Teaching Acoustic Ecology: An International Overview

By Gary Ferrington

College or university instruction related to acoustic ecology is difficult to find. Without an established curricu lum in this emerging field, it is often the responsibility of individual teachers to integrate acoustic ecology concepts and principles into existing courses.

A course survey was recently posted on the WFAE Acoustic Ecology listserv. Respondents were asked to outline the learning goals, objectives, activities, and student responses to instruction in acoustic ecology. The following is a summary of the material collected from the online survey as well as other contributions. It illustrates a diversity of on-going efforts by educators who believe studies in acoustic ecology are important.

Burg Giebichenstein, Halle, Germany Hochschule für Kunst und Design School of Art and Design

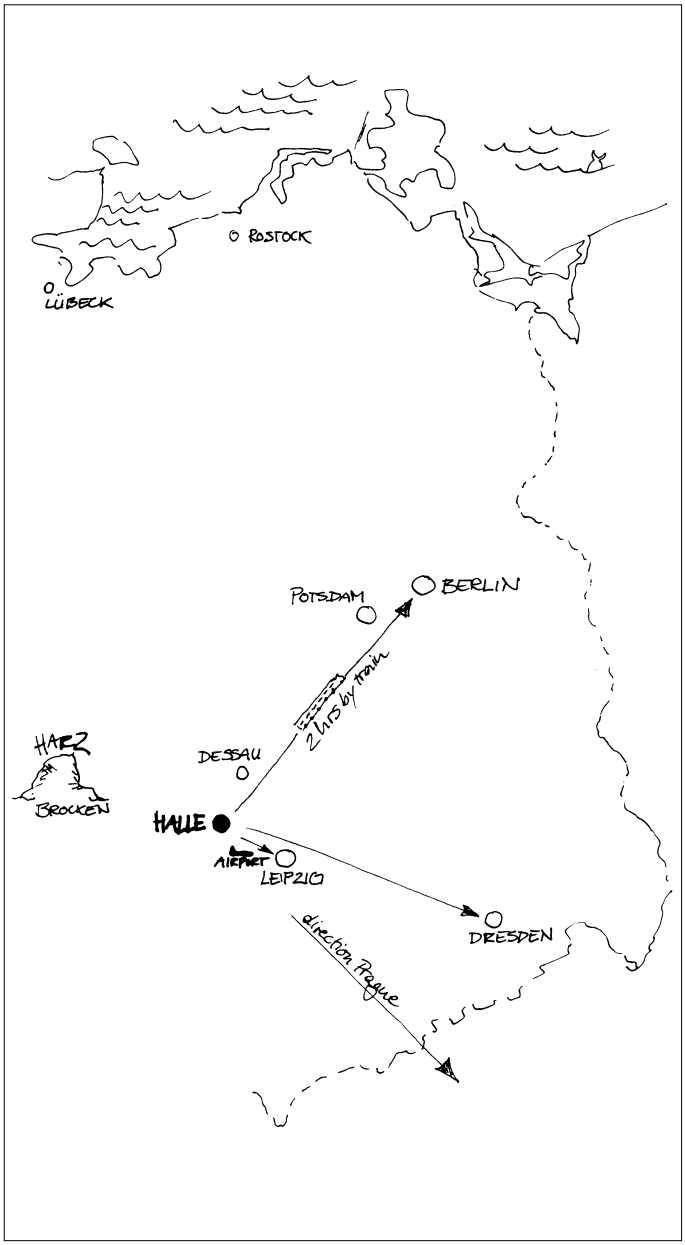
Dr. Peter Luckner, associate professor, and head of the "multisensual design" project research group at Burg Giebichenstein, college of art and design, is teaching a course focused on acoustic and olfactory matters in an interdisciplinary context.

The acoustic content consists of two main themes: the aesthetics of sound design and acoustic ecology. The objective of the course is to improve, broaden, and intensify the acoustic education of industrial designers. Similar aspects of olfactory design and olfactory ecology will complete the course when it is fully implemented in April, 2002.

Students learn about acoustic and olfactory components as features and characteristics of architectural spaces, objects, and processes. This knowledge is applied in various basic and advanced projects, such as the design of exposition stands and halls at trade fairs that include conversation corners and sale presentation spaces.

Course activities include the study of acoustics and auditory perception. Ear cleaning and training activities facilitate the development of attentive listening. Students also learn about architectural acoustics and the various moods sound creates in a variety of spaces. Discussion focuses on urban sound design and on the creation of "acusticons" (audio symbols for leading people through an environment).

Industrial sound is also investigated including the acoustic properties of tools, equipment, machines and vehicles. Students



Map showing location of Halle, NE Germany
Reprinted from Burg Giebichenstein Student Guide

record and assess soundscape environments and look at the effects of sound on public health.

A part of the curriculum involves students working with the manipulation and control of sound in the studio as they study sound art and electronic music.

Course feedback suggests that students are highly motivated. They point out their new perception of sound and music, in terms of its construction and potential for design purposes in particular. Some comment on their increased awareness of soft sounds and noise in their environment. They greatly appreciate the opportunity to experiment with different materials and with electroacoustic equipment to produce sounds.

City University, London, United Kingdom

Kendall Wrightson is a visiting lecturer at City University and has offered the acoustic ecology sessions for the past two years. These sessions include three, two-hour acoustic ecology sessions to students studying for a Post-Graduate Diploma or Masters of Science Degree in Music Information Technology at City University, London.

Students, upon completing the course of instruction, are able to describe and articulate the major issues and the terminology used by acoustic ecologists. They debate the major issues raised in acoustic communication theory and in acoustic ecology as well as issues related to information with respect to individuals and the environment. As part of the learning process, students investigate a theme relating to acoustic ecology such as sound as a psychological barrier, acoustic design, and so forth.

There are only three sessions. The first two are lecture based with listening exercises, audio examples and discussions. The third session is a group tutorial that focuses on students' essay topic ideas.

Students say that they think about sound in a very different way as a result of these three sessions. They note that sound becomes tangible and personal. Students have also reported that their relationship with sound—and with themselves—has changed.

University of Iowa, Iowa City, Iowa, United States

Leighton Pierce teaches a one semester course titled *Film and Video Production: Sound Design.* This is as an intermediate production course for undergraduate and graduate students in the Cinema and Comparative Literature Department at the University of Iowa. While not an acoustic ecology course per se, Pierce posits that to create meaningful sound constructions in films and videos, we must first understand the meanings of sound in our various daily lives.

In Pierce's course, students learn to hear the world with greater attention and understanding. Such understanding facilitates student sound recording and the construction of sounds into meaningful soundscapes for film, video, or as audio works. As a result of this study students are able to theorize about sound in the world and film and learn to talk about sound media in detail.

The curriculum begins with a 30 - 45 minute soundwalk. The students take notes but cannot talk with one another. During this first session they are assigned a listening journal activity and are asked to bring in sound memories for discussion.

A follow-up session discusses the sound walk and journal notes. Pierce uses the student remarks as a way to talk about acoustics, psychoacoustics, and ways of categorizing sound based on their acoustic attributes and on their social and psychological functions.

The technology of recording is covered including how microphones function differently than ears. A recording activity helps them understand the various pick-up patterns of microphones and the difficulty in capturing sound. Related to this learning is an assignment in which they are to construct a soundscape. The goal of this task contains four aspects:

1. Learn skills in basic quality recording techniques.
2. Learn how to use ProTools software for sound editing.
3. Learn transitions between sounds and sound spaces.
4. Learn to relate their world listening experiences to the process of constructing meaningful soundscapes.

Later, teams of two students each must record and then digitize a single 15 second fragment each of a:

1. Domestic interior ambience
2. Machine sound with its on and off
3. Nonverbal vocal sound
4. Sound using a mechanical eggbeater
5. Public exterior ambience
6. An optional sound of individual choice

All of these sounds are put into a common computer desktop folder. Each student makes a soundscape using only this material.

Other student projects include:

1. A short sound-to-image project with a synced sound track to short Lumiere films.
2. Readings and presentations from Michel Chion's book *Audio - Vision.* (Columbia University Press, NY, 1994)
3. A final project of students personal choice—either a soundscape or a soundtrack to a video/film.
4. A field trip to the anechoic chamber on campus.

Pierce reports that students love the course. Though they enjoy learning skills such as ProTools and recording techniques, they are most thankful for the gift of listening. The listening journals and exercises are the most commented on and memorable activities in the semester course evaluations. This is highly satisfying to Pierce since he believes that listening skills are more durable and deep than technical ones.

Concordia University, Montréal, Quebec, Canada

Professor Andra McCartney teaches a third year Communication Analysis of Environment seminar/practicum course at Concordia University in Montréal. Even though this course is not specifically focused on acoustic ecology, it is certainly related. The course engages students in general and detailed analysis of various information complexes: museums, galleries, exhibitions, country-sides, landscapes, city streets, highways, department stores, churches, and others. Student analyses are conducted from the standpoint of information values used to influence prospective audiences of films, television programmes, or exhibition and theatre visitors. The basic values of light, space, sound, picture, words and exhibit structures are explored through individual student projects in real locations.

Students have to choose a place in Montréal, study it throughout the term, then write a report on it. Students are encouraged to observe how people, machines, animals move through the observational space, and utilize it. Attention is given to patterns of activity. Students are introduced to soundscape research, film location research and interpretive writing as strategies to produce their reports.

According to McCartney this is a very popular course. Student response has been quite enthusiastic. Some have spoken of the course changing their attitude towards the concept of place.

Simon Fraser University, Burnaby, British Columbia, Canada

Simon Fraser University (SFU) offers both on-campus and off-campus courses related to acoustic ecology (see Truax article in this issue, p.11)

Acoustic Dimensions of Communication (CMNS 259) is a course offered via Simon Fraser University's Distance Education, and administered through the Communications Department at SFU, under the supervision of Barry Truax. The course material was originally prepared by Susan Frykberg in 1997. Since 1998, Robert MacNevin has served as tutor marker and has both streamlined the administration of the course and revised the Study Guide—in part to integrate the use of the *Handbook for Acoustic Ecology* CD-ROM as a valuable teaching tool.

Acoustic Dimensions of Communication is designed to develop the student's perception and understanding of sound and its behaviour in the interpersonal, social, and environmental fields. The acoustic and psychoacoustic bases of sound are introduced, with emphasis on listening, the soundscape, sound and community, noise pollution, the science of sound, the human voice, acoustic design, and the sonic imagination. The course strives to teach listening skills, while providing students with the tools necessary for the analysis of sound and its behaviour within a variety of soundscapes.

The reading and listening assignments, and exercises, are designed to foster aural acuity, and to help the student develop the ability to articulate aural experience in writing. Ideally, students will react to their new-found aural acuity, interact with each other and the ideas of the course, and learn to question and evaluate their position within the contemporary aural landscape.

Students are required to submit eight assignments via mail or fax over the duration of the course (13 weeks), and to participate in four ongoing E-mail Tutorials, which focus on themes explored through the other course work. The written work for the course is aimed at students developing acute listening skills, and then articulating these new skills in writing. As the course progresses, it is hoped that a demonstrated comprehension of course concepts, and the accurate use of acoustic and aural language, will emerge. The overall level of articulation is stressed, and *the Handbook for Acoustic Ecology* provides students with a set of linguistic and conceptual tools for honing the meaning of acoustic terminology. Students are also encouraged to make use of the valuable resources available through the WFAE website, and several contributions from CMNS 259 students have been published in *Soundscape.*

The assignments include: four Sound Journals, which consist of students' descriptions of aural experience written from a subjective point of view, exploring their own voice; four E-mail Tutorials, designed to facilitate an ongoing dialogue between the students (sometimes from quite far afield); three longer written assignments, including a Soundscape Monitoring Project, a Noise Pollution Project, and a Final Essay Project; and a Terminology Quiz, which reviews the wide range of sound terminology used in the course.

MacNevin notes that it is interesting to observe the emerging listening skills of the students, as they turn their full attention to a vital area of human experience that is commonly taken for granted, if not ignored—listening. What does emerge at first, of course, is an increased awareness of the almost ubiquitous presence of human-made noise. Sometimes (but not always) this new awareness is accompanied by an increased appreciation for quiet, or naturally balanced soundscapes. Often, especially toward the beginning of the course, there is a layer of denial that must be penetrated before a fuller understanding of the deleterious effects of noise is attained, especially with the younger students. Some students feel somewhat "cursed" by aural acuity, once they have become more aware. Ultimately, however, many students appear to come away from the course with an appreciation for the value of a balanced soundscape, an understanding of their own roll in trying to help facilitate improvements to the soundscape, and a working understanding of the steps that might be taken to bring this about—essentially through education of the public, and improved sound (or soundscape) design.

Photograph by Raina Kirn

Deep Listening Certificate Pauline Oliveros Foundation, USA

The Deep Listening Certificate Program established 1995 is a venture of the Pauline Oliveros Foundation intended to further develop the work in Deep Listening for creative work and teaching. The program consists of three week-long training retreats, with two year long projects relating to one's special interest between each retreat. Additional work at home includes reading, writing, composing listening exercises, and keeping sound and movement awareness journals.

Upon completion of the program an assessment for certification by Pauline Oliveros, Heloise Gold and Ione is also required. Successful completion of the Three-Year Certificate Program qualifies the certificate holder to lead Deep Listening Workshops with mentoring available from the retreat instructors and is a prerequisite for admission to the Apprentice Program.

The practice of Deep Listening continually unfolds over time as a multi-dimensional process. Observing this process is a big part of the learning. Having a year in between each retreat creates the opportunity to practice and experience development of listening skills. It is possible to experience and sustain a substantial shift in perception through practice.

There are two principle goals of the Deep Listening Certificate program. One is the ability to organize an effective workshop curriculum based upon the training provided by the certificate program. The second is to develop the facilitator skills that will help others develop their own listening skills whatever their focus in life might be.

Rizvi College of Architecture, Bombay, India

[Ed. note: Mr. H. Masud Taj, a Bombay architect, sent the author a packet of material in early 1999 that outlined his course at the Rizvi College of Architecture, focusing on acoustic ecology. He has since moved to Canada and as a result the course is no longer taught in Bombay. However, we feel that the ideas outlined below—although general— may inspire other instructors of architecture to make sound a larger priority in their courses.]

The course introduction notes that, "As conscious designers of built environments and inadvertent creators of acoustic spaces, architects have an impact on the acoustic ecology. Hence the objective of the course is to make the students of architecture aurally literate. The course, *Sound and Self: Speaking, Listening, and Designing*, examines not only the technical aspects of acoustics but also the history of problems and dreams. It attempts to impart in the student-participants sensitivity and self-awareness of their roles as: emitters of sound (speakers); receivers of sound (listeners); and designers of sound (architects)."

Taj notes that the course explores the use of sound and silences as an element of architecture based upon an understanding of the basic principles of acoustics. Instruction focuses on investigating the personal, cultural, social and sacred aspects of sound.

There are two central themes around which the course was designed. One was to fuse technical knowledge of acoustics with the intuitive insights of an aural poet to bring about a more holistic understanding of sound. It presumes that to have acquired knowledge is to have gained in self-awareness. Two, to change the method of teaching by fostering team-learning and delegating more power to the students. The teacher becomes a facilitator and the students participants.

Course instruction includes lectures with audio recordings, slide talks and videos. There are also soundwalks and site visits.

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Current Information on the Planned Offerings of this Course
http://www.sfu.ca/cde/courses/cmns/index.htm
Detailed course information can be obtained at:
http://www.sfu.ca/cde/courses/cmns/cmns259.htm.
Registration and Admissions Information is available from the Centre for Distance Education website at:
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Certificate Program: http://www.deeplistening.org/training
Pauline Oliveros Foundation, Inc. http://www.pofinc.org/

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