wilderness area, both the notion and measurement of quiet are problematical.

The solution is to depart radically from the nature of most acoustic criteria used in practice and to set acoustic objectives for soundscape design by the *information content* of the sounds. We postulate, in Table 1, acoustic objectives of this sort for different outdoor spaces. The list, indicative not necessarily comprehensive, is a personal list, based on experiences and intuition, but it is suggested that it does embody much of the observation, opinion, and commentary found in the soundscape literature to date, and in the limited research regarding human acoustic preference. Most of the objectives in Table 1 are related to natural sounds, particularly the sounds generated by wind, by waves or running water, or by animals; or to ensuring human sounds predominate over mechanical or amplified sounds. They also represent soundscapes that are good communication environments for speech or music or that ensure that the geographical or cultural identity of a place is enhanced. In some cases they relate to "quiet", but in other they may relate to high activity, or "noisiness".

TABLE 1:
Acoustic objectives for outdoor spaces

- a Moving water should be the *dominant* sound heard.
- b A particular (iconic) sound should be clearly audible over some area.
- c Hear, *mostly*, (non-mechanical, non-amplified) sounds made by people.
- d *Not* be able to hear the sounds of people.
- e The sounds of nature should be the *dominant* sound heard.
- f *Only* the sounds of nature should be heard.
- g Suitable to hear *unamplified* speech (or music).
- h Suitable to hear *amplified* speech (or music).
- i Acoustic sculpture/installation sounds should be clearly *audible*.
- j Sounds conveying a city's vitality should be the *dominant* sounds heard.
- k Sounds that convey the identity of place should be the *dominant* sounds heard.

This list should cover the majority of outdoor spaces where acoustic design or management is appropriate. It includes, for example, objectives for urban spaces where one may wish to provide respite from the sounds of traffic (c,g), for parks or gardens that include water structures or specific acoustic installations (a,d,i), for spaces that are intended for speech or musical communication (g,h), for amenity in pedestrianised areas of both old and new cities and villages (c,g), and for wilderness (d,f) and outdoor recreational areas (e). Other objectives related to identity of place (b,j,k) may be appropriate in cities or rural areas, say for the pealing of a bell, the call to prayer from a mosque, the lowing of cattle or the tinkling of sheep bells. In addition to providing a starting point for designers and managers to use in practice, Table 1 is intended to encourage debate, suggested additions, and further research to test, and modify, its robustness. It is suggested that the acoustic objectives of this type be referred to in the design or management process as the *Proposed Acoustic Environment* for a particular place and context.

Listing such objectives is not a trivial exercise. Unless designers clarify the specific acoustic objective for a particular space, time and context, in the way suggested in Table 1, then the potential to convert the objective to quantifiable acoustic parameters that can be measured and predicted will not be possible. The approach is a response to Böhme's comment (2000) "*... it is a matter of overcoming the narrow natural science based approach which remains at best capable of grasping noise as a function of decibels, and to ask instead what type of acoustic character the spaces in which we live should have*". The use of Proposed Acoustic Environments is necessary to overcome the legacy of decades of noise control approaches where, if any criteria have been specified at all for the acoustics of outdoor space, they have been unidimensional limits regarding the level, or loudness, of all sounds present, and likely set to limit adverse human reaction.

It needs to be recognised that the acoustic objectives in Table 1, while the essence of simplicity in their intent, are actually statements about quite complex acoustic outcomes that include, at least, *two components of sound* within the space— *the wanted signals* and the *unwanted signals*. All the statements recognise that these two sound components are present, specifying the sound that we want (or in some cases the sounds that we do not want) but implicitly recognising that other sounds will also be present. The statements also indicate the proposed relationship between the wanted and unwanted signals that the designer will have to achieve.

The context obviously dictates whether a sound is wanted or not wanted, and in different contexts the same sound may be one or the other. For example, in a pedestrian mall, the Proposed Acoustic Environment may be: *hear (non-mechanical, non-amplified) sounds made by people*. The sounds of voices and footsteps are wanted, but amplified music and traffic noise would be unwanted, and the design would ensure that the former were not masked by the latter. By contrast, in a space intended for contemplation or reflection, the Proposed Acoustic Environment may be: *not be able to hear the sounds of people*. Here the sounds of voices and footsteps would be unwanted, and the design would aim to ensure either that voices or footsteps were not present or that these were masked by some other acceptable sound.

Most acoustic descriptors common in noise management have no interest in, and make no recognition of, the *information content* in the sound. They measure the overall level and loudness of all the sound present at a specific location. Noise scales that rely on concepts such as equivalent continuous sound level (L_{eq} and L_{den}) simply integrate all the sound signals present,

irrespective of their source. Scales based on exceedance levels (such as L_{10} and L_{90}) are equally non-discriminatory with respect to different sound sources. While microphones faithfully transduce, and tapes faithfully record, the sounds that are present, immediately these signals are processed through most noise measurement equipment used for assessment (sound level meters, *level* recorders, and noise level analysers—all of which are interested only in the level of the sound) all source discrimination is lost. Berglund and Nilsson (2002) have previously commented on the inappropriateness of conventional noise measurements for soundscape planning. They noted that unwanted sounds, discerned amongst other sounds, may be what people do not like about certain soundscapes, even though the contribution of the unwanted sounds to overall loudness or sound level, as assessed by conventional noise measurements, may be negligible.

An Approach to Acoustic Design

With these principles in mind, it is appropriate to suggest a design approach (Figure 1) for soundscape planning and management, equally applicable for urban or non-urban areas, and independent of the scale of the planning/management activity. The steps in Figure 1 are self-explanatory. The *wanted* and the *unwanted* sounds have to be identified in each situation. Each has to be measured/predicted or otherwise estimated, and then managed separately. Examples below demonstrate these principles.

An Urban Example

Figure 2 shows a small urban square that has (or in which is planned) a water structure. This is located, typical of most urban areas, in the proximity of a roadway. The example can be used to demonstrate at least three hypothetical acoustic design scenarios.

(a) The first scenario is the intent to create a pleasant place in an inner city area in which users may have some respite from city noises. This intended "activity" suggests a Proposed Acoustic Environment of: *moving water should be the dominant sound heard*. The wanted sounds can be identified as the sound from the water structure. Similarly the unwanted sound is that from the traffic. Achieving the objective requires that, by and large, the sound of water must mask the sound of traffic. Measurement and/or estimation of the relative levels, time histories and other characteristics of the two sounds is required, and measures put in place for either the reduction in the level of road traffic to ensure it remains masked, or to increase the levels of the sound emitted from the water structure to achieve the same end. What should actually be implemented depends on the context of the place, technical possibilities, and funding avail-

able. But what the approach described in this paper does, is to make absolutely clear what the objective is, and then breaks down a complex situation into a series of specific technical tasks which the planners, the acousticians, the traffic engineers and others involved can subsequently tackle: proposing and evaluating different solutions until one that achieves the objective—of the sound of water dominating—is identified.

(b) The second scenario could be a quite different intent, but in the same situation as described by the diagram in Figure 2. The intent now may be to create a place in which the people under the trees can communicate easily—perhaps the plan is to place park benches, or street theatre, there. This intended "activity" suggests a Proposed Acoustic Environment of: *suitable to hear unamplified speech*. (Note that one could even specify the likely distance between speaker and listener as part of this objective). Now the wanted sounds can be identified as the sounds of speech, and the "unwanted" sounds being from both the water structure and traffic. Achieving this objective requires that, by and large, the sounds of water and traffic must *not* mask the sounds of speech. Again, measurement and/or estimation of the relative levels, time histories and other characteristics of the three sounds is required, and measures put in place to ensure that speech sounds are not masked by the unwanted sounds. In this situation, once more, the approach has broken down the complex situation to one that is tractable for a design team, and from which a potential design solution can emerge.

(c) The same diagram provides the opportunity to consider even a third scenario to illustrate the utility of this acoustic design approach. It could be reasonable

for a designer to have concerns that a visually impaired person, or a child, on the footpath between the water structure and the roadway might be in danger if the warning signals of the presence of traffic were to be masked by the sounds of the water structure. Here the "activity" is negotiating traffic, and the appropriate Proposed Acoustic Objective may be: *warning sounds of approaching traffic should be clearly heard* (this is not in Table 1 because it is an objective for safety rather than an objective for human enjoyment). The "wanted" sounds in this case are the sounds of passing vehicles, and the "unwanted" sounds are those of the water structure. Design solutions would have to ensure that the water structure sounds did not completely mask the sounds of approaching vehicles.

A Wilderness Example

The same design approach is also illustrated by an example from the literature, but in a completely different context. The US

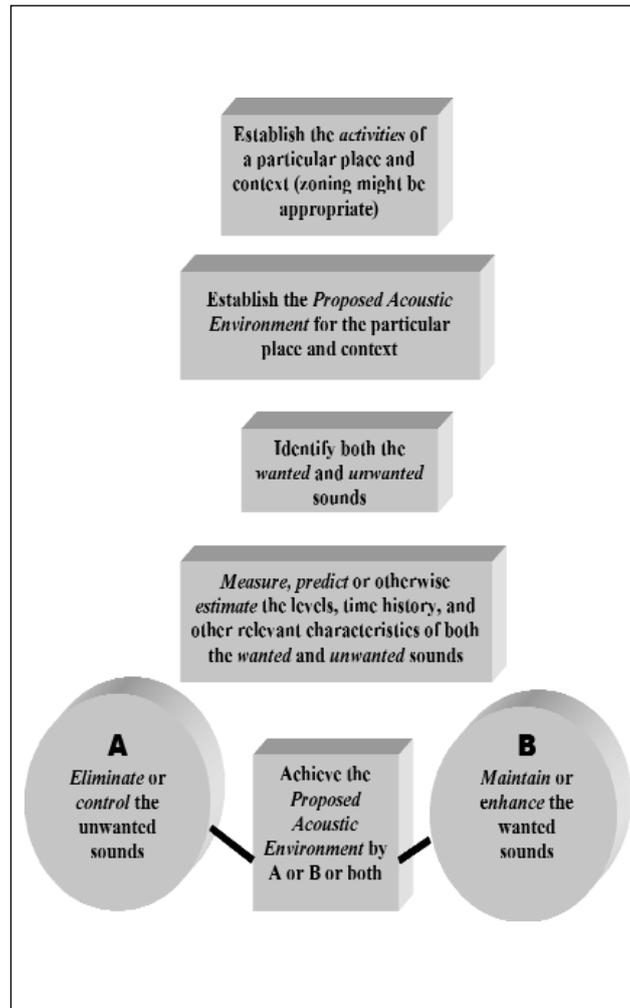


Figure 1. An approach to the acoustic design of outdoor space

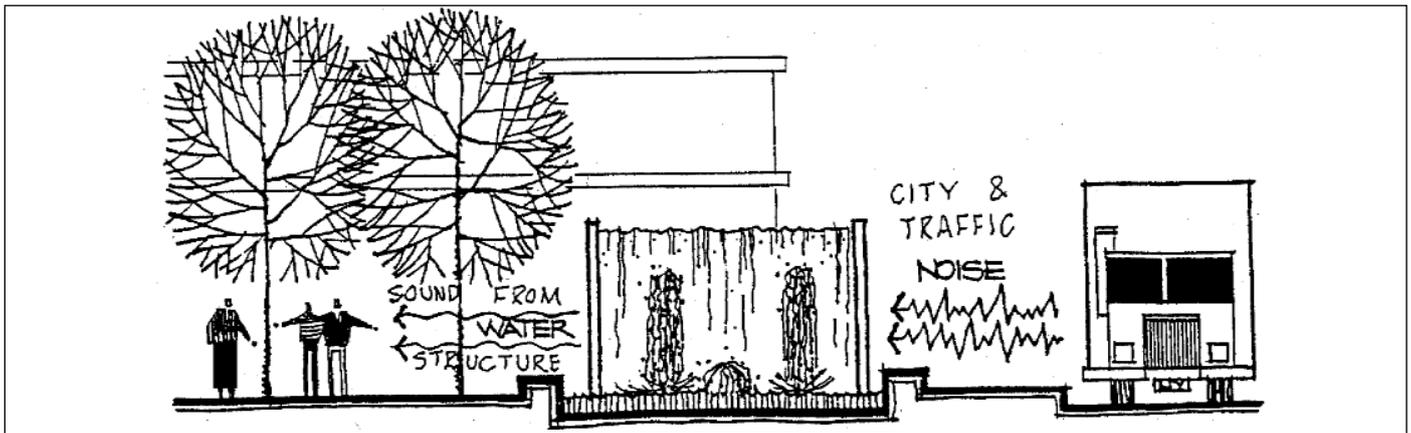


Figure 2. A hypothetical urban design context (diagram modified from Booth (1983))

National Park Service reported their initial steps in the development of a Soundscape Management Plan for Biscayne National Park (United States National Park Service, 2000). In this park the planners clearly recognised that sound was a resource—*"Preservation and restoration of diminishing natural sound environments or soundscapes has become a foremost challenge in the protection of park resources"* and *"Natural sounds are part of the special places we preserve. Rustling winds in canyons and the rush of waters in the rivers are the heartbeat and breath of some of our most valuable resources"*. While they did not use this author's terminology, in the first place they identified Proposed Acoustic Objectives for the intended activities of the park—*"the ability to hear clearly the quieter intermittent sounds of nature, for extended periods of time."* This is identical to Objective (e) in Table 1. They also recognised that this may not be the appropriate objective over the entire park and used a zoning scheme to accommodate different types of activities with different soundscape possibilities. For example, the visitor centre was zoned differently to the hiking trails in terms of acoustic objectives. Secondly, they noted that the sounds needed to be separated into the wanted sounds (*natural ambient sounds* or, in some zones, *the sounds that reflect Biscayne National Park's marine heritage* such as those of small motor vessels or of a yacht's sails flapping) and the unwanted sounds (*noises of civilization and technological conveniences*, such as vehicles or rangers' mobile radio sets). Thirdly, they identified that the objectives would be achieved through appropriate management of these different sounds to achieve the design objective, rather than relying on setting some overall measure of acoustic level as the design objective.

Time Varying Characteristics of Both Wanted and Unwanted Sounds

Achieving the Proposed Acoustic Objectives requires comparing the levels and other acoustic characteristics of the *wanted sounds* and the *unwanted sounds* and, where appropriate, managing either the wanted or unwanted sounds, or both. Most of the Proposed Acoustic Environments require that *wanted sounds* will not be masked by the *unwanted sounds* (or in some cases this is more appropriately described as ensuring that the wanted sounds will mask the unwanted sounds). Masking is a complex phenomenon determined not only by the relative levels of the masking and masked sounds, but by the frequencies present in both—see, for example, Jones and Chapman (1984)—particularly the tonal or broadband nature of the two sounds.

Most sounds that one will encounter in outdoor acoustic design, both the wanted and unwanted sounds, are time varying. Assessment of the masking of one sound by another will have to

take the temporal patterns of both into account. For example, where masking of unwanted traffic noise is required, masking of the troughs of the road traffic noise may be possible but masking of the peaks may not be. The difference between the troughs and peaks of road traffic can be quite variable—only a few decibels if the source of road traffic noise is distant, but 10 or 15 dB if the source of road traffic noise is close to the design site. Figure 3 illustrates the nature of the likely time-history of unwanted traffic sounds in the examples of Figure 2 depending on whether the road traffic source is close to the site in question, as in a roadside setting for the water structure, or distant, as in a mall setting.

Schafer (1977) had introduced the terms *hi-fi* and *lo-fi* to describe different soundscapes but, for practical design, it is necessary to develop this concept further. The reality is that each of the wanted and unwanted sounds may, by themselves, be *hi-fi* or *lo-fi*. For example, *hi-fi* speech may be masked by traffic noise that can be either *hi-fi* traffic noise or *lo-fi* traffic noise¹, depending on the context as shown in Figure 3. By contrast, in another context, the *lo-fi* sounds of a water structure may be the wanted sounds, and required to mask either *hi-fi* or *lo-fi* types of road traffic noise. Understanding this complexity is all part of the requirement for an adequate assessment of the acoustic characteristics of both the wanted and unwanted sounds. Assessing the masking of one sound by another where one, or both, are highly variable (*hi-fi*) is an inexact science. The Proposed Acoustic Environments in Table 1 have included modifiers such as 'the *dominant* sound heard' or 'the *only* sound heard' in their definitions to provide guidance in this assessment where the masking will not be continuous and complete, but only parts of the unwanted sound will be masked.

Conclusions

Acoustic design of outdoor space needs new tools and ideas if the visions so often described in the acoustic ecology literature are to have more widespread application. One of the major impediments to wider implementation is the gap in concepts, thought processes and skills between the soundscape approaches and the conventional environmental noise management approaches. The latter is, by far, the paradigm that dominates most acoustic discourse and action amongst those who are in a position to promote, influence and design our urban environments and manage our rural and wilderness areas. The approach suggested in this paper is intended as far more than a design tool—as important as that is in its own right—and more a bridge between these currently disparate fields. Its further development and trial may help to convert, then harness, the large body of people, knowledge, tools and energy that resides in both the *environmental noise* and *design* professional areas to *soundscape* design.

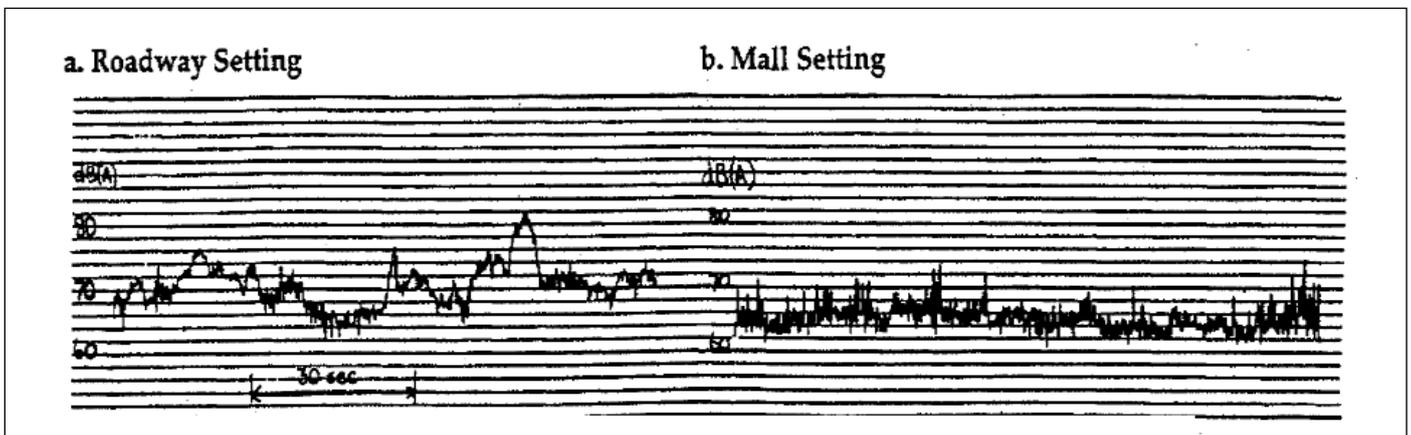


Figure 3. Typical examples of the time histories of levels of road traffic noise depending on whether the traffic noise source is close (a) or distant (b) from the site of interest (from Brown and Rutherford (1994)).

[Author's Note: The material in this paper was first presented by the author at the World Forum for Acoustic Ecology Symposium in Melbourne, March 2003. It forms part of work currently being undertaken jointly by the author and Prof Andreas Muhar, Bodenkultur University, Vienna.]

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Footnote:

1. In many situations, road traffic noise has a high "signal-to-noise" ratio, in which the "signals" of individual vehicles stand out remarkably from the "noise" of the stream of traffic as a whole. These individual vehicle signals are not at all "crowded" or "masked". These situations occur on lower volume roadways, or close to major roadways, particularly where there might be trucks in the traffic stream. It is a mistake to think of all traffic noise as being the same—and usually thought of as all lo-fi. Figure 2 is an attempt to illustrate this, showing a hi-fi traffic noise signal (a) and a lo-fi traffic noise signal (b).

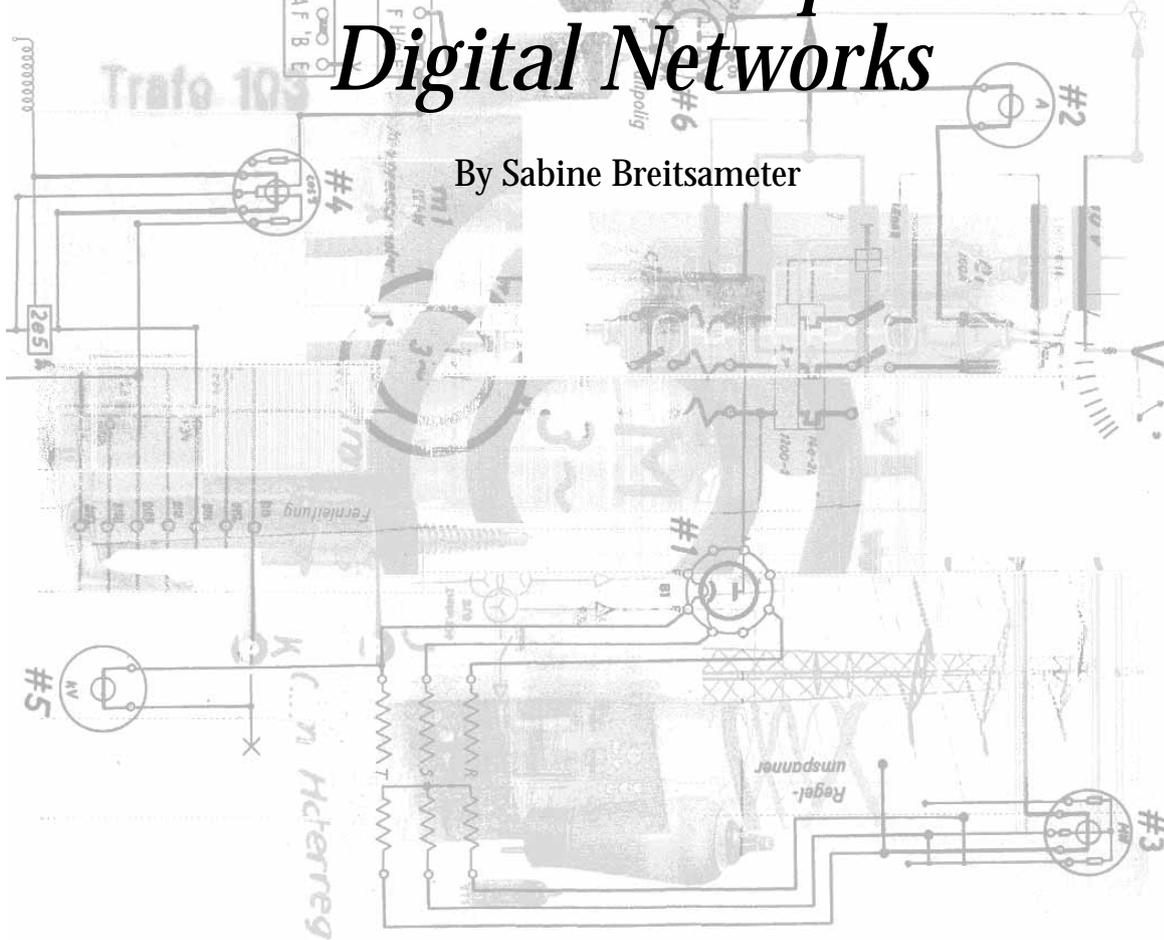
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Acoustic Ecology and the New Electroacoustic Space of Digital Networks

By Sabine Breitsameter



Presented at ...acoustic ecology... an international symposium Melbourne, Australia, March 2003

This symposium's title has changed since I saw it on the web—before my departure from Europe. The title Acoustic Ecology was then squeezed between two question marks: ?...acoustic ecology...?. This showed at a glance, that Acoustic Ecology (AE) as a term was somehow put into question, at least a topic of discussion in itself. I don't know why these question marks have been erased. But I think it is interesting for many reasons to see that AE is being questioned. It is not only questioned by people from outside of the movement, but also by those who have been dealing with the topic for quite a long time. The latter is particularly interesting: in one of the last issues of *Soundscape* (Vol. 3 Number 1) some people responded to the question of how they and their work relate to the term Acoustic Ecology, that they would prefer the term Soundscape, as it is less loaded with values. Can artistic and ecological values co-exist—or more specifically: can they inspire each other without trivializing each other and,—at the same time,—create something which is alluring and captures the mind and senses. There are enough people, who would doubt this spontaneously. Some of these doubts, not all of them, are due to the fact that—for reasons which remain to be discussed—AE carries the burden of a certain image.

It is a widespread thought, a prejudice mainly, that AE is a nostalgic movement, considered not only weird because it is

dealing with sound—a topic which is rather intangible for many—but also, so at least is the saying, celebrating ancient times without cars, machines, electric or electronic technology. I sometimes hear, that Acoustic Ecology creates art, which aims for "ecological correctness", and therefore, some say, judges and restricts the compositional material, dividing it between being "natural" and therefore ecologically correct, and being technical/artificial and therefore not feasible. Again, it would be interesting to discuss where these—and a number of other likeminded assumptions—originate. I am sure that they cannot have been derived from the written or composed discourse of Acoustic Ecology, but may have other reasons and sources. I think, it is vital to discuss and correct this impression in public, and this symposium can contribute and initiate such a discussion.

Many people assume, that Acoustic Ecology is not participating in the ongoing contemporary discourse about new technology—and to a certain extent I would say they are right. Although most of the people involved in the movement use new technological devices for recording, composing or performing, its contradictory role has not yet been discussed in detail and not with the perspective of the immense technological innovation about to happen. The undeniable and mostly very skillful practice of technological use in soundscape composition has rarely found its way into reflection and theory about its compatibility with ecological thought. However, the world of electronic media technology often referred to as "disembodied" and inauthentic, lacking the touch and feel of the material world, is imbued—as

many would claim—with eroticism. As we all may know—and you can read more precisely about it in Roland Barthes' writings—eroticism is one stance with which to connect to our environment: engaged, sensitive, trying to find fascination and maybe even pleasure. So, why then not try to bring together both, AE and technology? Maybe the two already are having a secret love affair anyways. Why then not drive further the discourse about their relationship to each other? Again, we need this discourse in AE, as the public image of AE as an anti-technology movement persists and as there is neither an internal discourse of any significance about this issue nor a public one.

It might be surprising that AE and Soundscape in context of digital networks and multimedia data spaces share paradigms. Or at least AE notions and concepts have anticipated paradigms which, I think, form a valuable approach to understanding the cultural and social implications of digital networks and their sonic use and applications. To illustrate this, I first want to focus on AE and summarize the basic principles of it. What is AE? I have tried to condense it into five fundamental theses.

1. AE is based on a sense of dissatisfaction with the sonic environment. In its aesthetic criticism it touches not only on artistic questions, but also on those of the individual's autonomy or interdependency (which is a political issue), health and well-being.
2. AE studies the mutual sonic influences/interdependencies and effects between living beings (humans, animals, plants) and their environments (natural and/or physically or electronically human-made). Its aim is to support and enhance the ability and willingness to listen to the environment's sonic manifestations and to evaluate them.
3. Listening to the environment means listening to what we call soundscape. An awareness of the soundscape requires an environmental auditory perception as opposed to the frontal perception encouraged by literature, stage, mass media or traditional education. The notion of soundscape makes noise and signal—usually put into a hierarchical relationship—equally important for the understanding and evaluation of the environment. It assumes that the listener is always an active, influential part of its environment. Soundscape awareness also implies not only to be aware of the actual sounds happening, but also of the sonic potential of the space's, place's and object's shape, material and movement.
4. AE assumes a direct relationship between the characteristics of the sonic environment and the listening abilities of its inhabitants. AE's aim is to extend critical listening capabilities in order to encourage a wide range of sonic modes of expression and creation.
5. AE identifies mainly urbanization, destruction of nature, industrialization, and consumerism as the main causes of the impoverishment of the sonic environment. AE assumes that these factors hinder or suppress the possible or existing multitude of sonic timbres and the diversity of acoustic perspective.
6. AE's aim is not to silence the world in order to create a more satisfactory acoustic environment, but to orchestrate its sonic manifestations, i.e. to design actively the sonic occurrence and potential of objects, spaces and places.

With spaces and places we do not only mean physically defined locations, but also those which exist electronically or virtually. So, AE is also dealing with electroacoustic spaces, for example radio or the sound of movies, the Internet, or more generally expressed, the digital networks, which form quite a new electroacoustic space.

So, why are digital networks and their sonic use so interesting within the context of AE? What is their contribution to enhance

and encourage listening—and soundmaking for that matter? What is Acoustic Ecology's contribution to understand the way in which the networks function? What will become of listening in the age of digital networks? I will try to suggest some answers to these questions. I will focus on the architecture of the media and its impact on defining the relationship between sender and receiver, thus coining different concepts of listening and initiating, what I would call, the growth of different ears.

Listening—Understanding —Appropriating

The famous pianist and sonic media artist Glenn Gould once said that radio and electroacoustic media in general mutate, when they transmit artistic content—and thus *always* and inherently an artistic aura—into an environmental experience, with which every single member of the audience can deal as he or she likes.

He meant: what comes out of loudspeakers into the spaces of everyday life becomes an integral part of our daily environment, which is at the disposition of the audience. Why? Because sounds, reproduced by these means, enter diverse and multiple situations and contexts, in which the ways and modes of perception cannot be controlled by the producers. Where the concert hall's well-known codes of behaviour are generally observed and obeyed, listening to media in every day life's spaces cannot be sanctioned.

Whether listeners do their exercises while the radio plays Beethoven or whether they read the newspaper at the same time, whether they listen or not cannot be influenced and controlled.

At the moment where something is broadcast by electroacoustic means, its appropriate reception—i.e. the audience is receptive to it in order to understand it—is no longer guaranteed.

But what in fact does listening mean? What are its characteristics? I suggest that listening can best be described by the process "hearing - understanding - learning - integrating into our intellectual or sensual system". In this process of appropriation recipients make what they perceive their own, i.e. they transfer it into their personal categories of thinking, feeling or acting. In this sense listening is active, because it implies conscious involvement and sometimes effort. In another respect, listening also has a passive quality—in as much as a sonic continuum, which is following the flow of time, has to be received and accepted in total and continuously, if it wants to reach its goal—that is, it has to be understood. But if while listening, you step out of the process and enter it again sometime later, the process of understanding will most likely be incomplete. To understand completely, listeners would have to expose themselves to the sound in its entirety. This seems—in a civilization, which emphasizes being active and being selective in order to be efficient—quite opposite of a contemporary attitude.

Compared to simply hearing, listening is a discipline. The listener/recipient focuses on the significant levels of a sound event, on its signifiers, in order to explore and understand it. Additionally, recipients may also distance themselves from what they hear, which enables them to be critical and discriminating. Both can be practised, exercised and learnt.

I want to give you an example: in Germany, in high school, our English tests consisted mainly of re-telling a story in writing. A story was read by the teacher, and the task was then, to write it down in our own English words within a certain time frame. This is an experience many Germans and Europeans share. From the students this requires enormous attention to the teacher's reading of the story, effort in listening and much discipline:

- The first hurdle was to follow the foreign language.
- The second was to understand the story's content.
- The third hurdle: if you did not understand certain words you

would have to reconstruct the sense ad hoc or speculate about it during listening.

- Fourth: from the neighbouring class room you heard wild noises, which threatened to mask your teacher's voice, and you had to make the effort to ignore those irrelevant noises.
- The fifth hurdle was your motivation: outside the sun was shining, and you dreamt of going for a swim.
- Sixth: pressure of performance made you nervous and affected your ability to focus on the teacher's reading. And so on, and so on...
- Finally, if you could circumnavigate all these obstacles more or less successfully, you had to find enough distance to what you had listened, in order to reflect on the story and re-narrate it in your own words.

I am giving you this example to illustrate that listening in such a classic educational situation follows clear standards of behaviour. Perhaps this is why listening recently has been referred to as a cultural technique. These are standards, which are taught and learnt through a socialization process, leading to internalization, so that they can be exercised without too much conscious reflection or even automatically. Being in command of this cultural technique is quite useful, at least for the retelling of stories in language tests and for a number of similar sound situations. But we have to be careful, not to identify listening exclusively with the attitude I have described here.

Of course there is nothing to be said against this concept of listening. It is not at all outdated or invalid. However, it relates to a certain context only: it is an appropriate form or attitude for the perception of the Logos—to identify and decode signs and signifiers such as words, terms, sentence structures, languages, discourse types and performatives. If I say "logos", it doesn't mean that it applies only to language-based sound, but also to music or any other sound, as long as it is presented in a context, which requires the attitude of listening and decoding.

How else can such listening be characterized? It is mono-directional and a one-way communication. From this results a relationship of authority or power, which is inherent in listening: usually one listens to something or somebody, when important or not yet known information or experience is transmitted. And it is significant in this context to learn and to experience that the recipient *needs* the directive, "Listen!" in order to understand what his counterpart has to share. This is the main reason why superiors, who are willing to listen, are highly appreciated by their co-workers, as they are able, at least for a limited time, to reverse the power relationship through the act of listening.

The value and success of listening are dependent on the credibility and the authority of those, who express themselves. This is also your, my listeners, experience right now in this situation in Melbourne. I feel happy, that most of you are still seated. This too, is a characteristic of listening: listeners take their seat, and voluntarily become mute. Thank you very much! So far, you have been excellent listeners.

The Radio Ear

This way of listening described here, is the assumption behind radio broadcasting and is pursued very consistently in the programming concept of news, information and—with some exceptions—cultural radio, especially in Germany and Europe. When radio, or more specifically broadcast, was still a new medium for the public, in the early 1930s, the media theoretician Rudolf Arnheim coined an aphorism: "Broadcast means: one speaks without being able to listen, and many listen without being able to reply." This sentence illustrates the communicational paradox

of the broadcast medium. The German media theoretician Friedrich Kittler related it to the spirit of Imperialism: the one big voice speaking to the masses, which are transfixed and silenced.

Radio was invented during WWI to spread news important for military action within the combat troops. Until today the medium carries this stamp of having been derived from news—even where it transmits predominantly music—as its whole production refers to this relationship.

News is a condensed and most standardized form of message, which renounces subjectivity, atmosphere and aesthetic components. Fact is the essence of news. And to identify Fact, the production aesthetic of radio makes clear distinctions between signal and noise—technically, formally and content-wise. Radio transmission is a chain of signals which breaks through the ether's noise, claiming attention: it is the radio 'call', a linear, syntactic and homophone sound format. The radio call represents an order. Its subtext says: "You have to listen now!"

Derived from news, the production aesthetic of radio, even where it does not exclusively articulate itself journalistically—in pop, music, radio drama and even many radio art programs—follows the dichotomy of signal and noise, especially in dealing with the parameters space and time.

This radio call, its powerful and politically supported claim, developed its organ of perception, the radio ear—an ear ideally suited for perceiving the radio call adequately. It is an ear which, in the prevalent public discourse, became synonymous with the listening ear in general.

As the listening of such a radio ear is based on selecting signals from the noise, identifying and decoding signals, one could even say that it is a kind of 'reading' ear, quite close to literary reception. The radio ear and its related radio concept is inevitably based on a clearly defined relationship between sender and receiver. The receiver, the recipient, is supposed to perceive the output in the sender's intended sense: to listen in order to understand the message's meaning as intended by the sender. It is not surprising that the term transmission—which implies mission—not only connotes the transport of sound, but also connotes something quite religious. Those, who send out the radio call give directives and want to evangelize. They need to be convinced by their mission, and they have to prove that they are serious about it, as the radio ear depends on its belief in the speaker's authority.

At this point I would like to refer to Glenn Gould's statement which I had quoted earlier in my presentation. He once said that radio and electroacoustic media in general mutate, when they transmit artistic content—and thus always and inherently an artistic aura—into an environmental experience, with which every single member of the audience can deal as he or she likes. Glenn Gould's statement illustrates that media's claim, to make people listen in order to get the message across, collides with a different reality. Fortunately, the days are over, when—like for example in Nazi Germany or nowadays in countries where dictators rule—listening to the voice of power was organized collectively and controlled by the authorities. Today another attitude prevails: if the audience does not listen in the way we want it to, why then create significant content and form?

However, if the basic assumption of the relationship between sender and receiver is put into question by social and political development, it does not mean that listening as such does not exist anymore. It exists within different circumstances, which necessitate new or additional prerequisites and possibilities of rethinking and revising the sender/receiver relationship. So, it is useful to identify other situations of aural appropriation, other concepts of listening in order to become aware that different media require different ears.

Grandma's Storytelling

I am hoping here, that you all have experienced someone during your childhood who narrated or read fairy tales to you, maybe your uncle or your father or your grandmother. This could have happened in different ways:

Possibility No.1: Grandma reads a story. The child follows the given text, tries to understand it, sometimes asks questions for clarification and listens. This communication is partly bi-directional.

Possibility No. 2: Grandma's reading is replaced by a cassette and a cassette player. In this situation the child will follow the text as well, trying to understand it, but will not be able to ask questions. This is listening in the classic sense of the word, in the broadcast sense.

There is also a third possibility, and this was my favourite when I was a child. My grandma narrated the text and added spontaneously her own little stories. Or she made the current situation, the place, the mood we were in, part of the story, integrated perhaps even one of my toys, a doll or a stuffed animal, and asked me how the story might continue ("what would you have done, if you were the prince or the wicked witch...?")

What my grandma had been practising here, and hopefully people still practise, is not mono-directional, not necessarily linear and doesn't keep the recipient mute. It is process-oriented and is not interested primarily in a consistent result or a finalized and complete story. It therefore does not follow the classic listening concept at all, but of course, is also a way of listening: it is a listening-in-dialogue—interactive listening.

Different ways of performing require different ways of aural appropriation. Not all performative auditory situations are adequately perceived by using the radio ear, the logo centric or signifier-oriented ear, which separates signal from noise. And in any case, one enters a grey zone, as every listener can identify subjectively what is a signifier and what is not, even if the originator had different intentions. If you listen to something for hidden emotions or secret political hints, or if you are listening to study for an exam or to be entertained, inevitably the signifiers will vary.

Soundscape Listening

Spatial parameters in particular become quite neutralized in the news oriented production aesthetics of radio. We can summarize it as follows:

Voices and music occur—as a general rule—quite near to the microphone. The significant sound materials, especially speaking voices, have a fixed position in the stereo spectrum and usually do not move. Spatial sound is usually standardized, in order to appear neutral, so that it is not an object of aural appropriation and does not become part of the message. In this way, signal and noise can be separated clearly, and the conventional way of listening can take place.

But what is the adequate way to listen to the following situation? Imagine a lively market on a Saturday. I would recommend Winterfeldt-Market in Berlin. It is fascinating because of its visual and sonic atmosphere. Imagine you want to perceive the market sonically. It would not work, if you go to the opposite side of the street and try to listen to it frontally. You have to go inside, move through the whole event in order to discover the full range of sound constellations, which you will find aesthetically interesting.

Your experience of such a situation will be fascinating and successful not by frontal but by spherical attentiveness. Not to keep the distance is what works here, but to dive into and to perceive being enveloped by the sounds. In such a sonic context, no sound is unimportant or without value. The distinction between signal and noise becomes irrelevant. Also, the recipient as the one who perceives, acquires an important role in this setting.

Let's imagine another scenario. A vast landscape, covered in snow, like in Murray Schafer's award winning radio piece "*A Winter Diary*". The landscape is quiet, sometimes you can hear the snow flakes falling, and in the distance the train is passing. Those who want to listen to this silence, those who want to record it, so that the media audience can listen to it, have to go there and—purely through their presence—become themselves an active part of the space. Every step, every breath, every movement, every activity of the listener/recordist fills the soundscape with sonic shades, which simply cannot be described adequately with the signal/noise dichotomy.

In soundscape listening, the relationship between sender and receiver is no longer defined clearly. The listener is a participant, immersed in an environment which reacts to him, and, if it is an environment inhabited by living beings, it has eyes and ears, and a voice, which emits its response to what the environment has perceived. So listening and responding is in continuous interaction, and therefore considerably different from the listening in the conventional broadcast sense.

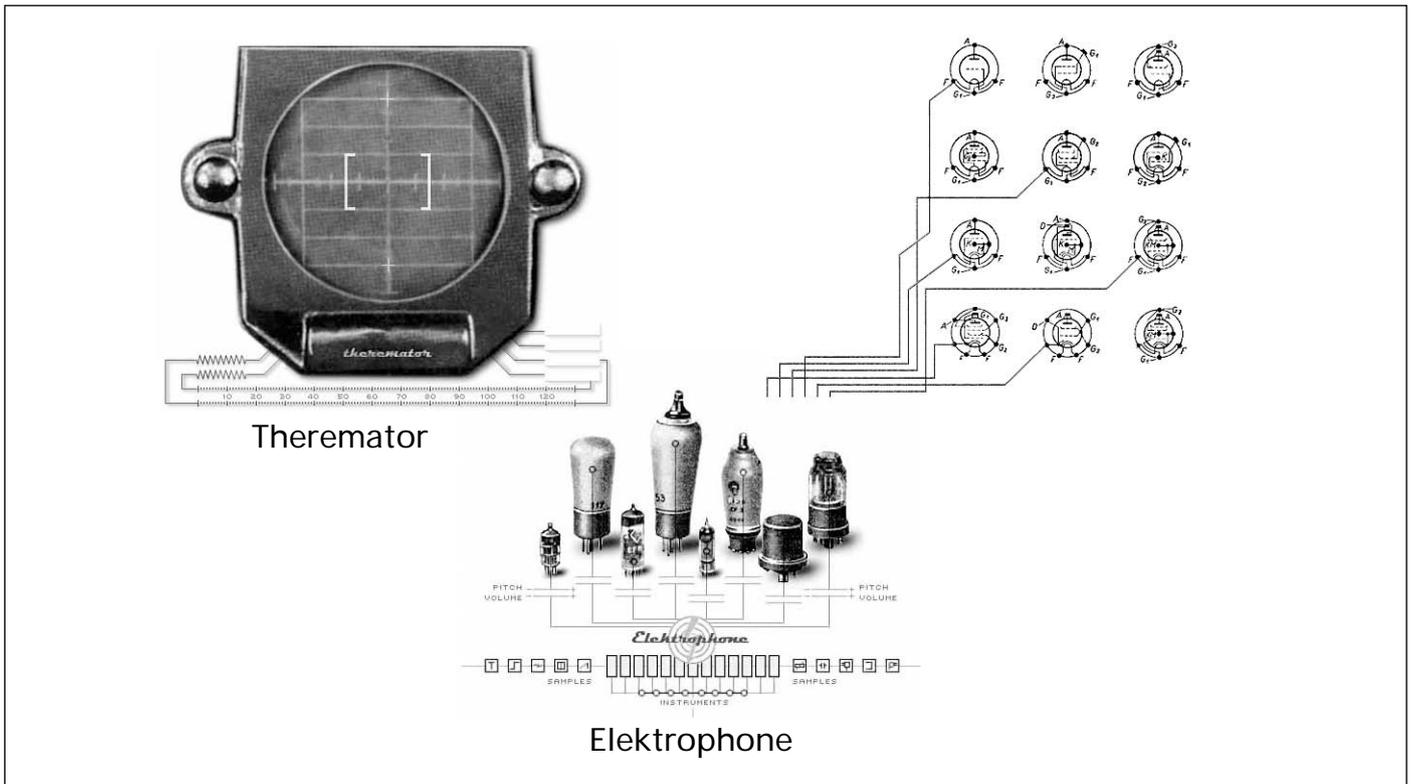
Listening within Networks

It has not been long since the Internet—which is the most popular of the digital networks, and also a new electroacoustic space—came into being. First attempts to send sound through the lines in the early 90s were disappointing. In the meantime the sound quality has improved considerably, and it promises to get better as broadband Internet access will become available to the general public. However, compression techniques are also subject to acoustic ecological critique, as an article by the German computer scientist and audiologist Christian Oliver/Hamburg suggests. ("Ear damage by mp3, DVD and digital television?" Source: http://www.informatik.fh-hamburg.de/~windle_c/Logologie/MP3-Gefahr/MP3-risk.html)

What I want to talk about now is not the Internet making live streams available or audio on demand, and thus functioning like broadcast or CD. I want to discuss the specific auditory experiences which the Internet can create, due to its media architecture. We have already internalized the traditional media architecture of broadcasting and the specific listening mode it requires. But the apparatus which has come up with the digital networks is significantly different. The question is, what kinds of aural appropriation does this medium provoke? The digital computer is the key tool of this new apparatus. The Internet is a connection of computers, more or less, all over the world and the digital computer's properties define the properties of this sonic space, its possibilities of sonic creation and the adequate modes and attitudes of auditory reception.

The Computer

- is like an encyclopedia: it stores, organises, retrieves data.
- is process oriented: it creates results, modifies, compares, writes, combines.
- is participatory: without input there is no output; users have to be active, have to process the data they want and interact with the computer by two-way communication.
- is a multimedia tool: any sensual representation can be transformed into another kind of representation: auditory to visual, text to audio, visual to text etc.
- can be used in a non-linear fashion and can realize branched and multidimensional data-orders.
- is spatial (or more precisely, it can be experienced as a spatial concept): spatial concepts and media architectures can be derived from its telematic principle combined with the computer's properties. The Internet is distributed space—i.e. its



Images of sound generating devices for web sound installation *Electrica* <http://electrica.leonid.de/cgi-bin/index.cgi>

data are stored on globally distributed servers—and it is a sharable environment, because its users can work on the same data, even if they live geographically far apart.

- makes the relationship between sender and receiver flexible, not static. Without much effort any recipient can become a sender and vice versa. The term "interactivity" is derived from this dynamic relationship.

Being a sender is no longer a privilege nor an unchangeable fate. The sender-receiver relationship can fluctuate between mass communication and individual exchange. The Internet can realize the broadcast principle—where one speaks and many listen; or it can realize the one-to-one-communication, like the telephone, for example; and, in our media system almost a novelty, it allows the communication from many to many. The latter—I want to remind—was how the early days of radio sounded: like a chat on the Internet, except exclusively aural. So, the Internet's media architecture is in fact not completely new, nor are its auditory concepts, which have been emerging since the early 90s.

Network based audio concepts already existed in the times of "traditional" analogue media. Stockhausen's network concept *Music for a House* from 1968, Max Neuhaus' *Public Supply Series*, which he realized at the beginning of the 70s within the radio network of the US; Alvin Curran's telematic compositions *Crystal Psalms* and *A Piece for Peace*, which were performed at the beginning of the 80s in Europe, with Frankfurt being the hub; Murray Schafer's interactive music theatre concept of a *theatre of confluence*; the first German radio drama by Hans Flesch in 1924—there are many more examples of artistic work, which imply that the network media architecture was invented or publicly accessible already before the Internet. However, most of these early examples could only be produced through extreme technological effort, which is no longer necessary with today's digital networks. Such productions have become quite easy.

So, what has been created so far within this media architecture offered by the Internet, besides streaming, audio-on-demand and

a big number of live jams from remote performance venues? The procedural and participatory characteristics of the Internet play an important role, if one looks for media-specific network-based art, and I am going to demonstrate some examples to you.

If I say, I will be demonstrating, I want to emphasize, that the productions are not supposed to be shown to a passive audience, but that they have to be tried out and played by every individual listener/participant. Simply showing these works, which are based on the activity of the user, soon shows up its limits. So, trying it out on your own is strongly encouraged here. You can access them, together with other examples, with reflections, reviews, discussions and interviews on the website which I am producing for the Südwest-rundfunk <http://www.swr2.de/audiohyperspace>.

But given these circumstances, I will try to familiarize you as best as possible with some of the basic principles of a number of sonic artworks, which are accessible on the Internet and which invite the web visitor to participate. I chose sonic artworks, where the participant can act much more creatively than just clicking on a number of limited options, but where the media architecture and the properties of the electroacoustic space of the Internet are applied specifically in order to create something which cannot be created by other tools or other media.

A wonderful example, which has become a classic by now, is the web sound installation *Electrica* by the German artist group "skop". The essence of *Electrica* is navigation and immersion. Visually it takes place in the ambience of an electric power plant from the 1930s. Sounds and visuals are strongly connected with electricity, voltage, valves etc. And by navigating through the visuals the visitor of the website can explore its sonic diversity. There are also sound generators and virtual instruments, with which you can produce sounds and mix samples with nearly unlimited possibilities. And you can leave your own contributions on the website, so that others can listen to them or even rework them. Although one needs to use the mouse and click a lot, I think *Electrica* is an excellent example of a whole universe in itself, into which one can dive, immersing oneself into a well-composed sonic experience.

One is not manipulating a limited field of options, but a sonically complex multitude of sounds in an audiovisual context.

The second example is the *Webdrum*—a multi-user application created by the US-American musician and programmer Phil Burke and the New York composer Nick Didkovsky. The basic idea is, that a number of people—I think it has grown to twelve by now—can make sound and music together on the web simultaneously, by using an interface, which consists of drum sounds. If you go to the website you see a grid, from which you can "grab" the sound of one or several drums and assign your rhythm to it. Your counterparts on the other end of the lines will do the same, and you can have a drum remote session, in which you are even able to adjust spontaneously—in real time—your rhythm to keep the drum session developing and going. You can do this with complete strangers, whom you happen to meet on the website, you can do it with your friends from all over the world. You can meet at a certain time on the website in order to make music together. So, the webdrum is an aesthetic communicative experience, which happens from the remote. I would of course agree, that it is more desirable to play together in each other's physical presence and it is probably more interesting to touch the drums with your own hands than to just click them. But as we all experience, this togetherness is not always possible. So the Internet facilitates even non-verbal communication and by its ability to transmit sounds over thousands of kilometers. And if the principle of the webdrum would also be applied to other kinds of sounds, such as environmental sounds or samples of the spoken word, a lot of co-compositional possibilities could arise.

Thirdly, I have been producing a combined radio-Internet-project by the American-Japanese composer Atau Tanaka.. Its title is *Frankenstein's Netz/Promethee Numerique/Wiretapping the Beast*—a long multi-lingual title, which illustrates the international character of the project with a huge number of co-producers in Japan, Canada (McGill University and Radio-Canada, Montréal) and Germany (Southwestgerman Radio, ZKM in Karlsruhe etc.). Its online premiere was in February 2002, its on-air and stage premier was in March 2002.

Being the producer and dramaturgical director of the work, my main goal was to offer to the public a creative-communicative experience by using the Internet and acknowledging the creative potential of any participant. This was the basis on which the composer and I developed the concept of *Frankenstein's Netz*. The work focuses on the idea of the Internet as a living organism, which the listener/user feeds, raises and activates through the input of text, visuals and especially sounds. Similar to the Frankenstein-novel and the Prometheus myth this living organism gets out of control, as a result of the participants' input and by its contact with the web visitor, and has to be tamed and finally sedated. The latter happens during the performance of the composer's live mix, which is fed at the same time by streams coming from remote performance sites in Montreal and Tokyo.

One month before the performance of March 2002, a "living entity" was created electronically, that reached out to its listeners, communicating with them via short messaging system (SMS) and e-mail, and inviting them to visit the website and upload data. Users were asked to enter audiovisual input creatively, contributing to the overall theme of the web installation, the human-machine relationship. Quotations of Aeschylus' *Prometheus*, of the Frankenstein-novel, of Donna Haraway's *Cyber-Manifesto* appeared as part of the visual concept. The "living creature" which the participant could nurture and contextualize, processed and combined the input through its sophisticated programming. You could say that the electronic being was acting as a virtual composer, which was co-performing during the live event.

Thus, the production *Frankenstein's Netz/Promethee Numerique* can be accessed in a non-linear way. It is under constant development, as web visitors can participate, create their own audiovisual creature and listen to it interactively. It can also be listened to in a linear way, in accessing the radio piece—which can be done on the website—and listening to it from the beginning to the end, in the traditional way, where the listener is receptive and mute.

The works I have tried to introduce briefly to you here are prototypical, and although I have presented sonic art on the Internet only, there are other digital networks with the principles of participation, immersion and environmental experience that are important and even more obvious than on the Internet. The CAVE for example is a multimedia environment, which was once conceived as a projection system simulating the visual experience of a space as a visitor changes his/her position. Meanwhile a number of composers have started to make the spatial experience more complete with sound, that changes and interacts according to the visitor's movement. This indeed is an almost perfect digitally created illusion or simulation of an environment, and artists, namely composers, have just started to work on it. Bi-directional data exchange, sensors, which respond to gesture or temperature, tracking systems, which follow the movements of a body in a certain space—all these devices and their data input can be used, to connect the listeners, make them act, make them trigger sonic processes. Just briefly I want to mention, that a very strong trend in musical composition and performance currently is the creation of new interfaces. Their purpose is to escape the physical and mental constraints created by sitting in front of a computer screen, handling the alphanumeric keyboard and being subsumed by the machinery, even if one is involved in creative sonic interaction as I have described in the project mentioned earlier.

These projects do not only illustrate the artistic use of a new or at least different media architecture, but also show cultural shifts of production and perception, caused by network based concepts. Within this context, artists do not act as the creators of a finished and complete work. Instead, they offer a frame within which others can become active. They are less a "concentrator" who distill meaning and shape the exact physiognomy of the piece, but they are moderators, who define the topic and have formulated a set of rules, a frame or algorithms, by which form and content of the input is processed. As this frame stays empty without input, artists need the recipient, whom they have to motivate to become operative.

Where a framework needs to be filled by the interacting user, the process of appropriating and understanding of the artwork happens less through contemplation (that is, receptive listening), than through operation. It is not the classic contemplative listening here that will unfold the qualities of an art production. Instead, understanding and appropriation take place through the operational activity of the listener. This is quite different from receptive listening, where you perceive and at the same time construct or reconstruct sense. The operational audience is a completely different concept than the receptive one, as it can profoundly change the substance and appearance of a sonic art work.

A model of perception based on what the German theoretician Walter Benjamin—already at the beginning of the 1930s—called "tactile" reception, illustrates the different listening attitude, which participatory sonic media art in the digital networks requires. Benjamin compares it to the perception of buildings, which are "perceived in a double way: through tactile use and through contemplation. (...) The tactile reception is not based on attentiveness, but on habituation." According to this reception model, appropriation of the artist's intention by the audience does not primarily

take place by listening, but through operations like searching, trying out, intervening, rejecting and trying out again. So the listener becomes a user, dealing with an aesthetic content ad libitum. Here we touch again Glenn Gould's sentence of electroacoustic media changing sonic content into an environmental experience.

The set of rules offered by the artist shapes and alters users' input. The system's treatment and processing of their input becomes a central characteristic of the artwork. Such a process is conceived and programmed as part of the artistic framework and plays a crucial role for creating the intended sense and meaning. This influences the concept of art. As the British media artist and theoretician Roy Ascott said: "Not so much meaning, content, appearance, in brief: semiology, will be important for the future of art, but its behaviour toward the recipient", and therefore its response toward the user's input. As a situation where input is altered and undergoes transformation and processing, the artwork becomes a dynamic environment or even a living entity, with which the recipient can communicate and converse. Talking about understanding, it is not so much a decoding of signs and signifiers which must take place here, but a way to conceive these interactive offers as environments, or—following the suggestions of Benjamin—as buildings, which need to be inhabited rather than 'read.'

So, these kinds of participatory sound works require engagement from the listener/user. Only those who take part are able to experience the artistic offer. A judgment from a distant point of view, from an objective perspective outside the activity is not possible. There is no objective perspective which gives to the observer a fixed view or standpoint. Distancing is not possible besides ignoring the artistic setting itself. Those who participate become part of the aesthetic concept and—at least in the beginning—confirm it through their participation. Perceiving is participating, like during the process of soundscape listening. And listening means being part of the environment.

Besides the substantially new creative possibilities which the interactive nature of the digital networks is making available, there obviously are also a number of problems. To keep it brief, I will refer only to the main ones: if the rules and the frame of an interactive setting are too complicated, the recipient might be overwhelmed and uses the offer for participation only in a superficial and trivializing way. However, if the frame is too simple, the value of the experience as well as the motivation to participate will be small.

The biggest risk concerning the topic of listening and aural appropriation is, in my opinion, that the strong operational involvement of the user implies a tendency for the listening activity to be replaced by zapping and non-stop interactivity. Related to that is the question of how to identify the borderline where a responsive artwork becomes perpetual animation. This can result in a loss of autonomy for the recipients, as it becomes unclear, whether it is they who appropriate the artwork or whether it is the art, the system, the digital environment, which appropriates them.

These problematics show clearly, that listening in the classic sense of the word must not and cannot be replaced by the interactive listening of the digital age. And broadcast media will be as important as ever, maybe even more important, as their role becomes illuminated by the networks, their possibilities and their limitations.

As one of AE's major aims is to encourage listening and soundmaking, it is indispensable to create a differentiated auditory awareness in relation to the situation, the media and media architecture, in order to establish appropriate attitudes for aural appropriation in each of these situations. Listening as a cultural technique implies that we master these attitudes of listening and are able to use and develop the different ears in order to listen

and understand. Listening in the classic, contemplative way is still important, and so is any situation and medium, which requires this more passive receptiveness, as it is the pre-requisite for profound understanding. The trials and errors of interactive aural appropriation can stay incomplete, and might give—depending on the participant's operational and technical capabilities—only a limited impression of the sonic potential of the artwork.

My goal, as the producer or curator of such works is to create an aesthetic-communicative experience within a culture of listening. This can be compared to the satisfaction one experiences during a good conversation: a conversation exists within a framework of topic and behaviour, which then is filled by the improvisational liberties and the intellectual and emotional qualities of its participants. If they constantly refer to the framework, then the conversation is directed and re-directed towards sense and meaning. This does not only need the participants' operation and active engagement, but also—very essentially—their willingness to listen in order to understand their counterpart.



Sabine Breitsameter (Berlin) is radio maker, curator of festivals and university lecturer. Her professional emphasis: acoustic media art, radio art, contemporary music and the culture of listening. Since 1998 she has worked for Südwestrundfunk (SWR—Southwest German Radio) among other things as producer of the monthly online magazine *Audiohyperspace—Akustische Kunst in Netzwerken und Datenräumen* (Audiohyperspace—Acoustic Art in Networks and Dataspaces). She has organized, among others, the symposium *Ganz Ohr—Symposium über das Zuhören* (All Ear—Symposium about Listening), Kassel 1997 running parallel to the *documenta X*, and the festival *StadtStimmen* (CityVoices) in Wiesbaden, Germany in 1999. In collaboration with the Kunstmuseum Bonn/Fraunhofer-Institut she is currently producing a hyper-text for the new interactive audio system *Listen*. In collaboration with a team at the Universität der Künste in Berlin she is developing a new course programme for the field *Soundstudies*. For the Fall of 2005 she has been asked by the Akademie der Künste, Berlin-Brandenburg, to prepare the festival *Stadt—Netz—Sound* (City—Net—Sound).

<http://www.swr.de/swr2/audiohyperspace/index.html>

<http://www.sonic-media-art.net>

Soundwalking

Bridging Disciplines and Cultures?

By Hildegard Westerkamp

Reflections on Two Soundwalks Conducted at
...acoustic ecology...
an international symposium
Melbourne, Australia, March 2003

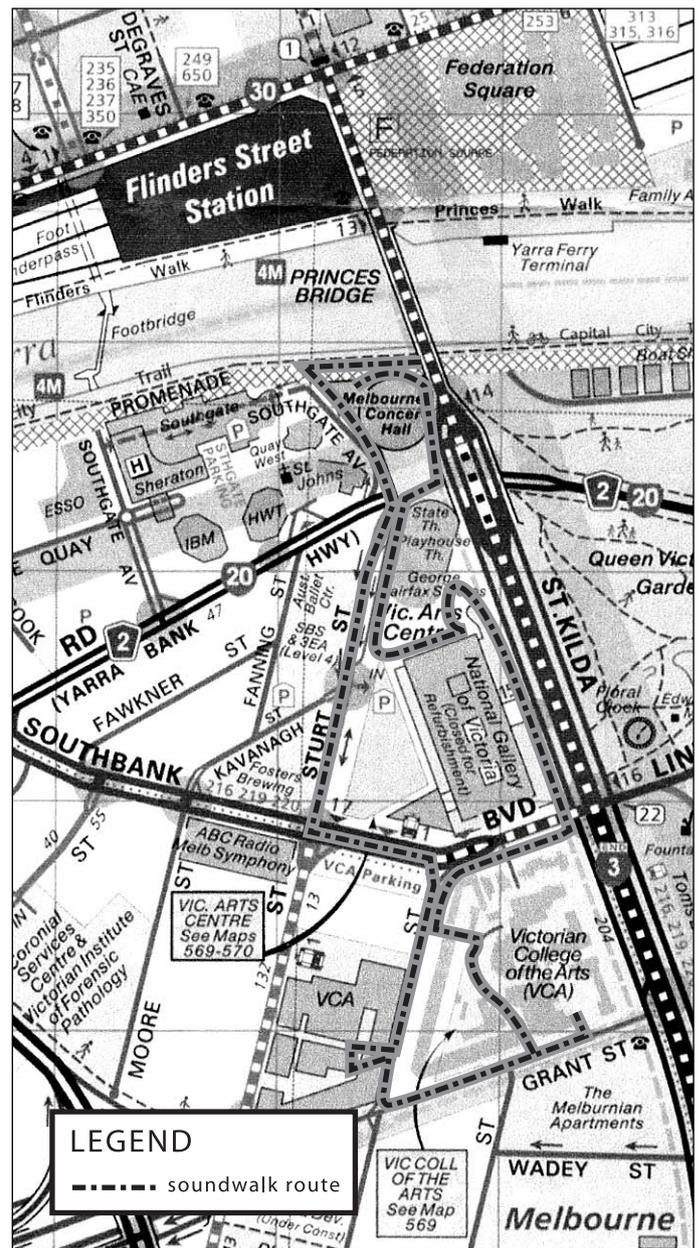
A soundwalk opened this symposium, *not* a keynote address. Listening, not talking. Around 60-65 participants walked between the Victoria College of the Arts (VCA) where the symposium was held, and the bridge leading across the Yarra River to Melbourne's downtown core—not a quiet environment and yet full of contrasts and stimulating details (see map 1). One participant commented:

I lived in the area where we walked. I thought I knew it well. During the soundwalk, I heard new sounds, new layers of sounds. Some sounds were aggressive, others reassuring. Some sounds masked others... I had no idea how much I had closed my ears.

In this way, the city where we had all gathered for the symposium had a chance to introduce itself to all of us first. The environment 'spoke', we listened and remained silent during the one-hour duration of the walk. Our presentations, our words, during the following days, occurred inevitably out of an experienced, listened-to context of this place, no matter whether we had come from far away or whether we lived in Melbourne itself. I believe that this had a significant influence in setting what I perceived to be a generously open-minded 'tone' for the symposium as a whole.

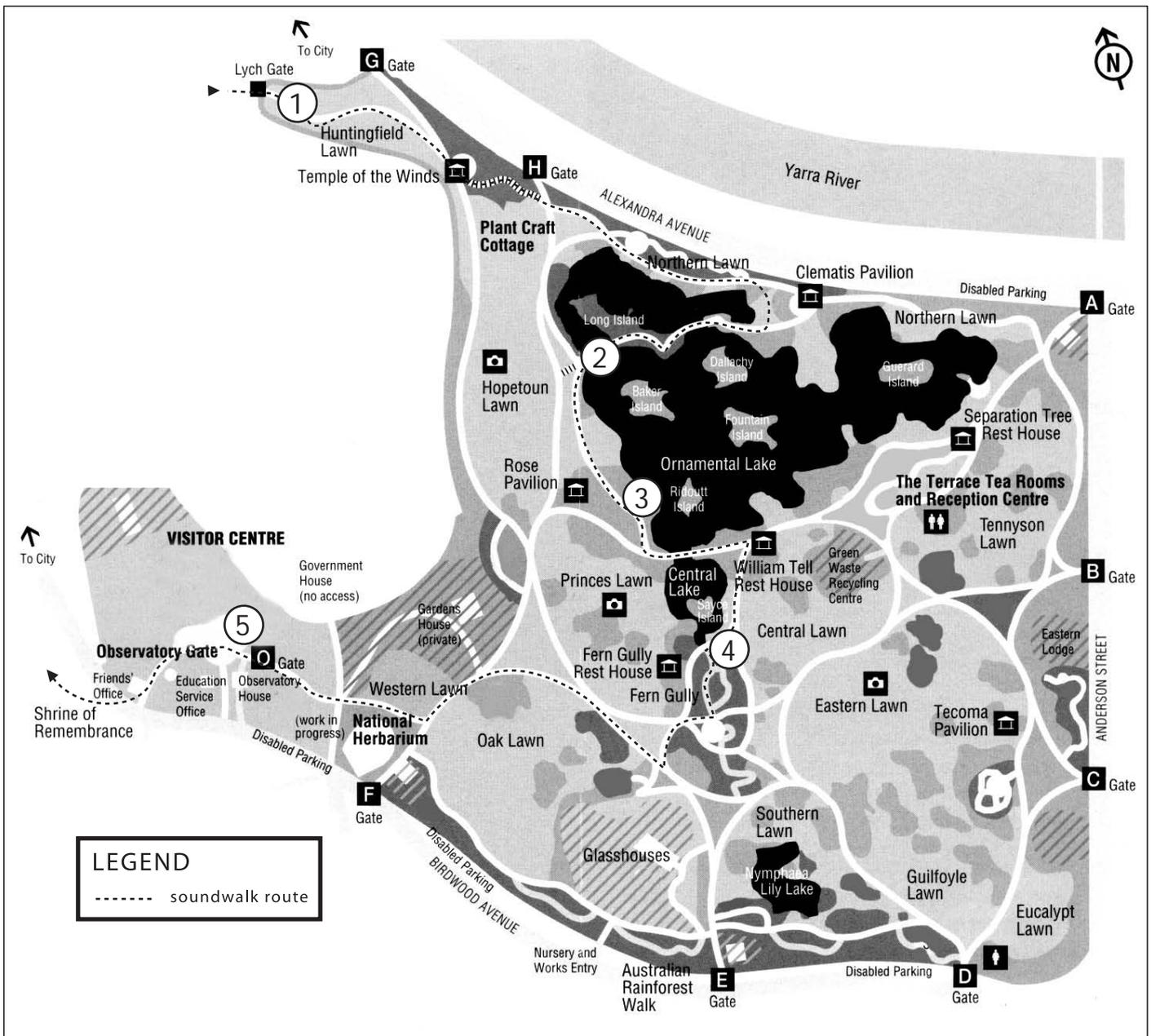
The Melbourne Symposium was a unique event, which brought together—under the umbrella of the field of acoustic ecology—a wide range of professionals who study the sound environment through a variety of disciplines. As someone who has been involved in the field since the mid-seventies in various capacities I wanted to provide a conceptual and practical bridge in this context between disciplines through the idea and practise of soundwalks—soundwalking as a bridge between listener and environment, between cultural differences, professional specialisations, etc. all of which tend to determine how our listening perception works at any given time, in any given space. Soundwalking itself as the action of *building* the bridge, of a pathway from the perceptual practice of listening to scientific, social, cultural inquiry and research.

In order for the discipline of acoustic ecology to grow and mature, this approach of including perception into the study and exploration of the sound environment is essential. Much scientific research has been conducted into sound, acoustics and noise since the 70s, but very little of it actually has helped to improve the quality of the world soundscape as a whole.



Map 1: Urban Soundwalk near the VCA

Recognizing this, one university research project in Canada—not connected to the WFAE or the soundscape studies tradition—actually acknowledges and articulates this as its highlight in the following way: “the key novel feature being that our interdisciplinary research reinstates the listener into the listening environment.” [*Acoustic Ecology Project*, University of British Columbia, Vancouver, Canada <http://www.cs.ubc.ca/~kvdoel/acel/>] Since soundscape studies, as originally conceived



Map 2: Soundwalk route through the Royal Botanical Gardens, Melbourne, Australia.

by the World Soundscape Project in the 70s at Simon Fraser University, is expressly based on the listener as source of information and research, it is heartening to see that other researchers and disciplines in the fields of sound, acoustics and noise are now also recognizing the importance of this.

In Melbourne two walks were conducted in a simple, basic way—to first find out *what is*, not only for those of us who were visitors, but also for those who have lived in Melbourne for many years and have a basic familiarity with it. A relatively large group of people was taken on two pre-explored walks for approximately one hour. The only 'instruction' that was given to participants was to refrain from talking, or rather, to understand this as a rare opportunity to be in a group and not feel compelled to talk. Like every soundwalk in my experience, these two soundwalks also facilitated immediate communication—after the walk and based on the experience itself—between the various disciplines represented in the walkers. The mere fact of making space for a *time of listening* gives immediate attention to the sound environment as-it-is. It tends to inspire ideas in the walkers/listeners, a desire to communicate these ideas and frequently to develop ways for further study.

The ultimate question becomes, who the listener is. If the town planner's ears are taken on a soundwalk, something quite different may be perceived as when the biologist's, audiologist's, parent's or composer's ears (to name just a few) are taken on a soundwalk. A soundwalk is a meeting between listener and sounds: the experience occurs and the information emerges. And the listener always brings certain 'materials' into the process that will shape the experience—the ears, the listener's expertise, specialty, perspective, training, as well as personal background, such as gender, age, cultural background, professional choices etc.

Traffic and Flying Foxes

The first soundwalk (see Map 1), opening the symposium, simply provided participants with an opportunity to open themselves to the environment and their own ways of listening. There was no official group discussion afterwards, but plenty of comments and ideas emerged afterwards as part of the general communication throughout the symposium. The second soundwalk (see Map 2) occurred within the context of my presentation *Soundwalking—Soundscape—Composition—Listening*

and took participants through the Royal Botanical Gardens. It was concluded with a group discussion under one of those large sprawling trees in the park near the VCA.

As we start this second soundwalk through the park across from the VCA towards the Royal Botanical Gardens, we hear traffic moving on the street surface, streetcar wheels screeching on the tracks, and the foreground sound of wind in trees. The traffic from the street recedes as we walk further and the general city throb-as-background becomes more pronounced, a broad-band hum, a sound wall enclosing us and preventing us from hearing more distant sounds. The wall stays with us throughout the whole walk with small variations in intensity. Leaves are moved by the wind along the pathway in front of us producing small percussive, rustling sounds. Airplanes, a jet above, later a helicopter—the wind throws their sounds around altering their frequency spectrum and volume in the process.

We hear a clear signal, sounding very much like an electronic ‘ping’, repeating itself at semi-regular intervals. A few days earlier, while exploring this soundwalk’s route, I had heard it for the first time. I thought that a group of teenagers that happened to play a game on the grass when the sound occurred, had a device making this ‘electronic’ signal. I later realised that it was a call from a bird and learned that I had heard the Bell Bird! Its call travels far and can penetrate through much noise. It is so clear that one can easily locate each bird’s position. If several birds are calling, communicating with each other, they give the listener a wonderfully clear sense of space, articulated even more clearly through the slightly different pitch that each bird seems to have—all pitches, though, seemed to hover within a half-tone of each other.

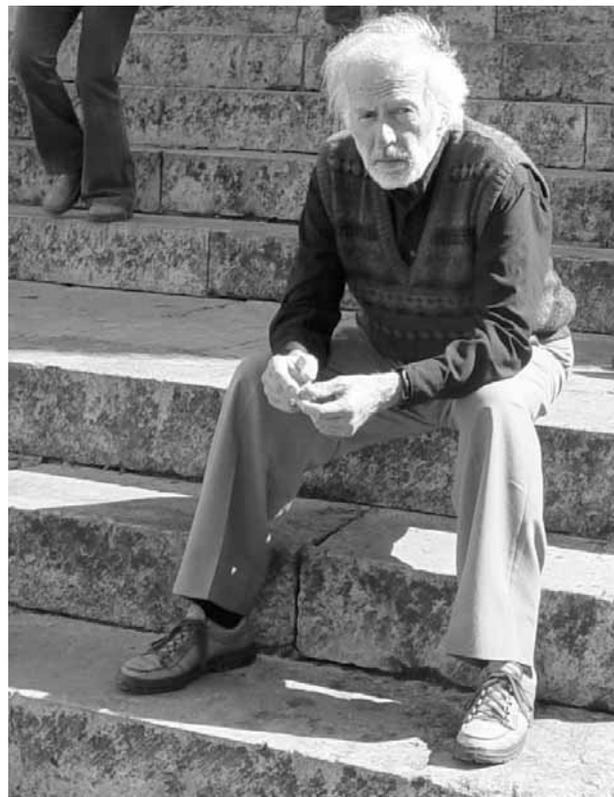
When we enter the Botanical Gardens [1] we are informed that,

the permanent presence of the flying fox colony in the Royal Botanical Gardens is threatening Fern Gully and significant tree specimen. Noise flags and other non-intrusive activities are being used at dawn and dusk to encourage flying foxes to move to a new roost. (from pamphlet)

But at this point we cannot hear the flying foxes, a type of bat. We mostly hear the very noisy streets on both sides of the river, bordering the Gardens. Walking towards the lakes, [2] there is much distant bird song, high twitter, plus the bell birds’ pings. Wind is rustling in various foliage; traffic is a bit more distant here mingling with the wind in interesting ways. Crickets are singing in a dryer area just off the main path. Under high trees, near the lake [3] what sounded like distant bird twitter, turns out to be the flying foxes. Yes, black bats are hanging like large fruit off the top tree branches. The closer we come, the noisier and screechier they sound, dominating the whole soundscape, in fact, masking the more distant traffic hum now.

Fern Gully [4] is where most of the flying foxes ‘hang out’. It is as if we are moving right inside the sound of the flying foxes—it is actually frightening, too much of one thing—making audible the menace that is threatening to destroy parts of the Garden’s vegetation. Their screeches are dominating the soundscape, masking the sounds of other species, masking even the other sound that had dominated the first part of the soundwalk, traffic. The flying foxes’ racket does not entirely leave us until it gets submerged by the approaching traffic sounds as we leave the Botanical Gardens [5].

Hildegard Westerkamp is a composer, who lectures and writes on topics of listening, environmental sound, and acoustic ecology. She conducts soundscape workshops and presents her compositions internationally.



— 70 years —

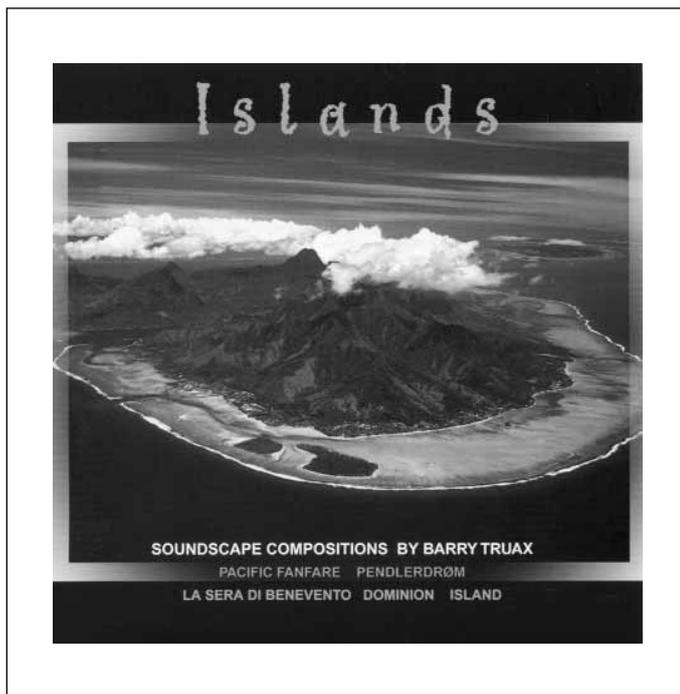
Best Wishes to Murray Schafer

With much fondness do I think back to July 18, 1973—my first or second day of work with the World Soundscape Project at Simon Fraser University—when we were sitting in a little office in the Communications Department, eating a birthday cake, celebrating Murray Schafer’s 40th. I remember thinking, ‘I like this atmosphere, I am feeling right in this place, with this group of people, their ways of listening and thinking and speaking, with their sense of humour.’

Thirty years later, I still feel ‘right’ among a now much larger community of listening people, all of whom are concerned not only for the quality of the world’s soundscape but also for the quality of listening in general. I know that I speak for many of them when I thank you, Murray, for what you have given us all. Through your listening, writings and thinking, we have found a special relationship to the world, have found our own ears, have learnt to trust them, and have found inspiration and energy to keep working together, listening together, towards some sort of ecologically healthy soundscape.

So, dear Murray, here is a heartfelt thank you from all of us soundscape friends and colleagues, with warm wishes for many more healthy, enlightened and inspired years. We hope to see you at all our events!

Hildegard Westerkamp



ISLANDS CD BY BARRY TRUAX Cambridge Street Records CSR-CD 0101

4346 Cambridge St., Burnaby, B.C., V5C 1H4, Canada
www.sfu.ca/~truax/csr.html

Reviewed by Christopher DeLaurenti

Recently as I grubbed through a local college Music Department's "Free" box, I stumbled upon Barry Truax's 1992 essay, "Musical Creativity and Complexity," in the rather obscure journal *Interface*. Although Truax's pioneering research in real-time granular synthesis and vigorous dedication to the World Soundscape Project are well known within the soundscape community, this provocative, non-technical essay was new to me. Truax, bemoaning the obscure status and near-useless role of abstract contemporary music, writes "Unfortunately, the spiritual and aesthetic needs of the real world, which seem to me to be as compelling as ever, also seem poorly answered by such abstract music, as if the lack of grounding in a real context correlates with its spiritual and emotional aridity." Today the chasm continues, not only in academia where composers continue to focus on abstract electroacoustic music but also in the less-posh yet trendier parish of the musical underground where artists, crouched behind laptops and ectoplasmic video projections, eke out crabbed shards of lowercase sound.

Since that essay over a decade ago, the rise of inexpensive, handheld, high-quality field recording equipment offers hope to those seeking another, not necessarily abstract, path. Armed with MiniDisc recorders, hacked iPods, and other portable gear, a new generation of sound artists seeks to capture the soundscape. While some simply seek more fodder to feed the ever-famished maw of sound editors, samplers, and plug-ins, others want to let the sounds speak for themselves. The question looms, what (if anything) to process, and how? Barry Truax's *Islands* can offer guidance.

In *Islands*, Truax presents soundscape compositions rich in emotional context and rife with attractive yet often mysterious aural imagery. Younger sound artists can learn from Truax's sensitive layering and sound processing. *Islands* commences with the stately foghorn of *Pacific Fanfare*, a three minute agglomeration of Vancouver soundmarks dating from the early 1970s and the early and mid-1990s. This effective fanfare, composed to mark the 25th anniversary of the Vancouver New Music Society and the World Soundscape Project, continually shifts between vintage recordings (including a very Schaefferian railroad toot) replete with hiss and other delicious analog tape flaws (sensitive speakers should reproduce the susurrating mic handling noise at 18") with sounds processed and elongated by granulated time-stretching. Less successful is *Pendlerdrøm* (or "commuter dream"); an almost mono field recording of busy train platform gradually widens into panoramic stereo and in turn gently gives way to thrumming pulses and what sounds like comb-filtered speech. Although sumptuously unintelligible, to my ears the speech's regular hovering from right to left detracts from the piece's dreamlike state. Another more satisfying dreaming travel piece, *La Sera di Benevento*, also starts at a train station and quickly slips into a miasma of phased water drops, church bells, and other sounds recorded in the Italian town of Benevento. Amidst the raining ribbons of processed sound, Giorgio Magnanensi reads a fragment of the poet Boccaccio, which even to those illiterate in Italian (including the present writer) is musically mellifluous. Like *Pendlerdrøm*, *La Sera di Benevento* returns to everyday sounds - the hissier, domestic audio of real life.

My favorite pieces are the two longer works on the disc. *Dominion* meshes a chamber ensemble—in this recording the perpetually adventurous Olympia Chamber Orchestra conducted by Arun Chandra—with prerecorded and processed bells, train whistles, and horns. Much like integration of bell tones and solo amplified horn in Truax's *Aerial* (1979), *Dominion* blends acoustic instruments seamlessly with the prerecorded portion, augmenting glowering rumbles and clangorous flecks of sound (imagine lots of miniature bells in the distance) with timpani rolls, woodwinds, brass, and strings. Some imaginative ensemble (or radio host) in search of a railroad-themed concert should program *Dominion* with Harry Partch's *U.S. Highball*.

Islands concludes with the strongest piece on the disc, the epic *Island*. As crepitating foam simmers in the background, water sloshes across the stereo field, complementing a distant hardening baritone drone and conjuring multiple perspectives of near and distant rushing water. Soon, water drops that whisper—and almost start to speak—plink and croak inside a reverberant cavern. Then, a quiet stream of hiss starts in the left channel at 8'18" and builds into remote sprays of rasping wind, twittering wildlife, and shimmering chorale-like textures. After a quiet interlude of crickets, buzzing insects, and subtle, billowing wind noise, *Island* concludes with crashing waves and the caress of melancholy drones.

Christopher DeLaurenti is a Seattle-based composer who is perhaps best known for his soundscape composition, *N30: Live at the WTO Protest November 30, 1999*. His most recent release, *The night I met Maria C.* (Locust Music) features a vivid recording of a Seattle dump as well as the title track, which captures a frenetic whirlwind of all-night parties. Much of his music resides at www.del Laurenti.net along with writings on assorted musical topics. <<http://www.del Laurenti.net/>>



AUSTRALIAN SOUNDSCAPES ON CD: Recording the Continent's Acoustic Ecology

Reviewed by Jim Cummings

Since most of us will never visit the vast land "down under," recordings made by Australian natural sound recordists offer us our only, limited, aural experiences of this diverse land. While the novelty of many endemic species heard can be refreshing to our ears, the similarities between soundscapes here, and those of analogous biomes in more nearby locations are also striking. And, as always, the enduring qualities that might bring us back for repeated listening to the inherent abstraction of recordings lie in the artistry of the soundscape composer.

Several producers from Australia have released CDs in the past couple of decades. Among the earliest was Les Gilbert's *Kakadu*, a nearly unedited hour-long coming of dawn in a wetlands park; also of note, though his subject matter is not especially place-specific, is Rik Rue's *Ocean Flows* (Tall Poppies, 1993), a riveting immersion in the tiny wavelets at the sea's edge. Two producers, though, have made series of CDs exploring the acoustic ecology of this corner of the world; their styles, and to some degree their intentions, are distinct, and both deserve broader listening among soundscape enthusiasts worldwide.

David Lumsdaine is an ex-patriot Aussie, based in the UK since 1953. For the past thirty years, he's returned home frequently, and a series of recordings he made between 1983 and 1995 form the basis for three CDs released by the Tall Poppies label in 1995 and 1996. (He also put together a composite CD for Sittelle, called *Australian Soundscapes*.) Lumsdaine, a widely respected contemporary composer, brings his composer's sense to his pieces, which are beautifully augmented by his thoughtful liner notes. His discs have a remarkably broad acoustic space, with nearby soloists framed in rich communities of sound; each of his soundscape releases contain many aural treasures. He's perhaps most widely known for an amazing sequence recorded in 1983, featuring the virtuostic solos of a Pied Butcherbird, which swirl with both complex, shifting structure and surprising

improvisations. This piece, featured in the *Terra Nova* journal and book on *Music and Nature*, is but a prelude to the title track of its CD, *Mutawinji*, recorded in an isolated gorge that holds the only permanent waterholes in a vast orange desert. Suffice to say that Lumsdaine succeeds at his stated goal "to capture the sound of the place—open valley, narrow gorge, wind-swept ridge—which is brought alive by the songs of the birds, frogs and insects, not to mention the song of the wind in the wiry growth of the dwarf pines and acacias."

One of my favorite Lumsdaine moments occurs in another moist enclave, featured on his *Lake Emu* CD. His "River Red Gums and Black Box" piece explores the sonic differences between the "almost cathedral-like resonance of the mighty Red Gums (a tall, dense riverside forest) contrasting with the lighter resonance of the Black Box (smaller timber in more open country away from the river)." Of special note is a particularly ethereal mid-morning bird chorus featuring dreamy improvisations in which Lumsdaine hears, "a rambling fantasy to their music, an inconsequentiality shared by most of the birdsong this warm morning." However, for its overall sonic portrait of a particular place, Lumsdaine's most satisfying piece, to my ears, is *Cambewarra Mountain*. Like many recordists, his works generally flow with the diurnal cycle of a day; this time, we hear a sequence from spring, and another from summer. He rarely cross-fades his compositions, preferring the more transparent approach of quick cuts from one segment to the next; paradoxically, this brings us deeper into an appreciation of the unity of the many voices of this varied landscape in the "Great Dividing Range."

Overall, I have come to appreciate David Lumsdaine for the ways that he focuses on the overall ambiances of place, cultivating a listening presence that highlights the blend of distant, faint activity with prominent "lead" voices; his preference for relatively short individual "scenes", which cumulatively offer a leisurely overview of the place, somehow emulates active sonic exploration in a way that I find unusually related to the delight of discovery I have experienced while rambling in the field.

Beginning in 1995, and accelerating rapidly from 1999 through 2002, Listening Earth has released a series of stellar portraits of particular Australian landscapes. Born of the relationship between recordist Andrew Skeoch and photographer Sarah Koschak, Listening Earth's recordings shine with a reverence for place and utilize a vivid recording technique. While not reticent to play into the "aural voyeur" desires of a mass audience ("as you sit quietly beside a sparkling waterfall. . ."), don't let the fact that they've become the best-selling natural sound producers in Australia scare you off! For they succeed at their stated goal of sharing "the diversity of our wildlife, the beauty of their songs and calls, and the 'stories' of nature" and not the least, they bring it together with a richness that allows us to "each time, hear something new." I also especially appreciate the detailed field notes for each recording available at their website; these share at uncommon length the revelry with sonic detail that is the hallmark of experienced soundscape artists.

The first Listening Earth title to really suck me in was one of their early releases, *Tall Forest*, which features a day cycle in the land of the eucalyptus. It jumps right into a wildly layered mix of morning birdsong, with tonal qualities ranging from sharp staccatos to bubbly sweeps and clear tone calls, the rhythms complex beyond imagination. Later segments include afternoon

and evening ambiences and soloists. All this with a vivid, bold presence at all depths of field reminiscent of recordings by Doug Quin or Lang Elliott. . . . *A Morning in the Australian Bush* presents a more compact, detailed portrait of place, covering only the first few hours of the day. Again, the focus is birdsong, including many endemic species.

My current favorite of the Listening Earth team is *Spirit of the Outback*, especially a trance-inducing dawn chorus in the "mulga," a woodland habitat. Chiming Wedgebills set up a ringing rhythm in layers, accented by Crested Bellbirds, Rufous Songlarks and others, with close passings-by of a chirping crowd of Yellow-throated Miners and distant pigeon calls forming a delight-full soundfield, all recorded in a single magical take. Later, they visit another Red Gum forest, reminiscent of Lumsdaine's, but marked by their very different recording "feel", and in the evening their mics turn to a sparse katydid chorus tinged with nightjar whinnying, then a rare tree frog chorus (one of only four species of frogs in central Australia).

Also of note from the Skeoch/Koschak alchemy is *Call of the Ocean*, featuring an unusually wide range of seaside locations, *Kakadu: A Celebration of the Wetlands*, and *A Walk in the Rainforest*; each of these, while perhaps a bit less unique than my "favorites", continue in their tradition of stellar recordings, mixed with an ear for drawing the listener in while offering a wide-ranging overview of the various acoustic elements of the habitat. Finally, *The Experience of Uluru* takes us to the heart of the continent; its dramatic title belies a subtle, quiet focus on winds through trees and across rock walls.

Utilizing some layering and re-constructions, Andrew and Sarah have a fine ear for rhythmic complexities that lie within the voice of a habitat. On their more recent releases, as his approach to recording has shifted to a more receptive one, in relationship with the ways sound unfolds into moments of ineffable beauty, it is more common for Skeoch to dispense with layering and utilize simple crossfades to build 4 to 12 minute tracks that contain all the complexity that he used to re-create in the studio. The strength of their work, and their passion for the life of listening, suggests that they may well succeed in their quest to join the handful of recordists who have successfully built their lives around traditional nature audio production.

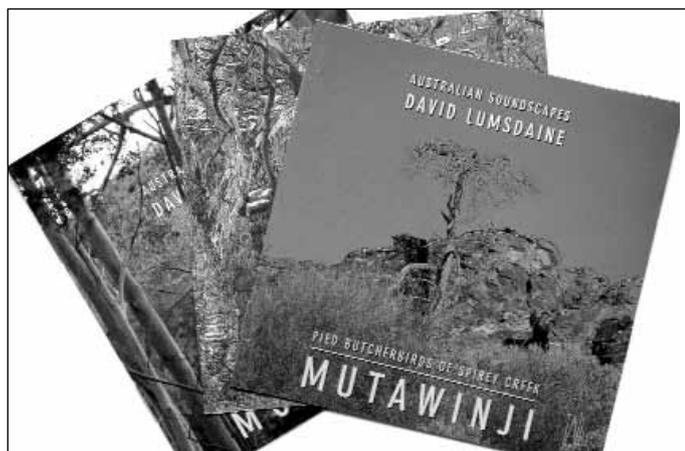
CDs are available from:

Listening Earth, P.O. Box 188, Castlemaine, Victoria 3450, Australia
www.ListeningEarth.com.au

E-mail: cooe@listeningearth.com.au

David Lumsdaine can be reached at dnl@fish.co.uk
Tall Poppies Records, P. O. Box 373, Glebe NSW 2037 Australia

Jim Cummings is a father, writer, and editor who lives along Galisteo Creek in the foothills of the southern Rockies. He is founder of EarthEar and AcousticEcology.org.



RADIO AND THE CHANGING SOUNDSCAPE

A Proposal for an International Radio Production

This is a proposal to present a series of educational radio broadcasts under the title *The Changing Soundscape* on several radio networks around the world. I am suggesting that the series would consist of a number of one-hour broadcasts, identical or nearly identical in content, with examples of material from all participating countries as well as elsewhere, narrated in the language of each country.

The soundscape of the world is changing. New sounds are being introduced everyday; old sounds are disappearing. The uncontrolled and thoughtless proliferation and amplification of sound has led to a worldwide noise pollution problem. Yet most people seem poorly informed about this.

We need to re-educate the listeners. First of all, we need to get them to pay attention to the rich complexity of the soundscape around them, to ask questions about it, to realize how it has changed and is changing. We need to protect delicate sounds threatened by loud noise. We need to stimulate sonic diversity in daily life and find balance between natural, human and technological soundscapes. We need to encourage whole populations of adults and children to become aware of their role as performers and creators of the soundscape, responsible for enriching it and making it more beautiful. We need to begin to think of soundscape design as a civic and personal responsibility.

Radio is the ideal medium for communicating this message. And a co-operative series of radio programs, running simultaneously in many countries could provide the impetus for an improvement of the soundscape throughout the world.

This is my proposal. How it would work and be financed is open for discussion. I would suggest that an international forum of broadcasters and soundscape researchers might volunteer or be elected to consider mechanisms of the project. I would like to be involved by helping select themes and materials for the series and scripting some of the broadcasts.

Please feel free to circulate this proposal among colleagues, and let me have your reactions. Is there any possibility that the production team might have a meeting in Canada in April or May of 2004 to begin planning the series?

I shall look forward to hearing from you. My ears are open.

R Murray Schafer

R.R. #2

Indian River,

Ontario. K0L 2B0, Canada

A Collection of Personal Observations of ... acoustic ecology... an international symposium

Victorian College of the Arts, Melbourne, Australia, March 19—23, 2003

By Paul Howard



Soudwalk: Royal Botanical Gardens, Melbourne.

I had not heard of acoustic ecology until I met Nigel Frayne during a visit to Melbourne. He is the chair of the World Forum for Acoustic Ecology, and organized the symposium. My perspective is that of an outsider.

My background is diverse. I worked as a live sound engineer for six years and built electronic instruments for scientists for eight years. I have been published several times as a technical journalist, mostly writing about sound-related topics. My education is in philosophy.

I found the atmosphere at the symposium engaging and totally absorbing. There were many brilliant moments. It is hard to know where to start a review of what was presented.

One of the foundations of acoustic ecology is its cross-disciplinary approach. At the symposium, engineers exchanged views with artists, architects, linguists, ethicists and sound designers. The lack of political, disciplinary, age and gender barriers was remarkable.

My definition of a successful symposium focuses on the questions raised, not the answers given. The presenters did not claim to have solutions to everything. This made them all the more convincing.

Among the high points of the symposium were R. Murray Schafer's presenta-

tions (see p. 14 and p. 44 of this journal). His talk on historical perspectives of the acoustic environment was convincing and coherent. Schafer built an argument for an ethics of sound. I believe he is an ethicist at heart. He creates a moral imperative—a code by which sound engineers and artists can live. He implores us to respect the privacy, habitat, and peace of mind of living beings.

These are great achievements, but Schafer is not content to stop there. He challenges us to "clean" our ears so we can listen, really listen, some of us for the first time in our lives. He brought children to the symposium, for listening exercises. The children's enthusiasm and spontaneity relieved the seriousness usually found at professional gatherings. This had a liberating effect on the adult participants. Schafer's listening exercises taught many lessons, but one point stood out. Many peoples' listening skills are poor, and need to be developed. This was surprising, as leading audio artists and engineers were at the Symposium.

Roger Alsop asked: "If you had to do without one of your senses, which would it be?" Most people could not do without hearing. This may be because of the high information content of sound, particularly localizing information. Imagine

being blindfolded and being led to familiar places. You could probably identify these places by sound.

Sabine Breitsameter raised a number of critical points. She states that acoustic ecology began with dissatisfaction of the acoustic environment. The sounds we hear are often chaotic, confusing and sometimes damaging to our health. Sensory overload is common, especially for people who live in cities. People and institutions whose interests are contrary to the listener often control the sound environment.

Listening should be an act of liberation, not an assault on the listener's sensibilities.

Sound has a profound effect on how we think. A typical example is something that happened to me while writing this review. I wrote these words on a lap top computer, with a noisy hard-drive. The noise was not ear shattering, but irritating. I did not realize this until the hard-drive shut down automatically, as a power saving feature. The silence was deafening. My whole consciousness had been affected by the noise.

Breitsameter pointed out the strong affinity between acoustic ecology and digital networks (see article, p. 24 of this journal), because the latter allow the sound artist a high degree of control over sound distributed to a large audience. She paraphrased an idea of Glenn Gould's. When sounds are reproduced through electronic media (including the Internet) they are changed from "an aesthetic to an environmental experience."

I believe there is a basic clash between acoustic ecology and digital audio media such as the Internet. When a duplicate of a sound is reproduced digitally, it is a clone rather than a copy. The same ones and zeros are repeated. The cloning characteristic of digital reproduction gives it a mechanical quality, a relentless perfection.

Acoustic ecology suggests a living organism which evolves, grows, mutates and eventually dies. To paraphrase an idea expressed by the conductor Daniel Barenboim, when a musical note is played on an acoustic instrument, it will never

Photo: Vivien Dilkes-Frayne



Photo: Nigel Frayne

R. Murray Schafer and a group of school children performing listening exercises.

again be played the same way. This gives music a sense of tragedy, the sense that each note dies at the moment it is played. This may account for the emotive power of music, especially when experienced live.

One symposium participant claimed the Internet has done considerable damage because it encourages consumption rather than production—in other words, taking instead of giving. Another participant said the Internet creates "option overload." I think it causes mass attention deficit disorder.

Hildegard Westerkamp's soundwalks (see p. 31 of this journal) were transforming experiences. I define many of my sonic impressions now in terms of whether I had them before experiencing soundwalks, or after. Not speaking, combined with the meditative atmosphere surrounding the walks heightened the senses greatly, and left a permanent impression.

The first walk was through city streets, near the auditorium where the symposium was held. I lived in the area where we walked. I thought I knew it well. During the soundwalk I heard new sounds, new layers of sounds. Some sounds were aggressive, others reassuring. Some sounds masked others. Sound pressure levels reached 110 dB, as a rough guess. I had no idea how much I had closed my ears.

The second soundwalk went through an urban park. Westerkamp led a discussion afterwards.

Walking without speaking is one way to be open. There is no need to respond, categorize or intellectualise. Soundwalks are a form of meditation. The listener does not engage, but instead is detached from the experience, in the same manner

as someone practising transcendental meditation. Listening becomes a kind of surrender. Listening takes time.

Another impression is that sound comes in layers. Some sounds mask others. Sounds get "buried."

After participating in two soundwalks led by Westerkamp, I find myself doing my own soundwalks. My personal acoustic environment will never be the same.

Jo Thomas' work was astonishing and enlightening. Her work is powerfully evocative because she uses suggestion rather than literal, in-your-face representation. She touches lightly on themes of timelessness and flight. This sets the listener's imagination free. Her work suggests that we must find our own connections with angels and other higher beings.

What is a good sound, and what is a bad sound. Everyone has their own definition. Acoustic ecology is culturally specific. Sounds can carry strong connotations, which can be good or bad. Acoustic ecology is about changing values and attitudes more than conveying information. We must develop a value system that we can agree upon. Acoustic ecology also strives to be a democratizing force for the sound world.

Sound can have transforming and healing qualities. Though acoustic ecology's main applications are to sound engineering and acoustics, it can be applied to other disciplines, because of its holistic approach. Acoustic ecology may well have broad social and political implications.

Basic institutions have been discredited to one degree or another. As examples, the church, the welfare state, and public education are widely viewed as self-

perpetuating bureaucracies. These institutions have been cornerstones of ethics and public well being for generations. Lack of faith in institutions and politicians coincides with the emergence of the information age. Anyone with Internet access can gain arbitrary amounts of information. A competent hacker can find the personal details of nearly anyone. There is incredible transparency in how humans exchange information and opinions. Access to timely, accurate information was formerly the domain of a privileged few.

At the same time, immigration, globalisation, and the lowering cost of international travel have blurred national and cultural boundaries. Many people have traditionally defined themselves by their nationality or ethnicity. These identities are more difficult to maintain, and less fulfilling. The end result is that our race has lost perspective. In particular, we lack the skills, and often the will, to interact successfully and satisfyingly with each other.

This is where acoustic ecology can fill a huge gap. It has the potential of binding together the pieces of our dismembered sense of ourselves. It can help us connect with others, beyond the universal needs for shelter, security, and libidinal release.

If acoustic ecology is allowed to evolve along its steep trajectory, it may well become not just a credible discipline. It could be a source of salvation. Ecology is nothing if it does not demonstrate that everything is connected. To paraphrase Aldous Huxley: "When the doors of perception are thrown open, everything is seen for what it is, interconnected." If acoustic ecology continues as it has recently, it is going to blow the doors off their hinges.

In the words of Nigel Frayne, host of the symposium, and head of the Australian Forum for Acoustic Ecology, "acoustic ecology is an idea whose time has come."

Paul Howard is a freelance technical journalist based in San Jose, California. He was born in Fargo, North Dakota and grew up in Eugene, Oregon. He graduated from the University of Oregon. He has an affinity for trains, black-and-white photography, and the music of Tchaikovsky. He can be reached at: pjh592@hotmail.com For the entire report, please see <http://interact.uoregon.edu/medialit/wfae/symposium/report.html>

A Personal Report on a Complex Event: ...acoustic ecology... an international symposium

Victorian College of the Arts (VCA), Melbourne, Australia, March 19-23, 2003

By Gordon Monro

Introduction

The organisers of the symposium were Nigel Frayne, on behalf of the World Forum for Acoustic Ecology (WFAE) as well as the Australian Forum for Acoustic Ecology (AFAE), and Roger Alsop, on behalf of the VCA. Warren Burt was "Master of Ceremonies", and there was a substantial team providing administrative and technical support.

Although most of the participants were from Australia, the symposium was indeed international. Murray Schafer from Canada, who is the founder of the field, gave two presentations, and there were participants from Japan, Canada, the UK, the USA, Germany, Russia, Austria, Spain, Scandinavia and New Zealand.

What is Acoustic Ecology?

There was some discussion during the symposium of what acoustic ecology is, or ought to be. It appears to have four aspects (this classification is essentially that put forward by Grant Sonnex, UK):

1. A campaigning or crusading aspect, to identify and minimise noise pollution, and to preserve sounds characteristic of particular places and environments.
2. A scientific (in a broad sense) and scholarly aspect, to study how humans and other organisms relate to sound in the environment. This study encompasses the cultural meanings of sounds as well as physical acoustics and psycho-acoustics.
3. An educational aspect, to encourage children, and also professionals such as town planners, to become aware of sound in the environment.
4. An artistic aspect. This includes installations or public artworks which involve sound, and also soundscape compositions: tape works which make use of recorded sound to evoke a particular environment.

There was a comment that maybe the word "ecology" has outlived its usefulness. Murray Schafer said that when he started talking about acoustic ecology, he was referring only to the scientific or scholarly aspect. Now there seems to be some association with Luddite tree-huggers (my words, not Murray's). Some people and groups prefer "soundscape studies" as a more neutral term.

There was a feeling that the conference was a little light on the scientific side, but in fact the three aspects of scientific in the broad sense, educational and artistic had roughly equal representation in the presentations. Crusading talks were notably absent, except for Ray Gallon's (Canada/Spain) passionate statement about the effects of amplified sound and the sounds of motors such as compressors, in destroying the soundscapes specific to particular places.

There were over 40 presentations, and I was unable to attend them all. Comments on some of them follow.

Scientific or Scholarly Presentations

Norm Broner, an Australian acoustic engineer, talked about some of the projects his firm has been involved in. These include difficult problems of acoustic isolation (for example, a very noisy train line next to a concert hall), and also work on systems which can change the reverberation characteristics of a hall electronically.

Neil McLachlan (Australia) presented a remarkable paper outlining an ambitious program to improve the process of measurement and evaluation of environmental sounds, particularly annoying sounds. It emerged as a theme of the conference that current methods of measurement are totally inadequate, usually just producing a single figure for noise intensity averaged over a period of several hours. Neil's aims are to produce measures that accurately reflect human reaction to various kinds of noise, and to provide useful tools for architects and town planners.

Peggy Rismiller (Australia) talked about her ongoing study of echidnas on Kangaroo Island, South Australia. Apparently they very occasionally make vocal-like sounds, but what purposes these might serve is unknown. There is a suggestion they may communicate by low-frequency sounds.

There were several presentations on the soundscape of particular places. Perhaps the most striking was that of Kozo Hiramatsu (Japan), who talked on the soundscape of part of the old city of Kyoto. This section of the city was laid out in a Chinese-influenced design, with

the better houses on the main streets and the poorer houses tucked behind, in lanes and alleyways. Now, the poorer houses have a quieter sonic environment, closer to that of rural Japan than to the city noises experienced by the better houses. For a fortnight each year the soundscape changes dramatically, because of the Gion festival. Each small neighbourhood is responsible for a huge wooden cart, two or three storeys high. Some of the carts have flute and drum bands on their upper levels. The sounds of these bands, first practising before the festival, and then being towed through the streets on the carts, is "indelibly moulded in the hearts" of the community.

Nick Evans (Australia) gave a fascinating talk comparing the metaphorical meanings of words meaning "to see" and "to hear" in Australian Aboriginal languages with the corresponding words in Indo-European languages. In the Indo-European languages the root word for seeing has led to words meaning knowledge, understanding and the like; it is common in English to say "I see", meaning "I understand". The words for hearing are generally confined much more closely to their literal meanings. In Aboriginal languages the situation is reversed: words and phrases related to knowing, understanding, cleverness and memory are derived from a root meaning "to hear".

There were some comments during the symposium about the complete dominance of vision over hearing in our culture, with suggestions that it is relatively recent, possibly arising from widespread literacy. But Evans' paper suggests that it is much older than that, being built into our (Western) languages.

Presentations on Education

Hildegard Westerkamp (Canada) gave us some practical experience by leading symposium participants on two "soundwalks". The only rule on a soundwalk is not to talk; the purpose is to listen to the acoustic environment

The first walk was along busy St Kilda Road, which also has tram tracks, to the Yarra River bank, and then back to the VCA between and through the buildings in this area, which is in general an arts precinct. We walked into a café, sampled



Photo: Vivien Dilkes-Frayne

Soudwalk: Royal Botanical Gardens, Melbourne.

the muzak and walked out again. There was also much higher-class muzak in the foyer of the concert hall. The loudest noise was that of a street-cleaning machine in a cavernous space at the edge of the river.

The second soundwalk was into the Melbourne Botanical Gardens, which are near the VCA. City noises were still present, but the dominant sound was that of the enormous colony of fruit bats. In discussion afterwards it was pointed out that the fruit bats are only there because Melbourne is. A city is warmer than the surrounding countryside, and before urbanization the area was too cold for the bats to stay permanently; also Melburnians have planted many "native" trees, native not to Melbourne but to NSW and Queensland. So the bats now have a warm place to stay and plenty of their favourite foods. The large numbers (up to 20,000) are damaging the trees in the Botanical Gardens, so attempts are being made to get the bats to move by playing loud noises at them. We didn't hear these noises, but a sign assured us that they are scientifically tested and satisfy health and safety regulations.

Helen Dilkes (Australia) presented work she had done with kindergarten children, aged 4–5. They went on a kind of soundwalk, drew and talked about the sounds they heard, and constructed a map of the area and the sounds in it. (The idea of the map apparently came from the children themselves.) The children had access to a tape recorder and seemed perfectly at home on either side of the microphone. Murray Schafer (Canada) had been working for some days with children from a local primary

school, and he brought along a whole class. The children stayed focused and interested for nearly two hours as they showed us Murray's "sound games". They were asked to bring "an interesting sound". Some brought toys that made funny noises; some brought kitchen utensils and the like that could be scraped or shaken. One boy had a wok partly filled with water and a spatula as a beater.

In one game, each child was given a number at random from 1 to 4. The number ones were to be cows, the number twos sheep, and so on. Then they all put on blindfolds, each child made the noise of his or her animal, and they had to find the other children representing the same animal. The cacophony was amazing, but they did pretty well. In a much quieter game, Murray produced some A3 paper sheets, and got the children to pass these around, trying not to make any sound at all. The adults tried a couple of the games too, and this one is surprisingly difficult. In another game, the children sat in a semicircle, and a single sheet of paper was passed around. Each child had to make a sound with the paper, different from all the preceding sounds. Since there were about 30 children, this became very challenging near the end.

At the professional development level, Per Hedfors (Sweden) showed some software being developed for landscape architects and urban planners. It will allow them to move around a plan or map, hearing the sounds that would be heard at different locations. Per referred to the work of the architect Christopher Alexander on "pattern languages", and he hopes to develop pattern languages for what he called "sonotopes", which are like soundscapes but also take into account

the expected listening modes of the people in a given environment.

Lex Brown (Australia) also discussed setting of objectives usable by town planners, including sounds we do want and sounds we do not want. He gave an example of a fountain in a park. (By the way, both Lex and Per Hedfors indicated that it would never occur to most landscape architects that different fountains could have different sounds.) Near the fountain, we might specify that moving water should be the dominant sound heard. This is quite different from the traditional specification in terms of sound pressure levels. If there is a street crossing near the fountain which is used by blind people, we might specify that the fountain not block out the aural cues they need to cross the road safely.

These educational presentations were certainly not overtly crusading, but there is no doubt that participating in the activities and programs described will help to raise the acoustic-ecological consciousness of the participants.

Art-related Presentations

Anton Hassell and Neil McLachlan (Australia) gave an update on their just intonation bells, and in particular on an installation on the Yarra River bank near the centre of Melbourne. The installation is played by computer, controlled by a MIDI file, and Anton and Neil hope that soon composers will be able to make compositions and send them to be performed. They have sound samples of the bells available, to assist composers. Their website is at www.ausbell.com (go to "The Federation Bells"). I did go to see this installation when I was in Melbourne, but unfortunately I couldn't be there when the bells were playing.

Scott Smallwood and Stephan Moore (U.S.A.) talked about some performances they had done, literally on the street. They set up a microphone to record the ambient sound, processed the sound in real time on laptops as an improvisatory performance, and recorded the results onto cassette, which were sold or given to spectators. The idea was that passers-by would be able to compare the actual soundscape they had heard with the improvisation based on it. The spectators could not hear the improvisation as it was being produced, to stop people "performing" for the microphone, though in one

case it was possible to listen to the improvisation through headphones placed well away from the microphone. This presentation caused a lot of discussion, including suggestions for further development.

Catherine Hocking (Australia) presented an attempt at a framework for analytical writing about sound installations. Traditional musical analysis is inapplicable to installations, so Catherine went back to first principles, outlining an analysis based on the categories of Form (the overall form of the installation, including the specification of the sound component), Space (how the installation uses space, including both physical objects that may be present and the spatial distribution of sound) and Time (how the installation changes over time; how the audience interacts with the installation over time).

Several artists talked about projects in which they had been involved. Some of those presenting were Ros Bandt (Australia), talking about installations where the wind provides the sound; Jo Thomas (U.K.) presenting her sound-and-video piece *Angel*, with a very refined "acousmatic" soundtrack; and Warren Burt (Australia) describing the different ways in which his pieces have engaged with the environment or made use of environmental sounds.

Many of the symposium participants were artists, and the symposium had a strong artistic flavour. Grant Sonnex pointed out that in the classification above of aspects of acoustic ecology, the artistic aspect is the odd one out. Nonetheless, artists have been leading figures in the acoustic ecology movement since it began.

ASSOCIATED EVENTS

The Concert

A concert was organised by Lawrence Harvey and Tim Kreger, and held in a rather strange space, the "BMW Edge Atrium" in the new and controversial Federation Square complex (no relation to the VCA's Federation Hall). The Edge Atrium is basically a shoebox auditorium, but the walls are mostly glass, and bulge into the space in polyhedral intrusions. All the surfaces are hard (the seating is unpadded wood, fixed in place) except the ceiling, which does have sound-absorbing material. There is a lot of space around the seats, and this facilitated the placing of a multi-speaker system (I think 16 speakers). The main problem with the hall was that sound from outside was audible. This wasn't too bad during the concert, but apparently during the set-up amplified

drumming was going on outside, and it was impossible to set levels. This, coupled with a bad place for the mixing desk (presumably because the seats could not be moved) meant that some parts of the concert were too loud, particularly unfortunate for an acoustic ecology conference.

Some of the pieces were composed as multi-track pieces and others were stereo pieces diffused over the multiple loudspeakers. One piece was apparently an unmodified recording of natural sounds, an underwater recording of Weddell seals made in Antarctica by Doug Quinn (U.S.A.). (It wasn't clear if this was a single straight recording or a collage.) The sounds were extraordinary, and apparently very loud in the natural environment.

The other pieces were all more or less "composed", but all used environmental sounds as their base material, subjected to varying degrees of arrangement and transformation. The centrepiece of the concert was *Island* by Barry Truax (Canada), six scenes from "a magical island of the mind", with water, wind, bird and insect sounds. Another fairly naturalistic work was *Talking Rain*, by Hildegard Westerkamp (Canada), originally composed for radio. It represents the rainy environment around Vancouver, incorporating recordings made more than 20 years ago for the World Soundscape Project as well as more recent recordings.

The only Australian work programmed was *Canopies: chimerical acoustic environments* by Lawrence Harvey. This is a concert version of an installation, a promenade along the banks of the Yarra with loudspeakers overhead, and the sounds were designed to be heard against a background of city noises. They are mostly high-pitched sounds, much less identifiable than those in the works already mentioned, and arranged in dense complexes. The most extreme transformations were in JO Thomas's piece *Angels*, mentioned above (the concert contained only the soundtrack, not the accompanying video). These are certainly not chocolate-box angels: as the program note says "Some scream with Arch strength...".

The concert was rounded out with three short soundscapes by Gabriele Proy (Austria). The concert presented substantial works and was a welcome addition to the symposium.

The Exhibition

A two-part exhibition, under the name *Hearing Place*, was organised in association with the symposium. Ros Bandt and Iain Mott were the curators. One part of the exhibition was on the VCA campus,

and consisted mainly of an "audiotheque", with over 60 pieces of sound art available for listening on headphones. Also at this site was *Voicing the Murray*, one of Ros Bandt's "spirit of place" installations with voices coming from containers, and an ambitious work involving several slide projectors by Hildegard Westerkamp and Florence Debeugny (Canada). Unfortunately this last work suffered from persistent technical problems.

The second part of the exhibition was some distance off the VCA campus, at the Yarra Sculpture Gallery in Abbotsford. All the works involved sound in one way or another. For me the most striking was a wave-powered organ by Cameron Robbins and John Turpie, originally installed on the coastline of the Great Australian Bight, where the waves forced air into organ pipes. The exhibition showed some of the pipes and a video of the installation. The sound was an eerie wailing, partly a reference to the ghosts of the Aboriginal people massacred near the spot in the 1840s. The most elaborate work was *Love is a Wonderful Thing* by Gillian Chaplin and Les Gilbert, consisting largely of small cabinets containing various objects, which played sounds as the visitor approached. This was meant to represent a "collection of private thoughts and memories". A web page on the exhibition is at <www.sound-design.unimelb.edu.au/site/news.htm>. In addition a CD with ten works from the audiotheque was produced, and is available from Move Records (Move MD 3275, www.move.com.au).

Overall the symposium was very interesting and worthwhile. The organisers are to be congratulated for putting in the huge amount of work necessary to enable such an event to happen in Australia.

Gordon Monro's original training was in mathematics. He started in composition after attending a music technology camp in Sydney in 1989. In 1996–97 he completed a graduate diploma in musical composition in the Music Department at the University of Sydney. For some years he has taught courses in computer music in this Department. In 1998, he was granted associate representation as a composer with the Australia Music Centre, and in 2002 full representation. His compositions have been performed in Australia, New Zealand, Europe, Asia and North America, and broadcast nationally on ABC radio.

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For the entire report: http://www.gordonmonro.com/misc/acoustic_ecology.html

Acoustic Ecology – RMIT Melbourne, Australia

By Lawrence Harvey

Background

As part of this year's Acoustic Ecology Symposium in Melbourne, the SIAL¹ Sound Studios hosted *Island and Canopies*², a sound diffusion concert at the BMW Edge Atrium, Federation Square. For this event, the foundation of our spatial sound diffusion system was used to present six works in a unique concert space, a faceted glass atrium overlooking the Yarra River and parts of Melbourne's inner city.

As a concert of works *Island and Canopies*³ juxtaposed listening experiences in natural, built and virtual spaces. Such a program of works also represents a model learning experience for a new education and research program at RMIT University, investigating the aural dimensions of architectural teaching and practice, design, composition and listening.

Recent History of the Sound Studios

Many in the acoustic ecology community are aware of the project at RMIT to establish a soundscape centre in the Walter Burley Griffin designed Capitol Theatre, Melbourne. Over the past 18 months, the project has evolved into the creation of the SIAL Sound Studios, a component of the Spatial Information Architecture Labs, directed by Prof Mark Burry at RMIT. The Labs are a unit of the School of Architecture and Design.

Establishment of the SIAL Sound Studios has been made possible by a substantial grant from the Australian Federal Government for equipment, computers and software. RMIT University matched this funding in the form of building works and studio construction.

Stage 1 was completed in July this year and includes a sound diffusion system, a

multi-user lab with 8 channel sound system, and office space. Stage 2, opening in early 2004, will add an acoustically isolated studio—*The Pod*—with 8-10 channel sound system, a project studio, post-graduate area, small studio and lecture/workshop space. Current studio images and details are available at: <http://www.sial.rmit.edu.au/Resources/>

New Futures for Sound Studios

Before ready availability to fast desktop computers, one motivation for studying electroacoustic music at an institution was access to expensive equipment and studio time. As more complex computer programs became available to home studio users, the need to access specialist equipment in an institutional environment lessened. The appearance of computer music tools as stand alone applications or environments, usually simplified their operation for the end user. While the positive and negative merits of this situation remain debatable, it challenges a response from institutional studios to re-invent their role as places of learning, research and cultural production.

As the SIAL sound program and studios develop, we are addressing this new environment by creating a facility where researchers from diverse design disciplines, representing the visual, aural, digital and physical aspects, are co-located, and where the disciplines themselves are able to converge. The environment created is evolving into a fertile ground for involving RMIT University researchers, research students, visiting academics and key practitioners from industry and community.

An essential component to support this convergence is the physical studios and associated listening conditions.

During the intensive learning period of an undergraduate course, critical listening skills are best developed if sound materials are presented in a way that can demonstrate subtle qualitative differences. While *The Pod* studio is the isolated space for critical listening and production, other spaces are also acoustically treated to isolate computer and air-conditioner noise and limit sound reflections.

Further, all spaces have, or are planned to include multi-channel sound systems for learning and research activities. Access to this type of configuration is one aspect that can differentiate a home from institutional studio, although spatial sound systems in project studios are achievable at relatively low cost. Other conditions cited by post-graduate candidates as desirable include access to a quality mastering environment, opportunity to use the diffusion system, critical feedback on their work, collaboration with other disciplines and equipment resource for preparing and presenting larger projects.

In the SIAL Sound Studios, these physical spaces and learning environments also support courses for architecture and design students whose conceptual and representational skills are predominantly visual.

To develop in these students an awareness of the role listening has on spatial experience, the students undertake practical activities to enhance their production, analytical and conceptual skills related to sound. This experiential mode of learning is the ground on which to further expand their knowledge of aural experience and the acoustic environment through related disciplines such as acoustics, psychoacoustics and electroacoustics. In the initial learning stages, the multi-disciplinary approach of acoustic ecology, and its

listener centred model, is ideal for educating architects and designers whose practice will substantially affect the future sounds of our built environment.

Teaching Sound in an Architectural Program

Students may enrol directly into SIAL at Graduate Certificate, Masters or PhD levels. Each semester, SIAL offers undergraduate studios, available for each of the four schools in the School of Architecture and Design: Industrial Design, Landscape Architecture, Interior Design and Architecture.

A few words about architectural teaching studios⁴ as they are an alternative teaching model to those usually offered in music, media or other sound based disciplines. Architectural teaching studios are run parallel to single subjects and electives, which are usually for teaching historical, theoretical or skills acquisition. A studio in architectural education is a mode of teaching by 'the project'. It is a semester long subject—usually approximately 13 weeks—of around 3-5 contact hours per week, requiring another 6-12 hours of work by the students per week. A studio is based around a project brief, which is often, but not always based on an actual site, a theoretical proposition, a general or specific issue requiring design response and resolution. The design outcome from a teaching studio might include substantial design drawings or digital representations, built scale models, and in some instances, fully constructed designs.

At RMIT, a semester studio often involves an industry partner or external community organisation. In this situation, the studio can lead to future professional opportunities for students, or a series of research projects. A studio is a mode of learning that is simultaneously applied and theoretical, combined with learning experiences to prepare students for professional practice. Traditionally, these outcomes have contained little, if any consideration of sound or aural realisation of the project.

Finally, a brief description of two architectural studios at SIAL where sound was an integral part of the learning experience. *Memory Games* was held during the second semester of 2002. Within this architecture studio students were asked to investigate the role of collective

memory in the creation of visual and sonic narrative. During the studio students utilised a collaborative virtual environment software (stringCVE) based on a computer game engine as the primary design media. Melbourne's interstitial lanes and alleyways became the starting reference for the projects beyond which the designs deviated into imagined worlds exploring varying concepts of 'memory'. Soundscape design was a key component of the teaching objectives with the final projects delivered in four channels of a Dolby 5.1 system. In the final stages of the studio the students combined their design worlds into grouped spaces, so one can navigate from one design to another, and in turn have a reconstituted experience of Melbourne's urban spaces.

As StringCVE best supports the modelling of extensive spaces, the current teaching studio, *The Future Sound of Cities* continues the urban theme for the projects. In this teaching studio, students have been asked to consider possible futures for the information conveyed to us by sound in urban spaces, and the types of architectural conditions containing these aural experiences. *The Future Sound of Cities* finishes in November this year.

Lawrence Harvey is employed in SIAL to develop a new sound programme and studio facilities. His artistic projects include soundscape design for VR projects, installations, concert works and curatorial large projects. Full details at http://www.sial.rmit.edu.au/People/Lawrence_Harvey.php

Footnotes

1 Spatial Information Architecture Labs

2, 3 *Weddel Seals, Antarctica* Doug Quinn (U.S.), *Wien West Bahnhof, Lagom, Binaer Voices II* Gabriele Proy (Austria), *Island* Barry Truax (Canada), *Angel* Jo Thomas (U.K.), *Canopies, chimerical acoustic environments* Lawrence Harvey (Australia), *Talking Rain* Hildegard Westerkamp (Canada).

4 To avoid confusion between the term 'studio' as a physical space and teaching mode, sound studio denotes the physical space, while teaching studio, a mode of education.

PROCEEDINGS OF

*... acoustic ecology ...
an international symposium*

March 19—23, 2003

Presented by the World Forum for Acoustic Ecology (WFAE)

Hosted by The Australian Forum for Acoustic Ecology (AFAE) and The Victorian College of the Arts (VCA)

In co-operation with The Goethe Institut Inter Nationes

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Murray Schafer in Melbourne, March 2003

Report on Spensley Street Primary School Workshops

Compiled by Helen Dilkes



Photo: Pam Westwood

Murray Schafer came to Australia in March 2003 to attend the Acoustic Ecology Symposium and to run a series of school workshops with children and adults. It was difficult to believe that he would make it to Melbourne, considering that at that time of year he had to clear snow and ice from his driveway in Indian River, Ontario, Canada just to leave his house. From his voice on the phone I could hear a sense of trepidation.

Murray requested three workshop sessions with a group of school students and adults—a maximum of 40 in the group. The context was to be Spensley Street Primary School in Clifton Hill, an inner suburb of Melbourne. Twenty five school students were to participate and the workshops were advertised to school teachers in the region, early childhood educators and university music education students and lecturers to comprise the other 15 participants. Following the workshops there would be a presentation by Murray and students at the Symposium.

A total of 23 adults registered to participate across the three-workshop days with the 25 students and it is regrettable that only one of those adults attended all three workshop sessions. A group of ten university student teachers attended the Symposium presentation.

Murray ran each two hour session in a relaxed manner—the children sensed the authority and experience in his voice; they enthusiastically and attentively explored phenomena of sound and listening. Some activities came from Murray's book, *A Sound Education*, but as he demonstrated and discussed, and as musicians and educators know, these are not just recipes for action, they provide ideas and inspiration for improvisation and lateral thinking.

He talked to the adults at the end of each session with wisdom and warmth. For the younger adult participants the concepts were new and innovative and for others Murray's words were affirming of their current practice. Other music educators had been tremendously influenced by Murray on his previous visit in the 70s and though the ideas are still fresh and exhilarating for them, this meeting took them to new levels of understanding about the work and it strengthened their "resolve to regard music as *sound* in the broadest context". An educator who was not familiar with Murray's legacy said to him "this is so exciting it is all so new and innovative" and Murray just shrugged and said "...well I've been doing it since the 60s"!

This highlights the major implication of Murray's visit to Melbourne. There is broad application for Murray's work in

sound, soundscape/acoustic ecology across disciplines, and there are new generations of teachers to educate in this vein. Many people see and hear the musical aspect of the work but do not venture into sound and soundscape.

Pam Westwood, the music teacher at Spensley Street Primary bought all of Murray's books, was overwhelmed by the workshop and Symposium experience and realised their value for both students and teachers in many subject areas. Murray raised the issue of acoustic ecology and placed the workshop experience within the broader context. However, he was dismayed that most adult participants were not committed to attending workshops for more than one session, and so missed out on the breadth of the ideas—the discussion about and contemplation of the broader context of the work.

The following words by participants express the impact of Murray Schafer's visit to Melbourne.

Helen Dilkes

*Co-ordinator of Schafer School Workshops
Treasurer, Australian Forum
for Acoustic Ecology*

Pam...

His introductory exercise was to play with the sounds of his own and the students' names. Movements were also added, so that by the end of the exercise the room was filled with an amazing array of consonant and vowel-sounds, which had been stretched, shortened and given melodic shape. His manner was relaxed and this put the students at ease, so that vocalizations were not difficult to achieve.

Some of the highlights of the three days for me were the following ear cleaning and ear tuning pieces: students were asked to sit anywhere in the room and close their eyes. One was chosen to stand up and make a sound either with their footsteps or with a sound brought along from home. While the student walked around the room making the sound, the rest of us had to indicate with our arm from where the sound was coming. Then Mr. Schafer added another sound, so that both of the



Photo: Pam Westwood

listeners' arms were indicating two different sound sources. This was quite tricky! Our brains were trying to track two sounds which were spatially separated and still moving all the time. As Schafer pointed out later, this type of exercise using just a single sound would certainly highlight any hearing disorders in students.

Another exercise was to have students stand around the room and then sit down **WITHOUT MAKING A NOISE**. Murray emphasized the importance of total silence in this movement. Of course, it took several attempts before they even came close to total silence, and anyway, was **TOTAL** silence possible, ever? This was a question Mr. Schafer posed to the students on a couple of occasions. He asked them whether it was possible to find a place of silence in the world. It made me reflect on my own teaching practice. We are always so busy in the music room making sound, why not make more silence?

The students really enjoyed a blindfold activity in which they were taken around the school grounds holding hands in a long chain, guided by Mr. Schafer and other teachers. They were lead around various areas, for a total of about fifteen minutes, and then brought back inside. The short thunderstorm made this activity all the more exciting! After removing their blind-

folds, students were then asked to show us the route on which they had been lead, relying only upon their auditory memory. They quite accurately described their journey.

For me, Murray Schafer's visit highlighted what real listening is all about: active, focused, discriminatory listening, not just allowing sounds to drift through our ears unconsciously. I was impressed by my students' ability to really concentrate and focus upon the most minute of environmental sounds. They were challenged as to what they consider to be interesting—really interesting—sounds. Our hearing must be one of the most abused senses of the human body, yet little attention is paid to the quality of our sound environment. I have now put all five of Murray Schafer's books in our school library, available to both teachers and parents of the school community.

Pam Westwood, Classroom music teacher, Spensley Street Primary School, Melbourne, Australia

Joanne...

I was to attend a music workshop. I assumed that the title 'ear cleaning' lent itself to activities that would involve participants listening to their own and others' singing voices. I was wrong. The workshop itself involved us, the teachers, few in number, assisting Murray in actually

'cleaning the ears' of children in the primary school, in which the workshop was held. No, not with cotton buds, but in the space of 2 hours, Murray seemed to have succeeded in his goal of making students aware of the amazing plethora of sounds that usually go unnoticed, not to mention mathematical aspects of location, space and time awareness. Activities required silence and observation of surroundings, and could be easily interpreted for classroom use. Murray concluded by explaining his rationale for these workshops to the teachers. Noise pollution obviously needs to be reduced but students need practice in identifying sounds, as well as developing awareness of elements such as those described above. Closing their eyes and eliminating noise in the classroom allows them to identify individual sounds and aspects of their environment.

Joanne Papisiriou, Student, Australian Catholic University

Paul...

What can I say about the "ear cleaning" workshops other than brilliant? And, why so? Firstly, as a composer and music teacher I have always valued the significance of creative music making. R. Murray Schafer's writings have constantly emphasised the importance of allowing children to create, and to see him personally advocate and implement these views was very uplifting. Especially memorable was Murray's observation that, until about the age of 4 children do not make a clear distinction between life and art. However, from that time onwards art (including the performing arts) is partitioned and restricted to specific time-slots. This age corresponds to the time when formal, prescribed education begins for children.

Secondly, Murray's views and approaches re-affirmed and validated my own attitudes. I had been exposed to and convinced of the merits of Murray's work in the music Dip. Ed. at Monash in 2001. Additionally, I was a teenager during the 1960s (and yes, I do remember), and these truly were times when experimen-



Photo: Pam Westwood

tation, freedom of artistic expression and innovation were in full bloom. Murray reflects the spirit of that era, and in a way, is helping to keep alive some of the aspirations and ideas of that time.

Thirdly, Murray's attitude toward children and teaching always encapsulated a great sense of fun. His workshops were run using a combination of humour, light-heartedness and joy. As teachers, we all need as much of these attributes as possible in order to work effectively. Finally, because of Murray's status as a highly regarded author, composer and educator, he can "get away with." That is to say, he can use unconventional tools and techniques when teaching, without causing other parties to raise questions and doubts. This point is especially useful to some of us who have, at times, caused some colleagues to give us a confused, sideways glance when we teach creative music and movement. If this ever happens to you, hand over to your doubting colleagues a copy of any of Murray's books, but then make sure they return it to you.

*Paul Moulatlet, Music Teacher,
Merri Creek Primary School*

Cameron...

As a future teacher, I am well aware of the expectation to explicitly teach content from all of the 'Key Learning Areas'. However, music is undoubtedly a neglected part of the curriculum with teachers prone to allocating more time to Math and English etc. The Murray Schafer

workshop was a fantastic opportunity for myself to see how broad the scope of 'music' actually is. Participating with the children in various listening activities was a worthwhile experience as was hearing the responses children gave throughout the session. I thoroughly enjoyed the session with Mr. Schafer and feel more enlightened having participated.

*Cameron Flemming, Student,
Australian Catholic University*

Ros McMillan...

The visit to Melbourne by Murray Schafer was a wonderful experience for me and celebrated a 30 year 'love affair' with the philosophy and writings of this remarkable thinker. As part of the WFAE conference I attended the first workshop with the primary students as well as the Friday morning session where these students and conference delegates joined in a workshop together. It was enchanting to see Murray's books put into action and the audience/participants were equally enchanted. What struck me most, after 30 years, was how fresh the tasks sounded, and how easy it was to respond to an invitation to chant, sing and growl one's own name, how well the primary students responded and how my own students (all teacher trainees) saw delightful music-making occurring using only voices.

The workshop strengthened my resolve to regard music as sound in the broadest context and to make this message even clearer in my Method of

Teaching classes. Last week in class one of my students commented that the ideas I was espousing "sound really exciting but when does...?"—here he stopped. "Real music happen?" I asked, remembering Schafer's marvelous story in his book *The Rhinoceros in the Classroom* of the Principal who asked "Where does it all lead?" after one of Murray's sessions. I then told the story but in repeating Schafer's brilliant retort: "Anarchy, anarchy!" the student didn't laugh. I explained to him afterwards that this will never happen because most music teachers are far too timid to allow their students to do anything other than recreate the sounds of other people but he only looked puzzled. Clearly, the battle to persuade music teachers to consider their students' expressive lives as central to musical learning, rather than learning about other people's music, will never end.

So, to Murray Schafer, I am deeply grateful for giving me the strength to keep promoting creative music-making in all its forms and sounds.

*Dr Ros McMillan
Coordinator of Music Education,
The University of Melbourne, Australia
Member, Board of Directors, International
Society for Music Education*

Bronwyn...

It is without a doubt that the participants of Murray Schafer's presentation in Melbourne this year had their ears thoroughly cleaned! All audience members were encouraged to participate in activities which included saying our name in various ways; standing up without making a sound; following sounds with our ears and not our eyes; different ways in which paper can produce different sounds, discovering interesting 'found sounds' students had brought in to show. Overall, this seminar made participants aware of the use and abuse of sound in our society. As a teacher, this seminar demonstrated ways in which students can be taught to use and appreciate sound. It was a privilege to attend Murray Schafer's presentation, especially as he has been a leader in changing the way music is taught in schools around the world.

*Bronwyn Bedford, Student,
B.Mus/B.Teach,
The University of Melbourne.*

The Music and Sound Arts Program of Coimbra, Capital Nacional da Cultura, 2003

By Carlos Alberto Augusto

The year 2003 marks the birth of an important project created by the Portuguese Government called “National Cultural Capitals.” This project seeks a much needed change in the cultural landscape of the country through the creation of instruments that will lead Portuguese cities into a different cultural status. The project began in Coimbra with an event that occupies all of 2003 called *Coimbra, Capital Nacional da Cultura 2003*. I was invited to participate in this CCNC-2003 to curate the Music and Sound Arts Program. Together with a wonderful team of co-workers, namely the absolutely fantastic Coimbra 2003’s production team, we have been working hard to put together a coherent and far reaching music program. Here’s a sample of what we came up with and what still waits ahead of us...

Coimbra: Where drummers meet
As a composer I hold percussion very close to my heart because it is probably humanity’s true lingua franca. From June 16—28 Portugal’s most fantastic percussionists and percussion groups—classical, jazz, popular—met in Coimbra for a celebration of Portuguese Percussion Music. Groups from both Portugal and African Portuguese speaking countries participated in this event. The list of participants includes the Gaiteiros de Lisboa, WOC/’o Ó que som tem?, Drumming, Pedro Carneiro, Tim-Tim-Por-Tim-Tum and Djamboonda. Percussionist Quiné also performed with samplers and sequencers. A special “Ladies Night” took place featuring female percussion groups Tucanas, Adufeiras de Monsanto and Netinhas di Bibinha Cabral.

R. Murray Schafer makes Coimbra vibrate!

Coimbra Vibra!, a celebration of sound and music, took place in Coimbra on October 4. I invited R. Murray Schafer, the renowned Canadian composer, music pedagogue and creator of the concept of “soundscape”, to conduct *Coimbra Vibra!*. We kick-started the idea in April 2002 and formal preparations for the project started the following October with workshops in which over 100 teachers of the Greater Coimbra area participated. Workshops and rehearsals continued



Giant bamboo chimes built by Carlos Guerreiro

throughout 2003 with more participants, involving practically every musician, group, teacher and student in Coimbra—marching bands, choirs, Portuguese guitar orchestras, soloists, DJ’s, chamber ensembles, sonic sculptures, music-theatre groups, an orchestra of valve radios, folk groups, ensembles, giant bamboo chimes, water whistles and thousands of ping pong balls, police and fire engine sirens. All this work was designed to create a much needed acoustic consciousness that can transform both musicians, authorities and Coimbra’s inhabitants in general into active, sensitive and critical listeners of the environment—better listeners and with that perhaps better, more engaged citizens.

These preparations culminated in the final event on October 4, 2003. It involved over 1200 musicians and soundmakers, over 500 students and was attended by more than five thousand people throughout the streets and squares of old downtown and uppertown Coimbra. All of



Water sounds

Coimbra, its authorities, inhabitants and organizations participated in one way or another. It was a unique event. Pure magic! Utopia come true! Coimbra never has witnessed a musical event of this nature and magnitude before. In this extraordinary endeavor Schafer was assisted by Portuguese musician, music teacher, instrument builder and member of the popular group “Gaiteiros de Lisboa”, Carlos Guerreiro and a fabulous production team.

Prior to *Coimbra Vibra!* another event took place on June 16, that we called *Coimbrinha Vibra!*, a special project aimed at the participating teachers and respective students. It gathered over 1,200 children from 32 schools in a never before seen ritual of sound at the Choupal National Park in Coimbra.

Coimbra Vibra!: the city of Coimbra as the stage, audience and orchestra of a major musical and acoustic consciousness raising celebration!

Carlos Alberto Augusto: Portuguese composer. Curator of the Music Program Coimbra 2003. Studied with R. Murray Schafer and Barry Truax. Worked in the area of noise control. Writes music for the stage: theatre, theatre-music, an opera is in the works. <<http://www.euphonium.pt/augusto/ccnc2003.html>> for the stage: theatre, theatre-music, an opera is in the works. <<http://www.euphonium.pt/augusto/ccnc2003.html>>

Photos: Carlos Alberto Augusto and Mónica Jardim

Sound as Space Creator: frequency, architecture & collaboration

By Brandon LaBelle

As a participant in "sound as space creator" at *Disturbances*, a festival on sound, space and movement held in Copenhagen in June of 2003, I was excited and curious about the possibility of working through the relation of sound, as both found phenomena and cultural medium, to space, as an architectural and environmental potential.

Disturbances was a festival comprised of workshops, concerts, performances and projects with the aim of providing a context for experimentation in dance and the movement arts, sound and musical practices, and their positioning within various spatial contexts through interdisciplinary cross-over. Artists, composers, performers, musicians, dancers and choreographers teamed up to explore ideas and new work.

"Sound as space creator" is a project developed as part of *Disturbances* and was curated by Carl Michael von Hausswolff, a Swedish sound artist working for many years on the borders of the visual and sonic arts. The project was presented at the Charlottenborg Exhibition Hall in Copenhagen and facilitated by Charlotte Brandt, a curator at Charlottenborg. Structured upon the idea of creating a spatial sound installation at the Exhibition Hall, thirteen participants were invited to participate by working on-site to produce a collaborative sound work in which authorship would be determined by group effort. Each participant was assigned a "zone" within the Exhibition Hall, roughly 7 meters square, and a range of frequency, between 0 and 11,000Hz, with which to produce a sound piece. As a final presentation each zone was equipped with its own sound system and CD player from which the individual participants' works would be amplified. Such a strategy offered an element of autonomy to each participant, while creating the possibility that any "interference" between works would only function to heighten the acoustical experience. That is to say, the sound installation functioned *through* interference by creating overlaps, overtones, intersections and deflections across the frequencies.



Photo: Brandon LaBelle

Hans Sydow preparing audio work

The participating artists in the project were:

TOMMI GRÖNLUND
sound artist/Finland; 5000-11000Hz
MIKE HARDING
producer/UK; 250-350Hz
JACOB KIRKEGAARD
sound artist/Denmark; 90-140Hz
BRANDON LABELLE
sound artist/USA; 2000-5000Hz
PER MAGNUS LINDBORG
composer & sound artist/France; 350-500Hz
PETTERI NISUNEN
sound artist/Finland; 5000-11000Hz
BENNY JONAS NILSEN
sound artist/Sweden; 65-90Hz
FINNBOGI PÉTURSSON
sound artist/Iceland; 0-25Hz
FRANZ POMASSL
sound artist/Austria; 25-65Hz
HANS SYDOW
composer/Denmark; 1000-2000Hz
JIM G. THIRLWELL
sound artist/USA; 140-180Hz
KENT TANKRED
sound artist/Sweden; 180-250Hz
JANA WINDEREN
sound artist & producer,
curator/Norway; 500-1000Hz

For one week we all worked in the space, creating sounds that would function as independent works while contributing to the overall installation experience. Working within frequency ranges inevitably led to a deeper consideration of musical composition in so far as the limitation initiated a more profound sense of sonic definition. Whether field recording, musical instrument, sampler, or sine wave generator, sounds were understood, considered and charted according to their frequency. Kent Tankred worked with slowly shifting frequencies that moved through the stereo field and then out again, creating an unsettling directional confusion; Jim Thirlwell and Benny Nilsen produced more rhythmic works, creating warm envelopes of drones punctuated with pulses; Per Magnus Lindborg made field recordings in the space itself by setting up a feedback loop, then filtering out all sounds that extended outside his frequency range. In this regard, participants set about to individually create work, through their own process, and then adjust, redo, or break apart their work in response to the sounds of others, which could be heard randomly throughout the week as the project developed.

In turn, each audio work's interaction with the others often created complex overtones, multi-directional diffusion, and intermeshing beat patterns that existed in the actual space itself, upon amplification, thereby shifting one's listening attention from the "musical object" to the environmental condition in which the object was situated. The generation of space through sound thus occurred on multiple levels, from the acoustical reverberations through architecture, as well as the compositional interaction that can only unfold durationally, as one walked through the space, entering the various zones of sound. In this regard, sound's "ecological" pertinence took on real shape in the actualization of the project: the community of participants, and our internal decisions, mirrored or paralleled the audio works' conversational collaboration as they spoke to each other, across the frequency band and inside the architecture. The sounds *spoke* as a community.

It was this "community of sound" that became the real meaning of the installation, and suggested a kind of structure, which could serve as both a model for future exhibitions in which sound is presented—whereby any notion of interference would be absorbed and invited into the overall experience—and as a sugges-

tion as to how one may practice, as a sound producing body, in the social environments of everyday life. For the installation project generated its own environment through decisions that were as much directed by what others did and their sounds, as what one produced individually. The table, the speaker system, the zone in the space, each functioned to provide and support individual opportunity—to foster one's own aesthetic and philosophical interests (no directive was given as to the kinds of sounds one should use, or the quality of sonic events we were after)—while at the same time binding each autonomous element to a greater environmental and sonic project. As von Hausswolff proposed, the project was based on a notion of collectivity that doesn't overshadow the individual. Thus, each participant was implicated into the greater whole, not so much through democratic imperative in which majority always rules, but through nurturing an extension of individual will to a broader field of cooperation. For in a sense each participant extended themselves beyond their respective individual practice and concerns, as a way to meet the others *in* the space, and *through* the sounds. The exhibition space not only functioned as an architectural acoustical partner, through its reverberant presence, but also

as a meeting point for cooperation. Though this is not to say that what resulted was of a utopian nature, in which each participant or sound was represented fully, for in the resounding frequencies intermingling and intermeshing, beating against walls, surprising the ears from every perspective, any sense of musicality often bled into cacophony. Participation here also entailed the possibility of ignoring what others did—to, in a sense, interfere consciously with the intention of disturbing or displacing a set of sounds, overriding them, or taking possession of a larger area of space. Maybe this in the end provides a way to think through what it means to work collaboratively through sonic experimentation—that the framework of music is just as much about conflict and the potential of noise, as it is about resolution and harmonic generosity.

Brandon LaBelle is an artist and writer. He is the co-editor of *Writing Aloud: The Sonics of Language* (with Christof Migone) and *Site of Sound: Of Architecture and the Ear* (with Steve Roden), both published by Errant Bodies Press, Los Angeles. He is currently completing his PhD on the topic of "sound art and social space" at the London Consortium.



Photos: Brandon LaBelle

Left: Finnbogi Pétursson testing vibrations. Right: "sound as space creator" installation

Listening and Walking in Nauvo with Steven Feld

by Helmi Järviluoma

Nauvo, Finland

Sunday May 18, 2003, 10 a.m. to 12 noon
The sky is partially cloudy and occasionally the wind blows quite hard. At the church yard the mixture of birds, ravens, and organ music is beautiful. The sounds echo off the stone walls. Just before we entered the yard, the church bells rang, and Steven recorded it.

The church door squeaks. The organist is rehearsing. There are pauses, and then the music starts again. A woman is putting up metallic numbers on three boards, the numbers of hymns. A nice clicking sound, intermingling with the sound of the organ and the ticking of the grandfather clock in the front of the church.

Steven stops, first, to listen to the organ, recording with his microphones. Then he moves along the aisle towards the clock and the clicks of the metallic hymn numbers, and finally, as we move back towards the main entrance, he records the organist again. We can hear her go through the sheet music, turning pages rapidly, making noises, playing, stopping, starting again. Sometimes I smile when the organist makes a mistake, and is obviously searching for a good cadence.

Later on, Steven comments that the recording came out very nicely. Almost like a detective story. First, the soundscape described above, then my voice asking, "Would you like to talk to her?" Then the sounds of the old, wooden stairs as we climb up to meet the organist, and finally, we talk to her: about the organ, about the program for the two forthcoming services of that particular Sunday. She had to rehearse two sets of hymns. First, for the Swedish-speaking service at 11 o'clock, and then another set for the Finnish-speaking service at 12.30. As some of you may know, Nauvo is situated in the archipelago off the Turku coast, and has a Swedish-speaking majority. Also, she tells us that after the first service there will be a ceremony at the grave-yard commemorating World War II, since it is the Day of War Veterans. We decide to

come back.

We leave and take the same path as I have taken before with guests.¹ It is very silent indeed. However, just after passing the shops, there is a familiar hum, which, I gather, comes from the ventilation system of the sports hall & library building. Steven suspects that the electrical wires are the source.

Birds, a boat knocking against the wooden pier. Birds are the figure, distant cars the ground. We have soft shoes, they make little sound. Only a few other people are walking: a young couple pushing their baby, a woman's sportsdress makes a muffled sound. One lorry, one airplane. A dog barking in the distance. A woman comes out of a house and lets water flow from a tap in the garden into a big plastic tub: a plastic splashing sound. She pours the water onto the ground and washes the tub.

The Swedish service is attended by about 30 people, two of them youngsters. I presume they have to attend because of their forthcoming confirmation ceremony. The voice of the young priest is not pleasant, and the microphone does not improve it. People sing the hymns with quiet voices, but they hit the notes well. I sing too. The ticking of the grandfather clock can be heard occasionally. The priest makes an interesting mistake: "do not love the other as you love thyself"...

Fewer people attend the veteran ceremony at the grave-yard. People look at us, especially Steven, curiously. At points my own status as an outsider makes me smile. The priest and the veterans put flowers beside the memorial stone of the war victims. Hymns are being sung. Two ravens, building a nest under the roof of the church, enter into a loud dialogue, and later on, Steven said that the recording came out very well: the louder the ravens discussed, the louder an old lady beside him sung her hymn.

He said that this was the most pleasant soundscape of the whole day—later, when we had coffee in the bar of the gasoline station. The most unpleasant, for

him, was the loud electric hum when we did our listening walk. For me, the most pleasant sound was the combination of the organ, the clock and the metallic clicks of the hymn numbers in the church. The almost soft, barking communication of two eiders across the sea late in the evening by Nauvo beach would compete for the place of the most pleasant sound of the whole trip. The most unpleasant, for me, was something I heard just then in the bar. A young boy was playing with the food ordering number, and the plastic broke with a distinct crack. The boy, perhaps five years old, raised his gaze slowly, and met his father's eyes. The father did not say anything at first. That silence was the most unpleasant sound of the day for me. The family included a younger girl and the mother, as well. The mother soon brought two large bowls of fried potatoes and sausages for the kids—Daddy, could we ask for glue so that this number could be fixed?

Sounds are not only sounds, they tell us stories. Immediately, I came up with a story about the family. I looked at their tired faces and sports clothes and figured out, that they must be sailors, whose boat is now at Nauvo guest harbour. The children were hungry and tired. The father seemed to be worn out as well. Perhaps, on top of everything, it had been cold in the boat during the night. The french fries and sausages at Nauvo gasoline station would be a gourmet dish, in that situation.

1. See, for example, Nauvo sound diary by Justin Winkler in *Soundscape—The Journal of Acoustic Ecology*, Vol. 2 Number 1, Summer 2001, page 23. More from Nauvo: <http://www.6villages.tpu.fi> (see News archives).

Helmi Järviluoma is a docent and lecturer at the University of Turku, Finland. She is the head of the project *Acoustic Environments in Change*, and the chair of the Finnish Society for Acoustic Ecology.

Sound Bites

Study Suggests that Loud Noise Affects Brain Development

University of California, San Francisco, researchers raised a group of rats in an environment of continuous background noise and found that the circuits within the brain receiving and interpreting sound did not develop at the same rate as animals that were raised in a quieter environment. It was found that continuous noise delayed the organization of auditory neurons during the critical two to three week period after birth. In rats not exposed to noise, the auditory cortex neurons during this period gathered into a smaller area and began developing a selective response to sounds.

Although the rat is not a perfect model for what happens in humans, the authors note, that, "These findings suggest that environmental noise, which is commonly present in contemporary child-rearing environments, can potentially contribute to auditory and language-related development delays." The authors, as published in the journal *Science*, noted that although the brain development was delayed in rats exposed to the noise, their brains did eventually mature normally. *Source: Associated Press*

Mac Computer User Fights for Quieter Life

San Francisco filmmaker Richard Hofer, according to Leander Kahney writing in *WIRED*, had great difficulty getting Apple to admit the fan in his new PowerMacG4 was exceedingly noisy. Apple kept responding that the machine was within acceptable noise levels. Hofer, continuing to be driven crazy by the fan noise, found that others who had purchased the recently introduced machine were having the same problem. He initiated a pressure campaign. The result was the launching of his web site G4noise.com that quickly became the meeting place for disgruntled wind-tunnel owners from all over the world.

The slick website attracted hundreds from more than 25 countries. Over time, it grew into a vast repository of information about the PowerMac G4, detailing troubleshooting tips and fixes, stories and pictures, and, of course, a lot of good, old-fashioned complaints.

The campaign paid off. Without recognizing the efforts of Hofer, Apple announced an exchange program for owners of the last-generation PowerMac G4s (those with mirrored drive doors). For \$20, Apple would replace the original power supply and fan with new, quieter models. Hofer is pleased the exchange will take place but was miffed that Apple made no mention of his grassroots' efforts to move the company to change. *Source: WIRED.com*

New York City Nixes Cell Phone Use

The New York City Council approved a bill in December, 2002, that would ban the use of cell phones at public performances from Broadway shows to highbrow art galleries to Madison Square Garden concerts. The legislation, which would create one of the

nation's strictest cell phone bans included concerts, movies, plays, lectures, dance performances, museums, libraries and galleries. Cell phone use is still permitted at sporting events, such as basketball arenas and baseball stadiums.

The legislation requires venues to announce the ban to audiences before each performance or to post signs stating the prohibition. Cell phone use would be allowed in emergencies. Talking on a cell phone, listening on one or even having one ring during a performance constitutes a violation and a \$50 fine. The Cellular Telecommunications & Internet Association, an international organization for wireless service providers and manufacturers, maintained that cell phone etiquette should not be legislated. *Source: Associated Press.*

Full story: <http://www.wired.com/news/wireless/0,1382,56930,00.html>

Noise and Quality of Life

No one need tell you that the world is getting louder. From jackhammers and jet planes to leaf blowers and lawn mowers, a dizzying array of modern devices shatters the silence in cities and suburbs alike. Some like it loud: Many motorcycle riders and hot-rodders customize their bikes for maximum aural impact, and theaters crank up the volume of movie trailers to get audiences' attention.

Other folks crave a quieter world such as Ted Rueter, director of *Noise Free America*. He has found his righteous cause—fighting noise—while living in a Southern California suburb that he called "leaf-blower hell." Noise Free America's expansive legislative agenda calls for actions—outlawing gas-powered leaf blowers, punishing owners of barking dogs, impounding loud cars and so forth—that might seem radical "until people think about it," Rueter said. He prefers to characterize the agenda as "comprehensive." In fact, some of the group's more radical proposals already are in effect in some cities. Chicago impounds automobiles for noise violations. New York City's Operation Silent Night targets "escalating clamor" with vehicle checkpoints and other tactics.

Today's noise-rich environment can cause physical trauma that leads to hearing loss and tinnitus, phantom "head noise" that can prove debilitating. A good number of the 28—30 million U.S. residents who suffer some loss of hearing do so because of noise. Be that noise in the work place or due to a lifestyle choice that includes being around noise producing sources such as hunting rifles, jet skies, loud concert and club music and many other sources each day.

Source: WIRED.com

Full article by Lewis Wallace can be found at: <http://www.wired.com/news/medtech/0,1286,57564,00.html>

Researcher Confirms Fetus Can Learn In Womb

A study published in a recent issue of *Psychological Science* by Queen's University nursing professor Barbara Kisilevsky, a team

of psychologists at Queen's and obstetricians in Hangzhou, China confirms that fetuses are capable of learning in the womb. While previous research has shown that newborns prefer to listen to their mother's voice to that of a female stranger, the new study indicates that learning begins before birth.

"The fetuses learn about their mother's voice in the womb and then prefer it after birth. Our findings provide evidence that in-utero experience has an impact on newborn/infant behaviour and development and that voice recognition may play a role in mother-infant attachment." The findings also suggest that the foundation for speech perception and language acquisition are laid before birth, says Kisilevsky.

Along with researchers at Zhejiang University in China, Kisilevsky tested 60 fetuses at full term. Half were played a two-minute audiotape of their own mother reading a poem, while the other half were played the voice of a female stranger reading the poem. The researchers found that the fetuses responded to their own mother's voice with heart-rate acceleration and to the stranger's voice with a heart-rate deceleration. The responses lasted during the tape and for at least two minutes afterwards.

"These results tell us that the fetuses heard and responded to both voices with sustained attention," says Kisilevsky. "... because they responded differently to the two voices, we know they had to recognize their own mother's voice. We believe they are probably already learning about language in general and their own language specifically."

Kisilevsky's team is now investigating fetal response to the father's voice as well as the ability of the fetus to differentiate between English and Mandarin. In 2000, the team proved that fetuses hear by the third trimester of pregnancy. *Source: Canadian Press*

Samsung Develops Ear Bud Microphone

Korea-based Samsung is to produce the first combined ear-based system that contains both a transmitter and a microphone. It picks up the sound of speaking directly via the user's head, filtering out some 90 percent of the background noise. It is based on the principle that "when we speak, our heads act as natural resonance chambers. That's why, for example, singers use earplugs: so they can hear their own voice better when on stage."

The ear bud will be available later this year, in both a wired and a Bluetooth version. The latter option could be well suited to mobile phone users on the move, allowing them to conduct a call without having to hold either the handset or another microphone to their mouths. *Source: Graeme Wearden ZDNet*

Saving Sounds that Define Us

The U.S. Library of Congress has created a national registry of sounds. Included amongst the 50 items in this initial collection are President Franklin Roosevelt's fireside

Sound Bites (continued)

chats, Duke Ellington's music and the Rev. Martin Luther King's "I Have a Dream" speech. Under a law passed in 2000, the new registry must "maintain and preserve sound recordings that are culturally, historically, or aesthetically significant." Those items include records made by inventor Thomas A. Edison in the 1880s and the first recordings of American Indian music.

The registry is an addition to the 2.5 million sounds already preserved by the Library of Congress, everything from the huffing and puffing of a steam locomotive to instructions for teaching a parakeet to talk. There's also President Theodore Roosevelt denouncing corporate swindles, Robert Frost reading his poetry and "Buffalo Bill" Cody urging war with Spain over Cuba.

The library isn't the only government repository for sounds; the National Archives and Records Administration has tens of thousands of hours of Capitol Hill speeches, committee hearings and other events. But the library's collection is the most dynamic and diverse. About 100,000 recordings, new and old, arrive in an average year. The collection has grown so large that the sounds, along with the library's enormous photo archive, will be moved to a new 41-acre complex in Culpeper, Virginia, about 70 miles southwest of Washington. Storage space is being built into the side of a small mountain, with construction aimed at completion in three years.

Anything stored in Culpeper will be accessible via computer at the library's Madison Building in Washington. The library, in conjunction with the Smithsonian Institution, has a pilot project called *Save Our Sounds* that seeks to preserve recordings such as those made on wax cylinders by inventor Thomas A. Edison and others done on acetate discs in the early 20th century. *Source: CBS News.*

Full story: <http://www.cbsnews.com/stories/2003/01/27/tech/main538093.shtml>

Sonic Doom

At least half a dozen dead porpoises washed up on beaches in Washington state and British Columbia in early May, spurring speculation that they were killed when the USS Shoup, a Navy destroyer, used its high-intensity sonar as it traveled near the San Juan Islands off the Washington coast.

Observers reported that as many as 100 porpoises leapt through the water at high speed in an attempt to get away from the sound; about 20 orcas and a minke whale were also seen fleeing. The blasts of sound could have damaged the sensitive hearing of the marine mammals, which would impair their ability to navigate and find food. The US Navy has come under criticism for using this type of sonar, which some scientists believe led to the deaths of seven beaked whales and the beaching of 17 others in the Bahamas in 2000. But what troubles environmentalists more than these incidents is legislation being pushed by the Bush administration that would exempt the military from environmental laws, including the Marine Mammal Protection Act. *Source: Environmental news from GRIST MAGAZINE 13 May 2003*

Was Maya Pyramid Designed to Chirp Like a Bird?

Researchers are studying why, when you clap your hands in front of the 1,100-year-old Temple of Kukulcan, in the ancient Mayan city of Chichen Itza, it sounds like a bird. David Lubman, an acoustical engineer believes the Mayan's may have built their pyramids to create specific sound effects. A handclap at the base of a staircase generates what Lubman calls a "chirped echo"—a "chir-roop" sound that first ascends and then falls, like the cry of the native quetzal bird. *Full story: http://news.nationalgeographic.com/news/2002/12/1206_021206_TV_MayanTemple.html*

US Navy to Defend Sonar in Court

For more than a year, the U.S. Navy and environmentalists have been in close combat over sonar and its effect on marine mammals. The battle now moves to the courts. The Navy says it needs a wide berth to test its controversial, ultra-loud, low-frequency sonar system. The Natural Resources Defense Council, or NRDC, and other green groups counter that the military has to be more mindful of whales and other marine mammals when it runs the tests. Whales depend on their ears to make their way around the oceans, after all. The sonar in question can be as deafening to marine mammals as a Saturn V moon rocket.

Everyone in the case agrees that there's a national security argument for active sonar systems like LFA. Submarines are the ultimate stealth weapons and the greatest danger to American military and commercial ships, the Navy notes on its LFA website. "An undetected enemy submarine is an underwater terrorist, threatening any surface ship or coastline within its range."

Today's potential adversaries—namely North Korea, Iran and China—have subs that are considerably smaller and less noisy. The Navy contends the only way to find these is by using active sonar—a rig that sends out blasts of sound waves into the water and detects reflections off objects, giving away their location.

At least eight whales were killed in the Bahamas when the Navy tested its "53 C" active sonar in March 2000. A Navy program meant to spot ships in coastal waters is using a version of that technology, as well as adaptations of the noisy air guns used in oil and gas exploration.

With eight deafeningly loud speakers, LFA can produce up to 240 decibels of sound, according to Joel Reynolds, an NRDC attorney. That's the equivalent of standing next to a Saturn V rocket at takeoff, he said. That's near the sonar array. But water tends to carry bass tones, like LFA's, tremendous distances. So even hundreds of miles away, LFA is still heavy-metal-concert loud at 140 decibels.

Whales rely on their ears a lot more than humans. They use them to find mates and places to feed. So it's assumed that the loud sounds are even worse for them. But the fact is, "we don't know how these sonars affect whales," said Bob Gisiner, who runs the

Office of Naval Research's marine mammal study programs. "We know they're loud. But there are other loud sounds in the ocean."

Full story at: <http://www.wired.com/news/politics/0,1283,59426,00.html>

Heathrow Night Flights Disturb Sleep

Residents living under the Heathrow flight path have failed to get a ruling upheld which could have led to a ban on night flights. The European Court of Human Rights ruled in 2001 that flights between 23:30 BST and 06:00 BST violated the human rights of eight people living around the West London airport by disturbing their sleep. But the government has won an appeal against that ruling. It said an end to night flights would have a major impact on British airlines and give rival European companies an unfair advantage. It was estimated that the extra cost to British Airways alone of switching flight times could have been as much as £320m.

The anti-aircraft noise group HACAN ClearSkies, which brought the case to the European court, was encouraged by what it interpreted as a ruling that it should be allowed to pursue the case in the UK courts." The court ruling can be read at: <http://www.hacan.org.uk/learn/ECHRJudgment.htm>

Full story: <http://news.bbc.co.uk/1/hi/england/london/3053106.stm>

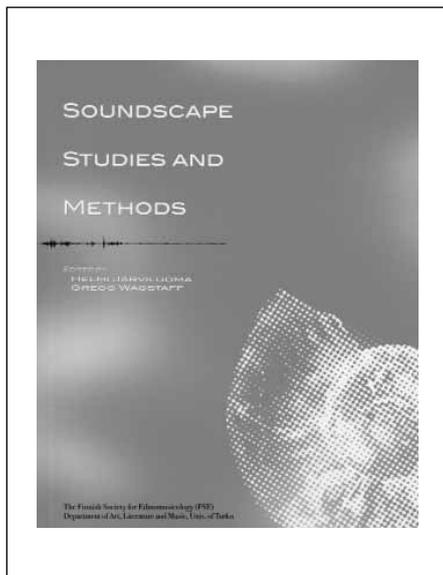
Cell Phone Ringtones Go Natural

The British Library's sound archive will soon be heard on a cell phone near you. British Ringtone specialists iTouch and Mobiletones have bought the sounds and converted them into short sound loops that can be used as a ring tone. The library has sold 40 of the 100,000 sounds in its archives, including the noises made by bellowing hippos and cobras attacking. Some of the ring tones can be downloaded already and others will become available later in the year.

"We have a vast collection of wildlife sounds at the library, including British wildlife and more exotic birds and animals from the Amazon to the Serengeti," said Richard Ranft, the British Library's curator of wildlife sounds. "We are delighted that these sounds are now being used as ring tones as it allows the British Library to reach a new generation and increases access to our collections."

The British Library had been approached by a range of mobile companies in the past but did not allow its collections to be used until the technology was available. The current top of the range mobile phones provide far better audio quality than before. The library has not ruled out offering more animals sounds from its archives if the first batch proves popular. The British Library is hoping to generate some cash from the sound file sale as ring tones are hugely popular and generate more than £2.5bn per year worldwide. *Full story is available on line at: <http://news.bbc.co.uk/1/hi/technology/3051594.stm>*

Resources



BOOKS, ARTICLES AND TEXTS

Soundscape Studies and Methods

eds. Helmi Järvioluoma & Gregg Wagstaff
Finnish Society for Ethnomusicology Publ. 9
University of Turku Department of Art,
Literature and Music, Series A 51
Kerttuliinkatu 1, 20014 Turku, Finland
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Fax: +358 2 333 666
E-mail: tykk@utu.fi
Price: 25 Euros plus bank costs (if you don't
pay by credit card)

This collection of essays, edited by Helmi Järvioluoma and Gregg Wagstaff, will be essential to anyone interested in the sonic environment. A growing ecological awareness in the later half of the 20th century has given rise to a widening concern for the state of our soundscapes. The last few years have witnessed promising developments in soundscape studies, and this book is the first collection to focus upon soundscape research methods. The contributors to this volume form an international and multidisciplinary team of researchers, from Architecture, Ethnomusicology, Sonic Art, (Time) Geography, Biology, Sociology and Urban planning —Helmi Järvioluoma, Gregg Wagstaff, Albert Mayr, Keiko Torigoe, Björn Hellström, Nicolas Tixier, Per Hedfors, Per G. Berg, Justin Winkler, Noora Vikman, Heikki Uimonen, Detlev Ipsen

Listen to the Raindrops

A poem with pictures for school age children and their parents
By Arline Bronzaft
Illustrated by Steven Parton
Publ. League for the Hard of Hearing.
50 Broadway, 6th Floor, New York, NY 10004
Tel: 917-305-7700 (Voice) · 917-305-7999 (TTY)
Fax: 917-305-7888 (Fax)
Website: www.lhh.org/noise
US \$9.95 plus \$4.50 shipping and handling in the continental U.S.

Please add \$10.00 shipping and handling for overseas orders.

By mail, enclose a check or money order made out to: League for the Hard of Hearing Publications

The League for the Hard of Hearing proudly presents *Listen to the Raindrops*. This delightful new book with 15 color illustrations introduces children to the delights of every day sounds through the antics of a young mouse, and alerts them to the bad sounds that can hurt their ears. *Listen to the Raindrops* opens the door to noise awareness, the joy of sounds, and the need to protect our precious hearing. This charming poem and family of mice present an opportunity to giggle, share, and learn about good sounds and harmful sounds.

Writing On Air

eds. David Rothenberg and Wandee J. Pryor
MIT Press, 2003
\$29.95 hardcover
288 pages, 28 illustrations
ISBN 0-262-18230-0
Available wherever books are sold

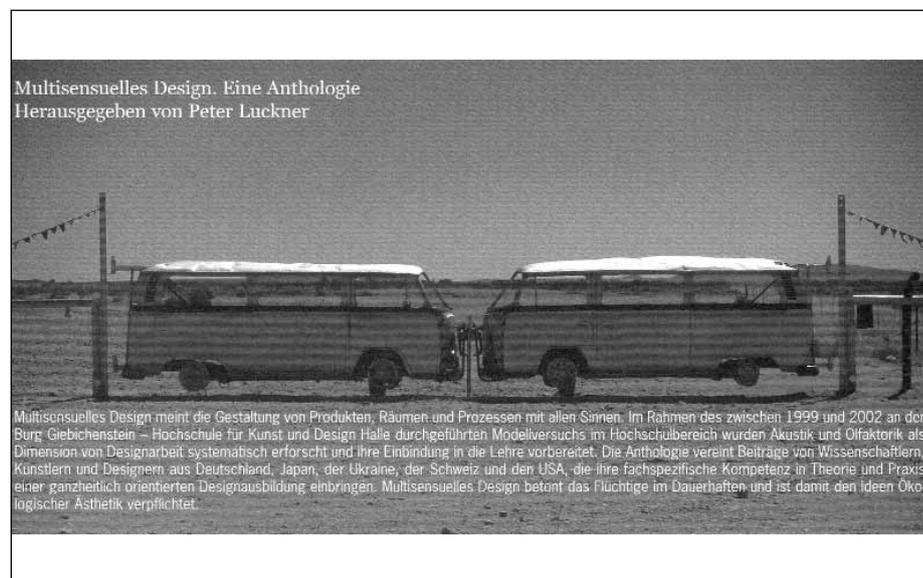
For centuries, humans have tried to master air. Sea captains rein it in with their sails, and pilots cut through it with their wings. We have machines to pump air into our lungs and computers to anticipate the movement of the winds. Air pervades everything we do and gives us life, yet it is impossible to

Herzog, Howard Mansfield, Sarah Menin, and C. L. Rawlins; an excerpt from a play by Carl Djerassi and Roald Hoffmann on the discovery of oxygen; poems by Lori Anderson, Tõnu Õnnepalu, Andrew Schelling, and Virgil Suárez; and art and photography by Manuel Acevedo, Stuart Allen, Marsha Cottrell, Susan Derges, the Korwa tribe of the Indian hills, Arno Rafael Minkkinen, Tuula Närhinen, and the airborne dancers of Project Bandaloop.

Multisensuelles Design. Eine Anthologie

Edited by Peter Luckner In English and in German
Burg Giebichenstein, Hochschule für Kunst und Design Halle
720 pages plus supplement
Cost: 40 Euros, with supplement 65 Euros
Contact: pluckner@burg-halle.de

Multisensuelles Design meint die Gestaltung von Produkten, Räumen und Prozessen mit allen Sinnen. Im Rahmen des zwischen 1999 und 2002 an der Burg Giebichenstein, Hochschule für Kunst und Design Halle durchgeführten Modellversuchs im Hochschulbereich wurden Akustik und Olfaktorik als Dimension von Designarbeit systematisch erforscht und ihre Einbindung in die Lehre vorbereitet. Die Anthologie vereint Beiträge von Wissenschaftlern, Künstlern und Designern aus Deutschland, Japan, der Ukraine, der Schweiz und den



capture. We can only evoke it through images, impressions, and feelings. This book offers a collage of such evocations expressed through prose, poetry, photography, and drawings.

From aerial plankton to Navajo wind gods, from joyful singing to painful emphysema, from gentle breezes to violent storms, *Writing on Air* creates a fresh way of thinking about the role of air in our everyday lives. Included in the book are prose pieces by poet Hayden Carruth, paulo da costa, Kristjana Gunnars, filmmaker Werner

USA, die ihre fachspezifische Kompetenz in Theorie und Praxis einer ganzheitlich orientierten Designausbildung einbringen. Multisensuelles Design betont das Flüchtige im Dauerhaften und ist damit den Ideen Ökologischer Ästhetik verpflichtet.

Autoren sind unter anderem Walter J. Freeman und Jürgen Kremer (USA), Takeshi und Miho Yamagishi (Japan), Andres Bosshard (Schweiz), Alex Boicuk (Ukraine), Hildegard Westerkamp (Kanada), Peter Kiefer, Anselm Goertz, Karl-Heinz Bork,

Roman Ferstl, Hans U. Werner, Friedrich Blutner, Peter Kammermeier, Rainer Funke, Rainer Groh, Jörg U. Lensing (Deutschland) Matthias Götz, Rainer Schönhammer und andere Hochschullehrer sowie Studenten der Burg Giebichenstein. Im Supplementband sind Duft- und Geräusch-Arbeitsproben von Studienarbeiten der BURG-Studenten enthalten.

Forthcoming: History of Sounds in Finland

The Turku Society for History has agreed to publish a book on the topic of the history of sounds (in Finland). The editors of the book are MA Outi Jokinen, who recently finished her thesis on noise and modernisation, and MA Kaarina Kilpiö, who is studying the history of advertising through sound. The writers of the book include both senior researchers and younger scholars. The book will be published in the series *Historia Mirabilis* in Autumn 2004.

Sense, Symbol, and Soma: Illness Experience in the Soundscape of Everyday Life

By Komatra Chuengsatiansup
In: *Culture, Medicine and Psychiatry* 23: 273-301, 1999
Kluwer Academic Publishers.
Health Socio-Cultural Policy Unit
Bureau of Health Policy and Planning
Office of Permanent Secretary
Ministry of Public Health
Nonthaburi, 11000, Thailand
komatra@health.moph.go.th

Abstract: This article explores the lived experience of women suffering from an illness prevalent in the Kui communities of Northeast Thailand. The symptoms, ranging from loss of appetite to chronic fatigue, were typically triggered by being exposed to certain kinds of sounds, such as motorcycles, quarrelling neighbours, or carousing drunkards. I examine the illness experience as it was constituted in the soundscape of everyday life to reveal how the meaning-endowed sounds aggravated the feeling of being vulnerable and defenseless. The felt immediacies created by the audio-somatic experience were reconceptualized within the indigenous somato-psychic framework as a form of illness. By examining the life histories and illness experiences of individuals who were rendered vulnerable and defenseless, the study reveals how symbols that carry political significance, the body as a cultural form of memory, and the senses combine to create a specific mode of being-in-the-world. Sense, symbols, and somatic processes combined to create an illness experience out of felt immediacies of the Kui's socio-political predicament of marginality.

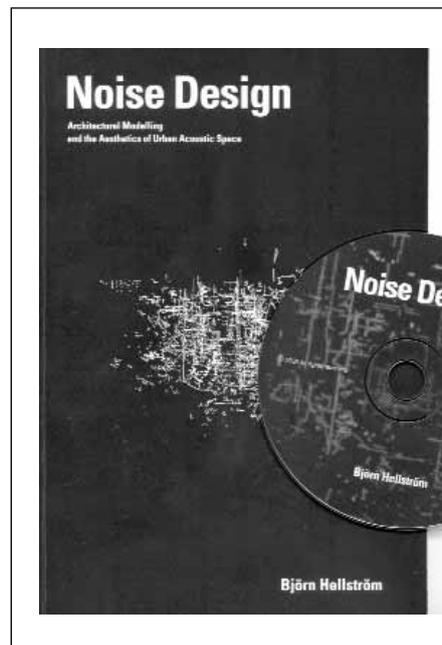
The Mayor's Draft London Ambient Noise Strategy

<http://www.london.gov.uk/mayor/strategies/noise/index.jsp>

Noise is a problem for many Londoners. The Mayor's strategy is part of a Europe-wide move towards more active management of what legislation calls 'ambient' or 'environmental noise'—long term noise, mainly from transport sources. Your London borough can often help with individual local problems such as noisy neighbours, construction works, pubs and clubs, and other

local nuisances. The Mayor's strategy focuses on better management of transport systems, better town planning, and better design of buildings. Early priorities include lower noise road surfaces. Many other measures, and new funding, will be needed.

In July 2002 the draft strategy was sent



to the London Assembly and to the GLA group of organisations for their observations. In March 2003, the public consultation draft was published. The full document, a shorter 'highlights' version, and a leaflet, may be downloaded free of charge using the links below. The 'highlights' version contains a list of noise helplines.

Pamphlet on Noise and Hearing Life Can Be Loud: Know Your Hearing Protection

<http://www.aearo.com/html/industrial/tech01.asp#pamphletonoise>

An ear-catching booklet targeted toward the interested adult consumer who wants to know more about noise, how to measure it, when it is dangerous, and how to protect oneself from its harmful effects. Provides information on how to measure hearing sensitivity as well as the effects of age and noise on hearing, and reviews various types of hearing protection devices available today. Can be downloaded in a pdf reader-friendly format, or a pdf format suitable for creating a 12-page 2-sided 8" x 5" booklet.

Children and Noise—Prevention of Adverse Effects

<http://www.sifolkesundhed.dk/english/noise/prevention.pdf>

The report presents a large number of examples of effective prevention of adverse effects of noise on children. The settings are day care institutions, primary schools and discotheques. We hope that the report can serve as an inspiration for parents, children, politicians, governments, administrations and interest- and non-governmental organizations.

Part of the report is a picture book *Gut, dass du hörst, gut dass du Ohren hast* (It's

good that you hear, it's good that you have ears) by the German partner Susanne Neyen, Unabhängiges Institut für Umweltfragen (UFU). A translation into English of the original German text appears in Annex 10 of the report. The picture book is available for translation into other languages. Inquiries can be made to UFU: <http://www.ufu.de>

Noise Design

Architectural Modelling and the Aesthetics of Urban Acoustic Space

By Björn Hellström

Doctoral Dissertation, School of Architecture Royal Institute of Technology, KTH, Stockholm, Sweden

September 2003

ISBN 91 88316 38 6

Available from: Bo Ejeby Förlag

Box 31036, S-400 32 Göteborg, Sweden

bo@ejeby.se

www.ejeby.se

Noise Design examines our rich and complex sound world. It adopts a structural approach to sound-related issues in general, and particularly to urban acoustic space. It explores the concept of transparent and fluid space as a central principle for architectural conception. Urban acoustic space is seen as transient and immaterial, making public and private spaces less predictable, less monotonous. While most recent research efforts in the field adopt a defensive attitude by seeking to protect people from sounds, this book celebrates our constructive and creative relations with the sound world and develops methods to manage sounds as mediators of qualitative information.

The book addresses architects, acousticians, musicians, sound artists, sound designers, sound technicians, film makers, and everyone fascinated by sound. The attached CD contains sound recordings, musical examples, films and art works (for PC and Mac) which support and illustrate the arguments in the text.

COMPACT DISCS

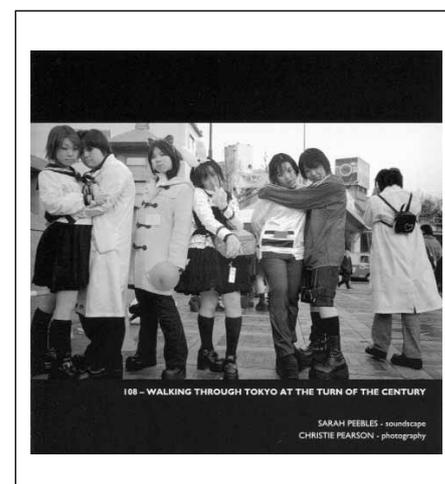
108—Walking Through Tokyo At The Turn Of The Century

by Sarah Peebles

Photos by Christie Pearson

Available from EarthEar:

<http://www.earthear.com/catalog/108tokyo.html>



Sarah Peebles a Canadian sound artist, has produced a personal sound journey of what she calls a sonic portrait of Tokyo which reflects everyday experiences in that city. Her goal was to record "New Year's eve events, food vendors' cries at "Ameyoko" and train arrival/departure music at stations while traveling along the Japan Rail commuter train lines which traverse the heart of the city. All else was spontaneous." Peebles walked through various districts and let the acoustic events unfold as they occurred along her recorded soundwalk. Nearly everything throughout the fifty minutes flows in the order in which it was recorded between December 26th, 1999 and January 3, 2000. The only exception is a New Year's dawn kendo practice and the subsequent streetcar ride (recorded January 3, 1986). Artist notes about the recording can be read online at: <http://cec.concordia.ca/econtact/Soundwalk/peebles.htm>

N30 double edition

By Christopher DeLaurenti

Available on-line from deLaurenti.net and distributed internationally by Mimeograph.



The *N30 double edition* is a double disc set which collects two hour-length soundscape compositions, "N30: Live at the WTO Protest November 30, 1999" based on DeLaurenti's high fidelity, front-line field recordings of the protest and its sequel, "N30: Who guards the Guardians?" which uses censored and uncensored law enforcement transmissions from that day. Both discs contain bonus tracks that document urban spaces in Seattle, New York City and Dallas-Ft. Worth International Airport.

Sound Reportage

By Francesco Michi

Ants/a new timeless sound

Via filippo de grenet, 26

00128 Roma, Italy

tel/fax +39 (06) 508 25 56

E-Mail: ants.rec@silenzio-distribuzione.it

orders@silenzio-distribuzione.it

<http://www.silenziodistribuzione.it/ants.htm>

This new CD investigates soundscapes and memory. Published by "ANTS records/a new timeless sound", and contains, audio pieces and a .pdf file (readable on PC and Mac) with all the news about the "Sound Reportage Project" <http://www.silenzio-distribuzione.it/antscatalogo.htm#michi>

reviews: <http://www.silenziodistribuzione.it/recensioni.htm>

Hearing Place

Curated by Ros Bandt and Iain Mott

Available from Move Records:

www.move.com.au



The Australian Sound Design Project (www.sounddesign.unimelb.edu.au) in association with Move Records is proud to announce the launch of *Hearing Place*, an audio CD with works by 10 artists from around the world. The CD was produced to showcase works from the Audiotheque sound art exhibition. The pieces respond to notions of place from a variety of aesthetic viewpoints and methodologies. The works range from classic electroacoustic and soundscape compositions through to pure unedited field recordings. Ten works journey the acoustic environment and that of our internal response and provide unique insight to each locale. Works by Petri Kuljuntausta (Finland), Samuel Pellman's (USA), Christopher DeLaurenti (USA), Jon Drummond (Australia), Aaron Ximm (USA), Greg Hooper (Australia), Viv Corringham (UK), Pierre Thoma (Switzerland), Gabriele Proy (Austria), Michelle Nagai (USA).

TWO CDS FROM THE UK!

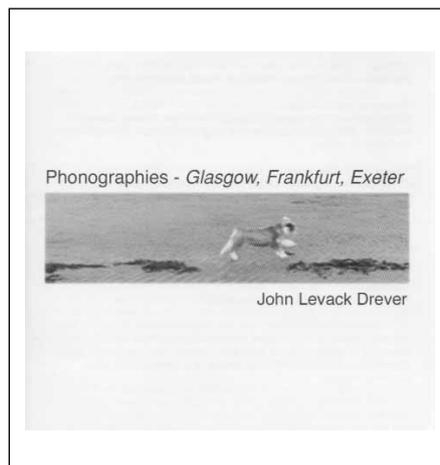
Price per CD: £12 or £10 for members of the WFAE. Postage and packing rates per CD:

UK: £ 1.50 Europe: £ 2.00 Rest of World: £ 2.50 + 50p per additional item

Contact info: <http://www.sounding.org.uk>

E-mail: info@sounding.org.uk

Phonographies—Glasgow, Frankfurt, Exeter



a CD of soundscape compositions by John Levack Drever
Soundmarked label

Sounding Dartmoor.

Compiled and edited by John Levack Drever

Published by Liquid Press at i-Dat

Sounding Dartmoor an audio CD of soundscapes developed through the Sounding Dartmoor project—an environmentally oriented public arts project taking the sounds of Dartmoor as its field of inquiry: those of its people, places and natural habitats.This project has unfolded over a period of two years, and has had direct involvement with the local community through sound nominations, sound walks and environmental sound recording. It includes 33 evocative soundscapes.

Sounding Dartmoor is a collaboration between The Digital Crowd, Aune Head Arts (The Dartmoor Project), TESE, (Touring Exhibition of Sound Environments), and is supported by a Research and Development grant from the Arts Council of England and the University of Plymouth.



The Time of Bells

By Steven Feld

Release December 1 on VoxLox

Available at www.voxlox.net (website up soon)

Or via post at PO Box 22160, Santa Fe, NM 87502 USA.

VoxLox is a new label dedicated to human rights and acoustic ecology recordings.

The Time of Bells contains five soundscape compositions, recorded in Méauvre, France (interplay of evening cow bells and the ringing of the angelus); *Nauvo, Finland* (interplay of a church bell, old pump organ, bells, and voices); *Gragnana, Italy* (interplay of sheep bells, funerary bells, and the 6pm ringing of the Ave Maria); *Kali Vrissi, Greece* (interplay of bell-costumed dancers and bagpipes in a parade); *Chambéry, France* (interplay of a 70 bell carillon and 6pm ringing of the angelus). The idea of the CD is to explore how contemporary bell soundscapes reveal numerous layers of time, of an overlapped old and modern Europe. *The Time of Bells* is part of a multi CD project. A second volume of European bell soundscapes (Norway, Holland, France, Italy, Greece) will appear in 2004, followed by volumes on bell soundscapes of Japan and West Africa.

QUOTE

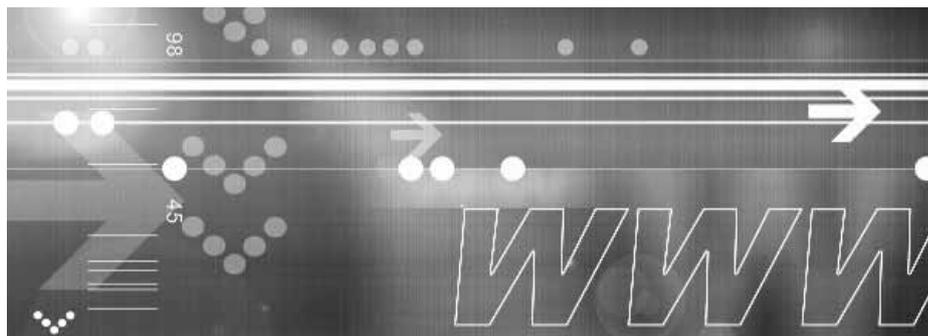
I have learned silence from the talkative, toleration from the intolerant, and kindness from the unkind; yet, strange, I am ungrateful to those teachers."

— Kahlil Gibran



Photo: Cameron Stewart

Sign at the entrance to Mosquito Creek Park in North Vancouver, B.C. Canada. Last news about it was that it had been stolen and Cameron Stewart the designer was asked to make a new one.



WEBSITES

SONUS.CA

a new resource for everyone interested in sonic art <http://www.sonus.ca>
Contact: Ian Chuprun & Yves Gigon
Special Project Coordinators
Canadian Electroacoustic Community (CEC)
Communauté électroacoustique
canadienne (CEC)
RF-302, 7141, rue Sherbrooke Ouest.
Montréal, QC, H4B 1R6, CANADA
Fax: (514) 848-2808
E-mail: ian@econtact.ca

The CEC presents SONUS, a permanent and ever-expanding on-line electroacoustic repertoire, complete with program notes and short composer biographies, freely accessible to the public. Future plans include a Flash version with playlists, an improved search engine and curated galleries.

Participation: All composers and sonic artists are invited and encouraged to contribute works to SONUS. Submission details are available on the site.

Education/Research: This collection offers a permanent database of sounds and pieces, which the international education and research community in music/sound perception can access freely. For class use, students can be directed to specific works, or encouraged to explore the range of pieces. With access to parallel articles on analysis/description (starting with <http://www.econtact.ca>), the Sonus.ca site is an invaluable teaching aid for both the sound-oriented and the general student of this art form.

Thanks: The site has been made possible with the support of the Canada Council for the Arts (Music Section), participating composers, and the <pep> team.

Exploring Animal Sounds With Children

Compiled by Gary Ferrington

A collection of cow sounds may seem strange to find on the web. But this collection of *Mooing Sounds* is a fun place to start (<http://www.geocities.com/Hollywood/Lot/4847/cow.html>). Check out the mad cow sound! It's not real—but it is funny.

While listening to cows you might also visit a *4H Farm* to find more animals (<http://www.ics.uci.edu/~pazzani/4H/Sounds.html>). If you think you know the sound of most

farm animals take a quiz and see if you can correctly identify the farm sounds you hear.

All types of animals can be found on the *Animal Sound File* page from Poland (<http://info.fuw.edu.pl/multimedia/sounds/animals/>). Here you'll hear lambs, cats, rattlesnakes, and other animals!

If you want to hear some really unique animals visit the *Belize Zoo* and take the "tour" where you'll discover over 20 special animals from Belize (<http://www.belize-zoo.org/>). These sounds are rare and unless you live in Belize you probably haven't heard them before. While exploring the *Rain Forest* take some time to hear the insects, birds, animals, and people of these dense forest areas of the world (<http://www.christiananswers.net/kids/sounds.html>).

Another fun place to visit animals is the *Zoo In The Wild* (<http://www.naturalia.org/ZOO/index.html>). An online island totally dedicated to wildlife with illustrations, exclusive original photographs of animals in their natural environments and sound.

Taking a *Sound Safari* (<http://www.wild-sanctuary.com/safari.html>) to different places in the world can be especially rewarding. Here you'll be introduced to a variety of birds and animals much different than you'll find in your back yard. Choose your destination by clicking on a world map and you'll visit some of the most remote and endangered habitats.

While on safari visit the *Wild Net Africa* site that promotes conservation through communication. It has a fun page for children on *How Animals Use Sound* (<http://wildnetafrica.co.za/envirokids/sound/animalsounds.html>). The page describes how various creatures use sound. These include insects, mammals, and birds.

Wherever you travel in the world there are sounds different than those you usually hear each day. The *Sonic World* site lets you explore the sounds of towns, villages, and cities all over the world (<http://www.sonarchy.org/sonicworld/>). Listening to the ambient sounds of the world within this site is an invitation to travel, to be entertained and to learn. Enjoy!

Make sure your computer can play the sound files found at these web sites. Always check the software requirements posted on most pages before downloading a file. And remember, sounds often require a lot of memory and take time to load.

Announcements



Gary Ferrington

Award

Gary Ferrington has been informed by the Alliance for a Media Literate America Board of Directors that his efforts to promote media literacy in the United States was recognized at this year's National Media Education Conference on June 30. The Board has chose Ferrington as one of two recipients of the very first Meritorious Service Award. The award is given to individuals or projects that have significantly contributed to the growth and quality of the field of media literacy. The Board is presenting this award as a way of acknowledging how much it appreciates his work done over the years with the University of Oregon's Media Literacy Online Project.

Gary is also the secretary and webmaster of the WFAE and is active one this Journal's editorial committee.

4th WSEAS International Conference on ACOUSTICS, MUSIC, SPEECH and LANGUAGE PROCESSING (ICAMSL 2003)

December 19-21, 2003

Tenerife, Canary Islands, Spain,

For Information:

<http://tsironi.netfirms.com/index.htm>

World Scientific and Engineering Academy and Society (WSEAS)

<http://www.wseas.org>

Hawaii International Conference on Arts and Humanities

January 8—11, 2004

Renaissance Ilikai Waikiki Hotel
Honolulu, Hawaii.

E-mail: humanities@hichumanities.org

<http://www.hichumanities.org/>

The conference will provide many opportunities for academicians and professionals from arts and humanities and related fields to interact with members inside and outside their own particular disciplines. Cross-disciplinary submissions are welcome. Topic areas include all fields of study in the arts and humanities.

International Festival of New Technologies, Art and Communication:

Ciber@RT Bilbao 2004

Theme: *Challenges for a Ubiquitous Identity*
April 23—30, 2004.

Bilbao, Spain

Contact: Ciber@RT

Av. Reino de Valencia, 58 - 8

46008 Valencia, Spain

Tel.: +34 96 373 10 82

Fax: +34 96 373 05 45

www.ciberart-bilbao.net

If you are interested in presenting works to the various sections of the festival (Net-Art, Off-Line Multimedia Projects, International Conference, Computer-generated Animation, "Minimisation" and Interactive Installations) you can find the Call for Participation (Rules) on our web page <<http://www.ciberart-bilbao.net/>>

Deadlines: Presentation of papers for the congress: November 30, 2003 and Artwork: December 15, 2003.

ISEA2004: The 12th International Symposium on Electronic Art

August 14th—22nd, 2004

Stockholm—Tallinn—Helsinki

Contact: Tapio Makela and Amanda

McDonald Crowley

E-mail: info@isea2004.net

<http://www.isea2004.net>

New media meets art, science, research, and popular culture at ISEA2004 in Stockholm—Tallinn—Helsinki. For the first time an event of this scale is being organised between three cities and on the ferry travelling between these three Baltic countries. International participants and local audiences attend thematic conferences, exhibitions, live performances, screenings, satellite events, concerts and clubs. Many events are also interfaced via television, radio, broadband Internet, and mobile networks making them available to the widest possible audience. Key themes for the event include: Networked experience (Stockholm). Wearable experience (Tallinn). Wireless experience (Helsinki). Histories of the new: media arts, media cultures, media technologies (all cities).

drift—Sound Art and Experimental Music Call for participation

New Media Scotland calls for participation for *Drift*—an exploration of sound art and experimental music which comprises live events, radio broadcasts, moving image and publications.

The accessibility of the Internet together with new tools and methods for digital recording, manipulation, reproduction and distribution has changed forever the way that we think about and interact with sound, giving us new ways to communicate our ideas. An increasing number of artists, producers, DJ's and sonic creators, from a broad spectrum of disciplines and varying modes of practice, are exploring streaming media as a viable format. We want to open up this channel further.

We are offering four opportunities to take part in *Drift*. Follow the links below for details. For more information on past *Drift*

activities, click on the button above on the right. For details of New Media Scotland's previous experiments with streaming media, see artstream:

<http://artstream.mediascot.org>

Mining the Fabric

<http://guydebievre.digitalrice.com/>

Mining the Fabric is an ongoing series of installations/performances whereby the sonorous fabric of a specific location is being mined for G (196Hz). The mining is done, in real time, with microphones and simple tone decoders. The gathered data is interpreted by a microcontroller connected to a synthesizer and effects processor. The microcontroller uses this data to steer the synthesizer through a low half diminished G7 chord and has the effects processor slightly bending pitches.

The original version of *Mining the Fabric* was commissioned by Champ d'Action and presented during the 'Music and Architecture' project in the Toyo Ito Pavilion in Bruges in September 2002. *Mining the Fabric II* (outdoor/indoor version, without feedback between 'resulting' sound and 'controlling' sound) was presented in De Singel in Antwerp, during the presentation of the December 2002 issue of the Janus magazine.

A third version: *Mining the Fabric* (not the bridge), has been presented on June 6, 2003 in the Brueckenmusik program in Cologne, Germany. This was the first 'performance' of the work (i.e. a performer—also getting instructions from the micro controller—will interact with the installation).

Sound References in Literature

I'm please to announce the completion of the webpages devoted to the World Soundscape Project's Sound References in Literature which dates from the 1970s.

As announced earlier, the approx. 1000 quotes have been in place for awhile, but the various appropriate search engines needed to be typed in and verified—work done by Brett Ziegler to whom great thanks are due. You can now search the database by:

(1) Author

(2) Subject (a 3-level system created for the tape library but expanded to include other literary subjects; and probably the most useful tool)

3) geographical region

(4) time period (mainly by century, but with appropriate subdivisions for the 19th and 20th centuries)

As a result, there are hundreds of links within these webpages and we've done our best to ensure they all work — however, if you encounter any problems, please let me know.

I've also added a new bibliography for Acoustic Communication on the same studio website that incorporates most of the texts we regularly use in the teaching program here. And there are some new studio photos. I hope you'll find some of this useful and interesting. Barry Truax Studio Website: www.sfu.ca/sonic-studio/srs/ for all of the above. Personal Website: www.sfu.ca/~truax

Soundscape – The Journal of Acoustic Ecology

BACK ISSUES AVAILABLE

AVAILABLE AT: World Forum for Acoustic Ecology (WFAE), Membership Secretary,
P.O. Box 268, Fairfield, Victoria, 3078, Australia

COST: Single copies: US \$15 Full set: US \$75



AVAILABLE ISSUES:

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- Vol. 1 Number 2: Silence, Noise, and Public Domain
- Vol. 2 Number 1: Blind Listening
- Vol. 2 Number 2: Education
- Vol. 3 Number 1: The Tech Issue
- Vol. 3 Number 2/Vol 4, Number 1: Ocean Acoustics Underwater Listening

NOTE: Individual copies and sets ARE limited. They will be sold on a first-come first-serve basis.

World Forum for Acoustic Ecology

Membership Information

JOIN OR RENEW NOW! PLEASE CHOOSE THE APPROPRIATE AFFILIATE BELOW.

As a member of an Affiliate Organization you will automatically become a member of the WFAE. If you are not near a convenient Affiliate Organization, or if you relocate frequently, you can join the WFAE directly as an Affiliated Individual. Financial members of the WFAE receive a subscription to *Soundscape—The Journal of Acoustic Ecology*. A Membership Form and a sample article from *Soundscape* are available for download in PDF format on the WFAE website: <http://www.wfae.net>

DONATIONS ARE WELCOME

Additional donations (in CDN \$ and US \$, to the below WFAE address) will be gratefully accepted. Donations will be used toward the production costs for *Soundscape*, and to help subsidize those who cannot afford membership, or who come from countries with disadvantageous exchange rates.

Australian Forum for Acoustic Ecology (AFAE)

Individual fee: A\$40 — Institutional fee: A\$95
Please send a cheque or money order in Australian Funds to:
Australian Forum for Acoustic Ecology (AFAE)
P.O. Box 268, Fairfield, Victoria
3078, Australia

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

Individual: Cdn \$35 — Student/Étudiant: Cdn \$20 (with a copy of your current student ID). Please send a cheque or money order in Canadian funds to:

Canadian Association for Sound Ecology (CASE)
Association Canadienne pour l'Écologie Sonore (ACÉS)
c/o Musicworks
401 Richmond Street West, Suite 361, Toronto, ON
M5V 3A8, Canada

UK and Ireland Soundscape Community (UKISC)

Individual fee: £20 GBP — Institution: £50 GBP
Concessions: £10 GBP
Cheques should be made payable to the UK and Ireland Soundscape Community and sent to:
Dr John Leveck Drever
Music Department, Goldsmiths College, University of London
New Cross, London, SE14 6NW
Email: j.drever@gold.ac.uk
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"People ask me what music I listen to. I listen to traffic and birds singing and people breathing. And fire engines. I always used to listen to the water pipes at night when the lights were off, and they played tunes."

— John Lennon