

SOUNDSCAPE OF CANADA

In 1974, from January to the end of the summer, the members of the Project worked on a series of radio programmes for CBC using basically the material collected during the cross-Canada soundscape tour in the preceding year. A two-week series of radio programmes for "Ideas" on CBC-FM, it was broadcast from October 20 to November 1, Monday to Friday. This series of programmes is called Soundscape of Canada. Together with the cross-Canada soundscape tour, Soundscape of Canada is the realization of the second phase of the Project's research plan, that is, the research of soundscape on a national scale.

Although Soundscape of Canada is a production by the Project as a whole, the individual creativity of each member can be seen much more clearly than in other works such as The Vancouver Soundscape and Five Village Soundscapes. The reason for this is that the whole series consists of fourteen independent pieces and most of them were composed by one or sometimes two members of the Project. The date of broadcasting, title, composer, and summary of the contents of each programme are as follows:

- Programme I (Mon. Oct. 21): Six Themes of the Soundscape, by Barry Truax and R. Murray Schafer. An introduction to the soundscape via the themes: Rhythm and Tempo; Ambience and Acoustic Space; Language; Gestures and Textures; The Changing Soundscape; Silence.
- Programme II (Tues. Oct. 22): Part One: Listening, ear-cleaning activity with R. Murray Schafer. Part Two: Games, playing environments as soundscapes, by Bruce Davis.
- Programme III (Wed. Oct. 23): Signals, Keynotes, and Soundmarks, an illustrated discussion of prominent sounds across Canada: foghorns, whistles, and sirens by Bruce Davis and R. Murray Schafer.
- Programme IV (Thurs. Oct. 24): Soundmarks of Canada, a composition recreating the acoustic profile of community sounds unique to Canadian locales, coast to coast, by Peter Huse.
- Programme V (Fri. Oct. 25): Summer Solstice, excerpts from a 24-hour field recording documenting the daily cycles of the natural soundscape.
- Programme VI (Mon. Oct. 28): Directions, a cross-Canada polyphonic composition of dialects and accents, by Peter Huse.
- Programme VII (Tues. Oct. 29): Part One: Dawn Chorus, an early-morning recital of birds on the summer solstice. Part Two: Work, a composition by Bruce Davis.
- Programme VIII (Wed. Oct. 30): Part One: A Maritime Diary, a composition by Barry Truax. Part Two: Soundscape Design, an illustrated talk by R. Murray Schafer about the design of the acoustic environment.
- Programme IX (Thurs. Oct. 31): A Radio Programme About Radio, an ethnophonic composition of the stuff of radio, by Howard Broomfield.
- Programme X (Fri. Nov. 1): Part One: Soundscape Study, a composition of rhythms in space and time by Barry Truax. Part Two: Bells of Percé, a composition by Bruce Davis based on the sounds of the bells in Percé, P.Q.⁸²

⁸² The World Soundscape Project, "Soundscape of Canada: Programme Notes", (1974), p.i.

According to the nature or style of the content, the programmes above can be roughly divided into three large groups: 1) narration or illustrative talk with sound examples; 2) collage of sounds; 3) tape composition. Programme I, Six Themes of the Soundscape, the first half of Programme II, Ear Cleaning and the second half of Programme VIII, Acoustic Design belong to the first group above. Six themes of the Soundscape is the introductory programme for the audience to the whole series. The basic themes of the soundscape study are explained according to the six categories: Rhythm and Tempo; Ambience and Acoustic Space; Language; Gestures and Textures; The Changing Soundscape; and Silence. Schafer narrates these themes using readings from literature (the method of "ear witness"), and other commentaries together with the sound material from the rest of the series. This programme organizes the whole series giving a fairly clear idea of the Project's concept of, and approach to, soundscape. It is very important as a guide to understanding the individual significance of the other programmes in the series.

Programme II, Ear Cleaning, is another introductory programme. Here, Schafer directs some exercises on how to listen to environmental sounds, that is, how to perceive the soundscape. The Project explains this programme as "a half-hour of ear cleaning activities and relaxation exercises, in

preparation for the kind of concentrated listening required for this series of programmes".⁸³

The second half of Programme II, Game, through to the first half of Programme VIII, A Maritime Diary, belong to the second group, that is, they are collages of sounds. Among these programmes, we can recognize several themes which are already familiar to us. First, the themes which Davis and Huse were focussing on during the cross-Canada soundscape tour have been developed to form several individual programmes. That is, the materials collected under the themes of "games and entertaining sound" and "local dialect" become the programmes of Game, and Directions. The second half of Programme VII Works, which focuses on the sounds of people at work, including hammering and construction sounds, is a similar type of programme, in that all three are based on sounds associated with a particular activity.

The concepts of "keynote", "signals" and "soundmarks", which were presented in The Vancouver Soundscape, have now been developed on a national scale. For example, Programme III, Signals, Keynotes, and Soundmarks deals with "the characteristic sounds of a community or region [which] often go unrecognized and unvalued, until they disappear or are changed".⁸⁴ Various

⁸³ Ibid., p.1.

⁸⁴ Ibid.

kinds of factory whistles, train whistles, foghorns, church bells, etc., are presented in the context of their individual ambiances. Programme IV, Soundmarks of Canada, focusses solely on the themes of "soundmark". According to the Project, it combines "the important and unique sounds of Canadian communities in an hour-long sound profile of the country".⁸⁵

The theme of "ambient sound" is explored in the first half of Programme VIII, A Maritime Diary, through a particular editing and recording technique. This programme consists of the various sounds collected by the researchers, including sounds of farms, clocks, and city traffic, along with conversations between the researchers and people on the street. Further, at the point where two different sound materials are combined, the composer, Truax, switches from the preceding material to the following one back and forth several times within several seconds. According to the Project:

The sequences, while running continuously, are never heard more than one at a time; rather, a special switching network is used to effect the transitions between the sequences. These transitions, which are especially effective in revealing differences between particular ambiances, are some of the most interesting portions of the piece, which includes amusing glimpses of the recordists being themselves in the field.⁸⁶

⁸⁵Ibid.

⁸⁶Ibid., p.2.

The materials used in Programme V, Summer Solstice, and the first half of Programme VII, Dawn Chorus, are not from the cross-Canada soundscape tour, but from other field work done on June 21, 1974, at a pond on the grounds of Westminster Abbey, near Mission, B.C. The members of the Project recorded twenty-four hourly samples of the acoustic environment at a particular location.

Summer Solstice focuses on the changing daily rhythm, density, and contents of a specific acoustic environment. The programme was made in the following way. First, the Project edited each hourly sample into a two-minute segment. Then, it combined those twenty-four segments together in an uninterrupted sequence. The Project also added the recordist's announcing each hour at the starting point on the programme throughout the day, which spans from midnight on the eve of the solstice to midnight the next day. The programme reveals the rhythms, changing elements, and delicate moods which characterize each hour or the day in the natural soundscape, along with man-made intrusions such as the abbey bells and an airplane. This technique is very similar to the one in the visual field, that is, projecting film images at high speed. In the case of Summer Solstice, the audience can perceive many of the changes and rhythms that normally take place over a period too extended for ordinary perception. On the other hand, Dawn Chorus, deals

with two hours of early morning natural soundscape on the same day. The programme reveals the process of the individual elements becoming dominant and then subsiding in turn to produce a well balanced natural rhythm. That is, starting with the first bird, "each species can be heard joining in until a peak activity is reached, which then subsides to a normal morning level".⁸⁷

The three pieces after the second half of Programme VIII, Acoustic Design, which is an illustrated talk by Schafer, belong to the third group. That is, A Radio Programme About Radio, Soundscape Study, and Bells of Percé, can be considered as tape compositions as well as collages of sounds.

A Radio Programme About Radio is remarkable in that it gives a critical perspective on the medium of radio by dealing with it as one of the significant parts of the modern soundscape. Most of the materials for this programme were specially collected through other research on this theme including interviewing people on the street about their opinions of radio stations and collecting various clips from radio programmes of the past and present. The whole programme is arranged in rather quick tempo with a light touch.

⁸⁷ Ibid.

The first half of Programme X, Soundscape Study, focuses on rhythm and tempo in the soundscape. The composer, Truax, uses a limited number of materials and gradually alters the tempo of the same sound while it is repeated. According to the Project:

An important feature of this piece is the process of transition between sounds appearing in continuous alteration of their time and spatial scales.⁸⁸

It reveals the remarkable fact about acoustic phenomena that as the tempo of the sound changes, the quality of the sound also changes. We can experience a marvellous "imaginary soundscape" where, for instance, human footsteps become a galloping horse, and then a train, as the tempo of the sound material is gradually increased.

The last piece in the series, Bells of Percé, is a story about the church bell of the old fishing village of Percé, Quebec. The sound of church bells, occasionally modulated, revolves around a fragmentary interview with the parish priest about the bells. The piece forms a beautiful acoustic story, a kind of radio play, which indicates the close relationship between a certain soundmark, the bells of Percé, and the locale.

⁸⁸ Ibid.

This series of programmes is a part of the Project's social strategy, in that it is an example of an acoustic ecological study by the Project on the national level. While The Vancouver Soundscape dealt with the theoretical area of the social strategy and did little in the practical field, Soundscape of Canada can be interpreted not only as a result of the Project's theoretical effort, but also as an endeavour of the practice of acoustic design. The use of radio programmes allowed the Project to produce an actual acoustic environment in those locations where the programmes were being received.

In this case, the medium used is quite important. While the research on the other phases, that is The Vancouver Soundscape and Five Village Soundscapes, was reported in the form of publications, a combination of books and records, the research on the national level was reported in the form of radio programmes. The production of an actual acoustic space could not have been accomplished using the printed media, even when supplemented by recordings. Indeed, in the case of The Vancouver Soundscape for instance, the recording could have been listened to alone. However, to fully understand the intention of the Project in The Vancouver Soundscape, both the text and the recording must be used together. From the beginning, The Vancouver Soundscape and other works were oriented

to the theoretical concerns of soundscape rather than soundscape design. On the other hand, the programmes of Soundscape of Canada produced actual acoustic environments through the medium of radio broadcast.

Soundscape of Canada is also a part of the Project's educational strategy. The Project states that:

These programmes are designed to stimulate listeners' awareness of sound and its perception, in the hope that they might take positive and constructive interest in their own sound environments.⁸⁹

While other works were directed towards a much more limited audience, namely those interested in acoustic environment, Soundscape of Canada was directed towards a less academic, and, socially and geographically, a wider audience.

Therefore, Soundscape of Canada was successful in terms of its educational strategy, that is, its function of raising the public's awareness of soundscape. Furthermore, after the broadcast on CBC, Soundscape of Canada was also broadcast in foreign countries such as Sweden and Austria. Also, although these programmes were originally prepared for radio broadcasting, later, the Project often used them for its presentations and concerts.

⁸⁹ Ibid., p.i.

FIVE VILLAGE SOUNDSCAPES

Five Village Soundscapes (1977) is the report based on the data collected during the research tour of several European countries in 1975. The purpose of the research was to develop the WSP's soundscape study by collecting data in different type of communities which the Project could then compare with the results from their former research in Vancouver. The researchers concentrated on villages rather than cities. Visiting many villages in Europe, the members of the research team eventually chose five villages for their research objects.

The equipment they used for this research consisted of two tape recorders (a Nagra and a Uher, both stereo), an assortment of microphones, two sound level recorders and about 100 reels of recording tape.

The researchers stayed in each village for approximately a week to ten days. The list of the basic aims of their research in each village is as follows:

- 1) - investigate local and regional history;
- 2) - study local archives for references to sound (town crier, post horns, noise bylaws, etc.);
- 3) - create morphology charts of all significant changes in the soundscape;
- 4) - record and measure the intensity of all village signals;

- 5) - draw profile maps for prominent community signals;
- 6) - record all antique sounds in village (blacksmith, old tools or artifacts, etc.);
- 7) - make extended recordings of characteristic ambiences in each village;
- 8) - take regular sound level recordings day and night both in and outside the village;
- 9) - enumerate and measure the frequency of specific types of transportation sounds;
- 10) - make lists of sounds heard throughout the village at different times of day;
- 11) - run a Sound Preference Test in the village school(s) in which we ask children to list their favourite and most disliked sounds in the community;
- 12) - conduct interviews with elderly people concerning the past soundscape of the village;
- 13) - focus special attention on any unusual features of the soundscape.⁹⁰

All the results of this research above are reported under the following seven chapters:

- I. The Five Villages
- II. Soundscape Character
- III. Acoustic Rhythms and Densities
- IV. Acoustic Materials (Water and Stone)
- V. Acoustic Definition
- VI. Community Attitudes to the Soundscape
- VII. Conclusion

⁹⁰ R. Murray Schafer, ed., Five Village Soundscapes (A.R.C. Publications, 1977), p.2.

In Chapter I, the names and the profiles, including geographical features, brief histories and major industries of the five individual villages are introduced. The names, locations and major characteristics of the villages chosen are as follows: 1) Skruv (southern Sweden), a relatively modern factory village; 2) Bissingen (southern Germany), an agricultural village, gradually being converted to industrial life, where the villagers work both in local industries and commute to a large neighbouring city; 3) Cembra (northern Italy) an agricultural village, with a small pewter works; 4) Lesconil (western France) a fishing village; and 5) Dollar (the Lowlands of Scotland) a village revolving about a celebrated school.

The criteria for the Project's choosing these villages were that "each village has a population of less than 3,000 inhabitants, and in each, one social activity or institution is prominent". That is, they "expected that by choosing villages with contrasting institutions and social life the differences between them would be more conspicuous".⁹¹

The comparative perspective which characterizes this work, that is, the Project's research plan on the third phase, should be seen as making a progressive development in the method of

⁹¹ Ibid., p.1.

soundscape study by the WSP. In the research on the first phase, The Vancouver Soundscape, the Project concentrated on a single city's soundscape; in the case of the second phase, The Soundscape of Canada, although a certain degree of comparison was presented, the comparative method was not explored as a major issue.

While Chapter I introduces the five villages from the visual perspective, from Chapter II onward, the Project deals with the acoustic aspect of the villages. Chapter II, "Soundscape Character", examines the distinctive acoustic features of the individual villages such as the different pitched hums in Skruv, and the church bells in Bissingen. Chapter III explores how "Acoustic Rhythms and Densities" reflect the social and economic frameworks of the villages. Chapter IV, "Acoustic Material", focuses on the sounds of water and stone which are identified by the Project as the primary elements of the ambient sound of the villages, that is, "keynote sounds".

In order to understand the primary concerns and the intellectual process involved in The Five Village Soundscapes, the present writer focuses on Chapter V. While Chapters III and IV deal with basic rhythm and material of the five villages' soundscapes, that is, "ambient qualities",

Chapter V, "Acoustic Definition", focuses on foreground qualities, that is, "sounds such as community soundmarks and signals that are the 'foreground' to the ambience of the village". Here, "definition" means the functions of these foreground sounds. The Project explains this term as follows:

'Definition' is the term we have used to describe the set of relationships between the environment and members of a community, both individually and collectively, as created by acoustic information. [Italics mine.]

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Thus, foreground sounds convey some acoustic information in the context of the soundscape in general, and establish some relationship between community members and the soundscape. The Project calls this relationship "definition".

In order to discuss foreground sounds, the Project sets the context by asking "what information, and what levels of information, are communicated by the foreground sounds of a village?" Then, the Project observes two aspects of the information contained in foreground sounds, that is, "the more obvious message" and "the less obvious implications". The Project states:

⁹²Ibid., p.75.

By this [information from foreground sounds] we mean not only the more obvious messages which certain sounds are understood to convey individually, but also the less obvious implications which those sounds have when taken together as inter-related elements of a coherent system of communication.⁹³

These two types of information are explored using four different perspectives, namely "community sound signals", "acoustic horizon", "sonic intrusions" and "historical changes". The first perspective, "community sound signals" defines people's activities and provides a temporal scheme within the communities as can be seen in the case of shift whistles and church bells. When the same sounds extend beyond the community itself and are heard in other neighbouring communities, they function as geographical markers for those communities. This geographical orientation based on some incoming sound from outside to a community, is called the "acoustic horizon", which is the second perspective.

On the other hand, there is another type of incoming sound, such as traffic and aircraft noises, which forms "sonic intrusions"; this is the third perspective. "Sonic intrusions", are explained as follows:

⁹³ Ibid., p.49.

Usually they indicate nothing particular in themselves as sounds, but their continued existence emphasizes the larger socio-economic context in which these villages function and by which they will perhaps eventually be absorbed. These sounds tend to mask and blur the overall acoustic definition of a community, reducing the clarity and spatial quality of its sound environment.⁹⁴

The final perspective is "historical changes", which are the acoustic differences that parallel social change. The Project states that the change "in western industrial society is always toward reduced definition".⁹⁵

For the Project to discuss foreground sounds from these four perspectives is a significant refinement of their methodology in soundscape studies. In the Project's previous works, the same terms and concepts were used, but in these European studies (for the first time) the Project uses them in the context of "information". This can be considered as part of the Project's effort to introduce ideas derived from the field of communication studies, thus, giving soundscape study an interdisciplinary focus. In order to understand this point more clearly, the present writer shall focus on the first two of the four perspectives introduced above.

⁹⁴ Ibid.

⁹⁵ Ibid.

The first perspective, "community sound signals", deals with acoustic definition on the level of conscious perception by the members of a community. According to the Project, these sounds control the behaviour and activity of the members of a community by "articulating patterns"; these patterns are often related to "work, worship, travel and consumerism". The Project states that Skruv is an example of a village which has sound signals related to all four of these activities. Train whistles, glassworks whistle, brewery whistle and church bells are discussed as significant sound signals of Skruv.

The Project observes a contradiction between the ranking of these four signals with regard to the actual sound intensity and their ranking according to the sizes of their "sound profiles" as estimated by the villagers.⁹⁶ That is, while the intensity of brewery whistle (almost 100dBA) was much greater than the church bells (approximately 60dBA), the size of church bells' sound profile is estimated by the villagers to be much larger than that of the brewery whistle.⁹⁷

⁹⁶ "Sound Profile" is the geographical area within which a certain acoustic signal is perceived by people.

⁹⁷ Both measurements were taken at a distance of 100 m.

The Project gives several reasons for this contradiction, including the cultural value attached to the church bells by the villagers, the complexity of the bells' sounding pattern, and less ambient sound on Sundays, the only day when the bells are rung. The Project states:

They think the bells reach farther, based presumably on what they have "noticed", but in fact this reach of the bells is probably largely a mental process that reflects the cultural value associated with the sound. Another factor could be that the church bells have a more complex pattern: they ring repeatedly and have more internal structure than does the single blast of the shift whistle. Also, the bells ring only once a week, on Sunday, when it is quieter.⁹⁸

In the analysis above, we can observe the Project's effort to integrate the views derived from the fields of psychology and anthropology into the method of soundscape study, which is again a part of the Project's growing interdisciplinary scope.

On the other hand, the train whistle, which has the smallest sound profile, is seen by the Project as marking the physical boundary of the village:

⁹⁸ Murray Schafer, ed., Five Village Soundscapes (A.R.C. Publications, 1977), p.50.

The profile of the train whistles ... occupies roughly the area of the village itself, but more specifically, the whistles are blown at the outer edges of town ... The train whistles mark the physical boundary of the village, define its area, and in addition, represent its connection with the outside world.⁹⁹

The last line in the statement above leads the Project to the reason why the train whistle was the most highly preferred of the four signals by the students who took part in its sound Preference Test. The Project states:

Of all the signals, the train whistles occur most often [in the Sound Preference test], and while they are more ubiquitous, they were generally well-liked by the students. Perhaps the train whistle suggests a possibility of escape from village ties.¹⁰⁰

This explanation might be considered to be too simplistic. Instead of the negative feeling of "escaping the town", other possible reasons why students might prefer the sound of the train whistle include more "positive" feelings such as the romance and adventure of travel or admiration for the train's power.

⁹⁹ Ibid.

¹⁰⁰ Ibid., p.52.

As for the second perspective, acoustic horizon, the research team found that "Lesconil has the most clearly defined acoustic horizon, one which changes during the day and which corresponds to the socio-economic rhythms of the village".¹⁰¹ Here, we can observe the influence of the wind on the kind of information in the sound horizon of the village, which is located on the sea. This wind is explained as follows:

The village is subject to an onshore-offshore wind cycle known as les vents solaires. These winds affect the acoustic horizon of the community and bring villagers vital information about the environment beyond. Distant sounds are carried to the village in a clockwise sequence, beginning from the north at night, moving to the east and south during the day, and finally the west in the evening.¹⁰²

This daily wind cycle begins in the morning with a northerly wind carrying inland sounds such as "the noises of activity in the fields, church bells and so on", to the village. By the afternoon the wind is southerly; it brings the sound of the returning fishing trawlers to the village. This means that the fishermen in the early morning at the port hear the sounds from the surrounding countryside, while in the afternoon, the wind

¹⁰¹ Ibid., p.54

¹⁰² Ibid., p.18

carries to the villagers the sounds of the fishermen returning. The Project also indicates that, formerly, when the boats were totally dependent on the wind, the fishermen established their daily routine according to this consistent daily wind pattern; and even after the introduction of diesel engines (1927-36), this basic daily cycle has not been changed.

The Project also points out that "the various sounds which the solar winds bring together define a physical range which corresponds to the limits of the villagers' traditional activities".¹⁰³ For example, the fishing trawlers never venture farther than 15km from the shore, which is the maximum distance that sound travels over the water to the village. Also, the villagers have traditionally developed a way of predicting the weather changes, which is a vital element in their primary economic activity, fishing. They use the information from their southern acoustic horizon, that is, noises from the sea including sounds of waves and buoys.

These analyses are clear examples of this work's relevance to the first aim of the Project, which was discussed in the first chapter (p.14), that is, "To undertake an intensive

¹⁰³ Ibid., p.55

interdisciplinary study of contrasting acoustic environments and their effects on man". Here the effects of acoustic environments on man are seen from a perspective integrating the views of sociology and economics.

Chapter VI, "Community Attitudes to the Soundscape", reports the results of the Project's Sound Preference tests conducted in village schools and interviews with elderly villagers about their acoustic experience. This research was carried out based on the Project's view that there is a difference between local people's and visitors' attitudes concerning the village soundscape. The Project states that:

An outsider's attitudes to the soundscape will obviously be different from those of a native, and the wider the cultural separation between them the greater the difference that may be expected.¹⁰⁴

Also, the influence of the acoustic environment of each village on its inhabitant's acoustic preferences is substantiated by this research. For example, according to the table showing the statistical results of the test, "sea" was mentioned as one of the "most pleasant sounds" by thirty-seven students out of forty in the fishing village Lesconil; and by only four

¹⁰⁴ Ibid., p.67

students out of twenty-two in the inland industrial village Skruv. In this case, the data are from five small villages where the problem of noise pollution would be much less severe than in larger urban areas. The survey results confirms Schafer's long-standing fears, which he had been expressing since 1970 in the Book of Noise, concerning the deterioration of modern men's acoustic sensitivity due to the destructive nature of noise pollution.¹⁰⁵ It is significant that the Project for the first time succeeded in answering this question using quantitative data, that is, whether the acoustic environment influences the acoustic sensitivity and taste of the inhabitants, and to what extent.

Five Village Soundscapes is a part of the Project's social strategy and the last formal report of its fieldwork in acoustic ecology. Compared to the previous works, such as The Vancouver Soundscape, this work represents the culmination of the WSP's development of its methodology for soundscape studies. The introduction of a comparative perspective using five different types of villages required the research team to develop a more systematic method of collecting data as can be seen in the list of the basic aims of the research, (see pp.175-176).

¹⁰⁵ In fact Schafer expressed this fear even before the establishment of the WSP, for example, in such works as The New Soundscape (1969).

For example, the items number nine and ten represent the Project's introduction of quantitative data. That is, in order to carry out number nine, "enumerate and measure the frequency of specific types of transportation sounds", the research team counted the traffic passing a central location of the village at certain times and during certain periods of the day. Also in terms of aim number ten, "make lists of sounds heard throughout the village...", the Project counted all acoustic events heard in all areas of the village by dividing the village into sections and having researchers move continuously through the streets listing every sound heard. This quantitative approach was not used in the Project's previous works, and is a part of the Project's effort to express its long-standing assumptions in an analytic fashion based on objective data. Such assumptions include the notion that a soundscape regulates people's behaviour, and that the social framework of a village or town will determine the character of the soundscape.

This point is related to the Project's effort to orient the soundscape study as an interdisciplinary field of study by introducing various methods and viewpoints derived from related subjects, including communication studies, psychology, sociology, economics, and anthropology. The evolution of the language of soundscape can be also observed as the result of

this methodological development. For example, in this work, the Project developed certain terms and concepts such as "acoustic rhythm", "acoustic definition", "acoustic horizon", and "sonic intrusion", all of which were given specific meanings within the context of soundscape studies.

Together with these developments in the analysis of soundscape, a considerable development of graphic description can be observed. In Five Village Soundscapes, the Project uses various types of graphs and maps, which the present writer calls "notations" of soundscape. For example, in order to show the region within which certain acoustic information can be perceived, the Project uses the "Sound Profile Map".¹⁰⁶ Also in order to indicate sounds coming into a community from outside, a "Sound Horizon Map" is used.¹⁰⁷ Some of these notations were already used in The Vancouver Soundscape. However, Five Village Soundscapes marks considerable development in that it uses a wider variety of notations which are appropriate for individual purposes, and notations seen in earlier works are used in a more sophisticated way.

¹⁰⁶ This term was coined by the Project, and first appeared in the publication, The Vancouver Soundscape (1974).

¹⁰⁷ This term was coined by the present writer, borrowing the Project's concept of "sound horizon".

Another indication of the maturation of the Project's methodology in Five Village Soundscapes is the Project's increasing concern about the difference between the insiders' normal perceptions of the soundscape and the outsiders' special perceptions. At the same time that some elements of a soundscape can be clearly perceived by the outsiders, there are also other elements of acoustic information which can never be understood by outsiders (who have an etic perspective), such as the way the inhabitants of Lesconil can predict the weather by the sound from the sea. Throughout this work, we can observe the Project's effort to avoid biasing the acoustic reality by introducing insiders' (emic) perspective on their own soundscape, and thereby maintain a balance between both perspectives. The Sound Preference tests and the interviews with villagers are part of this effort.

All these advances in the Project's methodology of soundscape study make Five Village Soundscapes a more highly developed example of the Project's work in the field of acoustic ecology. For example, while the previous works remain on the level of a simple description and classification of certain soundscapes, Five Village Soundscapes combines this with an explanation of how they function socially. Here, a shift can be observed towards work that is more meaningful in an academic context.

Thus, Five Village Soundscapes is quite successful in the theoretical part of the social strategy, that is, it is the most highly developed example of the Project's acoustic ecology based on its specific field research.

What, then, does Five Village Soundscapes do in the practical field of the social strategy, that is, acoustic design? The Vancouver Soundscape includes a flawed section titled "acoustic design"; Five Village Soundscapes has no section titled "acoustic design" but includes significant remarks about the necessity for acoustic design. Thus, although Five Village Soundscapes does not provide any specific examples of, or sections entitled, "acoustic design", it is successful in clarifying the significance of acoustic design for modern society.

Acoustic design, according to the WSP, is the only remedy to restore a "balance" to a soundscape that has degenerated because of noise pollution. Basically, the Project sees two functions for acoustic design: to counteract existing noise pollution, and to create a new soundscape, that is, new systems of acoustic communication. In relation to this point, Five Village Soundscapes provides a more clear and scholarly interpretation of the meaning of noise pollution. Instead of simply considering noise pollution in terms of its destructive influences on human physical and mental health, which had been the

case in the earlier works such as The Book of Noise, in Five Village Soundscapes the Project interprets noise pollution as a process of deterioration of the traditional communication system in a village's delicate and unique soundscape.

This deterioration results from the introduction of technological sounds which are uniformly characterized by "their constancy of quality (as in a drone), or their broad band spectrum (as in white noise, rumbles and hisses)" as well as "their often high intensity",¹⁰⁸ The Project states:

With economic growth and the introduction of technological sounds, we observe both a degeneracy in the variety and complexity of community sounds and a break-down in the balancing forces that once organized the community. The strength of a previously balanced soundscape does not preserve it from this kind of destruction.

It appears that such change is irreversible in the sense that no natural process will restore the original balance to a degenerate soundscape. Nothing can prevent the continual increase of sound intensity, and for the individual, noise-induced hearing loss and social alienation are the limiting responses to such an unchecked increase. Since we regard this natural "solution" as non-acceptable, we must look to the development of a scientific discipline, called acoustic design, which will concern itself with techniques for the analysis and improvement of existing soundscapes and the creation of new ones. [Italics mine.]¹⁰⁹

¹⁰⁸ R. Murray Schafer, ed., Five Village Soundscapes (A.R.C. Publications, 1977), p.78.

¹⁰⁹ Ibid., pp.79-80.

In the statement above, the Project apparently uses the term "acoustic design" in its broader sense which includes both what the present writer calls the theoretical part of the social strategy, "acoustic ecology", and the practical part of the social strategy, "acoustic design". Thus, the Project thinks that since there is no natural solution on which modern man could count as the remedy for the "degenerate" modern soundscape, it is necessary to develop the "techniques of the analysis... of [existing] soundscapes", that is, to establish the field of "acoustic ecology". Then, based on the knowledge obtained from "acoustic ecology", it is necessary to develop the "techniques for the... improvement of existing soundscapes and the creation of new ones". The Project refers to this point by saying, "Our analysis provides a guiding principle for the practice of acoustic design".¹¹⁰ Here, according to the present writer's terminology, "our analysis" means "acoustic ecology" and "the practice of acoustic design" means "acoustic design".

The Project also states:

Techniques need to be developed for increasing variety within a soundscape, promoting a complexity of relationship and function, and establishing controls which will act to balance the soundscape on the larger scale.¹¹¹
[Italics in original.]

¹¹⁰ Ibid., p.80.

¹¹¹ Ibid.

Apparently, these techniques are for the practical field of the social strategy, "acoustic design". Compared to "the principles of acoustic design" discussed in Chapter One on page 31, the discussion above is based on a much deeper consideration of the significance of "acoustic design". Here, the justification for the need for "acoustic design" does not remain on the level of counteracting noise pollution as in earlier works; instead, it involves the more positive approach of the creation of new communication systems in the acoustic environment and the restoration of balance to the chaotic soundscape.

In the earlier works, the main reason given for the need to battle against noise pollution was the protection of our physical and mental health from the destructive influence of noise pollution. In Five Village Soundscapes, the Project succeeds in providing another reason. Since the character of individual soundscapes "functions actively in regulating community behaviour ... as a system", the polluted acoustic environment may adversely affect people's behaviour, and may contribute to alienation of individual members of the community. In Five Village Soundscapes, this point is considered from the perspective of "interaction" between a community and its sonic environment. The main theme of this work is to confirm the existence of this interaction, and to understand the nature and form of the interaction. The Project states:

In order to establish that a true interaction exists, it is necessary to show that the sonic environment is not merely a reflection of the community, a kind of acoustic by-product, but that it functions actively in regulating community behaviour. If a community and its acoustic environment function as a system, then a change in any aspect of either effects some corresponding change in the other. In fact, it is only when we demonstrate this kind of mutual influence that our application of the term soundscape has any true significance.¹¹²

Although the concern about this "interaction", that is, the mutual influence between a soundscape and community behaviour seems to have already been behind the Project's earlier works, as we can see in The Book of Noise, in the section "Noise and Anarchy", it was never as clearly articulated and pursued as in Five Village Soundscapes.

As we have seen, Five Village Soundscapes is successful with regard to the social strategy in that it clarifies the two functions of acoustic design and it explains noise pollution from the social standpoint, or as the shift from the traditional soundscape to the modern uniformly industrialized soundscape. What then about the political and educational strategies? Although there is no specific section dealing with those strategies, the following statement shows the Project's concern about the political strategy together with its new approach to "technology":

¹¹²Ibid., p.75.

We may look first to the technology itself to determine whether it may be used to promote these goals [of acoustic design quoted on page 194]. Since technology itself is neutral, and it is only its organization that is biased, we should look for methods of using technology to bring about solutions. It is probably true that small scale changes may be made within the current structure of technology, but that large scale reform will only come about through basic political and social change. Thus, in order for it to be applied effectively, acoustic design must assume a political and social responsibility. [*Italics mine.*]¹¹³

In the statement above, first of all, the Project provides a quite different view of "technology" from that of its former works. That is, while the Project almost consistently had a relatively negative view of technology throughout its previous works, here technology is interpreted not only as "neutral", but also as a tool we should try to use for acoustic design. The present writer considers this point as signalling the improvement of the Project's former biased approach to technology.

Second, in the above statement, the Project's concern with the political strategy can be observed. Here, "political change" seems to suggest not only change in terms of legal regulation of noise, but also change involving the fundamental political structure. Although no specific examples for these political

¹¹³Ibid., p.80.

changes are provided, the WSP leaves room for the readers to consider the possibility of systems which are more conducive to developing a better acoustic environment.

As for the educational strategy, the Project continues as follows:

Since we also recognize the dependence of the soundscape upon individual and public attitudes, we must look for techniques of analyzing and influencing these through experiment and education. The relevance of soundscape studies to music must also be brought forward since it is apparent that this form of acoustic education is not concerned as yet with environmental problems.¹¹⁴

Here, the Project apparently puts the stress on the fundamental necessity of a well organized educational programme of soundscape, which is a part of the Project's educational strategy. Also, the whole work of Five Village Soundscapes can be considered as another part of the Project's educational strategy in that the reader of this publication would be provided with clearer and deeper ideas about soundscape.

Five Village Soundscapes is not simply the realization of the third phase of the Project's research plan, that is, the study of soundscape outside of Canada. In this work, the Project carried out the research in the five villages in Europe, not

¹¹⁴ Ibid.

only for the sake of completing its original research plan of three phases, but also for the sake of bringing to its soundscape study a new dimension by improving its methodology.

HANDBOOK FOR ACOUSTIC ECOLOGY

Handbook for Acoustic Ecology (1978) is a compilation of the terms and concepts related to the field of soundscape studies. This publication is a part of the Project's effort to define the new interdisciplinary field of acoustic ecology. In the preface, Schafer refers to this point as follows:

The aim of the World Soundscape Project is to bring together research on the scientific, sociological and aesthetic aspects of the sonic environment. Right from the inception of the World Soundscape Project, we became aware that if we were to follow our plan of uniting the sciences and arts of sound, clear definitions of all terms relating to the subject would be necessary. In fact, we looked forward to compiling the definitions as a means of instructing ourselves.¹¹⁸

As in other cases, this type of work, that is, compiling, organizing and defining the relevant terms and concepts is a necessary, and even inevitable part of the process of establishing a new area of study.

While many of the terms are borrowed from related fields, others are invented and developed by the WSP itself. The Project has drawn its terms extensively from the subjects of natural and social sciences such as "phonetics, acoustics, psychoacoustics, psychology, electroacoustics, [and] communications".¹¹⁶

¹¹⁸ Barry Truax, ed., Handbook for Acoustic Ecology (A.R.C. Publications, 1978), p.iv.

The artistic field of music also provides the Project with a group of terms which are relevant to soundscape studies. This clearly demonstrates the interdisciplinary nature of soundscape studies.

The Project's efforts regarding terminology are not confined to adopting terms from existing fields; the WSP invents and develops its own concepts and terms in an attempt to integrate those related areas. In the Introduction, Truax states that "the terminology which the World Soundscape Project has contributed ... differ[s] from the traditional vocabulary by their positive approach compared with the negative aspects of sound terminology".¹¹⁹ For example, in this publication, the Project supplements the term, "noise pollution", which it considers to be negative, with another term, "sound pollution". Although the Project implies that "sound pollution" is a "positive" term, the present writer suggests that it is "neutral" rather than "positive". The term "sound pollution" is explained in the following manner:

SOUND POLLUTION: An imbalance in a SOUNDSCAPE caused by intruding or disrupting sound of any kind. Such an intrusion need not necessarily be excessively loud (as recorded on a SOUND LEVEL METER for instance), but rather it needs only to have characteristics which disturb the perceived balance of a soundscape...¹²⁰

¹¹⁹ Ibid., p.viii.

¹²⁰ Ibid., p.121.

As can be seen above, this publication takes the form of a dictionary. However, in terms of the content, this book applies more subjective interpretations to many of the entries than those of typical dictionaries. Truax explains this point as follows:

During the preparation of this document, the style and nature of its format has often been debated. Should it be a dictionary, or a glossary or a handbook, and so on. In the end it has acquired characteristics of all three. Many entries attempt to be explanations rather than strict definitions, and we have not hesitated to add our own assessment and qualifiers where appropriate.¹²¹

Therefore, Handbook for Acoustic Ecology is designed to serve as a reference book containing information gathered from other existing sources as well as the Project's own concepts and interpretations.

It is important to understand the underlying perspective the Project takes throughout this publication. The Project is not satisfied with the primarily quantitative approach usually found in the existing fields dealing with sounds. The Project suggests there is a parallel relationship between the fact that "The majority of terms in this document have appeared within the last century, at about the same rate as the degeneration of the soundscape", and its belief that the public started leaving

¹²¹ Ibid., p.vii.

their acoustic responsibility to a limited number of professionals. These professionals have developed many types of "arbitrary" systems which allow sounds to be compared numerically. The result is that "the general public [is] cowed by the labyrinth of measurement to the point where they can only recommend that more study needs to be done".¹²² The Project believes that these systems produce data which is "objective" and does not take into account the actual human sensory responses to the sounds. The Project states:

... any such device or system treats sound as a signal to be processed, instead of information to be understood. No human intelligence is built into such a system, and yet it is only by discovering how the mind organizes sound input that any assessment of a soundscape may be made.¹²³

Therefore, this publication aims to demystify the professional's knowledge in the fields dealing with sound studies by considering the relationship between objective measurements and subjective information concerning human responses. This aim is derived from the theme of the Handbook for Acoustic Ecology which Truax explains in the following manner:

¹²² Ibid., p.vi.

¹²³ Ibid., p.vii.

A handbook is not expected to have a theme, but in this respect this one is different - it does. It is to break the negative circle created by declining aural sensitivity and the inept operating concepts of those responsible (intentionally or not) for the design of the acoustic community. Our work is fundamentally one of design, in the sense that we are concerned as much with how things ought to be as with how they are. [Italics in original] .124

As we have seen above, the Handbook for Acoustic Ecology, is an example of the Project's social strategy, in that it is a part of its effort of defining the new field of soundscape studies, that is, "acoustic ecology". While Five Village Soundscapes is the culmination of the Project's methodologies concerning both its field research and its analysis of data, the Handbook for Acoustic Ecology is another culmination in terms of the Project's organization of concepts and terminology in the interdisciplinary field of acoustic ecology in general. This publication is successful not only in compiling concepts and terms, but also in inventing and developing new concepts. It also explains and interprets many of the existing terms from its own perspective.

In terms of the other strategies, in The Handbook for Acoustic Ecology, the educational strategy is also evident in that the work is designed to be used as a reference book,

124 Ibid.

taking the form of a dictionary. The Project believes that this type of publication is necessary to educate people who are interested in acoustic ecology, and who would contribute to the future development of this new field.

This chapter has selected and examined ten works of the WSP in an attempt to understand the Project's activities more clearly. The analyses of the individual works have demonstrated the Project's efforts in using different media for soundscape studies. These media include: 1) written media such as books, pamphlets, and journals; 2) audio media, a) tapes attached to the written publication, b) radio programmes, c) musical compositions. However, this does not mean that the WSP's activities were confined solely to these media, because in this chapter the ten examples were originally selected from the works prepared for distribution to the general public. As we have seen in the second chapter, the WSP also organized and participated in other types of activities, such as workshops and conferences.