Playgrounds: Creative Performer / Performing Creatives

In my initial writing for the lectorate I reflected on instruments stating in my research proposal: what about leaving all [the heritage of instruments] behind and start fresh, exploring right at the interface of art and technology? The plan was to create instruments using resonating wood, skins or strings in the search for new sounds making use of digital prototyping machines. I wanted to trace the changes when the design of the instrument follows the composition, instead of the other way around. After receiving green light for the research I've moulded this in two case studies. One collaboration with Asko|Schönberg and the Ensemble Academy and one collaboration with composition student Nirantar Yakthumba.

The first case study was connected to an initiative from my Publisher Deuss music and had the theme: 'songbook for future memories'. I mulled over the term 'songbook' and had to think of the traditional Air, and the sound of the physical manifestation of it.

I could think this sound through the existing instrument of the ensemble but wanted to add an instrument to the group making use of a plywood bull roarer. The design worked and met my expectations but the group did not bring a percussionist so it didn't end up in the final work. However, the sound was explored on flute, oboe, horn, cello and violin. Both string players made use of prepared fidget spinners. The design of the bull roarer was send through to Sandbox Percussion Group in New York and the assembly worked. They managed to create roarers in various sizes. I intend to use this design in a work for the Spring festival 2023.

What I especially enjoyed in shaping this instrument was designing it starting from a sound and making it custom fit a regular percussion setup. The frame on which rubber band are tied has a hole that fits almost all percussion mallets. That means that it can be seen almost as a prosthetic of the vibraphone or marimba sticks. A physical conjunction of existing playing techniques and a new design.

My utopian vision was that everybody involved in the process could make tweaks to the instrument designs, expanding and improving the sound production, as well as making them more idiomatic. This was too ambitious: as soon as the instrument was introduced it was taken for granted. I think this is partly cultural and partly my own mistake. By introducing the musicians in an earlier stage to the options and productional techniques they might get an understanding of possibilities. Modifications suggested by the involved musicians were in this case study not exceeding the size of the instrument in relation to the force of the stretched rubber bands.

A future for these instrument could benefit from performers being aware of the possibilities within the realm of modification. Thereby, the more roarers are made and the more musicians want to work with them, the further the boundaries of its potential will be stretched. Thereby aren't these instruments obscure one-offs anymore. They can quickly be made and remade, anywhere.

In short it is true that new instruments drawn digitally in 2d or 3d vector drawings can stay flexible but this flexibility is an asset that deserved more investigation. Prototyping was unfortunately not investigated in the creation of the piece because it didn't play a role, the improvements were now only made on the practical side of assembly and playability.

The second case study was an open question to multiple composition students. I asked them to think freely about sounds, and how (these) sounds are made. Often the line of thought went into the direction of existing instruments or electronic sounds they knew. When asking them what instrument they would like to improve more then once we stumbled upon the situation where a characteristic of one instrument was projected onto another. In itself a fascinating "Frankenstein project" but a discussion on what is a '*new* instrument' followed instantaneously, including the subquestion how necessary it is to be completely new.

The separated terms of theorist, composer and performer got intertwined which sparked the interest of Nirantar Yakthumba. He didn't design a new instrument or wrote a new piece for the research project but introduced me to his way of thinking about microtonality and was wondering how this could be applied to instruments with a layout that didn't necessarily match a microtonal approach.

We applied it on the guitar and removed the frets. The fretboard became a blank canvas where frets could be meticulously located and fret slots could be lasered. Most of Nirantar's music makes use of a 72 equal divided octave and fretting that in a short fingerboard blank would be impossible. The width of the frets (roughly 2mm) would leave no space to stop the string and would fill the whole board up, already overlapping around two third of the string.

The laser cut fretboard gave however also rise to another idea: leaving the frets apart altogether but use a fretless variant with indications *on* the fingerboard. This idea we refined and I translated one of the violin parts of an existing string quartet into a fretboard. Not everything was playable due to specific playing techniques and registers but the intonation issue was solved.

I've applied this also on existing repertoire by LaMonte Young, Terry Riley and various EDO tunings and it works surprisingly well. The remaining question is: in how far am I projecting a violin onto a guitar, and in how far that is useful?

After all it did have an impact on my own practice; it might very well lead to new applications and approaches. In the same line I've also laser cut Harry Partch' Adapted Guitar on the fingerboard resulting in new insights on engraved indications, merging the score and the instrument.

What this case study learned me was that it is not easy to get started completely blank. The sonic imagination has to be so strong and the blind faith that something will be found so strong that starting from what is known is easier. At first I thought this was disappointing but even starting from something familiar gave rise to new approaches and insights. Not ground-breaking innovations but outside of the box perspectives that could over time lead to new approaches, even on unmodified instruments.

The conclusion of both case studies is that instrumental development is easier said than done. It takes a lot of faith and perseverance to shape something unique, but every step taken in that process is a step away from the immutable traditional models - and that is worthwhile. In that regard I had to shape my desired outcomes differently, less focussed on the possibility to share and modify ideas with others but more along the lines of investigation. All the models I've tried, and all the discussions I've had sparked new routes. Close to non of them led to amendments of prototypes, but all of them crystallized in unimagined potential and sparked curiosity and joy from everyone involved.