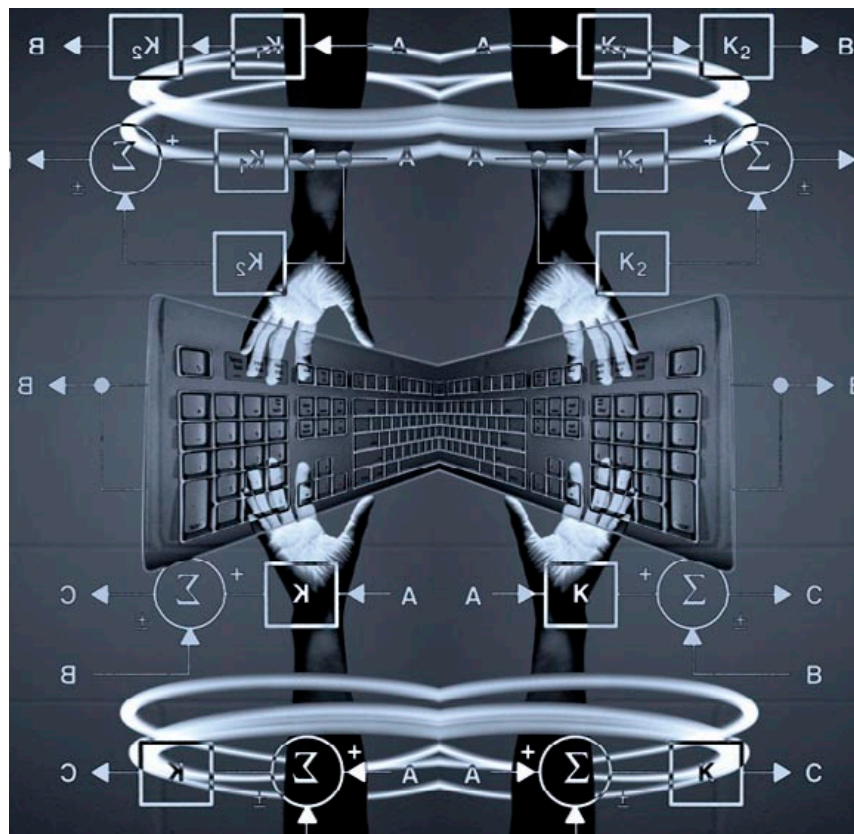


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THE HUMAN-ROBOT SOUNDSCAPE OF GENERATIVE MUSIC

BY DINAH TOLTON



Transforming derived strata into the sound of robotic intelligence in concert is an art project in composition and direction which Bronwyn Miller has been performing in Toronto. In March and April 2006 she was part of the [Drake Hotel](#) series of asteroidal music performances called *Full Spectrum Dominance*, a totally ambitious and jam-packed series of evenings at the Underground, organized and hosted by the very hip Eric Shinn, son of well-known also-hip font designer [Nick Shinn](#).

While artist-in-residence for the month at the Drake, Bronwyn performed her software-based art project, *The Program*, on March 21st, featured in a Tuesday evening called 'Notes from the Underground'. In a twenty-minute aleatoric set based on her custom-designed music-generating program which she calls a "breakbeat engine", Bronwyn improvised with her laptop, computer software, and her human self-direction. The software she uses in her "full-spectrum approach to sound design" is Pure Data, an open source version of Max/MSP.

Miller's samples are comprised of audio source files ranging from sub-bass to high frequencies, various drone tones, microtonal sparseness, and immersive throbbing sub-bass to Macintosh System 7 game sounds (Spectre, Maelstrom) and low-fi recordings of Iraqi percussion. These samples are individually processed using a selection of delay filters, resonators, oscillators,

recursive sample slicing, time-stretching and reprocessing which generate multi-scale waves.

The music/sounds form a unique, unpredictable aesthetic that becomes something other than the initial sources as she conducts an improvised play of the computer, software and the roughly 300 samples. As Bronwyn loads and re-loads samples during performance, the system is modified in motion; but, although she is directing by changing sound palettes and altering the tempo, she can't predict what sequences or combinations of sound will be generated.

Miller's follow-up performance on April 11, 2006 was a "hip hop poetry speech synthesis module or rapping robot." Eric Shinn's jargon gives us a feel for this performance: "Her rapping robot was featured rhyming over glitch-hop beats, courtesy [Josh Raskin aka Kids & Explosions](#), in a human-computer rap battle against the dynamic duo of human emcee-beatboxing combo Mindbender & Jolato."

Jolato created rad abstract sounds with his mouth on the microphone, and the two sides managed to provide a contest of sounds and language—rap English vs computerspeak—with Miller's mash-up requiring a more agile imagination. Eric tells us that "their throwdown was the focal point of a five-hour 14-performer generative arts showcase obscurely named *Deafcon 3 Code Xanthophyll Intelligent Design Movement*."

Among others, an excellent aleatoric generative music group performing on this April evening was the Existential Idiots trio of Toronto DJ Joel Blain, Robb Gray (Friend of Phi) and Lucas Goldman. Blain and Gray were on their Mac laptops, while Lucas played live flute. Gray played random scales of generative music notes, and in similar scales Goldman wove in random variables on flute, to make a man-versus-computer scape.

Blain and Gray joined live animator Jeremy Rotszstain aka Mantissa in setting up three laptops to trade MIDI signals from three table tops below the stage. By running live MIDI from [Ableton Live](#) software to Mantissa's MaxMSP, the visuals were able to respond in real-time to the live music. Mac is their computer of choice, running Ableton Live. Blain sampled live flute, then played that back at Goldman to create a groove jam that kept on building; they kept on recording loops and building, and then played it all back again.

Another spacey note is that Blain used a children's toy called a [Speak-n-Spell](#). He used body contact to short-circuit the toy, so that his fingers pressing on the toy's circuit board were, in effect, altering the sound of the Speak-n-Spell to affect pitch and other elements. Blain also used a Boss DR303 drum machine; bending random MIDI notes generated by fractals and algo-

"It's possible to think of a system or a set of rules which, once set in motion, will create music for you. If you move away from the idea of the composer as someone who creates a complete image and then steps back from it, there's a different way of composing."

BRIAN ENO

rhythms, he fed them into the drum machine. This music wasn't just improvised but more set in motion, and variables were added to create the human/robotic soundscape from out there somewhere.

The series came about when Shinn was invited by the Drake's Daniel Borins and Jillian Locke to organize a six-event color-coded countdown. Eric says that "the goal was of annihilating the insularity of subcultural niches by linking diverse acts within meta-themes inspired by mystical-military cyberpunk fictions." •



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