**The First NYC Electroacoustic Improvisation Summit, New York City College of Technology**

**Thursday 27th Febrary, 2016**

*by Eric Lyon*

For a while now, mainstream computer music conferences such as the ICMC have faced a curatorial challenge, as computer music has become increasingly varied in its scope and has achieved near ubiquity in its means of production. It has become difficult to highlight a particular research agenda or compositional direction at these events because the conference is quickly swamped by the sheer variety of research directions in play. While the resulting smorgasbord of ideas and music, along with an essential community-building aspect, ensures the importance of the ICMC and similar conferences for the foreseeable future, it is now largely the role of smaller events to bring focus to thematic directions of particular interest.

This curatorial impetus has been met admirably well by a new event called the New York City Electroacoustic Improvisation Summit (EIS), conceived of and directed by Kevin Patton and

Adam James Wilson. The inaugural EIS took place at New York City College of Technology on February 27th, 2016. The focus of this summit was instrumental improvisation in interaction with computer systems that themselves provided improvised structures and signal processing.

The role of improvisation in computer music has an interesting history. We define computer-based improvisation as music in which the computer improvises or responds to the improvisation of a performer in real-time. Different inputs lead to different outputs, which is sharply distinguished from the "instrument and tape" model in which the output from the computer is fixed and irrespective of the musical behavior of the live performer. The slow CPU speeds available when Max Mathews wrote the first acoustic compilers at Bell Labs during 1957-1966 precluded computer-based improvisation. Instead, a compositional framework for computer music was established in which music is programmed and compiled to a fixed medium outside of real-time. As microprocessors and personal computers became available in the 1970s, ensembles such as the League of Automatic Composers began to create live, improvised, networked computer music performances. The publication of the MIDI 1.0 standard in 1983 greatly accelerated exploration of live

computer music, which often had a large improvisational element. Notably, most of this work was centered around the affordances of the MIDI protocol, which allows for organizing musical structure at the note, harmony, melody, rhythm, and instrument level, but affords little control over sample-level DSP.

At the same time, there was an intense focus on developing the possibilities of DSP in mainstream computer music during the 1970s and 1980s, resulting in important breakthroughs such as Frequency Modulation, LPC, and FFT-based processing. So there was a kind of bifurcation for a time in computer music between non-real-time, composed, DSP-focused music, and real-time, improvised, musical pattern-based music. However even as early as 1980, one can see a trend toward increasing interest in live, microprocessor-based music, when reviewing the titles of the papers from the 1980 ICMC.[1]

In the decade of the 1980s, arguably the most ambitious computer music improvisation project was George Lewis's *Voyager* (1986-1988), which features a computer-based, improvising expert system that analyzes and responds to live improvised input from human performers (or even from itself). As the 1990s progressed, a couple of important transitions occurred. First, increasingly

fast CPU speeds enabled a transition from MIDI (and the relatively unadventurous sounds provided by commercial digital synthesizers), to live digital synthesis, where the accumulated power of computer music research into audio DSP could be increasingly leveraged into live computer music performance, which often had a significant improvisational element. At the same time, as I've argued elsewhere,[2] computer musical timbre research seems to have hit a plateau in the 1990s, creating space for a redirection of computer music research efforts that, I believe, still remains to be fully acknowledged and acted upon. One such space is computer-based improvisation, which brings us back to the EIS.

While electroacoustic improvisation is not necessarily limited to computer music, at the 2016 inaugural edition of EIS, a decision was made to program exclusively computer-based improvisation. This curatorial decision led to a focused program of improvisational computer music works that demonstrated a broad range of musical expressivity, while validating the proposition that computer-based improvisation is a musical category worthy of attention.

Chapman Welch's *500 Great Things about Wichita*, performed by Brandon Bell, commenced with vigorous on-body percussion strikes on chest and

legs, which was quickly joined by a delicate, computer-generated harmonic accompaniment. The work then transitioned to a series of short sections, each characterized by performance on a single percussion instrument with autonomous computer-generated accompaniment, based on live sampling of the percussionist. The eloquent and structurally convincing decisions made by Bell, combined with the freedom afforded by the improvisational context, made this a lovely and satisfying musical offering.

*Clip Mouth Unit*, a duo project of Dafna Naphtali and Jen Baker performed with a high-energy mix of Baker's trombone interjections and Naphtali's intense yet urbane vocal stylings, combined with varied and unpredictable computer-generated textures and live processing of the acoustic sound, all presented with a comic's madcap sense of timing. Despite a wide range of surprising musical swerves, the performance never lost focus.

My *Parallel Noise Construction* was composed for the new music violin duo String Noise. One of the violinists, Conrad Harris, was out of town, so I performed his part, with Pauline Kim Harris on the other part. The work is a noise-driven improvisation in which a program generates dual sets of improvisational performance instructions, while also randomly assembling different signal processing algorithms through

which the violins are processed. During the sound check, Kevin Patton performed my part on violin so that I could listen from the main hall. His improvisation was intense, and also quite different than mine, or Kim-Harris's. This suggests the intriguing possibility that at another electroacoustic improvisation summit, performers need not play their own pieces, but rather could swap into performing through someone else's system.

*A Bird Escaped From the Snare of its Fowler* by Kevin Patton and Nikki D'Agostino combined D'Agostino's hyper-intense saxophone playing with a more deliberate music coaxed from the computer by Patton, based on real-time analysis of the saxophone performance. D'Agostino's improvisation had some fine lyrical moments that nicely balanced the initial mode of intensity that dominated the performance.

*Eighteen Eighteen* performed by Adam James Wilson and Arto Artinian unleashed frenetic, heavy rock stylings performed by Wilson on electric guitar, and an intense keyboard backdrop performed on Haken Continuum by Artinian, all mediated by an oracular listening and improvising program written by Wilson. At times during the performance when a spooky third voice hovered, I was reminded of the mysterious third that walks always beside you, as described in T.S. Eliot's The Waste

Land.

*Tattoo of a Gesture* by Margaret Schedel stood out at in its use of a printed score that integrated both textual instructions and precisely notated rhythms. Christopher Howard contained the manic expanse of composer-provided possibilities within a taut, obsessively controlled, and increasingly virtuosic performance. While computer processing was clearly audible, particularly in live filtering of drum sounds, the main sonic focus was on the percussive sounds produced by Howard.

*Solo for Voice and Computer* composed and performed by Paul Botelho reminded of what an incredibly intimate instrument the human voice can be. In this delicate improvisational duet, Botelho seamlessly merged his live voice, an exquisite countertenor, with a live-generated texture built from sampling of the voice, and initiated by interactions with his laptop computer keyboard. Botelho cannily integrated expressive physical gestures into his performance, particular of the hands and arms, making his occasional human-computer interactions seem completely natural. The expressivity of the performance seemed both the point, and completely impossible to notate.

Through the aesthetic success of the first

EIS, Patton and Wilson have provisionally validated their proposition. They now face a wealth of possibilities to explore in the next EIS. Will the range of electroacoustic improvisations be broadened beyond computer interaction to embrace analog electronic systems? Will invited musicians workshop their systems for the public? Will members of the public have an opportunity to experiment with featured improvisation systems? Will the performances be broadcast to the Internet, or archived online? Will telematic improvisation be incorporated? Will improvisation systems with no humans in the loop be presented? Patton and Wilson have already made a serious contribution to computer music with their first EIS. It will be quite interesting to see what direction they choose with the next one.

**Notes**

1. http://quod.lib.umich.edu/i/icmc/bbp2372.1980?rgn=full+text

2. https://www.researchgate.net/publication/298981852_The_Future_of_Spatial_Computer_Music

**ICMC 2016 Concert Reviews Utrecht, The Netherlands**

**Thursday 15th September Robert Henke - Lumière II.2 TivoliVredenburg Grote Zaal 21:30 - 22:30**

*by Lauren Hayes*

*Lumière II.2* is an evolving piece, composed in hardware and software, heard in sound, seen as light, and played out over dozens of performances in sites that range from castle courtyards to industrial spaces. The work is synæsthetic – at least in metaphor – by not quite producing involuntary experiences in a secondary modality, but offering beautifully coupled audio-visual phenomena. At ICMC 2016 this took place inside the Grote Zaal, being the only performance of the conference held in TivoliVredenburg's grandest space.

The theme of ICMC 2016 was 'Is the Sky the Limit?' and Robert Henke introduced *Lumière II.2* with a discussion of the role of limitations within his own creative practice. In this case, these were the limitations of the technology; the limitations of what can be achieved with a given number of lasers; the limitations

of the control systems which forced Henke to create his own software in order to achieve his artistic goals; the limitations of our perceptive capacities and sensory systems; and perhaps the limitations of working with a technology often awkwardly associated with trance clubs and laser harps.

We were guided through an audio-visual Euclidean topology of points and grains, lines and waves, planes, Bowditch curves, and symbolic signifiers, which further developed out of the bounds of the screen into three dimensional constructs and columns (made visible by the use of smoke). The monochrome palette grew into an array of colours, culminating in a striking red circle which was stamped emphatically on the screen with a suitably cinematic accompanying sonic gesture. The suggested interpretations of this moment from the audiences members I spoke to afterwards were both visceral and colourful.

With limitations come boundaries and edges, at and around which perhaps the most interesting situations can occur. Aside from the impressiveness of the rigorously constructed audio-visual material that was presented to us over the course of the piece, I was drawn to the spill of the laser projections onto some of the stage lighting above the screen, where the quietly dormant objects of the

theatre became unintentionally animated. Similarly, there were a few moments where the trajectory of a moving line appeared to jump off the bounded canvas onto the nearby wall, allowing me to speculate on the agency of the instrument itself.

Henke's music is described as 'on the edge of contemporary club culture' [1], yet when the techno-flavours appeared in the music, I wondered about another limitation: the limitation of the concert hall which forces its audience to forego the shared participatory experiences of moving bodies. I think back to the inspired choice to feature a standing-only performance from Luke Abbott at the Sonorities Festival of Contemporary Music at SARC, Queens University Belfast in 2013. When Henke offered the audience an improvised encore, he finally gave us permission to move around and also take recordings on mobile devices. Of course, allowing the latter during *Lumière*-proper would have disrupted the efficacy of the visual presentation, but witnessing audience members change vantage points, crowd around Henke's table to peer at his screen, and quietly yet excitedly converse with one another suggested that we can continue to push the boundaries of how we present computer music "without the stultifying trappings of concert society" [2].

**Notes**

1. http://roberthenke.com/interviews/bio.html

2. See: Garton B. 1994. Why I Hate Concerts. ARRAY: the Quarterly Publication of the In-ternational Computer Music Association, Summer 1994. http://sites.music.columbia.edu/brad/writing/papes/Why_I_Hate_Concerts.html

**Pandora Concert 2 Tuesday, 13th September 2016 TivoliVrendenburg Pandora 19:00-20:30.**

*by Jonathan Higgins*

Pierre Alexandre Tremblay's asinglewordisnotenough1 opened this packed evening concert with a bang. A cacophony of lilting rhythms bounced around the speakers to great effect before subsiding into a softer synthetic drone. As the drone progressed, bass stabs reminiscent of the opening rhythms began to develop alluding to a return of this material. Although this return was anticipated, when it happened Tremblay still managed to catch me off guard and the overall effect was incredibly satisfying.

The next piece, *dototo.006* by Masatsune Yoshio, was fantastically spatialised, enveloping the audience and filling the

concert hall. Despite the density of the sound materials, particular sounds clearly occupied their own spaces within the room. Although at times the heavy use of granulation did lend itself to technological listening. Overall, the gradual fluctuations within these granular textures were excellently crafted and fascinating to listen to.

Taking the audience on a journey, Yu-Chung Tseng exploited the plasticity of recorded sound in *Between Points*. Expertly blending a series of eclectic sound materials together, Tseng's work felt reminiscent of montage soundscaping. Each material merged seamlessly into the next, creating an ever evolving sound world. Between Points was a fantastic piece both musically and technologically.

*Przypadek* by Michael Lukaszuk placed every day sounds like crisp packets and fizzy drinks being opened within an abstract computer generated sound world. Ambient metallic melodic fragments washed across the concert hall, gradually building in rhythmic density to create undulating textures. The piece was very well diffused with sounds seemingly moving upwards as they progressed giving the piece a terrific sense of height.

The penultimate piece was *Drops and Ripples in Spacetime* by George Nikolopoulos. Inspired by gravitational waves, the sound materials interacted transforming each other to create sonic ripples. Starting off with relatively sparse sounds the piece built in density over time as more materials were transformed. The composer was unable to attend and as such the piece was not diffused. This was unfortunate as the piece would have benefitted from being able to ripple across the space.

The keynote speaker Åke Parmerud closed the concert with *La vie Mécanique*. Despite having been written in 2004, the piece felt just as fresh and exciting as the other music on the programme. The piece focused on driving rhythms which built in complexity over time. At times the rhythm would drop away before coming back full force, a technique similar to those used in electronic dance music. Parmerud defused the piece magnificently and he was nearly as exciting to watch perform as the piece was to listen to.

**Tuesday, 13th September 2016**
**Off-ICMC**
**TivoliVredenburg Cloud Nine**
**23:00-00:00**

Tarik Barri opened the concert with *Versum*; a synaesthetic audiovisual journey through a virtual universe of his own design. Creating and exploring planets and stars within the universe on the fly, the performance was improvisatory in nature. However, despite this the performance purveyed a clear sense of form with sonic materials developing, evolving and interacting throughout the duration of the piece. A wash of hypnotic FM bell arpeggios and wonky evolving beats worked in tandem with the psychedelic visuals to create a relaxing yet brilliantly engaging performance.

In stark contrast to the relaxing *Versum*, Thomas Ankersmit's *Homage to Dick Raajmakers* was a brutal barrage of harsh noise. Screaming high pitched drones punctuated with deep analogue thumps left half the audience running for cover within the opening minute. The audience that remained were treated to a highly disorientating, exhilaratingly masochistic experience. Occasionally the bombardment would subside into brief moments of respite. These were in many ways the tensest parts of the performance, leaving you wondering with a mix of excitement and dread about what would hit next. The piece ended with Ankersmit leaning over and switching off his equipment mid drone, the ensuing silence pressed on the ears before the audience erupted into a well deserved round of applause. Thomas Ankersmit's performance was captivating and his control of the Serge modular synthesiser was nothing short of masterful. *The Homage to Dick Raajmakers* was personally my favourite performance of the week.