
Half-heard sounds in the summer air: electroacoustic music in Wellington and the South Island of New Zealand*

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This article traces the evolution of electroacoustic music in Wellington and the South Island of New Zealand. Electroacoustic music has a well-established tradition in New Zealand, dating back to Douglas Lilburn's pioneering work in the early 1960s. The Victoria University of Wellington Electronic Music Studios (VUW/EMS) that Lilburn established in 1966 became a focal point for electronic music activities in the late 1960s and early 1970s. This article examines current approaches to electroacoustic music composition, and discusses the facilities at Victoria University, the University of Canterbury and the University of Otago.

1. INTRODUCTION: WELLINGTON AND THE SOUTH ISLAND

1.1. Geography and population

The three main centres considered in this article – Wellington, Christchurch and Dunedin – are not only small but also relatively isolated from one another. There are some 400 kilometres between each centre, and the largest city contains only some 350,000 people, considerably smaller than Auckland's population of 1,000,000.

Wellington, however, has always staked its claim as the country's cultural hub. This is due in part to the high disposable income of its central city population, which comprises many white-collar workers such as politicians, civil servants and private sector management. As the capital city, it is home for a number of national cultural bodies, including the New Zealand Symphony Orchestra, New Zealand Film Commission and Royal New Zealand Ballet. It also houses the Museum of New Zealand (Te Papa) and the National Archives.

The other two centres, Christchurch and Dunedin, lie on the east coast of the mountainous and otherwise sparsely populated South Island. Christchurch's population is largely constituted of the white middle and upper classes, although it now has a huge influx of tourists, principally from Japan. Dunedin's population of a little over 100,000 is bolstered by the large student presence, which makes for a burgeoning alternative rock scene.

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The regions considered in this article have a less diverse range of nationalities than Auckland. For instance, we can compare the ethnic make-up of the four main regions using statistics from the 1996 Census: in the Auckland region, Pakeha (New Zealand Europeans) comprise 62% compared to 72% in the Wellington region, 86% in Canterbury and 87% in Otago.

1.2. International contexts and associations

While New Zealand has a fairly diverse cultural mix, the ties with Britain and Western Europe have remained strong amongst electroacoustic composers of Wellington and the South Island. Certainly, this region is less permeated with cultures from Asia and the Pacific than centres in the north, such as Auckland. However, the fact that electroacoustic music is still largely the domain of Pakeha composers, means that many are working within their European cultural traditions, albeit with a distinct New Zealand voice.

In addition, while American popular culture has now saturated the media, those working in electroacoustic music have mostly avoided idioms associated with American composition, such as minimalism or the synthetic note-based techniques represented by Babbitt and Dodge. Instead, composers have identified mainly with Canada and Great Britain. This dates back to Douglas Lilburn's first overseas study trips to Toronto and London and has been sustained by composers such as Denis Smalley and John Young, both of whom are now resident in Britain. A few composers have looked to the East: most notably Jack Body, who has forged musical ties with Asia.

One notable absence from the pool of sonic resources used by electroacoustic composers of this region is indigenous Maori instruments and voices. This has tended to be avoided by Pakeha electroacoustic composers, due to the inherent problems of cultural appropriation and sensitivity. There are a few exceptions, such as Kim Dyett's *Flute Music* or Douglas Lilburn's *Summer Voices*, but by and large these sources are still considered culturally inappropriate by non-Maoris.

2. DOUGLAS LILBURN AND VUW/EMS

2.1. Early development

Douglas Lilburn (1915–2001)¹ was the composer who spearheaded New Zealand's first forays into the brave new world of electronic music. Lilburn's formative years were spent in pre-World War II London, studying with Vaughan Williams at the Royal College of London. The two formed a respect for each other's music, and Vaughan Williams' influence on Lilburn's early work can be heard in the folk-inspired melodies and pastoral-style string writing. Upon his return to New Zealand, he was offered a position in Wellington at the new Music Department of Victoria University College, which he helped develop into a unique environment for composers, while building up his own formidable reputation. By the early 1960s, he had become well known to the New Zealand public as a composer of some twenty-five piano studies, three symphonies and numerous other chamber, vocal and orchestral works.

2.2. Electronic music

By the mid-1950s, the weight of the European avant-garde was making itself felt even in New Zealand. Lilburn himself admitted that he was 'becoming pretty old-fashioned through being isolated here for so long' (Bourke 1996: 35). The period from 1956 to 1963 provided a confluence of turning points. 1956 was the year of Stockhausen's *Gesang der Jünglinge*, which Lilburn admitted had a profound effect on him. Around the same time, the New Zealand Broadcasting Corporation commissioned him to provide incidental sounds for a radio play, *The Pitcher and the Well*, a production for which he felt instrumental writing would not be appropriate. He also chanced upon an article describing the electronic studios at the University of Toronto – one of the few places offering courses in electronic music and where Boyd Neel, who had conducted Lilburn's music in the 1940s, was Dean of Music.

But it was after a period exploring serial structures, which culminated with his Third Symphony (1961), that Lilburn made the decision to abandon instrumental music altogether. He remarked that, 'I just felt that I had got myself into a swamp of serial techniques and that I had to get myself out of this again, because I was going in the wrong direction' (Bourke 1996: 35). It was to be 'my last exercise in the European tradition – I turned then to the new world of electronic music' (Thomson 1991: 240).

This realisation came at a critical time in New Zealand's own artistic development, when artists were beginning to sever links with the nostalgic pastoralism of colonial art. Frederick Page, of Victoria University, had

visited Darmstadt and Donaueschingen in 1958 and was excited by developments there, meeting such luminaries as Pierre Boulez. Page was one of a number of Lilburn's colleagues who persuaded him to investigate the possibilities of electronic music.

To Lilburn, an important aspect of electronic music was that although it had been largely developed in Europe, it was in theory devoid of cultural baggage, suggesting to him that the sounds of his environment could be used to give his work a distinct New Zealand flavour. It was so compelling to Lilburn that he completely turned his back on instrumental music. Indeed, there is little relationship between his instrumental and electronic works; it was as if a new composer was born from the ashes of the old.

In 1963, Lilburn began a sustained period of research into electronic music, which started with visits to Toronto, London and New York. He spent a good portion of it in Myron Schaeffer's studio at the University of Toronto. At this stage, Canadian electronic music was, in Lilburn's opinion, more developed than Britain's. In fact, Lilburn later returned to Toronto in 1969, where he met Gustav Ciamaga and Hugh Le Caine. Although Lilburn did pay a visit to the BBC Radiophonic Workshop in London, he found the policy of not admitting outside composers a disappointment. However, he spent a productive week with Peter Crowe, a graduate of Victoria University living in Britain at the time, who wrote: '[Lilburn] came to Wiltshire in 1963, worked in a barn with a couple of tape recorders for a day or two and then shot through to see an awful American, Milton Someone, who gave him a bad time.' (Crowe 1991: 17)

2.3. VUW/EMS

Upon his return to New Zealand, Lilburn set about establishing a proper facility at the Victoria University of Wellington. In October 1966, he opened the Victoria University of Wellington Electronic Music Studio (VUW/EMS). A well-equipped analogue facility, the studio was, in Lilburn's own words, 'some years ahead of Australian and English universities' (Thomson 1991: 242). It was not long before the studio became a focus for those seeking to exceed or reject the limitations of instrumental music. An allegiance of like-minded students formed around Lilburn, including composers such as Denis Smalley, John Rimmer, Ross Harris, Jack Body and John Cousins. These composers have all been involved in the ongoing development of New Zealand electroacoustic praxis in some way: Smalley completed a diploma at the GRM studios in Paris before teaching electroacoustic music at Norwich and then London; Rimmer developed studios at the University of Auckland; in 1980, Harris took over from Lilburn as director of studios and taught composition alongside Body at

¹Douglas Lilburn passed away on 6 June 2001, as this article went to press.

Victoria University; and Cousins established a studio at the University of Canterbury.

3. AESTHETIC CONTEXTS

3.1. Lilburn's electronic music and environmental influences

By the late 1960s, the distinction between the *musique concrète* and *Elektronische Musik* factions was less pronounced, and this is reflected in Lilburn's studio techniques which included both sound synthesis and transformation of recorded samples. His music displays a delicate balance of synthetic and concrete and an assured sense of musical architecture which shines through the now dated sound of the early synthesizers.

Like many New Zealand electroacoustic composers to follow, Lilburn felt inspired by his environment, often manipulating synthesised tones to mimic or suggest natural phenomena. His sonic landscapes were allegorical in nature, displaying a surprising subtlety and much expressive weight. His first major work in the medium, *Poem in Time of War* (1967), develops two simple sound recordings: a rustling bamboo curtain and a traditional lament sung by a Vietnamese woman. For the first half of the work, these are simply presented with no transformation at all. Later, they undergo processing, distorting into a harsh, dark ambience, reflecting Lilburn's own feelings about the Vietnam conflict.

Summer Voices (1969) uses a recording of East Coast schoolchildren chanting a Maori lullaby. Lilburn remarked of this recording that 'I found the rhythms of the chant could be printed onto electronic sounds, suggesting ghostly voices whispering through the dry grass and a chorus of cicadas, and other impressions of half-heard sounds in the summer air.' (Thomson 1991: 243)

But perhaps his most accomplished works were those affected by the environment, particularly *Three Inscapes* (1972) and *Soundscape with Lake and River* (1979). In these works, Lilburn portrays broad vistas of sound and colour; in the case of the latter, these are dovetailed with recordings of water: the sounds of waves on a shore and water in a stream. The relationship between the abstract synthesised pulses and the concrete field recordings appeals to the listener to enter into a state of 'reduced listening', to appreciate the forms and gestures of the natural phenomena. John Young writes of *Soundscape with Lake and River*:

A metaphorical interpretation suggests itself: that the environmental sound is the source of the inflections and shaping of the synthetic sounds. The bold juxtaposition of these two quite polarised sound types – the synthetic and the environmental – heightens the impact of their subtle gestural relationships. Retrospectively, then, this illuminates much of Lilburn's earlier work in the medium. (Young 1996: 23)

However, it was to be Lilburn's last work in the studio. He felt that 'I had 15 years up there [at VUW],

that was enough' and that the *Soundscape* 'really brought me full circle to what I'd been wanting to do all the time: take the natural sounds of the river and lake at Taupo and weave it into the texture of the electronic sound and fuse them in some way' (Bourke 1996: 37).

In January 1980, Lilburn retired from Victoria University and from composing altogether. By this stage, his mastery of the studio was unmistakable. His work from the early 1970s demonstrates that his skill in utilising the analogue technology available at the time was considerable. As John Elmsly wrote when reviewing *Three Inscapes* in 1989, 'they are compositions which still make satisfying listening after fifteen years of technological advances which have reduced the poor Synthi to museum piece status' (Elmsly 1989: 31).

3.2. *Musique concrète*

Lilburn's conviction that he could use environmental sounds to impart a unique identity has been one of his most important legacies to New Zealand electronic music. Although he worked with analogue synthesizers, his music fully upholds the ideals of *musique concrète*, as promulgated by Pierre Schaeffer and the GRM. This has been the dominant mode of composition amongst electroacoustic composers from this region of New Zealand and, of those that worked with Lilburn, many have gone on to further practise and develop it.

Primary amongst these was Denis Smalley, who has now been resident in Britain for some time, but whose compositions and theoretical work are amongst the most accomplished in the field. Since nearly all of his important works were written after he left New Zealand for good, they will not be covered here, but even his early work completed in the VUW/EMS displays a fine ear for sonority, texture and structure. Also, some of his later works still retain a New Zealand connection, such as *Wind Chimes* (1987) which uses recordings of chimes found on a visit to New Zealand in 1984, or *Névé* (1993) which was inspired by a walk on the Fox Glacier in the South Island.

Ross Harris was the first to take over the reins of the Electronic Music Studios at Victoria University from Lilburn in 1980. Harris had been a graduate of Victoria University and had worked with Lilburn in the studios before being appointed lecturer there. He was a composer who was well versed in European modernism – he cites *Gesang der Jünglinge* and Berio's *Thema: Omaggio a Joyce* as exemplars – and brought a sound understanding of harmony and pitch structure to the studio.

Although Harris became interested in the use of FM synthesis as a compositional technique, later works made extensive use of concrete sound sources and their transformations. For instance, *Koan* (1989) is based around a set of Thai gongs tuned to a seven-note equal temperament. Harris uses elongation of the gongs' pitches and superimposition of multiple transpositions

to create a rich texture of closely related material. The transformations combine in a natural hierarchy of resonances: deep gongs resound against a foreground of fluttering high-pitched metallic textures, which ‘beautifully resonates a kind of inner peace’ (Frykberg 1994: 75).

Vocalise (1986) uses recordings of Harris’s voice as a starting point, around which he layers multiple downward transpositions against tight periodic loops of breath and saliva sounds, while *Mosaic* (1990) uses recordings of water which are gradually filtered, perhaps in homage to Lilburn’s *Soundscape with Lake and River*.

More recently, the music of John Young is an embodiment of the imperatives of Schaeffer’s *musique concrète* legacy. Young, a student of John Cousins at Canterbury University, completed his Ph.D. in source recognition theory, drawing on the theoretical work of Trevor Wishart, R. Murray Shafer, Simon Emmerson and Denis Smalley. In 1989, Young spent a few months in the University of East Anglia studios with Denis Smalley – a period which greatly influenced his approach to composition. There he used the Composer’s Desktop Project, and absorbed techniques of computer sound processing and editing, realising the significance of multi-loudspeaker diffusion in the presentation of electroacoustic music.

Young brought his experiences of East Anglia back to New Zealand and was appointed lecturer at Victoria University in 1990, inheriting the mantle of Director of Studios from Harris in 1994, having previously presented, for the first time in New Zealand, multi-loudspeaker concerts of electroacoustic music. Since then, Young’s works have gained awards which include first prize in the 1996 Stockholm Electronic Arts Award, and mentions in the Prix Ars Electronica, the Bourges Festival and the Prix Noroit. His British connections were highlighted when the Australasian Computer Music Conference was held at Victoria University in July 1999. It attracted numerous entries from Britain, and a number of those composers attended, including keynote speaker Jonty Harrison.

Young’s work is full of overlapping figurations and fast-moving noise-based gestures, undoubtedly influenced by the work of Trevor Wishart. The three works that form part of a trilogy, *Inner* (1996), *Virtual* (1997) and *Time, Motion and Memory* (1998), make Wishart’s influence clear, with whirling breath-morphologies, interweaving noise-band trajectories and grand pitch filtrations.

While adhering to the principles of *musique concrète*, Young develops a new sense of complexity, detail and energy, combined with a supersaturation of layers and movement. Young maintains that:

All natural sound is complex in some way, and I think the more you take a complex view of simplicity, the more you find there that can be worked with. Also, I’m in favour of the idea of detail: having a detailed view of the way one experiences a sound. You can do that in the studio, that’s

the wonderful thing – you can play something over and over again and appreciate the effects of detail and the effects of subtlety. And as soon as you’re into that territory, you’re dealing with complexity. (Norris 1999: 19).

Other recent works include *Liquid Sky* (1999), composed in Vancouver at Simon Fraser University and at the GRM studios in Paris, *Allting Runt Omkring* (1998), an eight-track work composed at EMS in Stockholm, and *Sju* (1999), a work using vocal sound sources composed in the VUW/EMS. These works are notable in their greater use of recognisable source sounds. *Liquid Sky*, for example, uses many recordings of rain falling on various resonant bodies, including virtual resonant bodies, such as bandpass filters in the GRM studios. *Allting Runt Omkring* (Everything Round and About), on the other hand, features the bells, footsteps and underground stations of Gamla Stan in Stockholm. When asked about the sound sources in this work, Young replied: ‘In terms of that piece, I didn’t feel I had any choice. . . . It’s really all about Stockholm, which is a very “unwindy” place – unlike Wellington – and so something like a dried leaf scraping along the pavement is a beautiful acoustic event.’ (Norris 1999: 21) Working in the EMS Studio in Stockholm also gave Young the opportunity to deal with eight channels of sound. However, Young uses the eight channels to expand the virtual space and to provide the possibility of more discrete sound point sources, rather than creating circular trajectories.

Young’s teaching at VUW drew largely from the theories of Schaeffer and Smalley, and this is emphasised by his technology choices: he had few MIDI devices in the studio, for instance. VUW/EMS graduates have tended to avoid ‘note-based’ music, such as algorithmic composition or MIDI-based synthesis, in favour of the *musique concrète* approach to processing and editing pre-recorded sound.

Dugal McKinnon, for example, a graduate of VUW who has recently studied at Birmingham University and the Technische Universität Berlin, displays this aesthetic in *Horizont im Ohr* (1998) using drones and heavily processed sounds which, although abstract, seem to hint at some human agency. The piece has a brooding atmosphere, but with a gritty, urban edge not heard in much New Zealand music. He uses a more New Zealand concept in *Blue Kisses Green* (1999), a work for orchestra and six-channel tape inspired by the changing hues of the Wellington harbour. This piece successfully melds processed voice/cymbal samples with massed orchestral sonorities.

Michael Norris, another of Young’s students, has also continued the association with Britain by completing an M.A. at City University with Denis Smalley. His work *Chimaera* (1998) uses sounds derived from environmental sources, such as stones and dry foliage, in conjunction with computer pitch processing to create an overlaying of volatile foreground materials against a

static harmonic backdrop, while *Aquarelle* (1998) uses a mixture of bell and water sounds in a similar manner. Norris is also internationally known for his software development, contributing to the widely used array of plug-ins for Alberto Ricci's SoundMaker.

Jonny Marks and Daniel Beban, both graduates of VUW/EMS, have developed a more contemporary slant on *musique concrète*, by using source sounds culled from urban locations as diverse as a skateboarding ramp, a pool hall and a weights room.

3.3. Politics/documentary

Many New Zealand composers are concerned with using the inherent documentary or political nature of the recorded voice. Foremost amongst these is John Cousins, who after studying at Canterbury University became Assistant Lecturer there in 1967. After a brief stint in the VUW/EMS while Lilburn was holidaying in Cromwell, he returned to Christchurch and established an electronic music studio.

Cousins fills his music with personal experience, evoking an intimate, private connection to the sounds and gestures. His work stems from his early involvement in physical theatre and the 'ear cleaning' methods of R. Murray Shafer. Many of his pieces include his own live involvement, usually through a ritualistic performance on some sort of sounding body, such as a metallic bowl in *Ictus* (1994), a concertina in *Songs for a Little Lady* (1995) or – somewhat notoriously – his own body fluids in *Membrane* (1984).

His tape-only works frequently use stark, unaccompanied speech. His fascination with recording narratives onto tape leads to an interplay between the semantic associations of the text and the musical or paralinguistic associations of the processing and multilayering of the voice. He also disrupts the music's linear passage and the listener's conception of time by playing with the effects of memory and recall. For instance, the ticking of clocks is heard marking the passing of time, or a section of recorded material 'rewinds', going over past events as one might play them over in one's mind.

For Cousins, it is vital that the composer retains a meaningful connection with the sounds. His view, as opposed to the 'reduced listening' of Schaeffer, is that 'we should never shrug off our instinct to make sense of sound. It is wrong to think that we should resist any inclination to listen in a way that involves remembering what has come before.' (Bywater 1995: 16).

One way that Cousins retains this personal connection is by using his own voice. *Tense Test* (1986) is one example. In this work, Cousins presents a 'self-interview', using left-right stereo separation to distinguish the two 'characters', even though they are both his own voice. The composer explains:

In 1984 I was interviewed by a critic and commentator on

art. Some time later, the interviewer sent me a copy of the tape-recorded material. As I auditioned the tape, I became aware of how my replies were being affected by the way the questions were cast, and my own deep-seated insecurities. The results were often grossly distorted versions of what I felt to be authentic answers. Subsequently I made further tapes of self-interviews which attempted to 'put the record straight'. The consequences of this produced the material from which *Tense Test* was constructed. (Cousins 1993)

The work follows a straightforward structural scheme. The two voices (both Cousins) are heard discussing the original interview fragment. Eventually we hear them playing a small snippet from the original interview, but then these voices undergo a rather disorienting sequence of recursive self-referencing, as they start replaying passages from their previous conversations. Thick layers of overlapping recordings, interviews and tape-machine mechanism noises build up to form a dense texture. The texture slowly rarefies, until the *dénouement* of the work is signalled by the enigmatic phone-call: 'Hello . . . Speaking . . . I dunno – you'll have to ask him.'

That 'the medium is the message' is typical of much of Cousins' work, stemming from the conflict between recorded voice as historical document and historical fiction. It is integral to works such as *Sleep Exposure* (1979), in which family incidents are recalled by the composer, *Parade* (1982), in which first-time experiences of the USA and Canada are captured on a \$52 monaural dictaphone, and *Edit for Pauline* (1983), in which a woman paralysed with multiple sclerosis speaks frankly of an attempt to take her own life. In all cases, he emancipates the artefacts of recording – mechanism noise, hiss and rumble, the noise of rewinding tape – from their role as by-product, and through deliberate foregrounding recontextualises them as sign-bearing sound-objects in their own right. In fact, *Edit for Pauline* was originally a performance piece, which involved the composer splicing tape, writing on a blackboard and transferring water between small brass bowls with a straw. All these actions were amplified by contact microphones. In the tape-only version of the work, however, Cousins incorporates these 'artefacts' into the structure of the piece, leaving the listener to second-guess the relationship between the heard sounds and the woman's speech.

Despite the importance placed on semantic meaning in Cousins' work, a more recent work, *SSAUFHAPT* (1996), moves towards an abstracted soundworld. The composer creates an exhilarating interplay of compressed air sounds and a series of piston-like gestures and metallic tube resonances. Whether this forms a move to avoid vocal material in the future remains to be seen.

Chris Cree Brown is another electroacoustic composer in the department at Canterbury University. He similarly had a background based in performance, having been

involved in the University Drama Society as a student. His music is often of a politically charged nature. Two works in particular stand out in this respect: *Black and White* (1987), a piece concerning the ill-fated Springbok rugby tour to New Zealand in 1981, and *Aramoana* (1980), a protest piece written during the time that an aluminium smelter was being proposed to be built on the rugged, beautiful entrance to the Otago Harbour.

Black and White, a work for tape and orchestra, is built around recordings made by Cree Brown around the time of the 1981 Springbok tour. He explains the political significance of the event:

To me, the Springbok tour was a catalyst in making many of the divisions within New Zealand society apparent. I feel that if New Zealand had addressed those issues, then we could have learnt a lot and 'grown up' as a nation. Instead, there was no informed discussion in the media; New Zealanders not only wanted to forget the ugliness and violence, but also the root causes of that ugliness. (Young 1992: 13)

The piece turned out to be as controversial as the tour:

Some of the audience walked out, yet others gave it a standing ovation. I had immense support from Isidor Saslav [the concertmaster] and some of the players, yet other members of the orchestra clearly didn't like it, and attempted to stop the performance – some even walked out during the performance. (Young 1992: 13)

Like Cousins, however, his recent electroacoustic works have become less didactic. For instance, *Iron Pebbles and Gold Dust* (1997) represents a more introspective appreciation of sound morphologies. Another example would be *Under Erebus* (2000), composed from recordings made while in Antarctica under the Artists in Antarctica scheme.

A composer whose electroacoustic music tends towards ethnographical document is Jack Body, a pupil of Lilburn's who joined Victoria University in 1980. He too was involved at an early stage in electroacoustic composition, although his pieces are more concerned with 'soundscape composition' than the abstract inner worlds of Harris. After a two-year guest lectureship in Yogyakarta, Indonesia, Body's whole outlook on art and life had been profoundly influenced, forming an ongoing fascination with the music and cultures of Asia. He considers that in creating his soundscapes, 'I play a dual function, as a composer and ethnologist – the pieces are artifice, but within them I have framed intact samples of the environment, as one might hear the real world through an open window.' (Body 1993) Certainly, Body is aware of the temptation to appropriate culturally embedded sounds, passing them off as 'exotica', and so he is careful to present the sounds in a culturally sensitive context:

In his soundscape compositions, his care to keep much of the original material intact, to use material appropriately and to reference formal cultural/musical practices during the transformational process, shows a clear understanding

of both the idea and implications of 'the captured voice' particularly as it pertains to issues of cultural exploitation and voice appropriation. (Frykberg 1994: 74)

With care and sensitivity he manages to juxtapose, place and transform his field recordings without contrivance. This is augmented by the spontaneity of unexpected background noise or interruptions, such as he relates here:

I had been recording children singing and at the very end I was standing there and the tape recorder was still running, and this little boy ran up, grabbed a microphone and whispered the words of a song . . . then he took the microphone and stuck it up to his ear . . . when I played it back the sound was so intimate and spontaneous and beautiful that that's what I chose to end my piece with. (Wheeler 1991: 46)

Another Victoria University graduate, Philip Brownlee, has used documentary to great effect in *Mist and Voices* (1999), a work which uses recordings of his grandmother reminiscing about a brother lost in the war. Like Cousins, the sounds of recording hiss and the enhanced sibilance of the elderly woman's speech are used as important sonic and structural elements, while a grating cough is ear-splittingly distorted to form the climax to the work.

3.4. Electroacoustic music with live instrument

Composers have also investigated the possibilities of incorporating live instruments with pre-recorded sound. A recent work by Chris Cree Brown, *Sound Cylinders* (1997) for solo flute and tape, uses the inherent spectral properties of breath and metal tubes, as personified by the sounds of the flute and the flautist, to form a delicate interaction between live and electronic sounds.

Miriama Young, a Victoria University graduate now undertaking a Ph.D. at Princeton University, has shown a predisposition towards blending live instruments with electroacoustic sounds. Two works, *Caul* for clarinet and tape, and *Like Two Balls of Liquid Silver Pedalling the Sky* for baritone saxophone and tape, demonstrate a fine ear for space and structure.

3.5. Non-academic composers and popular culture

Thanks to the increasing accessibility and affordability of digital sound workstations in the last ten years, individuals have been setting up their own home studios, and we are now beginning to see electroacoustic composers outside the university environment. David Downes is one such composer. He has had notable success in the 'real world', although he too was a graduate of Victoria University. His most fruitful artistic relationship has been his ongoing collaborations with Michael Parmenter, one of New Zealand's most recognised dancers. He often draws from popular music, such as in his

accompaniment for Parmenter's large-scale dance work *Jerusalem*, which saw Downes himself on stage, providing a singing voice not unlike Peter Gabriel. Downes has also released several CDs, written music for film and theatre, and is a vital part of the Wellington contemporary music scene.

Another point of contact between popular culture and academic electroacoustic music occurs where the difference between 'electronica' and 'electroacoustic' becomes one of semantics. From time to time, this has been exploited to open up electroacoustic music to new audiences. For example, Rebekah Wilson, a graduate of Victoria University, initiated a series of concerts that successfully mediated the divide between the electronica and electroacoustic communities, staged in venues as iconoclastic as a hair salon. Other Wellington groups which have utilised electronic music in their performances include *Amalgam*, which has staged live electronic and improvisation shows in pinball arcades, art galleries and World War II gun tunnels, and *Soundlife*, a group comprising three keyboard players using live electronics and samples in an often amusing and iconoclastic way. These off-the-wall events have been garnering the sort of public interest that will serve electroacoustic music well.

4. STUDIO SURVEYS

4.1. Victoria University of Wellington

Although the Victoria University of Wellington Electronic Music Studio was originally housed in a rather poky room in the basement of the red-brick Hunter Building, Lilburn filled it with some of the latest equipment available. Having started with some custom-built equipment, the EMS Putney synthesizer and Synthi AKS (a voltage-controlled analogue synthesizer fitted snugly into a black folding briefcase) became central tools for sound creation and manipulation, supplemented with reel-to-reel tape recorders, filters, razor blades and splicing tape.

After the departure of Lilburn, Ross Harris enhanced the studio with the purchase of an Emulator 2 – a digital sampler – and a Yamaha FM Module, amongst other equipment. When the studio moved from the Hunter Building to a new custom-designed music department in 1989, Harris upgraded the studio with the purchase of a Fairlight Series III Computer Music Instrument (a keyboard/sampler). Alongside this were a Yamaha TX802, a Lexicon PCM 70 and an Eventide 3000 SE Harmonizer.

When John Young was appointed director of studios in 1994, he upgraded the graduate studio to a Pro Tools system and installed an Audiomedia-based workstation in the undergraduate studio, relegating the Fairlight to antiquity status. The studio also played host to a number of overseas electroacoustic composers, including Denis Smalley, Jonty Harrison and Paul Rudy.

4.2. University of Canterbury, Christchurch

John Cousins' early studio was a very basic facility, little more than a couple of tape recorders and an AKS synthesizer. In 1980, the studio shifted to a small building constructed near the School of Music, which was affectionately dubbed 'the bunker'. It was not, however, well built for the task, and its acoustics were not particularly appropriate. These have since been somewhat improved – through a combination of carpet and egg cartons! Over time, Cousins upgraded the studio, eventually adding a Digidesign Pro Tools workstation. Currently a new design is pending for an addition to the main School of Music building which will include an eight-channel electronic studio.

4.3. University of Otago, Dunedin

Although in all probability the southernmost studio in the world, electroacoustic music plays only a minor role at the University of Otago. Jack Speirs developed a modest studio, which opened in 1975. It consisted of some two-track recorders, an Akai four-track and an EMS Synthi. It was not until 1987 that the department was able to upgrade facilities to a MIDI-based studio, which included DX7s, a Tascam 8-track and a Prophet 2002 sampler. This set-up served the department until 1998 when, under the guidance of lecturer Peter Adams, they were able to replace their tape-based facilities with a Pro Tools-based digital workstation. Adams, currently the only electroacoustic composer on the faculty, has recently finished collaborations with local photographer Lloyd Godman.

In 1999, the music department inherited an unused Radio New Zealand building, which included a large recording studio. The Pro Tools system was moved into the recording booth with the intention of having a multi-purpose facility, serving both as a studio for electroacoustic composers and as a recording facility for their new contemporary rock course.

5. CONCLUSION

Electroacoustic composers from Wellington and the South Island share a common lineage back to the 'father of New Zealand music', Douglas Lilburn. It was his initiatives in the early 1960s that helped form the first electronic music studios and bred a series of composers who would be instrumental in developing electroacoustic music both here and abroad.

While many of these composers work with the principals of Schaeffer's *musique concrète*, they have all developed it in a unique way, often imbuing the music with sounds or concepts inspired by the New Zealand environment.

In October 2001, the electronic studios at VUW will be celebrating their thirty-fifth anniversary, and signs are

that the composition in New Zealand is as strong as ever. Though the community is, by international standards, quite small, the quality of work is being internationally recognised and celebrated.

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