

_> SHORT INTRODUCTION

Alberto Barberis



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<https://www.albertobarberis.it/>

- ▶ **Conservatorio della Svizzera italiana (CH)**
- ▶ **Civica Scuola di Musica Claudio Abbado (IT)**
- ▶ **Huddersfield University - School of Arts and Humanities (UK)**

Main Education

- ▶ Bachelor in **Classical Guitar** (Conservatory of Turin - IT)
- ▶ Degree in **Cinema and Telecommunication Engineering** (Polytechnique of Turin - IT)

- ▶ Master in **Classical Guitar** (Conservatory of Brescia - IT)
- ▶ Master of Arts in **Composition and Theory** (Conservatory of Lugano - CH)
- ▶ Master of advanced studied (MAS) in **Music Composition** (Conservatory of Lugano - CH)

- ▶ PhD student in **Music Composition** at the Huddersfield University - School of Arts and Humanities (Huddersfield - UK)

Main **fields of interest** and activity

- ▶ **live electronics** and **mixed music** composition and performance
- ▶ **critical artistic coding in the era of algorithmic aletheia**
- ▶ **multimedia performance** and sound installations
- ▶ **audio/video interaction**
- ▶ **sound synthesis and DSP**
- ▶ **digitally augmented acoustic instruments**
- ▶ new digital **electronic lutherie**
- ▶ analog **modular synthesis**
- ▶ **algorithmic composition** and **generative art**
- ▶ **computer music**

_> INVISIBLE
THROUGH BACH
motorized metal plates A/V orchestra

INVISIBLE THROUGH BACH

motorized metal plates A/V orchestra

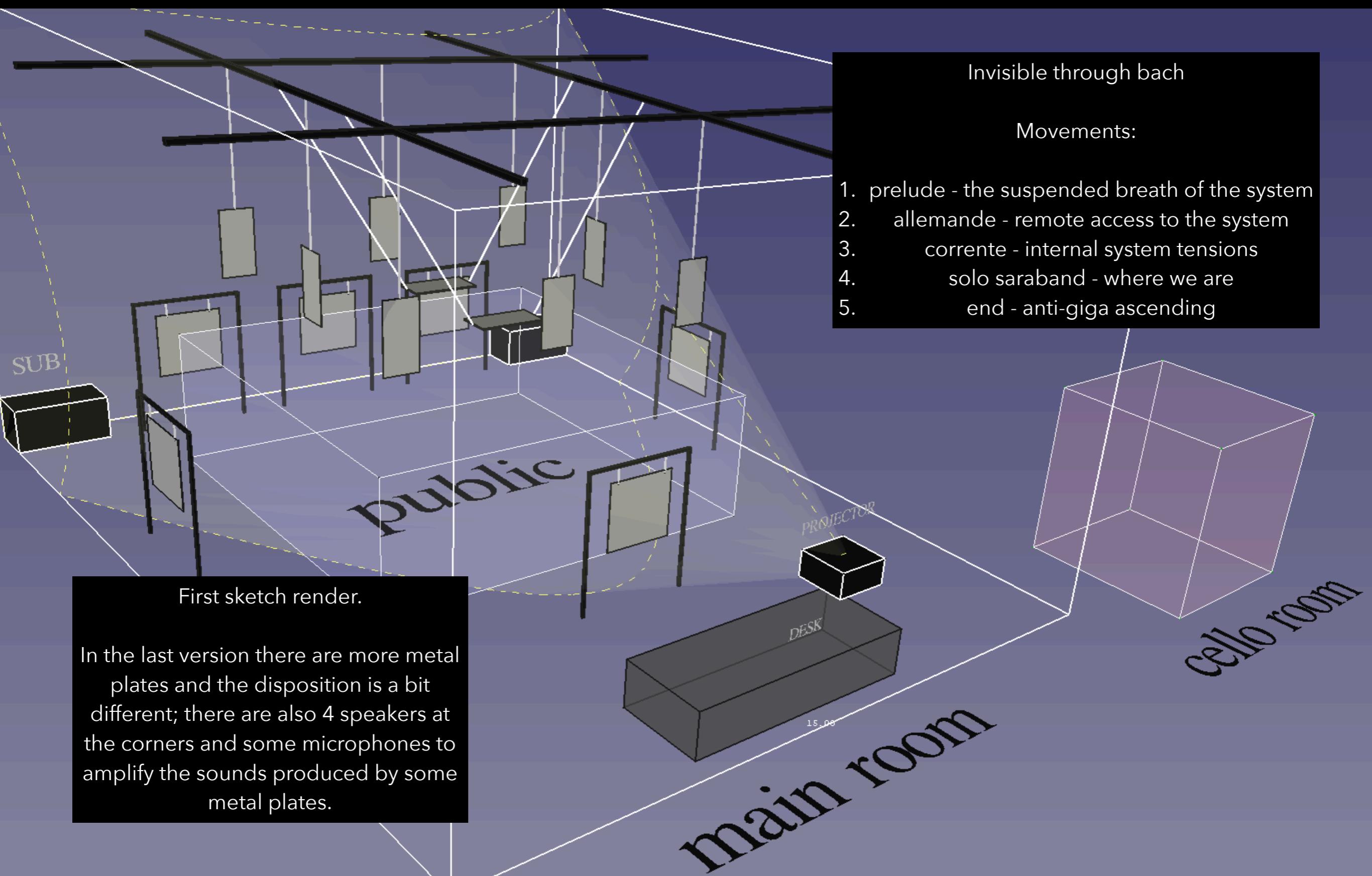
what

An **architecture of motorised metal plates** vibrates with **cello sounds, digital synthesis** and **live electronics**, at the same time reflecting **lights** and **visuals**.

2 separate **spaces**:

1. an architecture of **acoustic DIY speakers**, made of moving metal plates, becomes a metallic listening space for the public
2. a second room where a **cellist plays**, generating sounds and images, processed and transmitted on the metal plates with real-time electronic processing and generative visuals

the environment



INVISIBLE THROUGH BACH

motorized metal plates A/V orchestra

A dystopian experience, in which the classical music heritage is entrusted with the role of memory of a "naked" humanity. The rest is artifice of technological tools: industrial materials, motors, lights, codes, and noises. Elements of the present-day, subjects of a growing de-humanization: the socio-cultural drift that brings out the scream of this work.

selected topics

- ▶ the work exploits human struggle against the **de-humanising drift operated by technology**: the performer gradually “attempts” to access the system both with sounds and images, gradually revealing the human presence
- ▶ the **cellist** plays in **another room**, away from the audience, **not sharing the sonic result** with the public
- ▶ the **performative gestures are dissociated** from the sounds (they disappear) and a “**pure live electronics**”, without the presence of direct sound, is possible
- ▶ sounds are diffused with **motorised metal plates**, built with **transducers**, **motors** and **aluminum plates** (only 4 speakers and 2 subs are used to slightly amplify the plates)
- ▶ speakers are transformed into **musical instruments**; **servo motors** bend the plates, changing the **speaker's impulse response**

selected topics

- ▶ speakers have a **performative function** thanks to the movement (the human performance is substituted by a technological one)
- ▶ the Bach music (cello Suite n.1) is completely **distilled, altered, defunctionalised** and immersed into a noisy electromechanical environment representing the "sound of the machine" and the deconstruction of human musicality
- ▶ **microtonal re-synthesis** and **re-composition** based on partials analysis
- ▶ **rhythmic analysis** (onset detection) and **rhythmic modulation/variation** of some basic original rhythmic cells
- ▶ alteration of the **formal structural of dance forms**
- ▶ use of the **original performative gestures** to control the plates movements: a "machine dance" that replaces human performance, allowing timbral modulation
- ▶ creation of **spatialized real-time polyphony** in the different plates

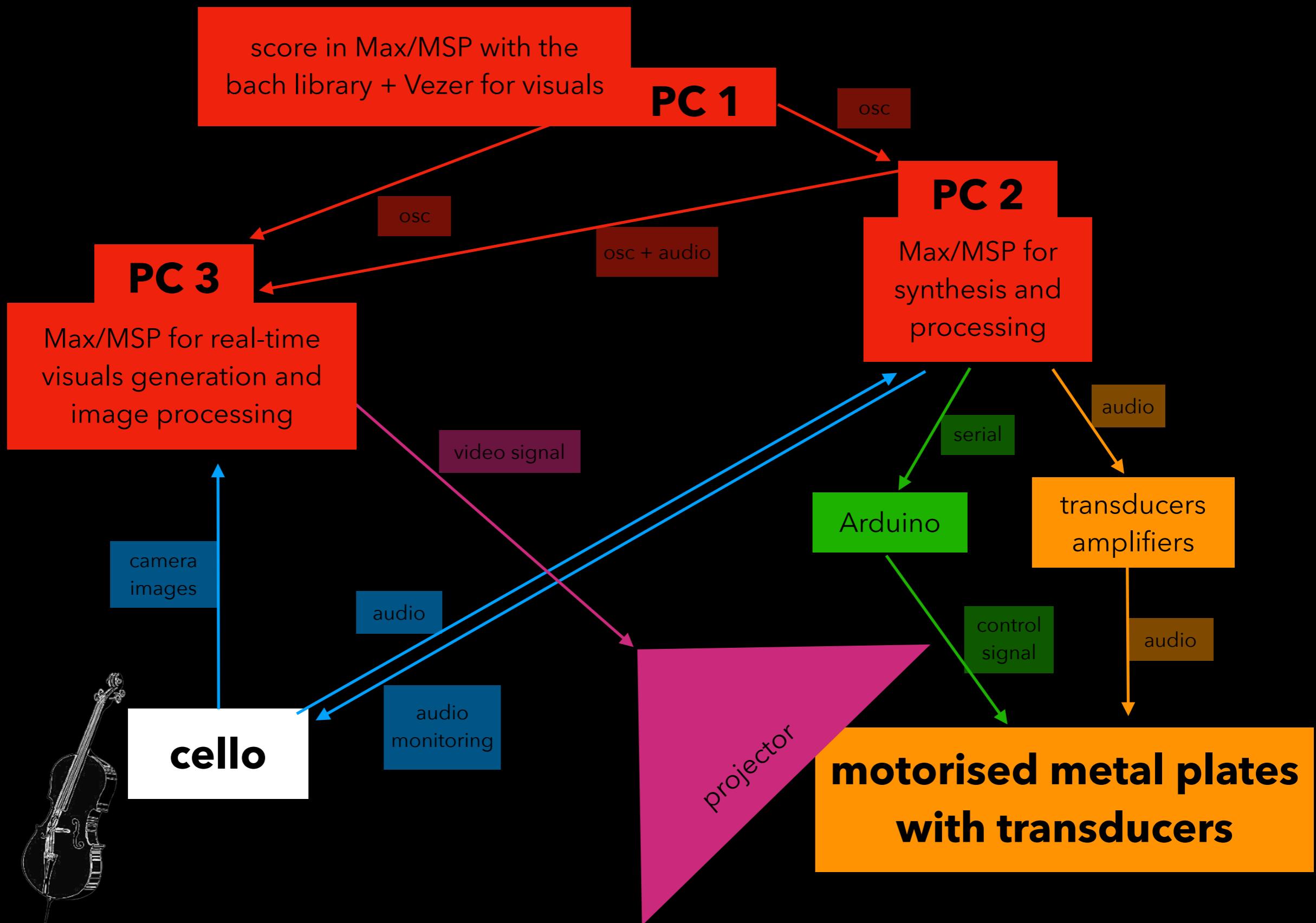
INVISIBLE THROUGH BACH

motorized metal plates A/V orchestra

«a work like Invisible through bach, despite the multiplicity of its reading levels, does not offer conceptual answers to the resolution of its antinomies. It does not show a straight path, exhibit formulas, or offer warnings. On the contrary, it offers itself to the audience with its emotional impact and reveals, with it, all its technical value».

Invisible through bach - radiography of a system, G. Cestino, musicologist

the system



the score

1. SCOREmac1

Score visualization showing multiple tracks and their interactions:

- click + numbers**: Clicks and numerical patterns across various tracks.
- cello simulation**: Cello simulation track with red highlights.
- DSP cello**: DSP processing for the cello track.
- mic cello**: Direct microphone input for the cello.
- cello direct mic**: Red highlighted section of the cello direct mic track.
- cello recordings and playback**: Cello recordings and playback track.
- servos**: Servo motor control track.
- synths**: Synthesizer track.
- samples**: Sampled audio track.

The score is divided into measures 38 to 51. Measure 38 starts with a click followed by a series of numbered notes (39-45). Measures 46-51 show complex patterns involving cello simulation, DSP processing, and servo control. Numerical values like "15' 40\"", "16'", and "16' 20\"" are displayed above the staff.

2 $\text{♩} = 120$ | corrente

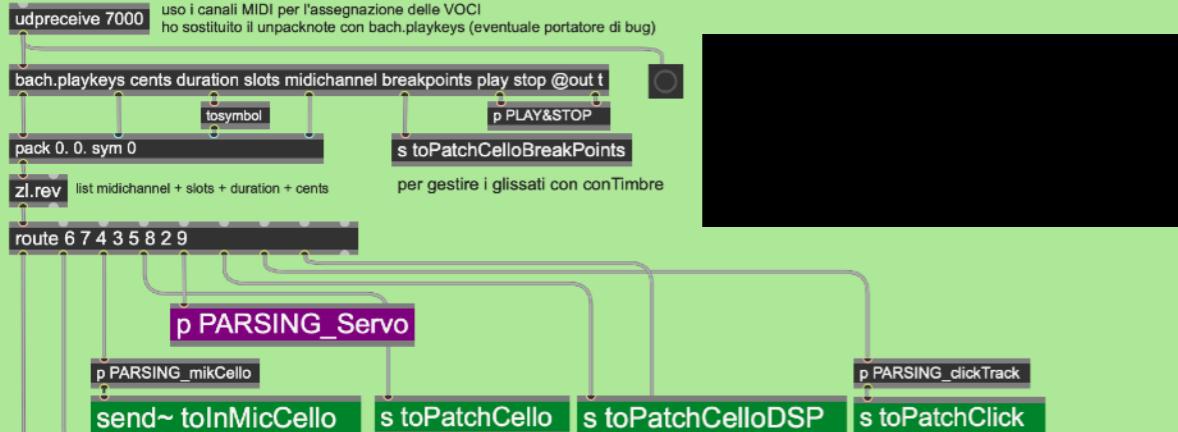
Score visualization for measures 46 to 70, continuing from measure 2:

- continua**: Continuo line with "click" events.
- cello**: Cello part with dynamics like *mf*, *f*, *sff*.
- DSP cello**: DSP processing for the cello.
- mic cello**: Direct microphone input for the cello.
- cello direct mic**: Red highlighted section of the cello direct mic track.
- cello recordings and playback**: Cello recordings and playback track.
- servos**: Servo motor control track.
- synths**: Synthesizer track.
- samples**: Sampled audio track.

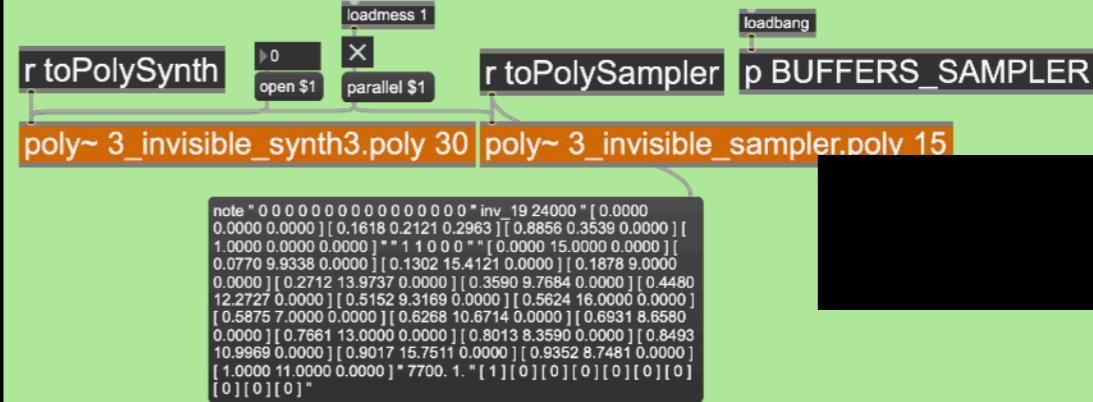
Measure 46: *mf*, *f*, *sff*. Measure 47: *mf*, *f*, *sff*. Measure 48: *mf*, *f*, *sff*. Measure 49: *mf*, *f*, *sff*. Measure 50: *mf*, *f*, *sff*. Measure 51: *mf*, *f*, *sff*. Measures 52-53: *mf*, *f*, *sff*. Measures 54-55: *mf*, *f*, *sff*. Measures 56-57: *mf*, *f*, *sff*. Measures 58-59: *mf*, *f*, *sff*. Measures 60-61: *mf*, *f*, *sff*. Measures 62-63: *mf*, *f*, *sff*. Measures 64-65: *mf*, *f*, *sff*. Measures 66-67: *mf*, *f*, *sff*. Measures 68-69: *mf*, *f*, *sff*. Measures 70-71: *mf*, *f*, *sff*. Measures 72-73: *mf*, *f*, *sff*. Measures 74-75: *mf*, *f*, *sff*.

the patching

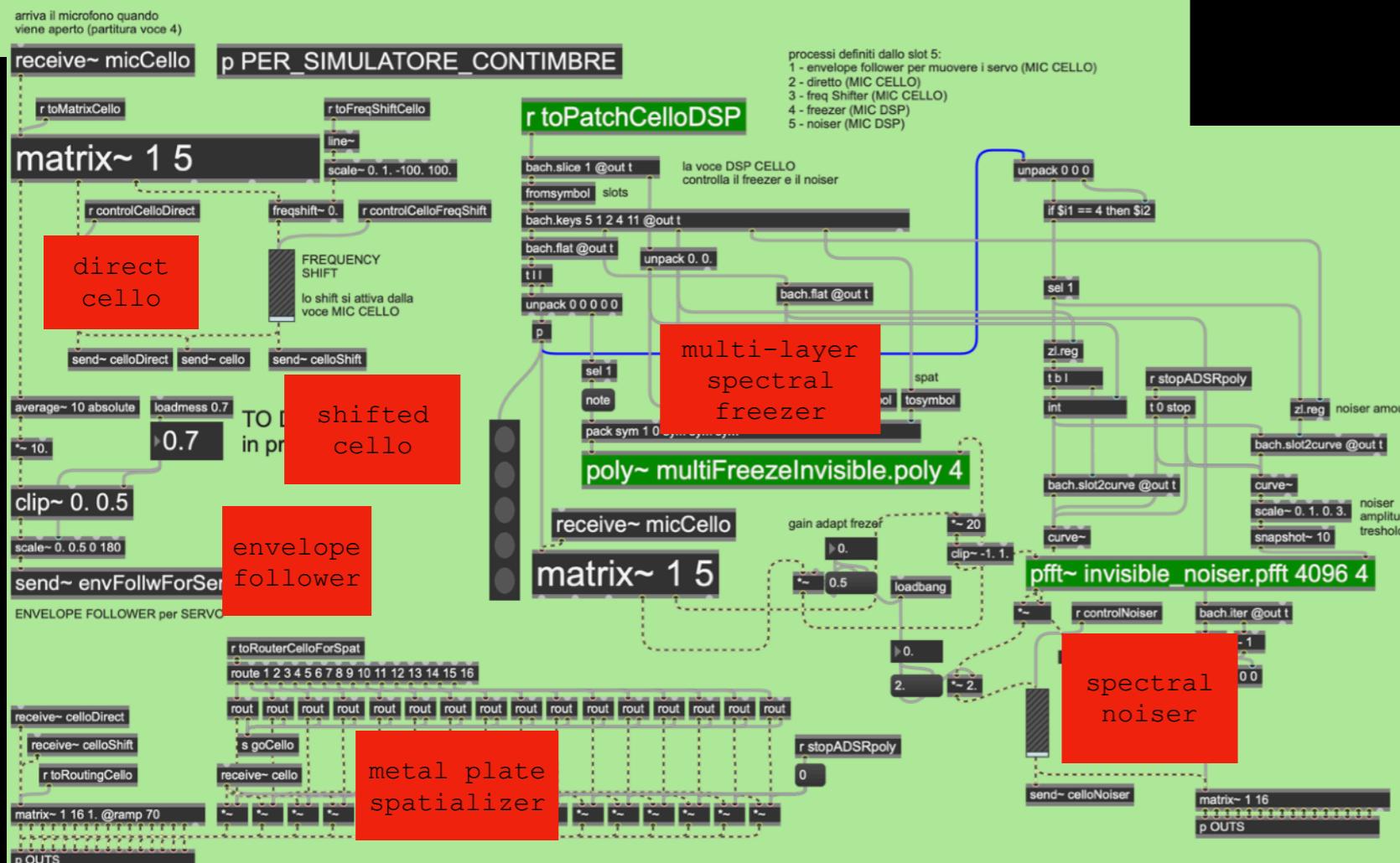
1. SCOREparsing_mac2 - invisible through #Bach



3. SYNTH&SAMPLER_mac2 - invisible through #Bach



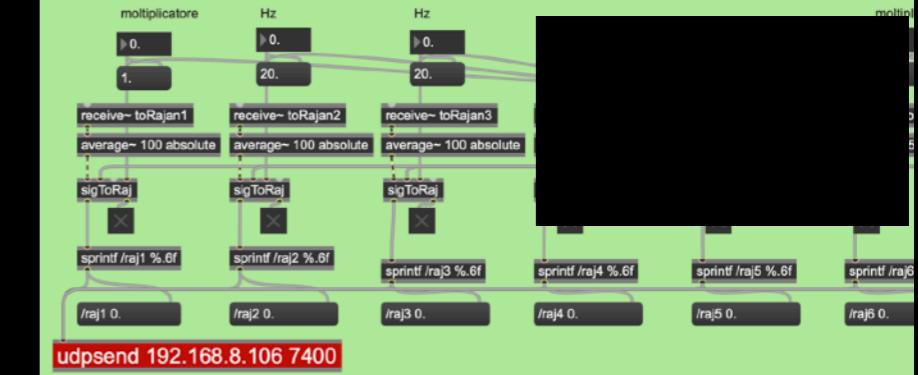
4. CELLO_mac2 - invisible through #Bach



5. SERVO_mac2 - invisible through #Bach



6. RAJAN_mac2 - invisible through #Bach



_> ALFABETH

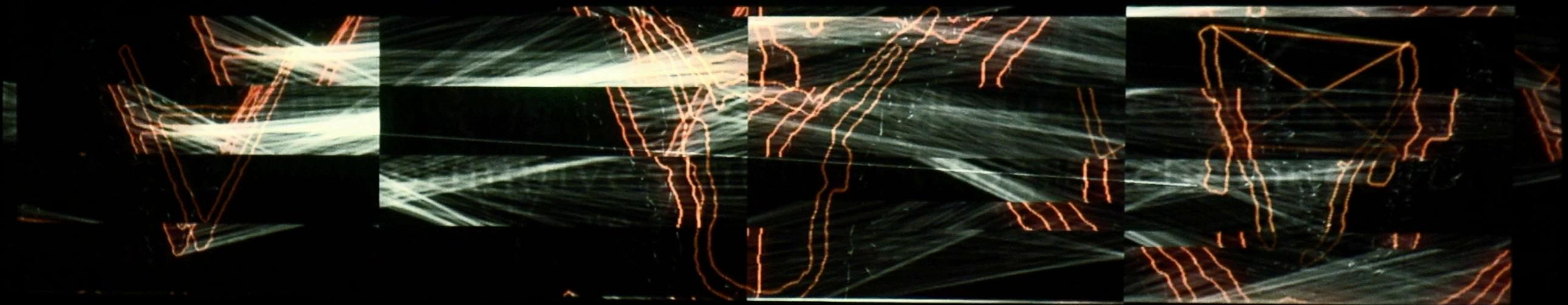
for ensemble, live electronics an audio-reactive visuals

Matteo Manzitti e Alberto Barberis - composition

Rajan Craveri - live visual art

Ensemble - Eutopia Ensemble

Alfabeth - A



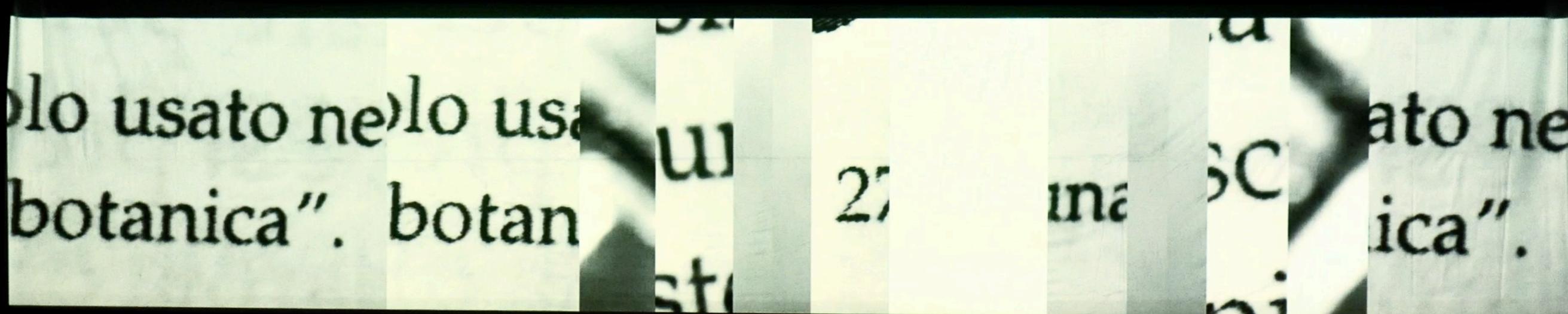
selected topics

- ▶ Alfred Kallir, universally known as one of the greatest researchers of **alphabetical signs**, showed the multifaceted nature of letters: "fallen images" before being the significant ingredients of the languages.
- ▶ Alfa-Beth intends to investigate the **strength and properties of letters** with a sound and visual dramaturgy of the alphabet.
- ▶ That "holding together", which is the main property of the letters, thus becomes the fulcrum of the work, not only because it is a "four hands" composition, but also because it sees the presence of the **acoustic and the electronic, the vocal and the instrumental**.
- ▶ The work has these movements: A - B - C - G - D - E - F. Each movement is inspired by the deep meaning of each **alphabetical sign**.
- ▶ Ensemble: Flute - Clarinet - Violin - Piano - Double Bass - Electronics (pre-composed tracks) - Live Electronics (Digital Real Time Processing) - Live Visuals (audioreactive).

Alfabeth - G



Alfabeth - F



the score

Score

ALFA-BETH

M.Manzitti-A.Barberis

A

A_algo1 + A_algo3

1
data:
all_OFF [0]
black

2

Flute: *air sound*, *ord sound*
 Bass Clarinet: *dump the string
in between dumpers
and not: pitch result:*
 Piano: *ff*, *p*, *mp*, *pp*, *half air
half sound*, *ord sound*

other data:
 A_algo_1_AR [0., 1. 2000 -0.3]
 A_algo_3_AR [0., 1. 2000 -0.3]
 A_algo_3_active [1]
 toRaj [A_START bang]

3

Fl. *mf*, *p*, *mf*, *ppp*, *mp*, *pp*, *half air
half sound*
 B. Cl.
 Pno.

Ia A presenta 3 algoritmi:

A_algo_1 > applicato al fl
 A_algo_2 > applicato al cl e poi agli archi
 A_algo_3 > applicato al pf ma controllato anche dal fl
 + traccia stereo (cue 4) e click per il direttore

da valutare il controllo manuale del gain adaptation dell'env
 del flauto sull'algo_3 eventualmente da programmare!

nelle indicazioni dei Cue scrivo solo ciò che cambia e non
 ciò che rimane immutato

routing:
 ON cl > dir_cl
 ON cl > A_algo_2_cl

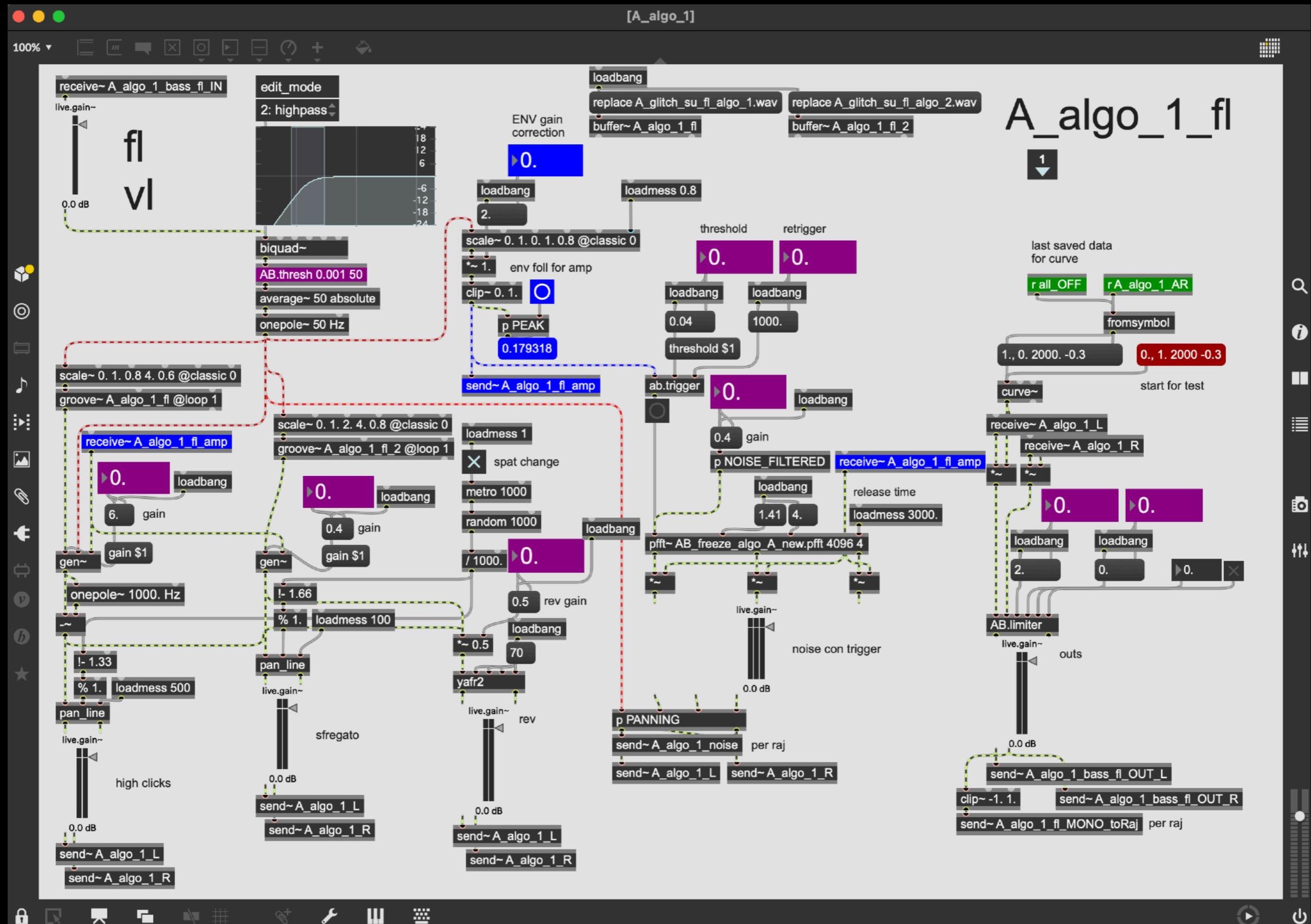
other data:
 A_algo_2_AR [0., 1. 100 -0.3]
 A_algo_2_gate [0]
 toRaj [A_TORO bang]

A_algo2

the patching



the patching



_> **HYBRIDY**
**vibrotactile audio-video installation for single
spectator**

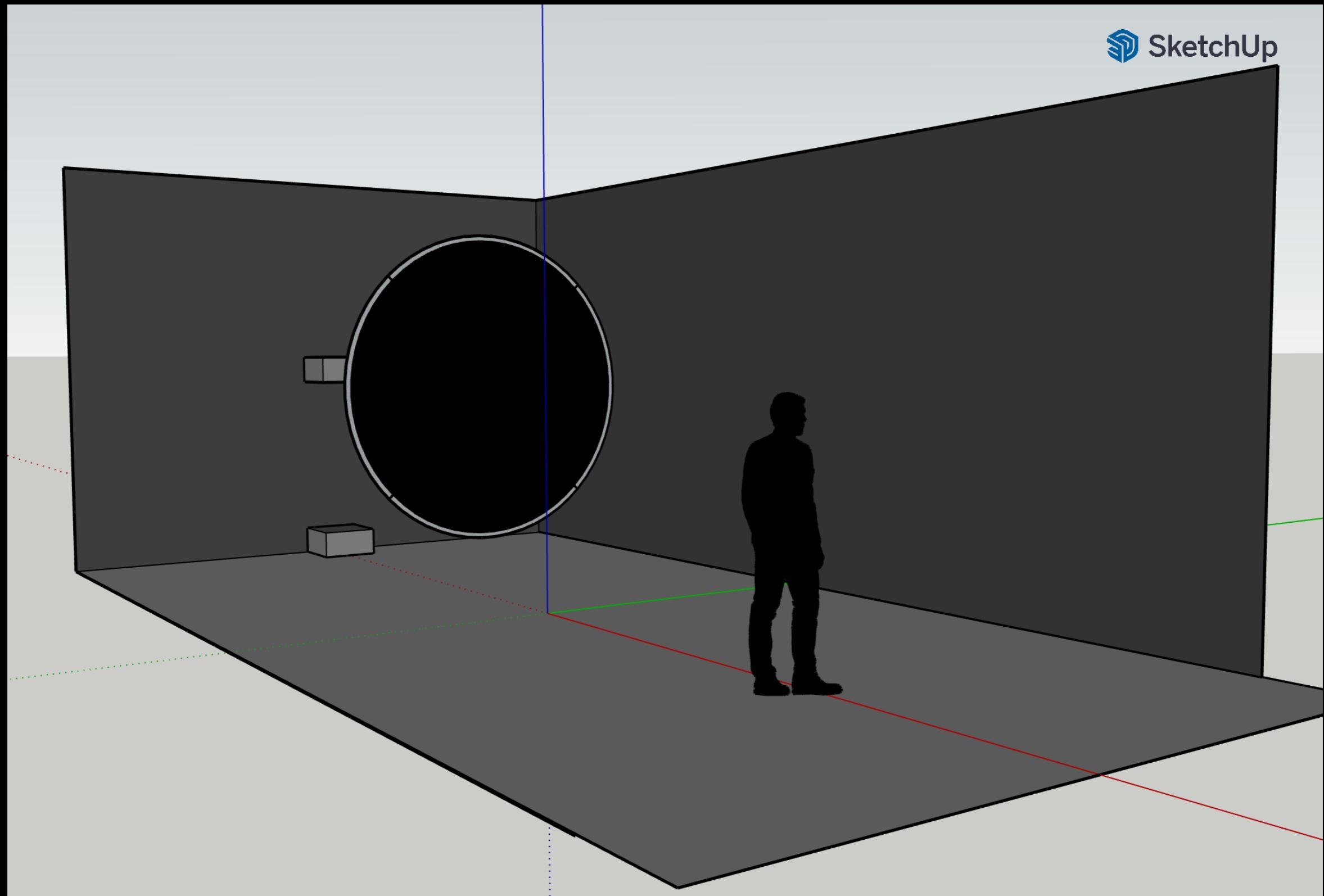
Alberto Barberis - music and vibrations

Rajan Craveri - visuals and stage design

Serena Zanconato - dance



the system



the system



vibrotactile feedback





sottosuolo

the patching



scorrere



selected topics

- ▶ The installation consists of a black, circular projection suspended surface. A portal-vortex within which the pseudo-creatures born from the symbiotic process are animated.
- ▶ Electroacoustic sounds played via headphones give rise to a deep music that, oscillating between saturation and sensation, flows into a chorale of embryonic organisms screaming their desire for life.
- ▶ The dance, from an ancestral and rhizomatic trait, develops into a subtle body of vital flows until it blossoms into a floral-digital apotheosis.
- ▶ Mechanical vibrations are spread over the spectator's body by means of a **vibrotactile backpack**, breaking down the boundaries of static fruition: the spectator can participate in the ritual of hybridisation.

selected topics

- ▶ The algorithms developed for graphic processing draw inspiration from the evolution of **mushrooms**, the flow of **liquids**, the spread of **flames**, and the blossoming of flowers.
- ▶ The algorithms used for sound synthesis are based on the **analysis of the movement** of the body, which is thus able to direct the sounds of this fusion ritual.
- ▶ The work is thus a score of organic, analogue and digital contents within which 'an individual can [...] **reconcile with complexity**', savouring a 'primitive, poetic artistic fecundity [...] that trains him to separate himself from unidirectional schemes, conceptions and existences' (Una spirale di ibridazioni. Dal naturale al tecnologico S. Milano).
- ▶ Just as the dryads expand their bodily forms with fronds and roots, becoming one with the extra-human natural context, in HYBRIDY the body extends in strings of bits to control the invisible algorithms of digital, audio and video processing.