Vol. 15, no. 1, Spring 1995

Array

Communications of the ICMA

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ARRAY
Spring 1995
Volume 15
Issue No. 1

***ARRAY* is the triannual publication of the International Computer Music Association.**

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Publication of this *ARRAY* was made possible, in part, by a grant from the National Endowment for the Arts, USA.

A note from the editors

This issue of *ARRAY* marks a change in editorial policy regarding the newsletter. Over the past several years, we have become more and more dissatisfied with the "ANNOUNCEMENTS" section of *ARRAY*. Many times we find that we are simply duplicating information already disseminated through the Internet, or that we are unable (given the publishing constraints of *ARRAY*) to deliver the information in a timely manner. We have also heard complaints along these same lines from various ICMA members.

In response to these problems, we asked the ICMA Board of Directors to consider a revised *ARRAY* publication schedule along with a change of focus for the newsletter. Beginning with this issue, the "ANNOUNCEMENTS" section will be greatly reduced, the intention being to publish in *ARRAY* those announcements not easily obtained elsewhere. Of course, we recognize the importance of getting as much relevant information about computer music to the ICMA membership (even if it means a duplication of effort) as quickly as possible. For this reason, the bulk of the announcements we would normally consider publishing in *ARRAY* will be sent to members over the ICMA electronic mailing list (icma@umich.edu). Our goal is to help establish the mailing list as an active and vital part of the ICMA activities, functioning with the ICMA software library to maintain a strong Internet presence for the ICMA. "ICMA News" will still continue to appear in each *ARRAY*, and selected announcements will also be part of the newsletter. But the bulk of the announcements we receive or collect from other sources will now be sent electronically.

The Board of Directors approved the change of newsletter policy at the 1994 ICMC in Aarhus. Because of this shift, *ARRAY* will now be published three times a year. Our hope is to continue making *ARRAY* a real organ of communication among ICMA members and not just a glorified bulletin board for postings of jobs, software announcements, etc. We would like to situate *ARRAY* somewhere between the 'lofty prose' of academic journals and the free-for-all anarchy of Netnews "articles". We feel that *ARRAY* can serve an important purpose by fostering extended discussions on issues central to our field that are not readily addressable in a technical journal. Ultimately *ARRAY* can only become what you want it to be. The constant cry of most newsletter editors is "tell us what you think!" — we are certainly not an exception to this. If you think this new *ARRAY* policy stinks, let us know! If you believe that computer music is a misguided and wrong-headed human venture, write us an article! If the latest computer music concert you attended was a truly wonderful mind-bending experience, drop us a review! We hope to hear from you soon.

Brad Garton and Robert Rowe

NOTICE TO CONTRIBUTORS

The deadline for submissions for the next issue of *ARRAY*, Vol. 15, No. 2, is **March 15, 1995**. All submissions to *ARRAY* must be in machine-readable form. You must submit items using electronic mail or on a floppy disk (either Macintosh or IBM). If you submit anything solely as hard copy, it will not be considered for publication in Array. If you send a submission on floppy disk, please send two copies: one as a plain ASCII text-only file, and the other copy as the file that your word processor uses.

Please do not use any formatting other than italics and bold face. If you wish to include graphics with your submission, please do so in TIF or EPS format only. It is helpful if you can include a hard copy as well. If you would like your disk returned, please include a self-addressed, stamped return envelope.

Send *ARRAY* submissions to :
ARRAY/International Computer Music Association
Suite 330, 2040 Polk Street
San Francisco, CA 94109
e-mail: icma@sjsuvm1.sjsu.edu

Email submissions and inquiries will receive the quickest response.

ICMA News

Not_just_even_more_idle_icma_chatter:
Allen Strange, President

(Sorry Paul, the opportunity was too tempting)

Happy New Year from the Officers and Board of Directors of the International Computer Music Association. Bouncing from the success of the 1994 ICMC in Denmark, the ICMA greets 1995 with a full slate of projects. First, however, official acclamation goes to Lis Fihl and Wayne Seigel for their organization and presentation of the 1994 ICMC. Since my involvement with the ICMA in 1990, people have commented on the various "personalities" assumed by the various ICMCs. 1990 in Glasgow was "proper and sound" (the pun is intended!), 1991 in Montreal was "lush", 1992 in San Jose has been described as "laid back" (although not from my perspective), and 1993 in Tokyo was "bright". I think the adjective for 1994 in Aarhus has to be "neat." The organization was indeed a model and the presentations were first class. In consideration of the extensive dependence on technology, the concert stages were amazingly "neat." It was a delight to be able to focus on the performances without an interfering assortment of cables, black boxes and screens. This metaphor was typical of Aarhus conference in general. Many conferees have commented on the elegance of the Musikhuset, beauty of the town, and the friendliness of the ICMC staff and Aarhus community. Thanks again to Wayne, Lis and the ICMC 94 staff— you made our visit a memorable experience.

Now on to ICMC 95 in another spectacular setting, The Banff Center for the Arts in Canada. ICMC 95 *Digital Playgrounds* promises to be a unique experience. With the recent success of The Tuning of the World conference The Banff Centre for the Arts is an obvious choice for the 20th anniversary of the International Computer Music Conference. For over twenty years The Banff Centre has nurtured artistic and intellectual innovation. With a custom designed facility for a variety of performance media, a complete conference infrastructure, a history of support for the arts and related technologies, and the grandeur of the Canadian Rockies, this is the ideal location for the annual gathering of the diverse membership of the International Computer Music Association. I applaud Kevin Elliott, Connie MacDonald, the ICMC '95 Planning committee, their colleagues at Banff and the Canadian Electro-Acoustic Community for undertaking the organization of this conference. I am sure the efforts of these people will result in an enjoyable and unique experience for the ICMA membership. See you at the playground!

Please be reminded that ICMA members who are paid through Dec. 31, 1995. will receive a 25% discount on ICMC Registration Fees and a waiver of submission fees.

Looking a bit further into the future, the ICMA has accepted the bid from the Hong Kong University of Science and Technology for the 1996 ICMC. Conference director Lydia Ayers and co-director Andrew Horner are already preparing a gamut of unique venues and activities for our members. We eagerly anticipate the official unveiling of ICMC 96 plans in Banff this year.

Business News:

One of the concerns of the ICMA Board and Officers is the development of the international membership and activity. Related to this is a need to develop tools for attracting official ICMA and ICMC funding beyond the boundaries of the United States. In response the ICMA has established three operational regions: the Americas, Europe and Australasian. While these regions exist in concept, the actual zoning of various countries is still under discussion and a sub-committee has been established to facilitate the chartering all three regions. The ICMA Board and Officers did meet with Dr. Shuji Hashimoto, the ICMC 93 Head Secretariat, during the Aarhus conference. Our Japanese colleagues are supportive of this plan and strategies are currently being developed for the establishment of the Australasia ICMA Region. The Regionalization Sub-committee also met with representatives of several European computer music communities during the Aarhus conference and there is very positive support for these plans.

Designs for regionalization has logically necessitated an expansion of the ICMA Offices. At the annual ICMA Board Meeting in Aarhus it was voted to represent these regional by the addition of three new ICMA Offices. There shall be three Regional Vice-Presidents appointed for each of the Americas, Europe and Australasia regions. They will be responsible to the Vice-President to develop membership in their nominated regions, maintain regional branches of the ICMA according to the laws of the country of incorporation and to propose to the Board regionally based activities which advance the general aims of the Association. These offices will be filled as the regionalization plans begin to solidify.

Another change in the ICMA Bylaws adapted at the 1994 Board Meeting involved providing ICMA the power to establish beneficial affiliations between the Association and other duly organized not-for-profit associations dedicated in some part to activities and or services in the art and science of computer music. The first such affiliation is with Centaur Records Consortium to Distribute Computer Music. By mutual agreement with ICMA and CDCM, a 5% discount on all compact discs in the CDCM Series is available to ICMA members (see page 6).

Projects:

Several new projects have already been announced with the ICMA Christmas Greeting sent several weeks ago.

The International Computer Music Association is collaborating with ARTnet on the *Bits 'n Pieces* computer music anthology project which will be of interest to all ICMA members. The basis of the project is the creation of a ninety minute collection of computer music compositions to be placed in a virtual art museum and made available for public performance via the World Wide

Web. The last *ARRAY*, Vol. 14, #3, featured an article about ARTnet's activities . An international jury of five ICMA members will select 90 minutes of music submitted by ICMA members and this music will be made available for WWW performances. Submission deadline for this project is Feb. 1, 1995.

Speaking of the World Wide Web, our colleague Robert S. Newcomb at Dartmouth University has launched the official WWW ICMA Home Page. Among other things, this cite hosts the ICMA Software Library which has attracted considerable international interest in the first months of its existence. Many thanks go to Robert for this work - it was time consuming and extensive service to the ICMA. For details please see page 4.

With the completion of the ICMA Proceedings' Index we have now moved on to a similar project for the composers. *The ICMA Composers' Registry*, a database of compositions by ICMA members, will be compiled and available at the 1995 ICMC in FileMaker Pro format on disc and also posted on the ICMA Web site.

Through the efforts of Paul Berg and Martin Scrivener, Swets & Zeitlinger Publishers in The Netherlands is sponsoring an annual Swets & Zeitlinger Distinguished Paper Award. The annual award will consist of a $500 (US) prize and publication in the *Journal of New Music Research.* The first award will be presented at the 1995 International Computer Music Conference, Digital Playgrounds, in September.

If you did not receive these announcements please contact ICMA immediately as deadlines are approaching.

The 1994/95 Technical Video Report is nearing completion and will be available at discounted prices for members this Spring. This edition of the Report contains the following entries:

Hideyuki Morita, Shuji Hashimoto, and Sadamu Ohteru
A Computer Music System that Follows a Human Conductor
Lorin Grubb and Roger Dannenberg
Ensemble Accompaniment
Chris Van Raalte and John Zane-Cheong
The BodySynth
Perry Cook and Dexter Morrill
The Cook/Morrill Trumpet
Perry Cook
Stanford Voice Projects
Roger Dannenberg
The Use of AI and Robotics Techniques in Interactive Composition
Jon Drummund and Gordon Monro
Sound Imaging Through Lagged Embedding

ICMA Commission Awards

Cort Lippe, Vice President

The 1994 ICMA Commissioning Awards were announced at the 1994 ICMC in Aarhus during the annual conference banquet. The winners of this year's awards are Carla Scaletti of the USA and Jonty Harrison of the United Kingdom. Their commissioned works will be premiered during the 1995 ICMC in Banff.

Twenty-three nominators from 14 countries were asked to nominate between one and three composers for the award. A total of 40 composers from 15 different countries were nominated. A panel of 6 judges, including, Gabriel Brncic of Spain, George Lewis of the USA, Bruce Pennycook of Canada, Jeff Pressing of Australia, Andrea Szigetvari of Hungary, and Kazui Uehara of Japan, made the final decisions based on representative works and a project proposal submitted by each composer.

The ICMA would like to thank everyone who participated in this year's process, with a special thanks to the six judges and to Allen Strange, who patiently dealt with many of the administrative tasks surrounding the commissioning program.

Financial Report

Rodney Waschka, Treasurer
(All amounts are in US Dollars.)

In the 1993 fiscal year (July 1, 1993 to June 30,1994) the ICMA had a total income of $43,975. The ICMA began the fiscal year with a positive balance carryover from the previous fiscal year of $33,000. Income sources included money from a National Endowment for the Arts (USA) grant: $4022; ICMC-related income: $4588; and the vast majority of the remainder from individual membership dues and publications orders.

Expenses in the fiscal year included printing costs (ARRAY, Proceedings, etc.) of approximately $13,000; postage costs of approximately $7000, recording project costs of 11,250; ICMC-related expenses of approximately $14,000; and general administration costs of approximately $8,500. Total expenses were approximately $54,200. The income/expense totals were in line with what was budgeted by the Board and Officers at the 1993 meeting in Tokyo.

Thus, the ICMA began the 1994 fiscal year (July 1, 1994 to June 30,1995) with a positive balance carryover of $22000. Estimated income for the current fiscal year includes $26,295 in membership dues; $17,500 in publications orders; and $13,000 in ICMC-related income. The Board and Officers estimate total income will be approximately $58,000. Together with the carryover, the total budget amount is therefore approximately $80,000.

Approved expenditures for the current fiscal year include: ICMC-related expenses of approximately $22,000; recording project expenditures of $3,500; research video project expenses of $2,500; publications expenses of $14,205; and administrative expenses including postage and mail service of approximately $18,000. The estimate is that total expenditures for the current year will be approximately $60,500; leaving a positive balance carryover into fiscal year 1995 of approximately $19,500.

News From South America

by Ricardo Dal Farra, Estudio de Musica Electroacustica.

"X National Week of Electroacoustic Music" - ARGENTINA

From October 24 to 29, 1994, was held the "X Semana Nacional de los Medios y la Musica Electroacustica" in Buenos Aires, Argentina. More than 30 Argentinian composers were presenting electroacoustic and computer music during the event. The pieces programmed were:

Mia, mia by Javier Leichman, *La melodia perdida* by Jorge Villar, *Biosfera uno* by Jorge Rapp, *Divertimento III* by Julio Viera, *Acusmaclip 2: Las relaciones peligrosas* by Enrique Belloc, *Arco Voltaico* by Teodoro Cromberg, *Paradiddles* by David Horta, *Mestizaje* by Gonzalo Biffarella, *La*

ICMA News, continued

morada del condor by Eleazar Garzon, *Incursiones en el AREM* by Francisco Kropfl, *Apocalypse was postponed due to lack of interest* by Juan Carlos, *Pampin, Set in* by Martin Fumarola, *El otro espejo* by Raul, *Minsburg, Sonoridades* by Dante Grela, *Cancion guerrera* by Juan Carlos Figueiras, *Tres piezas breves* by Carlos Cerana, *Espectro embudo* by Marcelo Cossentino, *Las ultimas luces* by Hugo Druetta, *Otros lugares* by Ricardo Perez Miro, *Movimientos urbanos* by Edgardo Martinez, *Ambientes infectados* by Marcelo Ajubita, *Agua sobre el cielo* by Jorge Naparstek, *Il codice assente* by Jorge, *Sad, Wind ... again* by Osvaldo Budon, *Renacer* by Ofelia, *Carranza, La llave de cristal* by Daniel Zimbaldo, *Recorda-Te'N* by Sergio Fidemraizer, *Tiempo quebrado* by Daniel Schachter, *U mare Stromboicchio e' chidda luna* by Carmelo Saitta, and *Mel18* by Ricardo Dal Farra. There was also a round-table during the last day of the event, and lectures by Silvia Goldberg, Jorge Sad, Teodoro Cromberg and Roberto Rue.

I Symposium of Computer Music - BRAZIL

From August 1 to 5 of 1994, was held in Caxambu, Brazil, the "I Simposio Brasileiro de Computacao e Musica". The proceedings of the symposium are available from: Universidade Federal de Minas Gerais Escola de Musica 30.130-005 Belo Horizonte, Brasil. Included topics such as *Systems and languages for sound synthesis and processing* (papers by Celso Aguiar, Agostino Di Scipio, Andrew Choi, Aluizio Arcela, Carlos Cerana, David Jaffe, among other authors), *Artificial intelligence, psychoacoustics and cognitive models* (papers by Eduardo Reck Miranda, Francois Pachet, Geber Ramalho, ...), *User interfaces and new instrumental projects* (papers by Anna Sofie Christiansen, Fernando Lazzetta, Richard Hodges, Axel Mulder, ...) *Music Analysis - Education* (papers by Edilson Ferneda, Eduardo Morales and Roberto Morales-Manzanares, Ricardo Dal Farra, ...), *Music notation systems* (papers by Alex de Oliveira Meireles, Edilson Eulalio Cabral, M. R. Moraes, ...), *Systems and languages for composition* (papers by Camilo Rueda, Domingos Aparecido Bueno da Silva, Mikhail Malt, Osman Giuseppe Gioia, Yee On Lo, Steven Travis Pope, Ricardo Ribeiro de Faria Castro, ...).

There were several concerts during the days of the symposium. Some of the pieces presented were: *Duorganum II* by Jose Augusto Mannis, *Sin los cuatro* by Rajmil Fischman, *RuST* by Robert Scott Thompson, *Pendulares* by Jonatas Manzolli, *Volta redonda* by Rodolfo Caesar, *Impossible Animals* by David Jaffe, *Italo Calvino takes Jorge Borges to a taxi journey in Berlin* by Eduardo Miranda, *Memorias* by Ricardo Dal Farra, *... a lot of music* by Kirk Corey, *This Way Out* by Eric Chasalow, *Time leaves* by Aluizio Arcela, *Never make fun of a man's cooking* by Eric Lyon , *Maelstrom* by Gilberto Carvalho, and *Dream Team* by Robert Willey/GMC. For more info about this symposium, contact: mauricio@dcc.ufmg.br

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ICMA Software Library is On The Web!

WWW Home Page to be Central Computer Music Resource Locator

The ICMA Software Library has been upgraded, and is now available as a World Wide Web Home Page. The scope of the library has expanded to allow for direct retrieval of files listed in the library, and navigation to a growing number of archives, forums, newsletters, and related home pages — all accessible from a single Central Locator!

The URL is: http://coos.dartmouth.edu/~rsn/icma/icma.html

The textfile version of the Software Library will continue to be maintained. It is available for downloading via anonymous FTP from host dartmouth.edu (IP Address 129.170.16.4), directory pub/ICMA-Library), and also by email through ftpmail.

The following is an index of Library entries as of 11/1/94:

(Utilities) (sound synthesis): Amir Guindehi; (Utilities) (sound synthesis): Roberto H. Bamberger; abc2mtex (representation): Chris Walshaw; AIFF_DSP (DSP): Ben Denckla; Aleatoric Composer

(algorithmic composition): Carl Christensen; Bol Processor (composition): Bernard Bel; CCRMA Music Kit and DSP Tools Distribution (sound synthesis): David A. Jaffe; and Julius O. Smith; Cellular Automata Music 1.0 (composition): Dale Millen; CMIX (composition): Paul Lansky; CMU MIDI Toolkit (MIDI): Roger Dannenberg; Common Music for Windows 3.1 (composition): Heinrich Taube and Joe Fosco; CONVERT (audio analysis): Jesus Villena; Csnd.app (sound synthesis): Stephen David Beck; CSOUND (sound synthesis): Barry Vercoe; CSOUND (Native Mode) for the Power Macintosh (sound synthesis): Eric Dahl; CSOUND for PC/DOS: John Fitch; DMIX (composition): Daniel V. Oppenheim; FORMULA (Forth Music Language) (algorithmic composition): David Anderson; HMSL (algorithmic composition): Phil Burk and Larry Polansky; IMPROVISE (composition): David Pannett; inSanity (algorithmic composition): Garth T. Zenie; Lemur/LemurEdit package (audio analysis): Kelly Fitz and Bryan Holloway; LucyTuning Codes (composition): Charles Lucy; MiXViews (sound synthesis): Douglas A. Scott; MODE (composition): Stephen T. Pope; Musical Set Complete (composition): Craig Shoemaker; Nyquist (composition): Roger Dannenberg; Perfect Pitch (education): Bernd Kohler; PIP - Program In the shape of a Pear (composition): James Binkley; POCO (expression analysis): Peter Desain and Henkjan Honing; Ravel (composition): James Binkley; Real Time Composition Library for MAX (composition): Karlheinz Essl; SoftSamp for Windows/CSOUND (sound synthesis): Dustin Barlow; Sound Utility Programs for NeXTStep Computers (Utility): Jean Laroche; Soundhack (sound synthesis): TomErbe; STOCHGRAN (granular synthesis): Mara M. Helmuth; Symbolic Composer (composition): Nigel Morgan and Peter Stone

American Music Week at SJSU

November 10, 1994

As part of American Music week, ICMA and SEAMUS members presented a collaborative concert in celebration of SEAMUS' Tenth Anniversary. The concert was held at the *Center for Research in Electro-Acoustic Music*, San Jose State University on November 10th. The program consisted of:

En Servicio Domicilio for piano and computer generated tape (1991) by Roberto Morales, *Praescio I* for alto saxophone and live electronics (1986) by Bruce Pennycook, *SETI* for computer-generated video and audio (1993) by George W. Logemann, *Espresso Machine II* for Radio Drum, Celletto, NeXT Music Workstation and synthesizers (1994) by Fernando Lopez-Lezcano, *Snap Out of It* for electric bass guitar and tape(1994) by Jim McManus, *[BASS]ically Harmless* for electric bass and computer-generated tape (1994) by Brian Belet, *Reconstructed Joys* for electric music box, cello and performance artist/manager (1994) by Dan Wyman, *Machine Torque Sliced* for solo disklavier (1994) by Jeff Stolet.

Announcements

CDCM Announces New CD Releases

CDCM, the Consortium to Distribute Computer Music, has announced the release of Volumes 16, 17, 18 and 19 of the CDCM Computer Music Series on the Centaur label.

V. 19: The Composer in the Computer Age--IV: A Larry Austin Retrospective.

V. 18: The Composer in the Computer Age--III: With the following works: *Stroll* by Paul Lansky; *"M" Music* by Cindy McTee; *In Celebration* by Charles Dodge; *Tribute* by J.B. Floyd; *Sleeping Beauty* by Allen Strange. CRC 2213

V. 17: Center for Contemporary Music at Mills. With the following works: *Chain Reaction* by Chris Brown; *Animal Behavior* by Alvin Curran; *Resonant Places* by Maggie Payne; *After a Day* by Tom Erbe; *The Glass Hand* by John Bischoff. CRC 2195

V. 16: "The Composer in the Computer Age-II". With the following works: *SoundPoemSet* by Larry Austin; *The First Sea* by Michael Matthews; *Music for Guitar and Tape* by Cort Lippe; *S'I' fosse foco* by Eugene De Lisa; *Constellations* by Rick Chatham, and *Xuan Men* by Rodney Waschka. CRC 2193

Volumes 1-15 are also available. To subscribe to the series or purchase individual discs, or for more information, contact CDCM, PO Box 560102, Dallas, TX 75356-0102, USA; telephone: 817-591-8128.

ICMA members get CDCM discount

Effective immediately, all ICMA members will receive a 5% discount on mail-orders of compact discs (single selections or subscription) purchased from the CDCM Computer Music Series on Centaur Records, Volumes 1-21. Vols. 18 and 19 have just been released, with Vols. 20 and 21--the ICMA Commission Awards cd--scheduled for release in early 1995. To get your discount, simply state that you are a member of ICMA. To order cd's and/or receive a CDCM information flyer, write to: CDCM, P.O. Box 560102, Dallas, TX 75356-0102.

New Faculty in the UCSD Music Department -- Fall 1994

The UCSD Department of Music has had a long-standing commitment to computer music research, and it is clear that technology will play an increasingly important role in the future of music-making. We are proud to announce the appointment of two of the leading figures in the current generation of computer music researchers, Peter Otto and Miller Puckette.

Miller Puckette joined the UCSD Music Faculty as a Professor of Computer Music in September. Puckette is one of the leading music researchers in the world. He created the innovative computer application/language "MAX" which is used extensively by leaders in the field of real-time interactive computer music and was recognized with the 1990 Keyboard Magazine "Software Innovation of the Year Award." Since 1986 he has been in Paris where he is Director of the Real-Time Applications Group at IRCAM and is currently developing the real-time control and synthesis environment for the IRCAM Signal Processing Workstation. At IRCAM he has collaborated with composer Philippe Manoury on a series of innovative compositions for instruments and live electronics which have been performed throughout Europe, Japan, and the United States. While at Harvard University, where he earned a Ph.D. in Mathematics in 1986, Puckette carried out research at the MIT Media Lab and the MIT Experimental Music Studio. As an undergraduate at MIT, he received first prize in the 1979-80 William Lowell Putnam Mathematics Competition, and as a graduate student he received an NSF Graduate Fellowship and a William Lowell Putnam Graduate Fellowship.

Peter Otto joined the UCSD Music Department Faculty as Music Technology Director in September. Since 1990 he has been Associate Professor and Director of Computer Music Studios at State University of New York, Buffalo. At the invitation of Luciano Berio, Otto became the Founding Director of the Tempo Reale Instituto di Ricerca, Produzione and Didattica Musicale in Florence, Italy, from 1987-90. At Tempo Reale he developed the TRAILS system for computer-controlled mixing and spatialization, and the CONTACT real-time controller panel. From 1984-87 he was on the composition faculty and Studio Manager at California Institute of the Arts. Other professional activities include his work as production, engineering and technical consultant for NPR, PBS, and the BBC. Otto received an MFA degree in composition from California Institute of

the Arts in 1984 and a Bachelor's Degree in applied cello from Drake University in Des Moines, Iowa in 1973.

Current UCSD Music Faculty include Gerald Balzano, psychoacoustics; James Cheatham, jazz (emeritus); Marnie Dilling, ethnomusicology; Robert Erickson, composition (emeritus); Peter Farrell, cello (emeritus); Brian Ferneyhough, composition; John Fonville, flute; Edwin Harkins, trumpet; Aleck Karis, piano; Phillip Larson, voice; George Lewis, trombone/computer music; Cecil Lytle, piano; F. Richard Moore, computer music; Thomas Nee, conductor (emeritus); Janos Negyesy, violin; Will Ogdon, composition (emeritus); Jann Pasler, musicology; Carol Plantamura, voice; Roger Reynolds, composition; Steven Schick, percussion; John Silber, trombone (emeritus); Harvey Sollberger, conductor/composition; Rand Steiger, composition, Chair; Jane R. Stevens, music history; Bertram Turetzky, contrabass; Joji Yuasa, composition (emeritus).

SMS Package

A new version of the SMS package is available from ftp://ccrma-ftp.stanford.edu/pub/NeXT/AnalysisTools/sms.tar.Z Spectral Modeling Synthesis is an analysis/synthesis technique based on modeling sounds as stable sinusoids (partials) plus noise (residual component), therefore analyzing sounds with this model and generating new sounds from the analyzed data. The analysis procedure detects partials by studying the time-varying spectral characteristics of a sound and represents them with time-varying sinusoids. These partials are then subtracted from the original sound and the remaining ``residual" is represented as a time-varying filtered white noise component. The synthesis procedure is a combination of additive synthesis for the sinusoidal part, and subtractive synthesis for the noise part.

The SMS package includes several programs for analysis/transformation/synthesis of musical sounds and it runs on NeXT machines.

Bug reports and suggestions should be directed to :

Xavier Serra
xserra@upf.es
xjs@ccrma.stanford.edu

Windows Software -- SILENCE and SCORE

Michael Gogins -
gogins@woof.music.columbia.edu

The SILENCE system is designed to be used for the production of high-resolution, low-noise musical soundfiles by means of software alone. SILENCE is specifically designed as a tool for rapid work in algorithmic composition, with the idea that musicians can write programs to generate music in whatever language best suits the task. The resulting notes can be stored in SCORE scorefiles and realized using SILENCE instruments or CSOUND. SILENCE is yet more specifically designed as a tool for the geometric or matrix arithmetic style of algorithmic composition, as opposed to the hierarchical or syntactical style (as used, for example, by the Hierarchical Music Specification Language).

The program SCORE is a standalone program that is intended for translating music in other formats (such as MIDI sequences or CSOUND scorefiles) to and from SILENCE scores. SCORE can also be used for editing scores for final realization by user-written instruments in SILENCE or CSOUND.

SILENCE and SCORE are available at the ICMA Software Library (see announcement of the WWW server for the ICMA Software Library in this issue of ARRAY) and via anonymous ftp from princeton.edu (in pub/music).

Final Call for Information!

Elizabeth Hinkle-Turner is currently completing the compilation of information and music for her text, Crossing the Line: Women Composers and Music Technology in the United States (tentatively Indiana University Press). Dr. Hinkle-Turner would appreciate any women who compose in the electro-acoustic medium (including computer music, electronic music, live electronics, instruments and tape, and videos with electro-acoustic soundtracks) to send her the following materials: 1. a curriculum vitae/bio 2. a list of all electro-acoustic works 3. a bibliography of any articles/books by or about the composer 4. a tape of some representative works. Women who have already submitted materials may send "updates" as needed. Composers need not be U.S. citizens to be included; they must simply be currently working in U.S. studios or received degrees from U.S. academic institutions. The text will include chapters on pioneers in the field, early electro-acoustic music educators and studio founders, multimedia artists, women in academia, some popular artists, and freelance composers. It is hoped that the work (scheduled for completion in fall 1995) will be the first in a series featuring women's accomplishments in music technology all over the world.

All materials should be sent to:
Dr. Elizabeth Hinkle-Turner,
603 W. Barbara Drive, Tolono IL 61880
or email: t-turner@ux1.cso.uiuc.edu.
If composers have questions please call 217-485-5863.

Callejon del Ruido II

Algorithmic Composition Competition Awards

An international jury of five distinguished composers met at CRCA at UC San Diego to select the winners of the *Callojon del Ruido II* Algorithmic Composition Competition Awards. The winning composers are:

James Harley
Georg Hajdu
Cort Lippe
Jacopo Babone Schilingl
Rodney Waschka II

Works by these composers will be featured at the *Callejon del Ruido II* Festival in Guanajuato, Mexico next August. A second panel of adjudicators will select three final works for cash awards during the course of the festival.

For information on Callejon del Ruido II contact:

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ICMC 1994 - Keynote Address

TOUCHING A PUBLIC

Keynote Address : ICMC 1994, Aarhus, Denmark

INTRODUCTION

Tonight I would like to talk about how computer music might gain a wider public hearing. But first of all I need to make clear what I mean by computer music.

There are many important things that computers can do for musicians. To name just a few...

— The century old dream of the musical typewriter has finally been more than realized in the many programs which lay out scores for us, and more than that - they will automatically transpose instruments, extract parts and so on...

— It is now possible to conceive orchestral music in a direct hands-on fashion using high-powered sampling keyboards...

— People with disabilities who cannot deal with the mechanics of a musical instrument or write out conventional music notation, can nevertheless compose and realise their own music through MIDI based sequencer programs with specially designed input devices...

...and so on.

The things are all tremendously important in increasing access to traditional musical skills.

But what really interests me as a composer is how the computer enables us to *extend* our musical tradition. So I would like to talk about those musical things which computers can do which cannot be achieved in any other way - those things which allow us to extend our musical universe in new directions, not practicable or even imaginable in former times. I'm therefore focusing on the use of computers at the musical cutting edge, rather than on traditional musical applications at the computer-science cutting edge. For the remainder of my talk, when I use the term 'computer music' I mean innovative music-making which uses computers. This may or may not involve innovative computer science.

However, because of the sheer power of the computer to manipulate data, even this distinction needs some clarification. Computers are dazzlingly efficient manipulators of data, so dazzling in fact that we can become mesmerized by their abilities.

Many of the experiments I see enthusing the computer music community are computing excitements ... like ultra-fast machines, splendid animated graphics, new programming environments, virtual reality. Rarely do I hear anyone glow with the same enthusiasm about the music being produced. Rather this is expressed in terms of potentialities — faster machines, better graphics, cleverer software techniques will make it possible for us to do this, that or the other, but in the meantime we press on with the computing research. Music in this context can become merely a testbed for mathematical or engineering theories, a kind of aesthetic spin-off from development paths dictated by non-musical concerns.

This tendency of the medium to become inbred becomes more likely if there is no real public forum in which to test out musical explorations. We develop what I would call Institutional Internet Disease, where the only people who really hear our music are our colleagues based in other research institutes around the world. This may well work wonders for the research ratings and promote camaraderie amongst the profession — but can it, ever, help to raise the profile of computer music in the public arena?

And here I'm begging the important question — how do we assess musical value, as opposed to research competence or technical innovation? Because making music is more than cleverly manipulating sound or note data, or establishing sophisticated interactive networks. A new musical approach or idiom has to become embedded in a wider intellectual or cultural context to finally take off into the real musical world. And to appreciate how this cultural embedding might take place we have to consider at least 2 questions...

(1) What engages the wider, non-specialist public as an audience? (2) What engages that wider public as potential participants in the new medium?

As I go on I'll try to suggest some possible answers to the 1st of these questions. I'll deal with the 2nd question at the end of my talk.

COMPUTERS AND REAL-WORLD SOUNDS

But here I'm jumping ahead of myself. Let me first say what I think computers have to offer innovative musical practice. Anyone who has come across my book *On Sonic Art* will know that I've already addressed this question in some detail. They'll also be aware of my own predilections. But my choice for the list would be topped by three items.

First of all, computer music allows us access to the real world as musical substance. Here I'm not just referring to recording technology, which predates computers by a long way. In fact we can point back much further to examples of reality incorporation such as Jannequin's *Chant des Oiseaux* from the 16th century, through the imitation of birdsong by woodwind instruments in Beethoven's Pastorale symphony to Resphigi's use of a gramophone recording of a Nightingale in *The Pines of Rome*. In the twentieth century we might cite Ives' use of overlaid marching band music, or Lutoslawski's animated crowd effects in the *Trois Poemes d'Henri Michaux*, neither of which involve the use of recording technology.

But it is the numerical power of the computer which allows us to grapple with complex sound materials in a detailed, subtle and logical way. This has therefore become a primary new area for composers to explore.

Furthermore this is an excellent example of

where the preoccupations of specialist musicians and computer scientists can be embedded in wider cultural and intellectual concerns. The wider musical public may have no interest in or comprehension of the scientific or technical aspects of signal analysis or sound transformation, but they certainly will key into their own concerns about the context of contemporary life, and humanity's relationship with its natural or constructed environment. The aesthetics of real-world-sound transformation becomes, therefore, more than a merely technical exercise. I am not suggesting we therefore write politically correct programme music, but merely that this area provides a point of entry to our musical world for those with no technical or professional engagement with the medium.

The same arguments can be applied, a fortiori, to the human voice. From a technical point of view the voice is the most fascinating sonic source because of its versatility, pliability and subtlety of articulation. It is simply the most interesting sound source available to use. In case anyone doubts this, I will briefly demonstrate some of the possibilities.... But for this very reason it is more difficult to track, to analyse or to synthetically reproduce than any other musical instrument and so raises important research questions in both the technical and musical sphere.

For the non-specialist however, the voice is important because almost all humans have one, and know, even if only intuitively, how to control and apprehend its subtleties of sonic articulation. We are acutely aware of the subtle innuendoes of articulation during verbal communication .. we can pick up everything, from age and health to intent, in the sound signal emanating from a speaker's lips. Hence, music which manipulates the voice has the capacity to touch everyone, way beyond the rather marginal catchment zone of contemporary music or computer art.

I'd like to underline this point by playing a short piece which uses simple processing technology to capture and enhance the quality of voice and strange vision of an 80 year old woman. This piece was made in a single day during a workshop for Senior Citizens (between 60 and 85 years of age) in a small industrial town in Northern England. The piece also partly addresses the issue of public participation in the medium of computer music.

The workshop participants were people who had retired from fairly normal industrial jobs and had little or no previous contact with any kind of high art, let alone C20 Art music. Consequently the workshop was focussed on story-telling and music technology, the former because everyone has a story to tell, the latter because it held no musical preconceptions for the participants. The piece you will hear, *Blue Tulips*, is based on a dream recounted by one of the workshop participants, and was subsequently used by the group to accompany a piece of improvised mime which they devised. The group has since gone on to make computer music of their own. [plays *Blue Tulips*]

THE LOGICAL CONTROL OF SONORITY

The second important area from a musical point of view I've already touched upon. This is the *logical* control of sonority. In the past, in the Western European musical universe at least, there has always been a division between premiere league concerns i.e. pitch and duration structures which, because they were accessible through notation, could be organised and analysed in a logical fashion by composers and theorists, and junior league concerns i.e. the control of sound colour and articulation, which were left to arrangers and, more importantly, performers through the aural tradition of performance practice and interpretation.

The advent of computers has now allowed us to get to grips with the substance of sound itself in a rigorous manner, thus changing the whole emphasis of musical composition. And in fact that is what my new book, 'Audible Design', is all about and what I hope my new piece *Tongues of Fire* will demonstrate.

I've already talked about this in more detail in the computer music aesthetics seminar on Monday, but to give some flavour of what this implies I'll play a short extract for *Tongues of Fire* which uses the development of sonic elements to create musical structure. At the risk of rekindling a rather heated debate, I've stressed the way that sound interpolations in this example, from a time-stretched continuous inharmonic vocal spectrum to, first, wood-block-like sounds, and later drum-like and water-like sounds, function in a similar way to changes of key in a tonal system of pitch organisation. There are also, of course, fundamental differences between the two, notably that the tonal system is cyclic and has a measure of distance, while the world of sound interpolation is multi-dimensional and of rather ill-defined metric. But this of course is the compositional challenge to be explored. [plays extract from *Tongues of Fire*].

In fact sound interpolation — creating a seamless transition between one definable or even recognisable sound type and another — is one of the important new sound composition techniques to have evolved. Here is a well-known example from *VOX 5*. [plays the Voice->Bees interpolation from *VOX 5*]. In the *Audible Design* book I devote a whole chapter to the realisation and implications of this technique. And here again it is possible to see a link between an area of fascination form music and computing specialists, and the concerns of a wider public. For sound interpolation has wider aesthetic or intellectual interpretations.

I've argued elsewhere that musical form itself carries larger ideas along with it. Thus, while musicians might take a purely technical appraisal of the fugal technique in the Kyrie of Bach's B Minor Mass, or do a structural analysis of the chromatic suspensions and amazing final modulation of the Crucifixus, the non-specialist public is likely to be at least equally interested in (or 'touched' by) the metaphorical, or even metaphysical, implications of these formal devices.

In *Audible Design* I've tried to look at sound interpolation from this perspective. We can offer at least four possible metaphorical glosses on this musical process. In Stockhausen's *Gesang der Junglinge*, a pre-digital work which uses the idea of sound interpolation between the singing voice of a young boy and a pure sine tone, but which organises the material according to a serial aesthetic, the metaphysical gloss would be that of *mediation*, between the human (represented by the boy's voice) and the universal (represented by the abstract sine tone). This notion of mediation in fact pervades much of Stockhausen's music —

and has clear religious connotations.

Conversely, I remember a discussion at IRCAM with Roger Reynolds who played me an extract from a work of his in which Samuel Beckett texts in French and English were interpolated with one another, while simultaneously the vocal sound was interpolated with the sound of brass instruments. The composer's focus here was the notion of *ambiguity* —the point at which a specific unilateral interpretation of the sound experience breaks down — a major concern of a whole group of later C20 composers such as Luciano Berio or Bernard Rands, and one that is associated with an entirely different, and anti-authoritarian metaphysic.

My own interest in this musical device is in the possibility and the dynamics of *change* — how to transform the world — but also in the sense of *flux* or *flow*, the sense that things may not be as permanent as they seem, that those things we take to be definite and immutable are subject to both decay and regeneration. This is in a deeper sense where the *VOX* cycle of vocal works relates to the mythology of Shiva.

INTERACTIVE SYSTEMS

The third area of musical promise is that of real-time interactive networks, allowing performing musicians to react in complex and intelligent ways either with one another, or with their own sound production or with intelligent synthesis systems. Again, our concern as musical or technical specialists may focus on the design and implementation of real-time control structures, but the non-specialist public will focus on quite different aspects of the work.

For example, one important aspect of a live musical performance is how we relate to the gestures or actions of the performers themselves. The non-specialist is there partly for the buzz one gets from seeing a great performer, like a great athlete, doing her or his thing 'before your very eyes', or to experience the close cooperation and skilled interaction between members of an ensemble. It's partly the very difficulty of playing the notes, or making those sounds together, which excites the audience — rather than purely the logic of the notes/sounds themselves. And this is part and parcel of the drama of musical performance they're seeking in live music.

But where technology is used, we can all think of occasions at which a performer plays with an interactive system which either engulfs the performer's sound, or interacts with it in such a way that the listener has no idea what (or even whether) the performer is playing (is she/he simply miming??), or concerts in which several people sit at MIDI keyboards or computer terminals and press keys, while sounds of varying degrees of complexity emerge at some apparently arbitrary later times — where there is no observable link for the audience between performance action and sound result.

Here the drama of live performance is lost as far as the non-specialist audience is concerned, and is replaced by, at best, technical curiosity or, at worst, bewilderment. In this situation we must consider why we are performing this music in a live situation at all.

We may, of course, wish to make a specific point about the unpredictability of human intercourse or even the plight of the individual in the machine age — but, if so, we have to work on this explicitly, to articulate it clearly through the theatre of live performance — not just hope that because it is embedded in our algorithm the audience will get the point. The non-specialist is unlikely to be interested in the complexity of our computer network, the sophistication of our software design or the cleverness of our chaotic algorithm, no matter how long the programme note is.

Hence, no matter how cleverly interactive our technological system may be, we risk undermining the chemistry of live performance unless we are clear about the drama of performance itself.

To stress this point I will play as a counter-example an excerpt from the piece *VOX 3*, a piece for four amplified vocalists which apparently uses no computing technology. [plays a very rapid hocket example from *VOX 3*]. Here the drama of live performance is driven by our amazement at how the performers are able to sing at such speed, with such accurate rhythmic coordination. But in fact this is made possible by an entirely inflexible technological device — a set of different, but computer-synchronized, click-tracks providing independent timing cues for each performer. Now one might argue that we are in fact reducing the autonomy of the performers in this way and hence the group dynamics of the performance should be less exciting. But in a live concert it is how the audience reads the drama of the performance itself, rather than the ideological correctness of the technological process, which will determine their response.

PARTICIPATION BY A WIDER PUBLIC

Last of all I would like to talk about how the means and goals of computer music get disseminated to a public who might want to participate in this medium. To independent composers (those not in institutions), to student composers, to children learning about music in schools and even to amateur enthusiasts.

This is not just a matter of disseminating hardware and software, but also of disseminating new ways of thinking about sound. In fact it is only through a musical community (and in fact a community as such) sharing common resources and some common assumptions about music-making that musical profundity — rather than mere novelty — can arise. From the participation point of view, it is no good my playing the sound transformations in *VOX 5* to student composers or schoolkids who have only a MIDI sequencer to work on — nor is it any help to provide sophisticated signal processing or time-warping facilities to someone who thinks all music is made up of layered instrumental tracks in a steady tempo.

From the point of view of resources, the present structure of the computer music community militates against the development of a shared musical practice, with high-powered specialist resources confined within specialist tertiary institutions, while

independent composers, and school and student composers, have to live in an almost entirely different universe. While the research centres pursue ever faster, ever more sophisticated research and development tools to justify their research funding, the rest of the musical community almost always falls into the black hole of MIDI-sequencing and potentially obsolescent black-box processing units.

But the constant turnover of technological resources is not wholly beneficial to those with access to it. How can we develop sophisticated and subtle means of working musical material if the tools with which we have to do this are constantly being 'upgraded' or superseded? Continuity is *at least* as important as innovation, seen from a musical perspective, and, for the musician, long established and well-honed tools, like CSound, GRM Tools, Signal Processing MAX, or the CDP system, are much to be preferred to the latest very fast and very flashy technical development. Sometimes, the research sphere seems to offer us jam tomorrow, but never jam today. Or it may allow us to taste some wonderful concoction, to make just one amazing piece, and then whisk it away as some new technical imperative (like doing *everything* in real time) sweeps that particular tool into the dustbin of jam yesterday.

More importantly, to many, without *any* access to the research sphere at all, all of these exciting developments remain permanently in the sphere of virtual reality.

Part of the reason for this divide is economic. Those outside the institutions do not have recurrent funding to update their resources at every turn of technological advance or market fashion. But part of the reason is the way in which computer music tools are disseminated. Fifteen years ago we had a public domain software-sharing ethos in computer music, but only for those with access to the big mainframe machines. With the advent of powerful desktop micros we opted for the market-led model of dissemination — but, from my viewpoint, this is still not succeeding.

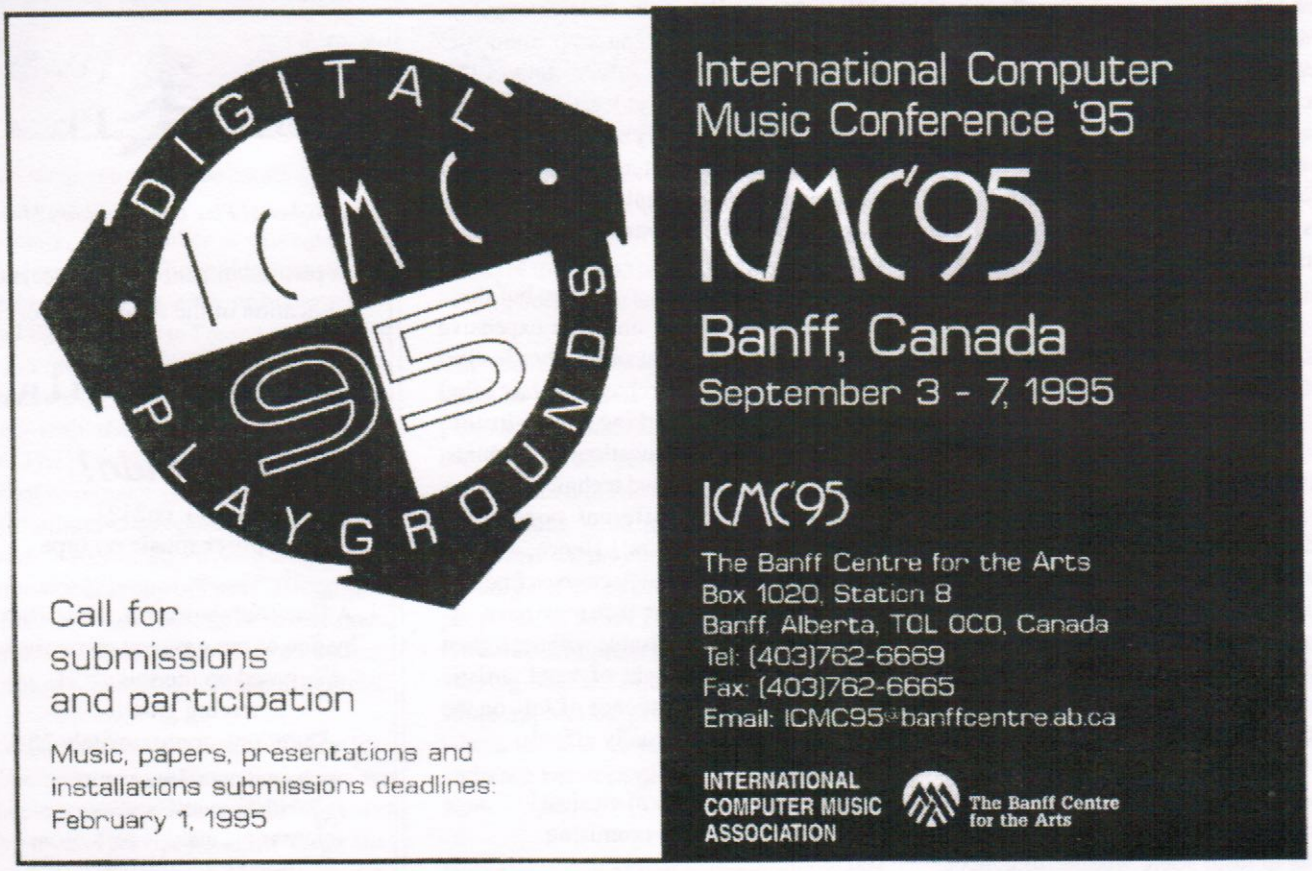
In the market model, whatever musical insights or innovations we may develop tend to be hijacked on the way to the marketplace by the popular music and traditional music lobbies — putting it crudely, we tend to end up with tempered scale MIDI devices driven by note-oriented sequencers, playing organ-stop sonorities through multi-choice effects units. This may be acceptable, or at least workable, to a musician with a firmly traditional orientation, but it tends to filter out all those new perspectives on musical language which I have been at pains to stress here.

Powerful systems are available, but these tend to be dependent on some expensive piece of hardware that only other institutions can afford to purchase. (In fact I find that many people working within institutions, because of educational discounts, institutional budgets and technical backup, have an entirely different concept of affordability to outsiders!). Hence, students leaving music technology courses find that the new musical ideas that may have excited them are not realisable without a great deal of technical sleight of hand, artistic compromise, or the patience of Job, on the tools that they can actually afford.

From the point of view of musical language the prognosis is more promising.

I would like to play a brief extract from another piece [plays excerpt from tape-only piece]. You may find nothing remarkable about this work. It's not made by an experienced composer. In fact the composer had only one day's experience of the medium and of the technological tools. It's not made on a state of the art system. In fact it's made using a very simple sampler driven by a MIDI keyboard, processed by a cheap effects unit, and mixed down onto cassette on a portastudio.

The really interesting thing about this piece is the age of the composer. In fact this piece was made by a group of 7 and 8 year old children in a typical inner city school in London. Sonic Arts Network, the organisation for music-making with technology in Britain, runs many workshops in schools for children between the ages of 7 and 18, introducing not just technology, but new ways of thinking about sound. (I should add that musical composition, style unspecified, is a compulsory part of the music curriculum in British secondary schools). In these workshops we concentrate on careful listening, and working with the sound material itself. Children, especially young children, have no problems either with the technology or the new language of sound.



However, one problem that we do have is that there is no sampler currently on the market which is both high quality, very simple to operate (i.e. having no bells and whistles apart from sample-edit and reversal) and cheap enough for schools to buy. We have to lend our own, no longer commercially available, samplers to the schools. If there's anyone out there looking for a new hardware market, here it is.

CONCLUSION

I could say a great deal more specifically about the needs of individual computer-music composers —

— the need for software-based tools, because we can't keep up, financially, with all the new fashions in hardware.

— the need for software to be backward-compatible — so we don't have to learn a new system every time we acquire a new tool or update an old one.

— the need for software to be portable across hardware platforms, from the latest fastest flashiest system running in top-of-the-research-ratings institutions, to the lowliest, cheapest machines available at the local Radio Shack store or supermarket — so we can keep up with and run, albeit slowly and inefficiently, all these wonderful new musical tools at home, and hence really get to be musical experts with them.

— the need for software to be open, or at least open to new contributions (like signal processing MAX, CSound or the CDP) — because no matter how sophisticated a closed commercial release may be, it takes at most a week to discover what it can't do, after which we end up in the frustration of half promises about the next release.

So, last of all, I have to say that my new piece, *Tongues of Fire*, which you'll hear in the concert tomorrow, is the computer-music equivalent of a garage band demo tape. It's a piece made entirely on a cheap computer in a cramped domestic living room — and the programs used to make it are public domain, composer-modifiable software, from the CDP (Composer's Desktop Project). You can run this software on the Silicon Graphics Indie, if you or your institution have the money, on the IBM PC, if you haven't, or even on the Atari ST if you are seriously financially challenged, though it's a bit slow on the ST. This piece was made on an Atari TT. I'm playing it partly to demonstrate that it is possible to make music with no artistic compromises in such a situation, and, most importantly, to demonstrate the advantages of any system which bridges the institutional-individual divide.

My final plea would be for all institutions involved in research into computer music, as I've defined it, to put aside resources to ensure that the musical tools they develop are made accessible to composers — not simply put on the market — and that they think seriously about how new approaches to composition which they are developing can be made relevant to work in the classroom, so that a new generation of musicians and listeners will regard computer music as a normal part of their musical landscape.

Trevor Wishart

ICMC 1994 Reviews

The third concert of the ICMC (Wednesday, 14 September, 8:30pm) was titled Performance and Multimedia. All of the works included visual and/or performance aspects. The pieces were *Esquisses*, a collaborative video work from ACROE (France); *Yo*, for electronic controller suit, composed and performed by Rolf Wallin (Norway); *Tikukan no utyu II* by Satosi Simura (Japan) with the composer performing on shakuhachi; *In Emptiness, Over Emptiness* — one of the two ICMA Commissions presented at the Conference — by Michael Matthews (Canada) for voice and tape, performed by Therese Costes; and finally, *Faustos Schrei* by Michel Waisvisz of The Netherlands, which featured the dancing of Patrizia van Roessel-Tuerlings.

For me, the most interesting and successful works in this concert were those by Simura and Matthews. Simura's piece, a striking series of meditations on legends related to the shakuhachi and "Turu no sugomori" (Nesting of Cranes), was a delicate blend of sophisticated shakuhachi music, visuals, and computer processing. The performance was nicely nuanced, and the whole was restrained and serene.

Matthews' *In Emptiness, Over Emptiness* exists as a separate concert work and as the opening of a much larger music theater piece. Sung with insight, skill, and verve by Therese Costes, the music is dramatic and wonderfully effective in conjuring a strange, hollow landscape animated by the vocalist in the character of the Old Woman. The beautiful conclusion features a kind of menacing questioning of the other characters, the audience, and herself regarding the kind of world she will create — tonight. After such a powerful "prologue" I was ready for a full-fledged opera. I understand that the first performance of the entire theater work will take place in Canada in the Spring of 1995.

Rodney Waschka

Listening to many pieces at the ICMC, I was struck by how often composers use rapid crescendi and rapid accelerandi, often together. I am thinking about very rapid effects with durations of a second or two. This is so familiar, I never thought about it analytically, nor did I realize how prevalent it is in our music. But this time I noticed, and it occurs to me that there is a psychological explanation. Our nervous systems are particularly sensitive to anything increasing, whether it is light, sound, pitch, or tempo. In general, we are more sensitive to increase than to decrease, so if one wants to stimulate listeners at the most visceral level, a rapid crescendo and accelerando is a good approach. (To push the limits, add a pitch rise and/or doppler shift combined with coordinated lighting.) Amid all the talk of how marginal and esoteric is our music, I feel that much of what I hear is reaching for an autonomic system reaction of the same sort generated by rock music. Perhaps if this trend continues, our future selection panels will hook up to galvanic skin response meters the way (in the United States) top-40 music is selected. Perhaps the most interesting question is whether this is good, bad, or simply a choice that a composer makes.

- Roger Dannenberg

It all started because Paul Berg wasn't really all there during the concert, or to be more accurate, he forgot he promised to review the performance, and realized (like most of us) how comfortable the chairs in the concert hall were, and realized how outrageously long the concerts were. Since Paul knew I heard/saw the concert and had an opinion about it, it fell in my lap... which may be a huge mistake. I am convinced that writing a review of a live performance, which is not intended to be repeated in the same format, is like reading/writing a gossip column and does not serve a useful purpose for the reader. This specific gossip session reflects my own personal impression of the dance performance/concert by the Royal Danish Ballet as part of the 1994 ICMC in Aarhus, on September 15, 1994.

This performance was one of the few I was really looking forward to. The idea of using the conference as a stage or serving as an instigator for new collaborations was very exciting. It also opened the door for true experimentation rather then the so called presentation of the "best of 1994" which the rest of the concerts usually attempts to be, —unsuccessfully. I was hoping to be intrigued and involved rather then presented with a "successful" product.

But my impression of the performance are colored, by now, by the performance of the piece I liked best during those five days, which did happen during one of these "best of" concerts I was just berating. But I will talk about it anyway. Frances White's piece *Winter Aconites* was by far my favorite piece of the conference. It is beautiful, it deals with time and color in ways which are fresh and new. Her attempt to negate traditional dramatic discourse by slowing down time to a point, where the "topic" is the beauty and color of the moment rather then the continuity, was highly successful. A better performance (especially intonation) could have helped the piece even more, but unlike other pieces Frances' piece came shining through.

Back to the dance concert, as a total experience it was interesting and successful. The unheralded star of the show was the lighting designer whose name I could not find. His (her?) work was, at times, fantastic (like the ending of Lament) and very good at others. My favorite piece on this concert was the last piece; *Terra Infirma* - the collaboration between Axel Eckert and Richard Karpen. The piece opening tableau with the looming shadows of the couple behind the screen looking more and more like children's stick figures was very effective. The piece went astray a couple of times and the symbolism became a little too obvious. The ending, which in the music is quite surprising and problematic, was solved by the choreographer in an ingenious fashion; bringing the curtain call into the piece put into question the borders of a piece. This solution brought the change of the music into focus, and presented it in a new light, not as a "happy ending" as it could be interpreted when one listens to Richard's piece, but rather as an after thought, already part of another life or another piece. I admit that I had the advantage of knowing the music, this allowed me to try and pursue the relationship between dance and music a

ICMC Reviews, continued

little closer, but I was happy to see that Mr. Eckert found in Richard's piece things I didn't, and gave me an opportunity to hear new things in the music.

Lament - Woman in a Bath-Tub the collaboration between Anita Saij and Marc Ainger was very interesting. It suffered from the "over-the-top" opening gesture, which left me and a few people around me groaning. After Michel Waisvisz's abusive and utterly amateurish work the previous night, a woman lying in the bath tub in a very stylized, dramatic pose with a red garment lying next to her on the floor did not bode well. But the piece, after a while, successfully untangled itself from this simplistic narrative prospect and had some very nice moments in it. The best sections were when the disembodied hands and arms appeared as if out of nowhere, presenting themselves as possible alternative dancers. These sections allowed the piece to achieve a unique powerful identity. The lighting in this piece was especially beautiful and effective, and the last gesture filling the bathtub with light was memorable. Anita Saij attempted to work between minimal gestures and dramatic narrative, I found the latter cumbersome. The moments when the dancer was attempting to leave the bath tub etc., pulled the piece into unnecessary heaviness. But the last light gesture, the beautiful moments, and the light score all made the piece for me.

The first part of the concert was more conventional. *Music for Margo's World-Promenade* for a sea woman and her two partners, was predictable and after six minutes became plainly boring. Anita Saij here too attempted to work between minimal movement and staged narrative, and here the result was pedestrian. The opening with the sea woman in motion flanked by her two frozen partners, moving very little and extremely haltingly, promised to be slow and diffuse, when the symmetric interplay evolved, where the sea-woman stopped moving and her partners did, became obvious, and uninspired. The repetition of this relationship and process, the constant symmetry - all presented a transparent story, and never got me interested again, rather I stayed bored.

The last piece on the first half, *Huang Zhong Elements-Theme from ChanEng* was by far the most conventionally narrative dance piece on the program. This collaboration between Kwok-ping John Chen and Marie Brolin-Tani presented the story of the first known Siamese twins who were never separated. It started unfolding in a nice fashion and on its own terms promised to be entertaining, the moment when the two women appeared along with the embarrassingly clichd Chinese music, made it lose all credibility for me. It almost became a parody of the ethnic material, I was deeply disappointed and for the last nine minutes or so could not find anything that would engage me back in the piece.

I left the discussion of the two tape pieces performed on the program for last, mostly because I found them least interesting. Ake Parmerud's *Jeux Imaginaires* was nice, banal and nice. It presented no conflict and promised not to confront the audience with any questions. The gestures were nicely crafted, and well timed, and left me unmoved. Trevor Wishart's *Tongues of Fire* was my least favorite piece on the concert. My problem started with Mr. Wishart's need to apologize for the piece and its length, this included his admittedly wonderful vocal performance of the highlights of the piece, after which the piece itself was a let down. I am all for involving the audience with the composer, and saying a few words about a piece can be a useful tool in breaking the artificial barriers between audience and art, but one can not assume that the audience is unintelligent, and needs help deciphering the piece, this seems to me offensive as a cultural attitude anywhere. The piece itself was based on a single musical gesture, and variations of this gesture. There was no attempt at development, counter gesture, multiplicity or any such ideas. In itself this is not a criticism, some of my favorite, and most effective Morton Feldman pieces can be described in this way. But the problem here is with the original first gesture. It is a very "classical" traditional gesture, it is directional and dramatic, it implies narrative, thus it also implies all of these traditional processes. If Mr. Wishart's interest was to undo these inherent elements, he was unsuccessful, the piece was all along promising and not delivering, leaving me in a constant state of disappointment, it felt like a train of dramatic gestures not culminating anywhere reminiscent of soap-operas, where each moment is a cliffhanger.

I am sure that having tape pieces on a dance performance concert was a mistake. I listened to them differently then I would have had they been presented on a tape concert. But, this performance was unique, it would never be repeated, and if, hopefully, I will get to hear or see any of these pieces again, in a different context they will unfold in a different fashion.

Amnon Wolman

The first concert of the 1994 ICMC, Tuesday, September 13 was held in the Chamber Music Hall of the Musikhuset. The program was performed by the ensemble Cicada from Oslo, conducted by Christian Eggen.

The first piece of the program was the world premiere of one of the 1994 ICMA Commissions, entitled *Silence: John, Yvar, & Tim* by the composer Steven Montague of the UK. This 10 minute piece is scored for string quartet, piano, electronics, and tape and was written in memory of three close friends and colleagues of Montague: John Cage, Yvar Mikhashoff, and Tim Souster. The string quartet was prepared with paper clips on the strings of the instruments. The players began playing without their bows using metal thimbles on their fingertips. The piano was also prepared, and was often played directly on the strings inside the instrument. The piece is clearly sectional and opened with a delicate and quiet rhythmic section in which the instrument bodies and prepared strings were tapped. The spatial separation of the amplified instruments was very clear and very effective. A more violent second section grew out of the first section with the percussive tapping becoming more physical—actual drumming—on the instruments and the string fingerboards. I did not notice any electronic sounds until almost a third of the way through the piece. They were searing and violent percussive sounds which interrupted the incessant percussive instrumental sounds. The third section was quite contrasting: the piano was strummed directly on the strings "autoharp-like" fol-

lowing a simple tonal chordal pattern. This was accompanied by high, somewhat ethereal electronic sounds while the quartet finally used their bows to play sustained notes without vibrato (making clear reference to a Cage string quartet). This section struck me as a simple, yet hauntingly effective elegy. The fourth section (based on my aural "analysis") employed high bouncing-like sounds in the electronic part, which blended well with high piano sounds and high tremolo bowing of harmonics in the strings. This transformed into glissandi on the strings which built gradually in volume and tension (while the piano became more and more percussive) until the aural result was a huge and powerful sound mass. This ended abruptly and the final section started with a beautiful slide-piano solo and followed with a "coda" which referenced the third section of autoharp-like strumming of the piano strings with an open chord played pianissimo by the quartet. (I found myself becoming more and more irritated with the sound of the air-conditioning system which had been left on and was not pleasant to listen to during this very delicate ending.) Montague is a composer who has great control over his materials and an ability and desire to express clear musical ideas. This piece was no exception.

The second piece of the night, *Flux* (1993, 12 min.) by Ron Smith of Canada, was scored for violin, flute, clarinet, cello, percussion, and keyboards. This piece was coloristic and timbral in nature—strongly influenced by the French "spectral" movement. "Flux" opens with an exotic eastern-European-like highly expressive medoldic line on the E-flat clarinet which is accompanied by a sustained chordal-harmonic background played by the rest of the ensemble. Klangfarbenmelodie was emphasized and the electronic part consisted of slow-moving clear bell-like sounds. The second section began with a great deal of chromatic interaction between the violin and clarinet. This transformed into ensemble writing which emphasized attacks points with trailing decaying sustains. I found this section very interesting because whatever I call "traditional musical dialogue" was constantly being destroyed: gestures and phrases were set in motion and then unexpectedly interrupted. Another section of chromatically winding, interacting lines between the violin and clarinet (now with the addition of the flute) led to a final section emphasizing the piccolo, glockenspiel, and high electronic sounds which produced a rich variety of difference tones. I am not sure I was convinced by certain formal aspects of this piece, especially the return of the winding chromatic interactions; but it had an organic quality which held my interest and kept me questioning in a positive sense. I would like the opportunity of hearing it again, especially since the musical discourse was rather complex.

The third piece on the program, *Visibili* 1992, 9 min) for two violins and tape, by Alessandro Cipriani of Italy, was the only piece of the program I had heard before (in Milan, last year, at the Italian Computer Music Conference). (The piece came across much differently in Aarhus with different performers and played in a different space. I felt the Italian performance was more expressive and was performed with more conviction.) All the sounds on the tape were transformed violin sounds. The piece opens with very sparse pizzicato sounds played by both of the violinists and the tape. The tape builds to a huge string mass with more and more reverberation, while the violinists began to add bowed sounds which finally become quite dramatic and completely replace the pizzicati. A second section starts with low unclear electronic sounds. The violinists are gradually amplified and reverberated more and more. The tape part gradually becomes a huge string sound-mass which slowly transforms into a completely different kind of sound object which is rather abstract and not identifiable as transformed string sounds. The electronic transformations in this piece are very interesting (possibly stronger musically than the instrumental writing). In the last section the tape sounds transform into a beautiful, smooth granular sound while the players leave the stage and are replaced by a slide of themselves which is projected. The tape sounds build to a climax, stop abruptly, and the players are heard off-stage playing a final sustained dyad. This piece was true computer/electroacoustic music in the most positive sense. The tape part was not a ornamental addition, but an integral part of the composition. I look forward to hearing more of Cipriani's work.

After an intermission where I madly jotted down what I could about the pieces I had heard, the program continued with a piece by the American composer Thomas DeLio entitled *anti-paysage* (1990, 10 minutes) for flute, piano, percussion, and tape. The piece has an sparse, atonal beginning which employs percussive articulation points (the percussion is used for ponctual reinforcement). After a florid, solistic flute line the piece moves to very sparse textures: long silences interspersed with short instrumental gestures. The electronic sounds are very high-pitched (heterodyned-like) and quite piercing. A second section has another florid flute line which introduces more sparse textures and long silences. The writing was extremely minimal and non-repetitive. I felt I was listening to a piece by a composer with a rather rigorous aesthetic, strongly influenced by Feldman. Again, the air-conditioning was a major problem due to the long silences and quiet instrumental gestures.

The organic, powerful, and hedonistic piece which followed contrasted greatly with the DeLio piece. Canadian composer Barry Truax continues his exploration of granular sampling techniques, of which he is a master, in a 4-channel tape piece entitled *Sequence of Later Heaven* (1993, 14 minutes). This piece, which explores a rich variety of percussive instrumental samples, opens dramatically with slowed down (granulated) sounds in one layer and a higher layer of more "grainy" (sped up) sounds which become more fused and less pitched over time. A second section again has a slowed down layer which is reverberated enough to be in the background, and another layer of rattling-like sounds (with a high noise component) which are much closer in space. This foreground/background relationship between two clearly identifiable layers continues in later sections, the fourth section being quite memorable for its raw, powerful, physically explosive nature and massive crescendo. The following section explores the attack parts of various percussive sounds by reading through the attacks at extremely slow rates with different pitch transpositions. The quadraphonic spatialization was very effective here. The "coda" of the piece explores long, slowly evolving, fused sounds which seem to be granular samplings of the sustain portion of some of the percussion samples. This piece offered listeners a complete sound world, giving the impression of really putting the listener inside the electroacoustic experience.

The last piece of the concert, by the Norwegian composer Lasse Thoresen entitled *AbUno* (1992-94, 18 minutes), was so well

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performed by the Cicada ensemble that I felt sure it must be a repertory piece of theirs. Although this piece did not employ the computer in an important role electroacoustically (it may have been an important compositional tool but that is not clear from the program notes), it was my favorite piece of music on the program. It is scored for flute, clarinet, percussion, synthesizer, 2 violins, viola, and cello. The piece opens with a continuous sinisoidal sound and the instruments come in slowly with very pianissimo harmonics. There is a clear Klangfarbenmelodie relationship between the clarinet and the sinusoid. A second section opens with an ascending cascading mass by the entire ensemble which settles into long chords reminicent of the introduction, but slightly more complex. A second ascending line leads to a very slow descent while instrumental activity continues to increase. A third ascent leads farther away from homophony, and the increasing complexity becomes truly polyphonic. A descending Shepard tone-like section follows as the complexity increases to the point of fusion between the different instruments while the gestures becomes quite explosive. (The reverberation and amplification of the instruments has been gradually increasing since the beginning of the piece and reaches a maximum here.) The electronic part of this piece is very integrated into the instrumental fabric, and never really has an independent voice. The organic growth of this piece was quite effective: at some point I realized that I had been pulled into a fascinating musical world. The piece takes formal and musical chances, so there is a certain tension created as one wonders if the piece will hold together (which it does). Formally the piece is too complex and organic to hope to convincingly analyze aurally in one listening, but it left me in a thinking and imagining state. One quality of certain good music (often overlooked) is the magical effect the listener feels when not able to completely understand and grasp everything in the musical discourse. One true test of a piece is if it can continue to elicit some of that magical response on repeated listenings. My impression is that this piece could withstand this test.

I mentioned the fact that the computer part of this piece was not exceptional. I heard criticism of some of the pieces after the concert based on the argument that the computer part was often essentially just a performer playing presets on a commercial synthesizer (or a recording on tape of same). The critics felt that within the framework of the ICMC, works which extend our experiences with computers should be presented, and that pieces like the Thorensen, DeLio, and Smith works should not be programmed. I think this is an interesting and difficult point. Just about anyone can include a "computer" part in a piece of music today. There is a musician at my subway stop who plays battery operated "computer" music. Ten years ago, just about anything done in the field of computer music broke some new ground. So I raise the question here: what should we be listening to at these conferences?

As an afterthought, I would like to mention that the program notes this year seemed to be almost entirely non-technical. In some cases, musical issues were mentioned, but rarely did we have any idea what synthesis techniques, programs, etc. were used. I don't necessarily expect a technical manual at concerts, but at times it would be nice to have some idea of how and with what the pieces were made, technologically speaking. This would seem especially appropriate in the context of an ICMC. Would a simple "checklist" be that offensive? I mean, let's face it: we are all part of the same model train club...

- Cort Lippe

Review of the September 16, 1:00 PM Concert
Mara Helmuth

Concert 7, coordinated by Stephen Montague, took place on Friday, Sept. 16 in the Chamber music hall of the Musikhuset. It was one of the stronger concerts of the conference, with a variety of good music.

IMAGE: the pop can is a live electroacoustic piece performed by Ronald E. Alford and Candace Lowe. Alford, the composer, wanted to work with a versatile natural sound source often taken for granted. The amplified and processed pop cans can create a myriad of sounds from fizzes to ominously reverberated deep percussive sounds. In the dim light Alford, in a magician's top hat, and Lowe, in a benign witch's dress, tinkered with sound, inventing new relationships with an icon of today's world.

Katherine Norman's *Trilling Wire* for clarinet and tape was written for the performer, Jonathan Cooper. The title refers to T. S. Eliot's Four Quartets "The trilling wire in the blood Sings below inveterate stars..." The shiny, clarinet-based textures contain the live often-trilling clarinet part, which implies the sensation of balancing along a wire. The performance seemed well-coordinated with the tape, although I felt certain phrases were attacked with more energy than necessary for the sustained, smoothly-changing tape textures. The improvisation mentioned in the notes was not apparent to me, although the lines were lively, well-played and spontaneous.

The Canadian composer Gilles Gobeil's *Le Vertige Inconnu* is a satisfying four-channel tape piece expressing dissatisfaction with the contemporary world. Urban and often noisy sounds from trains and traffic were the sound sources for dramatic spatial gestures, forming an integrated and powerful work.

Sax Houses by James Phelps is for soprano saxophone, NeXT computer and tape. It was written for the performer, Stephen Duke. The piece explores space, both internal, dealing with instrumental acoustics, and external, hall acoustics. The composer and performer control spatial characteristics with real-time signal processing on the NeXT DSP by the use of various playing techniques and other methods. While an overall sense of meaning was quite obscure to me, I found some of the sounds, and especially the real-time aspects, interesting.

Written to accompany a sculpture exhibition of "face fragments" by sister Cherry Rahn, *Sea of Souls* by John Rahn expresses the described intensity and lyricism of the faces in the visual work not shown here. The title also refers to Rahn's love of sailing, implying the ocean contours and winds. The composer used a Lisp graphical interface to draw figures by hand and to calculate algorithmically relationships which control additive synthesis. The synthesis

was performed with twenty-two controls on each of thousands of sine waves. The resulting sounds were rich, sometimes whirring and active, and not surprisingly reminiscent of granular synthesis composition. The ocean metaphor came through in the free gestures and symphonic textures.

Riad Abdel-Gawad played violin live, and on tape several Egyptian musical instruments: darabukka, semsimaya, muzhar and urghul for his *Taqaseem No. 2*. Also on tape are field recordings of four areas of Egypt. The computer was used to create a sense of compressed time, as though one was moving quickly through different areas of Egypt. The performance was lively, spontaneous and true; the uncomplicated rhythmic violin part made a melded, reacting synthesis with the tape part to create something new, with feeling.

Manwich, a tape piece by Christopher Penrose, is "a joyride through a variety of frenzied, barbiturate, sometimes nauseating, and cleansing sonic worlds", according to the composer. Image-to-sound (Hyperupic) processing, morphing, phase vocoding and other processing techniques are craftily combined in dizzying successions. The sounds are loud, unexpected change is expected, humor ranges from silly to grotesque, and sound sources include processed pop and synthesized noisy textures. The roller-coaster ride through various textures taunts, defames and consumes itself, with the listener alternately amused and horrified.

Throat singers of Tuva sing overtones over the fundamental with enough control to produce melodies. Dale Stammen and Sean Terriah were inspired by hearing a performance of these traditional Siberian singers to write *Tuva!*, for saxophones, MIDI electric guitar and computers. Filter analyses of Tuvan singers were cross-synthesized with tenor and baritone saxophones played by Dale Stammen. Max objects developed by the composers performed the real-time linear predictive coding cross-synthesis. The piece began with smooth melodies on the harmonic series by the saxophone/vocal sound, and was joined by an insistent, folk-like electric guitar. I felt the middle section with harsher, percussive sounds was too different after this enjoyable opening material. The return to vocal and guitar sounds was welcome, and the piece finished with what sounded like the original source recording of the Tuva singers.

Review of the September 16, 8:00 PM Athelas Ensemble Concert (co-ordinator, Ivar Frounberg)

The concert opened with David Jaffe's *The Colossus of Rhodes*, a movement from his mammoth undertaking, *The Seven Wonders of the Ancient World*. There were some good moments; in particular the opening etherial string textures (with Jaffe on mandolin) and the carefully scored trills to create a tremulous web of sound. Most astounding was Jaffe's innovative use of the Mathews-Boise Radio Drum to control a disklavier. Andrew Schloss, who collaborated in the development of the interface, provided a virtuoso performance with a real `human touch'. And, call me naeve, but disklaviers are just such fun to watch ...

Frances White's *Winter Aconites* is a stunning composition in a very different vein, one of few works I've heard that achieves a complete integration of tape and instrumental sound. Individual instruments softly grasp and sustain resonances from the intermittent chords on tape; a poignant work, verging on silence - and deceptively hard to perform.

Nocturne by Erik Hyjsgaard was somewhat disappointing. I have to assume that there were technical difficulties with the tape part, which consisted throughout of a low rumble. The ensemble music, inhabiting a world somewhere between Berg and Bruckner, would be helped by more sensitive scoring.

Next, *SHaTaLe*, by Ivar Frounberg, an algorithmic work for instruments. I'm not very good at appreciating algorithmic composition and had all my prejudices out. Luckily, my ears won - I enjoyed this piece, not so much for the more obviously generated patterns but for the imaginative way the ensemble was used and the rhythmic momentum.

Howard Fredric's *The Raven's Kiss*, for tape, gave the ensemble a brief rest and provided the audience with a marvellously gothic sound, suited for diffusion in such a large concert hall. Here was a composer satisfyingly involved with the text he was processing - a poem by Charles Bukowski.

After a rather late interval (phew, lead me to the bar...) Kaija Saariaho's *Amers* (Sea Markers), for cello, ensemble and electronics, featured soloist Anssi Karttunen, who rather put the ensemble to shame. Like Frances White, Saariaho is an accomplished master of timbre, and a composer fully-immersed in her art. As a listener, I too was fully-immersed in her sonic sea, where the cello `navigates' both ensemble and audience through a maze of dense, but glorious, textures.

This was an ambitious programme with five works involving chamber ensemble, each having different aesthetic and technical requirements. In general, the ensemble rose to the occasion although a couple of works were in need of better preparation.

Review of the September 17, 1:00 p.m. Concert
Peter Castine

The most striking thing to me about this ICMC was that, even during the last concerts, it was topics discussed in two of the pre-conference workshops that most strongly affected my impressions of the music presented (I refer to the workshops on aesthetics and interactive automata, both of which, at the end of the day, dealt with aesthetic issues in computer music). I should emphasize that this was due to the strength of Trevor Wishart's and George Lewis' presentations and not to any weakness in the music presented during our annual four-day marathon—a great deal of the music presented had, to my ear, something of interest to offer, and there were several pieces that I would hear again with enthusiasm. The bad news (as you may have gathered by now, this was one of the running jokes at the conference) was that none of the pieces that I can unreservedly recommend were in the Saturday concerts. The good news is that all had at least one compelling aspect.

That Bruce Pennycook's *Praescio III* could not be heard was a disappointment to many, myself included. I mention this as a reminder that we still do not have as robust a technology as we ought (although, in comparison to the technical hiccoughs we experienced twenty years ago, merely one or two technical difficulties in the course of a week seem an enormous achievement). I suspect we still need to put more effort into applying the lessons learnt from the software crisis, even (particularly?) when pro-

gramming with tools such as Max. Rigorous application of software engineering techniques will not solve all problems, but it will go a long way to making our tools more reliable.

In place of *Praescio* we heard *Cinema Modes d'Emploi* for harpsichord and tape by Pierre DesRocher, performed immaculately by Vivienne Spiteri. The work revealed a series of rhythmic motives in a manner similar to 70's minimalism. What I found striking was the flow between fields of lesser and greater rhythmic complexity. Each movement ended with a sudden cessation of the rhythmic action, leaving the sound of harpsichord strings vibrating resonantly to die away—an attractive gesture that also served to unify the work.

Stephane Roy's work for tape, *Crystal Music 1*, is eponomously titled, in that the sound material is derived from sounds made by rubbing, striking, and chipping glass crystal. After processing, we hear a wide range of sounds, from pops and squeaks to trills and sounds reminiscent of Trevor Wishart's vocalizations. The piece is constructed of six parts in which, by the composer's stated intention, he tried to "chisel sound as one would carve crystal." This sort of chiseling in sound is difficult for the audience to perceive, and my impression was one of sections with varying degrees of nervosity.

Waves of Refraction, by Jon Christopher Nelson, is for guitar (played by Nicolaj Bak) and tape. The composer's intention is to "refract" the sounds of the guitar through various processes carried out in the preparing the accompanying tape. At the beginning of the piece the two are virtually indistinguishable, but the tape sounds soon diverge, at first slowly, then more radically, until the relation between guitar and tape is no longer audibly perceivable.

The first half of the concert closed with Robert Normandeau's tape piece, *Spleen*. The material for this piece was derived from sounds made by several teenage voices. The textures generated tended to masses of sound over a background of simple rhythmic patterns.

In a sense, the second half of the concert began before the audience returned to the hall, when we were greeted by the quiet, oscillating drone of a synthetic tamboura. Stuart Favilla's *Improvisation No. 1: Alpana* for two LightHarps made several references to traditional Indian music, and was intended as a sort of tone poem on an Indian legend. In the version heard at the concert, only one LightHarp was available. Favilla performed on this and a standard MIDI Keyboard, his partner, Joanne Cannon, played bassoon and sang. As chance would have it, a recording of the piece performed with two LightHarps is on the conference CD, and listening to the CD is a significantly different experience to the life performance. The range of sounds in the concert was much wider than on the CD, but this left me with more a feeling of unexpected eclecticism. Whereas the synthetic sounds (both those controlled by LightHarp and by MIDI Keyboard) were kept to a fairly narrow spectrum ranging from harp-like to sitar-like, the use of pitch bend enhanced (to this ear, inexperienced as it is with Indian music) the sitar sound effectively. The bassoon, however, reminded me of nothing so much as the second movement of "Pictures at an Exhibition" and the singing seemed more reminiscent of jazz than of raga.

Two movements of Larry Austin's *Rompido!* for tape were played. The piece was, according to the composer, inspired by the experience of seeing and hearing a large piece of granite torn in two, and is based on the sounds of granite (being chipped, drilled, polished, etc.) and transformations thereof. The sense of sounds being transformed was evident, in the notes I wrote at the concert I see: "chimes, hammer, chipping stone—water to buzz saw to vacuum cleaner." This was just a small number of the types of sound Austin, with the help of his studio equipment, squeezed out of a stone.

The afternoon concert closed with Ezequiel Vinao's book II of *El Simurgh* (subtitled "The Seven Valleys") for violin and tape, another piece inspired by a story from an Eastern culture—this time, Persian. The violin part, played by Ian Humphries, at times quite virtuosic, was convincingly written. The tape accompaniment seemed, during this first listening, at times arbitrary, and I was left wondering what relation between the two parts I was intended to hear.

Was it Wishart's discussion of "modulating" sounds (both in his workshop and in the keynote speech) that made me so attentive to this aspect of musical activity (and, hence, the recurring references to this in the previous remarks)? Had his use of analogy in describing synthetic sounds ("this transformation sounds like water") make me more inclined to scrawl "buzz saw" in my copy of the program notes? It seems more likely that I had always perceived things this way, but the thematization of these points during the conference may well have heightened my awareness of these aspects. Hopefully, the reader will find my remarks more informative than if I had ignored these things.

Review of the September 17, 8:00 p.m. Concert

The evening concert featured the Aarhus Symphony Orchestra with music for large instrumental ensembles with tape. The conductor, Soren K. Hansen, did an excellent job in coordinating orchestra with tape, showing great commitment in conducting, in one concert, what were presumably five first performances for the orchestra (one piece was a world premiere and three of the others are dated from last year).

James Giroudon and Jerome Dorival jointly composed *Double 3* for string orchestra and tape. The piece begins with a promise of dramatic tension with a slow crescendo, however, the composers choose not to follow through. Their concern, according to their program notes, was to create a "mirror game" between instruments and tape (hence the title, this being the third in a series). I was more struck by the development of the harmonic language over the course of the piece, more complex in the beginning, resolving on a quasi tonic-to-dominant relation at the end.

Synthecisms no. 4, by Brian Bevelander, is a "Fantasy for Piano Four-Hands, Orchestra, and Pre-recorded Tape." The orchestral parts were well orchestrated, the orchestral gestures convincing, the tape sounds attractive, the soloists excellent (as we've

come to expect from Stephen Gutman and Philip Mead). I'm left wondering what considerations led to the four-handed piano arrangement: on the one hand, a concert hall with the facilities for this piece can be expected to provide two pianos; on the other hand, there were precious few moments where the availability of twenty fingers seemed necessary. Still, it was a pleasure to hear Gutman and Mead playing together.

The first half of the concert ended with Elena Kats-Cherrin's *Clocks*, for twenty musicians and tape. Kats-Cherrin found a seldom used, but obvious (all the more obvious for a piece with this title) solution to the problem of synchronizing musicians and tape without the use of click tracks or other, more high-tech methods. The audio track was the click track, with clearly audible impulses on each quarter note, the odd quarters more strongly accented, as appropriate for 4/4 time. The orchestra followed the unmistakable metre, although there were sections where I heard a clear 3/4 metre against the conducted 4/4. This left me wondering what Desain's and Honing's shoe-tapping computer would have made of the music (more precisely: which of the two metres the various algorithms implemented would have picked out).

Philip Mead returned to the stage after the intermission to perform in Alcides Lanza's *Concerto for MIDI Grand Piano and Orchestra*. The piece contained many expressive moments and some that I tend to describe as 'sleazy' (perhaps I would have been more open to these if I were more familiar with the Argentinean tango repertoire Lanza chose to quote in his music).

The concert closed with the premiere performance of *Bells of Earth*, by Thorsteinn Hauksson. This piece for orchestra and tape had been commissioned by DIEM for the ICMC. (At the ICMA General Assembly Larry Austin took pains to remind us not to confuse the ICMC commissions with the two ICMA commissions.) This work was, for me, the most convincing of the evening, with a sense of musical drama, symphonic gesture, with the tape playing an integral role in the musical development.

Again, in this concert, my mind kept returning to the pre-conference workshops, particularly Lewis' discussion of interaction. This may seem strange, given that Lewis' genre is improvisation and none of the symphonic works were improvised. However, Lewis did discuss the perceived relations between acoustic events from human-controlled and non-human-controlled instruments (with the latter I mean both pre-recorded tape and MIDI) as well as the "theatrics" (in the sense of the relation between visible actions and acoustic perception) of music. Regarding the former, there was a definite correlation between the degree to which a discourse between synthetic sounds and orchestra was perceivable and my subjective aesthetic impressions. Regarding the latter, I know that I was disturbed in at least one piece by hearing things I thought came from the orchestra without seeing either the cause of the sound. If there is no sense of any sort of acoustic transformation or processing to warrant the use of synthetic sound generation, I ask myself "why bother?"

As I write this, the topics referred to above appear not much more than common sense. But, I've heard enough music where the points made seem to have been disregarded; the focus on these topics in the workshop certainly made me more conscious of them in my listening and in writing this review. If this focus results in more coherent compositional activity, either on my part or on the part of those readers compositionally inclined, then, perhaps, the time I spent in writing the above, and the time you have spent in reading it, will prove to be a worthwhile musical investment.

Standard disclaimer: all impressions and reminiscences are my own. Your mileage may vary.

[ED. NOTE: The following two reviews were written by individuals attending the ICMC for the first time.]

ICMC Overview
Terry Pender

This past September I attended my first ICMC in Aarhaus, Denmark. I thought it might be interesting to share some of my impressions.

To begin, I was amazed at how well organized the conference was! The city of Aarhus was a great location. It was safe, friendly, and easy to get around.

The one thing that impressed me most was the level of technical accomplishment that was shown. Almost every piece was extremely well done from a technical standpoint. After years of listening to tapes of student recitals, the quality of sound produced by the computer was startling. At the same time, though, I was kind of bothered

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by the fact that many of the pieces I heard seemed to lack any depth from a compositional prespective. I couldn't believe the access to equipment and technical resources that some of the composers had, and I was upset when I thought they used it poorly or on uninteresting compositions.

I was also impressed by the diversity of styles that came from a somewhat narrowly defined community of musicians/technicians. Pieces ranged from the ear-splitting volume of Michel Waisvisz' *hands* to Francis White's meditative *Winter Aconites.* It was great to hear Roberto Morales-Manzanares' *Cempaxuchitl* with its rich traditional music influence, Chris Penrose's out-of-control Hollywood *Manwich* and George Lewis' wonderful trombone improvisation. If you throw in some questionable performance art, a great Electric Swaying Orchestra, some not-so-great live orchestra performances, and a ballet, well, that's diversity! Compositional aesthetics ranged from works based on "noise sounds" to the lush orchestral textures of Ira Mowitz and John Rahn.

It was interesting to meet some of the people who wrote all those great tools for the NeXT computer. It's always fun to put faces with names, but it's even better when you get to meet them and hear some of their music.

I listened with great attention to Trevor Wishart's keynote speech on how we need to educate schoolchildren about computer music and provide them with low-cost , high-quality equipment. I think it's a great idea, but a little off the mark. We do need to provide a better and more comprehensive education for everyone, but the goal shouldn't be to create millions of computer musicians/composers. If the goal is to educate people so that they will listen to our music, then perhaps we are trying to create a market that doesn't exist for a product that's not always so good. Simply exposing more people to computer music will probable not significantly increase the market for it. Compare this to teaching people to read and write. We are successful in teaching these skills to most people, but the majority of adults never read what would be considered great literature. As for writing, the only time most Americans write is when they sign their name to a check. But again, what is the goal? Perhaps it should be to create an atmosphere for a rich and varied learning experience so that children will have the tools necessary to appreciate all of the arts. Music has a function in almost everyone's life, but many people are not looking for the types of experiences we as computer musicians are offering them. This is why the diversity of music performed at the ICMC was one of its greatest strenths. It offered a broader spectrum of styles than most music conferences.

The acceptance of styles typically considered outside the realm of classical or art music seemed to be one of the most positive aspects of the ICMC.

Most important to me was the opportunity to hear so many compositions. The entire event gave me a million ideas for new pieces. I heard so many works in such a short period of time that it made the really good ones, as well as the really bad ones, stand out. It gave me an idea of who was in a rut and who really had something to say. It also helped me to focus my ideas about my own composing - what I have to say, and how I intend to say it.

A Rookie at the ICMC
Doug Geers

This fall I was lucky enough to attend my first ICMC, and the experience left several vivid impressions. First and most importantly, I discovered that behind its formal presence in pages of journals such as Array and the Computer Music Journal, the ICMA is actually composed of a group of friendly, interesting people. Not that I don't enjoy these publications; its just that I feared a barrage of buzz words and technospeak would pervade the entire week. I guess I should have known better, since the only two active ICMA members I had met previously were Larry Austin and Brad Garton. To my happy surprise, most of the ICMA membership also seems to know when to use the long words and when to tell a good joke. Also, congratulations to Wayne Siegel and everyone involved for such a professional, dazzling administration of the conference events.

Being a composition student, I was especially interested in hearing the music and somewhat afraid of incomprehensible paper presentations. In all honesty, some of the papers were over my head. Others, however, were quite interesting and also comprehensible to me in real time, as opposed to when I read the conference proceedings on the plane home. For instance, I found Miller Puckette's talk on the future of MIDI very entertaining and thought provoking. Later, the discussion of the proposed ZIPI protocol seemed to be trying to answer some of the questions Miller posed—but will the manufacturers buy into it? The talk by Adrian Freed on a proposed new design for analog signal processing, while not exactly "computer" music, was also fascinating.

Speaking of real time, several papers focused on production or processing of sound in response to real time stimuli. This is obviously one of the major challenges for todayUs computer music researchers, pushing the limits of available technology. Possibly because the hardware is still being worked out, I wasn't very impressed by most of the pieces that attempted utilize

these techniques. Of them, I enjoyed Cort Lippe's *Music for Clarinet and ISPW* the most.

As far as the concerts went, I was both impressed and disappointed. The technical skill employed by most of the composers is truly amazing. Unfortunately, some of the pieces sounded to me more like dazzling demos than well thought out musical statements. I may be one of those soundbite-fed, MTV generation kids, but to me several pieces went on too long. It seemed that some of the composers felt that for their pieces to be 'significant' the music had to reach a certain length. Several times I thought to myself that a piece would have had much more impact on me if it would have ended sooner—personally, I don't think that there's anything wrong with pieces under 15 minutes. For instance, Stravinsy's *Symphoies of Wind Insruments* is less than ten, and I enjoy it quite well.

Moreover, some of the composers seemed to expect a 'gimmick', such as realtime response to a controller, to validate their music. Of course I appreciate composers trying to utilize new technology — that's what the ICMA should be about, in my opinion. Also, some of these pieces were quite successful, such as Satosi Simura's *Tikukan no utyu II*, for Sakuhatchi and computer, and Atau Tanaka's performance with the BioMuse muscle tension controller. However, some other pieces didn't achieve this level of success. In fact, a couple of them seemed embarrassing to me, as a performer gyrated or marched around the stage triggering sounds like a kid showing off his newest toy, gaining attention mostly as a spectacle and not for what was happening musically.

As I said at the beginning, meeting and speaking with other ICMA members was the best part of the conference for me. I had a good time and also learned from the people with whom I conversed. And while I could rattle off a score of names (and those are just the ones I remember!), the only person I'll mention is Greg Taylor, who mercifully took time to talk whenever that 'alone in the crowd' feeling crept up in me, and never failed to have something fascinating on his mind. All I can say is thanks, Greg! This man has the wit and knowledge that are just what America needs as an antidote to Rush Limbaugh — is Greg the anti-Rush, perhaps?

In conclusion I must also say congratulations to Wayne Siegel and everyone involved in making the 1994 ICMC happen. This was my first time, but I have a feeling that this ICMC was an especially professional and dazzling event. Now that the conference is over, I sit back — wearing my ICMC T-shirt, listening the CD, and leafing through the 1994 Proceedings (something that can keep me occupied for quite a while.) The memories are good, but what I crave most now is a ticket to Banff next Fall. Hope to see you all there!

ICMC 1994 Environs
--Gary Singh

Since there is already a healthy dose of concert reviews this time around, I figured that I would shed some quick light on the environs of the ICMC; on how the atmosphere, the staff, the community, and the overall surroundings were important factors in the success of this year's conference in Aarhus.

The hospitality of the Aarhus community was completely unexpected. I arrived on Friday the ninth, at nine p.m., fresh off the shuttle from the airport, expecting the worst. Once on the bus, I had no idea where to go to find my place. A total stranger actually got off the bus with me, walked me through a few side streets and took me up to the front door of the place where I was staying. The next day we got lost again, this time while driving. Some construction workers actually stopped in the middle of their work, threw their stuff in the back of their truck, and had us follow them out to the right street! In the USA, these acts would be extremely uncommon.

The friendliness and hospitality of the staff also impressed a lot of us from the beginning. They were definitely a key factor in the enjoyment of this conference. They never once showed the slightest sign of anger when I acosted them to check my email every day. They were always helpful, courteous, talkative, and one girl even mailed a bunch of postcards and ran a few errands for me. Their overall attitude brought a most pleasant addition to my relentless routine at the ICMA table.

Being that this was my first time in Denmark, I spent a great deal of time going through travel guides, and everything I read about the restaurants and drinking establishments was right on. From a half hour getaway at a local British pub to joining a party of twelve at Jensen's Bofhus, the surrounding neighborhood was perfect for an ICMC. We were able to walk almost anywhere and sample a great variety of restaurants and bars. We literally lost our shoes at one place. Everything was centrally located, and this helped out tremendously.

The atmosphere of the Music Hall was also an important feature of the conference. One of the most elegant and pristine facilites I have ever seen, the Musikhuset impressed almost everybody in attendance. From Wayne's "bell-call," signalling the beginning of a concert to the infamous revolving doors in the foyer, the Music Hall had this certain aura of 'laid back elegance.'

This was only my second ICMC, the other being when we hosted it in 1992. Since I had been a member of the sound and stage crew in San Jose, I was fully aware of the rigors entailed by the tech grunts. In Aarhus they did a fabulous job. Even if there were problems, I didn't notice any. Despite daily changes in the programs, the tech crew pulled off everything almost flawlessly, or at least they made it seem that way. I'm sure there was a certain amount of technical nightmares at the last minute, but they kept it all behind closed doors and out of the public's eye.

The administrative crew was equally outstanding. If one has not been involved with putting on an ICMC, it may be hard to understand the headaches, the stress, and the insanity of it all. Everybody has to do about forty things at one time. In Aarhus, the cooperation of the office staff was truly a blessing. Every day I remember walking into the office and asking Lis if I could check my email, print something out at the last minute, borrow some piece of equipment, or use the fax machine for an hour and a half. On a regular basis, I would waltz in and add to the already unsurmountable confusion. Nobody once gave me a bad time.

For me, it was these little things that made the conference. I second all the congratulatory remarks to Wayne and Lis.

To Market! To Market?

To Market! To Market?

Brad Garton

At the recent ICMC, there was much talk of reaching out with our music to new audiences, to expand our base of listeners, to rid ourselves of the "ghettoization" of tape music, to cast off the mantle of marginalization that binds serious new music. While of course I endorse these ideas in principle, and I think the world truly would be a better place if more people attended to more diverse types of music (expanding minds, all that), I feel some ambivalence about the nature of the reach-out enterprise. This short article is an attempt to articulate some of the "problems" I perceive —aspects of computer music promotion that make me feel a little uneasy. I don't offer any solutions to these problems. The best I can suggest is that we approach the task with our eyes as open as possible. We should work to cultivate a hyper-awareness about how our music is packaged and delivered. My own impression is that this packaging and delivering of our music has a much more profound effect on the listener (and the societies of listeners) than the acoustic signals we traditionally think of as being The Music.

This effect is bi-directional, too. One of my first concerns about the promotion of our music has to do with the backwards reflection this activity has on the composition of our music. Corporate structures in our society suggest that promotion can be cleanly separated from creation and production: the Marketing and Advertising departments take over after the Research and Development departments have done their job and the commodity is winding merrily down the assembly line. In my experience this model is fundamentally false. The selling of an item surely exerts an influence on the present and future shaping of that item. In the case of as mutable and fluid a thing as music, that influence can be quite dramatic. I remember (not so long ago!) when playing in various rock bands in high school and college, we invariably had long and often heated debates about "selling out". Once you begin to explicitly acknowledge a particular target audience, your music begins to bend towards the perceived critical consensus of that audience. Now I'm certainly not saying that our music should (or even could) exist independently of *some* perceived audience. I just want to point out that when we pursue a wider listenership, this will have an influence on what we compose. "Selling out" is a crass and pejorative term, but the core of the idea — that the choice of an audience changes the music — is valid. Do we want this change?

I'm also concerned about the human transaction that takes place as we move to promote our music. If the act is of a "here is the Real Heavy Stuff, you should listen to THIS" or a "smell me, I'm the Future of Music" or the related "High Culture for the Masses" nature, then I want no part of it. Reading (for example) *The New York Times* Arts and Leisure section is a downright depressing experience for me, because it seems that the whole point of the text is to provide an arena for the no-holds-barred, willy-nilly climb to the top of the heap that unfortunately characterizes for many what it means to be an artist today. Do we want to be part of that activity? Is this the purpose our music should serve? Surely there are many shades of grey here, but I guess I'm saying that we should be extremely careful to figure out what we are saying as we say something in the manner we say it (!).

Related to this is the notion that when we seek to engage a larger audience, we are at least partially adopting the rules of extant musical marketeers. My own view is that since we are already involved in an alternative musical universe, we shouldn't be so hasty to play a game by "their" rules. For one thing, we would lose — we can't seriously compete within a structure designed for the selling of Michael Jackson. And the concept of "competing" for listenership itself is suddenly putting our music into a strange and not-so-wonderful situation. I would rather we use our situation as an alternative musical culture to explore new possibilities for the dissemination of our music. What new channels exist? What new methods can we adopt or even invent for the distribution of our art?

I have a few pretty hazy ideas about alternatives we can explore, most of them involve some utopian vision of the Internet and the development of a range of "global villages" defined through music itself. Ultimately I would like to see music become less of a commodity of exchange and more a medium of exchange; a shift from "marketing" to "communication". How this could happen (or if it is even possible — in my more cynical moments I really doubt it) probably involves some fairly major undermining of the division between "composer" and "audience".

Of course, all these concerns come from someone who currently has a job in academia, so they are in one sense by definition "academic". I'm not sure how I would feel about gaining market-share if I were in a different position. At the root of these comments, however, is the question of who we want to address with our music. One of my favorite teachers always stressed that "you have to write music for yourself". This must be true — if *I* don't like the music I create, then I certainly shouldn't expect others to appreciate it. The thorny issue then becomes how to integrate this self into society. How do you want to be?

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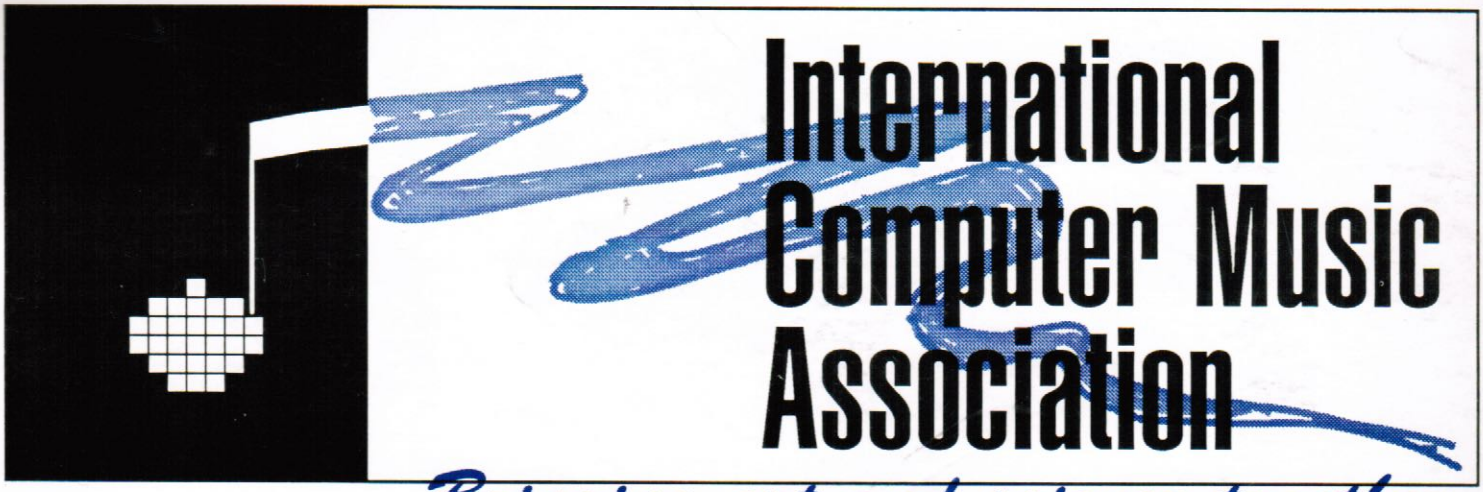

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