

Foldings –an augmented hybrid piano for improvisation

Performance Submission to NIME 2014

I propose a concert performance with me and - if possible - pianist John Tilbury, as an augmented/hybrid piano duo. The title of the performance is simply “*Foldings*”. Duration is variable, but 12-15 minutes is suitable, maybe 20 if we perform as a duo.

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Palle Dahlstedt performing live on the Foldings hybrid grand piano

Description

In 2006 I developed a novel mapping technique, allowing musical exploration of large parameter spaces from different performance interfaces, later expanded into a family of novel improvisation instruments. In 2011, I adapted it to my main instrument, the piano, creating an augmented hybrid instrument from a normal grand.

Foldings consists of acoustic and virtual resonating bodies, all sounds originating from the piano, allowing for unorthodox playing (knocking, plucking, ...). Processed sounds are projected from speakers behind the piano, and acoustic and processed sounds interact and blend into one new instrument.

The processing is controlled from keyboard alone, with no faders or knobs, and no presets or timeline mechanisms. Each key has a certain effect on processing parameters, and effects of different keys are accumulated; essentially a dynamic vectorization of control parameters, allowing intuitive control of complex processing by ear.

The instrument is not random, but somewhat unpredictable. This feeds into the improvisation, just like how ideas from a fellow improviser provides unpredictability and food for reaction, leading into a new direction, spurring further reactions. Like chasing a moving target. Hence, the instrument itself is an essential part of the musical outcome.

The technology is simple but effective: A MIDI-enabled grand (Disklavier, or a normal grand with a Moog Piano Bar), four microphones, signal processor with custom software and two speakers behind the piano.

Foldings consist of a mapping engine from keyboard to processing parameters, and a set of sound engines. Two engines have been used the most during concert performances: a microtonal adaptive resonator and an adaptive buffer shuffler. Both use only the sound of the piano, including the sound of the mechanics and the surroundings. The electronic sound is projected from speakers behind the piano, hence going back into the instrument, providing a truly hybrid acoustic-electric instrument. For example, the virtual resonance string provided by one of the engine allows for sophisticated play with resonances using knocks on the piano lid or shouts into the piano.

The second engine is based on a shuffle mechanism, a kind of small autonomous looper, which is continuously collecting material, which is played back based on parameters generated from the keyboard mapping mechanism. This engine is very (but not at all entirely) unpredictable, and provides a lot of creative feedback to the performer during playing. Each key affects how the material is played back, and simultaneously enters new sonic material into the buffer. Playing it requires big ears and very fast response from the player. Still, it is very rewarding and fun to play.



Palle Dahlstedt and John Tilbury on two Foldings hybrid grand pianos during a workshop in Gothenburg, 2011.

Previous Performances

Previous performances include various concerts in Sweden (2011, 2012, 2013), Singapore (NUS 2013) and Japan (Japan Society for Sonic Arts at Tokyo Metropolitan University in Tokyo, 2012, and in a

collaboration with performance artist Peter Golightly in Kyoto, 2011), alone and with others. The system/work was jury-selected, presented and performed at the Interactive Keyboard Symposium 2012 at Goldsmiths, and received very positive feedback. It was also used by John Tilbury in an improvisation concert in 2011. The same technology was used for live improvised music in the dance-theatre performance *Dust Falling, Rain Falling*, performed 12 times in Sweden and Finland, with the acoustic keyboard sources being celesta, harpsichord and organ. In 2013, Tilbury and Dahlstedt participated in a tour around Sweden with AMM+duo pantoMorf, where both used this instrument and variations thereof in a quartet setting.

Sound Examples

Part of the world premiere in 2011 can be seen on video here:

<https://www.youtube.com/watch?v=T4jcAocO4dM>

Live hi-quality sound of the same performance and also the second movement:

<https://soundcloud.com/palle-dahlstedt/sets/foldings-i-ii>

(The video of this second one is lost, but it is recorded in the same concert as the first one, the world premiere of the piece)

Two workshop duets with Palle Dahlstedt and John Tilbury on Foldings pianos, recorded Nov 2011 in Gothenburg. We have performed together on this setup (acoustic augmented grand + augmented digital piano) during a tour around Sweden in 2013:

https://www.youtube.com/watch?v=4GSU9i_rQQk

<https://www.youtube.com/watch?v=n3EnUgneils>

Technical Requirements

This proposal can be performed by one or two pianists (PD or PD & JT) depending on availability of pianos.

Provided by NIME:

One or Two good grand pianos (one can be substituted for a digital piano, but it is not as good)

Two or four active hi-quality speakers for the processed sound, to be placed behind the pianos (no PA-system is used).

Cabling from our mixer(s) to the active speakers.

Provided by us:

One or two Moog Piano Bar MIDI-sensors for grand pianos (non-intrusive, work well on any concert grand)

Live electronics for sound processing, and small mixers for level control.

Biographies

Palle Dahlstedt

Palle Dahlstedt (b.1971) is a composer, improviser, pianist and researcher from Stockholm, since 1994 living in Göteborg, Sweden. With composition degrees from the Academies of Malmö and Göteborg, he is currently the main lecturer in electronic music composition at the Academy of Music and Drama, University of Gothenburg, and artistic director of the the Lindblad Studios. As composer, he has written everything from chamber music through orchestral music to interactive and

autonomous computer pieces. In 2001 he received the Gaudeamus Music Prize. Also, he is Associate professor in computer-aided creativity, performing extensive research in novel performance and improvisation techniques for electronic music, and in computer models of artistic creative processes. He is currently heading the Creative Performance research project, developing new technologies for improvisation of electronic and acoustic musicians.

John Tilbury

John Tilbury won a piano scholarship to the Royal College of Music where he studied with Arthur Alexander. He subsequently became a pupil of James Gibb and then went to Warsaw on a Polish government scholarship where he studied with Zbigniew Drewiecki and cofounder the Warsaw Music Workshop group with Zygmunt Krause. In 1968 he was prize-winner in the Gaudeamus International Competition in Contemporary Music in Holland and since then has specialized as a performer of contemporary music.

Tilbury has given first performances and broadcasts of new music in many contemporary music festivals, including the Warsaw Autumn, the Venice Biennale, Glasgow Musica Nova, the European Festival in Brussels, the Zagreb Biennale, Bremen Musica Nova and Cheltenham. He has also performed in the Far East, in North Korea and Japan, and has toured the U.S. on several occasions. He has worked with many composers - including David Bedford, Howard Skempton, Dave Smith, Michael Parsons, John White, Morton Feldman, John Cage, Christian Wolff, Terry Riley and Cornelius Cardew (whose biography he has written) - and has toured with the New York based Merce Cunningham Dance Company.

His Decca recording of Cage's Sonatas and Interludes for prepared piano from the seventies has become a classic and more recent CDs of piano works by of Howard Skempton, Cornelius Cardew and the complete solo piano works of Morton Feldman have received much critical acclaim.

Tilbury is also well known as an improvising musician most notably through his membership of AMM, one of the most distinguished and influential free improvisation groups to have emerged in the sixties and which continues to this day.

Tilbury is a visiting piano tutor at London University's Goldsmiths' College.

"One of those extraordinary pianists thrown up every so often by the advance of the avant-garde." La Stampa (Italy)