Soundscape

VOLUME 13 NUMBER 1 | WINTER / SPRING 2013–2014

Music and ecologies of sound

Theoretical & practical projects for a listening of the world

The Journal of Acoustic Ecology

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

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WORLD FORUM FOR ACOUSTIC ECOLOGY (WFAE)

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

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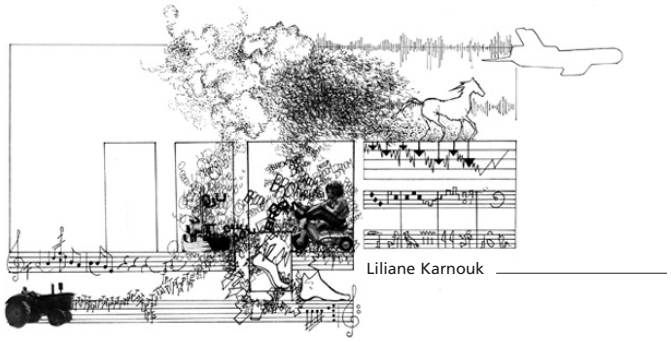
Ideas for journal themes, proposals for new sections, as well as visual materials, are welcomed. You may submit either a proposal or a complete manuscript of a potential article to *Soundscape*. The Editorial Committee would generally prefer to communicate with you beforehand regarding your idea for an article, or receive a proposal, or an abstract (contact information below). Please also download our *Guide to Contributors*: Instructions for the Preparation of Materials for Submission to Soundscape (PDF) on the WFAE Website at: www.wfae.net
Submissions. Texts can be submitted for the following sections in the journal: *Feature Articles*; *Current Research*: a section devoted to a summary of current research within the field; *Dialogue*: an opportunity for editorial comment from readers; *Perspectives*: reports of events, conferences, installations etc.; *Sound Journals*: personal reflections on listening to the soundscape; *Soundwalks* from around the world; Reviews: of books, CDs, videos, websites, and other media; *Students' and/or Children's Writings*; *Quotes*: sound and listening-related quotations from literature, articles, correspondence, etc.: *Announcements*: listing of events organized/sponsored by the WFAE Affiliates.
Please send correspondence and submissions to: *Soundscape: The Journal of Acoustic Ecology*, Department of Radio, TV & Digital Media, Southern Illinois University, Carbondale, IL 62901-6609 (c/o Phylis Johnson, Editor). **Email contact**: soundscape-editor@wfae.net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Editorial

GUEST EDITORIAL: THE ECOLOGY OF SOUND: A LISTENING OF THE WORLD

By Kostas Paparrigopoulos and Makis Solomos

Editor-in-Chief's Note: Together, these articles call attention to the aforementioned "ecology of sound" as ways of listening to that which surrounds us momentarily, historically and collectively in and across our respective spheres, while contributing to our ways of sensing and knowing about the uniqueness (and sometimes similar yet differential aspects) of cultural experiences as embodied, projected and interpreted though human subjectivity. We hope that you enjoy the various sonic threads that our guest editors and their contributors offer as their interpretations of what they believe to be significant inquiries for immediate and further discussion and pursue them beyond this issue. You will note the range that they have presented here in this issue, taking our readers upon onset from the familiar voice of former long-time "Soundscape" Editor Hildegard Westerkamp to, finally, the reconstructive possibilities of human subjectivity via technology in its digital language, and in-between, the diversity within the field of acoustic ecology is expressed in all its richness.

In recent music as well as in sound art, sound has emerged as a crossroad of theoretical and practical questions. Many of these questions concern the permanent interaction of sound with what surrounds it: physical space, environment, the audience. Instead of taking sound as a reified entity and using it as mere material at their disposal, musicians and sound artists began to consider it more carefully, and to view it as a fragile entity, which exists only through this interaction. In this view, we can speak about an ecology of sound. "Ecology" means here, the way of thinking which views *oikos*, i.e. the common home, our world, as a set of relationships rather than separated objects.[1] The French psychoanalyst and philosopher Félix Guattari (1989) designates three ecologies: environmental, social and mental. Thus, we could say that, through the ecology of sound, musicians or sound artists explore the way sound appears, develops and disappears through its interaction with nature, society and human subjectivity, inviting the active listener to reconstruct his own interaction with the world.

The feature articles printed in this issue of *Soundscape* were presented as papers in a symposium, which tried to promote this idea of the ecology of sound. Entitled *Music and Ecologies of Sound; Theoretical and Practical Projects for a Listening of the World*, this symposium wished "to give priority to the analysis of practices and theories, which aim not only to develop our knowledge of the interactions between sound (music), the environment, society and subjectivity, but also to think about the possibility of changing the world for the better". Organized by the University Paris 8 (France) in May 2013, it gathered many artists and scholars from various countries.[2] We choose here five papers to illustrate the plurality of the approaches that were developed during this symposium.

The first article, written by two musicologists from Paris, Frédérick Duhautpas and Makis Solomos, is devoted to a composer belonging to the field of acoustic ecology, who is familiar to the readers of *Soundscape*, Hildegard Westerkamp. Focused on the notion of "experience" and the piece *Beneath the Forest Floor*, Westerkamp's work suggests that sound is not only a mere vehicle of representation or way to arouse emotions, but also a decisive dimension of the world. In this view, music becomes dialectical, allowing us to construct a subjectivity that would care for the world.

Then what follows is a text from Agostino Di Scipio, an Italian composer probably less familiar to the readers of this review, but well-known in circles of computer music and live electronics.[3] Di Scipio explains

that music emerges from a care for manners of making sound and of making silence, which are ways of making ourselves present to sound. Through Michel Foucault's notion of "biopolitics," he criticizes the idea of sound as an object, comprehending it as an event, that is an energetic phenomenon which consists of audible traces of material and cultural interactions.

"The Sounding Museum" by sound theorist and musician Hein Schoer and ethnomusicologists Bernd Brabec de Mori and Matthias Lewy introduces a proposal for an auditory anthropology based on the prominence of sound in various Amerindian indigenous ontologies, and its museum-pedagogic application at the Sound Chamber of the NONAM (Nordamerika Native Museum, Zürich), addressing issues such as identity formation via sound, atmospheric perception, cultural soundscape production, and composition practice.

The intermedia artist and researcher Maile Colbert, who is living and working between New York and Lisbon, introduces the idea of a "wayback sound machine," and, through it, thoughts on time, space and place. These thoughts inspired her interdisciplinary performances; for instance, *Passageira em Casa (The Traveler at Home)* is, as she states, "a partially fictionalized and personalized account of the maritime history of Portugal, enacted by a dancer, vocal performer, live video, and live sound composition that creates a geography through the narrative and space of the project."

The final article raises a simple practical question: How can the artist or the researcher deal with the ever growing amounts of recorded sound data? To answer this question, the composer and computer music specialist Iannis Zannos searches for a machine 'listening,' one that metaphorically and graphically documents the alternate nuances of data as interpretative subjectivity in soundscapes' recordings, in an attempt to defend an approach to sampled environments that involves the living human being as part of the reconstruction process through sensory experience of the data.

Endnotes

1. For example, "Today we can see the beginnings of a new way of thinking about the world – as sets of relationships rather than separated objects – which we call ecology", states David Suzuki (1997, 63).
2. http://www-artweb.univ-paris8.fr/spip.php?article1677.
3. Agostino Di Scipio was keynote speaker in the ICMC (International Computer Music Conference) 2013 in Australia.

About the Authors

Makis Solomos is Professor of musicology at the University Paris 8 and head of the music and dance research team. His main fields of research concern various facets of contemporary music (exploring subjects like Adorno, globalization, new technologies, spectral music, electronic music, the emergence of sound, ecology of sound). He is also one of the main specialists of Iannis Xenakis' music. He has published many articles and books, and has organized symposiums on various topics. His last book is: *De la musique au son. L'émergence du son dans la musique des XXe-XXIe siècles* (Rennes, Presses universitaires de Rennes, 2013), which analyses and explores how sound became a major issue for today's music. He has co-founded the review *Filigrane. Musique, esthétique, sciences, société*.

Kostas Paparrigopoulos is a musicologist, currently teaching in the Department of Music Technology and Acoustics, Technological Educational Institute of Crete. His research interests are mainly focused on the music of the mid-20th century to the present, especially that of Iannis Xenakis and John Cage. His recent interests touch the interdisciplinary dimension of music particularly its relationship with social and ecological issues. He has published research articles, has participated in related conferences and scientific programs and has been a member of organising, scientific and editorial committees. He is a board member of the Hellenic Society for Acoustic Ecology, an affiliated organisation of World Forum for Acoustic Ecology.

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Report from WFAE President

Two important WFAE-endorsed conferences will take place in 2014. *Sound in the Land* happens June 5–9 at the University of Waterloo, in Ontario, Canada. *Invisible Places | Sounding Cities* symposium on sound, urbanism, and sense of place, happens in Viseu, Portugal on July 18–20.

The WFAE is an association of affiliate organization operated by members of those same affiliates who serve on the WFAE's Board. Following 19 years of dedicated service, WFAE Secretary Gary Ferrington announced that he would retire from his post at the end of 2014. Gary has been instrumental in establishing, building, maintaining, editing, and publishing the WFAE's online presence since the '90s. With all the critical tasks he has devotedly fulfilled, I hope a WFAE member with the talent, skills, and generosity will step forward to be our next Secretary.

Looking back at 2013, I have many events on which to report in this issue. Our UK Ireland Sound Community (UKISC) affiliate co-organized a highly successful international *Symposium on Acoustic Ecology* in November with the School of Music and Fine Art at Kent University. I was unable to attend, but Aki Pasoulas reported that it was a huge success. Aki writes, "…bringing together 75 scholars, composers and artists from 18 different countries with 101 accepted works. These included compositions played in two concerts and two listening rooms, installations in five locations, and parallel sessions of 40 papers. There were also three very interesting keynote speeches by Barry Truax, Katharine Norman and Richard Ranft. We are currently looking at different options to publish the proceedings." UKISC plans to hold the symposium regularly, once every two years.

This issue of Soundscape features selections from the *Music and Ecologies of Sound Symposium* held in 2013 at Université Paris 8, Saint-Denis, co-organized by Makis Solomos and Kostas Paparrigopoulos, the guest editors of this issue of *Soundscape* with assistance from The WFAE Editor-in-Chief Phylis Johnson.

2013 was the year of R. Murray Schafer's 80th birthday. As the founder of the World Soundscape Project and author of *The Tuning the World: The Soundscape,* Schafer inspired a movement that influenced a new way of thinking about sound and society. The Festschrift celebrating his achievements was realized and published with the combined efforts of members in the WFAE's two North American affiliates, the American Society for Acoustic Ecology and the Canadian Association for Sound Ecology, collaborating with a team of students and co-editor Sabine Breitsameter, with support from the Hochschule Darmstadt, and distributed by the WFAE. AFAE member Anthony Magen reviewed it for this journal.

At the Stratford Summer Music Festival in Stratford, Ontario Sabine and I presented a copy of the Festschrift and the latest issue of *Soundscape* to Schafer at his birthday tribute dinner and concert on July 18, a significant date as it is also World Listening Day. Many who were attending did not know Schafer had a profound influence on the ecological thinking about sound that, 20 years earlier, led to the founding of the WFAE. Schafer is keen to work with CASE to help educate people about acoustic ecology.

The WFAE suffered a big setback last year when the Forum Klanglandschaft (FKL) decided to withdraw its membership from our association. The FKL was the WFAE's first affiliate organization with members from Germany, Austria, Switzerland, and Italy. We regret this decision and welcome all FKL members to keep active in WFAE efforts until the FKL decides whether or not to rejoin the WFAE in 2015.

We look forward to participating in *Sound in the Land* and *Invisible Places | Sounding Cities.* Both of these events will bring together an international group of ear-minded people. Gathering in one place at one time, we promote the open sharing of knowledge between disciplines, individuals, and institutions; we help people connect with each other, empowering them to design a meaningful and healthy environment. We provide a sense of relevance and continuity to the field of acoustic ecology.

At *Invisible Places | Sounding Cities,* discussion begins on forming a new Portuguese Affiliation Organization to join the WFAE. The opening day of *Invisible Places | Sounding Cities* is also World Listening Day, the annual celebration of soundscapes and listening practices in all its forms, held each year on July 18th, the date of R. Murray Schafer's birth.

Membership in the WFAE connects us to global concerns with acoustical phenomena, and their particular relevance in a diverse range of disciplines. For the WFAE, where there is focus, direction, and energy within a WFAE Affiliate there is also growth and development.

—Eric Leonardson
President, WFAE Board

Regional Activity Reports

Australian Forum for Acoustic Ecology (AFAE)

by Anthony Magen and Leah Barclay

Firstly, special thanks to Gary Ferrington for his 19 years of active participation as WFAE Secretary and the many initiatives that we take for granted now such as the e-news, or online soundscape related video digest. It is conspicuously obvious that without such a dedicated fellow, consistently adding value that the WFAE would quickly cease to exist. It seems vital if we want to continue the WFAE in its current configuration that an active Secretary be nominated and that it is time for the new generation of the Acoustic Ecology community to step up.

A change in 2014 has occurred in early February to our management committee. After three years involvement with the AFAE, serving as Vice-President and then President, Jordan resigned from the committee to focus on his PhD studies. We wish him well and look forward to his future involvement. Leah Barclay (Brisbane) has taken over the reins as President and brings a vibrant and capable approach to the position. Her successful involvement in the Balance-Unbalance International Conference and Floating Lands, held in the Noosa BioSphere was a highlight for many last year. This is a change to our Melbourne focused organization and creates new challenges but also broadens the opportunities.

In 2014, we are planning events, publications, conference collaborations and also a series of our signature soundwalks at events across Australia. Some of these events continue the disseminating of information to the general public and also in the academic arena. So, we hope to continue expanding our member-

ship across Australia through active participation and engagement to ensure dialogue around sound and environment of the human and non-human varieties.

Finally, AFAE members Anthony Magen and Jordan Lacey are represented in the *Now Hear This* exhibition as part of Melbourne Now, celebrating Melbourne's thriving and internationally recognised sound art and experimental music scene at the National Gallery of Victoria. One of Anthony's recordings *repressed memories #201398949- aposematic signalling love song* was recorded in 2013 at Nodar, Portugal while attending Binaural Media's summer program. The AFAE would like to wish the Portuguese every success with the 2014 WFAE endorsed conference "Invisible Places, Sounding Cities" and hope to meet some of you there.

American Society for Acoustic Ecology (ASAE)

by Jay Needham

Members of American Society of Acoustic Ecology continued their innovative work through their broad base of research and practice in 2013. These highlights feature outstanding innovations in the areas of community outreach, teaching, creative activities, research and related areas.

Andrea Polli and her colleagues have been successful in expanding the Art and Ecology program at University of New Mexico. The Land Arts of the American West (LAAW) program received a five-year grant from the Andrew W. Mellon Foundation for the creation of the Land Arts Mobile Research Center (LAMRC). In addition, Dr. Polli is also co-PI on a five-year National Science Foundation Grant titled *Sustainable Energy Pathways in Engineering and Technology* (SEPTET). The interdisciplinary team of engineers and students will design and build a series of building-scale visualizations of energy production and consumption. In an era of decreased funding for the arts it is refreshing to note such accomplishments.

Stephan Moore is curator and artistic director of *In The Garden of Sonic Delights,* an exhibition of 15 new, major commissioned works of sound art that will open in June 2014. Moore and longtime collaborator Scott Smallwood released the album *Visuals*; an installation version was exhibited at Studio 10 Gallery in NYC. His new composition for Clavichord and live electronics *Neither Piano* premiered at the University of Arizona, Tucson. *A Better Place*, another innovative work, was installed at the Buckminster Fuller Dome Home (Carbondale, Illinois) in association with the Global Media Research Center at Southern Illinois University-Carbondale (SIUC). In addition, he has presented on his Acoustic Ecology research at international conferences, including Music and Ecologies of Sound at Universite Paris 8 and Symposium on Acoustic Ecology at University of Kent, United Kingdom. Moore's sound installation *Diacousticon* will be at New York's Paramour Center for Music and the Arts in June. It is impressive that Stephan is currently pursuing his doctorate at Brown University and is also serving as the V.P. for the American Society for Acoustic Ecology.

WFAE President Eric Leonardson organized a large-scale and well-attended program in collaboration with The School of the Art Institute of Chicago and The Museum of Contemporary Arts in Chicago, titled *Our Sonic Playground.* Sixteen collaborators in all worked to create a unique outreach event that included pop-up listening stations (distributed across three levels of the museum), a phonography performance and a remote listening station that featured sounds from the city projected onto a hand-drawn map of Chicago. This is an inspiring model for outreach and one that celebrates the interdisciplinary nature of Acoustic Ecology. Eric presented "Our Sonic Playground: A Model For Active Engagement in Urban Soundscape" at the Urban Soundscapes and Critical Citizenship Conference in Limerick Ireland.

Also, presenting at that conference was *Soundscape* Editor Phylis Johnson, with a paper titled, *Listening in the Aether: Rehearing and Imagining the World Virtually*. She discussed her recent work, having debuted a virtual sound lab within Second Life in late July, in collaboration with the School of Physics at the University of Western Australia, Perth, for teaching, research and creative activities. The space, consisting of many vertical levels, is designed as a multi-environment installation presenting opportunities for sound archiving and experimentation, as well as immersive sound walks and student learning.

ASAE President Jay Needham installed a soundscape that is now a part of the permanent exhibits in the BioMuseo, Panama's new museum of biodiversity, designed by architect Frank Gehry.

All in all, the ASAE had a productive term and anticipates continued successes to report.

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

by Carmen Braden

In the past year, CASE has transitioned files and archives to an online platform, moved bank accounts to be accessible Canada-wide, completed remaining projects such as the Canada Council-funded Gabriola Retreat Speaker's Series, set up satellite offices in Montreal and Vancouver, solicited Canada-wide board and volunteer representation, and provided the editorial support for Murray Schafer's 80th publication project.

We have a new website and online address! (soundecology.ca)

New features include the ability for members to renew fees using Paypal, and an exciting new public forum, the CASE Blog! The Blog is moderated by Randolph Jordan, a Vancouver-based CASE member, and CASE is inviting submissions that present and discuss how acoustic ecology has influenced the research, teaching and creative practice of Canadians, people working in Canada, and/or those dealing with Canadian subject matter. We encourage you to

read his introduction here (http://www.soundecology.ca/acoustic-ecology-2/welcome-to-thecase-blog/), and share and contribute to creating a revitalized conversation about Acoustic Ecology as a field, an activism, and a philosophy in its many Canadian contexts.

Matt Griffin, CASE Secretary and Treasurer, was instrumental in putting this new face of CASE together. Special thanks to Matt and everyone who helped with this new site – check it out!!

Finnish Society for Acoustic Ecology (FSAE)

by Meri Kytö

The year 2014 will be a festive year for the Finnish Society for Acoustic Ecology (FSAE). Celebrating the 15 years of bringing people interested in soundscapes together in Finland and after successfully completing several soundscape projects including *Turku is listening*, *Pirkanmaa soundscapes* and *European Acoustic Heritage,* the FSAE is even more exited to start with a new challenge.

Our new project *Transforming Finnish Soundscapes* (2014–2015) received funding from the Finnish Cultural Foundation, a private trust dedicated to promoting art, science and other fields of intellectual and cultural endeavor in Finland. The project will continue the *One Hunderd Finnish Soundscapes* project that the FSAE organized a decade ago. *One Hundred Finnish Soundscapes* was a three-year (2004–2006) project on collecting, documenting, researching and archiving soundscapes within Finnish geographical borders. The project explored the qualitative aspects of the sound environments including the experiences of the people living within their sonic environments. In doing so, the project increased the awareness of the soundscape and underlined the importance of it for the individuals and communities. The qualitative and multiple meanings attached to environmental sounds were also brought into discussion.

Transforming Finnish Soundscapes will continue but not restrict itself to the aforementioned themes. The major streams to work on within the new project will be charting, documenting and archiving soundscapes, pedagogical actions on issues of the sonic environment and the questions of the availability of the documented soundscapes. The project starts off with a nationwide writing competition with the aim to collect stories of environmental sounds. Of major importance will be to gather individual and collective knowledge attached to sounds of the given place or situations such as in nature, rural areas and cities and as well in everyday live and festive situations. The project also enables the diachronic comparison with the field material collected ten years ago. The applications offered by digital media such as websites and portable recording devices will be utilized in collecting and presenting the data. The TFS will adapt the map application made for the *Turku is listening* project, add recordings, descriptions and interviews to the archives together with pedagogical actions and academic research.

Transforming Finnish Soundscapes will be organized by The Finnish Society for Acoustic Ecology in collaboration with Sibelius Academy, University of Eastern Finland, Tampere University of Applied Sciences, the Finnish Literature Society and the Finnish Broadcasting Company.

Hellenic Society for Acoustic Ecology (HSAE)

by Ioanna Etmektsoglou

The Hellenic Society for Acoustic Ecology (HSAE) has been trying to enlarge its membership and reach out to people from different backgrounds, ages and parts of the country. In this context, we are happy to announce that thanks to the hard work of the Board and Dr. Nikolas Tsaftaridis, the 3rd Hellenic National Conference on Acoustic Ecology will be held in Athens from June 28–30, 2014. It will be hosted by the Department of Preschool Education (University of Athens) and co-organized by the Hellenic Society for Acoustic Ecology, the School of Music and Audiovisual Arts (Ionian University) and the Department of Music Technology & Acoustics Engineering (Technological & Educational Instituteof Crete).

The theme of the conference will be "Acoustic Ecology and Education" and all events, including performances and workshops, will take place at the Museum of History of Athens University, an old beautiful building in the centre of Athens, away from traffic and with plenty of outdoor space for interesting soundwalks. Given the financial crisis in Greece, we decided to make the conference free to all who wish to attend on a first come-first serve basis. The conference will include papers, roundtable discussions, workshops and soundscape compositions which will be evaluated through a blind review process. To encourage participation of younger people and educators we have introduced a category which we named: "Coffee House Table Presentations". These presentations are proposed as an ecological alternative to Poster Sessions. In this scenario, presenters will be situated around coffee tables as they discuss their projects with 4 to 5 people who would join them. The audience will move from table to table about every 10 minutes. By this way of presentation, we hope to encourage aural communication and other creative ways of sharing experiences between conference presenters and participants.

In the midst of the economic crisis and an underlying crisis in values and lifestyles, the HSAE is making an effort to reach out to young people and to all those who directly and indirectly are connected with their education. We side along Schafer in his conviction that we can improve the soundscape, and to achieve this "we must go back and educate children and young people to listen more carefully" *(Soundscape,* 12 (1) Winter/Spring 2013, p. 8*)*. We hope that through this conference we will manage to reach out and educate more of our youth to listen.

Japanese Association for Soundscape Ecology (JASE)

by Tadahiko Imada

The Soundscape Association of Japan (parent organization of JASE) met for its 20th anniversary exhibition in Chiba from October 5–December 1, 2013, under the auspices of the Natural History Museum and Institute. The theme for the exhibition was "Exploring the Horizon for Soundscape." The exhibition outlined the following 5 main sections: 1) a display for the history of SAJ; 2) an introduction for the concept of soundscape and its social connection; 3) a projection of keywords of or relating to or suggestive of soundscape; 4) a panel display as well as a DVD screening for "the March 11 disaster project."

During the exhibiting period, 29 lectures titled "classrooms for soundscape" were also given every weekend. This exhibition was the first attempt for the SAJ to display various viewpoints, of which the interdisciplinary concept of soundscape connotes, based on JASE's two decades of activity.

The 20th anniversary symposium was also held on the 17th of November 2013 in the same venue. Professor Masayuki Nishie (anthropologist, the president of SAJ) gave his keynote speech entitled "the animal's auditory world." The panelists invited for the following symposium were Dr. Rupert Cox (University of Manchester), Professor Angus Carlyle (University of the Arts London), Naoki Hayashi (former technical officer, City of Narita) and Professor Kozo Hiramatsu (professor emeritus, Kyoto University).

Hildegard Westerkamp and the Ecology of Sound as Experience. Notes on Beneath the Forest Floor

By Frédérick Duhautpas and Makis Solomos

Abstract

A pioneer of acoustic ecology, the composer and *soundmaker* Hildegard Westerkamp shows that sound is not only a mere vehicle of representation or way to arouse emotions: her musical works and writings activate an awareness that sound is a decisive dimension of the world. In this view, music becomes dialectical, allowing us to construct a subjectivity that would care for the world. The expression of this idea follows two modalities: on the one hand, it understands music as *experience* and, in particular, as experience of *place*; and on the other hand, it puts forward music's capacity to create links, connections and bonds. The 1992 two-track tape *Beneath the Forest Floor* illustrates the development of these thoughts. "Composed from sounds recorded in old-growth forests on British Columbia's West Coast," this work "moves us through the visible forest, into its shadow world, its' spirit; into that which [a]ffects our body, heart and mind when we experience forest" (H. Westerkamp, "Beneath the Forest Floor," http://www.sfu.ca/~westerka/program_notes/forestfloor.html).

Introduction

A pioneer of acoustic ecology, composer and self-described *soundmaker*, Hildegard Westerkamp is known for numerous soundscape compositions using environmental sounds, and for her ecologically minded considerations (Westerkamp 1988, 2002, 2007, 2011). In her music and writings, she develops the idea that music can activate an awareness of sound in which sound is approached as a decisive dimension of the world. In this view, music becomes dialectical, allowing us to construct a subjectivity that would care for the world. Westerkamp's approach belongs to a larger effort to build awareness of our sound environments and their acoustic qualities, aiming to understand our own listening relationships and interactions with these environments. It is a question of proposing points of reference to listeners to make them aware of the sense and impact of sounds, which are often perceived unconsciously, so as to appropriate them.

To analyze this approach, we will focus on one of its most important dimensions, conceiving music as *experience*, and in particular, as experience of *place*. *Beneath the Forest Floor* will serve as example for this analysis. With its sounds recorded in old-growth forests on British Columbia's West Coast, this 1992 two-track tape soundscape composition takes the listener into an immersive journey inside the mysterious world of rich acoustic and historical environments. As we shall see, this work is a good illustration of how soundscape composition can create a space for reacquainting ourselves with experience.

On Experience

Erfahrung ***and*** *Erlebnis*

In the ecological conception of sound that Hildegard Westerkamp develops, there is a strong emphasis on human *experience*. In her writings, she infrequently or indirectly addresses this notion. Our use of the term is inspired by Walter Benjamin's philosophy.

In the 1930s, Benjamin developed the idea that modern times push toward the impoverishment of experience. To explain this idea, he introduced a distinction between *Erlebnis*, which can be translated as "lived experience," and *Erfahrung,* "experience per se" or "genuine" experience (Benjamin 1939). The mode of experience specific to the new world is determined by the growth of technology (including characteristics such as speed and circulation of information), which establishes *Erlebnis,* a type of experience inscribed in primary reaction to the present and ephemeral moment, at the expense of *Erfahrung*, which introduces the possibility of a collective and continuous memory. It would be off topic to develop this idea further here; let us only insist that the interest of Benjamin's analysis lies in its dialectical position.

On the one hand, committing himself to the revolutionary political movements of the time as well as to modern art, Benjamin considers the loss of experience as a necessary condition to build a new world, where individuals could construct themselves from nothing. In this world, one would prefer glass or steel architectures. „If you enter a bourgeois room of the 1880s, for all the coziness it radiates, the strongest impression you receive may well be, 'You've got no business here,'" states Benjamin. "And in fact you have no business in that room, for there is no spot on which the owner has not left his mark [...]." He adds, "This has now been achieved by Scheerbart,[1] with his glass, and by Bauhaus, with its steel. They have created rooms in which it is hard to leave traces" (Benjamin 1933, 734). On the other hand, Benjamin insists that "the lived experience (*Erlebnis*) specific to urban modernity [prevents] the 'so to speak spontaneous persisting image', by its mechanical rhythm, its journalistic chatterings and its crowd movements, in short its reifying character – an image that is, however, revived by the taste of the madeleine" (Bredet 2005, 20).

Hildegard Westerkamp's music is not without affinities with glass or steel transparent architecture, which allow the individual to move freely. But this architecture is not conceived as a sanitized place – all sorts of "madeleines" and "traces" can be found within. As a matter of fact, Westerkamp reevaluates experience (*Erfahrung*), but without invoking the authority of the elders or the privileged.

References to personal life

Thus her work is crossed by many references to her own life. These references are transparent and light. They do not have an exhibitionist character, nor do they seek to carry the listener in a spiral of empathy. They are simply there, giving evidence to the possibility

of experience. In *Für Dich* (2005), for example, different people closely related to the composer read Rilke's poem "Liebes-Lied." The listener can also hear sound recordings from places important to Westerkamp: Vancouver, where she has lived since the late 1960s, and North Germany, where she was born. In *Breaking News* (2005), the material features recordings of her grandson's voice, and in *Moments of Laughter* (1988), we hear her daughter's voice. Elsewhere, Westerkamp "enters" the work herself. For instance, in her first recognized piece, *Whisper Study* (1975–1979), she works with her own whispering. And in *Breathing Room* (1990), she records her own breath, reflecting music "as breath-like nourishment," and describing breathing "as nourishing musical space..."

> The breath – my breath – is heard throughout the three minutes. All sorts of musical/acoustic things happen as I breathe in and out. Each breath makes its own, unique statement, creates a specific place in time. Meanwhile the heart beats on, propelling time from one breath to the next. (Westerkamp 1990)

Why her own breath? It is probably a question of transmitting an experience, of conceiving music as an experience happening here and now. From this perspective, listening is primary and immediate: each act of listening constitutes an experience, each experience recreates a listening. Thus, we seem to depart from the usual notion of music, at least this is what Westerkamp posits, noting that she is "no longer interested in making music in the conventional sense," instead she is "interested in addressing cultural and social concerns in the musical idiom." She relates further,

> That's why I use environmental sound and language as my instruments. I want to find the 'voices' of a place or situation, voices that can speak most powerfully about a place/situation and about our experience in and with it. I consider myself as an ecologist of sound. (Westerkamp 1985, 8)

Experience of place

In the traditional conception of music, sound constitutes a means to elaborate representation or to arouse emotions. In the ecology of sound that Westerkamp supports, sound is understood as a decisive dimension of the world. Music becomes a dialectics by which our relationship to the world can be contemplated, and a subjectivity that would take care of the world can be constructed because sound and music give account of experience. As previously noted, a light, transparent, non-empathetic integration of personal traces characterizes Westerkamp's music; these traces correspond to what she calls "situation" in the above quotation. She similarly speaks of "places," referring to experiences of another nature.

Soundscape composition deals with this kind of experiences. In the article, "Linking Soundscape Composition and Acoustic Ecology," Westerkamp categorically refuses the idea that soundscape composition might be regarded as a subcategory of *musique concrète*. Supporters of this vein, if we take literally the positions its "inventor" Pierre Schaeffer (1966) defines in his *Traité des objets musicaux*, contend that the listener should focus only on sound's morphology; sound should be cut off from its origin and decontextualized to the extent possible. On the contrary, "acoustic ecology or soundscape studies [consists of] the study of the inter-relationship between sound, nature, and society" (Westerkamp 2002). Thus in soundscape composition, the origin of a specific sound should be transmitted, even if it is, physically speaking, decontextualized by recording. The experience of the global context – in which the sound was born, developed and disappeared – should be transmitted to the listener, and through it, the experience of a specific place related to this context. Thus, *Für Dich*, previously mentioned for its soundscapes related to the composer's personal life, "explores a sense of place and belonging, of home and love" (Westerkamp 2005).

The experience of place is also the aim of environmental pieces such as *Fantasie for Horns II* (1979), in which horn sounds "are soundmarks that give a place its character and give us, often subliminally, a 'sense of place'" (Westerkamp 1979). It is also the purpose of sound installations. For example, the visual and sound installation *At the Edge of Wilderness* (2000) "explores the moment of encounter between the contemporary visitor and the abandoned industrial sites" (Westerkamp 2000). Not to forget, finally, soundwalks and soundwalk-based compositions like *Kits Beach Soundwalk* (1989).

Beneath the Forest Floor: subjectivity and experience

'Beneath the Forest Floor'

To illustrate these issues on the notion of experience, we will focus on *Beneath the Forest Floor* (1992). This two-track piece is the result of a commission by CBC Radio and was produced in CBC's Advanced Audio Production Facility in Toronto (Westerkamp 1992). For this soundscape composition, Westerkamp used recorded sounds taken from ancient forests of British Columbia's West Coast. The composer made most of the recordings herself during the summer of 1991, mainly in the Carmanah Valley on Vancouver Island but also in the forests close to Cowichan Lake as well as on Galiano Island and in Lighthouse Park near Vancouver. The Carmanah Valley's forest is known, as the composer underlines, to have one of the tallest Sitka spruce ever known on earth and cedar trees older than one thousand years (Westerkamp 1992). (Note Fig. 1 and 2.)

Fig. 1. The forest in Carmanah Valley. Photo by Hildegard Westerkamp, July 1991.

Beneath the Forest Floor explores a natural environment with a focus on the acoustic specificities of place. The piece operates on the encounter of different sounds recorded in these forests: sounds of running water, birds, flies, mosquitoes and mysterious sounds resulting from studio treatment (McCartney 1999, 344). Thus, a simple adult raven's croak can become a deep muffled "throb that seems to come from the depths of the earth." (Bernstein 1993 quoted *in* McCartney 1999, 344). This heavy and deep sonority, which regularly returns as a percussive beat to punctuate the piece, particularly at the beginning and the end, was indeed obtained by slowing down the raven's croak (McCartney 1999, 141). This sound can also be heard at normal speed at different moments of the piece, for instance at the beginning (at 0'26") or inside a moment of silence in the middle of the work (at minute 8'17"). There is also another adult raven's croak, a larger one, which we can hear for instance at 2'49", and which was recorded by Norbert Ruebsaat, Westerkamps's former husband – again a reference to the composer's personal life.[2] Also present are other small sounds of birds that "when

slowed down, yield shimmering sounds" (Bernstein 1993 quoted *in* McCartney 1999, 344). In a way, these sounds seem to suggest the light and the life force of the forest. Globally, the interaction of these sounds contributes to creating an atmosphere, which is at once peaceful, mysterious, ethereal and unreal.

As the composer explains, *Beneath the Forest Floor* "moves us through the visible forest, into its shadow world, its spirit; into that which [a]ffects our body, heart and mind when we experience forest" (Westerkamp 1992). Westerkamp insists on the deep inner peace "transmitted surely by the trees who have been standing in the same place for hundreds of years" (Westerkamp 1992). Thus, as she writes, *Beneath the Forest Floor* seeks to create a space to experience the peace of this place. A contemplative character therefore marks this composition.

Rediscovering one's inner voice

Beyond the mere suggestion of apparent expressive qualities and figurative images, this work aims to appeal to physical and psychological sensations aligned with the sound characteristics of a forest environment far removed from the acoustic agitation of the urban soundscape. For Westerkamp, the relaxing peaceful properties of high quality sound environments, such as those of the forest, give us the opportunity to return to the acuity of listening. The piece immerses the listeners in the deep serenity emerging from these sounds, inviting them to focus on their "inner voice" (Westerkamp 1992).

> ...the sounds in the wilderness have something to 'say' to us about the environment, about the season, the time of day, about the life that we encounter in this space. (Westerkamp 1988)

Beneath the Forest Floor encourages us to renew contact with an active listening experience. It not only aims at a pure contemplation of an objective soundscape but also enhances a dialogue between these external sounds and our own "inner life". As a matter of fact, the composer wants to show that the sounds of a quiet, peaceful forest environment offer us a space to focus on our own inner voice, a space in which we can be rid of the restless sensations caused by urban acoustic environments. In other words, listening to these sounds becomes a question of refocusing on oneself. According to the composer, an extended experience within an acoustic environment, such as that of this forest, allows us to adjust ourselves progressively to quiet surroundings. Then, Westerkamp (1988) describes "a desire [that] emerges to express, to voice, to put ourselves acoustically into the environment – but now in a more sensitive way than when we first arrived." She states,

> The hi-fi soundscape encourages this. Its acoustic space allows us to explore and find our own voice, to find the voice that wants to interact with the voices of that place, to find the music for and of such a place. (Westerkamp 1988)

For Westerkamp, nowadays, the search for our inner voice through nature's voice constitutes a political act. Because, as she says, "in that act, on this continent, one moves in opposition to the dominant political voices, who no longer hear nature's voices, who no longer understand the meanings of nature's voices, but can only see nature as a place for resource extraction and profit" (Westerkamp 1988).

On experience in 'Beneath the Forest Floor'

After these few developments, it should be clear that the sounds of *Beneath the Forest Floor* are not cold, objective recordings or transcriptions of a soundscape but aim to transmit the experience of a place, the experience of Westerkamp's living relation with these forests, and the way this environment talks to her and opens a listening to her own inner voice. It is a question of creating links,

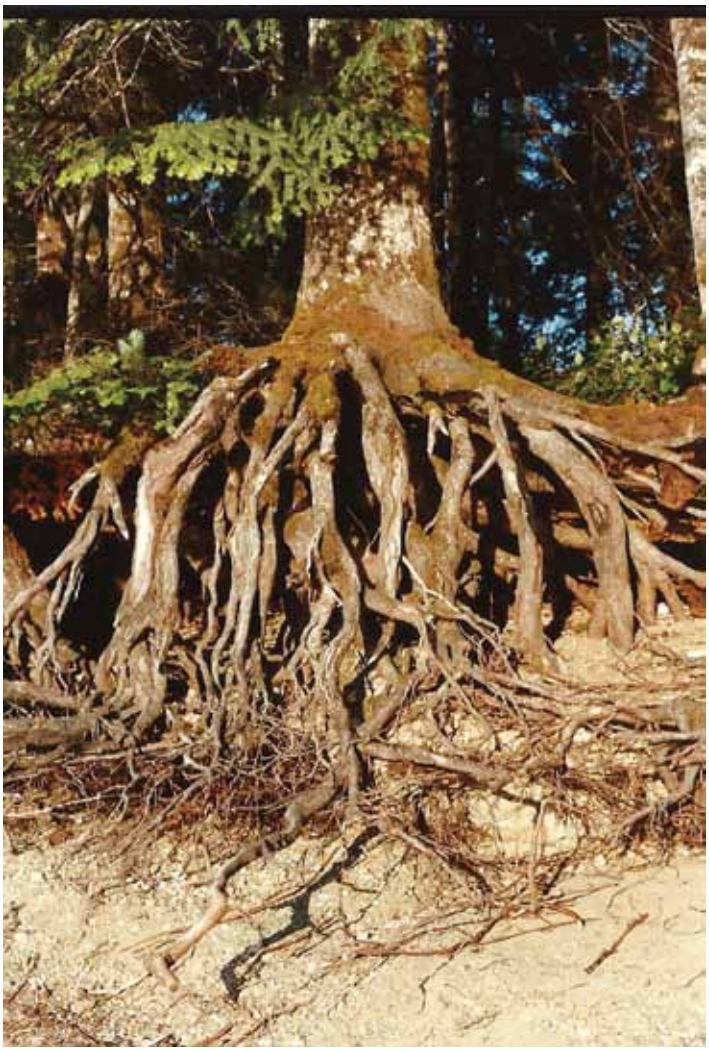

Fig. 2. Lake Cowichan southwest side. Photo by Hildegard Westerkamp, July 1991.

connections, and bonds – to make this experience alive enough to share with listeners an intense relation with these forests.

Thus, we could say that she leaves her trace the way the handprints of the potter cling to a clay vessel.[3] In Westerkamp's hands, soundscape composition opens a space for creativity through a constant dialogue between sounds and what they suggest as possible developments. The creative gesture is not predetermined; it emerges along with the dialogue she maintains with the sounds, their particularities, their meaning, and their context. Creation becomes the result of a constant discussion between sounds and the composer's voice. *Beneath the Forest Floor* reinvents the idea of experience by the interaction of the forest's sounds, the creative voice they elicit within the composer, and the listener's voice.

Beyond musical experience, *Beneath the Forest Floor* is an invitation to visit places like Carmanah Valley, a victim of massive deforestation with more than half of the forest having now been destroyed. As Westerkamp explains that apart from encountering the overwhelming "stillness...."

> a visit will also transmit a very real knowledge of what is lost if these forests disappear: not only the trees but also an inner space that they transmit to us: a sense of balance and focus, of new energy and life. The inner forest, the forest in us. (Westerkamp 1992)

In this forest, as Westerkamp (1988) contextualises, "aside from the fact that we experience a lowering of our threshold of hearing, we also become acute listeners because the sounds in the wilderness have something to 'say' to us about the environment, about the season,

the time of day, about the life that we encounter in this space." In this way, she points out, "...this information is vital for our orientation, our survival and feelings of connectedness. If we open our ears to this soundscape without fear, we realize that every single sound in the wilderness has a meaning, which is worthwhile knowing about." What this means, she affirms, "As we understand the meaning we are placed more firmly within the context of this environment. We become part of it and stand in an interactive relationship with it" (Westerkamp 1988).

For a long time, music has focused on the production of autonomous objects, erasing the listener's relationship to the world in favour of a deep interiority.[4] This idea of music was a historical conquest, which allowed music to renounce functionality (religious or social); but it results in a kind of autism that can be taken by cultural industry to serve its own interests. This is why the notion of ecology of sound briefly developed here through Hildegard Westerkamp's thought and music is becoming necessary. This notion allows us to reconstruct the links, the connections, the bonds; instead of being reified objects, sounds invite us into an act of listening, constituting an experience by which we can change our relationship to the world.

End Notes

1. Paul Karl Wilhelm Scheerbart (1863–1915), pacifist writer, one of the founding fathers of German expressionism.
2. In a first version of this article, we were saying (based on Bernstein 1993 quoted *in* McCartney 1999, 344) that the raven's croak recorded by Norbert Ruebsaat was the one that is slowed down. Hildegard Westerkamp gave us the following precision: "The raven's croak recorded by Norbert is not the one that produced the low frequency throb. It is the one that is heard at the beginning (at 0'26"), and is purposely put alongside it's own transformed/processed sound, the throb. When working on the piece it amazed me that this raven's specifically 'grainy' call against a very quiet, slightly reverberant ambience produced this specific and clear throb when slowed down (pitch shifted). No other raven call recording gave me this. Norbert's recording came from a larger raven and when I tried to slow it down, it gave me an entirely different sound, that I did not use in the composition. That raven has a deeper, throaty sound and for your information, appears for the first time at 2'49" in the piece and comes back one or two more times later – always with water or wind sound in the background, because the original recording had a hissy background ambience (recorded on cassette, I believe) that I wanted to mask" (Hildegard Westerkamp, email to Frédérick Duhautpas and Makis Solomos, December 2013).
3. We are paraphrasing here a Benjamin's text Benjamin 1936, 91), which is also quoted by Felix Guattari (2005, 69).
4. "The core of assumption in Western aesthetics concerns the *attribution of emotion-producing qualities to music conceived strictly as sound*. By this is meant that we in Western culture, being able to abstract music, and regard it as an objective entity, credit sound itself with the ability to move the emotions. (…) In other words, the Western aesthetic separates the experience of music from its social context. When one is moved by the music in that sense, one is moved *internally*, privately, as an individual" (Westerkamp, 1988).

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Frédérick Duhautpas is a musicologist and teaches at University Paris 8 as Maître de conférences. His main areas of research concern aesthetics and, most specifically, expressiveness, significations, emotion, and social and political issues in music. He tends to favor a multidisciplinary approach to musicology including sociology, psychology, philosophy, hermeneutics and semiotics. He is the author of several publications dealing with expression and modern music.

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Sound Object? Sound Event! Ideologies of Sound and the Biopolitics of Music

By Agostino Di Scipio

Abstract

This article elaborates on the ideology of the *sound object*, as a predominant factor in common attitudes of sound-making and listening, and contrasts it with an understanding of sound as the *event* of time-specific and space-specific traces left by desired or necessary interactions. The discussion is described as one bearing on the *biopolitics of music*: by weaving together an ecological awareness of sound and a critical (and creative) view of music technologies, the article emphasizes the relationship between the material conditions and the cognitive mechanisms of auditory experience *qua* "conditions of existence" of purposeful sound-making in general. Commitments of the kind can take the form of scholarly research and/or of artistic explorations. Therefore the discussion touches both on broader questions of musical knowledge in their relation to issues in audio media theory, and on particular examples of sound art practices where reconsidered notions of *aura* seem to emerge.

Introduction (sketches for the biopolitics of music)

Some awareness of sound phenomena is proper to all cultures. Different ways of becoming aware of sound enact different meanings of music and other acoustic communications. The manner in which sound is brought about and is born to perception, made present to us and kept in existence (however temporarily), is part of the meaning of music (including music not made of sounds) across different historical and geo-cultural coordinates. Music emerges, to a large extent, from a care for manners of making sound and of making silence. I mean, not only ways of making sound present to us, but also ways of making ourselves present to sound. How we relate to sound affects the life of music and affects what music makes of our own life.

Cultural ideologies – i.e. the cultural constructs and metaphors captured as cognitive and perceptual attitudes of human beings in their making-sense of the world – underpin music by structuring in the first place the process of auditory experience. In turn, they are shaped, reinforced or countered, by lived auditory experience. There is a double bind, a stable coupling between the two: one is born by the other. The domain thus defined – how musical practices emerge from a participated understanding of sound, as the latter emerges from former – is the domain investigated by what I call, maybe too ambitiously, the "biopolitics of music".[1] With that I mean an inquiry concerning the material conditions and the cognitive mechanisms of auditory experience *qua* "conditions of existence" of music and purposeful sound-making in general. A commitment of the kind, can take the form of scholarly research and/or of artistic exploration.

> *How we relate to sound affects the life of music and affects what music makes of our own life.*

We live in a historical age when human technology is no more just a "prosthesis" (an extension of the organism, as in earlier 20th media theory, *à la* McLuhan), and has become instead a thorough, maybe complete framing to human life (Heidegger 1977). Technologies shape the environment we live in, often in the form of intersecting networks that mediate relations among human beings, and between human and non-human beings: they implement established knowledge and thus inscribe power relations not just into our "tools," but into our life environment. Technology is a "theatre of hermeneutic exchange" where the meanings of human life are negotiated (Feenberg 1995). In such a context, the battle for an acceptable degree of freedom in action – or just for a certain *margin of manouvre* – is prerequisite to a desired freedom in expression. An effort to at least appropriate the tools and means of one's own action seems proper to all artistic practices across the epochs and the continents, and it is a most relevant one in the present time (Di Scipio 1998).

In the following, I'd like to discuss aspects of what I see as a predominant ideology of sound and a determinant factor in predominant attitudes of listening. I elaborate on issues that are nothing new to many of us, in an attempt at weaving together a much necessary ecological awareness and an equally necessary critical (and creative) approach on the technologies and cultural ideologies we live with. In a time of globalization and pancapitalism, musical media and sound technologies are themselves captured in a globalized economy of profit, whose long-term effects involve an impoverishment and an annihilation of the experiential contents of music. By appropriating ways of sound-making and deconstructing the ideological contents of auditory experience, a more comprehensive strategy is hopefully enacted, that may possibly let music exist not (only and exclusively) as a merchandise and a commodity of the worldwide entertainment industry.

> *Scholarly and artistic efforts showing that kind of commitment are relevant in a "biopolitics" of music that builds on an ecological awareness of sound....*

Knowledge (perception of the environment)

It is often said that musical activities imply the development of particular skills and cognitive templates. Sometimes we simply say that music is a "form of knowledge". I prefer to rephrase that: creative sound-making and listening involve grains of human understanding and sensibility that are unique in the broader social context, and that contribute to the shared, social potential in their own peculiar way. I mean a special sense, such as for the passing of time, for the dynamics of the surrounding space, for the coordination with other human beings, for a balanced relationship of the body to instruments or tools. These (and others) sensibilities define a range of competences and abilities in being-in-the-world and making-sense of it, that is not accessible in the very same fashion across other human endeavours. I am not talking so much of specific skills and competences that define a music knowledge as a *knowledge of music*, I am rather talking of a *musical way of knowing* as a declination of becoming-

Figures 1 & 2 – *Modes of Interfence* n.3. Agostino Di Scipio's installation, University Paris 8, Symposium *Music and ecologies of sound* and *Journées d'Informatique Musicale*, May 2013.

aware in sound, as a mode of perception of the environment that potentially belongs to everybody, not only to specially gifted people or trained professionals and amateurs. "Music is the vehicle through which we explore our auditory structural coupling to the […] world" (Dunn 2007, 14). In that exploration, we find today the world densely filled up with technological layers of different sorts, constituting the very infrastructure or our life environment: in my view, the kind of ecological awareness so distinctive of creative sound-making practices, should be viewed to also concern this overly technologized environment, parts of which play in fact a decisive (limiting and/or liberating) role in those very practices (including practices presumed to have nothing to do with technology).

Deconstructing given perceptual habits, and then opening such operation to positive, constructive statements, has often (always?) been a crucial moment in artistically fertile behaviours. Scholarly and artistic efforts showing that kind of commitment are relevant in a "biopolitics" of music that builds on an ecological awareness of sound; addressing the cultural and material conditions set to the understanding and the experience of sound means addressing ourselves to the conditions set for music to exist and function, in individual and social life, as a way of knowing.

Sound object

We live today in and with an ideology of sound and music that reduces the cognition of sound to that of a *sound object*. Well-known reasons exist for that, following historical developments and the electronic media revolution of the 20th century. The early advent of sound recording later branched into multiple instances of *audio* culture, and sound became increasingly described and perceived as some kind of hard thing before us, separate from us (*Gegenstand*) and ready-at-hand. We can handle it and cause no modifications in it. We can displace it and leave it "as is", functional to designs probably quite independent of it. That essentially describes an approach entirely flattened on an audio engineering view. But that technical goal has the character of a "limit": it can never be actually achieved, except with a coordinate transformation of our cognitive inclinations. It is necessary to learn perceiving sound as *object*. In the 1950s, Pierre Schaeffer (Schaeffer 1966) needed *écoute réduite* (reduced listening) to isolate sound "in itself" from source and context, turning it into *objet sonore* – a separate, thing-like entity that one can address "as such".[2]

There is no question that sound recording technologies, of course, paved the way to important musical developments, and that, in turn, some musical developments determined the necessity to embrace sound recording and electronics. To be clear, I am deeply familiar with, and respectful of, the several forms of electronic and electroacoustic music. I have been personally involved for many years in electroacoustic and digital audio technologies, as a composer and researcher. As we all know, in his famous 1936 essay, Walter Benjamin postulated a positive, liberating potential in the arts based on the modern technologies of "mechanical reproduction", especially because, in his view, they would undermine the character of *aura* peculiar to past forms of art and the elitarian styles of fruition that connoted them (Benjamin 2008). In later decades, experimental music of different sorts appropriated the electronic means of reproduction and turned them into new means of production.

> *The increasingly easier access to musical commodities (portable players, internet streaming, etc.) reinforces a way to deal with sound as something one can handle and dispose of at will.*

Today digitally reproduced sound is ubiquitous and pervasive, and has since long become a heavily conditioning element of our auditory faculties. The sound object results from a technological recontextualization that moves auditory perception into a logics of separation – Schafer's *schizophonia*. The sound object shapes (and is shaped by) cognitive modalities that lead us to experience sound as something that can be handled, moved in time and space, stored, exchanged, independent of the ephemeral temporal and spatial contingencies of its coming into presence. That reframes the ecological functionalities that auditory perception can perform, thus reframing the ecology of music too.

That *reductio ad objectum* also opens the possibility to capture sound and music in an economy of "exchange of equivalent goods", turning them into materials worked out in a large-scale industrial apparatus of "cultural productions". An objectifying cognitive attitude thus leaves way to a reification of the sound phenomenon (sound turned into a commodity, trapped into a market economy). In turn, of course, that reification reinforces the cognitive attitude that makes it possible. Such a dynamics wipes out a very different economy that sound may otherwise capture and lend itself to: as a medium of participation *in* and *with* the environment (see next section), sound can be said to be indeed pre-inscribed in an economy of gift and sharing, more precisely in an economy of *interested* gift – sound performs *the inflation of a promise of inclusion* (Di Scipio 2013). An inclusive politics is cancelled by an ideology of the sound object.

The increasingly easier access to musical commodities (portable players, internet streaming, etc.) reinforces a way to deal with sound as something one can handle and dispose of *at will*. That instills in consumers a sense of empowerment, of being-in-control. However, that comes with a paradoxical side-effect, as with a subjective dependency on the "empowering" media (a sense of "being-in-control" masks a more fundamental "being-controlled"). Furthermore, the extreme availability of recorded music is a notorious cause of "pollution from sound". Pouring out of too many speakers and blasters surrounding us, sound and music become an invasive pollutant. One may enjoy a sense of being-in-control, but may also be distressed by a sense of not being in power to cut short with the surrounding mess. As it seems, today it has become possible to think of "sound" and "music" as something that exists in a way that it had never before: as waste and pollutant. The opposite of a medium or vehicle of ecological awareness.

In its manner of working, the sound object turns off the relational and contextual meaning inherent to a musical way of knowing. It prevents a becoming-aware of sound as the fragile trace of agencies belonging to the actual place and time. Saying that the sound object has an *ideological* status amounts to saying that it is born of determined cultural conditions and particular cognitive modalities: Foucault would call it a *dispositif*, a device of subjectivity, a cultural institution: it implements a historically-determined representation, and makes things work accordingly across the society. As a *dispositif*, the sound object can and should be deconstructed. The difficulty is in the double bind: artefacts (re)produce and stabilize the ideology they are born of.

All human sound-making manifests itself as audible traces of desired or necessary interactions in space and time.

Sound event

As a phenomenon of human experience, sound is never really *object* and is always *event*.[3] We can always attend to it as the audible manifestation of relations and interactions in the space-time unity of experience, in the here-and-now. A non-objectifying attitude is at work here, sensitive to the ecology of the living and embodied process that auditory perception is. This is in fact something the body knows well, but that *we* have unlearned: sound is difficult to objectify (electronically generated sound is no exception). Sensed in its unfolding in time across the tridimensional space, sound spreads around and within the listening body, as well as across and within the body of the sound source. As it takes place (and that takes time), it also takes on the semantic connotations of the place, as an event *in* and *of* the environment. That happens before well-implanted mental habits may frame it in a logics of separation and objectification (Di Scipio 2011).

Sound events have both an energetic, vibrational status – energy transferring across bodies and through a medium (the medium is just another body) – and an informational status, bearing the audible traces of all interactions (material and cultural) they are born of; they take up all signs of the mediations they go through before reaching the ear.[4] In sound, everything is connected to every other thing and "everything interacts with everything else" (Truax 1984, xii). Every surface, every obstacle in the space affects to some smaller or larger extent the sound that arrives to the tympanum. The body to which the ear belongs, and the ear itself, leaves traces in sound. All technical mediations, all means of channelling sound, however transparent they can be presumed to be, leave their audible traces: the ear can detect the mediations – one could say, the ear can deconstruct the audio media. Technological mediations have a voice. They don't just re-present sound as such.[5] Indeed, "there is no sound *as such*" (Di Scipio 2011, 105).

Consider a meaningful paradox. Acousmatic music, made of sound objects and often exhibiting an illusionistic poetics of the virtual, is sometimes played in concert rooms equipped with hyper-professional multichannel equipment (*acousmonia*), in order to elicit bodily responses that would be out of question with more usual equipment (extremely low frequencies, physical sources positioned at different distances, virtual sources coming from different routes, etc.). There we touch on an issue too often relegated to talks of virtual reality, namely: *immersion* – a concept that deserves careful reconsideration in ecologically more sound terms. The politics of the sound object becomes evident in immersive sound diffusion: a sense of being drowned in sound is experienced via a technology of power (loudness, larger-than-real spaces), as if sound, if not boosted-up, were not a medium we are immersed in, as if the feeblest breath were not something that is attended to with the full body and that can fill the ear (e.g. when hugging tight to your partner).

All human sound-making manifests itself as audible traces of desired or necessary interactions in space and time. Addressing ourselves to the sound event means having a sense for the relational medium that sound is and in which we live ("we don't hear sound – we hear *in* sound", Ingold 2011, 138). It means listening for the interactions and relationships that are revealed as timbral and spatial nuances in auditory perception.[6] The sound event tells us of the physical and social interactions of which it is composed. It tells us of our own relationship to what we hear in sound, and of our own relation to the surrounding environment. Attending to the sound event, what takes place is a politics of presence, proximity and relationship. There the performance of music can do its job: turning a space or site (neutral connotation) into a place or home (value-laden connotation), temporarily at least.

Detour (on soundcape)

Soundscape composition, as a cultural practice rooted in acoustic ecology (Schafer 1977), approaches sound as not separate from environment, or, more generally, as not separate from context. However, soundscape composition seems to lend itself to a strategy of separation and objectification when playing-back, in adequately equipped concert rooms, sound recorded in places foreign to the particular room – note the pungent criticism in Dunn (1999). When no specific attention is paid to the very operation of decontextualization, or when "spatialization" technologies and multichannel diffusion are exploited to offer a virtual rendering of the recorded soundscape, the proposal can be taken as a documentation of and a commentary on private experiences of particular soundscapes, but remains in a logics of separation and representation. All acousmatics fundamentally implies that logics, mirroring Schaeffer's path towards the *objet sonore* – and his problematic claims for a *phenomenology* approach (Solomos 1999, Kane 2007). The additional risk for soundscape composition, facilitated by affordable and portable field-recording equipment, is that of slipping into a kind of *sonic tourism*.

A younger generation of practitioners (i.e., Lopez 1997) can't accept the implicit value judgment against noise, and a sort of nostalgia for a quieter world, that they see inherent in Schafer (1977). After so many years, probably that nostalgic and romantic tilt appears only relatively problematic. I do think, however, that the whole question of noise – as a broader cultural issue and as a phenomenon of lived auditory experience – needs to be rearticulated in light of so many artistic and scholarly approaches having meanwhile emerged. Both "noise" and "silence" are biopolitically relevant issues, that is, issues which matter as far as the conditions of existence of music are concerned.[7] In this view, it is also interesting to ponder the differently nuanced critiques recently raised concerning the notion itself of "soundscape" (Ingold 2007, Kelman 2010, Montgomery 2009, Helmreich 2010).[8] These authors acknowledge the breakthrough that soundscape studies represented, but their critical views can be taken as contributions allowing us to go further into the inquiry concerning the relationship of human, sound, and the environment.

How should we understand that "sound recording is an extension of ephemerality, not its undoing?" (Sterne 2009)

Performance practices (reproduction, documentation, aura)

Creative practices bearing on sound as event hardly translate into technically reproducible artefacts. In their perspective, ways of presenting and ways of presencing are more important than ways of representing. Some sound installation art (since Max Neuhaus and Bill Fontana, in the 1960s and 1970s, to more recent approaches) can be either attended or documented; it is not meant to be reproducible and just cannot be reproduced (multichannel audio and field-recording do not really help). Same for "deep ecology" practices, of course, like sound walks and performances in the open, among other examples. Same applies for some of John Cage's most seminal works, and for current live-electronics approaches bearing on an ecosystemic view of the sonic relationship between performers, equipment, and space (Waters 2007, Di Scipio 2003 and 2011). In this regard, we should also think of the work of Alvin Lucier, Nicolas Collins and several younger artists (Waters 2011). We can think of instances of "radical improvisation" from collectives like Nuova Consonanza, or AMM, in the 1960s, to current approaches bordering with "noise-music" (Mattin-Iles 2009).

Consider instrumental music made of very thick sound masses, maybe with sound sources dispersed in unusual ways across the concert venue (e.g. Iannis Xenakis's orchestra piece *Terretekthor*). Consider sound art presenting us with very sparse, feeble, almost inaudible sounds (e.g. many works by Rolf Julius). These, too, are practices whose meaning gets largely lost in reproduction. Historical landmarks like the *Poéme Èlectronique* (LeCorbusier-Varése) or the Xenakis's *Polytopes*, with their overlap of multichannel sound, architecture, and images or light, are obvious examples of works that cannot exist as recordings: they can survive their time-specific manifestation only in materials and media *documenting* the work (whatever that means). Or they should, in principle, be made again from scratch, made "original" anew.

Consider works consisting in the formation of small communities, or in sound actions collectively pursued by visitors. The French composer Pascale Criton has illustrated, in her presentation [at the Paris conference], works of the kind. Sound can be "a device to elaborate social connections" (LaBelle 2010). It may be suggestive to think of such endeavours as instances of *relational* aesthetics (Bourriaud 1998).

In short, and regardless of aesthetic directions, several artistic endeavors seem to materialize in performative circumstances inseparable from the space-time unity of their lived experience. Are we then in the presence of artistic practices that defy Benjamin's canon of "art in the age of its mechanical reproduction"? That is surely a problematic statement to propose. In a way, yes, we are (and have been for decades). But several questions should be tackled in order to let the statement lay on solid ground. That is not our task here. In approaching the conclusion, however, we can at least consider some observations maybe of use in further work.

Are we still to consider the Benjamin's dictum (from 1936) as *the* paradigm for all electronic arts, and for the sound arts in particular, as most authors and commentators continue to propose to this day? Are we to take up again notions of *aura*? Certain scholars have addressed the question of aura in the light of recent artistic endeavours (Rüth 2008, Mersch 2002). Others propose an "aesthetics of atmosphere", partly following from a confrontation with Benjamin's aura (Böhme 1993, 116–118). A recent paper (Distaso 2013) notes that Adorno seemed to envision a new kind of musical aura (in passages of his 1963 paper on radiophonic art). Bruno Latour has elaborated a notion of "second-order aura" (my rephrasing) in connection to ultra-refined digital renderings of old paintings (Latour-Lowe 2011). What is interesting, in such contributions, is not so much the (im)possible return to an art of auratic character (that would be a nostalgic move, given the profoundly different historical context), but the chance to address and understand aura in a new perspective. Paraphrasing Adorno, just as the artistic *materials* are historically determined, so are the *immaterial* characters of art.

Also, questions arise concerning the idea that practices bearing on context-specific sound making can (or should) be *documented*, as already mentioned. Documentation works with reproduction, but is not the same as reproduction. Are we to consider *documentality* (Ferraris 2008) as a distinct dimension of our intimate and shared relationship to sound? What do we need documents for, exactly, as far as auditory experience is concerned? How should we understand that "sound recording is an extension of ephemerality, not its undoing?" (Sterne 2009). Some artists intentionally plan their site-specific actions in order to document them. In such cases, shall we say that the role of documentation shifts from that of a "means" to that of an "end"? Can we speak of aura in relation to ephemeral works deliberately designed to be documented?

It is maybe not by chance that these final interrogatives bring us to questions of time (duration, durability, ephemerality, eventuality). Maybe that is because, based on a necessary ecological awareness, questions of time could now be taken up again, in their intimate solidarity with space and the environment.

Endnotes

1. While the notion of "biopolitics" comes from the work of Michel Foucault, the way I (ab)use it here owes more to Agamben (1995) and Hardt-Negri (2009).
2. An interesting commentary on Schaffer's *Traité des objets musicaux* (1966) bears the title "L'objet sonore, ou l'environnement suspendu" (Augoyard 1999).
3. "Event" may not be the best term, given the common abuse of it, and given the philosophical overload and the mystical resonances it might evoke. However, I am not alone in using it – see Mersch (2002), where the context is the aesthetics of performative arts, and see O'Callaghan (2009), where the context is the history of philosophical ideas. Clearly, I imply no shared notion of "sound as event" among these contributions.
4. The term "information" should not be understood as something that *is in* or *belongs to* the environment, as something that human beings *pick up* from the external world. I cannot elaborate on this point; I will simply drop a concise quote from Heinz von Foerster, who described information in a constructivist vein, as "inferences" humans build based on sensory data: "the environment contains no information; the environment is as it is" (von Foerster 1972, 6). The view has been further elaborated in more recent research directions (biology of cognition, phenomenology of living systems, etc.).
5. In his *acoustic epistemology* (or *acoustemology*), ethnologist Steven Feld investigates the "place of sound, and the sound of place" (Feld 2010, 36) in peoples where a direct relation exists between the sound of the inhabited environment and the structure of society. In such circumstances, the difficulties in recording and documenting the sound-making social activities is not at all marginal. For Tomas (1996), in Feld's recording sessions the equipment itself tends "to make disappear what it would preserve" and thus hiddenly resurrects "a history of colonial relations" (Tomas 1996, 121). The objection is interesting as it refers less to limitations in the sound recording technology, and more to intercultural issues.
6. A more systemic notion of "timbre" is required today. Research in that direction could benefit from work in ecological psychoacoustics, where the perception of "space" is often a crucial topic (e.g. Neuhoff 2004), as well as from a merging of *physical modelling* (digital signal processing models of sound-generating mechanisms) and *auditory scene analysis* (Rocchesso-Fontana 2003).

7. In a way, the first contribution to the biopolitics of music, consisted in the path leading John Cage from the Harvard anechoic chamber to the early elaborations of *4'33"* (1951–52).

8. Barry Truax has recently discussed some of these critiques (Truax 2013).

Author Note

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About the Author

Composer, sound artist, and scholar, Agostino Di Scipio (Naples, Italy, 1962) actively explores original methods in the generation and transmission of sound. His live-electronics works and sound installations elaborate "man-machine-environment" networks manifesting nonlinear dynamics and emergent phenomena (e.g. the Audible Ecosystemics pieces). Full time professor in Electronic Music at the Conservatory of Naples, composer in residence of DAAD (Berlin, 2004–05), Edgar-Varése Professor at Technische Universität (Berlin, 2007–08), guest lecturer/artist at several international institutions are among his credentials.

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The Sounding Museum: Towards an Auditory Anthropology

The Value of Human / Non-human Soundscapes and Cultural Soundscape Composition in Contemporary Research and Education on American Indigenous Cultures

By Hein Schoer, Bernd Brabec de Mori & Matthias Lewy

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Abstract

Based on the authors' field experiences, one of anthropology's main theoretical reflections in the past decade is used here as a starting point: the relations between humans and non-humans. It reveals that the role of sound is paramount within the Amerindian ontology named *animism*, especially if compared to Western *naturalism* and its visual primacy. Consequently, we propose an auditory anthropology as a theoretical concept, underpinned by further examples from the field. Finally, the practical application of an auditory anthropology is discussed. Researchers may make use of cultural soundscape composition in order to supply a museum's audience with a means to listen to the manifold cultures of the world.

Introduction – Auditory Ethnography and the Sound of Indigeneity

Indigenous societies of the Americas have always acknowledged sound to hold a prominent position in cultural life and the taxonomy of the environment, granting it a pivotal role also in artistic expression, which, today more than ever, builds the keystone for the formation and re-formation of identity in many indigenous communities (Schoer in press).

To dance a mask of supernatural origin in a Kwakwaka'wakw potlatch ceremony requires song; the *parishara* hunting ritual of the Pemón and Makuxi includes songs acquired from tapirs and other prey animals. Among indigenous peoples in the Ucayali Valley of the Western Amazon, it is very common that in both magical rituals as well as non-magical or secular songs non-human agents appear in the songs' lyrics. The contemporary art scene has cautiously started to embrace these cultural expressions as being part of the canon beyond the primitivist notion of indigenous form as exotic inspirational material.

But not only in song does this strong relation between sound and culture manifest. It is argued that the natural soundscape influences the characteristics of a culture, as the latter's artificial soundscape impacts on its environment (i.e., Schafer 1977).

In relation to the critics of western primacy of the visual (McLuhan 1962, Welsch 1993, Tworuschka 2009) and on the basis of ethnomusicological works by Seeger (1987) and Menezes Bastos (1978, 1999), the authors take off where Schafer (1977) and others leave us, intending to initiate a discussion on an auditory anthropology as a tool for rapprochement between American indigenous cultures and Western observers, allowing for "coeval" exchange of thoughts and ideas, of contemporary and traditional expression on the artistic as well as the metaphysical and social level.

This paper discusses the value of an auditory approach to indigenous culture, contemporary identity reaffirmation and cross-cultural communication, prompting a debate on whether an auditory anthropology can help us learn from each other and to relocate indigenous culture where it belongs, transcending the still-persisting evolutionist and orientalist notion in favour of an emancipated coexistence.

We conclude that by including sound in all its active, and reactive forms as manifest in cultural life, our understanding of identity formation will be enhanced, utilizable in field work as well as in mediation of findings, in exhibition design as well as in publication formats such as books, audio CDs, and interactive platforms. It will also facilitate exchange on a glocal level, transforming the researcher – interlocutor relationship into a mutually beneficial dialogue.

To Dance a Mask

> *"If the air is jam full of sounds which we can tune in with, why should it not also be full of feels and smells and things seen through the spirit, drawing particles from us to them and them to us like magnets?"* – Emily Carr[1]

In October 2009, Hein Schoer had the honour of being invited to Chief Bobby Duncan's Potlatch at the Campbell River BigHouse on Vancouver Island, BC.

He was on field research for his ongoing project *The Sounding*

Museum, making recordings of the cultural soundscape of the Kwakwaka'wakw First Nation on commission for the NONAM (Nordamerika Native Museum, Zürich, CH), which he was to supply with a composition covering indigenous cultures of the Pacific Northwest Coast of North America.

Equipped with surround and shotgun microphones Schoer recorded the proceedings of the potlatch, the most important traditional festivity of Northwest Coast indigenous culture, over the course of 16 hours, collecting a vast number and variety of dances and speeches honouring the chief and his family, making claims on inherited titles, a *hamatsa* initiation, and many other ritual and festive performances, inadvertently unfolding as ceremony over a noisefloor[2] (here used as a mere technical expression without connotation) of background conversation (usually ceased during performance). The large fire crackled in the middle of the space comprised of a huge wooden plank house on earthy ground smoothed with woodchips. Although much of what happened due to his limited knowledge remained un-decoded for Schoer, the atmospheric impact on him was profound. The acoustic aspect, being an essential part of it, makes an impressive representation of what he experienced.[3]

At one point, somewhere in the later evening, the Chief opened his Box of Treasures, which contained a number of important supernatural heirlooms of his family, embodied in the form of masks, that prompted dance to the appropriate songs. One of these supernatural treasures was the power of the deer. This mask is "danced" by a male human, and by means of a hidden string, opens up to reveal a (carved) human face underneath the deer head to show how all creatures are, from their own perspective, in fact also humans, just in different garb; in essence the dance to the song belongs to the mask. Schoer mistook the dancer to be Chief Bobby Duncan himself (Schoer 2011), when in fact, as he learned later on, it was master carver Beau Dick who wore the mask that day, whom he had seen carving it in the weeks before, as to be endowed to Bobby Duncan at the feast.

When Schoer wanted to apologise for his mistake (which by that time had been published) with both Bobby Duncan and Beau Dick on a consecutive visit, they both put him at ease, exclaiming that once either one of them wore the mask, they became the spirit represented by it, so it did not really matter who actually took it on. The dancer literally transforms into the entity whose dance he performs, which is also why one does not "wear" a mask during a dance, but one dances the mask.

This notion of transformation, or rather, trans-specific communication (Halbmayer 2010), will accompany us as a fundamental concept in our proposal of an auditory anthropology based on Amerindian ontology and its expressions in the praxis of performance.

Amerindian Ontology

Based on the model of four ontologies introduced by Philippe Descola (2005) and on Amerindian perspectivism as proposed by Eduardo Viveiros de Castro (1998) and Tânia Lima (1999), our proposal for an auditory anthropology is mainly informed by the findings of fieldwork with indigenous peoples from lowland South America as well as the aforementioned Kwakwaka'wakw First Nation.

We have started to consider an auditory anthropology out of the incomplete methodological framework within ethnomusicology, sound studies and anthropology. Whereas the ethnomusicologists' prime domain should be sound, many of the findings in the field are still presented predominantly visually, as transcripts, scores, and texts, with a strong focus on analysis and interpretation of music (although in many Amerindian societies the concept "music" does not even exist, see e.g. Seeger 1987, Brabec de Mori in press) while sonic and ontological circumstances remain widely unacknowledged. Following Classen (1990), Sarah Pink (2009) has already suggested an approach to ethnography that attempts to include "sensoriality" in the ethnographic process. However, sensory ethnography and anthropology are still very much biased towards the visual, evident in the growing body of research in the field of visual anthropology. On the other hand, sound studies, as wide, ramified and interdisciplinary as they may present themselves, have not yet generated a comprehensive symbiosis of sound with anthropological theory (cf. Brabec de Mori 2012, 79). In *Four Worlds* (Schoer in press), we introduce an approach to an applied auditory anthropology that aims to mediate theoretical concepts and field research on an affective/atmospheric level, borrowing from Gernot Böhme's considerations on atmospheric perception (Böhme 1995, 2000, 2001).

An auditory anthropology addresses the perception and production as well as taxonomies and axionomies of sound (Menezes Bastos 2013), the role of the sonic in the construction of ontologies, and the quality and finally the interaction of senses. It takes a clear position against the primacy of the visual. Before delving into the sonic domain, however, one shall reconsider a basic question: What do we hear? Sound, of course, one may reply, but what is sound? Is it waves, the physical compression and decompression of a carrier medium; vibration? Or is it rather events, like, if I knock on a table, does a listener actually perceive the sound – implying an event of knocking? Or is it the properties of the material that is being knocked on/excited that are revealed by the act of knocking? Is it the table itself that we hear, or its interaction with knuckles?[4]

Here is another set of questions only partly answered at this moment: Do we only hear with our ears? It has been noted that the sense of hearing, namely through phase discrimination allowing for distance and directivity analysis of sound sources, as well as spatial attributes of an environment, is of crucial importance for our orientation in space. The same holds true, evidentially, for the equilibrium sense, which happens to be physically located in the inner ear; its function based on the same physiological principles as hearing; lymph in the vestibular system exciting hair cells through its movements. Thus, spatial information, not only of the acoustic kind, is generally perceived by the ears. Frequencies below 20Hz cannot be transduced by the cochlea, but with our body we can feel them;[5] high frequency vibrations can be felt on the skin, even enabling humans to distinguish vibration patterns, as exemplified by a cello's timbre from a trombone (Russo et al. 2012). The possibility of the skin being able to process frequencies above 20kHz cannot yet be finally eliminated. Finally we are confronted with phenomena such as inner voices, imagined music and auditory hallucinations or tinnitus, where sounds are perceived but not measurable – and the other way around, in the case of blocked out sounds, where measurable acoustic waves are not (consciously) perceived.

It is common that researchers doing fieldwork among indigenous people report situations where their interlocutors heard sounds that they, possibly due to their different cultural background, did not (e.g., Menezes Bastos 2013, 287). So the questions posed above all hint towards the complexity of sound and hearing that cannot be reduced to physical attributes. One alternative interpretation was proposed with Böhme's atmospheric approach, with all its synaesthetic and multisensorial aspects. This approach takes into account that different cultures or collectives may deal differently with the acoustic world around them, not the least in several cases due to different ontologies.

Descola's matrix lists four ontologies (animism, totemism, naturalism and analogism) that oppose each other in the way they deal with physicality and interiority. Here, physicality refers not only to a materiality of organic and/or abiotic bodies, but to a totality of visible and touchable expressions which takes the characteristic dispositions of an entity (Descola 2005, 182). Interiority, on the other hand, includes for instance habitus, intentionality, reflexivity, affect, and the capacity of dreaming (2005, 181). Considering Descola's ontological model, the opposition between naturalism and animism appears most striking: In naturalism, which Descola equates with Western thinking, a similar physicality is opposed by a discontinuous interiority. This

means that we are all made of the same substance, but our minds or "souls" are the point of distinctiveness, condemning us to a monadic existence in all these inner aspects. Contrastingly, in animism[6] – an ontological system Descola explains with examples from Amerindian societies – physicality differs (we all have different bodies), but we are of the same interiority. This means that a peccary, for example, owns a body obviously distinct from humans' bodies, but the inherent perceptual organization of peccaries shows every feature of human individual, social, or cultural behaviour, living in houses, dressing in clothes, celebrating festivities and rituals. However, if naturalism and animism are described by terms of physicality (body) and interiority (soul), the question arises, where is sound located; from whence is the voice? Does the voice pertain to the physical, or to the interior?

Eduardo Viveiros de Castro (1998) proposes a concept he calls Amerindian perspectivism, according to which humans and non-humans perceive the world in the same way, but they perceive a different world. The world they perceive is determined by their bodily form – and as bodies are different in indigenous ontology, consequently the world is different, too. Going with the above example, peccaries see themselves as "persons" wearing clothes, etc., and humans do so likewise. The perspective determines who is a (human) person and who is a (non-human) other. Again, perspectivism relies on a strong visual bias, the very term being a visual idiom, ignoring the sonic. Therefore and again, is the voice different in distinct perspectives (as pertaining to the body), or is it similar, as an emanation of the interior?

Acoustic Communication and Trans-specific Soundscapes

In ethnographies of Amerindian rituals and other occasions where the community deals with non-humans (animals, spirits, the deceased) it is almost always sound that enables ritual specialists and participants to bridge the gap between species. Therefore, we can locate the voice as a part of interiority.[7] Lewy (2012) confronts the visual primacy expressed in Viveiros de Castro's thinking. Based on historical and ethnographic examples, he concludes that humans and non-humans, according to animist ontology, may hear similarly between perspectives, allowing them to interact trans-specifically via sound, resulting in a concept Lewy terms "sonorism." With *sonorism*, we propose an auditory primacy as a valid orientation when dealing with Amerindian ontologies and lived worlds (Lewy, in press), as will be shown in the following case studies.

The Pemón, a Carib indigenous group living in Venezuela, Brazil, and Guyana, practice the hunting ritual *parishara*, consisting of a song cycle of 30-something songs that take three to four hours to perform.[8] To understand how this ritual works, we have to follow Lewy's observation that Pemón myths reflect perspectivism in Viveiros de Castro's sense: Prey animals, from their perspective, see themselves as humans, but humans as spirits or hunter animals in an anthropomorphic framework, accordingly.[9] However, and that is where sonorism comes in, in the *parishara*, hearing, not seeing, is employed as the central mode of comprehension. Clearly, "real humans" (the translation of Pemón) sing the songs, but these are tapir songs! When the tapirs hear the songs of the *parishara*, they believe that there is a party of their own people going on, and they feel invited to join. Since the songs are *their* songs (according to many Amerindian ethnographies, most original sound creation is attributed to non-humans),[10] they perceive the people who are singing them as being of their own kind. Only once the tapirs see the hunters, they realize their mistake; the hunting begins.

Another example of auditory ethnographical findings comes from the Western Amazon, namely the Ucayali valley in the Peruvian lowlands. From the *parishara* we have heard that on the sonic plane animals and humans (who all perceive *themselves* as humans) can interact. However, interaction is not always intended; on the contrary, often it is necessary to prevent interventions from (dangerous) non-humans, for example in social gathering. Among the Shipibo-Konibo (henceforth Shipibo), certain species of birds are understood as equally or more powerful than the Shipibo themselves, specifically in their competence of perception.[11] Therefore, such bird-persons may not be mocked without risking unpleasant consequences. For example, when wandering in the jungle, these birds, having a much better overview than the humans, may warn them of imminent dangers. However, birds can likewise pass on information about the Shipibo's vulnerability to dangerous entities (like spirits). But if you have ever been to the Amazon, you will know that birds are always around; you can hear their singing all the time, so consequently, they can hear you, too. In order to avoid discord, the Shipibo have devised a way to break the inter-specific acoustic link in a way that reminds of the masking properties of the noisefloor briefly mentioned in the introduction: They create a sound carpet, a lo-fi soundscape, with rattles and small objects attached to the women's festive garments, that is so loud that the birdsong cannot be heard anymore. Accordingly, the birds will not be able to hear the humans' singing, as long as this noisefloor is kept up.[12]

> "The initial question then must be extended from "what do we hear?" to "how do we hear?" and "how does the Other hear?" In respect to a field of sound ontology dealing with trans-specific soundscapes we finally need to ask: "How do humans think non-humans hear?"

In one last example, which also comes from the Shipibo, we want to introduce a phenomenon that to a certain extent spans an arch back to the Kwakwaka'wakw far in the North. In indigenous communities all over the Americas much heed is given to trans-specific transformations. As briefly stated in the introduction to this article, a researcher may feel embarrassed when mixing up entities, in the way it happened to Schoer when mistaking Bobby Duncan and Beau Dick in reference to the deer transformation mask, and how they both put him at ease by stating that when dancing the mask, they become the entity represented by it. In this case, however, it was obvious for the (Western) spectator, that there was a real human behind the mask, and that the transformation therefore must be symbolic. No matter how fiercely a "traditionalist" indigenous person might object, no ethnographer, from the Arctic down to Tierra del Fuego, has ever actually seen such a transformation happen in the flesh. In the sonic realm this is different. Shipibo *médicos* (shamans) are believed to possess the capability of transforming into animals, even spirits[13] during magical rituals. That as well cannot be observed visually. But it can be heard. Becoming, for example, a spirit, the singing voice of the *médico* changes, and this change can be experienced and made evident also in recordings, a sonic transformation called "voice masking" (Olsen 1996, 159). The *médico* now is a spirit, and it would be dangerous for a common man to let himself be seen during that time, because the *médico* would see him as prey (while perceiving himself still as a human, but in the way all spirits perceive themselves as humans).[14] The ritual usually takes place in darkness. While from a naturalistic point of view, nothing may have happened, except for either deception or delusion, for the animist this change is absolutely real. Stoichiță and Brabec de Mori (2012) have introduced the term "sonic being" to describe this non-personalised intermediary – in-between – agency that is facilitated by sound.

From the above examples and many more experienced during fieldwork as well as examples found in the literature, we conclude that:

- Sounds and their ornaments (structure, instruments, lyrics) indicate the identity of a singing non-human;
- Non-humans transmitting these identities to humans and humans imitating these identities in performance aim to communicate trans-specifically;
- And, referring to Descola's concept of ontologies, sound perception and production is more related to interiority then to physicality.

With this relational definition of being[15] in mind we postulate:

- Amerindian ontologies are constructed principally around auditory perception and sonic phenomena.
- Neither is it sufficient to analyse and compare myths and other narratives (although it may help), nor just to look and see (which may help, too).
- All senses and modes of expression must be considered when intending to understand indigenous ontology.[16]

From Field to Museum: Applied Auditory Anthropology

From the exotic magic of the Amazon rainforest we now move on to the – for researchers raised in the naturalist tradition – more familiar setting of a (ethnographic) museum.

In the didactic branch of *applied* auditory anthropology[17] aimed at a lay audience the ontological and epistemological groundwork behind such practices as the *parishara*, voice masking, or other, cannot be brought across one-to-one, but by applying sound and understanding the "aisthetic" (Böhme 2001) nature of perception and rationalization, the analytic, naturalism-informed gaze can be confronted. And once the atmospheric entry has been made, the rest will follow eventually.

A potent device for this has been installed at the NONAM, Switzerland-based museum for indigenous cultures of North America, the Sound Chamber. On two floors the NONAM covers historical and contemporary indigenous cultures of North America, from the icy wastes of the Arctic to the hot deserts of Nevada. Out of the ten cultural areas defined for the continent, it features the Arctic, the Sub-Arctic and the Northern Woodlands, the Northwest Coast, the Plains and Prairies, and the Southwest in its permanent exhibition. Temporary special exhibitions have covered a broad range of topics in recent years, such as kayak building, the silver smithery of the Hopi, Navajo and Zuni, mask carving of the Inland Tlingit, beadwork, wildlife, the paintings of Karl Bodmer, and a photo exhibition about Greenland and its indigenous people, to name a few.

In 2008, the former video cabin was transformed into what is now the Sound Chamber. According to the designs of acoustician Richard Schuckmann, we refurnished a small wooden booth into a space of acoustic experience. Four high- and mid-frequency loudspeakers and a subwoofer hidden behind black curtains allow for surround playback in an acoustically treated environment that comes close to an anechoic chamber.

By covering all walls, ceiling, and floor with Basotect acoustic foam, reverberation was reduced to a minimum. Initial sketches still included the use of visuals, either in the form of photographs, or screens on the walls, but were quickly decided against. The final design takes the visitor onto a circular metal platform with a handrail around it, all black and dark (except for a very chary and fuzzy chain of light halfway from the floor – and dimmed by the black, half-transparent acoustic curtain in front of it – and an emergency light above the entrance), accessible via a softly ascending ramp. The little visual and lighting design applied creates, as Schoer confirmed in a visitor study, a feeling of being in a cocoon, an igloo-like bubble floating in the dark, with the light chain suggesting a horizon.

Thus Schoer's laboratory came into existence, where he could research on the impact of sound with all other senses (especially vision), if not cut off, at least heavily attenuated. Once inside the Sound Chamber, the outside world is shut out by heavy curtains that swallow all the light and almost all the sound from the exhibition area. And then you hear it. Wind in the trees, a creek, the crows, first in the distance, then all around you; the forest awakes. Eventually you find yourself in the streets of Alert Bay, then you visit a dance class at T'lisalagi'lakw Native School, and before you know it, you are at the very same potlatch where Schoer saw Beau Dick dancing the deer transformation mask, taking a stroll into the spirit world along the way.

The Sound Chamber is a place designed to bring the soundscape of North America's indigenous peoples to the museum visitor, in high fidelity surround sound and without the distraction of visual or other sensual channels where the experience of the sounds of a culture brings an immediacy and intimacy, an immersive quality, that the usual object-focused approach of classical exhibition design is lacking.

However, such a tool, as convincing as it may appear especially to audiophiles and soundscape researchers, is not without risk. A museum is a place of great opportunity, a place of learning, but also of great danger in terms of creating or confirming misconceptions of the world around us, particularly when your target group, as holds true with many museum visitors, has not spent years studying its exhibitions' subjects. When "re"presenting the Other, schizogenic (schizophonic) aspects of exhibition design must be taken into account as much as matters of orientalism and coevalness; established power relations need to be questioned. The author's (here used in the widest sense, including exhibition designers and museum curators as much as field researchers and theoreticians) impact must be made transparent in order to drag the audience out of the illusion of experiencing the world as it is, instead of a distinct version of it seen or heard through the eyes and ears of the individuals who created its "re"presentation.

To avoid these pitfalls at the Sound Chamber, a number of strategies have been developed, mainly aiming at achieving a high level of transparency in respect to what is being presented. *Two Weeks in Alert Bay* is not pure field audio, for it is a complex composition, rather rooted in a musical than a documentary tradition.[18] The recordist/composer's own voice can be heard occasionally, breaking down the illusion of being in a different world, detached from one's own as the interaction between researcher and researched becomes apparent in such moments. The contemporaneity/cotemporality of the piece and with it that of the audience and the ethnographic subjects is further heightened by de-emphasising the focus on "cultural" sounds in favour of an everyday soundscape, which includes elements that for European ears will convey a feeling of exoticism, but equally many passages that depict daily routines that would not sound much differently in the outskirts of Zürich.

In workshops (*Das Tönende Museum)*, school classes equipped with listening tools provided by clairaudience training as initiated by Schafer (Schafer 1986, 1992) can learn to analyse the sounds of their own (cultural) environment and compare them with what we have composed from our experiences with other cultures, thereby learning about themselves and their relationship with the Other. The compositional aspect is important here, because understanding unedited field recording would require tacit knowledge that only natives can possess or scholars with according contextual knowledge might access. We are very clear about this aspect; the participants (and museum visitors in general) listen to *our* image of the Other's soundscape, which, however, is being enhanced by as many First Voice (literally the informant's personal voice in the piece, but also the inclusion of as many of her/his suggestions as to what to include and how to position it) aspects as suitable in the compositional concept, creating

immediacy and realism, but not claiming general objectivity at the same time. Consequently, the pieces are made in the spirit of a session musician's approach, which differs from the ethnographer's stance in the sense that not scientific completeness is the paradigm guiding the data gathering, analysis and presentation, but the mutual interest in each other and what can be done in a collaborative effort, on the interlocutor-researcher as much as on the instructor-student end of the process with the composer-researcher-educator as mediator.

We cannot step into someone else's mind; we can only learn to accept that we will never understand it in full but still may regard the Other as equal (in difference). This applies to our acquaintances in the field as much as to the people to whom we wish to mediate our findings.

Conclusion

"[true] communication is possible only between equals."
–Hagbard Celine[19]

All these phenomena and the ontologies behind them cannot be exhaustively described without listening to the sounds that are affiliated with them. They also cannot be properly interpreted without taking into account the different ontologies, which also means to step out of one's own frame of reference (naturalism in our case) and accept that other ontologies are not simply false, but different takes on reality, as different perspectives of the same phenomenon. By integrating various perspectives – perception theory, the soundscape approach, Menezes Bastos' world hearing, Feld's acoustemology, Descola's ontologies and Viveiros de Castro's perspectivism – with our methodological approaches from the applied auditory anthropology, the First Voices and the session musician's approach (for the latter two see Schoer in press), we aim to develop an atmospheric approach to anthropology, transgressing the primacy of the visual and the Western "view" on culture. An auditory anthropology will have to employ "a multidisciplinary approach of socio-semiotics, ethnomusicology and a phenomenology of acoustic experience – an akoumenology" (Tan 2012, 23).[20] The initial question then must be extended from "what do we hear? " to "how do we hear?" and "how does the Other hear?" In respect to a field of sound ontology dealing with trans-specific soundscapes we finally need to ask: "How do humans think non-humans hear?"

Sound is, after all that has been said on the previous pages, beyond any doubt one major and powerful medium for this exchange. The strength of the Sounding Museum's concept lies in its integrative power, which, to no little extent, is the power of affects. If you are in academia, think about what attracted you to your field of study in the first place. Was it the promise of dusty archives to which you might spend much of your life, or was it the childly fascination for the adventure promised by the appeal of the unknown? We cannot take you to Alert Bay, or the Amazon, but we can give you an atmospheric (call it auratic, if you like) object to hold in your very hands, be it in a museum or immersed in a book discussing our findings and theories. In each case, theory needs to be backed up by hands-on experiences for the recipient, a Sound Chamber to walk into, an audio CD or an interactive DVD application that helps to relay a data-informed and, more importantly, affective impression of our theoretical musings. It is this atmospheric totality that creates a synthesis of soundscape studies, ethnographic fieldwork, anthropology, and museum didactics, and reconciles academic research, art, and education, and that can help establish coeval intercultural communication, be that between museum visitors and Amerindians, between researchers and their interlocutors on every level, or between humans and non-humans.

The main tools are the Session Musician's Approach and the First Voices' perspective, the glocal framework and the conscious and constructive integration of schizophonic aspects into it, and, particularly, the personal perspective: I am talking to you, not an impersonal omniscient naturalistic consciousness. Thereby we intend to build bridges between the worlds of the audiophile, the "Exotic Other," the scientist and the interested lay public. The Sound Chamber, originally built in 2007 as a fixed installation at the NONAM, has by now been set up in a mobile form as the central "object" at numerous events all over Europe, enabling the respective lay and expert audiences to step into the worlds they had heard of in talks, workshops and discussions on various aspects related to academic and political implications of an auditory anthropology. The Sounding Museum has indeed left the laboratory.

Endnotes

1. http://www.arthistoryarchive.com/arthistory/canadian/Emily-Carr.html (accessed 10-04-2013)
2. Please listen to audio sample 1 "noisefloor" for a model example (http://soundingmuseum.com/soundscapejournal).
3. An excerpt from the potlatch can be found in audio sample 2 "Two Weeks in Alert Bay (Walk-In Edit)" (http://soundingmuseum.com/soundscapejournal).
4. For a detailed treatment of the ontology of sound from the perspective of analytical philosophy see, among others, the comprehensive thesis by Sharif (2012). Further: Böhme (1989, 121–37) on the doctrine of signatures found with Paracelsus and Jacob Böhme.
5. In Steven Spielberg's 1993 movie Jurassic Park frequencies down to 3Hz are used to create terror among the crowd; you don't hear them, but you will be scared out of your wits!
6. Please refer to Nurit Bird-David's paper "'Animism' Revisited: Personhood, Environment, and Relational Epistemology" (1999), including replies by Ingold, Viveiros de Castro, and others, and the author's reply to these comments, for an overview over the origin of the concept of animism and a debate on its broader contemporary reception among scholars.
7. Please note that in animist thinking, the voice, especially when super-formalised in song, can be heard and understood by different species (including spirits), therefore it pertains to interiority, which is considered similar among beings. In naturalism, on the contrary, many problems arise from misunderstanding and mutual unintelligibility of languages, especially when it comes to inter-specific cases. Here the voice is again part of interiority, though conceptualized as discontinuous.
8. Please listen to the first song of the cycle in audio sample 3 "Kewei" (http://soundingmuseum.com/soundscapejournal). For an exhaustive account on the parishara, please refer to Lewy (2012).
9. See Viveiros de Castro (1998, 470) and Lewy (2012).
10. This was most prominently stated by Anthony Seeger (1987), but see also the volumes edited by Hill/Chaumeil (2011) and Brabec de Mori (2013), among others.
11. For the concept of competence of perception and action, see Brabec de Mori (2012, 2013).
12. Please refer to audio sample 4 "Shipibo Party (technical progression)" (http://soundingmuseum.com/soundscapejournal).
13. It is beyond the scope of this short account to discuss the precise nature of this transformation, but see Brabec de Mori/Seeger (2013) for a detailed treatment.
14. Please listen to the audio sample 5 "Transformation" (http://soundingmuseum.com/soundscapejournal). It is the moment when the médico transforms back from spirit to human, returning from his high-pitched spirit voice to his low-pitched regular speaking voice.

15. Viveiros de Castro acc. to Karadimas (2012, 27).

16. Cf. Brabec de Mori (2012, 98).

17. The political dimension implied by the lexical proximity to applied anthropology is explicitly intentional. We have learned from Lévi-Strauss and others that anthropology nowadays cannot elude social and political entanglement, which must hold especially true in the context of the power relations inherent in museum politics, particularly regarding the consequences they have on its visitors; see especially Nader (2002, 47–54), also Colwell-Chanthaphonh (2009).

18. The full length piece CD is available at gruenrekorder.de; a surround version is underway (Schoer in press).

19. Shae/Wilson (1975, 286).

20. See also Faudree's (2012, 519–36) suggestions for a synthesis of the soundscape approach and chronotopy with semiotic anthropology.

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Note: Audio Samples (http://soundingmuseum.com/soundscapejournal) include (1) Noisefloor, (2) Two Weeks in Alert Bay (Walk-in Edit), (3) Kewei, (4) Shipibo Party (technical progression) and (5) Transformation.

Wayback Sound Machine: Sound Through Time, Space and Place

Article & Photos by Maile Colbert *(except where noted)*

Abstract

Two years ago I found myself in a location and situation that brought to mind the connections between sound and memory, which lead to considerations about sound and history. Upon thought and research, then experiments within my own practice, I have since been exploring what can come from recreating or creating sound from back in time. I have been excited about what this research has meant to my own work, as well as exploring the work of others who I meet of other disciplines engaged in similar lines of practice.

Introduction

Frank Vanclay said nicely in Place Matters, "*Place* is generally conceived as being *space* imbued with meaning. Thus, it refers more to the meanings that are invested in a location than to the physicality of the locality" (Vanclay 2008). He goes on to state, sometimes it is the biophysical characteristics that establish the foundation for those personal meanings.

When I travel to an unfamiliar location to create a work, I have become accustomed to bringing my VLF receiver, hydrophones, and underwater camera for exploration. Whether what comes out ultimately becomes part of the work or not, my interest in these particular tools stems from a fascination with capturing obscure events around me, real and happening, that I could not otherwise perceive. It also marks my wonder at events and elements in our world that have been, while evolving, continuous in a time line extending much further than my own. Similar to the sense one may garner from varied surroundings, such as a desert, or an ocean, with time and patience, what might at first seem bleak, barren, or monotonous, begins to give hint to a rich world hidden from our day to day experiences.

Fig.1: Joshua Tree State Park, California. Photo by Vahid Sadjadi

Fig. 2: Saint Michael's Mount, Marazion, Cornwall

Two autumns ago, finding myself with a day off from a project I was working on near Penzance in Cornwall, I decided to take a hike through the lesser known British arm of the Santiago Pilgrim Route: the St. Michael's Way. Dating back tens of thousands of years, some pilgrims and missionaries traveling from Ireland or Wales might have chosen to abandon their ships and walk across the peninsula, rather than navigating the treacherous waters around Land's End. Back then, the way was fraught with all sorts of dangers, and the path itself splits a few times, veering off towards a church near the harbor where they might have secured a boat to cross them. There they would meet a guide who would offer safe passage from the many thieves and pirates along the way. Still marked with the iconic scallop shell symbol of the pilgrim route, the path was nevertheless neglected, and overrun with all sorts of modern obstacles such as busy roads and farm irrigation systems.

Fig. 3: Gulval, Cornwall

As I got lost time and time again making my way towards Saint Ives, I found myself marveling at all sorts of new and heretofore unknown sensations. My ears tuned from the project on which I had laboured; I was especially taken back by the sound. Towards the middle of the path, located atop the hill of the inland of the peninsula, the wind from both sides carried sonic pieces of the day to day from the villages; a tractor, grazing animals, bits of conversation in Cornish, and church bells wisping past as quickly as they came, fleeting like ghosts. It is fitting that St. Michael, after whom the route was named, is the patron saint of high places.

I began to wonder what this path may have sounded like back in the time of thieves and pirates, back when its soundscape was composed of shared occasions celebrated with the voices of people, priests, prayers, and populated markets and fairs along the way that ignited all this activity. As I continued walking, I began to wonder how it may have sounded even before then, before the hills were blanketed with crops and cattle, before the many battles that must have been waged, and villages built and grazed. Such were my musings. Were there more birds then? Were there more trees? Were there more boar and foxes? What about even before these hills were hills; could there be a way to sonify these hills forming? I started to dream of a wayback machine for sound. What if as you walked this path, you could listen to time spinning back, listen to how it might have sounded, listen to its history? And what could you take from that experience? *Could* something be taken from this? In the two years since that happenstance, this idea has since resonated with me, consuming my thoughts. Beginning tentative research and practice to apply this thought in various ways, I continue to unearth more questions than answers, so I begin to seek out others experimenting in a similar vein. While acoustic ecology is a growing field, I still have not found many researchers working with sound in time. One person who has come close to this idea is soundscape ecologist, musician, and sound recordist Bernie Krause, whom last year I interviewed in an article on the sound of disaster about disappearing sounds as a signal of impending crises. The prelude of Krause's book *The Great Animal Orchestra: Finding the Origins of Music in the World's Wild Places* (Krause 2012), is the beautifully written "Echoes of the Past", which takes a meandering listen to how the world might have sounded 16,000 years ago. With that time travel in mind, perhaps something could come from working with people in various fields of statistical analysis to predict or speculate what sounds might be projected to become extinct from any analysis of sorts dealing with time specific soundscapes, and what this could mean in terms of how the sound line might be extended into the future. In the section "First Notes", Krause describes working with a graduate student, Kristin Junette, who reasoned that based on fossil records and the known sounds of insect species today, one might be able to recreate the insect ambience of approximately 65 million years ago. Then, based on acoustic physiology of the skull of a Hadrosaur, a dinosaur of the time, Krause and Junette were able to recreate a representative vocalization of its call to place in this early soundscape.

I was excited to learn of the research of Miriam Kolar, who has been working with various techniques and with people in various disciplines on a team studying and "recreating" the acoustic architecture of Chavín de Huántar, a 3,000 year old ceremonial center, predating the Inca in the Peruvian Andes. The architecture of Chavín de Huántar encloses a complex maze of rooms and twisting corridors connected by air ducts. Recently, archaeoacoustics researchers noticed that gallery architecture played strange acoustic tricks on them. "This environment is not only a physical maze, but it's a sound maze," says Kolar (2013). For one example, some spaces are interconnected and multiply echoes, bouncing them back to the ear so rapidly that the sounds appear to emanate from all directions at once, while other areas seem designed to clearly direct sound. The team has been using 3-D computer modeling and specialized recording equipment to try and recreate the auditory effect. "If you have archaeology and no acoustics, you're deaf," says archaeoacoustician David Lubman. "And if you have acoustics and not the other, you're blind. You need *both*" to understand ancient places like Chavín" (cited *in* Kolar 2013).

Passageira em Casa (The Traveler at Home), one of my projects from the two years since my walk in Cornwall, begins to explore

Fig. 4: Ludgvan, Cornwall

the notion of the wayback machine with sound in geography. *Passageira em Casa* is an intermedia and interdisciplinary performance inspired by the journey to define the concept of home. The narrative is a partially fictionalized and personalized account of the maritime history of Portugal, enacted by a dancer, vocal performer, live video, and live sound composition that creates a geography through the narrative and space of the project. From a bird song 'dawn' chorus in Lisbon to underwater earthquakes in the Pacific, field recordings along a maritime navigation route flow throughout the performance, giving a soundscape to the narrative's location.

The more recent Australian version, *Passageira australis* begins to explore sound in time. Developed at the iAir residency at RMIT, *Passageira australis* holds a focus on the debate behind whether the Portuguese were the first Europeans to arrive in Australia, based on the 16th century *Dieppe* maps of *Jave la Grande* and the myth/history of the Mahogany Ship. The soundtrack reveals a sound-line based on the impact on flora, fauna, and overall soundscape on both countries. As a two channel composition, different than stereo, one speaker represents Europe; the other Australia. As the dancer, our sailor, moves from one end of the space to the other, the sound in each channel is changed based on her approximate location to each "country". With this experience, my hope is the audience comes away thinking about interconnectivity of the world, and how we impact the places we touch. Although I will continue to research when I return to Australia, already the project had me working with a map historian at the Victoria State Library, as well as consulting the thesis of geologist Andrew Pickering on using GIS technology to search for the location and story behind the presumed mythological Mahogany Ship.

Naturally this approach has me thinking about history, and I find myself as I walk along often trying not only to imagine what the place I am experiencing sounded like at different points of time, but also trying to put that imagined soundscape side-by-side the current one I am experiencing. Then I imagine it layered on top of that sound, super-imposed, progressively fluctuating back and forth through a time line in a comparative experience. Another project that does just this, scheduled at this writing to be presented in Lisbon for a festival called, appropriately, Echos, is *Radio Terramoto (Earthquake Radio)*. In collaboration with artists and researchers Jeff Cain from Los Angeles and Rui Costa from Lisbon, *Radio Terramoto* is a radio-based soundwalk in which audience members walk down a path from Convento do Carmo through one of Lisbon's winding hills to the river. At key moments and specific frequencies, they listen on portable radios to an imagined "broadcast from back in time" of the great and horrible earthquake of 1755 that destroyed most of the city and killed up to 100,000 people with its subsequent fires and tsunamis after the initial quake itself.

Working with Rui Costa and discussing his native city's history has also spawned another project along this same vein called *Um Rio e Uma Rua (A River and a Road)* about the historic Estrada de Benfica in the neighborhood of Benfica on Lisbon's border, where

Fig. 5: Still frames from one of the underwater videos in *Passageira em Casa*

'purportedly' a set of doors to the city still exist. A downloadable map and audio file will be made available, and through headphones the listener could experience traveling this instrumental route, once along an important waterway. As they walk down the busy and primarily pedestrian path, shared with occasional buses and taxis, many café terraces and shops, an active church often adding its bells to the mix, they will aurally experience its history … the road becomes a river again, with all of the human activity

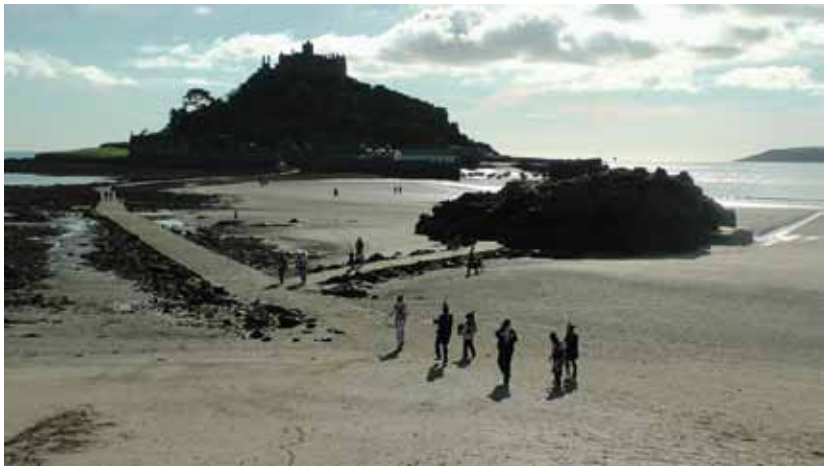

Fig. 6: Saint Michael's Mount, Marazion, Cornwall

and non-human activity that comes with that. With the possible addition of binaural microphones leading into a small mixer, the audience can choose to experience the mix in real-time and at their discretion what stage in history they want to hear and how much they choose to experience of the soundscape surrounding them.

Sound has a special relationship to emotion, instinct, and memory, both individual and historical. Tapping into the oldest part of our brain, sound provides immediate information telling us where we are, whether it is safe, and how we should feel about it. "Based on hearing, listening (from an anthropological point of view) is the very sense of space and of time..," states Roland Barthes (1985) in *Listening*. Drawing from Georg Wilhelm Friedrich Hegel, he continues, "[B]y her noises, Nature shudders with meaning: at least this is how, according to Hegel, the ancient Greeks listened to her. The oaks of Dodona, by the murmur of their boughs, uttered prophecies, and in other civilizations as well. Barthes further notes, "[N]oises have been the immediate raw materials of a divination, cledonomancy: to listen is, in an institutional manner, to try to find out what is happening".

It is my hope that the wayback sound tool I am researching could

not only build a new kind of living archive, but also have listeners' experiences of that archive one of wonder and sensation, a sonic database that would not only help us to remember and learn about the past, but also to create new experiences within the complexity of changing soundscapes over a period that usually defies our human comprehension. I see this tool being helpful to researchers in many disciplines, and also having a place in libraries, museums, centers, and perhaps "in the field" along paths such as the Santiago's Way, where one could download an audio file from the map online; then listen as they walk back through history.

About the Author

Maile Colbert is an intermedia artist with a concentration on sound and video, living in Lisbon, Portugal and teaching at Faculdade de Belas Artes, Universidade Porto. She spent the last four years collaborating with the organization Binaural/Nodar, and is an ongoing contributor of articles on soundscape ecology and sound studies at "Sounding Out," the award winning sound journal, and has performed and screened widely in Japan, Europe, Australia, and the Americas. More on her and her work can be found at www.mailecolbert.com.

Acknowledgement

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Machine Listening to Soundscapes: Playful Discovery of Sound Languages

By Iannis Zannos

Abstract

This article looks into the possible repercussions of massive availability of data in Soundscape research and creation. The problem posed by large amounts of sound data is that it becomes no longer possible to review the entire sound collection of a project manually, due to practical time limits. Machine listening techniques can help to search through large sound databases, and to identify those parts of the sounds which have desired properties, or categorize sound segments into groups that share certain characteristics. However, introducing the machine as a quasi-active component in the perception, understanding and manipulation of sound requires a fundamental re-thinking of the way in which sound is perceived. The article traces some of the implications of machine listening from a general philosophical and culture-theoretical view. It identifies concepts, practices and thought movements that foreshadow the idea of machine listening, such as the concept of navigation as a fundamental component of the understanding, interpreting, and constructing of both real and virtual environments. The discussion traces existing connections between pre-historic concepts such as the labyrinth and ideas that appear in the history of technology, leading to the digital computer. It is suggested that examining these ideas in relation to machine listening and contemporary soundscape practices can help both in the understanding and creative application of machine listening techniques.

Introduction

The present article originated from a simple practical question: How can the artist or the researcher deal with the ever growing amounts of recorded sound data? In the early days of soundscape studies, recording technology as well as sound storage media imposed a limit to the total duration of recorded sounds that a project could collect. Today, this limit lies easily beyond the amount of time available to the researcher or artist in a project. Several factors contribute to this situation: first the high capacity and low cost of digital storage media. For example, the total duration of uncompressed stereo sound at 44100 KHz and 24 bit resolution that can be stored on a hard disk of 1 Terabyte (with an approximate cost of less than 100 US dollars) is more than 1,000 hours).

(((2 ^ 30) * 1000) / (2 * (24/8) * 44100)) / (60 * 60)
= 4057981.2″
= 1127h 13 min 1″
= (140.90213 8-hour days)

Fig. 1. Total duration of 24 bit stereo audio recordings fitting in 1 Terabyte disk.

At 8 hours of listening per day, it would take more than 4 months to listen once through all the sounds contained in that 1 Terabyte disk. But the actual practical duration limit of useable recorded sound for a research or art project is much shorter than that, if one considers the need to develop familiarity with the sounds through repeated listening, particularly if one were to make meaningful choices or observations, as to be expected. A host of questions arises from this fact, some of which may have profound repercussions on our concept of soundscape as a field of research and creative engagement.

Among these questions are:

- Does the availability and accessibility of large amounts of recorded sound require a fundamental rethinking of work methods and the ontology of soundscapes?
- What are the experiential (psychological, phenomenological) and cultural implications of data overabundance in the audio domain?

What can we learn and use from other research and cultural domains that deal with large amounts of data, such as bioinformatics, experimental physics and astrophysics, and in general from domains that engage in "Big Data" research methods (such as finance and business informatics, meteorology, health care, genomics, and connectomics)? An exploratory "what-if" attitude is adopted here, assuming that we need to incorporate the concept of the 'machine' in our listening process in order to contextualise the radically changed reality of storage and its related ramifications, so to speak. From this perspective, this article will try to outline the possible consequences regarding our understanding of what a soundscape is – as well as the ways in which one works with sound. In some domains, the machine is already central to the loop of sound and therefore humans. Music Information Retrieval (MIR) is a field with well-developed methods and tools based on digital audio signal processing. Many interactive 'media arts' works surrender at least part of the responsibility of assembling and modifying the presentation of sound collages to the machine. The influence of the machine on practice has transformed through various artistic and philosophical stances, such as Surrealism and Dadaism, Concrete Poetry, Oulipo, Letterism, and Situationism. It may not be a coincidence that these movements appear in parallel with the gradual rise of use of machines in modern societies.

A key issue connecting these movements is sense-making, with respect to the delegation of work, action and control to non-humans. In other words, what is the substance of meaning, how does it arise, what is its role, and how do humans make sense of things? The importance of these questions grows proportionately with the degree of delegation to machines, for we need to understand how machines make sense of what we delegate, and how this may relate to our understanding. Hence it is hardly surprising that, faced with the increase of automation and algorithmization of processes in society, cultural attitudes towards meaning tend to break down, with the consequential impact being movements arise as ways for humans to confront or embrace the meaningless or absurd. Research in cognitive science, machine learning and artificial intelligence, as well as various contributions referred to as constructivism (Plask, von Förster, Maturana, Varela) and having their roots in biosemiotics (Uexküll) and cybernetics (Wiener) offer alternative meanings and contexts. The following traces some further implications of this issue, from the perspective of working with sampled sound.

Sampling vs Listening

Sampling, through sensing devices intended to measure data from the environment and store them for later use, represents a new type of interface to the environment. It is fundamentally different from other types of interfaces, in that it delegates both senses and memory to machines instead of relying on human sensory experiences. At the same time it introduces a new layer of mediation. Recorded samples can be regarded as virtual environments mediating our experience of the world over time. Accessing sampled data in any way involves an element of re-interpretation, or reconstruction. Put another way, mediation creates a new object of experience, whose relationship to the environment from which the recorded data originated is subject to re-interpretation and reconstruction.

> "... there is a third approach to sample-data mediation, which involves the living human being as part of the reconstruction process through sensory experience of the data."

Sample-based reconstruction activities fall commonly into two types: (a) rearrangement and editing of the data, using them as building materials in the construction of new experiences and (b) use of data as a source from which to extract a model or hypothesis representing a novel view of the phenomena from which they were obtained. The first type of reconstruction is mostly associated with creative cultural or artistic activities. The second one belongs to the domain of empirical sciences. The author contends that there is a third approach to sampled data mediation, which involves the living human being as part of the reconstruction process through sensory experience of the data. It is possible to understand this approach as resulting from the reversal of the perspectives of the two types of activities above; instead of diverging, they converge to create a new kind of relationship with the sampled data as mediated experiences. This proposed third type of approach to sampled environments is based on the exploration of features revealed within the data through the senses. This is made possible through synthesized auditory (or also visual or tactile) representations of features obtained from analysis of the data. The features are made audible instead of being represented as abstracted numerical or symbolic elements.

Human Experience

Approaches placing the subjectivity of human experience at the center of systematic studies of the environment have existed prior to the digital age. Philosopher Henri Lefebvre developed the concept of rhythmanalysis to refer to the analysis of perceived rhythms in the urban environment. Situationist Guy Debord used the notion of dérive to describe an intentional concept of aimlessly drifting within the urban environment; it is a means toward revealing psychological effects of the environment, as is suggested within the discipline of "psychogeography" put forth by Debord and the Situationist movement. Whereas both of these concepts arose within methodological models that employed plain introspection as a primary method of investigation, the broader context of these models also involved physical measurement as an additional source for the analysis of the geographical, social and functional experiential characteristics of the environment. Revisiting these concepts is thus useful in the new context of recorded soundscapes when searching

for ways to understand the workings of human perception in the temporal unfolding of the navigational experience. Understanding the perceptual mechanisms of rhythm perception and developing a formal system for describing rhythmic structures can guide the structuring of multimedia navigation seen as a kind of performance. Conversely, looking at the navigation within the artificial environment of data from the psychogeographical perspective of dérive can serve as a complementary method for retrieving environmental features from data.

These pre-digital concepts can be reintroduced in the broader epistemological context of soundscapes as mediated environments. Older general theories and concepts that rely on navigation for the exploration of conceptual structures, such as the Labyrinth of Minoan Crete (< 500 BC), Johannes de Sacrobosco's *De Sphaera mundi* (ca. 1230), Ramon Llull's *Ars Generalis Ultima* (1305), and Gottfried Leibnitz's *De Arte Combinatoria* (1666) can be linked to the originating concepts and techniques of the Western Theory of Harmony. These theories use navigational devices to explore relationships of concepts laid out in quasi-virtual spaces, in order to generate new statements and thus new meanings from the combination of concepts. The devices can therefore be regarded as early models of computational intelligence, that is machines that generate thoughts or meanings. In the age of digital computers, theorists such as Peter Gärdenfors (2000) have proposed "geometrical" models of thought. His book, *Conceptual Spaces: The Geometry of Thought*, investigates such models which employ spatial metaphors comparable to their much earlier precursors. In this context, the navigation of the user in a recorded soundscape becomes, in this sense, part of a machine intended to generate meanings and/or experiences.

To close the circle between sensing and thought, or data input and data processing, the movement of the user can also be recorded to form new data which in turn influence the resulting models that filter or map the data as experiences. In this sense, the models or processes that connect 'data' to 'experience' play the role of language. Languages change incrementally in response to input from the actions of the participants in the communication process. This gives rise to the question of model versus processual nature of language; in other words: is language to be understood as a model, or as a process? Another question regards the nature of the models which underlie the construction of navigational machines. Historically, there are one, two or multi-dimensional pitch or pitch-class oriented models derived from modality or tonality as well as cyclically arranged models of metrical stress in the temporal dimension. To these now are added models arising from psychoacoustics and digital signal processing, based mostly on the spectral content of the audio signal. A major part of Music Information Retrieval research is concerned with the effort to create mappings between these two worlds, that is, pre-digital and digital musical sound topologies. The present research proposes a third, quasi-agnostic but psychoacoustically-informed approach which frees itself from the anchor of modal/tonal/metric models and relies on interaction for the creation of languages from recorded interactions with users which form their experience incrementally and interactively.

About the Author

Iannis Zannos has a background in music composition, comparative musicology and computer music with emphasis on interactive performance. He has worked as Director of Music Technology and Documentation at the State Institute for Music Research (S.I.M) in Berlin, Germany, and Research Director at the Center for Research for Electronic Art Technology (CREATE), University of California, Santa Barbara. He has taken part in numerous international collaborative New Media Arts projects and has realized multimedia performances both alone and in cooperation with other artists. He is teaching audio and interactive media arts at the Department of Audiovisual Arts and the postgraduate course in Arts and Technologies of Sound in the Music Department at Ionian University, Corfu.

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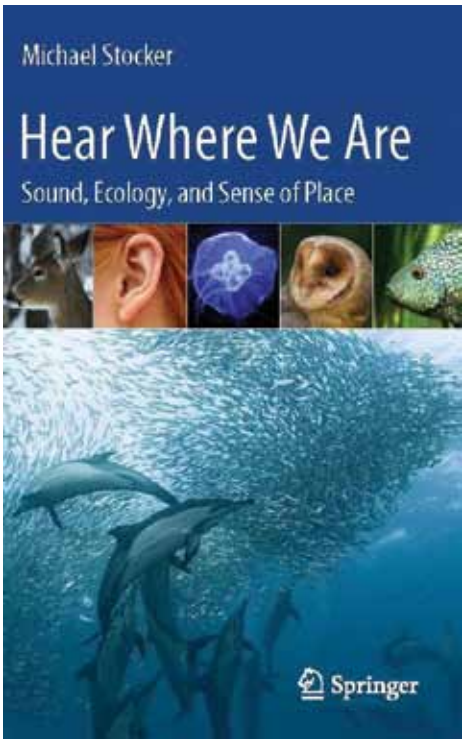
Book Review: *Hear Where We Are: Sound, Ecology, and Sense of Place*

Michael Stocker (NY: Springer, 2013), 200 pages

http://hearwhereweare.com

Reviewed by Tom Bickley



Michael Stocker notes on p. 138 that, "…communication is that which binds us to our surroundings…" and in that statement is the kernel of this remarkable book. The title of the book envelopes and complements that statement, making clear that the communication of which Stocker writes occurs in and through sound. The "we" in the title refers not only to human beings but also to other animals as well. The 200 pages of this book constitute a deep and broad extended essay, informed by a variety of scholarly and anecdotal sources. Stocker writes at a level accessible to motivated members of the general public yet with a sense of collegiality for those of us passionately engaged in exploration of sound/music and environment.

The Acknowledgements serves as a foreword, in which the reader finds description of the genesis of the book in the author's work in sound design for museum exhibits. Beings thanked in the Acknowledgements include not only bioacousticians, but also family members, philosophers, a Cistercian nun, and Gus the cricket. Stocker's background includes work as an electronic and musical engineer on the 1982 film *Koyaanisqatsi* as well as a long record of engagement in acoustic ecology concerns. He founded and is executive director of Ocean Conservation Research (http://ocr.org) based in Lagunitas, California. His accomplishments are striking and I wish that the biographical information about him revealed more about how he gained his evident expertise in acoustic ecology. The range of influences Stocker acknowledges and his writing style combine in a text that is genuinely readable and well-documented. Empirical evidence, good humor, and descriptions of personal experiences weave together well. I want to teach a course that would use this as its textbook.

Five chapters cover broad concepts of the relationship of sound, place and being. The initial chapter begins with human concerns of perception, identity, gender, culture and the soundscape. It moves on to connections with the non-human animal realm related to sonic alerts/alarms and the presence or lack of security. The second and longest chapter covers ways human beings use sound to create community. The section "Bells and Boundaries" reads well alongside Paul Hillier's cogent remarks on the history of bells in religious tradition in his book on Arvo Pärt (*Oxford Studies of Composers: Arvo Pärt*, 1997, p.18ff). Stocker's explorations of sound in warfare and healing leads to his articulation of a simple but crucial point, "Sound is the physical signature of our dynamic surroundings" (p.66).

Appropriately detailed description of the mechanics of sound, principles of acoustics, and human hearing fill chapter three. Formulae and illustrations (including anatomical drawings of the ear) amplify the discussion in the text. Chapter four examines sound perception in other animals, specifically fish, whales, dogs, cats, bats, elephants, lizards, insects, and birds. Of particular value are Stocker's observations concerning the anthropocentric limits present in some scientific imagination and consequently imposed on research into non-human animal sound perception. Given the author's involvement with ocean bioacoustics, it is not surprising that his writing on sound in that context is especially compelling.

The last chapter draws together the concepts of sound, perception and both definition of place and placement within an environment, among human and non-human animals. Stocker makes clear that language is not the primary manifestation of communication employing sound. His writing on perceptual platforms delineates challenges in communication among human beings from disparate cultures and in interspecies contexts. This chapter concludes with helpful discussion on time domain relative to perceptual platforms and appealing speculation on aspects of dolphins' use of ultrasound. Nineteen pages of helpful notes follow the text. The book would be more useful were it to include a separate bibliography, even of only the published sources referenced in the text.

Springer, a Swiss-based publisher of technical and scientific books and journals, rightly categorizes *Hear Where We Are* as "Acoustics, Popular Science in Nature and Environment, Behavioural Sciences, Oceanography, Communication & Population Ecology." While those are clearly marketing "tags," they point to a prime utility of this book, as encouraging interdisciplinary discourse on issues of bioacoustics, identity and place.

About the Author

Musician Tom Bickley holds a certificate in Deep Listening, and is the specialist for music and philosophy on the Library Faculty of California State University (CSU) East Bay in Hayward, California; http://about.me/tombickley

Reflections on *Ways of LIstening, Figures of Thought: a Festschrift for R. Murray Schafer on the Occasion of His 80th Birthday*

Review by Anthony Magen

Firstly, I must humbly admit, I did not know what a Festschrift was until I did some research and for those non-academics, it is a publication honouring a person, during his or her lifetime on a notable anniversary. As the *Figures of Thought* title cleverly intimates, it is a way of entering some connections to R. Murray Schafer's sense of logic, allowing the reader to draw on their own experience and culture for understanding his thinking, on the significant milestone of his 80th Birthday.

Many creative thinkers till a thankless life, striving for truth amid a jungle of fallacies and inaccuracies that precipitates the Anglosphere's tall poppy syndrome of intense criticism and ridicule. Thus, to rise to above with conviction takes courage and to do this for a lifetime, is culturally significant and well worth honouring. Only a handful ever reach the point where their peers recognize them for their insights, hence to reward R. Murray Schafer's toils we have 25 contributors, who have been drawn together to pay their respects and (re)contextualise his ongoing work.

When I say 'culturally significant,' I must recount my first meeting with R. Murray Schafer at the WFAE conference in Hirosaki, Japan, where slightly in awe of the man before me, we end up discussing our 'other' mutual love, cultivating vegetables and how being away from his patch is a compromise he has to make at least once a year. When we consider the etymology of the word *Culture (n.)* originating in the mid-15c., "the tilling of land," from Middle French *culture* and directly from Latin *cultura* "a cultivating, agriculture," figuratively "care, culture, an honouring," from past participle stem of colere "tend, guard, cultivate, till," it deepens the intensity of respect I have for him and his intentions with regard for the world's collective knowledge.

The publication reflects the scope of R. Murray Schafer's leadership and influence and this becomes clearly evident as you read the contributions offered by his colleagues, friends, students and admirers in the 72 pages of his Festschrift edited by Sabine Breitsameter and Eric Leonardson.

It is Dr. Breitsameters' oak-like essay that stands proud, elucidating the far-reaching effects Schafer's teachings, composition and writings continue to exert in so many diverse fields of inquiry that we can hear reflections of his sound education oeuvre both above ground shimmering in the sun and in the loamy underground.

There are so many personal thoughts included in this publication, I cannot add much more, except to say, it is an evergreen publication that may be worthy of reprinting, considering the limited 150 copies.

Ways of Listening, Figures of Thought was made possible through the combined efforts of Sabine Breitsameter, Professor of Sound and Media Culture at Darmstadt University of Applied Sciences, in collaboration with her students and a North American team of members of the Canadian Association for Sound Ecology (CASE) and the American Society for Acoustic Ecology (ASAE).

To receive a copy the WFAE requests a nominal fee to cover its shipping. Please email your request tofestschrift@wfae.net.

Product Details

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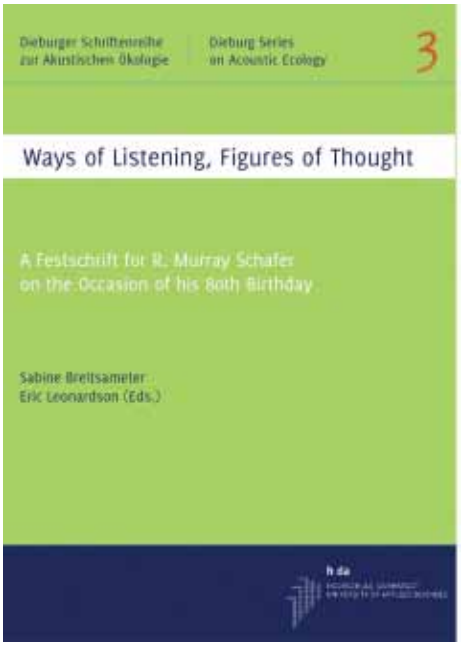

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About the Author

Anthony Magen is a landscape architect / artist and current Secretary of the AFAE working the ecotones of culture as they are the most dangerously unstable and interesting places to linger.

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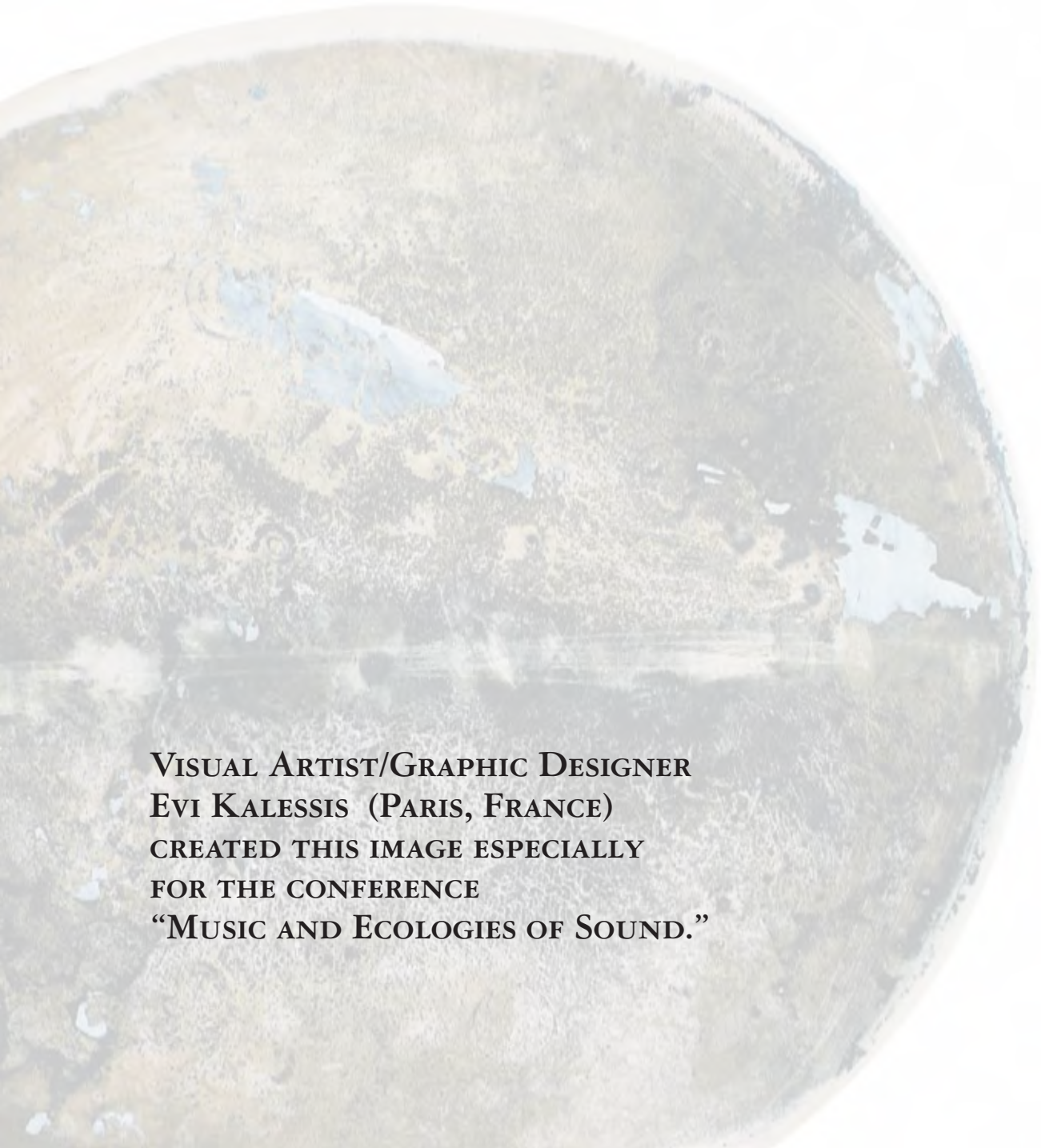
to reconstruct his own
interaction with the world."

– Kostas Paparrigopoulos
& Makis Solomos



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