Acoustic Ecology: Concept And Case Study

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INTRODUCTION

Communications researchers have studied 'soundscapes' by recording and analyzing the sounds found in specific environments. Such studies emphasize the person-environment relation or how the sound environment is perceived and understood by individuals or society (Truax, 1978, 1994; Schafer, 1977). Acoustic ecology is the study of systematic relationships between humans and soundscapes. Furthermore, inter-personal communication by spoken language modulate and are modulated by soundscapes. Soundscapes can be created, improved or modeled. Given the recent recognition that environments can affect social participation (WHO, 1998), this study explores the acoustic ecology of older adults in terms of the influences of sound on their feelings of personhood and connectedness to the physical world and to others.

METHOD

Participant. An elderly woman living in a care facility was recruited for the study by the audiologist working at the facility. The resident had worn binaural in-the-ear hearing aids daily for one year . Her cognitive and physical abilities were good. Mental health issues were the main reason she lived in residential care. She was well-educated and artistically inclined, with writing, painting and music filling her time.

Conditions. An student (P. Kooner) enrolled in Barry Truax's soundscape course at SFU accompanied the author for a half-day visit with the participant and recorded about four hours of the participants' soundscape in her normal activities from breakfast until her mid-afternoon rest.

Measures. As well as recording the soundscape, the participant's spontaneous comments about her soundscape, and her responses to the questions of the researchers were also audiorecorded. Her comments and responses were transcribed, analyzed, and with the researchers' observations, they were used to describe the meanings of sounds to the participant.

RESULTS

Soundscape Elements. Six different scenes were evaluated: 1. breakfast in the dining hall; 2. morning announcements; 3. elevator ride; 4. getting pills at the nursing station; 5. the resident's private room; 6. a walk on the seawall.

Common sounds in the dining hall included talking by residents and staff, dishes during serving and eating, music, and traffic. The morning announcements were made in the dining hall using a good quality soundfield system. Many residents rode the elevator to go to their rooms after breakfast and there was lively discussion about who was getting off at which floor. The nursing station scene featured residents waiting to talk to a nurse behind a counter in the hallway on the floor where the resident had her room. Sounds recorded in her private room included talking with the researchers and on the phone, her breathing, news and classical music on the radio. Sounds heard on the walk outside, included buses, footsteps, birds, bicycles, children playing, and a leaf blower in the distance.

Meanings of the Soundscape. Sound served three primary purposes for the participant: 1. overcoming loneliness; 2. providing supportive structure; 3. providing stimulation.

Loneliness. In her spontaneous comments, the participant spoke of feelings of social isolation. She said, "I'm finding that, that 100-year-old lady -- she lives in the next room -- she's been here for three months. I was terribly lonely until she came. But she and I've just clicked. And so I do things to ease her life a little.... I've been terribly lonely." However, at the same time that she had few opportunities for intimate social interaction, sound enabled remote social connections that took on the significance of friendships for her. About the radio, she said, "I live by the CBC. The CBC is my daily routine. You know, I'm a friend of the CBC. I support them... I listen to the news... These are my friends, the announcers."

Structure. Routines provide supportive structure for the participant as they do for many elderly persons. She organized her day by routines: "I don't usually go to any of the programs. I go walking about 11 o'clock. Lunch is at 12:30." Sound played a significant role as a kind of familiar structure: "I have season tickets to the symphony... Music is highly important to me.. . I learn music by repeating it... when I hear it again, I'm alerted to it. Now, last night they played Beethoven's violin concerto. And I went through a period of really loving that, playing it and playing it.. I haven't heard it for a long time. It was an old friend last night."

Stimulation. Her daily walks to and along the seawall provide the participant with opportunities to observe and explore a wider environment and to remain connected to society in general. About the sound of children at play, she said, "I really enjoy living on the creek, the way the kids talk to their mothers and fathers -- it's comforting to know that things are all rights." Sounds also trigger an awareness and curiosity about what others are doing. Whereas the sound of the leafblower was backgrounded for the researchers, it was an interesting foregrounded sound for the participant; she said, "That's a leafblower... there's another noise over here, the same kind of engine but I think that's for carpet cleaning.. yesterday, that kind of noise was there... I thought that sounds like a lawnmower, but I thought surely it isn't time for lawnmowers yet, so I really had to look for it."

DISCUSSION

It was striking that connection by sound to the physical environment and to remote social partners seemed to compensate, at least partially, for the participant's impoverished intimate social connectedness. The social, psychological, and aesthetic importance of sound to listeners and the appreciation of what they foreground and background has yet to be adequately appreciated in hearing rehabilitation.

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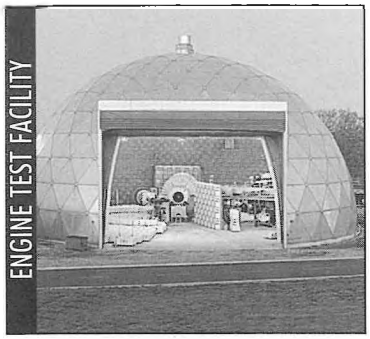

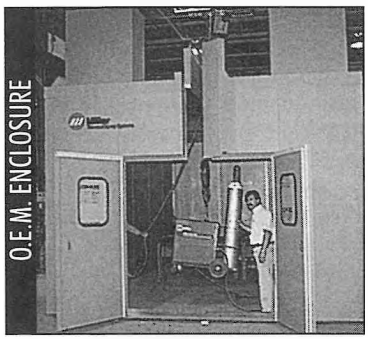

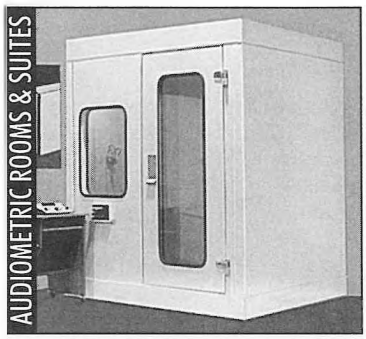

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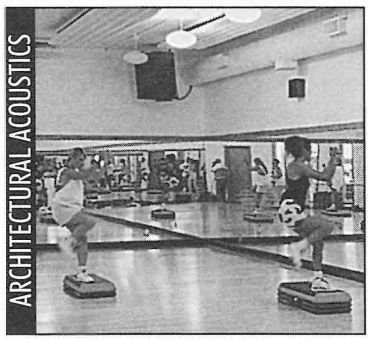

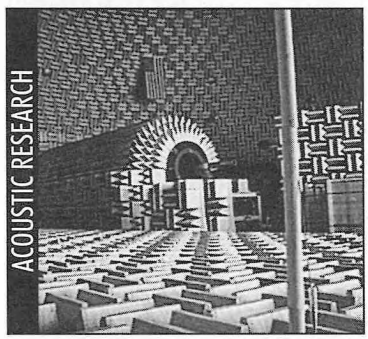

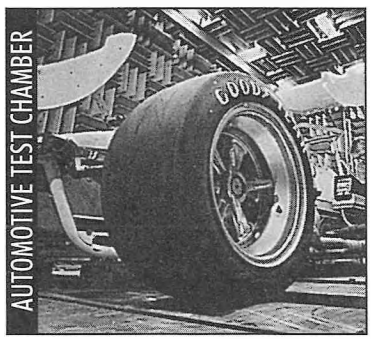

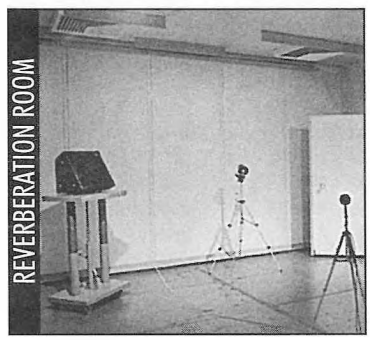

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