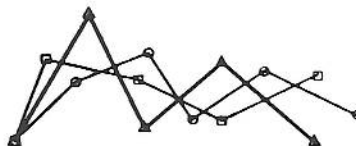


# Chroma



*Newsletter of the Australian Computer Music Association, Inc.  
PO Box 186 Post Office Agency La Trobe University VIC 3083*

**Number 13  
June/July 93  
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**BRIGID BURKE**  
performs  
**Clarinet and saxophone works**

featuring  
**COMPUTER MUSIC FROM  
SPAIN**

Including New Works  
by:

**Santiago Lanchares  
Roberto Mosquera  
Adolfo Nunez  
Elsa Justel  
R. Gonzalez Arroyo  
Andres Lewin - Richter  
Brigid Burke**

*4pm, Saturday 26th June  
Elm Street Hall, 2 Elm St.,  
North Melbourne.*

## **In this issue:**

- Musical Sound Design for Film
- Interview with Warren Burt
- Concert Review
- Sydney Computer Music Symposium



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## Journal of the Australian Computer Music Association

August will see the publication of the first issue of the new journal of the Australian Computer Music Association. This will be published bi-annually in addition to the continued bi-monthly publication of Chroma (The August edition of Chroma will consist of a brief newsheet to be included along with the journal). The new journal (which remains as yet untitled - please forward to us any suggestions) will have a focus on more substantial research oriented articles. Much of the material for the first issue will be derived from papers presented at the forthcoming CompMusic '93 symposium. All members will receive copies of this journal as part of their membership entitlements.

## CompMusic '93

A one-day symposium on computer music will be held in Sydney on Saturday, 10 July 1993, together with two concerts of computer music on the evening of the same day.

The symposium will be held at Wesley College, University of Sydney. Speakers from around Australia and overseas will present papers on topics such as computer-aided musical analysis, new composition languages, timbral perception - electro-acoustic performance practice. There will be a demonstration of new commercial technology by Roland Australia, and a panel discussion Where is the "music" in Computer Music? with panelists David Hirst (President, ACMA), Ian Fredericks (University of Sydney), Peter McCallum (Sydney Conservatorium of Music), David Worrall (ACAT), and Melbourne composers Linda Ceff and Stephen Adam.

The two concerts will include works in a diversity of styles from five countries, selected from over 40 compositions submitted. Concert I, at 5:15 PM, will feature works for live performance, including Roulette Rhapsody for saxophones and interactive computer by John Drummond, a new work for Yamaha WX7 wind

controller by Anthony Hood, and the first Sydney performance of Graeme Gerrard's piece for four swinging loudspeakers. Tape works by Melbourne composers David Hirst, Linda Ceff and Stephen Adam will be presented, as well as Gordon Monro's very "Sydney" piece The Train on Plaorm no. 4.

Concert II, commencing at 9:30 PM, will focus on tape works by established international composers from the UK (Tony Myatt), Italy (Lelio Cailleri) and the USA (David Paul Johnson), as well as new pieces by well-known Sydney composers Roger Dean, Ian Fredericks and Greg Schiemer. New Zealand composer Joim Rimmer will be present in the audience for a performance of his work A Vocalise for Einsein.

The symposium is the first Sydney event under the auspices of ACM).

**Symposium: 9:00 AM - 4:30 PM**

Saturday 10 July  
Wesley College  
University of Sydney

**Concert 1: 5:15 PM - 7:00 PM**

**Concert 2: 9:30 PM - 10:30 PM**

Saturday 10 July  
Old Darlington School  
University of Sydney

Full registration: \$55, \$45 concessions and ACMA members. Two concerts only: \$12, \$8 concession.

Full registration includes lunch, morning and afternoon tea at Wesley College on 10 July, tickets to both concerts, and a booklet of conference abstracts.

For more information, contact:

Dr Gordon Monro  
School of Mathematics and Statistics  
University of Sydney F07  
NS W 2006  
tel: (02) 692 3814 fax: (02) 692 4534  
e-mail: monro g@maths.su.oz.au

Some rooms have been reserved at Wesley College for conference participants; the cost will be approximately \$43 for one night, \$80 for two nights (single room, bed and breakfast - the price will be a little less for full-time students). Accommodation arrangements should be made directly with:

Wesley College  
University of Sydney  
NS W 2006  
tel: (02) 565 3333 fax: (02) 516 3892

Two copies of the registration form for the symposium are included at the back of this issue, so we look forward to seeing you there!



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# Death to the Generic

**Stephen Joyce**

Department of Music  
La Trobe University  
Bundoora 3083  
email: mussej@lure.latrobe.edu.au

Turn on the TV.

Have you always had a hunch that the sound effect of those kids laughing in that commercial sounds a bit like the sound of kids laughing in that Soapie? Why is it that the music on all those lifestyle programmes sounds like it came out of the same cornflakes box?.....and who are those two or three DJ's that seem to be working on all the radio stations at exactly the same time? Come to think of it.....How do they get the inside of all McDonalds stores to look the same?

Welcome to the world of the generic.

Choices!

With the continual growth of technology a world of infinite choices, options and possibilities is exploding before us! Countless new stimuli, expressions and manifestations are appearing everywhere, giving us unprecedented new experiences and wondrous variations on that which we know and love!

In all reality, both the above scenarios are true with only their balance continually changing. As a composer interested in creating sound and music for film and audio/visual productions, I am interested in the way that aural and visual elements fuse together to create the viewer's overall perception of a film or video. How may I, through my use of sound, manipulate the perception of the audience or viewer to ultimately affect their interpretation of the film in an appropriate way? In order to attempt an answer to this question, I prefer to view myself as a sound composer. Rather than dealing exclusively with music, or exclusively with sound design (the collection and layering of all sound effects, dialogue and music) I prefer to view the two as mere components of the overall sonic composition of a film. From this viewpoint the audience's holistic perception of the sound, or indeed perception of the entire film, is best able to be predicted and manipulated.

However, much modern A/V production is relying more and more upon the use of generic sound libraries. Sound libraries are certainly not limited merely to sound effects such as doors closing, cars driving past or blue whales falling into oceans with a gigantic 'kerplash'! Compact Discs of generic music are in common usage in all A/V studios with a particularly high usage in the fields of TV and commercial productions. In many ways this reflects the steady growth of a 'world culture' whereby cultures

and traditions of whole nations of people become Westernised. Aspects of their culture remain and may be propagated in a limited sense by being absorbed and interpreted by other cultural groups elsewhere. Such a process has always been deeply embedded in the development of music whereby influences may be absorbed and reinterpreted from many different sources, styles and cultures.

So, how should we best interpret this process? Is it in fact a desirable situation and, given the fact that it is already occurring, how should we as composers deal with it?

In our ecosystem, our planet's biodiversity is continually being reduced, due to the steady extinction of species, thus decreasing the range and diversity of our genetic pool. In a similar way the diversity of musical options may be threatened as we reduce whole cultures' worth of musical diversity to, in the worst case, mere stylistic references. As a composer I am, in many ways, interpreting and expressing current culture and possibly contributing to the future direction of my chosen field of artistic endeavour. From this point of view I would hope to be contributing to the diversity of sonic options without contributing to the untimely abandonment or loss of other traditions or forms of expression.

As sounds and music chosen for A/V productions become more familiar, due to their continual reuse in a variety of situations, their ability to affect an audience becomes less related to their inherent characteristics. Instead they become more related to the audience's understanding of the particular genre they are forming or contributing to. Upon what grounds is this genre being built? Who in fact are the creators and directors of its stylistic aspects?

The economic, political and social foundations and influences of this growing approach to sound and music design reflect much about the growth of media and its power structures over the last few decades. While it is beyond the scope of this article to expand upon what the implications of such growth are in detail, it is important to be aware of the many non-musical influences affecting current sonic choices.

## Growth of a Medium

The evolution of new media in human expression often reflect, in historic and analogous terms, the medium from which they have succeeded. Thus the early growth of the medium of film reflected its theatrical line of ascendancy, demonstrating an acute reliance upon theatre's narrative and dramatic forms. As its uniqueness as a medium was gradually realised, new uses and approaches evolved to capitalise on and explore these elements. New manipulations of time and narrative, mise-en-scene, perspective and perceptual expectations were born.

The evolution of digital sound recording and editing



environments demonstrates a similar adherence to its roots in analog recording. Most digital recording environments utilising hard disk technology are still manipulated by controls modelled on those of tape recorders. While this facilitates an initial familiarity with what is in actuality a completely new system, it also breeds an environment of contentment and possible resilience to change. Such a resilience can be seen in the evolution of synthesisers. What began as an instrument seemingly capable of unparalleled sonic possibilities has evolved commercially into an instrument more prized for its ability to recreate 'natural sounds'. The majority of preset sounds on commercial synthesisers are either imitations of acoustic instruments or recreations of popular analog synthesiser sounds. Thus, what could have been a continual process of growth and exploration has largely been restricted to a formulation of a narrow realm of generic sounds and forms of expression. [Johnson, 199 ]

However, the direction for evolving technology and the ramifications of its use are influenced and potentially inspired by ourselves as consumers, users and dreamers. If we wish technology to take us forward into the domain of ever unfolding new possibilities, we must be prepared to take an active part in this process and thus respond to our responsibilities as contributing minds. A crucial step in this process is in deciding what we are looking for as composers, or manipulators of sound, and then choosing the technology that may help us achieve these ends. If it doesn't exist then we must create and direct a vision to achieve this end.

### Relevant Sound

With this in mind, my current research is concerned with finding ways in which to increase the relevance of sound within films. How may I move away from the increasingly generic soundtrack and achieve sound that is more unique to every film ? Sound that best captures and enhances the emotions and meanings inherent in the film's narrative and visual aspects. I am not proposing full anarchy. My compositions still may employ harmony, rhythm and musical or any sonic devices. However, instead of beginning with the assumptions of a particular genre and adhering to the expected musical device, I attempt to analyse what particular effect is required at a time, and then search for ways to express such effects using sounds based on structures and meanings found within the film.

My initial starting point is to use sounds found within the story space of a film. Such sounds are usually referred to as diegetic. Non-diegetic sounds are those which occur outside of the story space - such as an orchestra playing to enhance a particular feeling or moment on the screen. Diegetic sounds usually include dialog, sound effects and the general sound ambience of the film. By employing these existing sounds as the starting point for sound composition, the audience may be affected in more subtle ways than using non-diegetic sound. Upon hearing a recognisably non-diegetic sound, such as an orchestra or

rock band, the audience may consciously recognise the music. The corresponding cognitive response may be based more upon their understanding of the particular film or music genre being alluded to, rather than the particular intended effect of the composer. Narrative film, for the most part, is in fact attempting an illusion, one in which real life is somehow represented and expressed. Thus diegetic sound may be used as a tool to focus our attention upon different elements in real life. By extending the use of diegetic sound in an attempt to absorb more of the role of non-diegetic sound, I attempt to strengthen the effect of perceiving a film as an experience in reality. It also encourages the development of a film soundscape that through its uniqueness, may become a new experience for the viewer as opposed to merely being a different expression of a familiar genre.

### Sonic Palette

In order to begin the process of sound composition I like to consider the range of sounds available for my use as a 'sonic palette'. From this basis I may then derive uses of these sounds in various ways. These ways may include the most basic syntactic uses, such as matching sound effects with vision to ensure fidelity, through to the search for metaphoric motifs gained from visual or emotive aspects of the film. In the film, 'Wednesday' by Maciej Wszelaki [1992], for which I composed the soundtrack, the evil of the film emanated from a central scene in a warehouse. Consequently, the sound composition relied upon sounds collected from this warehouse and manipulated in various ways using digital signal processing in order to build thematic material based upon these sounds. This modified sound material was used not only in the warehouse scene, where it contributed to the illusion of what was occurring in the main character's mind, but also at selected points throughout the film where it metaphorically evoked a sense of the relationship between the warehouse and other scenes and localities.

This sonic metaphor, or 'mimesis', [Emmerson 1986] may be direct, in which relationships between events are imitated, such as when a falling image is accompanied by a descending tone, or syntactic whereby the structural relationships between events are mimicked. Such an example may occur where a dynamic narrative interplay between two characters is imitated via a two part contrapuntal musical texture. For a true sonic metaphor to be realised, as opposed to merely the use of mimesis or imitation, a mediation must be established between the original and the mimicked [Wishart 1985]. Thus the audience must be able to perceive the transformation between the two and form a metaphoric perception of the event. Such a device may be used to add further relevance and strength to a film's holistic perception by the viewer. In particular the perceived effect of a sonic metaphor may either reflect the emotion emanating from the visual and narrative aspects of the scene, or conflict with it, thus expanding the depth and perceived experience of a certain scene.



## Tools

In order to expand and explore an appropriate sonic palette for each film, I am currently using a Macintosh IIfx with an external 650 Mb hard drive and a four channel Pro Tools system running ProDeck, ProEdit and Sound Designer II. I also employ an Akai S1100 and a Kurzweil K2000 which has a superb architecture for building and manipulating sounds. Recently I have begun exploring Alchemy v2.5 which has extremely useful functions for mapping characteristics of one sound, such as its amplitude envelope, to another sound, or modulating the frequency of one sound by another. I have also just begun exploring the possibilities of the IRCAM Signal Processing Workstation [ISPW] on the NeXT computers which have the advantage of running fast enough to be able to do much DSP in real time as opposed to the Mac which may take a reasonably long time to calculate large manipulations.

The choice of which tools to use is important in that any chosen method will be likely to impart its own influence and thus colour the final result. As such, I am trying to explore as many options as possible to then create a compositional process that works towards achieving the results which I envisage.

I haven't been able to include much detail about how I actually do my work in such a short article so feel free to contact me if you're interested in this field.

## Bibliography

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Emmerson, S. 1986. "The Relation of Language to Materials." In S. Emmerson, ed 1986. *The Language of Electroacoustic Music* Basingstoke: Macmillan Pres. pp. 17-39.

Wishart, T. 1985. *On Sonic Art* York: Published by the author.

Wszelaki, M. and Joyce, S. 1992. *Wednesday 16mm Film*. Swinburne Film Department. Victorian College of the Arts.

## SECOND COMPOSING WOMEN'S FESTIVAL MELBOURNE

JUNE 29-JULY 3, 1994  
CUB MALTHOUSE

### INVITATION TO SUBMIT SCORES AND PROPOSALS

The Second Composing Women's Festival is planned for June 29-July 3, 1994 at the CUB Malthouse. The Festival aims to promote and celebrate the creative contribution women have made to Australian music. As well as a performance program, there will be a conference, sound installations/sculptures, workshops, a listening room and an exhibition. The Organising Committee wishes to invite women to submit scores and proposals for inclusion in all areas of the Festival.

For detailed information please contact Wendy Lasica, Planning Coordinator, (03) 417-7632. Scores, proposals and other documentation can be sent to:

Second Composing Women's Festival  
C/- CMEC  
3rd Floor 31 Victoria Street  
Fitzroy VIC 3065.

They should be received no later than October 1, 1993. Final Festival programming will be dependent on the levels of funding received.

## 1993 Tokyo ICMC

*The following is a list of accepted paper submissions from Australia for the forthcoming Tokyo ICMC. Congratulations to the authors. We hope we have not left anyone out.*

Monro, Gordon:  
Synthesis from Attractors

Pressing, Jeff and Lawrence, Peter:  
'Transcribe': A Comprehensive  
Autotranscription Program for the Macintosh

Pressing, Jeff, Scallan, Chris and Dicker, Neil  
Visualization and Predictive Modelling of  
Musical Signals Using Chaos Embedding  
Techniques

Scallan, Chris and Stainsby, Thomas  
A New Software Package for Spectral  
Investigation and Analysis/Synthesis Using  
FFT and Sinusoidal Modelling Techniques



# An Interview with Warren Burt

Stephen Adam

*Warren Burt has established himself as a significant figure in the recent history of Australian Experimental music. For the benefit of those who don't live in the southern states and those who came in late (not to mention those who have not seen the early issues of Chroma), a brief biography is appropriate.*

*Born in 1949 in Baltimore, Maryland, he studied electronic music with Joel Chadabe at SUNY Albany and later completed an MA at UCSD, his principal teachers being Robert Erickson and Kenneth Gaburo. Since his arrival to Australia in 1975 he has taught at La Trobe University, the Victorian College of the Arts and the NSW Conservatorium, among others. Perhaps more importantly, since 1981 he has been an active and prolific freelancer in the fields of music, video and interactive art and travelled widely, presenting and performing his work around the world. His most recent activities include performances in Spain, Poland, Switzerland and Australia.*

*The following material is transcribed from a taped discussion one rainy afternoon in June in Warren's St. Kilda flat, which he shares with his collection of books, tapes, electronic music paraphernalia and his impressive collection of analog synthesisers, digital music machines and penguins.*

At least some of the discussion touches on topics Warren covers in greater depth in his recently compiled manuscript:

**Writings from a Scarlet Aardvark  
15 Articles on Music and Art**

which is available through:  
Frog Peak Music,  
Box 5036, Hanover NH,  
03755, USA

**SA:** You've written a number of articles outlining the recent history of experimental music in Australia, with and without electronics. Where do you see experimental music, particularly with live electronics heading in the nineties now that music technologies are far more widespread?

**WB:** ...Intensification, hopefully. That is to say that the widespread availability of technology is a boon for those that know what to do with it, and it also means that it will be available to a lot more people. This probably also means that there will be a lot more idiotic music made with it, but keeping an optimistic face on things, one of the things that this stuff does is now make available the

dreams of the 20th century. Just one of the dreams of the 20th Century for example is easily available microtonality. Maybe to write a good bit of code to control something microtonally might actually take as much work as Harry Partch put into building the Marimba Eroica and in fact the Marimba Eroica will probably be around longer because technology goes out of date like that (snaps fingers) whereas the wood probably lasts for about 80 years (laugh). Easily available microtonality is one thing people have been longing for. It's now here and we can begin to explore it.

I just got four tapes from southern Californian composers centred around people like B. McLaren, Ivor Darreg and Jonathan Glasier and there's about eight hours of music there all written in the last three years that's really exploring the harmonic implications of things like 36 tones per octave, 35 tones per octave, etcetera.

That's just one area. Another area of course is with things that humans can't do, or physically, that fingers can't do. For example all the stuff with fractal mathematics wasn't possible before the computer because it would take too many person-years just to do all the calculations...Take a commercially available piece of software like Sound Globes. Could you imagine doing all the calculations by hand to get all those probability distributions happening? I think that in terms of technology, it makes the dreams of the 20th century easily realizable.

This may of course come at the time when the very concept of art music may be being thrown out the window by the business world. I was thinking that in the Sixties and Seventies there was this dream that maybe the artist would become obsolete in the utopian society of the future. Well, in the dystopic society of the future we now live in, the artist is indeed obsolete unless his or her work turns a dollar. We thought it might be some sort of socialistic utopian future, instead it's a capitalistic dystopian future and the artist is still obsolete. It reminds me of the old Jewish folk saying: Be careful what you ask for, you may get it. But somehow art music always has that wonderful tendency to keep existing without people wanting or needing it, and eventually people come to want and need it again.

**SA:** Leaving aside technology, what about contemporary experimental attitudes in art?

**WB:** This is probably going too far back and probably stretching it, and I'm happy to accept any accusations of that but I view most of the developments in western music as a revolutionary tradition and not an evolutionary tradition. That is to say if in twenty years from now you're writing the same music your teacher wrote you've failed no matter how craftsmanly or skilled you are at it.

**SA:** That's revolutionary isn't it?

**WB:** Yeah, and I view that as the Western tradition,



even in the era of postmodernism, because postmodernism of course is a revolution against modernist thinking. Postmodernism posits pluralism which is itself a revolutionary concept.

I feel like the significant developments of western music from way back when - pick a starting point 1400? 1500? - are essentially part of an ongoing tradition of intellectual experiment if you will; trying these different things out, developing these languages, playing with materials, never being satisfied with the status quo and never being satisfied with the existing language. Its like Indian music kept the oral tradition and so evolved very very slowly until the twentieth century, whereas with western music - we tend to think of the tape recorder and the phonograph as a big revolution. It may be that good, workable notation was as big a revolution in that you no longer had to rely on the oral tradition and that tape recording, computers, etcetera may be still just another form of notation but which now allows us the oral tradition again. It may be that all of our efforts at preserving things whether they be sound recordings or dots on paper is what has allowed western music to have this revolutionary tradition. I feel that the current bout of "experimentalism" is one more example of that continual dissatisfaction with the way things are.

It may be - it obviously will be - the case that in forty or fifty years that all the working methods that we found so interesting will seem dated and so on, but assuming the world continues, there will probably be someone that's really dissatisfied and pushing things and it may not have anything to do with what we think of as "experimentalism" but it will be part of that ongoing development of western music.

With the upcoming world music there is probably going to be one pop music with local inflections around the world. You can already see it, more and more when you go to international new music conferences, how boundaries are blurring. I'm as likely to write a piece in slentem, which is an Indonesian mode, as is any Indonesian composer these days. In fact, the Indonesian composer, if he's Harry Roesli, is probably going to be doing a piece for synthesiser and slide projector.

SA: And I guess we come back round to technology - and communications?

WB: Thinking globally acting locally; big cliché but it's true.. and we're all becoming much more linked. Being de-institutionalised as I am, I have until recently looked down my nose at computer networking just because it wasn't available to me. If it's not available, rather than long for it, it's better to be snooty about it, but in the past few days I've had access to the computer networks, having this small residency at RMIT that I do, and I was amazed. We needed one little bit of mathematical information so into X-archie, which is a network searching thing, they just typed in what I wanted and three seconds later - "Oh

look, somebody at the University of Queensland did that two years ago" - we just downloaded the file and there I was.

SA: Makes everything very fast doesn't it? It also points out how much (global) activity there is.

WB: There is that "new age" theory, and here I use the term "new age" not as a put down, that with all the things like telecommunications, computer networks and so on, what we're doing is building the nervous system of the planet, or if not the nervous system of the planet, certainly an interpersonal human nervous system. The good old telephone is part of that - it's like the beginning of it with radio and all the latest networking things. It just makes access to everybody's information that much quicker.

SA: We've strayed from our topic, but this brings up another issue I hoped to discuss. Computers and technology applied musically or otherwise are often criticized in terms of the way that they affect society (and human relationships) mostly through communications, entertainment and art.

What are your thoughts on this?

WB: Three things. Being the old politico that I am, I feel one of the most important things that has to happen, of course, before anyone begins to make art is that they have what Trotsky would have called "an articulate critique" or a world view or a political view or a moral view. This is the 'Reverend Burt' here being preachy and on a soap box, but I think that art without a moral standpoint to work from doesn't work; it's decoration. Decoration is lovely but it doesn't pay the psychic or interpersonal rent.

The second thing is that it's tools just like anything else. One can perfectly happily make a dreadful piece with a clarinet or a computer, or one can change the consciousness of the planet with both, or at least make a feeble attempt at doing that.

The third point is that with technology, the biggest danger is the way it sucks in people's attention. You can walk through any computer lab in any institution - academic, military or industrial - and see these people glued to their screens. You'll be talking to a person and the minute the sentence finishes, they turn back to the screen and their eyes are glued there - and they don't even hear you say goodbye. Computer "dronedom" has in fact abolished good manners. That's a trivial but I think incredibly significant point - or as Milton Babbitt once said, "trivial but not vacuous".

SA: That implies Marshall McLuhan's notion too, in that people become more preoccupied with the means than the end ("the medium is the message").

WB: It is of course very comforting. When your life's a mess and you really can't handle emotions and you can't handle the way people are dealing with things and you



don't want to express yourself and suddenly here is this mirror of yourself - the computer as mirror of your self, your intelligence, which in the early stages of programming, is throwing back complete frustration, but once you get your head around the programming, it's throwing back all these pleasant images of yourself, and it's so much nicer to "play with yourself" than it is to deal with other people. You just get sucked into this world. That's all well and good as long as you remember - is Mao Zedong still allowed to be quoted - "the problem is; literature and art for whom?". I don't look upon that in the narrow Marxist way, but rather, the problem is; who are you doing this for? Why are you doing this? What is the reason for it's existence and so on. If you have those problems solved, any medium you want to use, you'll be able to use it well, hopefully.

SA: As the database of available information increases both in terms of its mass and its flexibility of application, we're likely to be seeing far more intelligent behaviour on the part of the instruments of computer art. The classic thing today is that the relationship between your gestures and the resulting sound is very limited, but once that software world enmeshes itself to such a degree that we (may) get virtually organic behaviour, does it simply become a matter of performance because the software aspect of it is already a given?

WB: Well, let's think about the piano. At the moment, whenever say you or I do a piece with movement translated into musical control signals, we almost have to build it from the ground up. You built the video thing from the ground up, Simon Veitch's 3DIS - he actually had to build it from the ground up, I bought the (Buchla) Lightning because I was too lazy to do that; but still with the Lightning you're programming at a very low level. With all that stuff we have to build it from the ground up. You're saying that at some time in the future there will be big givens. This may be the case, in which case it may be the same problem we face now with the piano. The piano is not a static object, it was continually evolving until about the 1880's, and even today, minor things are happening with it; better sound boards, better stringing, and some major things are happening with it: Let's take the keyboard and also make it a MIDI controller and put in a little flipswitch so you can disengage the keys from the strings, like some of the MIDI grands are doing. That's an evolution of the piano, but basically there's this fixed box called the piano....If we were ever to arrive at the position where the software was fixed, it may be that it puts in as many barriers and offers as many opportunities as a semi-stable technology like the piano. On the other hand, because software gets easier and easier to write, maybe in fact, it won't stabilize; maybe it will keep evolving to the point where people lose interest in it or until the concept of software becomes obsolete. There may be another way of doing it. Or, instrumental stabilisation may be a product of economics. If it's cheap and easy to have a new system every morning, maybe some people (the non - lazy ones?) will continually choose that as a compositional option.

SA: But software still needs to evolve significantly to even remotely approach the behaviour of most acoustic instruments... I find your choice of the piano an interesting one, as the piano has a notationally oriented "interface", while the interfaces of most other instruments aren't representational; they are generally dependent on their (sound producing) mechanism.

WB: Well, you know Trevor Wishart's whole thing about 'oral' musics and 'scribal' musics - and the piano is in fact the ideal scribal instrument. The clarinet on the other hand is just a mess. The flute; you can bend all over the place. Sound on a violin actually exists on a continuum. Harry Partch said "the piano is the saddest set of black and white bars ever to imprison music" or something like that.

It's interesting. We are at the very ground floor of developing these movement instruments. I find two things so far; one thing is indeed the idea that we have so far to go before we're going to approach the subtlety of acoustic instruments and the other thing is: why would you want to imitate the characteristics of acoustic instruments? What I mean is, in a lot of cases, very simple sounds (the kind that "establishment" computer music types sneer at) can sound just great. A miswired transistor radio can produce an incredible variety of sound, in a way that would be totally impossible for the IRCAM digital workstation. So it's often a matter of how a sound is used, rather than how it conforms to earlier models of physical controllability. One of the things that analog synthesis - or to go back further, the organ - taught us was that in some cases, the "subtlety of acoustic instruments" may not be either necessary or desirable.

*Part 2 of this article will appear in the October issue of Chroma, as August will see the inauguration of the new journal of the Australian Computer Music Association.*

*Chroma* is edited by Stephen Adam and Thomas Stainsby. ©1993 Australian Computer Music Association, Inc. and the authors.

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## Concert Review

### Synthesizer Ensemble Concert

#### Open Stage, Melbourne University

Monday 5th April 1993

Jonas James  
Music Department  
School of Visual and Performing Arts Education  
Melbourne University

Melbourne University.....: the solid old oak of educational history in Australia's southern hemisphere; planted fast with roots running deep into the slabs of city street; founded on tradition, scholarship and conservative wisdom. It is therefore, with a sense of surprised excitement that one discovers the fruit of this age-old establishment to be a contemporary evening of electronic entertainment, such was the night of April 5 1993 as the University's Synthesizer Ensembles graced, or should I say interfaced, the Institute of Education's Open Stage.

The Institute of Education's Music Department is currently at the very 'cutting edge' of campus synthesizer ensemble development. As well as boasting of a substantial number of creative ensembles they also host several student-teacher collaborative performances throughout the year. The works performed vary from student compositions to those written specifically for the ensembles by professional composers and synthesizer outfits.

The Open Stage was no less than transformed by the event into a platform swarming with cables, keyboards and computers; it looked a bit like a living, light-flashing electronic brain; above, the audience waiting for it to start sending information. Craig Harris and Paul Cecchinelli, the opening ensemble, did just that; they kicked the MIDI-mountain into action with two outstanding contributions to the amateur synth repertoire. "Kinka" by Harris and "Journey Through a White Sandy Desert" gave us an excellent foretaste to both the musical capabilities of the equipment we saw before us and their own ensemble's brand of atmospheric and very electric pop. Delay, pitch bends and patch changes came with kinetic pace to form what was none other than an exceptionally live opening synth set.

Variety was the mark of the evening and before the M.C. had time to shutdown the power we were being hosted to another ensemble's compositional adventures into the realm of contemporary hip-house dance music. The audience was made aware of the range of genres that synthesizer music can be utilized in and this awareness didn't stop here; we travelled next to the seventeenth century, Gerry Ciavarella, sporting an innovative MIDI-wind instrument, piped out arpeggios from Bach's "Prelude No. 1", whilst accompanied on keyboard by his partner, Belinda Breeden. Later in the program a trio of

angelic young ladies expressed the atmospheric "Reflections of Love" by Luciano Menolasicna.

Vangelis, a name revered among synth buffs, and essentially the musical force that hoisted synthesizer music into the realms of popular and respected acceptance, is rarely absent from synth repertoire and such was his treatment on this evening; Andrew Brown's trio paid him homage with a powerful version of Chung Kuo. Again we saw the utilization of the midi-wind controller well-wielded by Mr Craig Wishart. This piece was also completed with a very well-blended gong and from this point on we saw the inclusion of a number of different acoustic instruments.

The second set opened with the funky-digit fusion ensemble Studi 2509 complete with grinding guitars, strutting saxophones and groove ad infinitum. "Zion" and "Walk..." by Mr James and Mr Scullin proved the accessibility of synthesizer technology in a contemporary rock/jazz context.

The awesome deep singing of the cello also confirmed the achievements in blending acoustic with electronic instruments in the last piece of the evening "Fluff" by Ian Eceles Smith, with Andrew Brown, co-ordinator of the synth activities at the Institute, making a guest show-closing appearance on this one.

The evening gave testimony to the ripe environment of electronic musical development that exists at Melbourne University's Institute of Education. The enthusiasm of the students involved and the quality of the various works and performances showed that this genre is rapidly expanding into the twenty-first century and the hope is that this and other future concerts will spark increasing interest and investment into this exciting progressive musical phenomenon.

### Forthcoming Concert

8pm August 30th

Hawthorn Town Hall

This concert featuring the IRCAM Signal  
Processing Workstation.

More details as they come to hand.



## Music and Creativity

### Call for Papers for a Special Issue of Connection Science

Over the last few years there has been a vertiginous growth in the connectionist exploration of many domains, including music. Music has traditionally been one of the least studied areas of cognition, in part because of the complexity of musical phenomena and their language-like connections between many levels and modalities of thought. But the application of network-based computational techniques to aspects of musicality and creativity has resulted in a variety of illuminating models. The time now seems right for an overview of the agenda being followed by connectionists in this area, the articulation of the central issues in the field, and a forum for the discussion of future directions.

To this end, we are inviting papers covering the whole field of connectionist modelling of music, arts, and creativity for a special issue of the journal Connection Science. Papers may be either empirical or theoretical, but must communicate predominantly unpublished ideas. We are particularly interested in receiving work in the following areas (although we emphasize music here, other areas of creativity and artistic endeavour may be substituted):

1. The limits and possibilities for connectionism in modelling creativity.
2. Modelling cognitive aspects of music: meter, rhythm, tonality, harmony and melody.
3. The use of neural networks in creating pieces of music, choreography, visual art, etc.
4. Modelling the integration of lower- and higher-level musical knowledge, including hierarchical representations.
5. The representation of intermodal relationships between musical dimensions, e.g. tonality and rhythm.
6. Developmental models of musical cognition.
7. Psychoacoustic models underlying categorical pitch and other musical phenomena.
8. Models of auditory streaming, attention, phrasing, and grouping.
9. Connectionist models of timbre.
10. Models of cross-cultural differences or universals.
11. Comparative models of music and language.
12. The use of sequential, recurrent, predictive, and chaotic network models for creative phenomena.
13. Cognitive neuroscience models of musical phenomena.

We are particularly interested in stimulating discussion with this special issue of the present and future of this field, and papers should explore the importance of issues raised by the research as broadly as possible. An awareness of the cognitive plausibility and implications of the ideas presented is also essential.

### Requirements for Submission:

All papers will be rigorously refereed. Guidelines for submission of papers to Connection Science can be found in issues of the Journal and are also available from [lyn@dcs.exeter.ac.uk](mailto:lyn@dcs.exeter.ac.uk) (or by mail from Lyn Shackleton, University of Exeter, address as below).

Authors are encouraged to contact the editors with any questions about proposed papers or the relevance of their work for this special issue.

Authors must submit five (5) printed copies of their papers to either of the addresses listed below by OCTOBER 15 1993. Each copy of the paper should be fronted by a separate title page listing its title, authors, their addresses, surface-mail and E-mail, and an abstract of under 200 words. Notification of receipt will be electronically mailed to the first (or designated) author. Notification of acceptance or rejection will be mailed by DECEMBER 31 1993. Final versions of accepted papers will be due MARCH 1 1994.

### Special Issue Editors:

Niall Griffith  
Department of Computer Science,  
University of Exeter,  
Prince of Wales Road,  
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100 Edwin H. Land Boulevard  
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### List of Tools for Algorithmic composition

*The following has been lifted from the internet. It is incomplete (for example, Max is conspicuous by its absence), but we hope it is still helpful.*

To use this information:

Check to see which programs are supported on your platform, then move down to read about that program. Please send any corrections/additions to the list to Leonidas Hepis at [LHEP\\_LTD@uhura.cc.rochester.edu](mailto:LHEP_LTD@uhura.cc.rochester.edu).

The horizontal lines are meant to make the grid easier to read, not to group programs in any meaningful way. Also, the lack of an 'X' under a platform does not necessarily mean that the program doesn't exist on that platform, only that I don't know about it. (Maybe in the future, I'll replace the X's with approximate prices in the US - any objections?)

All appropriate Disclaimers apply! I am not responsible



for any loss of money resulting from making this list public, etc.... Same goes for all the contributors.

	Mac	IBM	Amiga	Atari	NeXT
M	X		X		
Common Music					X
HMSL	X		X		
Powerchords		X			
ForthMox				X	
AlgoRhythms			X		
Mouse	X				
Jammer		X			
Markov_SMUS				X	
Hyperupic					X

## M

John Eichenseer hatter@cs.utexas.edu writes:

I use M on the Macintosh a whole lot. It is a pattern-based algorithmic composition tool. Especially when working with rhythms and textures, this program has been invaluable to me for getting down ideas and refining them, as well as encouraging the sorts of happy mistakes that lead to new material. Lots of fun.

The biggest limitation is that you only have four note generators to control... there are all sorts of ways to transcend the limitations of the program, though...

## HMSL

Steven M. Miller smill@eskimo.celestial.com writes:

HMSL is a full-featured programming environment with graphical user interface tools, full MIDI and custom device driver support, and comes with full source code. HMSL is implemented in object-oriented Forth, and as such is fully extensible by the user, if desired. It runs on Mac & Amiga platforms. I have been using HMSL for composition and live performance for 5-6 years.

Also, Matt rogalsky@sfu.ca writes:

HMSL has all kinds of tools for data manipulation and MIDI handling. It is easy to create new object classes to perform the kinds of tasks one needs done.

## Powerchords

Sean Hayes esh@hplb.hpl.hp.com writes:

I use Powerchords: a Windows 3.1 app. Has a guitar oriented interface, great for knocking up little 12 bar backing tracks and stuff. Not much chop for writing the next big rock opera.

## ForthMox

Matt rogalsky@sfu.ca writes:

I owned an Atari and used ForthMox, developed by Daniel

Scheidt of Vancouver Canada. It is a fancy scheduler allowing complex MIDI manipulation.

## AlgoRhythms

Thomas E. Janzen tej@world.std.com writes:

A GUI-based Automatic Composition program for MIDI only in C. Platform: Commodore Amiga (TM); V 2.0 available in the Freely Distributable Amiga Library, Fred Fish (disk #606), ed., Tempe AZ USA. A paper about it is in "Readings in Computer-Generated Music", IEEE Computer Society Press 1992, ed. Denis Baggi. Can save its own output as a MIDI file. Saves and reads its own text form files (summarizing the musical form). Developed by Thomas E. Janzen, tej@world.std.com. (508) 562-1295 USA.

## Mouse

Diane Bubbles@cup.portal.com

"Mouse" is written for the Mac. The mouse controls the lines or chords, and I can set "diatonic," "pentatonic," "middle eastern," etc. tonalities. When I use this with pipe-organ sounds, I can simulate some French "contemporary" organ composers whose compositions are VERY difficult to play.

## Jammer

Dragon(David Fiedler) <david@infopro.netcom.com>

Don't know if this helps, but I've been using a program called The Jammer and it is \*tons\* better than BIAB. The Jammer is set up kind of like a sequencer; it has various "tracks" (basically, voices that can play rhythm, melody, or bass lines) that you can adjust, set up patterns for, or use "probability theory" (i.e. set the likelihood of a rhythm pattern to use downward arpeggios to 27%, or that the melody will be composed of notes from the pentatonic scale to 30%, blues scale 50%, and major scale 20%). You can put in chords or have The Jammer write progressions for you in a choosable style (and edit the styles too). Runs on DOS with MIDI. The Jammer Pro costs \$175, there's also a limited version that is \$88 or so.

Also, Art Blake blake@eng.tridom.com writes:

The Jammer received editor's choice in the Dec '92 issue of EM. The Jammer also got another smaller review in The year's hottest Products (I think) in the Oct '92 issue.

## Markov\_SMUS

Jeff Harrington idealord@dorsai.dorsai.org writes:

Nick Didkovsky's SMUS File Markov generator. Takes an Amiga SMUS file and creates new SMUS files via Markov processes. (SMUS files are IFF files (Amiga standard file format) for music. They are simple and are based on note length instead of realtime temporal positioning. The basic format is MidiPitch# NoteLength# Velocity(optional) for each track.)



## Hyperupic

Christopher Penrose [penrose@silvertone.princeton.edu](mailto:penrose@silvertone.princeton.edu) writes:

I have written a program for 68040 based NeXTstep computers called Hyperupic. It allows people to use color images to generate sonic textures. The textures can use synthetic waveforms, or complex soundfiles as source input for the resultant sounds. I have used it to compose a great deal of music. It is available for free, via anonymous ftp: [princeton.edu /pub/music/Hyperupic-1.6.tar.Z](ftp://princeton.edu/pub/music/Hyperupic-1.6.tar.Z)

## Common Music

Cody Coggins [coggins@phoenix.princeton.edu](mailto:coggins@phoenix.princeton.edu) writes: I've used Common Music on the NeXT for algorithmic compositions. It is an extension of Common Lisp that gives you "item streams" and macros/functions for creating scorefiles. Scorefiles are then played back by the DSP chip through the Music Kit (an Objective C library)

Rick Taube writes:

1) Common Music does not run only on the NeXT. It currently runs on Macintoshes, NeXTs, Suns and SGIs. I am actively porting it to 486/Windows, and someone else is planning to port it to the 486/Linux environment later this summer.

2) Common Music does not need a dsp chip to produce music. It can output to most generally available sound synthesis programs: Csound, Music Kit, MIDI, Common Lisp Music, which may or may not use a dsp.

3) Common Music does not (necessarily) need to write scorefiles, this depends not on Common Music, but rather on what the combinations of hardware, os, and synthesis packages support. For example, on the NeXT and Mac, it is possible to generate MIDI output in real time directly to the midi drivers, and direct-to-soundfile for Common Lisp Music. I will be implementing a real time connection to the Music Kit for NextSTEP later this year, as well as midi real time on the SGI.

4) Common Music is indeed an "extension of Common Lisp", but it also contains a composition editor called Stella that supports a non-lisp style of interaction with the system.

5) The source code to Common Music is free. the latest version of it may be gotten through anonymous ftp on either [ccrma-ftp.stanford.edu](ftp://ccrma-ftp.stanford.edu) or [ftp.zkm.de](ftp://ftp.zkm.de) in the file [pub/cm.tar.Z](ftp://pub/cm.tar.Z)

Rick Taube  
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## Powerbook stuff

This letter contains the sum of Atomic City's current knowledge of MIDI with respect to the Apple Powerbook computers, containing the findings of recent tests of the 100, 140, and 170, combined with late-breaking new results. We hope you find it useful.

### A. THE POWERBOOK 100

The 100 works fine if you keep in mind that it's only a 16MHz 68000; Finale can make it choke. Old versions of Alchemy won't boot, but that's not a PB problem. The "big name" software we were able to try (Performer, Vision, Cubase, UpBeat, Galaxy, and MAX) runs fine. It's a good idea to disable Appletalk, and have software up and running under MIDI Manager. (Actually, on the 100, you MUST disable AppleTalk, as it will grab and munge the only available port for MIDI, the printer port.) If you use Opcode stuff, OMS goes a long way toward deglitching your work. We weren't able to test everything in the universe (the test occurred as part of a recording session, not as an end in itself, but that fact got trimmed from the article in EM), but here are some highlights....

1. The older version of the MTP desk accessory won't run, but the MTP-II utility, which runs under MIDI Manager, should be fine. In Nick's words: "The MTP-II DA will run with MIDI Manager, so using that (via OMS for example) should be OK (and this is the main reason that I'm considering buying an MTP-II). I don't know if the MTP-II DA runs on a PB100 using its own drivers. Oh, unless I'm mistaken, the MTP-II software is a proper application rather than a DA; but I could be wrong."

The PB100 can run reliably at MIDI speeds - just. Any faster communication speed (such as MTP's fast handshake) will not work reliably. To be honest, I've never (in two years of MTP use) noticed any improvement in using fast handshake. If that limitation is understood and nothing faster than ordinary 1MHz mode is attempted, the PB100 printer port can handle the MTP, MTP-II, and any Opcode interface up to but possibly not including the Studio 5.

2. MAX handled a patcher designed on the IICI, one that was designed to kill portables (and really hung up an Outbound 2030 badly), on the PB100 without breaking a sweat. Nick points out that MAX performance can be sluggish on the PB100 with really big patchers, but that's true of any Mac-- you just have to determine the limits of "really big" by trial and error with your particular platform. I should point out that Nick uses MAX as a controller-data remapper for live performance with CASSIEL, and places tremendous burdens both upon the code and the computer running it.

3. UpBeat ran like a dream.

4. The worst timelag we got with Performer was when



pumping eight MIDI streams of arpeggios through the MTP from another Mac into the PB was about 2 milliseconds. Not a major issue.

5. Galaxy handled input and output of bundle data from the worst synths in our rig, the Roland D-70 and Korg Wavestation EX, without a hiccup. Repeated attempts could NOT produce a failure with ANY synth SysEx dump. We tested Oberheim, Sequential, Korg and Roland gear without a hitch.

6. Vision and Cubase were not tested as extensively as Performer, but they run, do not lose input data, and no noticeable timing glitches were found, although the torture tests weren't as heavy-duty as the one for Performer. I am currently using Vision on my PB100 with an Opcode MIDI Translator interface, and it works like a charm.

## B. THE POWERBOOK 140, 145, AND 170

Nick Rothwell owns a PB140, which he only considered reliable for output (it lost a LOT of data on input, not just long sysex dumps. Apple was wrong on that point, as on many other points) until a recent Tech Note suggestion by Apple was augmented and implemented by Opcode in a new version of OMS, 1.2beta. Under 1.2b, the input problem is solved, but incoming data loses its timestamping. We're still testing just how bad a problem these 6 msec hiccups can be. NOTE that this fix only works for interfaces attached to the Modem port! The printer port is and always will be unreliable, apparently, for input. In his own words, Nick says: "I haven't hammered my machine heavily yet (and won't be doing until the next live project I have to prepare, in which case I'll be using both PowerBooks), but the tests I did (including SMPTE lockup) suggested the PB140 is OK. 6msec isn't too bad, but you can hear/feel that length of time." The 170 should have no differences in performance than the 140 or 145.

## C. FUTURE DESIGNS

According to the latest technical data, the 160 and 180 will suffer from the same problems as the 140, 145, and 170. There is not enough data available to render a judgement on the Duos. We are not authorized beta testers of these machines, and cannot promise any early results at this time. If we do learn something of use, we will see to it that the Editor of EM, who has been very kind and helpful in his efforts to relay our findings to a larger audience, will hear of it and pass it along.

We hope this helps possible Powerbook buyers with any decision they make. Our findings neither carry nor imply any guarantees from ourselves or any of the manufacturers involved (especially Apple!).

We would, in closing, like to compliment Opcode on the excellent reliability of OMS on the Powerbooks, and to

thank Doug Wyatt for the 1.2beta patch that renders the costlier Powerbooks at least partially reliable. (We would also LIKE to express our opinion of Apple's handling of the whole MIDI question, Powerbook and MIDI Manager support included, but we'll refrain for legal reasons.)

Please feel free to write or email me with any comments; we do not plan any addenda to this study at this time, but circumstances may change.

Dr. Michael Metlay  
Atomic City Productions  
P.O. Box 81175  
Pittsburgh, PA 15217-0675  
metlay@netcom.com

Many thanks to Dr. Nick Rothwell of CASSIEL for his technical expertise, and to Mr. Eirikur Hallgrímsson of DEC for his input and encouragement.

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## A Call for Videos

The International Computer Music Association  
1993 Video Review of Computer Music Research

You are invited to submit a video presentation for inclusion in the video review which is published by the International Computer Music Association. Appropriate topics include: interfaces, performance systems, instruments, controllers, and music visualization. Excerpts from performances that have a unique visual component or historical interest are also eligible.

The review will be published in both NTSC and PAL formats and will first be available at the 1993 International Computer Music Conference in Tokyo.

Contributions should be in the range of 1 to 10 minutes, ideally referencing ICMC proceedings or other publications for more detail. Potential contributors should send a brief description of material, including: name, address, affiliation, videotape format, subject matter, approximate length by electronic or regular mail to:

Robin Bargar  
National Center for Supercomputing Applications  
(NCSA)  
605 E. Springfield Ave.  
Champaign, IL 61801  
Email: rbargar@ncsa.uiuc.edu

Preferred submission formats: 3/4-inch U-matic, and Betacam. VHS will be considered though it presents significant quality control problems.

Interested contributors should respond soon for further information.

Deadline for submissions is July 20, 1993.



## Two Workshops in Electronic and Computer Music

TIMARA Program  
Conservatory of Music  
Oberlin College  
July 18-25 & July 26-31

Gary Lee Nelson, Director

The Conservatory of Music at Oberlin College invites you to participate in the 1993 workshops in electronic and computer music. We started these workshops in 1986 so this will be our eighth year. Most of our students have been of high school age, but we welcome people from other colleges. We also invite teachers and other professionals. These workshops are for anyone who wants to enrich their understanding of new music media.

Daily lectures and demonstrations will introduce you to each topic. Supervised laboratories will guide you through hands-on experience with new technology. Listening and discussion sessions will expand your familiarity with the literature of electronic music. We will give special attention to the esthetic issues raised by this new way of making music.

The workshops are progressive and focused on original composition. The program provides continuity with minimal overlap or repetition in the two weeks. Former students have benefited most by attending both weeks. If you enroll for only one week it must be the first week. In the second workshop we build on the skills you acquire in the first.

The workshops are Macintosh based and the topics we cover include:

- sequencing (Performer, Vision)
- music printing (Finale)
- synthesizer programming (Galaxy)
- sampling (AudioMedia, Alchemy, SoftSynth, TurboSynth)
- alternate MIDI controllers
- algorithmic composition (M, MAX)

If you want a more detailed description via email, send a message to:

[fnelson@ocvaxa.cc.oberlin.edu](mailto:fnelson@ocvaxa.cc.oberlin.edu)

If you want a brochure and registration forms, include your snail mail address or write directly to the address below.

Office of Outreach Programs  
Conservatory of Music  
Oberlin College  
Oberlin, OH 44074  
(216) 775-8044

## Workshop in Computer Aided Composition

September 17-26, 1993  
Zentrum fuer Kunst und Medientechnologie Karlsruhe  
Institut fuer Musik und Akustik

This ten day workshop focuses on the computer as a tool for composition independent from its role in digital synthesis and covers such topics as:

- algorithmic composition and layout
- pattern description in parameterized data
- score editing
- interactive musical input

The workshop is open to composers with previous experience in computer assisted composition or digital synthesis. Familiarity with a computer programming language (C, Pascal, Lisp, Smalltalk, etc) is desired but not required. The workshop will be taught using Common Music and Stella, which provide a hardware independent environment supporting a number of synthesis packages such as the Music Kit, Common Lisp Music, CSound, MIDI. To remain as general as possible, concepts will be introduced and demonstrated using MIDI control of external synthesizers, but composers who wish to work with one or more of the other synthesis possibilities during the workshop are free to do so. ZKM will provide a mixture of NeXTs and Macintoshes; composers may bring their own machines as well. Source code, documentation, and directions on how to install the software will be provided to the participants at the end of the workshop.

The course will be led by Rick Taube. He developed Common Music and Stella, is a composer and works as a software specialist at the Institute. Tobias Kunze, a Berlin composer, will assist and support the participants. The workshop has been limited to ten participants. Classes will be taught in English and German; the handbooks are in English. The registration fee for the course is 500 DM, for students 250 DM.

For more information contact:

Zentrum fuer Kunst und  
Medientechnologie Karlsruhe  
Ritterstr. 42  
7500 Karlsruhe 1  
Germany

Email: [music@zkm.de](mailto:music@zkm.de)  
Tel: +49 721 9340 300  
Fax: +49 721 9340 39



**MEATA Music Technology  
Week - June 21-25 1993**

**Concerts:**

Performance Centre  
Eltham College,  
Main Road,  
Research.

**A:** *Student Compositions*  
*Talent Search Entrants*  
*Melbourne University*  
*Synthesizer Ensemble*

**Tuesday June 22 8pm**

**B:** *Musicians at the Interface*  
*Warren Burt     Rob Vincs*  
*The Mighty Limpets*  
*Student Composition*  
*Talent Search Finalists*

**Thursday June 24 8pm**

**Workshops:**

A variety of workshops covering:  
Multi-track recording,  
Technology and performance,  
Sequencing and Sampling.

For further information contact:

**Julie Lindsay**  
**ph: (03) 437 1421**  
**fax: (03) 437 1003**

**BRIGID BURKE**

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**COMPUTER MUSIC FROM SPAIN**

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**Elsa Justel**  
**R. Gonzalez Arroyo**  
**Andres Lewin - Richter**  
**Brigid Burke**

*4pm, Saturday 26th June*  
*Elm Street Hall, 2 Elm St.,*  
*North Melbourne.*

\$8, \$6 concession

**Contemporary Music Events  
Company**

presents

**La Mama Music Series**  
**Electronic Music Concert**

featuring  
**Tom Fryer, Amelia Barden and**  
**Steve Heather**

and

**The Mighty Limpets**  
(**Stuart Favilla, Joanne Cannon and**  
**Adrian Sheriff**)

*2pm, Sunday 18th July*  
*La Mama Theatre*  
*Faraday St., Carlton.*



#### ACMA Contact List

To contact any of the persons mentioned in this issue or for any other information, feel free to write to us at our new address:

ACMA, Inc.  
PO Box 186  
Post Office Agency  
La Trobe University VIC 3083

Electronic mail can be sent to :  
mussa@lure.latrobe.edu.au or...  
stainsby@klang.latrobe.edu.au

or fax:

(03) 479 1700 (c/- music dept. La Trobe Univ)

Alternately, you may wish to contact us individually on the following phone numbers:

Stephen Adam (03) 489 6218(AH)  
email: mussa@lure.latrobe.edu.au

Andrew Brown (03) 344 8721 (BH)

Jason Hellwege (03) 479 1390 (BH and AH)

Michael Hewes (059) 87 1396(BH and AH)

David Hirst (03) 479 1502 (BH)

Anthony Hood (02) 882 8343 (BH)  
(02) 428 1734 (fax)  
email: ianf@extro.ucc.su.oz.au

Thomas Stainsby (03) 479 2334 (BH)  
(03) 497 4936 (AH)  
email: stainsby@klang.latrobe.edu.au

#### 1993 ACMA Committee

President: David Hirst  
Vice-President: Michael Hewes  
Treasurer: Andrew Brown  
Secretary: Thomas Stainsby

## Synthesizer Ensembles Concert

Students of the University of Melbourne,  
Institute of Education

**Tuesday September 21st**  
**7.30 pm**

**The Open Stage,**  
**Arts Education Building**

**Cnr. Gratten and Swanston Streets,**  
**Carlton**

\$5.00, \$3.00 conc.

**Contact Andrew Brown for Details**  
(see contact list opposite)

## CompMusic '93

### Carpooling Arrangements

As a large group of people are travelling from Melbourne to Sydney for the symposium, carpooling is being organised by Thomas Stainsby, ph. (03) 497 4936. I am also willing to be a contact for persons from interstate wishing to organise similar carpools.