

Portfolio

Bram van Klink

Tension

2025

Bram van Klink, Victor Marbus

Tension is a performance in which a steel cable is played in a church with motorized magnets and by an instrumentalist. The technological setup of Tension consists of a steel cable tightened to tune the steel cable and hung up five meters above the audience with ratchet straps on the church pillars. At one end a computer-controlled motor with powerful N52 neodymium magnets is placed to attract and repel the steel cable, generating vibrations and therefore sound. At the other end is a double coil to pick up the sound which is fed back into the computer where it is processed with distinctive signal processing. The sound is then played throughout the space with the use of a 24-channel sound system. The movements of the magnets, sound pick-up, and processing are done by the same computer in a single, custom Max/MSP patch and spatialised with the 4DSOUND software.

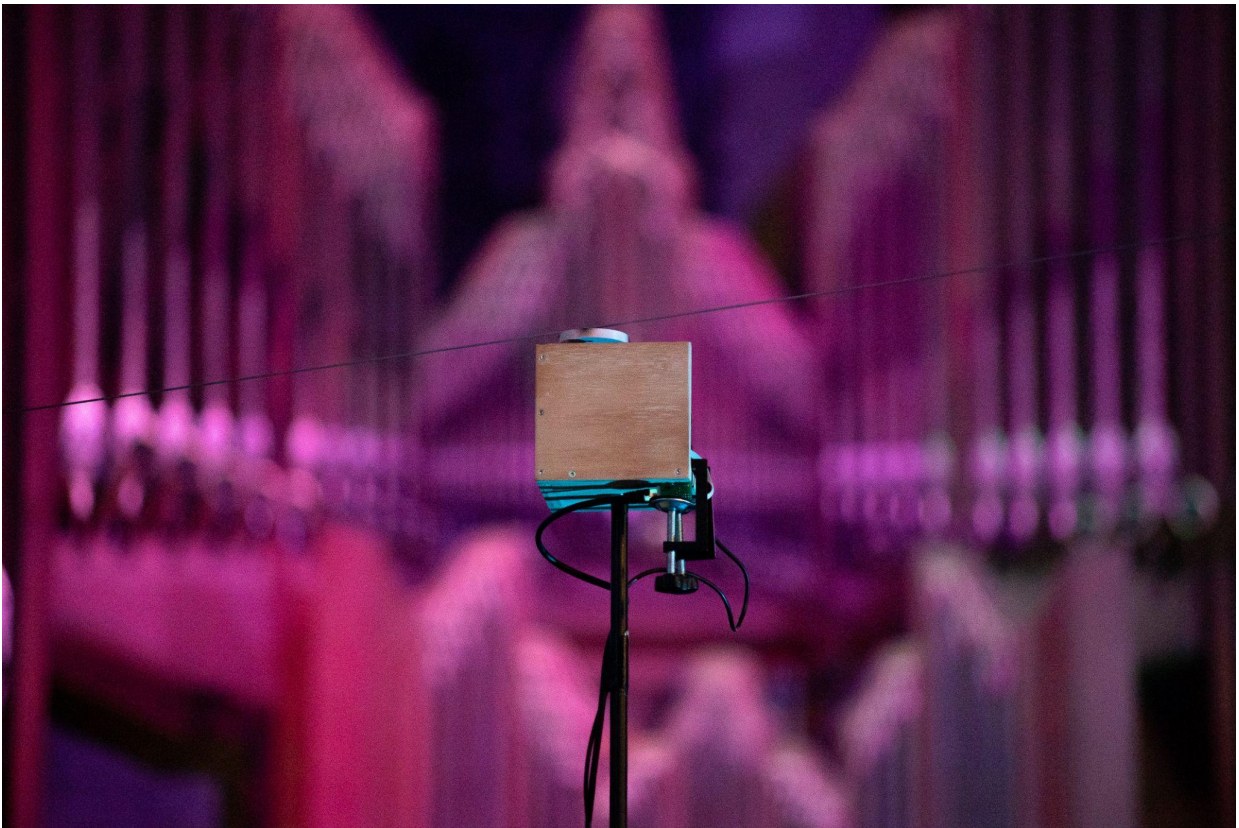
The steel cable symbolises the relationship between the church and nightlife, which have an exciting unexpected resemblance: the ritual nature of both worlds is an interesting parallel. Every space has its resonant frequency, which is another important part that binds the steel cable to the church. We incorporated the resonant frequency of the church at which we performed into the composition, by processing or tuning the steel cable to this frequency.



Tension Overview of the installation. Steel cable from left strap to right strap between the pillars



Tension *Victor playing the steel cable*



Tension *Alternating magnet & stepper motor*

Internship Edwin van der Heide

2024

During my internship with Edwin van der Heide, I learned many important things. One of the most important takeaways for me personally is how to set up projects, with version control, documentation and good communication. For example, during this internship, I learned how to admit when I do not fully understand a subject. This is now a key factor in my attitude to working as a professional but also in learning as a professional and student.

Fluid Corpus Manipulation

One of the more extensive projects I worked on during my internship was understanding the Fluid Corpus Manipulation package. I focused on analyzing the non-negative matrix factorization objects, UMAP and other dimension reduction techniques for 2D corpus exploration. After gaining an understanding of NNMF, umap and kdtree, novelty slicing and pitch analysis we created a system that analysed short snippets of audio, created by slicing, using MFCC and pitch analysis. This project was highly intensive and required documentation as well as version control, which provided valuable insight into handling large-scale projects.

Printed Circuit Board design

A big factor in Edwin's independent artistry is creating your own tools and devices. I learned this from Edwin by designing a full-wave rectifier with a comparator and gate (FWRCG). The reason for this was that we needed a system that would compare the incoming electrical signal with a set signal: if the signal dropped below the 'set' signal on the comparator the laser would turn off. This is necessary because Edwin would not be able to reach the lasers after they were installed high and off needs to be off when dealing with lasers. Starting with the idea from paper and online sources, I created a schematic in KiCad 7.0. After more testing and a lot of electrical rule checks, I moved on to the PCB design and created a design that fit exactly for the lasers Edwin had intended. During this project, I learned a lot about how to think ahead for your installations and what practicalities might come up after installing them. Another main lesson learned is that for your artwork, you sometimes need to make specific solutions.

Spatial Sound Institute - Holos

2023

Bram van Klink, Silke van Wijngaarden

In early 2023, I set up, and participated in an exchange with the Spatial Sound Institute. This is the location where 4DSOUND was developed by Paul Oomen and Poul Holleman, at that point led by Vito Willems.

The Spatial Sound Institute is a research centre for spatial sound technologies and practices. The facility was centered around a large-scale omnidirectional sound system designed by 4DSOUND, consisting of 60 speakers placed in different locations, custom-built into the renovated architecture of the warehouse. The space then hosted an entity called HOLOS.

During this exchange, I participated in different activities, such as building a custom LED lighting setup with 6000 LEDs that would translate spatial movement in the space using the existing 4D engine and Madmapper. I also re-composed one of my previous compositions *Contrast* to gain a better understanding of composing for spatial sound and light.



Spatial Sound Institute (HU) *Light setup at the Spatial Sound Institute during my composition.*



Spatial Sound Institute (HU) *Overview of the SSi*



Spatial Sound Institute (HU) *Working with artist Nick Safe.*

Contrast

My piece *Contrast* for the Spatial Sound Institute was composed in the 4DSOUND engine. The piece was heavily influenced by the poetic piece from Astrid Haerens, *Oerhert* and sounds by artists such as Puce Mary and 'Chernobyl' by Hildur Guðnadóttir.

*“ Het begint wanneer een alarm gaat loeien, je je al uren
los probeert te rukken van gestolde tijd. Je voeten zinken
in het vloeibare beton van de straat de stad die begint waar jij stopt
je kijkt omhoog, wankelend, zoekt naar een boomgrens een bergtop
of iets anders wat standhoudt. Om je heen blaffen de riot dogs
hun echo's uit de stegen ketsen langs je, vormen nadien een canon in
je hoofd, een dichtgemetseld ritme, dit gevoel is menselijk is menselijk
herhaal je zacht, en kijk, nu blijf je tenminste staan. “*

– Astrid Haerens

The composition reflects on the words Astrid uses. Terms such as echo, are translated in spatial-delay patterns and feedback lines which move through the space. It was important to me to phrase movement in spatial composition and learn to listen to a composition that has no 'front'. In composition for stereo setups, audio has a left, or right placement. However, in spatial composition this placement in sound is better articulated by sound designs which create a contrast in sounds that move through the space.

Compositions

Tension

Footage of Tension, live performed during E-Live at the Nicolaïkerk. For more details, I also added a link where more information on designing the motor, control and spatialisation can be found.

[Link to Tension at E-Live \(YouTube\)](#)

[Link to technical details on Tension \(Stack\)](#)

Contrast

Video-recording of my composition exhibited at the Spatial Sound Institute, Budapest.

[Link to SSI \(YouTube\)](#) (should automatically skip to 5:42, the start of my work)

Vector

Vector is a composition I wrote for string ensemble using a stochastic method based on poisson distribution, inspired by Xenakis' *Achorripsis*. For this composition I have also written a paper and score which can be found in the link below. In the paper, I explore the decision making factors in composing algorithmically and a part of my process. I learned, during the process of calculating and writing the score, that when composing algorithmically, it is important to have a strong idea of what the piece should be. I focussed on how the numbers could add to the narrative of the piece.

[Link to Vector \(Soundcloud\)](#)

[Link to papers and details on Vector \(Stack\)](#)

Cassette album

Currently, I am creating an album to be released only on cassette. By composing and distributing music on this medium only, I aim to create an experience that requires listeners to actively find my music, be it on purpose or by chance.

For me personally, my most intense inspirations have come from discoveries of music I made myself, while conversing with people in my surroundings and by finding and listening to music on cassettes. I am deeply interested in the history behind music, more specifically industrial music such as Staalplaat. Through reading pamphlets, books and reaching out to artists, I learn more about their history, music and practice. This in turn inspires me. By composing and

distributing myself on cassette I hope to share a similar experience when I discover relics on cassette with my current audience or perhaps those who will come across my work far into the future.

The pieces I am composing in this series are made by creating audio fragments from personal field-recordings. For each composition in this album, I create a novel system where I can play with a specific predetermined set of parameters. I spend some time with each system. I interact with the system by changing the settings step by step while recording the audio output. Usually the process involves controlled feedback digitally or analog. Then, I collect all recorded sounds and compose the piece using a DAW. I limit myself to only using techniques found in musique concrète such as reversing, splicing and stretching while composing.

Cylindrical

Cylindrical, one of the compositions on my cassette album, was created using send and returns to create a self-sustaining feedback loop with reverb and ring-modulation. One important factor within the piece is that I only control my ART MDC analog compressor. Using the stereo out from the compressor the signal goes into Ableton and back into the compressor to complete the loop. I only employ very slow movements on the exciter and compressor threshold to move the piece in the direction I want. Another big factor in this composition is the recording of a one-cylinder boat, which directly influences the feedback loop. The pounding sound is rhythmical and ceaseless and therefore shares many similarities with the feedback loop.

[Link to Cylindrical \(Soundcloud\)](#)

Hex

Hex is another composition on my cassette album. In the process of composing this piece I have written a feedback system in Max MSP. In addition, I explored the filtering capacities of my hand by holding it in front of the microphone in different shapes, thereby creating the feedback loop from my laptop speaker to the microphone. With various hand positions I created many spectrally interesting sound colorations.

[Link to Hex \(Soundcloud\)](#)