Program Note

Mahal

Mahal is conceived as a site-specific sound project for Müze Evliyagil. Even though it contains diverse elements such as musical performance and sound installation, it aims to provide the audience with a collective sound experience. Works, that are formed upon a conceptual basis thought out by seven composers, occupy their own spaces simultaneously in a similar fashion that art objects are placed in a museum. Each work penetrates the other by interfering with the space of the other. The impossibility of containing sound in a closed space became a common starting point rather than an obstacle for the project. For a good hour, this collective sound world that penetrates every corner inside and spills outside, aims to add a new layer to the memory that space has created up to now. Unlike a musical concert, Mahal does not require any ideal position to experience. The impossibility of perceiving sounds of Mahal as a whole encourages listeners to draw their own individual paths, ultimately offering them a unique and subjective experience.

Flux

Based on the idea behind the Wave Organ, the wave-activated sound sculpture in San Francisco, the simultaneous reflection of the same sound source in multiple spaces form the sound world Flux. Throughout the work, listeners will have the opportunity to experience a continuous flow between spaces, resulting from the interaction of the composer with the Wave Organ.

Flux – Documentation

The idea of the iconic sound world comes from the phenomenal sound sculpture “San Francisco Wave Organ”. The sculpture was built by the Exploratorium in May 1986. The wave organ has been exposed to waves of the bay and produces sound to listeners at different stations. After I listened to the Wave Organ, I am captivated by the beauty and the richness of the sound that is produced by pipes and waves. I decided to replicate the sound by analyzing and re-synthesizing

the information that I receive from my analysis. To understand what the features of the wave organ sound are and how it is produced, I analyzed both the layers and the envelope of the sound that is produced by the "San Francisco Wave Organ".

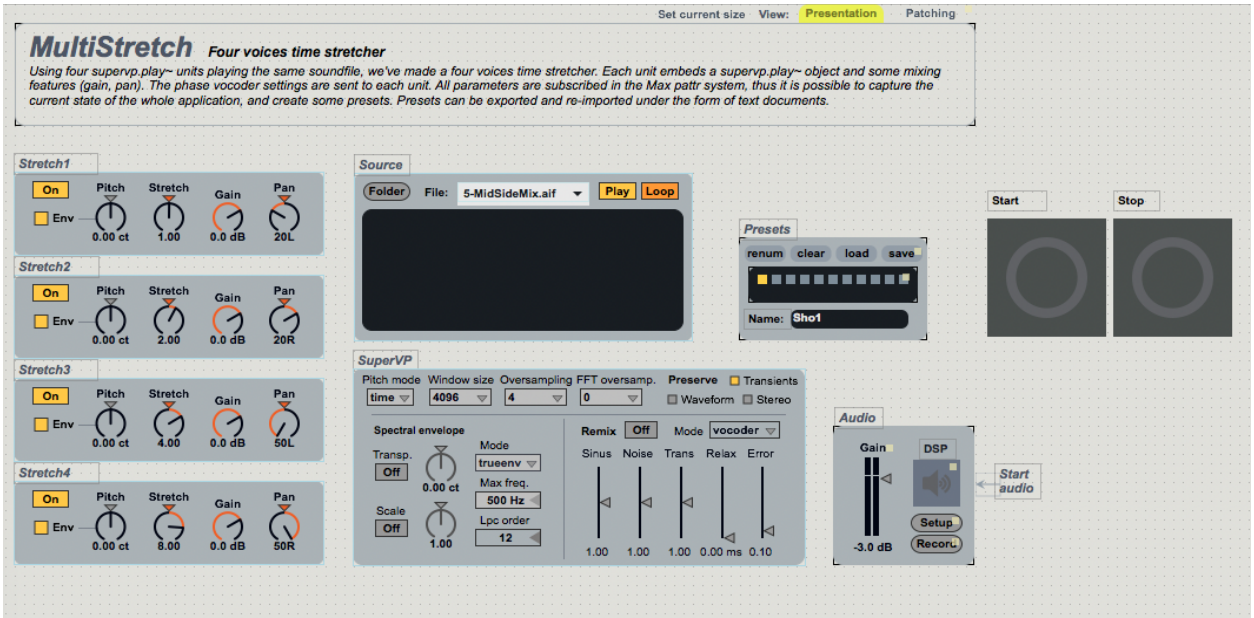
First, I divide the natural recordings of the wave organ into layers in terms of their frequency and purpose. I find five different layers that are very much similar to the division of SATB (soprano, tenor, alto, bass) and a background floor sound. Besides, to clarify the purpose of those layers, I used R. Murray Schafer's soundscape approach as my analysis method. The *keynote* is the fundamental of the soundscape. Those sounds are related to their location and climate. For example, water, wind, forests, and birds are good archetypes of the keynote. In this case, as I listened to the recordings of the sound sculpture, that was the endless ocean wave sounds that do not interact with the pipes and the little motion inside the pipe that produces low frequencies. Those sounds are listened to unconsciously. Moreover, some signals represent foreground sound and listened to consciously. For instance: siren, horn, violin, speech, and bells are great illustrations of the signal. Thus, the signal sounds are the glissandi layers produced by the action of filling up the pipes or drain away with ocean waves and hitting sounds that are very low or high frequencies are generated by the ocean waves that hit the tip of the pipes.

Secondly, I analyzed the envelope of the five different layers, that I got from my previous study, by observing its unique feature of ADSR (attack, decay, sustain, release). Furthermore, I studied the relationship between those five layers again in terms of ADSR. To clarify, those layers can be meaningful by themselves but also more than one layer can generate different gestures with the combination of their envelope information. For example, the glissandi layers have long attacks and releases while waves which hit to the tip of the pipes have short attack and short releases. Surprisingly, the combination of both generates fortissimo with a fast attack at the beginning of the sound and long release to *niente* at the end. Therefore, after analyzing the features of the soundscape, I started to realize that I wanted to use this sonic material as my environmental space. To replicate the sound sculpture, I started to take recordings by trying to make similar conditions. I used mid-side and XY microphones that are pointing the tip of the metal, plastic, or hard plastic pipes. The one side of the pipe was hitting and filling up with the water of the swimming pool the other side of the pipe was inside of a building and isolated from the outside noise of the environment. I recorded the pipes individually or combining them in different variations. While

the metal pipe produced high frequencies, the plastic and the hard plastic pipes produced very low frequencies. Also, the perception of the space was varying among the pipes.

After taking the recordings, I used the information that I got from my previous analysis. To use the five-layered system that I categorized according to their frequencies, I used FFT analysis on my raw recordings by selecting the sounds that have a similar frequency band. As R. Murray Schafer mentions the hi-fi soundscape which means the layers of keynote and signal do not overlap each other. Thus, those soundscapes have low ambient noise levels which makes it clear to understand each layer individually. There is no noise generation because none of the layers have an interaction with other's areas. Hence, to depict that hi-fi soundscape, I filtered the sounds sources to their frequency region to get more clear areas for each layer.

After layering each sound area, I tried to imitate the natural glissandi sound produced by the Wave Organ. To achieve that, I used the most similar pipe recording with IRCAM Multistretch in Max/MSP. I wrote four different time length and frequency shift parameter that I get from my ADSR analysis which loops itself after the four steps finish.



The patch worked well but was not perfectly fit as the combination of ADSR which were the hitting waves to the tip of the pipes and glissandi. I duplicate the channel and write the volume and the frequency shift automation manually and combined both the high and low end of the glissandi with the hitting wave sound with different frequencies on the new channel. The old one became the keynote of the soundscape and the new one became the signal. With the light of the information that I get from my layer and envelope analysis, I cut the five-layer into their smallest gestures and vertically composed them in a contrapuntal structure. That was my soundscape and the main theme of the music.

Since the Mahal project was an installation/performance, I decided to create a form that very slowly changes in a linear manner. By using this method, listeners can stay in the room until the end of the piece or they can come and listen every 10 minutes and they can still understand how the music change over time. Either way, they followed the music without any difficulty. Music flows from the beginning to the end by changing the virtual space of each layer and find a place for themselves inside the blocks through the music.

The music consists of five different blocks with four long transitions. The formal structure is this: A A’ B B’ A”. A sections consist of water sounds and B sections are consist of synth sounds. A is

the main theme, the most natural soundscape of the Wave Organ. A' has a virtually manipulated space for each sound source with the transition. B is a lead synth that I created with Synthmaster One. The multilayered space changes into one layer that embracing the whole place. B' is a bass sound that is again created by Synthmaster One. After these synthetic sounds, the music goes to A" that is consists of sampled water drops that are performed with the midi keyboard while the recording. From B' to A" space changes gradually into multilayered unnatural spaces for each source.

There are two moments in the music where all the seven composers decide the dynamics and envelopes of the structure. The one is when the B ends and B' starts, the music of other composers interact with its density. The other moment is the ending of the music, all the music in the Mahal project becomes denser and louder.

Lastly, I used a Harman Kardon 7.1 Home Theater System with IRCAM SPAT in Max/MSP. I did not write any trajectory, only spatially installed the sound sources into a virtually imitated place of Evliyagil Museum room.