CREATE, MAT, and UCSB Music present

SOUND STORM

20 November 2013
8 PM, Lotte Lehmann Concert Hall, Music Building
University of California
Santa Barbara
USA

1 *Always* (2013) Curtis Roads [6:55] (World premiere)

Always to Mu (1995-2011)

The sound world of the mid-century modern electronic music is a reference point for me. As a boy making recordings with my father's tape recorders, I was fascinated by the charm of sounds played fast, slow, and backwards. As a student composer, I was drawn into the otherworldly allure of tones submerged in plate reverberation made in studios long ago and far away (Cologne, Milan, Paris in the 1950s and 1960s). I brought this listening to the composition of my newest work *Always*. Reuse is central to the construction of *Always*. This composition continues my exploration of sound granulation, spawning new material by pulverizing sounds from the past. The origin of the sound material in *Always* can be traced through several stages of granulation to a single impulse:

impulse (1999) → *Volt air III* (2003) → *Now* (2003) → *Never* (2010) → *Always* (2013)

Always is a polyrhythmic work in which many details are made out of replications of transformed parts of itself. I designed the work in two distinct sections, with a dissipating first section that sets the stage for the high-contrast figures of the second.

Curtis Roads is a Professor in the Media Arts and Technology Program at UCSB, with an affiliate appointment in the Music Department. His new book *Composing Electronic Music: A New Aesthetic,* is forthcoming from Oxford University Press.

2 *Bit representations no. 2* (2013) Casey Mongoven [4:45]

The Lucas sequence is an integer sequence beginning with 2 and 1 in which each succeeding integer is the sum of the previous two: <2, 1, 3, 4, 7, 11...> It is possible to represent every natural number *N* as a sum of unique members of the Lucas sequence. The natural number 8, for instance, can be represented as 7+1. 16 can be represented as 11+4+1. This property of the Lucas sequence enables us to create a type of binary numeral system in which each bit represents a Lucas number:

N	*bit representation*	*Lucas numbers represented*
1	10	1
2	1	2
3	100	3
4	1000	4
5	1010	4+1
6	1001	4+2
7	10000	7
8	10010	7+1 and so on

Often, there is more than one possible representation of *N* as a sum of Lucas numbers. The representations above contain the smallest number of 1s possible. It is also possible, however, to create a system of representations containing the least number of 0s with members of the same Lucas sequence:

N	bit representation	Lucas numbers represented
1	10	1
2	1	2
3	11	2+1
4	110	3+1
5	1010	4+1
6	111	3+1+2
7	1011	4+1+2
8	1110	4+3+1 and so on

In a similar manner, it is possible to create a system of representations with a similar type of sequence beginning with 3 and 1 in which each succeeding integer is the sum of the previous two: <3, 1, 4, 5, 9, 14, ...>. In this case, however, the natural number 2 cannot be represented as a sum of members of this sequence. There are in fact an infinite number of natural numbers that cannot be represented as a sum of members of this sequence (e.g. 11). This composition is a sonification/visualization of eight different bit representation sequences like those described above based on the sequences: <2, 1, 3, 4, 7, 11, ...>, <3, 1, 4, 5, 9, 14, ...>, <4, 1, 5, 6, 11, 17, ...>, and <5, 1, 6, 7, 13, 20, ...>. For each of these sequences, the bit representations of *N* with the least number of 1s and the least number of 0s (as described above) are sonified and visualized simultaneously. Those natural numbers with no possible representations are sonified as silence. One bit representation sequence is sonified on each of the eight speakers utilized. The exits of each of the four groups of sequence (where the sonification/visualization stops) are staggered. Raw samples of the composer's harpsichord were used for sound synthesis.

Casey Mongoven holds a BM in Classical Composition from New England Conservatory and a Zertifikat Ergänzungsstudium from the Hochschule für Musik FRANZ LISZT Weimar. In September 2013, he completed his PhD in Media Arts and Technology at UCSB. His dissertation, titled *An Experiment in the Aesthetic Value of Sonified Mathematical Objects,* investigates the aesthetic value of the Fibonacci sequence and the golden ratio in the audio domain. Over 1600 sonifications are available for listening on his website caseymongoven.com.

3 *And what if it's not?* (2013) Michael Hetrick [2:40] (World Premiere)

The title of my first finished piece in two years came to me as I wrapped up the mixing process. "This has to be good if I've taken it this far," I thought to myself. "And what if it's not?" This simple question can be thought of in two extremely different senses. On one hand, it can represent the desire to always improve a piece: "What if I made this small edit?" On the other, it can represent the carefree satisfaction of letting go of all of those same worries. It's this latter thought that was my compositional goal this time around. Over the past two years, I've recorded hundreds of hours worth of material. I've started many pieces that have ended up frozen in a feedback loop of edits and revisions. I've also become more aware of my compositional crutches: samples from a specific time-period, MIDI sequencing, and a reliance on post-processing and effects plug-ins. As a result, I sought to push myself out of my comfort zone as much as possible. The source material was four unrelated improvisations made purely through live synthesis at various points over the last year. In every case, the recordings were made during my first experience with a chosen software instrument or hardware module. No effect plug-ins were used, aside from a touch of distortion to brighten the final percussion hits.

Michael Hetrick is a PhD candidate in the Media Arts and Technology department at UC, Santa Barbara. A lifelong musician, he discovered his passion for electronic music while studying at Western Reserve Academy. At Vanderbilt University, he expanded his work into the field of video art while receiving a BA in Digital Media and Distribution. He went on to receive an MA in Electronic Music and Sound Design at UC, Santa Barbara in 2011 while doing research in chaotic synthesis. Today he is the co-owner and co-founder of Unfiltered Audio, a company dedicated to creating new software for digital musicians everywhere. To hear more of his music, find him at mhetrick.com.

4 *Ambiguous Suggestions* (2013) CREATE Ensemble [10:00] (World Premiere)

The CREATE Ensemble is:

Fernando Rincon Estrada - Custom FM granulator (Supercollider)
Charlie Roberts - conductor; designer/implementor of conducting system
Muhammad Hafiz Wan Rosli - Custom convolution granulator (Pd patch)
Drew Waranis - Ocarina
Nathan Weitzner - Solid-body electric viola
Tim Wood - Trombone
Matthew Wright - Oud; CREATE Ensemble director
Karl Yerkes - Tweakyr (waveform looping iPad app)

Ambiguous Suggestions is an improvisational piece for conductor and ensemble. The conductor is responsible for improvising a macrostructure for the performance while ensemble members individually interpret gestures that suggest this macrostructure. Custom software enables the conductor to selectively transmit gestures to performers who are identified only by an anonymous number in the conductor's interface. This anonymity encourages the conductor to think about structure in terms of rises, falls, density and sparseness as opposed to focusing on the timbral characteristics of particular instruments. The gestures themselves are two-dimensional lines; ensemble members are free to interpret these gestures as they choose. The conductor's interface is projected for the audience to see. The interface features a 2D area for drawing gestures, buttons to select the speed at which gestures are played on ensemble members' screens and buttons to select which performers receive individual gestures. Thumbnails are also displayed to provide an overview of the gestures currently being interpreted by the ensemble.

5 *Dragonfly* (2011) Laurent Delforge [10:08]

Dragonfly feeds on the border close to my heart between the artificial and the natural. Artificial because the work is a complex craft. These are the many "scissors" of studio work that shape, sound by sound, the musicality of this machinery, even perhaps this sound plot. Miniaturist precision has always been an area of fascination and research for me. But the devices present in the composition: innumerable sound fragments, confrontations of materials, broken plans, and colors are introduced to recompose another broader movement and recreate a natural musical logic.

Laurent Delforge (born 1982) is a musician based in Brussels. He completed a Master of Composition in the class of electroacoustic composer Annette Vande Gorne at the Royal Conservatory of Mons, where he currently teaches electroacoustic instrumentation. He is interested in different forms of musical expression, ranging from purely acousmatic music, to written and improvised instrumental music. Collaborating with various artists and musicians in training or projects, he likes to confront these "other worlds" to enrich his personal work, including contemporary dance.

6 *Disturbances* (2013) Richard Devine [35:50] live electronic sound

This piece was created in 2013 as part of a series that experiment with the idea of disruptive events or voltages as driving forces to create an entire composition in real-time. From these experiments I discovered I could create clusters and complex gestures that happen at specific times. Now I am able to create a musical experience unlike anything I was able to achieve before. This all derived around the idea of "Gestural Synthesis" from Morton Subotnick's Buchla-based piece *Sidewinder* (1971). I was really drawn to his use of creating gestural events which occur, that at times seem to embody ideas, actions, encounters, confrontation, risings and fallings. He introduces the idea of using characters, which express a narrative based on using a cast of different sonic gestures. I was drawn to this approach and the ways a sound can be treated with respect to articulation, frequency, density, tempo, timbre, speed, space, and synthesis methods. This performance will apply new technologies and techniques that have never been explored before within the Eurorack modular format. Richard performed this piece with Laurie Anderson at the River-to-River festival earlier this summer for the "The Language of the Future" series.

Richard Devine has remixed Aphex Twin, Ryuichi Sakamoto, and Mike Patton (Faith No More). He has released five full-length albums on Schematic, Warp, Asphodel, Detroit Underground, and Sublight, and has performed his music worldwide. Based in Atlanta, Georgia he specializes in musical composition, sound effects, sonic mnemonics, field recording, sound patch design for software/hardware, specialized sound design for TV/Film, web media and video games.