

preted as being from wolves, geese, or people.

As we have seen above, Okeanos is a musical narrative/fantasy concerning the relationship between earth's living things and the ocean. The sound of the ocean is considered by Schafer to be the most essential element in the earth's soundscape. Schafer writes:

What was the first sound heard? It was the caress of the waters. Proust called the sea 'the plaintive ancestress of the earth pursuing, as in the days when no living creature existed, its lunatic immemorial agitation'. ... The ocean of our ancestors is reproduced in the watery womb of our mother and is chemically related to it. Ocean and Mother. In the dark liquid of ocean the relentless masses of water pushed past the first sonar ear.³⁴

Therefore, as already suggested by Davis's phrases, "a study in sound of the symbolism of the sea", and "a genealogy of images of the sea", Okeanos represents the idea of acoustic ecology in the form of a musical composition, and thus involves the social strategy. Here it is important to note that, in order to exercise its strategies, the Project resorts not only to the publication of their writings, but also to other media such as artistic compositions and radio programmes.

³⁴ Murray Schafer, The Tuning of the World, (New York: Alfred A. Knopf, 1977), p.15.

A SURVEY OF COMMUNITY NOISE BY-LAWS IN CANADA (1972)

This is the report of a survey carried out by the members of the Project on community noise by-laws in municipalities across Canada. The survey was undertaken mainly during the summer of 1972, and was published with the financial assistance of Labatt Breweries of Canada in the same year. The Project contacted all communities in Canada having a population greater than 25,000 asking for their noise by-laws "together with commentaries from mayors, city solicitors, by-law enforcement officers and others involved with the enforcement of the legislation".³⁰

A Survey of Community Noise By-Laws in Canada (1972)

is the first compilation of this type of information collected by a survey conducted in Canada. The publication is divided into two parts. The first part consists of two major sections: "Introduction" and a short article "Noise and the Law". The "Introduction" discusses various problems of noise abatement legislation at the three levels of government, namely, federal, provincial, and municipal. The first part of the Introduction deals primarily with material about the effect on human physical and mental health caused by noise. This

³⁵ The World Soundscape Project, A Survey of Community Noise By-Laws in Canada (1972), (1972), p. 1.

basically overlaps some of the topics found in the Project's earlier work, The Book of Noise.

There follows a general discussion about the responsibilities of the three levels of government in noise abatement. First, the Project states that the Federal Government is responsible for aircraft noise, standards for manufactured goods, and industrial noise. The last is a responsibility shared with the Provincial Governments. The Project criticizes the Federal Government for not doing enough in these areas.

Second, the Project discusses Provincial responsibilities for industrial and highway noise abatement. It states that this level of government has done more than the Federal level. The example cited is that a number of provinces have already adopted the standards found in the American Walsh-Healey Act which deals with aural hygiene in industry.

Finally, the Project found that most anti-noise legislation has been put into effect on the municipal level. However, the Project also points out the limitation of this level, that is, these by-laws work only within the limit of the powers found in the provisions of provincial enabling legislation. According to the Project, this problem is

complicated by the fact that the powers provided by the provincial legislation are sometimes interpreted differently by individual municipalities.

Although the Project criticizes all levels of government for their procrastination in dealing with noise pollution, it admits that the situation is improving on the level of municipalities.

Next, the Project begins its discussion of the forms of legislation presently found in Canadian municipalities. First, the Project outlines seven possible legislative responses to noise pollution that have been implemented by communities. The following is a list of the responses by the eighty-seven local governments that completed the Project's survey.

- 45 have noise by-laws,
- 10 have special motor vehicle noise legislation,
- 6 have other special noise by-laws (air conditioners, etc.) in addition to a general by-law,
- 8 have special noise by-laws (air conditioners, etc.),
- 9 have a nuisance by-law but no noise by-law,
- 8 have special references to noise incorporated into a nuisance by-law, and,

13 have no noise by-law at all.³⁶

They also point out that there is a wide variety of legislation and some of it is too out of date to be effective.

Another fundamental problem regarding noise abatement legislation results from the nature of noise as a nuisance. The nuisance value of noise is very subjective. Therefore, some municipalities lack the self-confidence to enforce their legislation. The Project explains this point citing the comments made by I.T. Lester, Deputy Municipal Clerk of West Vancouver:

...our Abatement and Control of Noise By-Law is enforced upon complaint. However, this requires that the individual who is offended by the noise swear out the information against the violator. Our solicitor advises that this is necessary as it is the individual who is offended and not the municipality.³⁷

Therefore, for the legislation to be used, an individual in the community must make the subjective decision that the noise is offensive. If this decision is not forthcoming, then the by-law is not used and there is no enforcement.

³⁶ Ibid., p.10.

³⁷ Ibid., p.11.

In order to avoid this problem, the Project recommends that the legislators introduce quantitative limits into their noise by-laws. The Project notes the various problems associated with the use of quantitative limits. According to the Project's survey, in 1972, there were eleven municipalities with by-laws containing quantitative limits. A number of other respondents expected to introduce similar legislation in the near future.

The Project points out that the first problem of legislation containing quantitative limits is the lack of uniformity. The following chart shows the variety of dbA standards and distances for automobiles used by some of the eleven municipalities:

<u>Community</u>	<u>Limit in dbA</u>	<u>Distance</u>
Burnaby to June 1, 1978	80 (30 mph zone)	20ft.
	85 (faster zone)	
Burnaby after June 1, 1978	70 (30 mph zone)	20ft.
	80 (faster zone)	
Calgary	80 (30 mph zone)	15ft.
	85 (30-45 mph zone)	15ft.
	88 (over 45 mph zone)	15ft.
Edmonton	83	15ft.
Hull	83	15ft.
Ottawa	83	15ft.
Quebec City	83 (db)	25ft.
Toronto	94 (dbc)	15ft.

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³⁸ Ibid., p.13.

Next, the Project explains how governments can make their noise legislation meaningless, citing two examples. The first is the case of making exceptions for particularly noisy activities such as construction and excavation noise. The Project also cites the example of Calgary where the noise by-law exempts the city and all contractors employed by it. The second is the case of meaningless limits. These meaningless limits involve setting quantitative levels which are too loose and do not force noise levels to become lower than their already potentially harmful levels.

The Project points out inconsistencies in the division of the twenty-four hour period into night and day. The definition of the hours of day and night periods varies widely according to the individual communities. For example, the Project's survey reports that communities specify the beginning of night from as early as 6 p.m. to as late as 11 p.m. Similarly, the end of night varies from 6 to 8 a.m.

The Project also discusses the possibility of differentiating among areas containing different types of land uses. As an example, the Project cites the suggested zones and dbA levels made by the Commission of Noise Abatement of the Swiss government. There are three examples of the Swiss recommendations below:

	Background Noise Level		Frequent Peaks		Infrequent Peaks	
	Night	Day	Night	Day	Night	Day
Hospital, Convalescent	35	45	45	50	55	55
Quiet, Residential	45	55	55	65	65	70
Industrial	55	65	60	70	70	80

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In order to solve the problem resulting from the lack of uniformity among the limits above, the Project emphasizes the necessity of national limits legislated by the Federal Government instead of ones enforced by individual municipalities. The Project noted that in 1972 the Federal Government only recommended certain noise limits for motor vehicles. These limits are relatively high and are measured from a distance of fifty feet rather than the more normal fifteen feet. It shows the Federal Government's more conservative approach towards noise limits, which the Project does not consider appropriate.

The second problem is the validity of the measurements obtained using soundmeters. The Project explains how difficult it is to obtain correct sound measurements from a single source when there are many other noises in the environment. The Project proposes that a "tagging" system could be used when a vehicle is suspected of exceeding the quantitative

³⁹ Ibid., p.18.

limits set out in the legislation. Instead of measuring the suspected noise source on the spot, this tagging system would involve issuing a citation requiring the suspected vehicle to be tested later in an inspection station. An alternative possibility is requiring mandatory noise testing of vehicles at the time of their inspection.

The third problem is financial. The Project refers to municipalities' financial inability to purchase and operate sound level meters. According to the Project, the provincial governments could assist smaller communities with these problems.

Furthermore, the Project compares the penalties found in noise legislation. According to the survey, the maximum fine varies from \$10 to \$500; and the maximum prison penalty varies from 20 days to 180 days depending on the communities. Fines are the more popular penalty applied to those found guilty of breaking noise by-laws. The Project considers these penalties to be "unrealistically low".

At the conclusion of the "Introduction", the Project suggests how noise abatement programs may be started and improved. Two types of surveys are recommended to start with. The first is the social survey "in the

community to determine the unique or variable problems to be solved". The second is the engineering survey. This type of survey involves taking a large number of sound level meter readings throughout the community. The Project states that it is more valuable for these surveys to be carried out periodically in the same community, rather than to be carried out in many communities, because the Project feels it important to know what changes in noise levels and types are taking place over time.

Finally, the Project judges that the noise by-laws in Burnaby, British Columbia are the best in the sample. The unique feature of these by-laws are that the permissible noise levels become more restrictive over a number of years, in phases. The Project recommends that other communities should study it carefully. The Project suggests that there should be a warning period prior to any new by-law coming into effect. The Project believes that all levels of government should pay more attention and do more work in the field of noise abatement.

"Noise and the Law -- A Guide to the Citizen", by J.J. Bicker, a Barrister and Solicitor in British Columbia, intends to give members of the public an understanding of how they can use legislation

and the courts as a remedy for noise pollution. Becker explains "what remedies exist in law to the community noise problem and how to initiate legal action".⁴⁰ The whole article is based on the author's feeling that the legal remedies are not used as often as they could be, because the public is not aware of their potential use and the procedure to follow.

In the first half, he discusses the difference between two avenues which are available in the present legal system to fight noise problems, that is, civil action and statutory action. While civil action is based on common law, which is the body of precedents built up over the years, statutory action is based on the statute law, which is the law proclaimed by a particular level of government. Both civil action and statutory action are fought by two opposing parties. However, while in civil action both complainant and alleged offender are usually private persons or corporations represented by lawyers, in statutory action the government is always one of the parties, the offender being the other. The person making the complaint is not a party to the action, but instead has the role of witness.

Of the two actions, the author states that the statutory is

⁴⁰ Ibid., p.22.

the more appropriate remedy to cope with noise pollution primarily for the following reasons. First, compared to a statutory action, a civil action involves more costs to the complainant to serve the writ, to reimburse witnesses, and to hire lawyers. Since, in the case of a civil action, the complainant is often a private individual, it is quite difficult for him to bear these expenses.

Moreover, since noise pollution is a quite recent problem, common law, which consists of principles based on a body of precedents, often has a great difficulty handling this issue. Also, a civil action tends to take a long time, anywhere from several months to many years. Therefore, the author recommends that the public use the statutory remedy rather than the civil one. He remarks that "a statutory action ... costs the complainant nothing to initiate and is usually brought before the court quite quickly".⁴¹

In the second half, the author explains the procedure used to begin a statutory action, because he feels that "the statutory remedy has not ... been utilized fully". The procedure begins with the concerned individual checking the laws in the jurisdiction. In some cases there will be some

⁴¹ Ibid., p.25.

testing to be done. This can be accomplished either by the complainant or local officials.

After the authorities have been informed, they will "swear an Information against the offender or proceed in a manner other than through the courts to remedy the situation".⁴² Additionally, the date, time, and location of the violation must be checked. As many other facts as possible should be collected for later use in the court.

The next step is to contact the local prosecutor. The complainant should present the facts and a copy of the law that has been broken. Submitting a copy of the law, the author thinks, could minimize administrative indifference to the complaint.

The final step involves the complainant's providing evidence before the court. After providing the citizen with this basic knowledge about legislation available as a remedy to noise problems, the author also expresses his expectation of improvement on the side of legislators. At the end of the article, he remarks that, "It is to be hoped also that legislators will, by means of the survey which follows, be

⁴² Ibid., p.24.

encouraged to provide citizens with good contemporary legislation".⁴³

The second part of A Survey of Community Noise By-Laws in Canada is the edited compilation of the data obtained through the survey. Among the communities contacted, the Project did not receive any reply to its survey from twenty communities. Therefore, the compilation does not include the following communities, although they have populations over 25,000:

Brampton, Ont.	Outremont, Que.
Chatham, Ont.	Peterborough, Ont.
Chiccutimi, Que.	Pointe-aux-trembles, Que.
Gloucester, Ont.	St. John, N.B.
Hamilton, Ont.	St. Laurent, Que.
Lachine, Que.	St. Leonard, Que.
LaSalle, Que.	Sainte-Jerome, Que.
Medicine Hat, Alta.	Sherbrooke, Que.
Montreal-Nord, Que.	Sydney, N.S.
Moose Jaw, Sask.	Verdun, Que.

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In addition, "because information ... was readily available and co-operation from their official was immediate", the communities included in the compilation despite having populations under 25,000 are as follows: Nanaimo, Penticton, and Port Alberni, B.C.; Fredericton, N.B.; and Westmount, Que.

⁴³ Ibid., p.25.

⁴⁴ Ibid., p.35.

However, data from these smaller communities was not included in any charts or graphs reserved for communities with populations of over 25,000.

The communities are introduced in alphabetical order according to the following format:

- 1) Population of the community: figures based on the 1971 census obtained from Statistics Canada.
- 2) Remarks which gives a general idea of geographical location and characteristics of the communities based on the Encyclopedia Canadiana.
- 3) Legislation consisting of Titles of by-laws, Passing Dates (plus dates of major amendments), and Maximum Penalties.
- 4) Commentary including the entries such as General Remarks, Enforcement, and Future Proposals.

A Survey of Community Noise By-Laws in Canada (1972) was clearly intended as part of the Project's political strategy. At the beginning of the "Introduction", the Project clarifies the purpose of its survey as follows:

The primary intention of our survey is to enable legislators to compare notes. We also hope and expect many citizens, interested in the problem of noise, will find this report useful. [*Italics mine.*]⁴⁵

⁴⁵ Ibid., p.1.

Here, it is clear that the political strategy in this work emphasizes the direct approach to legislators as a way of lobbying for more appropriate legislation.

In order to carry out the direct approach, which is to influence the political bodies without the involvement of the public, the Project sent the results of the survey, that is, copies of this publication to the appropriate departments of government at the municipal, provincial, and federal levels. For example, here is a letter attached to a copy sent to the Minister of the Environment:

June 12, 1973

The Honourable Jack Davis,
Minister of the Environment,
Government of Canada,
Ottawa, Ontario.

Dear Mr. Davis:

Enclosed you will find a copy of A Survey of Community Noise By-Laws in Canada (1972). It is our hope that you and the members of your ministry might find it useful in approaching the problems of noise pollution. For this reason we would be pleased to supply additional copies to any official in the government who might wish them at a cost of 50¢ per copy (to cover postage and handling)...

Yours sincerely,
R.R. Murray Schafer
Professor
Communications Studies.⁴⁶

⁴⁶ Murray Schafer, a letter of June 12, 1973, to Jack Davis.

Another letter of the same nature was addressed to the Minister of Transport.

In addition, copies were also delivered to citizens through the mail or through anti-noise organizations. This is the indirect approach, which is to raise the political consciousness of individuals so that they start using noise legislation by initiating action in the courts, or influencing their government. The article by J.J. Becker, "Noise and the Law", is specifically addressed to citizens, providing them with information about existing anti-noise legislation and how to use it to protect themselves from noise pollution.

As we have already seen, noise abatement, which can be expected as a result of the political strategy, has two aspects, legal and actual alteration of the soundscape. A Survey of Community Noise By-Laws in Canada (1972) focuses primarily on the legal aspect. As a political strategy concerned with the legal aspect, A Survey of Community Noise By-Laws in Canada (1972) is significant in that it involves both creator and user of legislation, that is, government and the citizen, by providing each side with appropriate information. Useful noise abatement legislation should be created on the basis of an accurate understanding of the modern acoustic environment by both citizens and legislators.

When used successfully, noise abatement legislation, which is the legal aspect of noise abatement, leads to the other aspect, that is, the actual alteration of soundscape. This alteration of sound is considered as the result of the use of negative or restricting legislation. However, the Project believes that this legislation may be implemented not only in a negative manner, but also as a creative device for improving the quality of the acoustic environment. This point is made clear in the following remarks by the Project:

Our aim is to provide coherent facts by which decisions can be made not only to control, but also to compose the acoustic environment of the future. [Italics Mine.]⁴⁷

⁴⁷ The World Soundscape Project, A Survey of Community Noise By-Laws in Canada (1972), (1972), pp. iii-iv.

THE MUSIC OF THE ENVIRONMENT

The Music of the Environment is an article written by Schafer in 1971 and published in 1973. Although The Music of the Environment and The Book of Noise are both the results of Schafer's personal efforts, a clear distinction can be observed between these works. Compared to The Book of Noise, The Music of the Environment has a wider perspective which covers the sound of the environment in general instead of being limited to the concept of "noise". Consequently, the range of sound discussed in The Music of the Environment is expanded to include various types of environmental sounds, while the earlier book focussed primarily on the environmental sounds considered as "noise".

The Music of the Environment is divided into three large sections: the first deals with natural environmental sounds; the second deals with recent phenomena in the acoustic environment; and the third is concerned with potential future change. The first section discusses several of the most fundamental elements in the earth's acoustic environment. An example of this is found in a section titled "First Sound". Here Schafer considers the question, "What was the first sound heard?" He answers that "it was the caress of the waters", and continues:

The ocean of our ancestors is reproduced in the watery womb of mother and is chemically related to it. Ocean and Mother. In the dark liquid of ocean the relentless masses of water pushed passed the first sonar ear. As the ear of the foetus turns in its amniotic fluid, it too is tuned to the lap and gurgle of water.⁴⁸

As can be seen in the quote above, "the caress of the waters" as "the first sound" suggests two interpretations: first, the sound of the creation of the larger world environment, and second, the sound of our individual biological beginnings.

Besides other natural sound including sounds of snow, ice, and rain, Schafer also discusses "apocalyptic sounds". After examining different religious visions of the end of the world, he concludes:

In the imagination of the prophets the end of the world was to be signalled by a mighty din, a din more ferocious than the loudest sound they could imagine: more ferocious than any known storm, more outrageous than any thunder.⁴⁹

In The Book of Noise, this theme of "apocalyptic sounds" was referred to solely in the context of noise pollution. However, in The Music of the Environment, the discussion is approached from a wider perspective. Instead of being confined to a relationship with noise pollution, it also suggests that imagined sounds, which are conditioned according to individual

⁴⁸ R. Murray Schafer, The Music of the Environment, (Universal Edition, 1973), p. 5.

⁴⁹ Ibid., p.8.

cultures, should be included within the study of environmental sound.

The concept of "clairaudience" represents another study area of environmental sound. For Schafer, "clairaudience" refers to a special aural ability which modern man appears to have lost. Schafer suggests that this loss has led to a situation where a previously common aural ability has come to appear mystical in the modern cultural context. He states:

Modern man, who seems to be in the process of deafening himself apparently regards this as a trivial mechanism. In the West the ear has given way to the eye as the most important gatherer of environmental information. One of the most evident testaments of this change is the way in which we have come to image God. It was not until the Renaissance that God became portraiture. Previously He had been conceived as sound or vibration. In the Middle East the message of Mohammed is still heard through the recitation of his Koran. Sama is the Sufi word for audition or listening. The followers of Jalal al-Din Rumi worked themselves into the sama state by whirling in mystical dances... In the Zoroastrian religion the priest Srosh (representing the genius of hearing) stands between man and the pantheon of the gods transmitting the divine messages to humanity.⁵⁰

⁵⁰ Ibid.

The second and third sections deal largely with material that was discussed in The Book of Noise. However, the approach to these topics differs in the sense that while the previous book dealt with the negative aspect of contemporary acoustic phenomena, The Music of the Environment deals with the same topics from a wider perspective and in a less subjective way.

The second section introduces several new concepts, in order to describe more clearly the characteristics of the modern acoustic environment compared to the natural acoustic environment. For example, Schafer describes the acoustic change from the rural soundscape to the modern urban soundscape as the change from the "hi-fi" soundscape to the "lo-fi" soundscape. Schafer defines these terms as follows:

A Hi-fi system is one possessing a favourable signal to noise ratio. The 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. The pellucid sound - a footstep in the snow, a train whistle in the distance or a church bell across the valley - is masked by broad-band noise. Perspective is lost. On a downtown street corner there is no distance; there is only presence... In the ultimate lo-fi soundscape the signal to noise ratio is 1 to 1 and it is no longer possible to know what, if anything, is to be listened to.⁵¹

⁵¹ Ibid., p.11.

"Schizophonia" is another concept which clearly characterizes an aspect of the modern acoustic environment. Schafer defines this term as follows:

The Greek prefix schizo means split, separated. Schizophonia refers to the split between an original sound and its electroacoustical transmission or reproduction. It is another twentieth-century development.⁵²

Originally, all the sound including the human voice and music, could not extend beyond the limits of their own time and space. All the sounds happened only once in their actual time and actual space. However, because of modern technological devices, sounds can exist beyond their original time and space limit. The telephone, radio, television, records and tapes disperse sounds beyond their original temporal and spatial boundaries. The Project characterizes this phenomenon as "Schizophonia".

The concepts of "hi-fi", "lo-fi" and "Schizophonia" had already appeared in Schafer's previous works. However, in The Music of the Environment, it is significant that they have been developed so that they can form some of the essential concepts in the WSP's later activities.

⁵²Ibid., p.15.

In the third section, which is concerned with future potential change, various significant concepts for the activity of acoustic design are discussed. Besides the themes of "sound walks", "sound symbolism", "the module" and the principle of the respect for silence, which had already appeared in The Book of Noise, the new concepts of "signals" and "acoustic community" are introduced. "Signal" is defined as "the significant feature of the soundscape, those sounds which are important either because of their individuality or their domination".⁵³ They are exemplified by such sounds as church bells and police sirens.

Schafer proposes the concept of the "acoustic community" as follows:

Community can be defined in many ways: as a political, geographical, religious or social entity. But I am about to propose that the ideal community may be defined advantageously along acoustic lines.⁵⁴

As an example of acoustic community, Schafer refers to the idea of a parish which is defined by the area where the church bell can be heard. Another example is cockneydom which is the area in East London within earshot of Bow Bells.

⁵³Ibid., p.19.

⁵⁴Ibid., p.25.

The present writer believes that providing these concepts is a necessary first step in the process leading toward the activities of acoustic design which the project advocates. That is, the objectives for the future acoustic designer are defined by concepts including "sound signals" and "acoustic community".

While The Book of Noise focussed on a certain type of environmental sound which is negatively called "noise", The Music of the Environment deals with a much wider range of environmental sounds. The latter includes various natural sounds, modern mechanical sounds, which tend to cause the problem of noise pollution, and even "apocalyptic sound" and other imaginary sounds, which should be included among the concerns in the field of acoustic design. Here, by defining the whole range of sounds as "the music of the environment", Schafer establishes the first clear scheme of the Project's social strategy, and more specifically, its theoretical field, acoustic ecology. Therefore, this work can be considered as a part of the Project's social strategy. The Music of the Environment is also significant in that it provides evidence that, before the Project started its true collaborative activities in 1972, it had already developed the basic scheme of acoustic ecology, which was going to be used in many of its later works.

CROSS-CANADA SOUNDSCAPE TOUR

In 1973, two members of the WSP, Bruce Davis and Peter Huse, spent nearly two months travelling across Canada collecting various sound data as a part of their research on the second phase, that is "national-Canada". The Project refers to this tour as "the cross-Canada field recording trip", or "cross-Canada soundscape tour". Sound Heritage vol.III, no.4. includes a dialogue between these two researchers about this tour. While no special publication about other field work such as The Vancouver Soundscape and Five Village Soundscapes is available, this article gives us rather detailed information about their field work. Therefore, it is worthwhile to examine this article in order to understand the Project's basic method and problems during the field work, with the assumption that these methods and problems are applicable to the Project's other field works.

Davis and Huse set off in a car, which was their main transportation during the tour except for several times when they used an airplane or ferry boat. Their equipment consisted of a Nagra tape recorder, two cardioid microphones, a sound level meter, and a camera. Besides the sound recording itself, they also recorded other information including "the time/place/date, of recording, weather conditions, equipment used and micro-

phone set up, historical and social observations, and the sound level, measured in dBA and dBC⁵⁵, and so on. Their field recording trip is clearly different from other more casual sound-hunting trips, and it is based on the principle of "acoustic ecology". That is, their sound recording always took account of the relationship between the sound and its social, natural, or physical environment. In their field recording, according to Davis, as they taped a certain sound, they also put the sound into the context from which they took it. He describes their method as follows:

Whenever you record a sound, you're ripping it out of its social, historical, and general acoustic context. so that the difference, for instance, between our recordings and a sound effects recording is that the sound effects recording is just the sound, and our recordings are not only sound, but also the related background material to that sound.⁵⁶

Davis and Huse took daily turns doing their recording tasks; one would record sounds, and the other would do all the written work including noting sociological data, direction of the wind, distance from the sound source, and taking pictures and measuring sound levels simultaneously. As for the recording level, they set a certain uniform level except for the sounds which were extremely loud or quiet, so that most of the

⁵⁵ Bruce Davis and Peter Huse, "Cross-Canada Soundscape Tour 1973", in Sound Heritage Vol. III, No. 4, (1974), p. 29.

⁵⁶ Ibid, p. 32.

materials could be compared when they were monitored at the same level afterwards.

The route of their cross-Canada tour was approximately as follows. After leaving Vancouver by car in early October, they made their first stop on the Athabaska River just outside of Jasper, Alberta. They drove further in Alberta, visiting Sedgewick and Viking, then they sent their car to Halifax by train. Five days later, they arrived in Newfoundland. After visiting Herring Neck and Lewiston, they flew to Halifax and picked up their car. In Nova Scotia, they visited Lunenburg, Sydney and Margaree Valley. Then they took the ferry to Prince Edward Island. In P.E.I., they went to Souris, Charlottetown and Summerside, and then they moved to New Brunswick. They visited Moncton, Saint John, Fredericton and Baie de Chaleurs. From New Brunswick they entered Quebec, and visited Percé and then Quebec City. From Quebec City they started their "solid driving back home".⁵⁷ After visiting Montreal, they moved into Ontario. When they drove from Ottawa to Trenton, it was Halloween. They visited Toronto, Kitchener, and Algonquin Park. On the Trans-Canada Highway through Manitoba they timed their arrival in Regina for the night before Armistice Day. From Saskatoon, they moved back into Alberta. Driving through Calgary and Banff National Park, they came back to Vancouver.

⁵⁷ Ibid., p. 43.

Visiting those places, they collected sounds which are indicative of the locale: sounds of an old windmill waterpump, and drilling for and pumping oil in Alberta, foghorns in Newfoundland and the furnaces of Sydney Steel Corporation were recorded as the significant elements of the soundscapes of individual places. Some of those sounds are so consistent as to be called "keynote sounds" of a certain area: for example, the constant buzzing sounds of airplanes from the naval base in a military town, Halifax, and the humming telephone lines in the Prairies.

Throughout the tour, they also developed several themes as they discovered fundamental sounds. Some natural elements such as water, wind, and fire provided themes. Another type of sound, which they call "signals", also formed some themes, such as foghorns, train or factory whistles, and church bells. Local dialects and AM radio also became some of their important themes. Huse remarks:

The theme of local dialects had started to emerge in Alberta, when we had been recording people reminiscing about sounds in the old days, along with the theme of "what's on the AM radio". We had a radio in the car, and we had done a sampling in Alberta. This we started to do again in Newfoundland. And to record the sounds of people talking; we were asking people

directions anyway, so we decided we might as well record them, and it would be a good way of sampling the local dialects.⁵⁸

Even traffic noise and ambient noise became important themes. As for how they collected the traffic and radio samples, Davis explains:

In every main city we automatically took a five-minute traffic sample at the main intersection and again automatically in more or less the centre of each province took a sample of the local radio reception.⁵⁹

Collecting sounds according to the same theme leads to later comparisons among them to discover their regional differences. For example, the ambient sound on Prince Edward Island was the most quiet that they collected in the whole tour. Huse describes his experience when he discovered how quiet the ambience remains in that area:

We took great care to indicate on the tape box: this tape actually had been used and the static you heard was reality. Such a silent ambience did exist and in Canada on Prince Edward Island.⁶⁰

⁵⁸Ibid., p.34.

⁵⁹Ibid., p.46

⁶⁰Ibid., p.41.

Comparing radio stations, they gave the following remarks:

Davis: The radio stations we found ... to be fairly uniform in the way that the announcers spoke; Newfoundland was one of the few places that did reflect the local dialect, and it was on the CBC station that we found this.

Huse: Most of the stations had that midwest, American dialect and the expected razamataz commercial rap.⁶¹

On the other hand, the theme of dialects showed clear regional differences. Huse says:

In the vein of Canadian dialects we noted marked differences all across the country: in Newfoundland the predominance of Irish inflections, in Quebec the French dialect and language, in Manitoba we encountered the Russian and Ukrainian element.⁶²

Besides the themes above, they developed the themes of games and entertainment, industry, and disappearing sounds.

During the tour across Canada, they also experienced a seasonal change in the Canadian soundscape. The last sound they recorded in Alberta, before moving to the Maritimes, was the sound of the harvest. At the southwestern Ontario community of Ayr, they recorded the sound of corn being harvested in the snow. By Lake Winnipeg they heard their first snowmobile.

⁶¹Ibid., p.34.

⁶²Ibid., pp.46-47.

Furthermore, by the time they re-entered Alberta, the sounds of sleet and snow against their windshield became a regular feature of their recordings.

They recall several problems experienced during their recording. When they were recording soft natural sounds such as water against low ambient noise, they had to suppress the sounds of themselves. They recall that when they were holding the microphones in the direction of the sound source for extended periods, say twenty minutes or more, they had to take care that they did not contaminate the subtle ambient sounds they were picking up with such noises as their own breathing, "stomach gurgles", the squeaks of their gloved hands on the stereo hand set, and even the cooling down sounds of their automobile's engine.⁶³

Therefore, they tried to carry out their recording outside of their car as much as possible. However, there was another problem. Huse remarks:

Whenever possible we tried to record outside the car to avoid the presence of the ambience and resonance of the interior of the car itself. But the sensitivity of our AKG condenser microphones to wind and moisture was a constant problem, and often we were forced to record from the car.⁶⁴

⁶³Ibid., p.45

⁶⁴Ibid.

Above all, the greatest problem was the theme of "soundscape recording" itself, that is, they had to focus on those sounds which are usually not supposed to be listened to.

Huse remarks:

It's difficult working as a soundscaper in the field, vis-a-vis music, because music of course is something we're supposed to listen to. And as World Soundscapers, we're orienting our field of study towards those sounds we have forgotten to listen to or have stopped listening to for our self-preservation.

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⁶⁵ Ibid., p.40.

THE VANCOUVER SOUNDSCAPE

This publication is a result of the Project's research on the first phase; the local research took place in Vancouver, where the Project was located. The Vancouver Soundscape tries to describe the city's acoustic environment. This work consists of one book and two long-playing recordings. On the records, there are recorded sounds, narration and conversation. In the book we can find basically three types of material, text written by the members of the Project, quotations from literature, and maps and graphics. Leonard Marsh explains the relationship between the book and the records in the following manner:

Whether the recordings are used as auxiliary to the booklet or the booklet is studied to enlarge on the impact of the gamut of sounds which the records bring to life is immaterial, so long as both are utilized.

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Record I side one, "Shoreline and Harbour" consists of 1) "Ocean Sounds", 2) "Squamish Narrative", 3) "Entrance to Harbour" and 4) "Harbour Ambience". Together with the sound of the Pacific Ocean and ships' horns in the harbour, the language of the native people is also considered as one of the basic elements of Vancouver's soundscape.

⁶⁶ Leonard Marsh, "The Vancouver Soundscape", in B.C. Studies No.24 (Winter, 1974-75), p.96.

Record I side two, "Signals and Soundmarks" consists of 1) "Homo Ludens: Vancouverites at Play", 2) "The Music of Horns and Whistles" and 3) "Vancouver Soundmarks and the Music of Various City Quarters". Side two begins with a section containing the sounds of Vancouver residents, both children and adults, involved in various forms of recreation including horse races, drunks' singing and baseball. The second section is a series of sounds of horns and whistles mainly from ships and trains. The last section is an exploration of some of the more obvious Vancouver soundmarks such as the Nine O'Clock Gun and the Bell of Holy Rosary and other sounds in the city including those of construction and a barbershop quartet on the street.

While Record I consists of a collage of recorded sounds, Record II is a combination of sounds, conversation featuring members of the Project, and narration by Murray Schafer. Record II side one is titled "A Conversation Piece", which is a casual discussion among Schafer and the research assistants of the Project about their experiences while doing the sound recordings. The discussion focuses on the difficulties encountered in obtaining the desired sounds, and the reactions of people on the street to the researchers during their field work. It is significant that not only sounds but also the reactions of people are considered as a part of the Project's study.

Side two, "On Acoustic Design", is an introduction to the concept of acoustic design narrated by Murray Schafer with sound examples. He emphasizes the necessity of this concept in modern society as follows:

It is not unusual for man to begin to value things just at the point where he is engaged in wrecking them. And so it is in the midst of the present cacophony that we have begun to listen very carefully to what is taking place around us with the hope that if enough people can be made aware of the facts changes might be demanded and eventually brought about.⁶⁷

Along with the relevant summary narration about the concept of acoustic design by Murray Schafer, good and bad examples of acoustic design in the city are introduced as Schafer moves around the city with his recording device. For example, two elevators are compared from the acoustic point of view: the old manually controlled one is considered by Schafer as better acoustically designed than the more modern elevator because the sounds are more clearly punctuated and the sounds seem to be more clearly connected with the movements and operation of the device. This is not to say that the older elevator is quieter, but rather that, from the standpoint

⁶⁷ This text is from Record II, side two of Vancouver Soundscape (1974).

of acoustic design, Schafer considers it superior to the monotonous drone of the new elevator. The important point here is that the Project does not always favour the quieter sound with regard to acoustic design.

The book is divided into the following six parts:

- I. Some Earwitness Accounts
- II. A Thumbnail Historical Sketch
- III. Features of the Vancouver Soundscape
- IV. Hi-fi to Lo-fi Soundscape
- V. Vancouver's Noise Pollution Problems
- VI. Towards Acoustic Design

Here a number of new methods of dealing with the acoustic aspect of the city are explored. In the first part, "Earwitness Accounts" are used to form the acoustic history of the city, beginning with the transcript of a prayer from the Squamish Indians and an account by Captain George Vancouver. In a later work, the Project defines "earwitness" as follows:

The author of verbal or written descriptions of sounds, usually those of the past. Collections of earwitness accounts form one of the few sources of historical soundscape documentation.⁶⁸

This method already has been used in Schafer's works such as The Music of the Environment. However, in The Vancouver Soundscape, the method is developed so that about sixty quotations are used to form an acoustic history of Vancouver which spans the period of change from when there was only the forest and ocean to the growth of the large city. Together with

⁶⁸ "Earwitness", in Handbook for Acoustic Ecology (A.R.C. Publications, 1978), p.40.

"Vancouver Soundscape Time Chart" in the appendix, Parts I and II deal with the historical perspective.

Parts III to V utilize various graphs and maps to describe certain acoustic phenomena. For example, the area where Holy Rosary Bells in central Vancouver are heard is depicted with a "sound profile map". On the other hand, the different levels of ambient sound in Stanley Park are shown on an "isobel map". "Hourly Curbside Traffic Intensity in Downtown Vancouver" shows the dbA levels of traffic noise on four main streets. Compared to the former works, in The Vancouver Soundscape, these notational systems of acoustic environment have been extensively developed. These systems were to be more refined in the later works.

Some original concepts, or terms, made by the Project for the soundscape studies are also established more clearly in this work. In Part III, "Features of the Vancouver Soundscape", significant elements of Vancouver soundscape are explored following the concepts of "keynotes", "signals" and "soundmarks". These concepts result from the Project's effort to understand and analyse a certain soundscape. The Project states:

What the analyst must do is to discover the significant feature of the soundscape, those sounds which are important either because

of their individuality, their numerousness, or their domination... We categorize the main themes of soundscape by distinguishing between what we call keynote sounds, signals and soundmarks.⁶⁹

The Project formed the concept of "keynote sound" based on the musical term "keynote" which is "the anchor or fundamental tone", and the psychological concept of the relationship between "ground" and "figure" in the field of visual perception. The Project explains "keynote sound" as follows:

Keynote sounds do not have to be listened to consciously; they are overheard but cannot be overlooked; for keynote sounds become listening habits in spite of themselves... Even though keynote sounds may not always be heard consciously, the fact that they are ubiquitously there suggests the possibility of a deep and pervasive influence on our behaviour and moods. The keynote sounds of a given place are important because they help to outline the character of men living among them.⁷⁰

The sounds of the water and the forest are discussed as the first keynote sounds of the Vancouver soundscape. Along with the sounds of waves and tides, rivers and cataracts, the sounds of the gentle and continuous rain are especially focussed on as the most regular sounds heard throughout Vancouver. As

⁶⁹The World Soundscape Project, The Vancouver Soundscape (1974), p.28.

⁷⁰Ibid., p.29.

the more recent keynote sounds, the sounds made on wooden plank, asphalt and cement surfaces of streets, the sound of steam, traffic noise, and the sixty cycle hum from electrical equipment are discussed. The Project concludes that "as time went on, the keynote sounds became less characteristic and more cosmopolitan".

While the "keynote sound" is a background sound which is not always heard consciously, "sound signals" and "soundmarks" are foreground sounds which are listened to consciously. In The Vancouver Soundscape, the examples of "sound signals" are confined to acoustic warning devices such as whistles, horns, and sirens. Various types of train whistles, ship whistles, foghorns, fire engine signals, police signals, and civil defence sirens are discussed. The text states that "emergency sounds must be loud enough to emerge clearly over the ambient noise level of the community".⁷¹ The Project feels that, because of the increasing levels of ambient noise in modern society, some of the warning devices have had to become loud enough to cause hearing damage. The Project suggests that in the future, if the ambient noise continues to rise, warning devices might have to rely on other means than loudness of the sound to be heard.

⁷¹Ibid., p.35.

On the other hand, "soundmark" is defined as "a prominent feature of a soundscape, possessing properties of uniqueness, symbolic power or other qualities which make it especially conspicuous or affectionately regarded".⁷² As an example, the Nine O'Clock Gun in Stanley Park is considered as the most significant soundmark in Vancouver. O Canada Horn and the Bells of Holy Rosary Cathedral are also discussed. The Project states:

Once a soundmark has become established in the community it deserves to be protected, for soundmarks make the acoustic life of the community unique.⁷³

The gestation of the concepts of "keynote sound", "signals", and "soundmark" can be observed in Schafer's former works such as The Book of Noise and The Music of the Environment. However, this is the first time that all three are used together in a systematic manner to describe and analyse the features of a certain soundscape.

Technologically produced acoustic environments are also focussed on as significant elements of the Vancouver soundscape.

⁷² Ibid., p.37.

⁷³ Ibid.

Sounds of telephones, radios and background music provided by Muzak are discussed. The various rhythms, intensities, and pitches of the sounds produced by telephones are examined.

The programming of four major Vancouver radio stations is compared. The Project states:

Radio broadcasting creates interesting rhythmic patterns. Each station has its own style of punctuation and its own methods of gathering the material of its programmes into larger units, just as the phrases of language are shaped into sentences and paragraphs.⁷⁴

Basically in these radio programmes, the same materials are repeated periodically on a daily or a weekly basis. The Project characterizes this pattern as "isorhythms". According to the Project, the tempo and soundlevel of broadcasting have been increasing over the years. The result is a monotonous uninterrupted acoustic environment of radio broadcasting.

The Project also focusses on wired background music systems, calling them "Moozak". Moozak is criticized for its reducing music "figure" to "ground". The Project states:

⁷⁴ Ibid., p.45.

In any historical study of the soundscape, the researcher will repeatedly be struck by shifts in the perceptual habits of a society, instances where the figure and the ground exchange roles. The case of Moozak is one such instance. Throughout history music has existed as figure - a desirable collection of sounds to which the listener gives special attention. Moozak reduces music to ground. It is a deliberate concession to lo-fi-ism. It multiplies sounds. It reduces a sacred art to a slobber. Moozak is music that is not to be listened to.⁷⁵

In the remarks above, the Project seems to be condemning not just "Moozak" but all background music, that is the music which is not consciously listened to and thus functions as "ground" rather than "figure" in the acoustic perceptions of the people in the society. This condemnation is confusing in light of the Project's fundamental standpoint that considers the entire acoustic environment as music, that is, "the music of the environment". When discussing acoustic design, the Project advocates that musicians start creating music for the environment in general instead of only for conventional places for music such as concert halls. The reader might well ask if such music for the environment would be "figure" or "ground". Would people be expected to give special attention to such music? Presumably some of their music could function as

⁷⁵ Ibid., p.54.

background or "keynote sound" which is not always listened to consciously. In the statement above, the Project might have been simply intending to raise the quality of most background music by criticizing Moozak. If that is the case, this statement is definitely misleading, because it seems to suggest that when music is "ground", it is "slobber", and not "sacred art".

In the last part of the book, that is Part VI, "Toward Acoustic Design", the Project advocates the idea of "acoustic design" and encourages the readers to participate. Schafer states on the record, regarding acoustic design, "first we want to listen, then we must make judgments, and the more informed our judgments are, the better". The text thus discusses first, "Listening" and second, "Documentation". The way to learn how to listen to environmental sounds and several examples of documenting the materials of soundscape study is introduced.

After that, the Project discusses "Acoustic Design" itself, stating that "The final stage of all work on the soundscape must be to engage in redesigning it".⁷⁶ However, what the Project discusses as examples of acoustic design are the brief plan of a public instrumentarium for adults and John

⁷⁶ Ibid., p.66

Grayson's children's musical playground, which have not been realized.⁷⁷ This is no more than a suggestion and definitely lacks specific means of implementation. Therefore, although the Project refers to "acoustic design", its efforts are confined only to the theoretical aspect of acoustic design, or acoustic ecology as it is referred to by the present writer (see p. 32).

The Project has achieved little in the practical field of acoustic design. It would be natural for a reader to expect much more detail and practical explanation about those plans. Also, the Project could have made some proposals to actually design or redesign parts of the Vancouver soundscape, and introduced such proposals in this section. This failure in The Vancouver Soundscape is one of the fundamental weaknesses of the Project. Although the Project insists on a more positive approach to altering the soundscape, encouraging musicians to produce their works on the basis of soundscape such as designing new sound signals, or an "acoustic garden", that is, a playground equipped with acoustic instruments, no actual work has been done by the Project as a whole in that field.

The Project presents The Vancouver Soundscape mainly as its social strategy, in that it is the first complete example

⁷⁷ John Grayson, a sound sculptor and a music educator, has been the Managing Director of the Aesthetic Research Centre of Canada (A.R.C.) since it was established. A.R.C. Publications has been publishing the WSP's works after the first edition of The Vancouver Soundscape.

in the field of acoustic ecology that is based on the Project's own field research. As Leonard Marsh states, "There are many eminently quotable items in this Vancouver compendium. Their topical quality, for those of us who live here, will not prevent their use for other metropolitan centres",⁷⁸ The Vancouver Soundscape contains much which is applicable to other cities. However, it does not represent the social strategy in all its aspects; that is, it does little in the practical area of that strategy.

This point seems to be related to the Project's aesthetic viewpoint found in The Vancouver Soundscape. The Project's aesthetic perspective throughout the book and the record is clearly anti-modern technology and anti-electric. It favours naturalism and sounds associated with the past. Sometimes, this aesthetic seems to be too extreme so that most modern technological aspects of the soundscape are condemned. This is the point that Zebulon C. Kidd indicates in the following manner:

⁷⁸ Leonard Marsh, "The Vancouver Soundscape", in B.C. Studies No.24 (Winter 1974-75), p.96.

The World Soundscape Project takes some rather anti-automotive and anti-electrical stands; we are several times given old-time sounds as examples of 'nice' sounds and modern sounds as 'naughty' ones. Granted that the particular choices were appropriately nice and naughty, it seems slightly unfair of the World Soundscape Project to discreetly imply that automobiles, electricity and other modern contraptions almost always sound nasty and in the good old days everything sounded mellow. 79

This biased view of modern technology in the aesthetic, and even moral, sense might be the reason that prevents the Project from involving itself actively enough in the actual alteration and creation of soundscape. The Project's rather confusing approach to the issue of background music also seems to be related to this problem.

In The Vancouver Soundscape, the educational strategy is also used. In June 1973, when the Project was still on its way to collecting the sound materials for this work, Peter Huse stated to a journalist:

79 Zebulon C. Kidd, "The Vancouver Sound is Noisy", in The Peak (September 11, 1974), p.10.

When the Project has a good collection of sounds... "we'll put them on a record and make it available to the public. This will heighten people's awareness of the landscape around us. They can let us know what sounds they don't like and we can discuss ways of eliminating them from the environment". [Italics mine.] 80

In the statement above, two aspects of the Project's educational strategy can be observed. First, by the Publication of the work, the Project aims at heightening the public's interest in, and awareness of, the soundscape. Second, even before the completion of the work, by requesting some information from the public, the Project encourages the public to pay more attention, and to turn more critical ears to their acoustic environment. In another newspaper article, Bruce Davis addresses the public: "Don't be shy. If the sound interests you it will interest us". 81

80 Rick Boulton, "Soundscapers: Hold That Noise"! in Star Weekly, June 2, 1973.

81 "SFU Seeking Sounds", in The Vernon News, November 2, 1972, p.13.