

Title: One Grain of Sound

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1. PROGRAM NOTES

This piece has been created in collaboration between clarinettist Robert Ek and the Swedish composer Kim Hedås, building on a system created 2022 and described in the paper “Playing with resistance” accepted for NIME 2024. Kim Hedås came in quite late in the process as a kind of provocateur, challenging me and the concept of the piece.

The piece, written for an augmented clarinet explores how an input modality and the remediated sounding output can be mapped so that the performer experiences a connection between the resistance of the instrument and the sonification of physical gestures. The software mapping strategies of input to output data is an important factor in shaping the artistic expression. All sounds are initiated by the clarinet in real time and focuses on non-pitched sound material from the clarinet, like tongue rams, key clicks, and different types of air sounds. How these sounds then develop over time is controlled by gestures detected by motion sensors that in turn are controlling how the modular synthesizer transforms the sound.

2. PROJECT DESCRIPTION

This system was initially created by clarinettist Robert Ek in 2022 and it is discussed in the article “Playing with resistance” accepted for NIME 2024. It focuses on non-pitched sound material from the clarinet, like tongue rams, key clicks, and different types of air sounds. The audio input from the clarinet is fed into a modular synthesizer where it is processed. The module mainly used in this patch is the Mutable Instruments Beads, a texture synthesizer working with granulation. The sensor data from the physical gestures are converted to control voltage (CV) to manipulate parameters in the modular setup. I use two types of gestural information to control this system, namely bell elevation and tilt. The elevation controls the size of the grains which in this patch results in pitch modulation of the grains. This is mapped so that lowering the bell will result in a lower pitch and a denser sonority. The tilt controls the amount of feedback in the granular loop. This physical gesture, to tilt the clarinet, is a rather unusual movement that creates a sense of resistance. Coupling this with feedback, where a stronger resistance in the physical gesture results in larger feedback and more complex sound, clearly connects to the resistance of the instrument. The patch also uses the incoming audio as sensor data to generate a different CV signal: here it's directly connected to the resistance in the clarinet. This CV signal controls the

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density in the grain generation, the more air pressure I apply to the bore in my clarinet, the denser the generated sounds get. These three parameters are also coupled to each other so that they behave differently in relation to each other's current state. The result is a system that provides clear connections between the clarinet's resistance, input modalities and the remediated sounding result. In one way the data fed into this system are quite rudimentary, especially the gestural input but how they interact with each other and the felt connection to the instrument's resistance results in a system that feels and behaves in a complex and expressively rich way.

Creating this system was informed by my use of the MiM sensor bell for more than seven years. Given the extensive time I have spent working with the sensor component of the system, my awareness of how certain bodily movement creates particular gestural input is rather detailed. This understanding, combined with the knowledge gained through analysing performance videos through an embodied perspective, helps me to make informed decisions in the process of designing the mapping that controls the intermedial translation.

3. PERFORMANCE NOTES

Bringing modular, computer, instrument, sensors, and microphone. Here is a list of those things I do need at the venue:

- PA system with 2 channels
- Monitor
- 2 DI boxes or one stereo
- 3 Europlug outlets on stage

I need at least 1h to sound check.

4. MEDIA LINK(S)

- Video: <https://youtu.be/5OBZSFhxZAE?si=Egvop-ozEEkzolCI>

ETHICAL STANDARDS

This music submission complies with the ethical standard of the NIME conference [24] and does not present any conflict of interest.