Acoustic Ecology and Environmental Studies:

A new academic home for the teaching of ecoacoustics

By Gary Ferrington

It is my intention to initiate an on-going dialogue about acoustic ecology education. To begin that discussion I suggest that it is time to broaden the pedagogy of our field to include the social, economic, political, and cultural implications of soundscape studies and placing such effort within the interdisciplinary field of environmental studies. Such a refocusing of the academic mission of acoustic ecology will bring more attention to the concerns of acoustic ecologists and the growing body of research often overlooked by the scientific community.

Environmental Studies and Acoustic Ecology

The field of acoustic ecology has been defined by the World Forum for Acoustic Ecology (WFAE) as an area of education, research and practice that focuses on the scientific, social, and cultural aspects of natural and human made sound environments. This includes monitoring and evaluating actions affecting and altering the quality of the sonic world and working for change where needed. It is a field just as interested in the relationship between dolphins and whales, or insects and birds as it is in the relationship between humans and other living organisms. Acoustic ecology focuses on the complexity of the natural world and sees humans as one element in the mix.

The study of acoustic ecology has yet to find a solid academic base that fully investigates the interdisciplinary importance of soundscape research. I suggest that the field of environmental studies may provide a welcoming home for acoustic ecology education.

Environmental studies is an academic area that crosses the boundaries of traditional disciplines including the sciences, social sciences, humanities, management, policy, design, and law. It challenges students to look at the relationship between humans and their environment from a new interdisciplinary perspective.

For many years the study of acoustic ecology has been the domain of music education. It is those who study and make music that found the early work of Canadian composer and educator R. Murray Schafer of particular interest. Schafer was one of the first to give form and definition to the field of acoustic ecology in his book, *The Tuning of the World.* Subsequent publications by Schafer provided examples of pedagogic techniques for the integration of soundscape studies into the music education curriculum.

Since the publication of *The Tuning of the World* in 1977, professionals outside of music have found Schafer's ideas of interest. Architects, urban designers, geographers, sociologists, health educators, and others have begun to think about the application of his principles to their own work. It was Schafer who envisioned the need for an interdisciplinary approach to the study of the soundscape. The field of environmental studies provides an established and interdisciplinary base upon which to facilitate a broadened approach to the study of acoustic ecology.

Even a single course on acoustic ecology placed within the context of an environmental studies program would encourage students to develop a greater understanding of the natural world from an ecoacoustic perspective. It would engage students in devising policies and behaviors that address soundscape problems within the context of environmental and ecological research. The adding of ecoacoustics to the environmental studies curriculum would enrich both fields and may promote a rethinking of basic cultural premises, and ways of structuring knowledge related to both.

An Ecoacoustic Curriculum

Central to the curriculum of acoustic ecology is auditory scene analysis. This requires skills in attentive listening, specialized evaluation techniques, and methods and strategies for responding to ecological issues of which sound is an important aspect.

The need for the development of attentive listening is well articulated in the literature of acoustic ecology. Music educators have been especially effective in developing pedagogical techniques for improving the listening skills of students. But there is much that can be learned from related fields that would enhance a student's knowledge about hearing and critical listening. Psychoacoustics and bioacoustics are two areas of study that would contribute to such an understanding.

Psychoacoustics is the study of human hearing. Research in this field strives to learn how hearing works and how the brain processes sounds entering the ear. Such study is important in understanding how sounds are perceived and is important in addressing issues related to noise. For example, an industrial setting requiring the design of a safety signal that could be heard over the ambient sound field and yet not add to fatigue or distraction would require a scientific knowledge of human hearing and listening in such a soundscape.

Of particular concern to many in acoustic ecology is the relationship between human-made noise and animal communication.

Bioacoustics offers insight into acoustic communication within a species and between acoustic niches of other species. Such study includes animal sound production, auditory anatomy and function, and the effects of human-made and environmental sound on animals.

The study of acoustic ecology requires the ability to articulate, understand, and respond to critical social, political, cultural and scientific issues involving sound in natural and human made acoustic environments. Students would be encouraged, using the interdisciplinary approach pursued in environmental studies, to develop a working knowledge of the nature and scope of the forces underlying soundscape issues; the various approaches used to bring such environmental issues to the public's attention, and the methods and approaches possible to solve them.

Noise pollution, as an example, is both a social and economic concern related to health and safety. The litigation arising from the expansion of airports, the construction of freeways and other sound producing projects takes time and money that add to overall costs. Science, politics, and social factors all play a part in solving these sound-related issues.

Cultural values are also central to ecoacoustics. Archeologists and others can help students understand the cultural soundscapes of the past. Comparative studies of contemporary soundscapes add to the understanding of how societies value and make use of sound as part of the social fabric today. And determining how to preserve cultural soundscapes and the rehabilitation of those suffering from sound pollution or other issues is of important social value. Such action-oriented research requires individuals with knowledge of how to research issues from multiple perspectives and disciplines.

Environmental studies provide an interdisciplinary set of strategies for problem solving. As a practitioner a student might focus on one or more related areas such as, public planning and development, ethics or philosophy, environmental law and justice, international environmental issues, or social theory and the environment. Such an approach provides an opportunity to examine comparative philosophies and methodologies from a diversity of fields. Being able to look at soundscape issues from a variety of viewpoints may lead to the posing of alternative and innovative solutions.

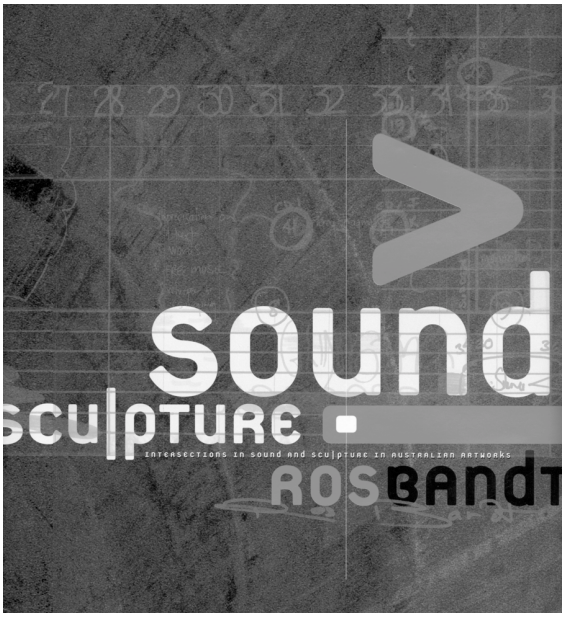
At the very least the integration of acoustic ecology into an environmental study program will provide many liberal arts students with an introduction to the importance of sound as an integral part of ecology and the habitat of life.

Summary

I have attempted in this short paper to suggest that acoustic ecologists might find an academic home in the field of environmental studies. This home would provide a broad interdisciplinary approach to the study of soundscape issues. It would facilitate the World Forum for Acoustic Ecology's stated mission to focus education and research on the scientific, social, and cultural aspects of natural and human made sound environments. The field of environmental studies provides an inclusive curriculum in which the emerging area of acoustic ecology can be taught, studied and practised.

Gary Ferrington is a Senior Instructor Emeritus in the University of Oregon's College of Education. He was the coordinator of graduate studies in Instructional Systems Technology before retiring. He now teaches occasional courses on media literacy and education. Ferrington is currently the secretary and web master for the World Forum for Acoustic Ecology.

Book Reviews



Sound Sculpture
Intersections in Sound and Sculpture in Australian Artworks

Author: Ros Bandt
Publisher: Fine Art Publishing, Sydney, Australia
Price: US$ 44.00

Reviewed by Harold Clark

Craftsman House, Fine Art Publishing has produced a gorgeous 160 page, well-laid out form that anyone would be proud to mount on the coffee table. The book's sleek marine green glow, tasteful use of graphics, watermarks, and strap-in (author Bandt's) audio CD inside of the back cover, is clearly artwork in itself.

Supported by an Australian Research Council grant, hosted by Monash University's music department (really thinking outside of the box), Visual Arts Board and New Media Arts Board of the Australian Council, the materials presented throughout this compendium of so-called "Sound Sculpture" are rich, diverse, and extensive documentation of (primarily) Australian sound art. 'Australian' appears often to remind us of the context in which this collection is to be viewed.

The academic author, Dr. Ros Bandt, informs us that unlike other western cultures, Australia is isolated, one-of-a-kind, with cultural and geographic divisions that cut out and define distinctly separate contexts in which space, sound and musical art co-exist. Aboriginal acoustical space is defined by millennia of oral traditions coupled with vast geography. By contrast, coastal city-dweller perceptual modalities share a context with European literate culture and more limited geographical clusters of habitation.