The Monster in Paradise – An audiovisual journey in a medieval world of symbols, or what happens when you get one free hand?

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Introduction
Like many crazy ideas, this one began with a joke: "If you put a motor on it, you won't have to stand there and crank..." This was a comment that I received a long time ago and that must have been repeated to my acquaintance, Rolf Lundin, sometime much later. A retired engineer, Rolf had extensive experience working with electric motors. He took up the challenge and while an order was placed for a new hurdy-gurdy with luthier Leif Eriksson, he spent hours addressing the challenges of producing a motor that could fit inside the instrument and be quiet enough so as not to drown out the music.

Leif modified the size of the instrument and made a hatch in the bottom that allowed adjustments inside. The first prototypes were rejected. Finally, however, a functional motor-driven hurdy-gurdy materialised: it was given the name The Monster. Yet it still lacked microphone technology and electronics, and these presented the next big challenges. Here, the innovative technician Magnus Söderman assisted with invaluable skills. After many trials and modifications, the result was a well-functioning, motor-driven hurdy-gurdy with an advanced microphone system. With it came a new world of possibility and sound. The thought was to use The Monster in the folk music group Hedningarna; however, because it had taken a while to construct and was completed just as the group was taking an extended timeout, it was tucked away in my basement and lay there forgotten. But my shame got to me in the end: all that energy and creativity that had been for nothing! Therefore, I decided to set up a project that would allow me to investigate and reveal the secrets of The Monster.

Questions
What possibilities arise when one hand is freed from playing the hurdy-gurdy and the instrument is freed from the body when it is placed on a stand?

The project
Inspired by VJ/DJ technology (which is when the artist manages both sound and image in their live performances), I chose to build the project on this form of performance. The project was titled “The Monster in Paradise – An Audiovisual Journey in a Medieval World of Symbols” and was formulated as follows: the project uses The Monster's world of sound to journey in a painting with a few predetermined stops where the journey between these always takes random new paths, which in turn give rise to impulses to musical
interpretation. The musical and melodic material that will be used is for the main part reused from my earlier productions. To rely mostly on reused material served two purposes. On the one hand, I did not want to be devoured by a compositional process that probably shifted the focus from an exploration of the instrument's possibilities to the agony of creation, and partly I was curious about how the image and music material was reinterpreted in the new context. The timetable included three features, a rehearsal, and a premiere during the MIRAC conference at Dalarna University on November 20, 2019.

The instrument and the material

What is a hurdy-gurdy?
A hurdy-gurdy has its origins in one of humankind's greatest ever inventions, the wheel, and requires the earthliest of forces, gravity, for it to function. It is a string instrument, the strings of which vibrate with the help of a resin wheel, a kind of "endless bow", which is operated by a crank. The strings have three functions. The first is a melody function where the string is shortened using keys in much the same way as on a key harp. The second is a low string called a drone, which provides a constant pitch accompaniment to the melody. The third is a string equipped with a buzzing bridge that can give rhythmic accents when the crank is played at different speeds. Sometimes the instrument is also fitted with resonant strings, and when a fingerboard is placed beneath them, both melodies and chords can be played – a modification that has been named the lir-hummel - The hurdy-gurdy has never acquired a standardised form, existing in countless variants. Indeed, today those of most instrumentalists are personally designed. Since my instrument with its motor and electronics had become quite heavy, I designed a stand (which was inspired by the tripod of the 19th-century guitarist D. Aguado) to hold it.

The visual material
The Garden of Delights by Hieronymus Bosch (1450-1516) is a triptych painted around the turn of the 1500s. A triptych is a work of art divided into three parts. Its original use was as an altarpiece with outer parts that could be closed like the doors of a cabinet. Bosch’s triptych was not meant to be used as an altarpiece. It is adorned with symbols and depictions of musical instruments, including a hurdy-gurdy. I imagined starting with this image of a hurdy-gurdy to somehow travel in the painting and at the same time make musical interpretations of the journey with the help of The Monster's world of sound.

The audio material
The musical material consists of some of my own previous recordings and sound effects. In several cases, I used the original 24-channel recordings or DAW projects and selected separate tracks to make my own remixes. The material was chosen based on associations I drew from the painting, and it underwent a long adaptation process that resulted in this specific performance where the meeting with the digital and artistic tools of today created

1 https://www.youtube.com/watch?v=gnriDDp-9BE&feature=youtu.be
2 For example, Paul Dreshers “hurdy-grande” https://www.youtube.com/watch?v=bJvdHOHl6Kg, Anna Murphys “stand-hurdy-gurdy” (https://www.wikiwand.com/en/Anna_Murphy_(musician) or Romains Baudoins hurdy-gurdy combined with a neck from an electric guitar https://www.youtube.com/watch?v=chNXYF-Ju7U
new possibilities and somewhat "new" works. The program Ableton Live processes all the musical material: Ableton Live is controlled by two foot pedals, Behringer 1010 and Line6, which send midi to the program. Some functions in Ableton Live are also controlled with the midi controller (AKAI APC40), which also controls the image management program Touch Designer.

The process
The process was long and somewhat laborious as my rather poor knowledge about visual programming meant that the programmer, Pär Rockner, had to rebuild the Touch Designer project many times. This happened parallel to my practicing on the instrument, which enabled me to constantly discover new sounds and means, which in turn opened the way for new ideas and entrances into the artwork which in its turn resulted in new thoughts and ideas for new programming. It was a kind of creative tour that frequently linked back to earlier phases in the project with a constant reshaping of the musical material until finally I had to decide that the search must end. As the premiere of the performance approached, I realised more and more how difficult it is to simultaneously maintain a focus on both sound and image while operating a moody and wayward instrument, and my original vision of a form of random interaction between music and image was crushed. Instead, the concept of "controlled random" became my starting point, and the future work involved rehearsing a largely staged performance with random improvisational elements. When the initial random journey began to take form into a story, the "story" became what the various musical material had to subordinate and reinforce to end up in the premiere. The final and very important part involved working with costume, lighting and scenography, as well as documentation. Tanja Jörgensen created magical lighting of The Monster, and Andrew Scott filmed the performance.

Result: my artistic palettes and my "Creative Space"
The project can be considered in relation to Creative Space Theory3, where three factors define the creativity of a project: the material (in this case the raw material for the adaptations and the painting); the possibilities of the tools and the knowledge about them (the instrument, playing technique, mastery of the technology and software); and available time (deadline). Thanks to the fact time was on my side yet there was a clear deadline, the creative search resulted in a working performance (Monstret 1.0). The knowledge that was acquired is described below in the first three palettes. Various ideas and possibilities that were anticipated during the process and later partially realised are described in the fourth.

Palette 1: Instrument-technical
The motor enables me to use the strings in different ways with the fingers of both hands: for example, I can make glissandos with my left hand while my right hand varies the string pressure against the wheel, or I can combine melody playing with pizzicato while the wheel spins. This produces a powerful and distinct sound with a clear attack, which also works very

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well for feeding an octave pedal. By accompanying the playing of the lir-hummel with a drone, a richer sound is produced. Two-part playing also offers many new possibilities, something that, however, requires a lot of practice and is still quite unexplored. Thanks to the stand for the hurdy-gurdy, even the old playing techniques work better when the hurdy-gurdy is fixed and the body is "liberated" from the instrument.

Palette 2: Loop-technical
Many of the hurdy-gurdies musical functions can’t be played at the same time but with the help of loop-technology it’s possible to build a hurdy-gurdy orchestra where all the sounds could be heard simultaneously. The looper plug-in in Ableton Live is a powerful tool that has copied many good features from the legendary Oberheim ecoplex loop machine from the 1980s. Looper has several functions, one of these being a multiplay function that allows the management of most functions (record, play, overdub, stop, clear) with a single push button. The combination of several loopers means the possibilities are basically endless.

Palette 3: "Sound" technical
Using careful midi mapping in Ableton, I can create and control all the sounds in the performance with the help of a Line6 foot pedal that has only four push buttons. The effects used in the performance are reverb with different lengths and distortion as well as the cult pedal Able bassmaker, which is the basis of the bass sound. Each string and function on The Monster has its own contact microphone (there are 6 in total), and although the crosstalk between the microphones is minimal, it cannot be avoided completely. Depending on which microphones are open (i.e., does not have an activated gate) and which effects are on each microphone, the sounding result can be many unique and exciting crosstalk effects, which in itself is an important aspect of The Monster's sound.

Palette 4: New ideas that became part of Monstret 2.0
Thanks to the stand, it was possible to move and "dance" with and around The Monster, which also led to a spontaneous desire to "drum" on the instrument. This then led to a desire to be able to trigger percussion sounds from The Monster. With the help of my colleagues Staffan Andersson and Henrik Karlsson, the stand was modified and complemented with four midi triggers that made this possible. The placement of the hurdy-gurdy on the stand also meant it is comfortable to play the lir-hummel with a slide or e-bow, and since it was so technically difficult to play The Monster with two hands on different strings, I chose to sample the sounds from The Monster so I could play one part on a keyboard (with The Monster samples) and the other part on The Monster itself. The specially designed stand for the computer and midi controller (APC40) was also equipped with a shelf for a small two-octave midi keyboard, which made this playing technically easy.

Conclusion
The fortunate coincidence that The Monster was given a motor and then released from captivity both changed what a hurdy-gurdy could be and led to a multitude of new creative possibilities – possibilities that were examined in a creative round-robin and resulted in a Frankenstein's monster, a cyborg hurdy-gurdy that combines a long instrument-building tradition with the music technology of today that is known as MONSTRET 2.0.
The music material for the Project

Domen Hedningarna (&)
https://open.spotify.com/track/3Iq4ZalMoPpf17kk7gG1oh?si=37e6cb6914984fa6

Oxberg BOOT (Soot)
https://open.spotify.com/track/2cBuNgXw955vwRAE8V3y95?si=3bc2292b8b2e4c11

Oxberg Hurdy-Gurdy (Prototyp)
https://open.spotify.com/track/6JszlAHL0qWbHjb1bqvqMC?si=8dcf470ad7a44b9f

Morafjälls Hedningarna (&)
https://open.spotify.com/track/5AllYyYcCQ7XBO0C5ljZRq?si=fe1b069095f14bab

Björnlåten Hedningarna (Hedningarna)
https://open.spotify.com/track/12AbnyXWVBGDtsej2iVPln?si=54d301078f2f4c79

Höglorfen Hedningarna (Hippjokk)
https://open.spotify.com/track/5eNb6dKVq60GXDIwA5c9QS?si=172b6caceb3e4f91

Frost-Mats Hurdy-Gurdy (Prototyp)
https://open.spotify.com/track/2DHz1u326uqeFWy14Ip3xr?si=84bf3964e6f2421a

Lähmenkello BOOT (Virvla)
https://open.spotify.com/track/24bf6R5Kh7wcoMpfBpSgVm?si=7ac29f679ea5416c