

**Victoria University of Wellington**  
**Electroacoustic Music Studios**  
Studio Report

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**ABSTRACT**

An outline of the origins of the Victoria University Electroacoustic Music Studios is given, especially in relation to the continued emphasis on use of environmental sound sources. Descriptions of current facilities and recent works are also provided.

**HISTORY AND AESTHETIC FOUNDATIONS**

The Electroacoustic Music Studios of Victoria University of Wellington were established in 1966 by Douglas Lilburn with two main motivations:

- (1) Awareness of developments in electroacoustic music as an important new medium in contemporary music, and the desire to participate in that.
- (2) Aiming to find a medium which would encourage composers to develop musical ideas outside of the sound-world of the European instrumental composition tradition.

In this last respect, Lilburn's aim had a nationalistic impulse. He took the view that, although linked culturally and historically to European traditions, a radical shift in the tools of composition was necessary for him to find a distinctive musical voice, one more intrinsically related to his natural and social environment. Electroacoustic music held, for him, the potential to relate more directly to sounds of his immediate surroundings— both environmental and cultural. He wrote of the urge to 'enter into my own total heritage of sound, meaning all sounds, and not just the narrow segment of them, traditional, imported, that we've long regarded as music.' (Lilburn 1985:19). After 1963 he wrote almost no instrumental works,

dedicating himself to acousmatic electroacoustic music.

Following some informal training at the University of Toronto, Lilburn's first studio was set up at Victoria University early in 1966, utilising a large amount of surplus and scrapped items from the stores of the Broadcasting Corporation of New Zealand. The BBC Radiophonic Workshop was one model Lilburn considered to help get the project going but, unlike the Radiophonic Workshop, he intended the studio to be aimed at experimental composition. Equipment in Lilburn's first studio included a large reverberation plate, a 6-channel mixer, filters, custom-built oscillators and noise generators, along with two-track recorders and microphones, allowing him to experiment with simple tape manipulation and splicing techniques on natural sound sources such as gongs, bamboo chimes and New Zealand birdsong. The use of birdsong was significant in that New Zealand's native wildlife is remarkable for its unique birds, providing Lilburn with distinctively local environmental material. In the 1970s Lilburn made extensive use of the EMS VCS3 synthesiser, but still drew consistently on environmental analogies and images in his compositional process. His final work, *Soundscape with Lake and River* (1979), brings analogue synthesis and environmental field recording directly together in overlapping sequences.

In the 1960s, Lilburn (born 1915) was New Zealand's most senior composer. His pioneering work in that country initially generated strong interest in the medium amongst composers two generations younger than him, including John Rimmer and John Cousins, each of whom subsequently established studios in other parts of the country. After Lilburn's retirement from Victoria University, the idea of an environmental influence on electroacoustic music continued under Ross Harris—director of the studios from 1980-94—a period which also saw the studios respond to new waves of MIDI-controlled synthesis and sampling, including the purchase of a Fairlight CMI Series III in 1989. Since 1995, under the present director John Young, the studios' technological base has shifted to more powerful Macintosh-hosted digital audio workstations.

## **PRESENT FACILITIES**

### **EMS 1**

The main mixing studio. A fully soundproofed, air-conditioned environment with superb monitoring, mixing and processing facilities. The studio is based around Pro Tools MIX Plus hardware/Pro Tools 5 software, Sample Cell, and a range of TDM signal processing software such as GRM Tools and Hyperprism, running on a Power Macintosh G4. Though fundamentally set up as a stereo studio, it can easily be adapted for 8-channel work. This studio is also equipped with an Aurora Fuse video card for work with moving images.

### **EMS 2**

A smaller teaching studio, in a fully soundproofed, air-conditioned environment with excellent monitoring, mixing and processing facilities, based around a Power Macintosh G3 running Pro Tools through Audiomedia III and a Roland S770 sampler. This studio supports the initial course in electroacoustic composition (at second year level). Students complete a course in musical acoustics prior to commencing studio work.

### **EMS 3**

A new development in 2000, EMS 3 is a high-performance studio for sound design and live signal processing. The computer is a Power Macintosh G4, running Max/MSP, along with Pro Tools 5LE and Unity DS-1 through a Digi 001 interface.

One software package used consistently in all of the studios is Alberto Ricci's SoundMaker and its SoundMagic plug-ins written by Michael Norris. These include a useful range of time and frequency domain processing tools, which are especially flexible due to the open multi-track capability of the RAM-based application, and offer an excellent software environment for detailed sound design work. Norris developed most of these tools over two summer research projects funded by Victoria University and for which he was awarded a mention in the inaugural (1996) Bourges International Software Competition.

## **ACTIVITIES**

The three studios are dedicated to electroacoustic composition (undergraduate, postgraduate and staff), with a separate recording studio catering for music recording and production. There are presently five students engaged in postgraduate research (four M.Mus. and one Ph.D. in composition). Electroacoustic concerts are given on a regular basis with a multi-loudspeaker diffusion system in the School of Music's Adam Concert Room. New teaching projects are being developed including work with silent movies (in conjunction with the National Film Archive) and collaborative projects including music provided for Victoria University School of Architecture CAD projects, music for choreography by New Zealand School of Dance students, and music for New Zealand Drama School productions. At the invitation of Concert FM (New Zealand's national classical music FM station) a number of students are creating short radiophonic compositions, exploring the specific possibilities of radio listening. Recent international visitors

who have composed in the studio are Paul Rudy (USA) and Jonty Harrison (UK).

#### **ELECTROACOUSTIC MUSIC AND ENVIRONMENT**

The emphasis on sounds of environment and culture continues to be the key aspect of music composed in the studios. An important aspect of the way courses are taught is a complete listening approach, emphasising the integration of the referential, symbolic and spectro-morphological potential in sound, and their ongoing significance in the processes of transformation and sound design. Manipulation of source recognition and sound-image is therefore frequently a central part of the compositional approach. Field work collecting sound sources is regarded as part of the creative process, since the way sounds are recorded (microphone placement, movement around objects or through spaces) can contribute significantly to the way sound-images are conveyed.

#### **RECENT WORKS BY VICTORIA UNIVERSITY COMPOSERS**

The following is a select list of acousmatic works that reflect a clear connection with natural sound sources:

Philip Brownlee *Mists and Voices* (1999). This is the second work by this composer using interviews recorded with his grandmother concerning her experiences growing up in the rural environment of the East Coast of New Zealand. The work develops as the feelings associated with the loss of a brother in the Second World War are gently revealed, tying the pace of the work to the time-scale in which memories unfold. Subtle incidental sounds made during the recording of the interviews are retained to maintain some of the sense of the original context of the recording process itself. The coughing of the subject is used as an especially strong trigger for digital transformations that amplify the emotional impact of the narrative.

Daniel Beban *Herakles* (1999). With material sourced from a weight-training gymnasium and squash court, this work presents sound images of physical exertion. The inherent tension in weight-trainers' vocalisations is used as a catalyst for sound transformations. These and other sounds created in the field (the sudden onsets of weights dropped and humans attempting to push mechanical devices to their limits) provide materials which, because of their unusual nature, fit easily into the fabric of digital processing.

Jonny Marks *Incidence and Elasticity* (1999). Based on sound from a snooker/pool arcade, which involved recording the pool table and its paraphernalia. Impact of cue-on-ball, the scattering of balls across the table, and the path of balls through pockets and in channels under the table form key sound references. The sound of the balls colliding, and the mechanical components of an aging pool table are developed with extensive use of granular processing techniques.

Jonny Marks *Glint* (1999). Field recordings of metal welding, key cutters and flaming gas burners are used here for the different qualities of rich noise they provide, with many of the sounds in their original form having the qualities of heavy processing artifacts.

David Shepherd *Crema* (1999). A short work focusing on café ambience and chatter. Sounds from the café environment (machines, crockery and conversation) were sampled and processed to create parallel layers of 'real' and 'imaginary' sounds.

John Young *Sju* (1999). Based on material developed from two distinct pronunciations of a single Swedish word—one strictly 'correct', another more 'colloquial'. Since the pronunciations are distinguished largely by marked variations in attack transient, 'noise' and 'pitch' formed useful structural distinctions.

Jonny Marks *Concave* (1998). Develops the rhythmic and pitch structure of the sounds of skateboards in action.

Simon Rae *Three Fragments* (1998). The resonance of intimately presented environmental sounds (such as water, rattling stones and dry cracking leaves) and transformations of these form a set of vignettes highlighted by the imagery of short whispered texts.

John Young *Liquid Sky* (1998). Commissioned by the GRM. This piece develops the sound-image of rain. The continuous and intrinsically granular nature of the sound source is reshaped using time domain envelope substitution techniques, while a long term structure is developed with the gradual introduction of pitched spectra derived from rain sounds passed through groups of resonant filters. These were further developed through spectral stretching and granular time stretching.

John Young *Allting Runt Omkring* (1998). Composed at EMS Stockholm, this 8-channel work uses field recordings made in Stockholm and Wellington. Sections of the work are based on the intrinsic qualities of a specific sound (such as the circular motion of ice skaters, the overwhelming crescendo of tunnelbana trains, and the great sense of distance created by the chimes of Stockholm's clock towers).

Ondine Godtschalk *[E(scape)]* (1997). The composer's recording of a distinctive sound from the environment (the squeal of train wheels braking) formed the catalyst for a piece using digital transformation to extend this play of pitches, though retaining recognition of the original source.

Ondine Godtschalk *Silhouette* (1997). Explores the complexity of 'reality' through sounds symbolic of memory and childhood (children's song, and a toy piano), juxtaposing these images with more impersonal environmental sound (the sea) and connected through extensive transformation.

John Young *Virtual* (1997). This work is based on digital samples of wind noise and turbulent air motion (a feature of the local Wellington environment). The gestural energy and spatial motion of these sounds provided the basic model for the shaping and transformation of material.

#### REFERENCE

Lilburn, Douglas (ed. J.M. Thomson). *A Search for a Language*. [1969 University of Otago Open Lecture]. Alexander Turnbull Library, Wellington, 1985.