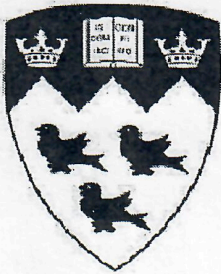


NEW INTERFACES FOR
NIME 03
MUSICAL EXPRESSION



MAY 22 - 24 2003
MCGILL UNIVERSITY
MONTREAL

Special Events Program

NIME 03

Schedule

Thursday

Garth Paine - Plant A
Room C304, 4:00pm- 6:30pm

Tomie Hahn and Curtis Bahn - Pikapika
Room C310, 4:30 – 5:30pm

STEIM Workshop I
Room E230, 4:00pm – 6:30pm

Friday

alcides lanza - Lecture on Hugh LeCaine
Room C201, 4:30pm – 5:30pm

STEIM Workshop I
Room E230, 4:00pm – 6:30pm

Saturday

Richard Boulanger - StarDust
Room C304, 4:30pm – 5:30pm

STEIM Workshop - 'ensemble'
Room E230, 4:00pm – 6:00pm

Pikapika - an interactive sonic character, and recent work.

Tomie Hahn and Curtis Bahn will present "Pikapika" and other recent work in the composition of interactive sonic characters. Pikapika is a character influenced by anime and manga, Japanese pop animation and comics. Pikapika embodies movements from bunraku (puppet theater), a movement vocabulary Tomie studied while learning nihon buyo (Japanese traditional dance) pieces derived from the puppet theater. The concept of the sonic punctuation of Pikapika's movements is drawn directly from the bunraku musical tradition. However, the actual sounds are not drawn from bunraku musical vocabulary. Pikapika dons a new wireless interactive dance system (SSpeaPer, Sensor-Speaker-Performer) created by composer Curtis Bahn. SSpeaPer naturally locates and spatializes electronic sounds to emanate from the speakers mounted on her body. As Pikapika moves, her gestural information is sent by radio to an interactive computer music system. The sounds are then broadcast back to her body, creating a new audio "alias" for her character; a sonic mask. As with all interactive Bahn/Hahn collaborations, the form and texture are under the complete control of Tomie as she dances. Each performance is a unique instantiation resulting from the dancer's "improvisation" with the computer music system.

Tomie Hahn is an Assistant Professor of Performance Ethnology at Rensselaer Polytechnic Institute. She received her Ph.D. in Ethnomusicology from Wesleyan University. Hahn began studying nihon buyo (Japanese traditional performance) at the age of four and received her natori (professional stage title) Samie Tachibana in 1989. She also teaches and performs the shakuhachi (Japanese bamboo flute). Hahn's current research spans a variety of topics from Japanese traditional performing arts, Monster Truck rallies, issues of identity and creative expression of multiracial individuals, and gestural control of interactive media. She has been collaborating with Curtis Bahn for over seventeen years, creating new pieces for the shakuhachi and choreographing contemporary interactive dance pieces.

Curtis Bahn is an Associate Professor of Computer Music and Director of the iEAR Studios in the Integrated Electronic Arts program (iEAR) at Rensselaer Polytechnic Institute. He received his Ph.D. in Music Composition from Princeton University, where his primary teachers were Paul Lansky, Steve Mackey and Paul Koonce. From 1986-1993 he was the Technical Director of the Center for Computer Music of the City University of New York, where he worked and studied with composer Charles Dodge. He has taught at the Columbia University Computer Music Center (CMC), NYU, Princeton and CUNY. Bahn's recent work has led him to build numerous alternative controllers for music and dance performance and an array of multi-channel spherical speakers.

Plant A – An interactive installation by Garth Paine

A weed, so easily crushed underfoot, can push its way up through a tarmac path, creating a sizeable fracture in what appears to us to be an impervious surface. One might postulate that if the weed could see the bigger picture, it might have decided to grow two feet to the left in the flowerbed or the grass.

It is exactly this chaotic behaviour of the natural world that informs the Plant A installation. Whilst human kind tries to harness or tame the chaotic forces of nature, or to explain it in theories such as quantum mechanics and fractals, humanity cannot perceive a truly chaotic state. The forces of nature that dictate the growth of plant life fall into this category. It is not possible for us to predict with certainty the meteorological conditions from day to day, let alone year to year, and certainly not on the micro scale of the weed in the footpath. It is precisely these chaotic variations that are used in Plant A to conduct the sound score - to control and dictate the output of the real time synthesis process.

The software design process predetermines the general structure and aesthetic of the sound, but the momentary output is unique. It is unlikely that the combination of wind speed, wind direction, solar radiation, and temperature that occur in this instance will be precisely replicated in any other moment. This chaotic variation is the very source of diversity, and is why the realtime synthesis process in Supercollider is used in preference to mixing of pre-recorded sound samples. This piece is occurring in realtime, driven by an outdoor weather station that is collecting wind speed, wind direction, temperature and solar radiation data, that is collected and treated in MAX and fed as MIDI pitchbend data to Supercollider where 6 algorithms generate 8 channels of musical sound.

Plant A uses the abstraction of the gallery aesthetic as a way of representing the paradox observed in organic plant life, where the apparently static external face of the plant contrasts the hidden, dynamic activity of photosynthesis and nutrient gathering that keeps the plant alive, and drives it's growth. These sounds give a voice to the secret inner life processes of the plant.

The viscous and fluid aesthetic of the sound material is an attempt to capture something of both the dynamism of the processes that maintain life and the ever-changing, silken thread that is the presence of life, the life force itself. The fact that the sound material is generated on the basis of meteorological conditions is a way of drawing, as tightly as possible, the bond between the processes of nature and the processors of the Plant A installation. The sound material cannot then be avoided, being the voice of the processes of nature.

Sound and music is in many ways a unique media, for it is not an external artefact. Sound literally penetrates the body. It is also impossible to concretely tie composed sound or music to a representation of anything beyond a communication of emotional states and journeys.

This project was funded by Arts Victoria. Its original form was as the Reeds installation you see in the photographs. More information is available from (<http://www.activatedspace.com.au>) or by emailing the artist garth@activatedspace.com.au

The Le Caine instruments: a disappearing technology

This presentation will be devoted to an explanation of the more important among the many electroacoustic inventions of Hugh Le Caine. A visual documentation of the machines which, at one time were part of the Electronic Music Studio at McGill, will give an idea of the rather large scope of his research. Some short works produced with the Le Caine machinery will be played: John Bowsher: Sonata Pian e Forte [solo tape, based on a Giovanni Gabrieli piece]; alcides lanza: plectros III, for piano and tape; Hugh Le Caine: Dripsody [solo tape, version from 1957]

Some of the Le Caine inventions to be included in today's presentation were:

- Oscillator Bank [OB] [1957-59], the unit at our EMS [built in 1961] consisted of 24 wave generators [sine, square, pulse and sawtooth waves] controlled by a touch sensitive keyboard.
- Tone Mixture Generator [TMG]: this very special unit consisted of 13 sine tone generators, each equipped with pitch and amplitude controls.
- Filter Bank [FB]: octave filters, six of them on a panel, designated as A, B, C, etc. These filters could be used in series or in parallel. Structured Sound Generator [SSSG], or the Multi-Track Tape Recorder [MTTR] for further treatment.
- Voltage Controlled Filter [VCF]: built in 1957 [an improved version was produced in 1962] had a HI-Pass, LO-Pass filter, controllable by voltage. More advanced versions of these filters became part of the Polyphone [Poly].
- Multi-Track Tape Recorder [MTTR] was also known as "Special Purpose Tape Recorder for Montreal". The initial machine [1957] had six stereo tape recorder heads. The unit at McGill had ten stereo heads, hence a potential for 20 different channels of recorded information. It was the six head machine that Le Caine used for the creation of his well known piece, "Dripsody" [1955].
- Serial Sound Structure Generator [SSSG]: Separate modules stored sequences applied to four musical aspects of sound events: duration, pitch, envelope and timbre. All sequences were stored and coordinated by 'timers'. An additional switch provided a choice of a set of 12 'tempi', controlling the overall duration of the sequence. This sophisticated unit could also play the sequences in reverse mode, inversion and retrograde inversion. The number of terms or steps programmed for each module - from 4 to 13 - could be assigned individually. The SSSG could interact with other Le Caine units, like the TMG, the VCF and also the Multi-Track
- Polyphone: The prototype - and only unit built - was delivered to the EMS in 1970. In essence, it was a polyphonic analogue synthesizer, utilizing voltage controllable sources and procedures, and operated by a keyboard with touch-sensitive keys. As far as anyone can tell, the Poly was the first analogue, voltage controlled, polyphonic synthesizer in the world, pre-dating the Moog and Buchla by almost a decade.

In the 1980's, at the initiative of the Hugh Le Caine Project, an effort was made to bring together all surviving Le Caine creations under one roof: the Museum of Science and Technology in Ottawa. In September 1987, the McGill EMS donated all the Le Caine units housed at McGill to that Museum's collection.

alcides lanza

StarDust (2003): A Real-time 4-channel MultiMedia Work for Two G4 PowerBooks and Two Mathews Radio Batons

(Realtime Synthesis and Image Processing via Max/MSP/Jitter by Richard Boulanger)

Original Images and Movies by Jana Saleh

(Additional images from the Nasa Hubble Space Telescope)

(Custom Audio and Video Software Development by Greg Thompson)

Richard Boulanger - Radio Baton (audio)

Greg Thompson - Radio Baton (video)

with special guest Dr. Max V. Mathews

StarDust is an interactive multimedia work developed in Max/MSP/Jitter under the realtime audio and video control of two Mathews Radio Batons. A quartet of audio "players" is paralleled and synchronized with a quartet of video players. The audio is synthesized and modified in realtime using four of the models/instruments from The Perry Cook synthesis toolkit - Guiro, BowedBar, Wuter, and Shaker. These are triggered, shaped, looped, processed, and mixed by the movements of the radio batons. The piece is in quad, and each of the players can be localized in any of the four speakers either directly, randomly, or by the movement of the baton. Likewise, the video system features four "photo/movie players" whose sequencing is activated and synchronized by a corresponding audio player. These moving images, from the Hubble Telescope, and from the collection of stills by Jana Saleh, are selected, frozen, zoomed, traversed, blurred, granularized, distorted, filtered, colorized, etc. by the movements of the radio batons.

This piece is inspired by Hubble's grand and glorious new views of the heavens above and the revelations, answers, and endless questions that they bring with them. What, when, where, how, who, why ...am I? ...are we? StarDust grew from, and was inspired by, the ideas, suggestions, and significant contributions of my two student collaborators Jana Saleh and Greg Thompson. This piece is humbly and gratefully dedicated to them. Truly, they are the star stuff of this work.

RICHARD BOULANGER (rboulanger@berklee.edu) was born in 1956 and holds a Ph.D. in Computer Music from the University of California, San Diego where he worked at the Center for Music Experiment's Computer Audio Research Lab. He has continued his computer music research at Bell Labs, CCRMA, The Media Lab @ MIT, Interval Research, Analog Devices, and IBM. He has collaborated extensively with Max Mathews, Barry Vercoe, and John ffitch. Boulanger's music is recorded on the NEUMA label. Boulanger is currently a Professor of Music Synthesis at The Berklee College of Music in Boston and is the Editor of THE CSOUND BOOK by MIT Press.

ABOUT THE RADIO BATON: Developed by the "father of computer music," Max Mathews (m.v.mathews@worldnet.att.net), the Radio Baton is a system aimed at providing a more expressive way of performing on computers (<http://csounds.com/mathews/>). It allows the performer to freely move two "batons" (radio transmitters) in three-dimensional space above a sensor surface. The sensors trace the locations of the ends of the batons and send their X, Y, and Z coordinates to a computer that is programmed to interpret the performer's gestures in a musically useful way.

Steim Workshop I

Thursday and Friday 4pm-6:30pm

Room 230

Steim will present the latest version of its live sampling software tool, LiSa X v1.0 and also: Junction X, a control signal re-router, both for Mac OSX in combination with custom built controllers using the SensorLab, and hacked USB Game Devices.

LiSa X is a live sampling tool specifically designed for real-time manipulation of many sound parameters at a time. LiSa leaves the idea of a keyboard oriented sampler behind and provides tools for instantaneously and freely playing sound in many directions, speeds, patterns and controlling this with simple sensor instruments in a rapid, effective and intuitive way.

The new version is optimized for OSX using Apple's CoreAudio and CoreMidi technologies. Also an older gestural MIDI controller: The Midi conductor, will be demonstrated with LiSa using Steim's well known sensor data acquisition system The SensorLab

During this workshop new software will be introduced: Junction X. Junction X allows users to translate data from USB game devices such as Joysticks and (wireless) Game Pads into MIDI data that can be applied to any available piece of MIDI receiving software. The presentation will be given by Steim's software designer Frank Baldé, who together with Steim's artistic director Michel Waisvisz has created LiSa and Junction X .

Steim Workshop - 'ensemble'

Saturday 4pm-6pm

Room 230

'ensemble' is a workshop for children. It investigates the use of simple sensors as a means of playing a piece of electronic music.

'ensemble' is a suitcase full of sounds and clothes. Each piece of clothing is a simple sensor that modifies a sound or a voice. The sensor is incorporated into a garment and together each set have their own possibilities for movement and control.

The position of a mans hat, the swoosh of a dress, the darkness of a ladies bag...

'ensemble' is an exercise in listening and finding yourself in a complex sound field. it is an exercise in listening to each other while playing together.

'ensemble' is a live soundpiece played by by the orchestra of those who dress up.

'ensemble' is being developed at STEIM by kristina andersen with assistance from Frank Baldé, Jorgen Brinkman and Michel Waisvisz.