

Magnify the Sound

Trond Engum¹, Carl Haakon Waadeland²

¹ Norwegian University of Science and Technology, Trondheim, Norway
trond.engum@ntnu.no

² Norwegian University of Science and Technology, Trondheim, Norway
carl.haakon.waadeland@ntnu.no

Abstract.

The duo “Magnify the Sound” will present a musical performance exploring the interplay and live processing between drums/percussion, electric guitar and recordings of environmental sounds. The music will be improvised, and the processing will combine live processing, adaptive processing and cross-adaptive processing through an interface constructed for this specific performance. Live input from the instruments and environmental sounds are analysed, and attributes from these sounds are further mapped to control effect parameters inserted on the different sources in real time. This enables a scenario where all sources change expression depending on choices made to the live input, and as a consequence opens up for a different artistic intelligence within live electroacoustic improvisation.

Keywords: Live electronics, interface, cross-adaptive processing, artistic intelligence, free improvisation.

Background

“Magnify the Sound” consists of Trond Engum on guitar and electronics, and Carl Haakon Waadeland on drums/percussion. They have performed together since 2010 in various constellations exploring the interplay between acoustic instruments and live processing in a free improvisation context. These musicians/researchers have participated in the projects “T-EMP Communication and interplay in a electronically based ensemble” (2011 – 2014) <https://www.researchcatalogue.net/view/48123/48124> and “Cross-adaptive processing as musical intervention” (2016-2018) <http://crossadaptive.hf.ntnu.no/index.php/about-the-project/index.html> both projects conducted at the Norwegian University of Science and Technology (NTNU).

A basic method typical of the later project was practical experimentation in the studio where various applications of cross-adaptive processing were tested and evaluated in the light of the effect these modulations had on the communication between the musicians and the musical expression as such.

“Magnify the Sound” combines a continuation of experiences from these different experiments with an aim of developing a new artistic expression through an interaction with a specially designed multi-instrument and a new interface.

Interface and Mapping

The interface consists of live inputs from guitar, drums /percussion and pre-recorded environmental sounds. The sounds from each input are analysed, different features are extracted, and these are further mapped to modulate different processing back to the same sound sources. The mappings within the interface are set to act both adaptive and cross-adaptive, depending on the interaction from the inputs at any given time. This multi-instrument facilitates the following scenario: The sound of the guitar is live processed by the performer, the output from the instrument controls effects applied to the drums and the environmental sounds. The sounds of the drums control effects applied on the drums, guitar and environmental sounds. The environmental sounds control effects on the guitar and drums.

From Artistic Challenge to a Potential of New Musical Expression

In the ordinary, usual way of performing music, each musician interacts with her or his instrument in a communicative interplay with the other musicians, and this has been made possible as a result of years of practice through which the instrument has become a prolongation of the musician's body. However, in musical interaction with the presented multi-instrument this interlocking relationship between musician and instrument is radically changed. – Each musician's interaction with the individual instrument has consequences for the sound of the instrument of the other musician, in unilateral or bilateral ways. Thus, the musician loses control of her or his instrument, and the unified body of musician and instrument is chopped up. This might, indeed, be a very frustrating challenge, - your usual, habitual and embodied interaction with your instrument might now *not* give the musical result that you want and expect.

In "Magnify the Sound" we investigate how we can turn this challenge into an exciting potential of musical expression related to *a change in our roles and the way we interact with our instruments*: In stead of *I am performing on my own instrument* we shift to *we are performing on our common instrument*. In this way the existential experience is not my instrument being a prolongation of my body, but rather an extended instrument, consisting of the total music-technological-setup, being a prolongation of an enlarged body of all participating musicians.

If we succeed, we thereby not only "magnify" the *sound*, but also enlarge the possibilities of new applications of artistic intelligence and facilitate *new musical expression* within live electroacoustic improvisation.