Chroma

Image: Gil Weinberg BeatBugs

Editorial
By Timothy Opie

This is an important time of the year for ACMA. It is the time that everyones subscription runs out and they need to renew. For everyone fortunate enough to go to the ACMA conference in Perth at the start of the month, not only did they participate in an excellent conference, but they also automatically renewed their membership. For those who sadly missed out on ACMC 2003, myself included, make sure you send off your subscription as soon as possible. Subscription forms can be found at the ACMA web site. Whilst you are subscribing, make sure you hand out subscription forms to your friends who are also involved in computer and electronic music.

I would like to firstly thank the old ACMA committee and then congratulate the new ACMA committee, I look forward to working with them. Reading the President's report, I see Paul Doornbusch has some great ideas planned, he just needs our support to get them going. This is a great time to be involved in the computer music scene in Australia and New Zealand.

In this epsiode of Chroma you are invited to delve the depths of Andrew Kettle speaking openly about his music. Angelo Fraietta provides an outline for setting up a test harness, which could just save your performance. Gordon Monro gives an in depth review of ACMC 2003. I review Ros Bandt's latest CD, Sonic Archaeologies, and Ros Bandt introduces the Sound Design Website, Australia's first fully refereed website for sound design. There is something here to please everyone.

Over the next few weeks I will set up a more formal submission process for Chroma. This is to improve the quality of the publication, provide a more uniform look, and keep publications on a stricter schedule.

Enjoy this edition. If you have questions, want to comment on any articles, or have an article for the next edition, email them to me.

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President's Report
By Paul Doornbusch

This is being written "on the-heels" of the recent and successful ACMC03 conference at Edith Cowan University in Perth. I am sure that everyone who attended had a very good time - there were some excellent pieces performed and some equally excellent research presented, but as is often the case and the aspect which I find most rewarding, the sense of community was strong which enabled new friendships to develop and old ones to be reaffirmed.

As some of you will be aware, there was a change of President at the last AGM, with Andrew Brown standing down - I was asked to take over and you voted me in. I was somewhat shocked and awed (yes really - thanks spectro) at this event and I can only hope that I live up to everyone's expectations during my time in the position as President. I would also like to thank Andrew for doing a wonderful job as President over the previous years; it is a pleasure to take over as President with it all in such good order. Also, a new committee was elected at the AGM in Perth. I would like to congratulate everyone on the new committee and I look forward to our times ahead.

There are several aspects of ACMA that I think everyone believes could be improved, and we all probably agree on some of them. Number one on my list at the moment is to increase the membership base. This may seem improbable, but it is my hope that within a few years the ACMA membership is around 200. I do not think that this is wishful thinking, I do believe that it can be done if we can make ACMA membership an attractive proposition to a wider cross-section of the electronic music community.

One of the dissatisfactions which I have heard most often is that ACMA is only focused on academic research. I do not believe this is true, but it is an unfortunate perception. To counter this, and as a way to make ACMA more attractive to more people,I will endeavour to change this perception by both encouraging increased ACMA musical activities and also by promoting

them more. To this end there have been several suggestions; there are two or three proposals for ACMA to produce a CD, there have been verbal proposals for ACMA sponsored or curated concerts, an ACMA composition competition, and so on. All of these ideas have merit and they will all be investigated, but I find it an exciting prospect that ACMA could premier new works and emerging artists to the public in broader and more forums than the annual conference.

Lest the researchers amongst us feel disenfranchised (and I am both a composer and a researcher), there are ideas afoot for developments there too. I think it would be reasonable for ACMA to take responsibility for publishing the computer / electronic music research in this region. Some of this is extremely high calibre and internationally recognised. To this end, ACMA could potentially take over the publication, refereeing, financial and editing responsibilities for the annual ACMA conference proceedings. However, a periodical journal would also be a useful organ for publishing the research of ACMA members whose research may not make it into the conference for one reason or another. Steps have been taken to achieve this through the on-line journal Mikropolyphonie, which is currently undergoing a transition from the excellent stewardship of David Hirst and its old home at La Trobe, to its new home at the University of Western Sydney. ACMA members will soon be able to look forward to a couple of chances throughout the year to publish fully refereed research papers. I think this is very important as I would like to see the research output increase. We are part of the Australasian Computer Music Association - that's music and computers, art and technology, where creativity and research inform each other. Increasing the research output in this field can only improve the standing of our chosen area of activity amongst the government bureaucrats, but it can also stimulate more discourse, more ideas, and more music. So I have come full circle, and while I think there are other areas that ACMA could be involved in, education for example, I will stop this part here. One aim would be to have an annual budget of $10,000 to; promote this area, support guest artists and researchers,

stage concerts, commission both musical works and research, publish books, journals, papers, software, CDs and DVDs, and so on. How would we get that? Well, if ACMA can attract 200 or more members, and we engage in some fund raising activity, we could get there. The aim is to provide enough value that the membership fee is seen as a fair price to pay (by those working and also artists, students and so on), for the services received. With member discounts, attending one concert, buying one CD and attending the conference (or buying the proceedings), should recoup your ACMA membership fee. This is something of a dream at the moment and we are seeking capital to start the ball rolling. There are many members from 2002 who have not renewed their membership for 2003. If you are amongst that group, and you would like to see ACMA develop, then please consider renewing your membership as soon as possible. If you know someone who should be a member, then please show them this Chroma and suggest they join. With some energy, work and the dedication of the membership, ACMA will be able to provide more than a discount to an annual conference, which while valuable, is only the tip of the iceberg of what ACMA can achieve.

I think this is an exciting and buoyant time for ACMA and electronic music in general. I hope that you share in this excitement. My email address is always open to ideas like the ones above - it's your ACMA, if you have thoughts on the above or other matters then please drop me a message.

Very Best Wishes,
Paul Doornbusch
pauld@iii.rmit.edu.au

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australasian computer music association

Composer Profile:
Andrew Kettle

On the eve of his next sound installation, 'Sol's Violin', Chroma caught up with this enigma of the Brisbane experimental music scene in Sprout, a busy inner suburban restaurant. We have ordered entrees by the time I start asking questions but it seems that Kettle's recent seclusion has not brought him the peace of mind that he had hoped for, rather reinforced the angst and hatred that most of his work floats upon.

Our toasted ciabatta and dips arrive when I ask the first question...Over the past couple of months, basically since june 2002, you went missing. Small Black Box, the experimental music performance space that you started in 2001 was handed over to a team of organisers including Greg Jenkins, Scott Sinclair and David Loose - your website, http://listen.to/kettle was not updated, but now there is a noticeable gap in your history - and no new material appeared on the playlists of the community radio station's experimentalmusic shows around the country, since your ABC Listening Room commission. This was a shock for somebody that was quite prolific... where have you been?

It has been a tough 12 months dealing with the cancer related deaths of another family member. Retrospectively it has been a very dark time I am finding new depressive inspiration from a renewed motivation through the old channels that drove me. I composed a piece called 'With my left eye closed..' a few months before the downfall about the reality of my deteriorating eyesight. I had walked around my home wearing inductors that picked up all the EMR from my whitegoods, a sense that I physically don't have, but a way of navigating without eyesight. Sadly, recently I have had a few moles cut out, one of which was active! It can be inspirational stuff. <we laugh>. I can associate with glitch and digital disfunction more now. When I see a PC crash, I know how it feels. Genetics and digital media aren't perfect.

Having seen your performance, at the Brisbane

Pimmon gig a few years ago, of the 'Australian National Anthem' where you screamed the anthem as one complete word slowly and painfully over ten minutes accompanied by midi keyboard of b-grade movie samples. I believe that you use performance as a cathartic process? Are your performances the 'art as therapy' field? It certainly proved to me that a midi keyboard could be abused and that Buto has an influence.

I am increasingly moving away from 'performance as celebration' as I see little to celebrate in our Western Culture. You can think of Western culture as being this dynamic thing, trends and fashions, yet we think of other cultures as being fossilised, either traditional or strange (read potential terrorist) that we can take parts from. We can have the latest technology but why would a traditional African drummer need a laptop? It's like we treat the world as a museum that only we can use and celebrate.

On the other hand, the entire 'laptop' performance question completely ignores the content of the medium. In our popular culture, why is it that the comparison of a one hour movie contains such emotional impact and the equivalent in live music is empty? The equipement and the medium ignores the purpose and roots of art. How often have you heard Stockhausen work but ignored comments like "it is naturally better if one hears music that draws one up higher than one is by nature... to bring ourselves through music into relationship with that which we cannot grasp with the understanding, but which we can feel".

The ethreal beauty that i appreciate in 'sound' is what Jean de Muris said in Ars novae musicae, "Sound is generated by motion, while it exists when it is made, it no longer exists once it has been made… all music, especially measurable music, is founded in perfection, combining in itself number and sound." It is a Situationists nightmare, as it is the ultimate spectacle, by its very nature it is disposable, un-ownable, irreplaceable. Either you are there or you are not. It is a social structure based on accessibility and power of movement. <Kettle stabs his prawn entree and I knod my head in agreement>. The funny thing is that I have over 2 gig worth of mp3s streamable off the website and the Anthem performance is the largest download. I just think

school kids type 'australian national anthem' into google and find my mp3....<we laugh, again>

I read a quote recently that you knew that you where a gen-x teenager of the 80's when you enjoyed the depression that follows a high more than the high that itself? Has your creative career always had a depressive side to it as a result of being part of the gen-x? <the waiter refills my wine glass and there is that subtle contradiction>. As a teenager I wrote a lot of teen angst poetry, one of which won a state award in 1988. It was a nine page 'streams of consciousness', one sentence diary entry that I had always envisaged as being spoken a different voice for each line and randomly arranged. In a way that thought has now only been satisfied in the TRACK installation in the Brisbane Powerhouse. As part of the permanent, interactive console is an idle state that appears when nobody as used it for two minutes. The idle state randomly arranges 1000 sound files and spits then out between 30 - 60 seconds. It is pure sabotage, as the installation appears off and if your happen to be walking past it you may get attacked by a small quote from the oral history like "and we would take our overalls off" or "I would bring a can". It will make people interact with it.. It treats history as porridge. There is a video (1/46) in the installation that uses a similar setup that arranges 300 files as a conversation... <I finish my parmesan crusted lambs brains and our plates are taken away>.

I have seen the TRACK installation. It throws the gauntlet down for video installations in the way that it has pushed the envelop of non-embedded audio with video, most of which is randomly arranged. I have watched the same video and had completely different soundtracks and voice-overs. I imagine that this did the video editors heads in? It is very 'black arm band' in some of the ways it treats history? Mind you a few public, new media installations have tarnished the respect for computers in public art, I'd imagine that TRACK has regained some ground?

As a result of the Arterial collaborative that made the installation I found a partnership with the Director programmer that wrote all the code. There are some great back-end features to the installation that profile its use that is also

interesting. It has been great to be part of the collaboration because New Media installations as public art have taken a bit of a battering over the last few years in Brisbane. There was front page article called 'Bogus Art' that featured a dysfunctional video/sound installation as an example of bad art, but curators are becoming aware that in the two years since that failed project computers have had a large improvement, processors are faster, hard drives cheaper, and operating systems more stable, the Director MX isn't that old that we used. Actually, during work with Arterial I switched to Mac. But you can initially blame Greg Jenkins for putting the seed in my mind. My main impression can be reflected in the reality that Apple has a strong and open audio developers network. I have started to email a few programmers to help in design feedback of their products and am tempted to learn some code myself so that I can design programs and just not use them. It seems a big leap in mindspace. We have drafted a GPS composer program and a tonal astronomy program that I have been thinking about for a few years...

And it is the tonal astronomy that drives the 'Sol's Violin' installation at the IMA?

Sadly no, the specific software hasn't been written yet. It is one of the future projects for the programmer collaboration. At present, I am using a graph based tone generator that I drew all the envelopes by hand. So the installation that runs for 521 hours has 8 tones with 4 envelopes each in 24 hour blocks. But ultimately the simplist design for the software could be as easy an entering a location, period - between which dates, and a time ratio for it. But the main thing that I was interested in this installation was the perceptional change that the audience could experience. You could walk into the gallery and hear one tone and the curious will ask what it is, finding out that the installation that runs for a month is actually a realtime equation of astronomical data will change there perception of the work, and further their contemplation of the solar system represented by Sol's Violin may effect there perception of their home. It represents the path that I have followed with the work through research and several designs to a numinous state. .. I'll have the slow roasted

Duck.

Hmmm, I'll have the atlantic salmon with jerusalem artichoke vichyssoise. Thanks. It is a return to computers for you then, as your previous work to date explored the electro-magnetic spectrum. The performance at REV and ADAPT comes to mind where you did tai-chi performances around white goods wearing inductive mics? The otherworldlyness of it appealed to me. I didn't know for example that TV's spewed out so much ambient RF? There seemed to be an environmental statement to much of that work, a reality of our technological age?

So, I have a background in performance poetry and a long time collaborator, Lloyd Barrett and I in the early 90 mucked around with sample keyboards. I would sample all the cheesey quotes from b-grade movies and he would make drones and ambient beats. At our first ever gig as 'Poota' in 1996, after 3 years of home experiments, Barrett's computer blew up because of a faulty ground in the PA equipment that earthed through his gear. Our first gig, that was a live to air on 4ZZZ lasted one 'ping' and a lot of silence. After a while, you get sick of worrying about your gear and I turned to doing non-computer electronic performances using the inductors. It has been the desire to fulfill the 'Sol's Violin' project that I have been thinking about for 3 years that drove me back to computers. It is the math.

The Small Black Box performance by you in May was the first this year? You titled it 'Sol's Violin' too. So you walk on stage with a laptop and then created a bizaar black-light theatre with fluro planetary signs. It was very meditational and I understood the basic theory that it was the astronomical data of that particular day. So you need a computer for that then I suppose.

What motivated me to finally pursue the project was Chemistry. At the height of all the personal trauma last year I enrolled for a six week coarse in bridging chemistry at QUT. So, you can have all these emotional instabilities but at the bottom of it all is the fact that in life and the world there are Laws and Principles. That science exists and can create concrete structures in theory was a revelation. It returned me to seeing a beauty in

the world. Sol's Violin worships this beauty in a Simplicity that I have been striving for, for years. It is a simplicity that has touched the very existence of my soul.

It is your computer that makes this mathematics of data real?

Yes, I can write 521 hour compositions that no one can consume in entirety. That you would not write to CD. That no performer could perform. That translates the modern language of our time, Data, into an audible pattern that I can appreciate. Yet, it is the astronomical data that I am most interested in, it makes our place powerless and inconsequential. The 'music of the spheres' can take you too a place where you can compare your microcosmic experience with numinousness of the solar system, and perhaps I lost that perspective for a while. I am strongly in the camp that composers could write 'mathematical formulae' that are scores. So that 'Sol's Violin' is a 'mathematical formulae score' in that Planetary Frequency = $((1/Orbit) x weight)/2^{48}$ is manipulated by astronomical data specific to a location and time using a planet's rising and setting times controlling the volume envelop with Geocentric position attributed to modulation. The score obviously using the computer as an instrument. And it would not be possible to use any other instrument, but where and when you perform the score and for what time period you give it give is a unique event. So it's not notes but formulae! <Our meals arrive and we open the second bottle of wine>.

Then it is your interpretation of the data that is your creation. The data itself is oblivious to the composition? It seems that in this age of virtual environments that the way you are using data, in this case astronomical data, is strongly imprinted with an identity of place and time. So, the sol's violin performance at Small Black Box and the installation are essentially the same composition but unique events due to their time.

The hardest trouble that I had with 'Sol's Violin', the reason that it took three years, was finding a tangible connect between data and frequency. It was what I didn't want to be arbitrary. It would seem that if it was arbitrary that the entire work was founded on a false floor, so I worked out the

geophysical formulae relationship that makes the tones very real, applying the rising and setting times to volume seemed unarguable. The modulations with geocentric position relates to the thickness of the atmosphere that your hear through, but there is more that i could do with it however the Simplicity of it was too beautiful.

Your other works seem a bit obsessed with randomness. When I think of the Lotto CD, the TRACK installation, the poetry... are you giving away the compositional tools?

Actually, the randomness is a basic formulae, sure it is perhaps the easiest but it was where I have come from and want to better. In a way the Sol's Violin is an attempt at another formulae. Think of Mandelbrot and the set formulae. When I had an old XT with a monitor with 16 shades of orange a program called Fractint fascinated me, I spent days rendering sets, which now would be done in seconds. <we laugh>. So as Mandelbrok's formulae has generated heaps of graphics my Sol's formulae generates heaps of sound.

So the connections with work that may seem disparate is actually together through associations with nature?

A tangent that came off the electro-magnetic exploration was recording the RF storms. 'The First Storm of Summer' was an initial outcome. It was literally the first storm of summer in Brisbane. For me storms have a special significants, where I grew up in the Fassifern there is a valley called Moogerah, which means Valley of the Storm, and Brisbane is effected by Moogerah in that it is in the South East part of Queensland ringed by the Great Divide. Storms brew up in Moogerah and come down the valley and hit Brisbane. So, I recorded the storm on low frequency AM radio and then edited the silence between the lightning strikes. It was a tremendous editing job by hand, I would have preferred some digital gate recording but didn't have the technology then. <we laugh>. The Cunningham's Gap over looks Moogerah, it was the site for last years ABC The listening Room commission that referenced an aboriginal story from the area with topographic data of the area converted to a tonal soundscape attributing altitiude variation to frequency. The

GPS software we are working on at the moment has come from the project. <a waiter refill my water glass, this is classy>.

So, you could say that there are two main streams in your computer music - performance poetry and data processing?

Sure, you know Voyager has redefined our experiential mind. Attempts to comprehend the distance it has travelled fails in value to any measurement on earth. We have created machines that advance our knowledge but we have failed to sculpture minds that appreciate the depths of new existence. I am still met with the approach of 'nobody will bother understanding it, you should make it accessible', as if there are no challenges. Sol's Violin will only benefit those with a inquisitive mind and I tend to think that they are the only people I am interested in. I wanted to mimic the process that I arrived at over three years, that you look at all this data and finally it all connects in. Ultimately I am faced with the divide of being an entertainer or an artist, whether I am a musician or a composer. <The second bottle of wine kicks in and I think we are both on our way to oblivion, full steam ahead!>. The poetry that I wanted to create was multi-voiced and I thought of computers before choirs. With the processing data either you can look at it or hear it.

Your recent comments about acoustic space on aus_noise where interesting. I gathered that you where comparing architectural space, such as the hall way of a building with that of an electronic architecture of a micro-chip or the design of a computer program? That sprung out of a conversation about 'plugin spotting' and how a computer program has a certain 'sound'...

[the conversation was interrupted by knocking the water glass over the minidisc, after a small commotion we decide to have coffee and talk about 'other things']

Using Test Harnesses for Debugging
Angelo Fraietta

Some of you who attended the ACMC in Perth this year might remember me franticly trying to work out why Anne Norman's bell mechanism was not working with my Smart Controller. The bell hardware was constructed by Anne in Melbourne, and I had not even seen it until the day before. I designed and built the Smart Controller unit for her as a rack mount system, which was then connected to her bell system using a pair DB 25 plugs and cables. In order to try and fix the problem, I had to determine where the problem was. I was unable to determine what was wrong during that session. That night, I made a test harness that would enable me to test each portion of the circuit quickly and accurately. The next day, although I was unable to get the bell working at first, aided with the test harness, I was able to ascertain that the power output from one socket on the power board was not working. I swapped the plug pack to a different socket, and "hey presto!" it worked.

So what is a test harness? A test harness is an adapter cable or diagnostic tools that will enable you test each part of a circuit without having to use a soldering iron. A similar thing in the PA world is the CD player and headphones. Let's take the example that we are trying to get a PA working. You turn everything on, talk into the microphone and there is no sound. The first step you might take would be to substitute the microphone with the CD player as the audio source and commence debugging from there, checking for signal in the path. You can check for levels at various modules, such as mixer LEDs, headphone outputs, effects level displays, amplifier level displays, and the likes. These devices already have inbuilt input and output points that can be used for diagnosing problems.

That is fine for an audio setup, but what if you have a set of sensors connected up to a MIDI to CV converter going into MAX. It's half an hour

before the performance and something is just not working. The first tool you require is a MAX (or Algorithmic Composer) patch specifically designed to test all the inputs that you are using. When testing my Dumb Controllers before sending them out into the wide world, I test the CV inputs with the following Algorithmic Composer patch. (see figure 1)

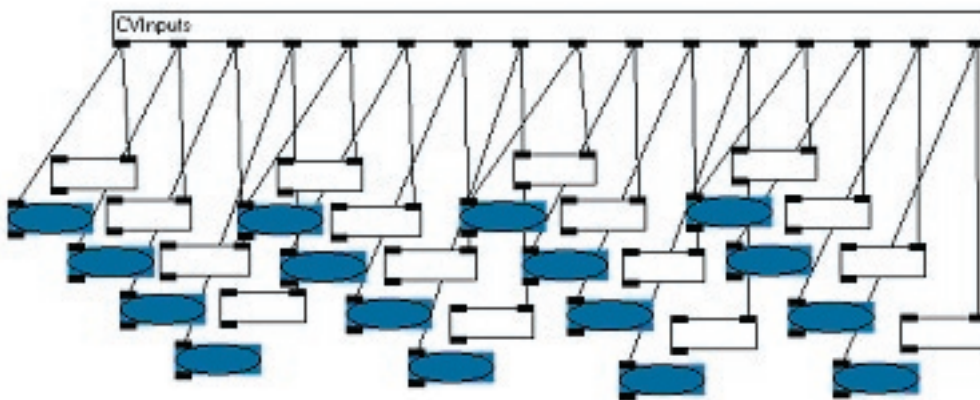Manipulate the Control Voltage Inputs and read the resultant outputs

Figure 1

Here, without having to think too much, I can see which inputs are working, which are noisy, and which are not working. I also have similar patches for testing the digital inputs, digital outputs, and CV outputs. If everything is fine here, you know your problem is not at the sensors.

If you have determined that the problem is that some MIDI information is not getting to the computer, what do you do then? If a single sensor is not working, you might be tempted to swap it with a sensor from another input to see if that is the problem. I have found that this technique, particularly if there are a lot of sensors, can cause more problems – the biggest being that the sensors don't end up being in the right place after you have finished debugging. I have found that pulling the suspect sensor out and using a sensor made from 1K potentiometer in its place (for systems like the I-

Cube and my Dumb Controllers) is a very quick way of testing a channel. You can make one of these up for about three dollars.

In the case of the garden bell, a different test harness was required. The way that the device operated was by removing infrared light from an IR receiver (effectively causing a high impedance), which was the input to the Smart Controller. The Smart Controller, after receiving this input, generated a 5V pulse at the mapped output, switching a reed relay on for that pulse duration, which in turn switches 12V to the solenoid, causing it to strike the bell. There are three areas to test – the IR receiver, the 5V output pulse, and the 12V to the solenoid. Examining the circuit connecting the bell clusters to the Smart Controller we have a DB25 cable, through IDC ribbon, to the bells. (see figure 2)

Each bell cluster (green box in above circuit) contains the following circuit. (see figure 3)

The IR receiver can be simulated by shorting its connections together, whereas the 5V pulse that energises the relay can be easily tested by
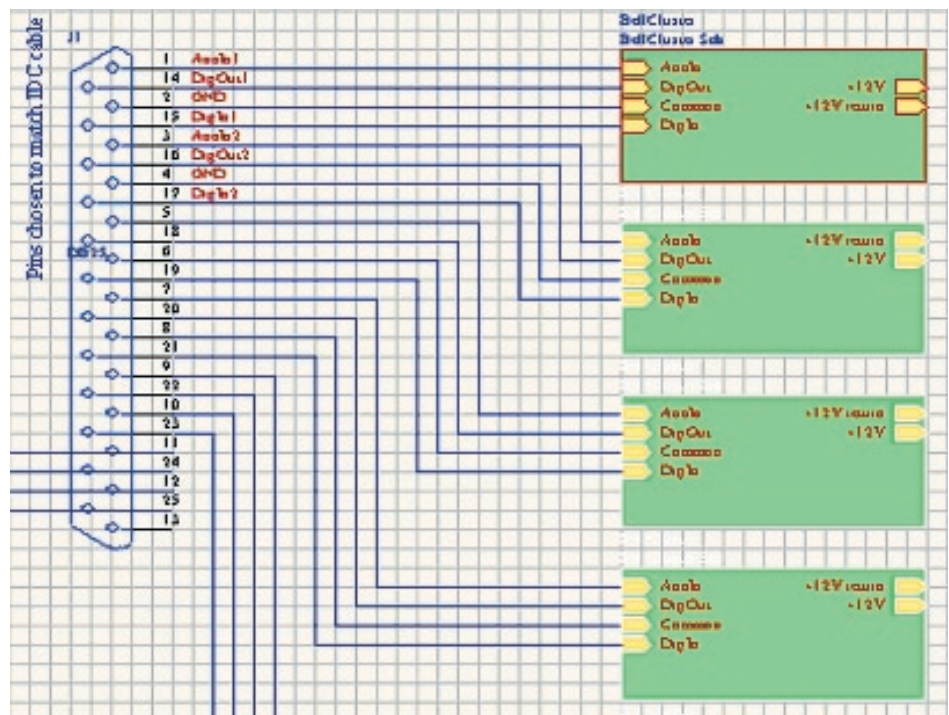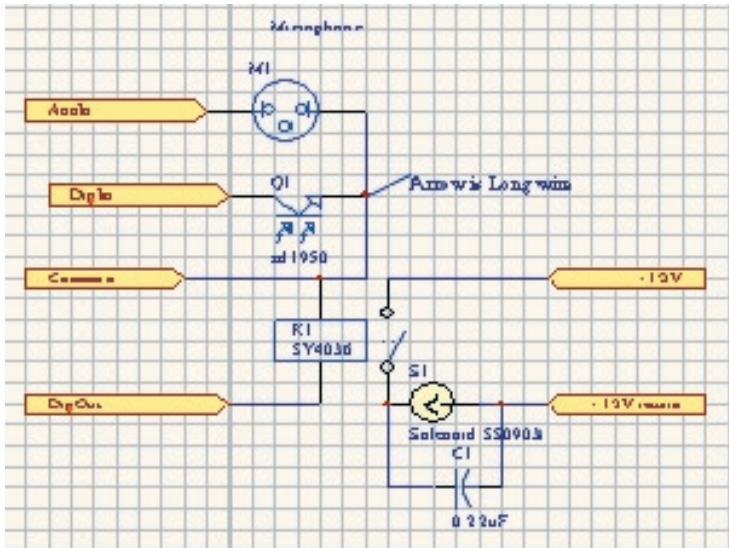

Figure 2

Figure 3

7 and short pins 7 & 8. The added bonus of this harness is that audio triggering for Bell Garden 2 can be tested by placing a microphone into pins 1 & 2.

There are other techniques that can be used, however, the important thing to keep in mind is to keep away from the soldering iron until you absolutely have to solder. Test harnesses are easy to make and are worth spending the extra twenty minutes or so required to make them. Good luck.

placing a red LED across it. A simple harness can be created by crimping a 26 way IDC line socket, which costs less than two dollars, across the IDC ribbon cable. The inputs and outputs of the Smart Controller can be easily tested by placing a LED between pins 2 and 3 to test the 5V pulse, and by momentarily shorting pins 3 and 4 to simulate the IR. The LED and shorting wire simply push into the IDC line socket, so there is no need to solder. If you momentarily short pins 3 & 4, the LED will pulse. A circuit showing this is below. (see figure 4)
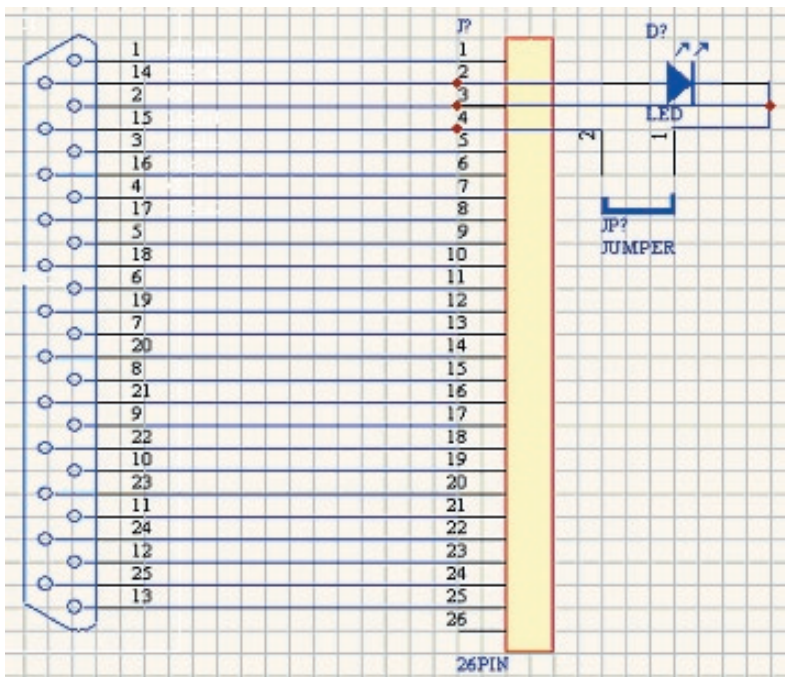

Figure 4

Each cluster can be tested by moving along four, e.g. to test cluster 2, place the LED on pins 6 &

ACMA Conference Perth, July 2003

Conference Report: Gordon Monro

Introduction

The 2003 Australasian Computer Music Conference was held at the Western Australian Academy of Performing Arts (WAAPA, pronounced like "whopper") on 5th-7th July 2003; the conference title was "Converging Technologies". WAAPA is part of the Mt Lawley campus of Edith Cowan University in Suburban Perth. The organising committee was headed by Lindsay Vickery and included Robert Sazdov, Andrew Brown, Paul Doornbusch and Tos Mahony.

The conference website:
http://acmc.waapa.ecu.edu.au/

The conference consisted of the usual mix of paper sessions and concerts, and there were also several installations. In the week after the conference there were associated events: three workshops and a four-concert series under the name "E*mergence". However, this report only covers the conference itself. Usual disclaimer: this is a personal view of a complex event.

Presentations

There were altogether 24 papers or presentations. A breakdown of topics:
* 2 keynote addresses;
* 3 technical papers;
* 6 papers offering general critical or analytic discussion;
* 11 papers or talks primarily concerned with issues connected with the presenter's own creative practice;
* 2 studio reports.
From another angle, if we leave aside the studio reports, 18 of the remaining 22 presentations were substantially concerned with live performance or live interaction, a very significant development. I mention only some of the presentations here.

The keynote addresses

The keynote addresses were given by Gil Weinberg and Bernard Parmegiani.

Gil Weinberg has been developing new musical instruments in the MIT Media Lab. He described his work on what he called Interconnected Musical Networks, and specifically the Beatbug Network. The purpose of these networks is to enable collaborative music-making by non-musicians.

The Beatbugs are engaging objects looking like large ladybirds ("ladybugs" in American) with two antennae. They are in fact fairly dumb controllers and only function when connected in a network with a central computer. Then one player can tap a rhythm on the body of the Beatbug, eliciting sounds from the inbuilt speaker. The rhythm can then be sent to the computer, which passes it to another player. The second player can then modify the phrase using the two antennae. Bending one antenna modified the pitch; bending the other changed the rhythm, I think by inserting extra notes. With up to eight performers networked together, quite complex outcomes are possible. Gil said that given enough time, groups of children could develop interesting work starting from scratch. However in a situation where only a day or two was available before a performance, GIl provided a framework of initial rhythms and a pattern of passing the rhythms among the players, and the performers proceeded from this starting-point.

Bernard Parmegiani is a French master of acousmatic music, now 75 years old, who has been active in the field for at least 40 years. He gave his talk in French, and although a young man was brought along to translate, the task was completely beyond him. Sine I know almost no French I thus can't give a coherent account of Bernard's talk; however he was describing the evolution of acousmatic music from its origins in the musique concrŠte of Pierre Schaeffer and Pierre Henri, through the days of tape-splicing to the eventual adoption of the computer. In this tradition the focus is on the qualities of the sounds themselves, not their sources; Bernard referred to Pythagoras's supposed practice of lecturing from behind a curtain so that the pupils

would not be distracted by irrelevancies.

During the discussion people attempted to ask Bernard questions about how his artistic practice had changed over the years, but the language barrier proved too high. He did say that the greatest challenge he faced was to renew or refresh his creativity, so as to avoid constantly repeating himself. I was also able to have a brief discussion with Bernard during a sound check, and it became clear that he was passionately in favour of the practice of live diffusion of a stereo work over many channels, and very much against the rigidity of composing say an eight-channel work for a ring of eight speakers with everything fixed in advance.

Some technical or analytic talks

Ross Bencina described his work on the real-time audio library PortAudio, and indicated the problems that arise when trying to synchronise audio generation with incoming MIDI events, real-time graphics generation and the like. PortAudio is used in Ross's own AudioMulch software and in Miller Puckette's pd, and is clearly an important development.

Angelo Fraietta described work on his Smart Controller, in the context of working on an installation in collaboration with Anne Norman (mentioned below). Angelo's Smart and Dumb controllers convert control voltage signals to MIDI and vice versa, and have been used by at least three people at the conference. The Smart Controller has substantial processing power and, once programmed, can run an installation (for example) without being connected to an external computer.

David Hirst presented a substantial study under the title "Developing a cognitive framework for the interpretation of acousmatic music". His starting-point is a framework by E. Bigand which applies to tonal music; it consists of a series of stages starting with vibrations impinging on the ear and ending with the recognition by the listener of high-level organisation. David has modified Bigand's framework considerably to apply to acousmatic music, taking into account the writings of Denis Smalley and others.

Roger Alsop discussed what he called "polymedia" works, and in particular works involving dance, using the categories of Space, Time and Gesture, which are common to both music and dance. Roger describes polymedia works as those where all the creators collaborate during the development of the work, whereas in multimedia the components are more likely to be developed separately. I got the impression that Roger was being polite and that "multimedia" is now a pejorative term; possibly a reaction to people slapping together some video footage and unrelated synthesiser doodlings and calling the result "multimedia". The term "intermedia" was also mentioned; I'm not sure what it is supposed to mean.

Lindsay Vickery talked about "Non-linear structures for real-time interactive musical works". This was a wide-ranging presentation including discussion of a variety of theoretical approaches. Lindsay introduced the term "multi-linear", referring to simultaneously presented linear strands, where the audience or participants can either choose to direct attention to one strand or another, or in some cases select which strands will be played. He suggested that this can be a useful model for music, as the strands remain synchronised even if some are temporarily inaudible.

Andrew Brown launched a catalogue of digital instruments in Australia. He has included both hardware and software instruments, though he noted that it is hard to draw boundaries: in some sense everyone who has ever created a Max patch is a digital instrument builder. The website is at <http://digitalinstruments.ci.qut.edu.au/> and Andrew is inviting contributions.

Rene Wooller gave an analysis of club drum and bass, one of the genres where a DJ chooses and mixes tracks. Rene made transcriptions of a number of drum and bass tracks to determine the rhythmic patterns used, the overall structure of the tracks, and other features. He carried out this work in the context of his LEMu project, in which he algorithmically creates dance music in real time according to parameters manipulated by a user.

Some talks on creative practice

These included both short "artists' talks" and fully developed papers setting the artist's own work in its social, technical, or creative context. Two of the presentations concerned new

performance interfaces. Donna Hewitt demonstrated her "eMic", a heavily modified microphone stand developed in collaboration with Ian Stevenson. The starting point was an analysis of the hand and body gestures made by singers in popular genres. The result mike stand has a joystick inserted near its top, so moving the mike itself generates joystick X-Y control information. It also has pressure sensors on the microphone holder, a ribbon sensor on the upright part of the stand, and even a tilt sensor in the base of the stand. Additionally there are foot switches on the base and various knobs and buttons just below the joystick.

Cat Hope showed her Digital Audio Control Skirt, a high-waisted pyramidal construction designed to have video projected onto it, with controls built into a belt. Additionally Cat designed a separate bodice on which further controls were mounted, and a collar with a camera. The whole construction was quite elaborate, and designed to give the wearer real-time control over both audio and video.

Hannah Clemen discussed her interactive installation "IntraSpectral". This consists of a microphone, four loudspeakers and a Max patch. The participant vocalises into the mike, and once the amplitude crosses a threshold the Max patch grabs a sound sample, finds prominent frequencies in it and resynthesises them from a bank of sine-wave oscillators. There are in fact four such banks of oscillators, filled up on a round robin basis, so if the participant makes four loud sounds, four different sets of harmonics emerge. "IntraSpectral" is part of a larger project designed by Hannah: it is the second in a planned sequence of three interactive sound installations whose aim is to encourage meditative states. The first installation is to be controlled by the breath of a participant alone; the third will involve group partition after the fashion of a ritual.

Anne Norman described her work-in-progress "Bell Garden", which uses Angelo Fraietta's Smart Controller. The "bells" are actually protective caps for wooden power poles, squat metal cylinders with one end open. They were made in various sizes, and consequently their sounds have differing pitches and harmonic content. Anne is equipping each bell with a solenoid to play it, and is also adding sensors to some of the bells. The idea is that the bells can be part of an installation which is affected by people moving nearby. Anne and Angelo brought along a prototype bell fitted with an infrared detector. Unfortunately this developed a fault and failed to work during their presentations. However, Angelo managed to repair it, and later the bell rang during an unrelated presentation; someone took a photograph and the flash triggered the bell.

Christine McCombe talked about her "mixed media" work "An Opera of Clouds". This can be realised as either a single performance or as a linked series of installations. The work proceeds in several time scales, or "temporal modes". There is a very slowly changing video image as background. The next layer is a slowly changing and cyclic electroacoustic sound track. Then there is another layer of images, manipulated live, and in the "foreground" several episodes of live music and spoken text from two chamber ensembles and a reader.

Jonathan Mustard talked about two works using "sight-to-sound" technology, where images picked up by a video camera control the sound output. In one, entitled "Monody for Coloured Objects", the performer manipulates objects such as a red mug and a yellow alarm clock. The system only tracks certain colours, such as the red of the mug. The other work, "Dismembered", uses variously coloured shapes representing parts of a human body (arm, leg, torso, head). These are manipulated by two dancer-puppeteers so that sometimes they coalesce to a complete body and sometimes move independently. Again, the movements of the coloured shapes control the audio output via a video camera.

A presentation from two members of the group Skadada described their introduction of electronic sensors and interactive multimedia into circus performance, culminating in an "Electronic Big Top". This was described as the "ultimate hybrid performance", and appeared really spectacular, breaking new ground on a grand scale.

Installations

Unfortunately I was only able to engage with one installation, Hannah Clemen's "IntraSpectral", discussed above. I spent some time with this, and found it very engaging and effective. It

responds best to singing of relatively slow notes, which suits its purpose, to encourage meditative states. Some very interesting timbres resulted. Sometimes the generated timbres had pronounced vibrato, which I didn't like very much, but discovered afterwards that I could have controlled the vibrato, as it responded to the lengths of the sung notes. So I needed to learn more about the installation's capabilities. The only other possible problem was that Hannah needed to adjust the mike threshold frequently.

The installation was used to give a performance not in the conference series. Anne Norman, who is a skilled shakuhachi player, performed an improvisation mixing traditional shakuhachi techniques with more modern ones such as singing through the instrument. With Hannah controlling aspects of the installation's response (again I think mostly the mike threshold), the result was captivating.

Overall "IntraSpectral" is one of the best interactive sound installations I have encountered.

Concerts

There were three concerts, one on each evening of the conference. They were held in the Music Auditorium, WAAPA's main concert space. It looks somewhat wider than it is long and has acoustically treated walls allowing variable reverberation characteristics. It looks as though it was designed with orchestral rehearsals in mind. For the ACMA concerts all the seating was roped off except chairs towards the front, to put most people in a good listening position. There was a 14-channel speaker system: eight speakers in a ring round the audience, then four more at the corners in raised positions, and two subwoofers (front and back).

Twenty-one pieces were played at the three concerts. Of these ten had a live performance element, five were for video and six for tape, including two composed in stereo but intended to be diffused live over a multi-channel system. Three of the remaining tape works were composed for more than two channels, leaving just one tape piece composed for, and intended to be heard in, stereo.

Here I just mention some of the pieces from each concert.

The first concert consisted mostly of multimedia (polymedia, intermedia,...) works. It opened with a piece by Jonathan Mustard "Cyg.Net". What we saw was a video of a dancer, accompanied by Jonathan playing complex sounds from a keyboard. However, in fact the video was extracted from a performance for which Jonathan was the composer, so in the conference performance Jonathan was responding to a dancer who was responding to a previous incarnation of Jonathan's music. It worked very well.

This concert featured both the new interfaces mentioned above. Donna Hewitt gave a striking performance using her eMic. She sang some folk-music-like phrases and the manipulated them (without further singing) by using the controller abilities of the eMic.

The performance by cAVity (Cat Hope and Ann Walton) using the Digital Audio Control Skirt was less successful for me, partly because I was in a bad position to see what was happening. Cat, who was wearing the skirt, had to stand very still, except for her hands, which were manipulating controls. (From my point of view, she appeared to be fiddling with her bra.) Also, the projector had to be masked so as to illuminate the skirt only, and this wasn't completely successful. I gather that people seated nearer to Cat had a much better experience.

Steve Adam gave an attractive performance controlled by waving his hands in front of a video camera. This is a re-implementation and development of work Steve did a number of years ago; what required special-purpose hardware then can now be achieved by Max and Jitter. Again I had trouble with sight lines, and I would have liked to see what Steve's system was seeing; I would have liked to see a big projection of his hands.

Of the video pieces in the program (and leaving aside my own piece) I liked Brigid Burke's "An Empty Bowl" the best. Brigid is a skilled visual artist as well as a composer and performer, and many of the images were created by her. The piece was in homage to Percy Grainger; other images used were of Grainger himself and some of his instruments. The sounds were also inspired by Grainger in various ways, and some used his actual percussion instruments.

A thought-provoking piece was a video "Pig

Wings" from the Tissue Culture and Art group (Oron Catts, Ionat Zurr and Guy Ben-Ary) based at the University of Western Australia. (The music for the video was by Hedkikr, alias Darren Moore and Lindsay Vickery.) The Pig Wings project was to grow living tissue (cartilage) over a substrate to make shapes that might be suitable for wings for pigs. In this project some of the growing "pig wings" were played music (or more precisely a speaker was coupled to the growth chamber so that the fluid was agitated by the sound waves). Afterwards the Musically Entertained pig wings and the Musically Deprived pig wings were found to have significant differences.

The work had a couple of subtexts. The "pig wings" are only a couple of centimetres long (and even so, take a long time to grow). This was a comment at the hype currently surrounding biotechnology. Further, the playing of music to a couple of pig wings was hardly a conclusive experiment. Roger Dean suggested to me that this was a dig at anecdotal reports that somehow get turned into scientific papers and attract media coverage, and Oron Catts confirmed this.

The second concert focused on live performance. It began with two pieces by Simulus (Steve Adam, Ross Bencina and Tim Kreger). The lights went down before I read my program notes, and I thought these were tape pieces. In fact they were live laptop improvisations, but the group members were located behind the audience (everyone else performed at the front). Considered as tape pieces they were certainly acceptable; I preferred the second piece "DRV", which was an abstract representation of a Drum, Rhythm, Voice trio.

The only two pieces in the concerts involving traditional acoustic instruments were both by visiting American composer Joseph (Joe) Waters. The first was described as being for "cello and DJ rig", but Joe said that the DJ rig was cumbersome to carry around, and it was replaced by a laptop plus Max patch on this occasion. It combined a virtuosic cello part with numerous samples triggered by Joe. The samples appeared to have been elaborately composed and in addition Joe had a slider to shape the volume during playback. The piece was about ghosts, the "shadow personalities that inhabit our sleep".

Joe's second piece was for soprano saxophone (Lindsay Vickery) and tape. This was a "spirit of place" piece, with the sounds of water and birds, and also a large and annoying fly (apparently created from a recording of water sound). The instrumental part was generally slow-moving long notes. The piece was originally written for flute , and was adapted remarkably well for the soprano sax by Lindsay Vickery, especially considering that the original contained multiphonics, whistle tones and other extended techniques. Joe was later seen in discussion with Anne Norman about adapting the piece for shakuhachi.

Julian Knowles gave an impressive live laptop performance, manipulating dense layers of sound. The experience was definitely enhanced by seeing Julian grooving along, even if he was partly hidden behind the laptop screen. I think this piece would have worked very well as a tape piece, except perhaps for one repetitive whirling section.

There were two actual tape pieces in this concert. One was by Hannah Clemen, a tranquil meditative piece apparently related to her planned series of installations. The other was by Robert Sazdov, who is a (Slavic) Macedonian ? there is a tangled web of geopolitical, nationalistic and ethnic issues here ? and the piece was a tribute to the Macedonian traditional singer Vaska Ilieva. It was constructed around a recording Robert made of Ilieva's singing when she visited Australia. This piece was composed for 12 channels, and was the only one conceived for the specific setup of these concerts. Nevertheless, the spatialisation seemed a bit unsatisfactory to me; I'm not sure why.

The final concert was for tape pieces only, and was dominated by Bernard Parmegiani's masterpiece "De Natura Sonorum", diffused by the composer himself. The piece was composed on two-channel magnetic tape by traditional tape-splicing techniques in 1975, and is intended for multi-channel live diffusion. It is in twelve contrasting movements, each generally exploring the interplay of two aspects of sound. The sound sources include electronic sounds as well as recorded sounds, but all are blended and transformed so that what is important is the sounds we actually hear, not their origins. The

whole piece takes about 50 minutes and is a spellbinding experience.

Bernard had a score with him; it turned out to be a graphic representation of the two channels of the tape, with no diffusion instructions. In any case he didn't need a score: he knows the piece well, and he said that each diffusion is quite different. He rehearsed the entire piece on the afternoon of the concert.

The other two pieces on the program were much shorter. David Hirst played his "Travail", also a two-channel work intended for diffusion. This is an acousmatic work sculpted from the sounds of a coffee machine. The final piece was my own soundscape of Kangaroo Island, for 5.1 surround sound.

The "West Australian" newspaper ran two items related to the conference after it was over; together they occupied most of a (tabloid) page. One was an interview with Gil Weinberg about his Beatbugs. The other was a review of the Parmegiani concert. The reviewer obviously didn't understand the tape music genre (and didn't like the other two pieces), but found "De Natura Sonorum" to be fascinating and rewarding.

Some general comments

The conference raised a lot of questions about performance in the digital age, computer music, and new media. Here are my own very tentative (and probably naive) post-conference thoughts.

Despite the long history of recorded music and the fact that almost all the music people actually listen to is recorded (heard via radio, CD, MP3,...), the tape music genre is still not understood by the general musical public, and presumably never will be. Tape music is a distinct genre, and even people who appreciate "contemporary classical music" often can't engage with the tape music genre. I take it that a genre requires its own mode of listening, that one more or less consciously adopts a particular frame of mind.

Although recorded music has a long history, for a much longer period all music was necessarily live, and for most people is still inextricably connected with live performance. Pop bands and classical performers alike go on tours to sell more CDs. Furthermore most recorded music at least

appears to be derived from live performance, however much post-processing may have been done on it.

The introduction of computers into any sphere of endeavour reveals areas of ignorance, and as Julian Knowles commented during the conference, introducing computers into musical performance has shown that we don't know much about performance. In acoustic performance, even so-called fully notated music leaves a great deal up to the performer, in the way of subtle timing and timbral nuances. If direct physical control of an acoustic instrument is taken away, it leaves a gap which needs to be filled, at least in art-music-like contexts.

Tape music attempts to fill this gap by subtle processing of sound in the studio, until recently an inherently non-real-time process. If we consider live performance, digital technology has enabled two rather distinct modes:

* an older mode exemplified by a piano-style keyboard linked via MIDI to a synth module or sampler;

* a newer mode exemplified by a Max/MSP patch or the like running on a laptop computer.

Now. live performance has two big things going for it. Firstly, the audience understands the general capabilities and modes of operation of common acoustic instruments. (To give equivalent information in an electronic context would require a lengthy program note.) Secondly, and more importantly, by genetic makeup and social conditioning we are skilled at reading the facial expressions and body language of other humans. Thus we can feel a rapport with a performer.

In the keyboard/synth situation we may lack the knowledge of how the sounds are produced, but we can still relate to what the performer is doing and feeling, and this helps to fill the gap mentioned above. In the Max/MSP/laptop situation we are often totally disconnected from the performer, and it seems to me that this means the actual sounds must be really compelling. That is, if we are disconnected from the performer, we are really back in the tape music situation (even though a performer is ostensibly present). This may be why laptop performance is seen as so problematic.

From this point of view I see improvisation

as intensifying the characteristics of acoustic performance. Improvisations on acoustic instruments often contain virtuosic elements which are essentially impossible to notate, and the body language is typically much more vigorous than in classical performance.

Where does this leave live electronic performance? There is the problem of rapport with the audience; also if everything in a performance is predetermined, a performer is superfluous, so one would expect some improvisatory element. A solution to the rapport problem is to use a performance interface which allows this rapport, as Donna Hewitt did very successfully with her eMic. An additional problem is that improvisation is difficult and those who don't do much of it are unlikely to be good improvisers. So it seems to me that there are two choices for live electronic performers: either accept that you are really making tape music, or use an interface that allows rapport with the audience, and be (become) a good performer.

The above wasn't really a problem in the conference concerts, but it became acute in a couple of the post-conference E*mergence concerts. There were several pieces involving real-time Max/MSP manipulations where the performer was seated in the front row of the audience, and it was impossible to see what was happening. More than once the effect was that of an uninspired tape piece, whatever prodigies of real-time manipulation may have been going on.

These comments are intended only for performance contexts similar to those for art music. If I understood Rene Wooller correctly, the main function of a dance music DJ is not improvisation in the usual sense. Instead it is to read the mood of the dancers, to give them fast and frantic if that is what they want, and to give them a breather and a slower pace when they start to flag.

This leaves the sort of laptop glitch/noise music featured in the 2001 ACMA conference as an enigma. This is essentially a music of live performance, and the performer is visible, but rapport with the listeners is minimal. I can only think that this is a distinct genre with its own social context (which I don't know) and its own mode of listening. Enlightenment, anyone?

Where to now?

What is the current state of computer music in Australia, judging from the conference? (Unfortunately the New Zealanders didn't make it as far as Perth.)

I think that the composition of tape music for its own sake will continue, though it has lost its dominant position. Tape music techniques continue to be important, but the result is likely to be a soundtrack for some other medium.

The availability of surround sound via DVD will ensure that spatialisation continues to be important. Elaborate multi-channel speaker setups are normal at ACMA conferences now, and it appears that live diffusion in some form has established a small but secure place on the Australian scene.

The once standard arrangement of keyboard or sequencer connected via MIDI to a synth or sampler and effects looks to be in danger of extinction, in our context. The replacement is some sort of performer interface (possibly just a mouse, possibly something very elaborate) going to a laptop running Max/MSP or something similar. This raises expectations, as we can reasonably expect a composer working with Max/MSP to do something more interesting than trigger a few samples repeatedly. At present a lot of Max/MSP-based live performance can be described as "Isn't it exciting that we can do this!" I agree, it is exciting, but this phase must surely be nearly over; better reasons for doing it will have to be found.

The interlinked areas of multimedia (polymedia, mixed media, whatever), instrument building, installations and live performance of many kinds now seem to be the dominant concerns of our community.

Lindsay Vickery and his team are to be congratulated on a very stimulating conference which has delineated what looks to be a significant change of direction for our discipline.

For other great conference and festival reports go to Gordon Monro's web site:

http://www.gordonmonro.com

Ros Bandt:
Sonic Archaeologies
CD Review: Timothy Opie

"Archaeology involves the uncovering and studying of remains and remnants, usually fragments of an unknown whole. When the term is applied to sound, which is invisible and time-dependent, questions emerge. Can we hear the sounds of the past and if so how? Are they whole or fragments? Is it a philosophical possibility to try to rehear the past, given that no moment can be repeated? The physical listening environment is constantly altering every moment; we have different acoustic spaces with different soundscapes and the listener is a very different conscious being in the twenty-first century from that of the Homeric world, or the inhabitants of ancient Lake Mungo." (From CD booklet)

Ros Bandt has captured a world that no longer exists. She has recreated it using fragments of the ancient Greek civilisation, particularly their texts. The new and virtual instruments used within this work were created to simulate extinct instruments. These elements are combined with a rich palette of sound samples in a whole new listening experience.

The composition *Thrausmata* goes just over 24 minutes, and is split into seven parts. Each part containing an interpretation of a fragment of an ancient Greek text. As the work progresses there is an increasing amount of digital manipulation. As the ancient civilisation moves slowly closer to out own world it becomes harder to grasp. The voices become more modulated as they try to reach us from the past.

This work is a truly absorbing experience. I felt that if I was to listen to this piece whilst travelling through the Australian outback I could forget what country I was in.

The CD also contains the composition *Mungo* with a duration of nearly 33 minutes. This piece explores the ancient Aboriginal meeting place, Lake Mungo, a dried salt lake. The Aboriginal tribes never left manuscripts, like the ancient Greeks, so building on their fragments becomes a near impossible task. Instead the sound of the wind on the open lake bed is captured and harnessed. Harps with large soundboards, resonated with the sound of Lake Mungo to create a base. The sounds of Didgeridoos, kangaroo bones, snail shells, sand, feet, and other objects are used to recreate the ancient environment.

Mungo complements *Thrausmata* very well. The listener drifts from an ancient Greek civilisation to an ancient Aboriginal civilisation without having to move. As an audio archaeological experience these compositions represent an ancient history that has been skillfully reproduced by Ros Bandt. The spatialised soundscapes set the mind into motion as the listener tries to picture the landscape, the people, the climate, the animals, and the life of these people. As a musical experience these compositions capture the imagination. If you need to have a change in scenery, you want to experience an ancient world, or you just want a complete audio adventure, then go get yourself a copy of Sonic Archaeologies.
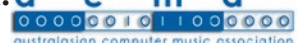
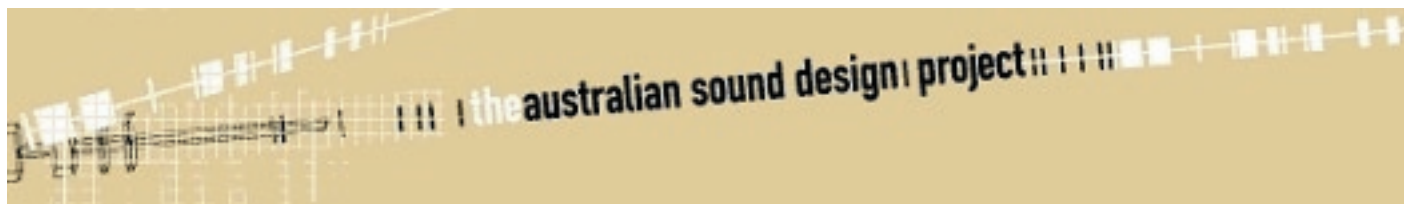Sonic Archaeologies is distributed throughout Australia and New Zealand by Sonart ~ Music with Vision.
It is available through Move Records.

http://www.move.com.au

To hear some online samples go directly to:
http://www.move.com.

the australian sound design project

The Refereed Website for Sound Design in Public Space.
Ros Bandt

The Australian Sound Design Website is now Australia's first fully refereed site focusing on the design of sound in public space in Australia. There are now editorial board members in each state representing a variety of platforms of sound design interest to ensure the site is nationally representative and comprehensive in representing Australia's diversity of sound designs. The new editorial board members are published below. The website is providing leadership in the sound art and sound research communities and provides arts research links and services which are mutually beneficial to a wide range of interest groups including artists, designers, hosting bodies, curators, engineers, acoustic ecologists, composers, students, webdesigners and all types of multimedia practitioners. The publication of new on line digital sources about sound and search engines whereby artists and researchers can find out information about the nature and practice in the field is beneficial to all. The site has now published over 56 sound designs, five papers, collated a bibliography, designed search engines with key words and curated two exhibitions and international audiotheque, Hearing Place to coincide with the international symposium for the World Forum of Acoustic Ecology.

http://www.sounddesign.unimelb.edu.au/ site/news.htm

A CD of international audio on the theme of Hearing Place is available from the Australian Centre and on line from Move records:
http://www.move.com.au/disc.cfm/3275

Call for Submissions

In the last part of this year we are asking for your contributions about sound in public space.

This website is interested in publishing

1. Source material - your designs. Sound designs in public space provided by individual artists and designers who provide information about their sound designed works, through text, photos, diagrams, images, sound. Virtual space is also a public space. Please consider your works.
http://www.sounddesign.unimelb.edu.au/ site/contribute.html

2. Papers about sound design in public space. See papers on a diverse range of subjects and perspectives on sound which help to inform the debate and context on sound.
http://www.sounddesign.unimelb.edu.au/ site/papers.html

3. Bibliographic items for inclusion in the fully cross referenced and searchable bibliography.
http://www.sounddesign.unimelb.edu.au/ site/bibliog.html

4. New Links to related information not currently published about sound in public space.
http://www.sounddesign.unimelb.edu.au/ site/useLinks.html

The website is a leader for sound arts and research by providing in depth digital tools for the research of sound design comprising hundreds of digital objects for accessing and understanding sound design including mp3 sound examples, quicktime video and digital images, photos and diagrams. Be sure to visit gallery for each work for the multimedia components of each work.
Providing dense search engines for cross referencing of in depth material. See links and cross references at the bottom of each page. Providing a national sound design community interested in the design of sound in public space.

Users

This website has now 70,000 hits per month

with a diverse range of academic, artistic, professional, community and educational users. The site is published in Information Processing Management, (Graham, Meyenn and Thatcher, Jacarand, John Wiley and Sons, 2003), as a model of sound-focused sites. The site is used for sound courses in the U.K., USA and Canada, as well as Australia.

The Future

The website will be showcased internationally through the paper:
Documenting the difficult and ephemeral, a web approach to the documentation of interactive electroacoustic sound designs in Australia, which will be given at the Resonances Conference at IRCAM, Paris in October.

http://resonances.ircam.fr/ intervenant.php3?id_mot=122&langue=en

Federation Bells, The Cairns Airport, Reeds and Sound Mapping (See web entries) will be discussed from the point of view of the website as a research tool and archival documenter. Future concerns which we would like to explore in greater focus on the website are indigenous views of sound and place, orality, and sound heritage. We would like to hear about any of your interests links or materials in these areas. We always welcome feedback on the site and hope that the information provided is of benefit to all.

The Australian Sound Design Project acknowledges and thanks the funding bodies, the ARC, the New Media Arts Board of the Australia Council, the City of Yarra, Move Records, the Contemporary Sculptors Association, and especially the Australian Centre, Faculty of Arts at the University of Melbourne, for hosting the website. Thankyou also to all the new board members who are helping to ensure the national representation of this national and international facility.

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http://www.sounddesign.unimelb.edu.au/ site/about.html#edit

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