

Sivan Eldar

Heave

2018

Premiere_Cleaned
2019



The setup and the execution of the electroacoustic part
of this work requires a Computer Music Designer (Max expert).

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Work related information

Performance details

- Sept. 9, 2018, <p>France, Asnière sur Oise, Fondation Royaumont, Potager-Jardin, dans le cadre du Festival Royaumont 2018</p>

Publisher : Durand

Detailed staff

- ensemble of vocal soloists(soprano [], mezzo-soprano [], countertenor [], tenor [], 2 bass voice)

Realisation

- Augustin Muller

Useful links on Brahms

- [Heave for six voices and electronics \(2018\), 14mn](#)
- [Sivan Eldar](#)

Version related information

First performance

Performance date: Sept. 9, 2018

Documentation date: Jan. 17, 2019

Version state: valid, validation date : May 5, 2020, update : June 1, 2021, 12:38 p.m.

Documentalist

Augustin Muller (Augustin.Muller@ircam.fr)

You noticed a mistake in this documentation or you were really happy to use it? Send us feedback!

Realisation

- Augustin Muller (Computer Music Designer)
- Martin Antiphon (Sound engineer)

Version length: 15 mn

Default work length: 14 mn 30 s

Upgrade Motivation

Clean version of Heave patches

Comment

This version was rendered in Royaumont's Carré Magique garden, in an extended version, with 27 points of diffusion placed on the ground.

Other version(s)

- [Sivan Eldar - Heave - Creation \(Sept. 11, 2018\)](#)

Electronic equipment list

Computer Music Equipment

- 1 Retina - *Apple Laptops* (Apple)
running High Sierra 10.13.6 - 2,8 GHz - 16Go -Max 7.3.5
- 2 Max 7 - *Max* (Cycling74)
in 64-bit mode

Audio Equipment

- 6 Microphone - *Microphone*
wireless microphones for the singers -6 DPA 4066 with wireless system were used at the premiere
- 27 Loudspeaker - *Loudspeakers*
27 speakers on the ground. Positions as reported in spat.
- 2 subwoofer - *Subwoofers*

Files

File	Type	Author(s)	Comment
Heave_Patch&Sounds	All-in-one		

Instructions

Heave - Documentation

Heave is a piece for six voices and electronics.

Soprano and Bass are soloists, and the four other voices form a choir (Mezzo-Soprano, Counter-Tenor, Tenor & Barytone).

The electronics of *Heave* consist in a multichannel tape (64 channels) designed to be decoded in an arbitrary number of speakers disposed on a surface. The surface includes the singers area and the audience.

Real-Time processing of the voices is also used : subtle modulations and tonal reverbs for the soloists, modulation of a soundfile for the choir.

All voices need to be slightly amplified and spatialized according to the rendering system and staging.

Audio Config

- **27 audio outputs :**

A 27 speakers array disposed on the ground (as in the Royaumont Carré Magique Garden extended with 8 speakers) Other configurations are possible, with speakers on the ground that fill the space as regularly as possible. Two subwoofers were added for the premiere.

- **6 audio inputs :**

1. Soprano (to RT patch) 2. Bass (to RT patch) 3. Mezzo (to Player patch) 4. C-tenor (to Player patch) 5. Tenor (to Player patch) 6. Barytone (to Player patch)

6 DPA 4066 with wireless system were used at the creation.

Software installation

Two instances of max 7 64 bits are needed for the performance, one for the player with big IO size, one for the realtime with little IO size. Put the whole folder in your max file preferences. Be sure to remove any other antescofo object from your path. The patch has been played in this config:

As by default the two instances of max will share the same preference settings, this parameters are automated.

- Player : 48 kHz, IO 1024, VS 512, Overdrive ON
- RT 48 kHz, IO 256, VS 256, Overdrive ON

An Ipad running Mira was used for the control in the garden

WARNING :

Heave tape consists in multiple layers of 64 channels audio. You will need about 40 Go free space !

IMPORTANT :

At the beginning of Data/Scores/Heave_Score file, which is the antescofo score of the piece, please copy the path leading to the Heav_RTmatrix.json file as antescofo is not able to find relative path. in the line :

- \$matrixpresets := @json_read (*path*/Heave_RTmatrix.json)



to have 2 instances of max, just duplicate the max app and rename it

Initialization routine

Once your preferred midi interface and/or mira device are connected and configured.

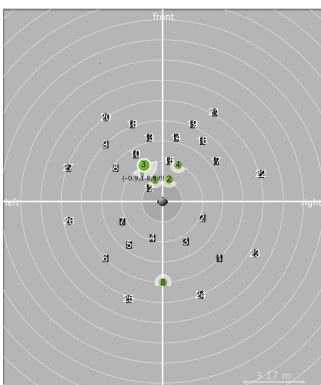
- Launch the `_Heaveplayer.maxpat` in one instance
- Launch the `_Heave_RTpatch.maxpat` in the other

Patches Config - Main Audio Checklist

- Check Audio configuration in both instance
- - IO size & VS will update automatically in each instance
- - 48000 kHz is mandatory with these sound files !!
- In Heave_player [score] patcher, check that the score folder is the correct one and that the menu is filled.
- Press INIT in the player patch & check that the connexion with RT patch is done (should be initialized)
- Check Mira or midi interface connexion
- Audio ON in both instances
- you're ready

System calibration and tests

- Start by setting the tape part
- - First you have to redraw your speaker configuration in the spat oper.
- - Presets can be updated by the interface [`spat_ctl`] or directly in the file `Data/Spat_Data/Heave_spat_27.txt`
- - Configuration of the sources should not be changed, but scaling offset is possible
- - Panning type can be adapted to have the best result in the space (tradeoff between precision and enveloppement. try not to use too much reverberation (only for blending and fusion)
- - Compression of the tape part can be set too by interface or directly in the preset file
- - Check the adc input coming from the choir (modlayer)
- Real Time:
- - copy the speaker configuration from the tape preset (in the file (`HeaveRT_spat_27.txt`))



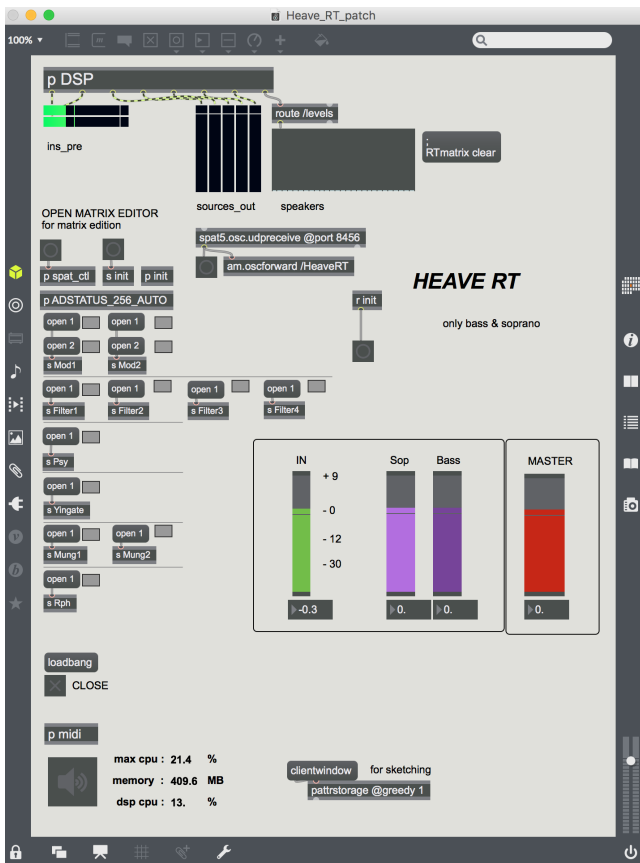
Patch presentation

Heave patches have different functions :

- Heave player :



- - play the tape
 - global electronic score & cts
 - "modlayer" effect linked to the choir intervention
- Heave_RT :



- - processing & spatialization of Bass and Soprano

Synchronization : Cues are triggered by the computer music designer as written in the score.

The keyboard controls are the following :

- Right Arrow : nextlabel to antescofo (ie trigs next cue)
- Left Arrow : previouslabel to antescofo (no trig)
- @ : stop soundfiles

Mira / Midi

an ipad running Mira was used for controlling the balance and triggering events in the garden.



Performance notes


Report to the score provided

General :

- Heave tape features mainly two types of textures : harmonic and "airy" sounds (like in the beginning of the tape) and earthy/slimy sounds (central part).

Both textures should fill the space of diffusion but with more focus on the enveloppement and collective feeling for the harmonic part , and more focus on the concrete, circulating and proximity character of the slimy part (hence the change in spat parameters about scaling and reverb) The tape part has to be quite present and overwhelming at some points ("breaking up" around B). The low register (subs) is important in the central part and should we well present.

- The modlayer effect on the choir should blend well with the tape and give a feeling of organicity of the whole electronic texture.
- The voices should be amplified in the zones where the singers are (depending on the staging).
- The processing in the RT patch **must not be too loud** It's purpose is to extend, blend and blur the voices at some moments to mix with the electronics but the acoustic, natural voice must always be in the foreground.
- The whistle of the soprano at H should hardly be amplified but mostly emerge in the reverberation effect
- Try not to play too loud : mix levels have to be adjusted live in order to never loose the voices whilst maintaining detail on the electronic part

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