

MANY ENVIRONMENTS, MANY PATHS OF PERCEPTION

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Abstract: *Surveying over 30 years of compositional activity involving interaction with the environment, the author identifies 7 main approaches he has taken to the use of, or interaction with, environmental materials. These range from standard musique concrete style manipulations to works where information from the environment determines all aspects of what performers do, to works which allow aspects of an environment to be experienced for their own intrinsic qualities. A number of the author's works are discussed, such as **String Trio No 2 (1986)**, **Yarra for Annea (1984)**, **Natural Rhythm (1983)**, **Wimmera Double Exposure (1998)**, and **Playing in Traffic (2001)**. The paper concludes with a reflection on the availability of public performance opportunities for such works.*

Since I began composing in 1968, I have been involved in listening and viewing the natural environment, and making works that use, or interact with, that environment in many ways. I have not been doctrinaire in my approach, but have been always trying out new ways of responding artistically within my environment. I have also, at times, written extensively about the problems and joys of an art practice that involved ecological considerations. In my 1986 article **Sound as a Means of Changing Consciousness** (IS Journal No. 3, Los Angeles, Sept. '86), I examined some of the ethical problems involved in this activity, as well as describing how I found listening to an environment through headphones remarkably similar to the Tibetan Buddhist practice of listening meditation, in which the participant experiences the sensation of "becoming listening itself."

My first serious engagement with environmental listening and art occurred in California in the early 1970s, when I worked extensively with the composer, philosopher, and deep ecologist David Dunn. Dunn has always seemed to me to be the most incisive and critical artist seeking a new way of relating music, language, and environment. I participated in most of his **Oracles** series of environmental interactive pieces, and we have remained in close and constant contact ever since.

Looking back over 34 years of compositional activity, and surveying the approximately 67 works of mine that have involved the environment in one way or another, I have noticed 7 different approaches that I've taken.

1. Assembling a simulation of an environment
2. Using environmental sounds in electronic music pieces.
3. Making pieces that are about an aspect of an environment.
4. Using a technical device (other than a mic or a camera) to give information about an environment.
5. Interacting with an environment.
6. Placing a musical or performance event into an environment as a juxtaposition.
7. Recording environmental sounds and images for their own qualities.

In this paper, I will deal briefly with several of these categories, and in more depth with some, especially the last few, mentioning pieces in which these approaches were used. In an **Appendix**, I'll list the pieces mentioned in this paper. I will not go extensively into my motivations for doing this work. I would hope that my passionate commitment to environmental issues, and my enthusiasm for diverse artistic structures would be obvious, and I happily leave any further discussion of motivations to others.

1. Assembling a simulation of an environment.

My first environmental piece did not involve nature, but rather, a department store. A friend of mine was working part time in a department store, and he said the sound environment there was driving him nuts. I went there and just listened. I noticed three things, muzak, the babble of the crowd, and the announcements over the public address system. Rather than simply record the environment of the store, I took a muzak record (bought from the 99cent bin, of course), a stock recording of a crowd, and my own reading of the announcements that occurred during the half hour I was there (which I had faithfully transcribed), and mixed them into the tape piece **Rich's Genuine Authentic 1:30 Down Home Department Store Blues (1971)**. This piece was then played as introduction, intermission, and exit music at a concert of my more mainstream instrumental compositions. Although I thought of the piece in a witty way, I was not the less serious in my approach to it than with any of my other, later, environmental pieces. But I have never returned to such an obvious sense of "fakery" in my environmental work.

2 Using environmental sounds in electronic music pieces.

Like many composers, I've found sounds from the environment very rich and attractive, and have used them in a number of musique concrete pieces. Most notable of these was a tape piece **Real Science Comix Funnies nr. 1 - John Lilly Meets the Dolphins" (1972)**, in which I took excerpts from a lecture on his dolphin research by Dr. John Lilly, and mixed them with the sounds of walruses, whales, and most importantly, Lilly's dolphin collaborators, to make a narrative tape piece about the state of dolphin and language research. A later work in which this approach was used was the two-hour five-way collaborative radio piece **Words and Sounds in the Australian Landscape" (1985-87)**, commissioned by ABC-FM, and broadcast by them for the Australian Bicentennial Celebrations. The five collaborators were myself, Chris Mann, Les Gilbert, Walter Billeter and Kris Hemensley. The brief for the piece was that we were each to contribute words, environmental sounds, and other sound interactions made at various places around Australia, and these would be mixed into a five-way portrait of the way we responded to the sound and political environment of Australia. High points of the piece for me were the Hemensley's poems on the migrant experience, which we recorded him reading live in a variety of suburban and urban environments; Walter Billeter's contact mic recordings of ants on leaves in the Flinders Ranges, and the recordings Chris Mann and I made of Wolf Creek Crater, in the Kimberley region of Western Australia. Actually, this work is so big, and there were such a wide range of approaches taken in its individual sections, that it could fit under almost any of the headings in this paper. But for the moment, thinking of the whole piece as a big musique concrete piece using environmental sound seems best to me.

3. Making pieces that are about an aspect of an environment.

I've made many theatrical performance pieces over the years. Two evening-length works that dealt specifically with environmental themes were **Penguins (1979-80)** for solo reader, 2 slide projectors, super 8 film and 2 channel tape; and **Diversity (1996-98)**, for solo performer (acting, moving, singing), videotape, interactive movement controlled electronics, and environmental sounds. **Penguins**, a light-hearted combination of maniac structuralism, serious biology, sound poetry, and conceptual art, nonetheless had a very serious undertone, in that it examined issues of conservation and anthropomorphism. Most people were probably laughing at the jokes, but underneath the humour was a very serious intent. **Diversity** was an

altogether darker work. An overtly political performance work, its texts dealt specifically with environmental degradation, exploitative economic policies and the like, while some of the non-verbal parts of the piece, such as the videotapes **These Animals Are Not Metaphors** and **Sixty Four Views of the Wetlands** were pieces which used formal structures to bring people into contact with what I call the "harsh nothing of nature", that is, a reality that defies our ability to put word-labels on everything. One of the points of **Diversity** was that many different modes of consciousness - verbal and non-verbally based - were needed in order to achieve political and social change.

4. Using a technical device (other than a mic or a camera) to give information about an environment.

In these pieces I've used various technical devices to make work that shows aspects of an environment not easily perceived by our senses. The earliest of these works, **Autotrip (1971)**, began when I noticed the radio in my Volkswagen picked up both thunderstorms and engine noise as well as radio broadcasts. By tuning between the stations, especially during a thunderstorm, you could hear the electrical sound environment both of the car engine and of the atmosphere. A 25 minute recording of this radio was made while driving around on a particularly stormy day in July 1971. In **A Random Walk Around Melbourne (1989)**, for super 8 film and live electronics, I again explored the radiosphere. The live soundtrack to the film (I'll deal with the film later in this paper) involved me processing a radio through a limiter, such that loud signals were extremely reduced in volume, and soft sounds were boosted to an extent that spinning the dial produced an output of constant volume, regardless of strength or weakness of the broadcast signal. I had an fm tuner that had a very loose tuning wheel, so I literally played "spin the dial" to get a random broadcast frequency for each new scene of the film. This resulted in a random scan of what was in the air in Melbourne at the time of the performance, while the film had a collection of random images from around Melbourne made at a time before the performance.

A different use of environmental sound was made in **Three Swift Mornings on Mt. Gravatt (1992)** for clarinet, viola, vibes, piano, and optional live electronics or tape. In this seven movement piece, three of the movements were made by feeding dawn chorus recordings from Mt. Gravatt in Queensland through a pitch-midi converter, and transcribing the output for appropriate instruments. The other four movements were made by using various chaos equations to determine pitch and rhythm. The idea was

to contrast structures made with mathematics with structures produced by environmental events. While I was, and am, aware of all the issues involved in transcription and of faithfulness to an original source, I feel that nonetheless, the piece is an interesting approach to comparing the complexity of mathematically chaotic systems with that of a sub-tropical forest environment. More recently, I've been working with graphical synthesis programs, where one can use any visual input as a spectrograph for sound synthesis. In my radio piece **Point King Beach Memories (1999)**, I use Rasmus Ekman's freeware **Coagula** program to turn video images of the distribution of shells and krill on a beach into electronic sound textures.

5. Interacting with an environment

In this rather general category, I notice three different ways of working:

- Environmental events as input to a device.
- Environmental activity as instructions to a musician.
- Field recordings as an environment for electronic music performance.

A. Environmental events as inputs to a device.

I've made a number of pieces where recordings of environmental events served as input material for electronic devices. In **Natural Rhythm (1983)**, for underwater sounds and live electronics, a hydrophone was suspended beneath St. Kilda Pier. It picked up the sounds of shrimp and motorboats, and these sounds were then mixed in with electronic sounds which were triggered by the underwater ones. It was the clicks of the shrimp that had the most effect, resulting in a kind of twinkling electronic Webern. (A musicological result that I must admit amused me greatly.) In **for Joel Chadabe - Rainfall at Launching Place (1981)** for environmental and electronic sounds, the sound of a rainy morning with lyrebirds in the Yarra Ranges (recorded in collaboration with David Dunn) was used to control the sustained sound of an additive synthesis patch on an analog synthesizer. The percussive sound of the rain, and the glittering analog synthesis chords made a most effective sonic result. In **Elwood Evening Improvisations (1997)** for videotape, Fairlight Computer Video Instrument, and sound processing, a videotape of nocturnal lights on water along the Elwood Canal is used as the input to a video synthesizer, while the soundtrack is used as input to a sound processor. In real-time, I perform the video synthesizer with one hand, while I perform filter and equalizer controls for the sound with the other.

B. Environmental activity as instructions to a musician.

In this category are some of my favorite works. In **Uncovering Resonances (1976)**, a collaboration with Ron Nagorcka, we sing Tibetan chant on Rye Ocean beach, responding to the sounds and rhythms of the sea. While we are doing that, we are recording the sound on small, portable cassette recorders, using their internal microphones. We hold small fruit juice bottles over the microphones to bring out various resonances. In later parts of the performance, we play back these cassettes and record the results on other cassettes. The mixing of low growling vocal sounds with the roar of the ocean and the intrinsic distortion of the cheap cassettes produces a noise-band of great grittiness and intensity. **Searching for Echoes at Launching Place (1978)** for trombone, cassette recorders and slides was a performance piece for James Fulkerson, trombonist. He was instructed to walk down a large, steep alpine valley slope at Launching Place, Victoria (on the property of Chris Mann), playing his trombone, and searching for particularly good echoes. While he was doing this, five cassette recorders were placed at 5 different places along his half-kilometer long path. They all recorded him simultaneously. Two photographers also photographed the activity, one from below Fulkerson, and one from above. At performances of the event, either the 5 cassettes, or a 2 channel mixdown of them was played along with showing the 2 sets of slides on two side by side screens. This piece provoked a rather interesting response from Melbourne composer Phil Brophy. Presumably inspired by the green mountain imagery and Fulkerson's heroic posing with his trombone, he came up to me after the performance and said, "You know, that piece makes me feel like smoking a Marlboro!" While I appreciated the humor in his remark, it also served as a reminder to me that in our media and advertising saturated intellectual environment, one has to be aware that anything one chooses to use either has been, or will soon be, used in the insatiable maw of advertising, and that one has to be ready for one's work to be compared, not always favorably, with the output of that industry.

One of my most rigorous environmental pieces is **String Trio No. 2 (1981-86)**, a video composition for violin, viola and cello. I have written more extensively about this piece in **Some Thoughts on "Nature" and "String Trio No. 2"** (Cantrill's Film Notes #53, 54, September 1987, Melbourne). (And this is probably as good a time as any to acknowledge the incredible debt that all of us in Australia who are involved in environmental art owe to the film-makers Arthur and Corinne Cantrill, who in their work and publishing,

have done so much to foster an ecological consciousness in the arts here.) This piece has only a set of instructions as its score. A string player who can play violin, viola and cello (Anja Tait was the string player in question) worked, under my guidance, for a period of weeks, to be able to play both pitches and rhythms she heard in the environment. We eventually went to Armstrong Reserve, in Seaford, Victoria, a park which had a train line at one end, and a school at the other, but was in the middle of suburbia so it was, in fact, rather quiet, and videotaped Anja performing the same process of environmental listening and instrumental response 3 times, once on each of the instruments. Each performance took place immediately following the other. The only thing that changed from take to take was the instrument she was playing, and her position in the imaginary “ensemble.” That is, when she played violin, she was in the place a violin player would sit in a string trio, etc. Later in the video mixing studio, I worked with video engineer Stephen Goddard, training him to respond to sound heard on the soundtrack in a similar way to Anja, so that his fading in and out of each videotape would be triggered off by the sounds from the environment he heard. After he had made his video modifications, I did the same with the soundtracks themselves, superimposing fade ins and fade outs on the video soundtracks based on events I heard on them. The three videotapes were then superimposed on each other, resulting in an imaginary string trio where the members of the trio faded in and out, and sometimes, the sound of one player playing was accompanied by an image of another. It was a delicate, evanescent work, and although some people made the inevitable comparisons with visual art or film works it “reminded them of”, I felt it was a successful work in which almost every detail of the work was produced by some person’s immediate response to an element of the environment.

C. Field recordings as an environment for electronic music performance.

Much of my work over the past few years has been in clubs, pubs and small theatres, performing computer live. I find the act of performing with a laptop extremely problematic, in that the physicality I find so necessary for a good performance is often totally lacking. As an antidote to this, and also, as an attempt to bring other environments into the ones in which I’m performing, I began to use field recordings as backdrops to my electronic performing, but backdrops that often were as loud as the sounds I was making with my computer. Although some of these have involved “nature recordings”, such as **Chords and Currawongs (2000)**, in which a series of quotes from sexologist Ruth Westheimer and just-intonation chords of sine

waves are mixed live with a recording of currawongs feasting on the load of feed I’d just dumped in the backyard of my Canberra apartment; others, such as the 2 hour live-performance piece **Playing in Traffic (2001)** have involved field recordings from urban environments. In the case of **Playing in Traffic**, the recordings are indeed traffic recordings. Some are made closeup, and others from a distance. What I found was that once I began to give my attention to traffic sound, it turned out to be as full of surprise, aesthetic complexity and enjoyment as any other environment. For example, while I expected that a recording made of Manhattan at midnight from across the Hudson River in New Jersey would be full of subtlety (and it was), I was most surprised when I found that same level of subtlety in Straus Park, at the corner of Broadway and Duke Ellington Blvd in upper west side Manhattan. There are eight pieces in the set, and the relationship of field recording to electronic sound is different in each. For example, in **Manhattan Fantasy**, pseudo “Columbia-Princeton” style electronic music is mixed in with the Broadway and Duke Ellington recording, showing perhaps a relation of the sound of the electronic music made there with the sound of the streets. In **The Eco-Crimes of the General Electric Corporation**, on the other hand, the sound is that of bridges across the Hudson River in upstate New York, at the spot where General Electric’s pollution of the river was so bad that a cleanup, which involves dredging the bed of the river for a distance of about 80 kilometers, will be underway for the next couple of decades. In this piece, which involves me talking about General Electric’s chemical and nuclear pollution of the Albany, New York area to the accompaniment of electronic and environmental sounds, I make clear reference in the text to the fact that I’m recording on the site of the pollution, giving a voice and identity to the otherwise silent (but noisy with traffic) environment. In the final movement, **Improvisation with Samples**, I treat the field recording differently yet again. This piece was originally designed to be performed in combination with other improvising musicians. To make it into a solo piece, I made a field recording of the corner of Green and Goodwin Streets in Urbana, Illinois (from the window of my apartment at the time) on mini-disk, and placed about 100 computer determined index points into this recording. In live performance, I place the mini-disk player on random shuffle play, and treat the resulting cut up sound environment as another improvising partner for me to interact with.

6. Placing a musical or performance event into an environment as a juxtaposition.

This is an area in which I’ve done much of my work.

From the early **Mr. Burt his Memory of Mr. White his Fantasy on Mr. Dunstable his Musick (1974)**, for two toy pianos, two reed organs, and large pagoda sculpture by Kim MacConnel, exhibited at and performed in the courtyard of the La Jolla, California, Museum of Contemporary Art; to the December 2002 **Improvisation for Toy Piano and Ecuadorian Shaman's Drum (2002)** made in collaboration with Catherine Schieve, and performed in Sherbrooke Forest, Dandenong Ranges National Park, as part of composer Jacqui Rutten's "Improvisations in the Forest" series, musical performance and sound sculptural installation in "non-performance-space" settings has been a constant concern of mine. Three ways of approaching this are exemplified by **Requiem (1980)**, for super 8 film, **Practically Invisible Improvisation (1986)**, for toy sampler and river, and **Summerlake (1999)** for electronic sounds in a park. **Requiem** involved me writing a solo violin piece based on the numerology of the name of my grandfather, Wilbur Burr Burt. David Dunn then played that piece live in various spots that were favorites of my grandfather's. I filmed him playing in those spots, sometimes from a great distance. We used a cheap radio microphone to pick up his sound, resulting in a further level of distancing and distortion in the soundtrack. Whether or not any of this would be clear to an audience (who might just see the film as a dadaist series of shots of a guy in a red shirt playing atonal music on his violin in a bunch of different places) is a moot point with me. Being an extremely personal piece, I feel I have the right to use extremely personal structuring methods and imagery. **Practically Invisible Improvisation** is part of **Lo-Fi Proposals (1986)**, for Casio SK-1 sampler. This very cheap machine was one of the first commercially available samplers. It incorporated a microphone, a keyboard, and a loudspeaker into a tiny battery powered unit. I took the sampler with me on a walk along the Mohawk River in upstate New York one day, along with a cassette recorder and a microphone. I sat next to a rapids, and recorded an improvisation in which I held the instrument close to the water in order to record the rapids, and then played pitch transposed rapids sounds along with the source. Needless to say, it requires VERY close listening to hear that there is anything going on other than water flowing over rocks. I find this sort of "now you hear it, now you don't" sonic illusionism very appealing, and I also like the modesty and sensitivity implied by the performer almost disappearing into the environment.

Another form of environmental sensitivity was shown in **Summerlake**, an installation made at the Ripponlea Estate as part of the **Recent Ruins** exhibition. Five

sound sculptors were asked to create sound installations for parts of the Ripponlea Estate, an historical house and gardens in the Melbourne suburb of Elsternwick. For my contribution, I chose to make a piece designed to fit into the little summerhouse, which was on an island in the ornamental pond in the southwest corner of the estate. The island was accessible by a footbridge, and I would go there with my laptop and compose sounds "en plein air", in the manner of an impressionist painter. This linkup of impressionism was more than fortuitous. The gardens were designed in the 1880s by William Sangster as a garden in the European tradition. The place looks like a Monet painting because it's designed to look like the gardens Monet was painting at that time. While working at the summerhouse, a small wooden gazebo, I noticed that certain sounds I made attracted the moorhens and the ducks, while others repelled them. I noticed that the main inhabitants of the little island were indeed the moorhens and the ducks - they had their nests in the reeds surrounding the island. Regarding this as an opportunity to practice a client-sensitive sonic architecture, I decided to only use sounds that attracted the ducks and moorhens - that is, their reactions would determine whether a sound I made was included in the installation or not. Several days, and several packages of corn crackers later, I had arrived at a sound vocabulary that not only pleased me, it didn't drive my avian collaborators away from their nests as well. If I am playing for an audience of humans, I feel no inhibition at all in presenting challenging materials, but for the waterfowl of Ripponlea, who, after all, would have to live with these sounds for two weeks, I decided that a more co-operative approach was called for.

7. Recording environmental sounds and images for their own qualities.

In this category, I feel I've done my most challenging and problematic environmental work. At the same time, it may be the category that most closely corresponds to simple "nature recording," and thus, might not at first seem to present problems to some listeners. Again, within this category, I can identify several different approaches I've taken.

- Imposing a formal structure on the environment
- Letting the environment tell you what to do
- Assembling a "narrative" with field recordings
- Straight recording or minimal interference

A. Imposing a formal structure on the environment.

For a number of both sound and video/film works, I have first made a very formal numerical or geographical structure, and then applied that to my

documenting of the environment. Some of these have been extremely rigorous, as in **Dandenong Forest - for Cage and Thoreau (1983)** for super 8 film (a part of the larger work **Nature (1983)**), in which, after picking a path through Ferntree Gully National Park, I used the I-Ching to determine how many steps I would take between shots, what would be the duration of the shot, the angle of the shot, and the positioning of the microphone in relation to the camera. The only two elements left up to personal decision were camera focus and zoom. I wanted each shot to be as in focus as possible, and this also entailed being able to adjust zoom size if, for example, we ended up with the camera gazing close-up at the trunk of a tree. It was exhausting to make the film (on a single hot afternoon), but I feel that the watching does have that quality of open-minded attentiveness that the best environmental listening exercises have. Other structures have been much looser, such as **Seventeen Autumnal Minutes in Landcox Park (1997)** for video. In this piece, I simply determined that I would go to Landcox Park on an autumn afternoon, and I would take 17 one minute still camera shots, and that would constitute the piece. I let intuition guide me as to what each shot would be, trying to be in as “no-minded” a state as possible when I did the filming. (After all, the biggest Tibetan Buddhist centre in Melbourne is on Landcox Park, so “no-mindedness” seemed to be called for.) Since it was autumn, things were naturally colorful, but for me, the most important aspect of the piece was that it consisted of 17 intense looks at details in an environment, each one an exercise in focus and awareness.

Geography has sometimes been the structuring agent in these pieces. In the sound piece **Yarra for Annea (1984-5)**, originally made for Annea Lockwood’s **World Rivers Archive**, I selected 17 locations along the Yarra River, from its mouth to the upper Yarra dam, that I thought would show the diversity of sonic environments that exist along it. Each recording was about 3 minutes long, and was cross-faded into the next, providing a sonic voyage up the river from its industrialized mouth, to its totally artificial (a large dam), yet very remote source. As I wrote in my unpublished 1985 essay **Three Environmental Compositions**, “I chose the spots, then went there at particular times determined by my travel plan and recorded what was there. This is chance composition of a particularly disciplined and refined kind. I knew the *family* of events that might exist at each spot, and wanted to make a progression of sea/harbour/urban/rural/mountain sounds, but the details and even large scale sound events were not known to me until I went to those places.” **Yarra for Annea** exists in two versions: one, with no voice-over

narration, and one with each place identified at its beginning. This second version was prepared for radio broadcast on ABC-FM’s “Listening Room” program. In live performance, I also read the introductory titles at the beginning of each section, but when I distributed the piece on a private-edition cassette in the late 1980s, I released the version with no voice-over, so that the environmental sounds could exist in their own right. Another piece in which geography determined the structure of the piece was the super 8 film **Mud Island (1983)**, also a part of the 90 minute super 8 film **Nature**. Mud Island is a sandbank at the southern end of Port Phillip, the bay Melbourne is on. It consists of a ring of very low brush covered islands, with a very shallow (less than 1 meter deep) lagoon in the middle. With super 8 camera, microphone, and tripods in hand, I went to the centre of the lagoon, set up my equipment, and proceeded to shoot what I hoped would be 6 three minute shots, one due north, and each successive one advancing 60 degrees around the compass. Unfortunately, the extreme heat of the day drained my batteries, and instead, what I got was 6 shots of variable length, each of which decreases in duration, fades to white, and has the sound getting higher and higher as the camera slows down. I had brought 3 sets of batteries, but each died more quickly than the others. The last three shots were made with “dead” batteries that still had some (less and less with each take) life in them. I wanted to make a film where I invoked the island’s harsh empty beauty - the spirit of this place, if you will, and as well as that, I got a piece about decay and technological failure. However, the “glitches” produced by the battery failure had a beauty of their own, which was, in fact, in keeping with the nature of the island. This piece, however, has had a difficult time with critics, especially those from the visual arts world. I remember the late Paul Taylor, founder of **Art and Text** magazine asking me why the film couldn’t have been made on the beach at St. Kilda. For Taylor, ideas such as invoking the spirit of a place through technological means were completely foreign to his inner-city materialist theory-dominated sensitivity.

A more amusing, albeit highly rigorous structuring was used for the film part of **A Random Walk Around Melbourne (1989)**. In this piece, I used random numbers to determine a number of places within Melbourne’s public transport Zone 1, and the order I would visit them in. I would travel on public transport between each place, and when I got to the randomly determined place, I would find something interesting to film for a predetermined time period. While on public transport, I would be constantly taking single frames of both the transport interiors and the views from them, in order to have bursts of single-frame animation between

the static shots of the randomly chosen destinations. In practice, it actually took 2 very exhausting days to do the filming, as the spots chosen were often at extreme different ends of the public transport system. When combined with the radio soundtrack described earlier, though, it made a compelling whole, which many people found engaging for both its wit and its discipline.

B. Letting the environment tell you what to do.

Peebles Island State Park, in Waterford, New York is as special a place to me as Walden Pond was to Thoreau. I grew up near the place, and have walked its paths whenever I have been back in that area. Over the years, I acquired an intimate knowledge of the island, and eventually, in 1984, went there with binaural microphones and recording equipment, and walked around the island, stopping in various places and recording for a length of time that felt good to me. In each place, I introduced the location with a couple of improvised sentences, before letting the tape run for a duration I felt comfortable with. **Peebles Island Tapes (1984)**, the final piece was the unedited tape that I made on two successive trips (I started where I left off on the second walk). What surprised me greatly was that the final unplanned length of the piece was about 72 minutes, which had been the length that many of my electronic music improvisatory pieces had also then been assuming. Something in my physiology was attuned to 72 minutes at that time. In this piece, I feel that I came closest to simply letting the environment tell me what I wanted recorded, and for how long. Presenting this piece in a gallery environment, where people could lie on the floor while listening, also proved similarly rewarding, with many perceptive comments offered after the performance.

C. Assembling a “Narrative” with field recordings

I remain totally unconvinced that a “narrative” is any less of an artificial structure than using, say, the Fibonacci series, but since we seem to be trapped by the weak notion that the linear logic of language constitutes some sort of a norm, I’ll treat this as a separate category. I’ve made a number of works where either the sounds, or a spoken narrative, assemble a kind of story about, and with, events from the environment. **The Eco-Crimes of the General Electric Corporation (2001)**, already mentioned is a piece where the narrative is predominant, but where the narrative couldn’t exist without the environment it is describing. **Point King Beach Memories (1999)** made for Finnish Radio’s “Ear of the Sea” project, is more poetic in its use of a spoken text, and includes a documentary recording of conversations about events at Point King, as well. Non-verbal approaches to a

sonic narrative are used in **Soundings about the Erie Canal (1996)**, also made for ABC-FM’s Listening Room program, and **Four Environments (1985)**. Except for a brief spoken introduction at the beginning of **Soundings about the Erie Canal**, there is no spoken narrative in the piece. Rather, I try to allow the sounds of the Canal environment themselves to tell their own story, as I progress to a number of different locations on both the old (disused 19th century) and new (used 20th century) parts of the canal. Although I felt that the piece told its story rather well, my producers did not feel the same, and wished that I had included a more normal radio-style narrative as well. In other circumstances, I might have agreed, but in this piece, I wanted to have the sense that the environmental sounds could actually make their own sense, without the aid of spoken language. In **Four Environments**, four very distinct environments, two from upstate New York, and two from Melbourne, are simply presented in a four movement “symphonic” form. The “pastoral” opening is a recording of train whistle echoes in the Hudson River Valley one winter dawn. The second movement is a recording of two English Blackbirds in the Australian Bush, duetting away. The third movement (scherzo?) is a recording of a steel grate bridge over a rapids filled river - traffic whirring across the bridge makes a most lovely sound, and the finale is a recording made on a Collingwood tram while Irish Tom, a well known Melbourne character of the 70s and 80s, sings loudly, while extremely drunk, entertaining all on the tram to greater or lesser degrees. When I have presented this piece, either in a concert situation, or as a recording, I have always either read or given out the stories of the recordings, so that the audience knows the circumstances behind them. For this piece, I wanted there to be an interaction between the events, and the stories we tell about those events, but wanted it to be an out-of-time relationship. That is, while the sounds were playing, I didn’t want to juxtapose my words on them, but wanted my words about them, and my words about how I felt the four recordings related to each other, to be available.

D. Straight recording or minimal interference

I’ve also made a number of pieces in which I’ve simply made recordings of a series of environments. In 1998, with funding from Arts Victoria, I did a series of sound installations in the regional art galleries in Warrnambool, Horsham, and Sale, Victoria. At each gallery, I made a series of sound installations, one per room, usually. One of these installations was always a recording of environments near the gallery, made in the manner of a photographic double or triple exposure. For **Warrnambool Double Exposure**, I took two half

hour recordings, one of the Warrnambool breakwater (Warrnambool is on the Southern Ocean), and one of the Hopkins River, a few kilometers inland, and mixed them, so that there would be a combination of seaside and rural sounds. Similarly, for **Wimmera Double Exposure**, I mixed together a sunset recording of the Wimmera River near where the Western Highway crosses it in Horsham, and a dawn chorus recording made in the bush about 12 kilometers from Horsham.

Port of Sale Triple Exposure posed a different problem. From the Gippsland Regional Art Gallery in Sale, one can see the small yacht harbour on the La Trobe River. However, when I recorded it, it proved to be extremely quiet. So quiet in fact, that I had to make three successive recordings, and juxtapose them, before there was a density of events at a sufficient amplitude to even be heard as an environmental recording played in the gallery.

Five Environmental Displacements (2000) made for Geelong artist David Dallafiora's Momenta Festival Cross Reference Project, is a series of 5 ten minute recordings of various suburban environments from the Melbourne suburbs of St. Kilda and Richmond. These were made available to the users of the Geelong Regional Libraries with a series of instructions on the liner notes, suggesting how they could be used by the listener as an aid to creating their own environmental compositions. Finally, most recently I have made a series of 7 half hour recordings - **Seven Environments (2002)** for Chris Cutler's London-based Resonance-FM **Out of the Blue** project, in which a recording of half-an-hour of environmental recording from somewhere in the world, made between 23:30 and midnight GMT, is then broadcast nightly in London at 11:30 pm. These recordings form a sort of "sound window" from London to some other part of the planet at that time. The sounds may be displaced by days, but they should be made at the proper clock time. My contributions included an afternoon rainstorm in Illinois, an evening back porch conversation about sound with Pauline Oliveros, in Kingston, New York, a dawn recording in the suburbs of Kyoto, and early morning recordings of Lyrebirds in Olinda Falls Reserve, outside Melbourne, and the bicycle path between Flinders Street Station and the Yarra River.

Some thoughts about the availability of this work.

Many of the sound works discussed in this paper have been converted into CD format, along with their associated writings. A complete set of 96 CDs of my electronic, theatrical, and environmental works has been deposited at the State Library of Victoria, Melbourne; the Australian Music Centre, Sydney; the ABC Broadcast Music Department, Canberra; the

Music Library of the University of Illinois, Urbana-Champaign, and the Electronic Music Foundation, Albany, NY. Additionally, several of the works discussed here, such as **Summerlake** and **Natural Rhythm** are documented on the Australian Sound Design Project website, created by Ros Bandt and Iain Mott at <http://www.sounddesign.unimelb.edu.au>. Hopefully, these projects will contribute to making some of this work more generally available.

In recent times, I have found it harder to present my more extensive environmental works in live performance. Indeed, some pieces, such as **Seventeen Autumnal Minutes in Landcox Park** have not been publicly presented, because there has not been an opportunity to present such a work within the "no more than x minutes, please" environment that currently exists in the contemporary art world. During the 1970s and 80s, when I was organizing presentations of work myself, I found it fairly easy to create the proper context for presenting environmental works of extended duration, works that frequently called for a particularly concentrated form of listening. However, since I have stopped doing this, I have not found others willing to create such opportunities or environments. This is not to complain, however, simply to observe that once again, if an artist wishes to create works that do not conform to the practices of others, they may find it necessary to create the environments within which their non-standard work can function. In our case, this means creating artistic environments within which discussion and presentation of artifacts and processes of the "real-world" environment can be appreciated, and live.

Appendix: A Listing of Works Cited, in the order in which they are mentioned.

1. **Rich's Genuine Authentic 1:30 Down Home Department Store Blues (1971)** 2 channel tape - dur. 21 min.
2. **Real Science Comix Funnies nr. 1 - John Lilly Meets the Dolphins" (1972)** 2 channel tape - dur. 9 min.
3. **Words and Sounds in the Australian Landscape" (1985-87)** stereo radio piece - dur. 2 hours - in collaboration with Chris Mann, Walter Billeter, Kris Hemensley, and Les Gilbert.
4. **Penguins (1979-80)** - performance art/theatre - dur. 90 min.
5. **Diversity (1996-98)** - performance art/theatre - dur. 70 min. includes the video compositions **These Animals Are Not Metaphors** and **Sixty Four Views of the Wetlands**
6. **Autotrip (1971)** 2 channel tape - dur. 25 min.
7. **A Random Walk Around Melbourne (1989)** super 8 film and live electronics - dur. 14 min.
8. **Three Swift Mornings on Mt. Gravatt (1992)** for clarinet, viola, vibes, piano, and optional live electronics or tape - dur. 10 mins.
9. **Point King Beach Memories (1999)** stereo radio piece - dur. 9 min.
10. **Natural Rhythm (1983)** for underwater sounds and live electronics - dur. All day.
11. **for Joel Chadabe -Rainfall at Launching Place (1981)** - 2 channel tape - electronic and environmental sound - dur. 15 min.
12. **Elwood Evening Improvisations (1997)** for videotape, Fairlight Computer Video Instrument, and sound processing - dur. 16 min.
13. **Uncovering Resonances (1976)** for voices, cassettes, and environment. In collaboration with Ron Nagorcka. B+W video documentation by Dan Robinson - dur. 35 min.
14. **Searching for Echoes at Launching Place (1978)** for trombone, cassette recorders and slides - dur. 20 min.
15. **String Trio No. 2 (1981-86)** violin, viola, cello, video -dur. 12 min.
16. **Chords and Currawongs (2000)** recorded environmental and live electronic sounds and sampled quotes from Dr. Ruth - dur. 30 min.
17. **Playing in Traffic (2001)** - recorded environmental sounds and live electronics, some with voice - dur. 2 hours - includes **Manhattan Fantasy, The Eco-Crimes of the General Electric Corporation, and Improvisation with Samples.**
18. **Mr. Burt his Memory of Mr. White his Fantasy on Mr. Dunstable his Musick (1974)**, two toy pianos, two reed organs, and large pagoda sculpture - dur. 2 hours.
19. **Improvisation for Toy Piano and Ecuadorian Shaman's Drum (2002)** toy piano, Ecuadorian Shaman's drum, movement. In collaboration with Catherine Schieve- dur. 8 mins.
20. **Requiem (1980)**, for super 8 film. Dur. 10 min.
21. **Lo-Fi Proposals (1986)** SK-1 sampler - dur 30 min. - includes **Practically Invisible Improvisation (1986)**, for toy sampler and river.
22. **Summerlake (1999)** for electronic sounds in a park - dur. 2 weeks.
23. **Nature (1983)** for super 8 film - dur. 90 min. - includes **Dandenong Forest - for Cage and Thoreau (1983)** and **Mud Island (1983)**.
24. **Seventeen Autumnal Minutes in Landcox Park (1997)** video composition - dur. 17 min.
25. **Yarra for Annea (1984-5)** - 2 channel tape or stereo radio - dur. 34 min.
26. **Peebles Island Tapes (1984)** - 2 channel tape - dur. 72 min.
27. **Soundings about the Eric Canal (1996)**, stereo radio piece - dur. 34 min.
28. **Four Environments (1985)** 2 channel tape - dur. 40 min.
29. **Warrnambool Double Exposure (1998)** environmental sounds mixed to 2 channel tape - dur. 30 min.
30. **Wimmera Double Exposure (1998)** environmental sounds mixed to 2 channel tape - dur. 30 min.
31. **Port of Sale Triple Exposure (1998)** environmental sounds mixed to 2 channel tape - dur. 30 min.
32. **Five Environmental Displacements (2000)** environmental recordings for others to use - dur. 5 x 10 min.
33. **Seven Environments for Out of the Blue (2002)**. Stereo radio pieces - dur. 7 x 30 min.

