The Music of the Environment

PATRICIA SHAND

A fascinating macrocosmic symphony is being played ceaselessly around us. It is the symphony of the world soundscape.1

The 'macrocosmic symphony' is currently being studied through the World Soundscape Project, directed by composer-music educator Murray Schafer at Simon Fraser University, Burnaby, B.C.

For some time I had been exploring Schafer's books and music both in and out of the classroom, and I knew of his involvement with the Soundscape Project, so when I visited Vancouver last summer I was interested in learning more about the project. I found Schafer and his research staff involved in fascinating work with important implications for music education. Their enthusiasm and sense of mission were contagious, and I returned to Toronto eager to share with others what I had learned. Putting a sound project into words is paradoxical and frustrating — but words are all I have.

The broad aim of the World Soundscape Project is to study the sonic environment and man's relationship to it. As the sounds of technology proliferate and decibel levels rise, the researchers are obviously concerned with problems of noise pollution. But their interests lie less in a program of noise abatement than in the more positive approach which Schafer calls 'acoustic design'.

In 1971 Schafer wrote of the need for a study which we might call acoustic design, an interdiscipline in which musicians, acousticians, psychologists, sociologists and others would study the world soundscape together in order to make intelligent recommendations for its improvement. This study would consist of documenting important features, of noting differences, parallels and trends, of collecting sounds threatened with extinction, of studying new sounds before they are released into the environment, of studying the rich symbolism sounds have for man, and of studying human behavior patterns in different sonic environments, in order to use these insights in planning future environments for man.2

Shortly after writing that, Schafer officially established the World Soundscape Project 3 to help lay the foundations for the new field of study, acoustic design. The 32 Soundscape subprojects currently underway include the following:

— researching lost sounds (using references culled from literature and ear-witness accounts)

3 September, 1972.
— analysing sounds of technology (e.g. broadcasting; muzak; telephones; car horns; train and boat whistles; quantitative growth of mechanical sounds; 'drone effects'. This last study involves producing a 'Hum Map of the World' indicating those areas with electrical currents of 60 cycles per second, sounding approximately B♭, and those with 50 cycle currents, sounding approximately G♮. Attempts are being made to ascertain behavioural effects of these constant, subliminal background sounds)

— describing specific community sound environments (e.g. recording and investigating unique community sounds, interesting events and entertainments; analysing sound levels in 'Noisy Groves of Quiet' such as parks, hospitals, libraries and bedrooms; preparing 'A Listener's Guide to Good Eating' to describe the sounds of various restaurants, since the pleasures of dining involve all the senses, aural as well as taste, touch, smell and sight)

— designing acoustic parks (to be sound-insulated or sunken to deflect urban noise, and to contain instruments which use and reinforce natural materials and sounds e.g. wind chimes, aeolian harps, walkways of interesting resonating materials)

— developing terminology for the new field of acoustic ecology

— experimenting with methods of notating soundscapes graphically

— classifying and studying the semantics of sounds

— investigating psychological aspects of sound perception and response (e.g. using 'sound association tests' to help ascertain listeners' affective responses to various sounds; devising 'aural figure/ground perception tests' to discover which types of sounds are perceived as 'figure' (foreground) and which as 'ground' (background) by different societies or groups; documenting possible dangers of 'acoustic trauma in symphonic music' — aural damage from exposure to high intensities of sound)

— analysing different languages (e.g. recording onomatopoeic words which imitate natural sounds, investigating how different groups of people perceive and linguistically reproduce the significant features of such sounds, and perhaps discovering more about how language alters perception)

One of the aims of the Soundscape Project is to stimulate people to listen to and make critical judgments about the sonic environment. With this in mind, the researchers plan to make their findings available to the public. To date four Soundscape documents have been prepared. A fifth is in progress. Already published are Schafer's *The Book of Noise*, which he describes as 'a primer on noise pollution for the citizen; also suitable for schools'; *Okeanos*, a quadrophonic tape composition exploring sounds and images of the sea; *The Music of the Environment*, a discussion of man's relationship to his acoustic surroundings; and *A Survey of Community Noise By-Laws in Canada* (1972), a compendium of anti-noise legislation in 90 Canadian cities, designed to enable legislators to make comparisons and learn from each other, and to give citizens guidance in dealing with noise problems.4

4 See the bibliography for information on the availability of the Soundscape documents.
The fifth document, now being prepared, is a two record plus booklet set, *The Vancouver Soundscape*. The records will present a kaleidoscopic array of Vancouver sounds, from the engulfing SWOOSH of the waves and the echoing resonance of a foghorn to the confused bustle and clamour of the harbour; from the peaceful chirping of birds to the deafening roar of a sawmill; from a stammering Squamish Indian trying to speak his dying native language to Gastown drunks eagerly performing in questionable harmony for the roving Soundscape recorder. The juxtapositions and mixtures of sounds are fascinating — sometimes amusing, sometimes thought-provoking, sometimes profoundly moving. Plans also call for Schafer to record a Sir Kenneth Clark type tour of selected locations, describing significant features of their acoustic design, and for the taping crew to describe some of their adventures and misadventures while collecting material for their sound collage.

Many of the sounds of Vancouver’s past have been lost forever. It is too late now to preserve them on record. So the booklet accompanying the two recordings will evoke sounds of the past through ear witness accounts — verbal descriptions of Vancouver sounds by those who were there — the explorer, the pioneer, the seaman, the newspaper reporter, the poet. Distinctive sounds of the present which can be recorded and listened to will be classified and discussed in the booklet: ‘Keynote Sounds’ (fundamental, ever present sounds like water, forest, and now traffic); ‘Sound Signals’ (foreground sounds which are heard consciously as signals e.g. train and boat whistles, fog horns, sirens); and ‘Soundmarks’ (prominent features of the Vancouver soundscape which are unique or particularly conspicuous e.g. the Nine O’Clock Gun). The researchers have been devising ‘Sound Walks’ in selected areas of the city. These walks are mapped out to indicate where to go and what to listen for. Active rather than passive listening is encouraged through directions which suggest comparisons and experimentation with sounds and sound sources at various points during a walk. At least one sample Sound Map will probably be included in the booklet. Considerable stress will be placed on problems of noise in Vancouver’s increasingly ‘lo-fi’
soundscape.\(^5\) Revealing statistics on the rising number and intensity of technological sounds and on the effects of exposure to high decibel levels may help sensitize readers to the increasing dangers of noise pollution. But in keeping with the spirit of the World Soundscape Project, the booklet will go beyond the negative aspects of noise to a positive affirmation of the need for and value of acoustic design. The final message left with the reader is this: he must learn to listen intensively to the sounds around him and to make critical judgements about which sounds he wishes to eliminate, preserve, or multiply. Then he must take steps to create the sort of sonic environment he wishes to inhabit. He must become an active composer of the world symphony.

For music educators, the broad implications of the World Soundscape Project might be stated this way: unless we work at ear cleaning and at developing perceptive, intelligent performers and composers of the cosmic symphony, there may be no future for music education. We may be passing along the music of the past to a deafened future.

So should we pack away our instruments, batons, and music folders and instead place rush orders for sound level meters, tape recorders, and copies of anti-noise legislation? Need it be an ‘either-or’ proposition, an absolute choice between two approaches? Surely not. There ought to be room in the schools for many approaches, for past, present, and future. We should be opening doors, not closing them.

It would be folly not to preserve the masterpieces of the past. Certainly Schafer is not advocating that we ignore these ‘collection[s] of the most exciting sounds conceived and produced by successive generations of men with good ears.’\(^6\) But it would be equally foolish to ignore present trends in music. ‘The compelling world of sounds around us today has already been investigated and incorporated into the music produced by today’s composers. The task of the music educator is now to study and theoretically comprehend what is happening everywhere along the frontier of the world soundscape.’\(^7\) And preserving the music of the past and present will certainly be useless if audiences of the future have been deafened by noise pollution or if there are no sheltered spots where music can be heard above the ambient noise.

The World Soundscape Project can be used by teachers as a source of ideas for inclusion in an expanded music program. Many of the Project’s activities could be undertaken by students in groups or individually. For example:

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5 ‘A hi-fi soundscape is one in which discrete sounds can be heard clearly because of the low ambient noise level. . . . In a lo-fi soundscape individual acoustic signals are obscured in an overdense population of sounds. . . . In the ultimate lo-fi soundscape the signal to noise ratio is one to one and it is no longer possible to know what, if anything, is to be listened to.’ Schafer, *The Music of the Environment*, pp. 12-13.


7 Ibid.
The World Soundscape Project can be used by teachers as a source of ideas for inclusion in an expanded music program. Many of the Project's activities could be undertaken by students in groups or individually. For example:

- Measuring environmental sounds (e.g. taking sound level readings in various locations: public buildings, parks, streets, homes, schools; taking sample sound counts over a period of time of car horns, airplanes, sirens, etc.)
- Taping interesting, unique, new, disappearing sounds
- Using the measurements and tapes to compare sounds, compile statistics, note trends, illustrate findings graphically
- Investigating the physical bases for the production and reproduction of sound
- Studying listeners' perception of and reaction to different types of sound
- Collecting scientific data on progressive hearing loss through prolonged exposure to high intensities of sound
- Researching anti-noise legislation and law enforcement procedures
- Investigating the design of buildings (e.g. sound-proofing, muzaking, use of white noise to mask other sounds)
- Reconstructing historical soundscapes through the study of ear witness accounts, pictorial and literary descriptions
- Studying sound effects and sound symbolism in various languages
- Taking, mapping, creating sound walks
- Designing, making, and playing instruments for an acoustic park
- Creating sound collages by manipulating, mixing, juxtaposing taped environmental sounds

All these activities are concerned with sound, and many could in fact be termed 'ear cleaning exercises' for developing aural sensitivity. But under the umbrella of sound investigation there is considerable room for students' individual differences in ability and interest. For the mechanically minded, there are sound measurement and taping activities. For those with a mathematical turn of mind, there are comparisons, statistics, and graphs. For research oriented students there is a wide choice, depending on particular areas of interest — physics, acoustics, psychology, medicine, law, architecture, building construction, engineering, history, art, literature, languages, linguistics. And for those interested in more creative activities, there is instrument design and the exploration, manipulation, and organization of sound. Students can pursue their particular interests, but at the same time the interrelation of the various activities should expose students to areas and methods of investigation which they might otherwise not have encountered.

Liberating school music from the narrow confines of the classroom or
auditorium and breaking down barriers between music and other subjects seems to me very salutary. To quote John Holt: 'The real world out there is not divided up by dotted lines into a lot of little areas marked Physics, Chemistry, History, Language, Mathematics, [Music] etc. in the real world, one thing leads to another, each thing is connected to every other thing.' It is time music teachers and students considered the sounds of 'the real world out there' and what those sounds are doing to them. 'Music is sounds, sounds around us whether we're in or out of concert halls,' and whether we're in or out of classrooms. It is time to rub out the dotted lines neatly separating music from other subjects, and to 'sweep ... into the shifting shapes of what we might call the 'middlefields' between many different disciplines.'

But while Schafer sweeps into interdisciplinary studies in sound, the average music teacher clings to what he is used to. This is natural. It is hard enough to teach vocal or instrumental music without also trying to teach acoustics, psychology, medicine, engineering, linguistics and all. Unless we can recruit or produce Superteachers who are specialists in a host of fields, perhaps we should stick with what we are used to and refuse to embark on a course which might only water down the music curriculum and lead to dilletantism.

It would be foolish to ignore the difficulties and dangers. But I feel it would be more foolish to give up in the face of the obstacles. If there are dangers of dilletantism there are also serious threats through narrow specialization. When the music curriculum for the most part consists of a limited exposure to a fraction of the possible musics and activities, expansion in a variety of directions seems more like revitalizing than watering down. To extend one's definition of music and broaden one's field of inquiry isn't easy, but it can be challenging and stimulating. What we really need in the schools is not a miraculous crop of superteachers with all the answers, but a growing number of teachers with lots of questions and a willingness to work with their students toward some answers. As fellow learners, teachers and students can and should read, talk to specialists, investigate, listen, and think for themselves. Maxine Greene puts it this way: the teacher 'has an obligation to present himself to his students as a questioning, fallible, searching human being, ... to break through the secrecy of certain specialties ... by encouraging his students and himself in the most rigorous, open-ended thinking they — and he — can do.'

BIBLIOGRAPHY

I. WORLD SOUNDSCAPE PROJECT DOCUMENTS

The Book of Noise. Schafer’s booklet was first issued in 1970 by The World Soundscape Project and was available to the public free. It has now been taken over by a commercial publisher (Price Milburn Co. Ltd., P.O. Box 2919, Wellington, New Zealand).

The Music of the Environment. Schafer wrote this article in 1971 for the UNESCO Journal of World History. While awaiting publication by UNESCO, he issued it in mimeographed form through the World Soundscape Project. The UNESCO journal has changed its name to Cultures. The first issue, containing Schafer’s article, will appear soon. For information, write UNESCO, Place de Fontenoy 75, Paris 7e, France. A new journal, edited by Schafer and called The Music of the Environment, will also contain the article. It will be published by Universal Edition (London and Vienna). As an occasional journal, it will not be available on subscription, but may be ordered through Berandol Music, 11 St. Joseph St., Toronto, Ontario.

Okeanos. The quadrophonic tape is available on rental from the composers, Murray Schafer; Bruce Davis, and Brian Fawcett. Write to Sonic Research Studio, Department of Communication Studies, Simon Fraser University, Burnaby 2, B.C.

A Survey of Community Noise By-Laws in Canada (1972). Published by The World Soundscape Project and available for 50 cents to cover postage and handling. Write to Sonic Research Studio, Department of Communication Studies, Simon Fraser University, Burnaby 2, B.C.

II. SCHAFER’S BOOKS ON MUSIC EDUCATION

The Composer in the Classroom (1965).

Ear Cleaning (1967).


When Words Sing (1970).

All four of these books are now published in Canada by Berandol Music, 11 St. Joseph Street, Toronto. Outside North America they are published by Universal Edition. A fifth book, to be called The Rhinoceros in the Classroom, will probably also be published by Berandol and Universal.

Patricia Shand, Assistant Professor of Music at the University of Toronto, is a Contributing Editor for The Canadian Music Educator.