“by my death...”

for Chamber Ensemble and Laptop Ensemble

by

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A Dissertation Presented in Partial Fulfillment
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ABSTRACT

“by my death...” is a composition in three movements for chamber ensemble and laptop ensemble, with the instrumentation of clarinet in Bb, French horn in F, percussion, violin, double bass, and at least three laptops. The total duration of the piece is approximately twenty minutes. However, since the timing of the first and third movement is flexible, the total duration may vary.

“by my death...” is the creative culmination of my research into representations of the Holocaust in music. More specifically, it corresponds to my analysis of three Holocaust-based works by the Israeli composer Arie Shapira (1943-2015): Gideon Kleins Marterstrasse (1977), Gustl in Theresienstadt (1998-9), and Achtung Rapunzel (2007). I applied findings from the analysis in my own music, resonating Shapira's style, techniques, and expressive means. In a sense, “by my death...” is a homage to this composer, who had a strong influence on my path to dealing with the Holocaust in music.

My composition, however, is not necessarily about the Holocaust alone. It concerns the larger Jewish historical narrative that is characterized by destruction and construction, with the Holocaust as a central, pivotal event. It reflect about the Holocaust within links between tradition and innovation, past and future, death and life, that are inherent to any aspect of Israeli culture, and that are intertwined within the Jewish narrative of extermination and resurrection.
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“by my death...”
INSTRUMENTATION

Clarinet in Bb
Horn in F
Percussion (standard mallets, superball, 2 bows, 2 brushes):
  small bass drum
  floor tom
  hi-hat
  crash cymbal
  ride cymbal
  sizzle cymbal
  woodblock
  crotales (C4, E4, G4, A4, B4)
Violin
Double bass
Laptops:
  single laptop for solo part
  any number of laptops for parts 2 and 3

STAGE SETUP

Stage arrangement for movements I and III:

Stage arrangement for movements II:

- The specific laptops must be close to the specific instruments, as indicated, for purposes of recording and processing audio input.
- Each pair of acoustic instruments may share a music stand with the score.
- For movement II, prepare a music stand with the violin part next to laptop solo ahead of time.

All performers must see and hear each other clearly. Facing the audience is noncore.
ELECTRONICS SETUP

The laptops require MAX/MSP 6 or newer, with MuBu for Max package installed. MuBu for Max is available to download for free through IRCAM Forumnet Shop: http://forumnet.ircam.fr/shop/en/forumnet/59-mu.html

MuBu for Max was developed by Norbert Schnell, Axel Röbel, Diemo Schwarz, Geoffroy Peters, and Riccardo Borghesi.

Movement III calls for using Wii Remotes. To connect the Wii Remotes with MAX/MSP, install OSCulator. Specific information about connecting and using the Wii Remotes is written below.

Required and optional equipment:

- Audio interfaces: one per laptop.
- Contact microphones: one per instrument, and two for the violin (one for laptop 2 input in movement I, and one for laptop solo input in movement II).
- Mixer with at least four channels input (optional): if laptop 2 and/or laptop 3 is played by two or more performers, connect all contact microphones to a mixer. Feed the mixer output to the laptops, dividing it according to the parts.
- Dynamic microphones (optional): one per laptop, except for laptop solo.
- Individual speakers: one per laptop.
- Tables/stands (optional): place laptops and audio interfaces on any available tables or stands, depending on the size of the laptop ensemble and the space limitation of the stage.
- Wii Remotes: one per laptop, except for laptop solo.
- At least three extra laptops for the acoustic performers: one for each of the pairs shown in the diagram above, and one for the piano.

Audio Input:

Laptop solo input: violin (movement II)
Laptop 2 input: clarinet and horn (movement I), voice (movement II)
Laptop 3 input: violin and bass (movement I), voice (movement II)

For recording and processing voice, use either the internal microphones of the laptops or external dynamic microphones (such as Shure SM58 or similar), depends on the available equipment.

To switch between inputs in MAX/MSP: select input device in Audio Status, under the Options menu.
Audio Output:

The laptops should use individual loudspeakers, preferably Genelec 8010 or similar. Place the speakers beside each laptop, on the floor, facing the audience.

Networking:

In movement I, laptop solo sends cues to all the laptops over a Wi-Fi network. This is done by the “mxj net.maxole” MAX/MSP object. In order for this object to work, all laptops must be connected to the same network.

Sometimes, a firewall may prevent transmitting of data via said object. In such cases, laptop solo must input the individual I.P. numbers of each laptop into the “udpsend” objects provided. Each I.P. number must be written into a separate “udpsend” object, followed by the port number 7500.

The acoustic performers must have their own laptops to receive these cues. Place the extra laptops so the performers can clearly see the screen. The filename of the patch is “cues receive movement I.maxpat”. The patch has no function but receiving cues over Wi-Fi.

Wii Remotes:

The Wii Remote's accelerometer data and buttons necessary for performing movement III are: pitch (vertical movement), yaw (horizontal movement), roll (twisting movement), 1, 2, A, and B.

To get Wii Remotes data into MAX/MSP, first pair the Wii Remote to OSCulator. Then, under Event Type, set /wii/1/accel/pry and each of the buttons mentioned above to OSC Routing. Lastly, under Value, set each OSC Event to Port 9000 (MAX/MSP).

In the patch, the buttons control the playback of each sample: 1 for sample 1; 2 for sample 2; A for sample 3; and B for sample 4. The accelerometer data controls the processing of the samples, using pitch for pitch shifting, roll for changing playback speed, and yaw for controlling vibrato.
MAX/MSP PATCHES

Cues and directions for the laptops are provided both on the score and on the individual patches. During the performance of movements I and II it is not necessary for laptop performers to read from the score. In movement III, there are no fixed cues, so the performers must follow the score. The score is embedded in the patch.

The patches for Laptop 2 and 3 are the same, but differ in instructions and the sounds themselves. The patches for laptop solo are unique.

All the patches, except for those using Wii Remotes (movement III, laptop 2 and 3), are controlled by the internal keyboard and trackpad of the laptop.

Audio Processing:

Both the live audio input and the pre-recorded sounds are processed by the following:

• MuBu Concatenative Synthesizer: for laptop 2 and 3, movement I, it is used for playing back audio input that is recorded into the concatenative synthesizer corpus in real time. The processed sound is similar enough to the original acoustic material, but it features discrepancies that give the music an unsettling feeling. For laptop solo, movement III, the concatenative synthesizer plays back a pre-recorded sound of a shofar in beat mode, which is to be imitated by percussion.
• Granular Synthesizer: made to break the continuity of the audio material.
• Pitch Shifter: mostly used to change the pitch of the audio material, as dictated by the pitch organization of a movement or section.
• Filter: used both to emphasize certain frequencies according to the pitch organization of a movement or section, and to render audio samples in varying degrees of incoherency.
• Playback speed: used to further make audio samples unintelligible.
• Freezer: creates a sustained layer of sound that helps emphasize important pitches. Usually, the instruction will include a specific instrument to freeze. The freezer module was developed by Jean-Francois Charles.
• Delay: highlights motives (in case of laptop solo, movement II) and words (in case of laptops 2 and 3, movement II) by repetition.
• Slicer: reorders audio input that was recorded into a buffer by playing it back in slices from different starting points, according to the choice of the performer.
Laptop Solo, Movement I:

0 : 0 : 0 CUE

spacebar = start/stop timer

Start piece, cue 1.00 Wait 45-60 sec, then cue 2

Instructions:
- Cue 1: Start piece, cue 1. Wait 45-60 sec, then cue 2
- Cue 2: Play siren F5 in the duration of the chord (hold to play, release to stop). Wait 20-35 sec, then cue 3
- Cue 3: Play laptops after silence. Wait 15-20 sec, then cue 4
- Cue 4: Follow bass. Play siren D with 1st chord, play siren F5 with 2nd chord. After 2nd chord cue 5
- Cue 5: Cue play/stop ad lib for 35-50 sec, then cue 6
- Cue 6: Follow bass. Play siren E with 1st chord, play siren F5 with 2nd + 3rd chord; 4th chord sound off, wait 2/4 sec after 3rd chord, then cue 7
- Cue 7: Wait 25-30 sec, then cue section 8
- Cue 8: All sounds off; wait 2 sec, then cue 9
- Cue 9: Wait 20-30 sec, then cue section 10
- Cue 10: Play siren F5, short. End movement

Laptop Solo, Movement II:
Laptop Solo, Movement III:

"by my death..."

III

Laptop Solo

Laptop 2

Laptop 3

Cherubino's role

Hurt in I

Decease

Vodka

Double Bass

Instructions:

1. Freezer cl. once, after chord, play sample, adjust filter ad lib.
2. Sound off, freeze hn. once, after chord, record.
3. Stop record, sound off (auto), after duet, playback on, move mouse ad lib.
4. Sound off (auto), freeze hn. once.
5. Sound off (auto), play sample on, move mouse ad lib, stop play on cue.
6. Double bass, sound off (auto), freeze cl. once with 1st chord, freeze cl. once with 2nd chord.
7. Sound off (auto).
8. Sound off.
10. Sound off (auto).

Freeze cl. once; after chord, play sample, adjust filter ad lib.

Laptop 2 and 3, Movement I:
Laptop 2 and 3, Movement II:

Laptop 2 and 3, Movement III:

"by my death..."
PERFORMANCE INSTRUCTIONS

Movement 1:

The movement alternates between chaotic sections, in which performers play individually, to strict sections in which performers must play together.

Performers move from section to section according to cues given by laptop solo over Wi-Fi. When a cue is given, the number of the specific cue will flash on the screen.

Laptop solo times each section, except for sections 4 and 6, according to the ranges indicated on the score in seconds, above every system. For example:

Sections 4 and 6 are not timed. Instead, all performers are required to follow the bassist, who leads the chord progressions in these sections.

In sections 1, 2, 5, 7, and 9 the acoustic performers are instructed to randomize given figures, playing them in any order, and repeating them ad lib. Additional special instructions for each of these sections is indicated by an asterisk. The instructions are written at the bottom of the page. For example:

Specific Instructions According to Section:

- Section 1: play as loud and as fast as possible. Stemless notes = more noise than pitch. Produce sound using any techniques that distort and obscure the pitch.

- Section 2: play as loud as possible, vary tempi ad lib. Play different figures in different speeds.

- Section 3: each acoustic instrument is required to imitate the sound produced by the nearest laptop, as closely as possible. Use any playing technique to achieve this.

*randomize figures as fast and loud as possible, more noise than pitch
• Section 5: vary tempi and dynamic ad lib. Play different figures in different speeds and dynamic levels. In this section, Laptop Solo sends play or stop cues. Respond to these cues as quickly as possible.

• Section 7: same as section 1. Stop playing suddenly on cue 8.

• Section 9: vary tempi and dynamic ad lib. Play different figures in different speeds and dynamic levels.

Duration of pitches:

The duration of the held pitches is indeterminate. It is proportional to the timing of each section, and should be played for the approximate length as it appears on the score. For example:

Hold the ♪ chord (in the beginning of sections 1-4, 9, and 10) for 1-3 seconds.

Percussion:

single line = play any instrument or multiple instruments ad lib except for crotales.
Movement II:

Only violin and laptops perform movement II.

Violin is processed by laptop solo.
Laptops 2 and 3 read text, and process themselves:
   Laptop 2: Inheritance by Julia Kolchinsky Dasbach;
   Laptop 3: Away From Babi Yar by Julia Kolchinsky Dasbach

Specific instructions of which lines of the poem to read, and in what manner, are provided on the score and on the individual patches.

Timing of this movement is strict. Begin the movement with a downbeat given by the violin. Laptops: on the downbeat, press spacebar to start the timer.

Timing is shown on the score in a m:ss format. Time in larger font size corresponds to the formal sections of the movement and cues; time in smaller font size is written to help with following the score (see below).

Cues (in circled numbers) are given to each part individually. The cues do not always match between performers. For example:
Movement III:

This movement is based on memorial sirens (air raid sirens played on Holocaust memorial day), and should be played as smoothly as possible.

The movement starts with silence, which should be tense, evoking the feeling of waiting for the memorial siren to start while standing at attention silently.

In this movement, the laptops do not process live audio, but only pre-recorded material.

**All the indicated times are approximate.** The duration of pitches is proportional. For example:

It is crucial for the performers to listen and observe each other closely.

Moving from section to section is done according to cues given by different performers, as indicated on the score (see example above). Sometimes particular entrances will correspond to a musical gesture by a specific instrument. For example:

Follow entrances in the order as they appear on the score.

Percussion:

Play specific instruments and use specific mallets as indicated on the score. Examples:
"by my death..."

Chaotic, with a feeling of a pending disaster

1. 45-60"  
   Gil Dori

Laptop Solo

wait 45-60 seconds; cue section 2

Laptop 2
(input: cl., hn.)

adjust filters ad lib
(sample 1)

freeze cl. once

Laptop 3
(input: vln., db.)

freeze db., once

of

ff

Chaotic, with a feeling of a pending disaster

1

45-60" (until cue)

Clarinet in Bb

fff f possible

Horn in F

fff n f possible

Crotales

LV f possible

Violin

sul pont. ord.

Double Bass

sul pont. ord.

*randomize figures as fast and loud as possible, more noise than pitch
20-35" (until cue)

*randomize figures as loud as possible, vary tempo
5

35-50" (until cue)

Cl.

*vary dynamics*

Hn.

*vary dynamics*

Perc.

*vary dynamics*

Vln.

*vary dynamics*

Db.

*vary dynamics*

*pause/play on cue; randomize figures, vary dynamics and tempi
*randomize figures as fast and loud as possible, more noise than pitch; stop suddenly on cue
wait 20-30 seconds; cue section 10

 LT 2
---

 LT 3
---

20-30" (until cue)

 Cl.
---

 Hn.
---

 Crot.
---

 Vln.
---

 Db.
---

*randomize figures, vary dynamics and tempi

Text: *Away From Babi Yar and Inheritance* by Julia Kolchinsky Dasbach

**Distressed**

0:00

**Laptop Solo** (input: violin)

- **Laptop 2** (input: voice)
  - **Laptop 3** (input: voice)

- **Violin**
  - \( \text{sf}_p \)
  - \( \text{p} \)
  - \( \text{mf} \)

0:10

**LT Solo**

- **LT 2**
- **LT 3**

0:10

**Vln.**

- \( \text{mp} \)
- \( \text{fp} \)
- \( \text{mf} \)
- \( \text{f} \)
- \( \text{fp} \)
2:20
LT Solo

[Music notation]

\( \text{voice: read quietly, but do not whisper} \)

2:30

[Music notation]

\( \text{delay: mouse control = off} \)
\( \text{slicer: slow down tempo} \)

2:20
LT 2

\( \text{shifter + granulator} \)

2:34
LT Solo

\( \text{mp} \)

2:34
LT 2

[Music notation]

\( \text{Shudder in awe, stared out in wonder where a line loomed the same, her other daughter was frightened to slip yellow off of her duvet} \)

2:50
LT Solo

\( \text{filter: slow activity, fade out.} \)

2:50
LT 2

\( \text{voice: cresc. from very soft to very loud} \)

2:50
LT 3

\( \text{voice: read loudly, almost scream} \)

[Music notation]
Stately, almost static, with a feeling of discomfort

Laptop Solo
begin with 15-20° of tense, uncomfortable silence

Laptop 2
begin with 15-20° of tense, uncomfortable silence

Laptop 3
begin with 15-20° of tense, uncomfortable silence

Clarinet in B♭
begin with 15-20° of tense, uncomfortable silence

Horn in F
begin with 15-20° of tense, uncomfortable silence

Percussion
begin with 15-20° of tense, uncomfortable silence

Violin
begin with 15-20° of tense, uncomfortable silence

Double Bass
begin with 15-20° of tense, uncomfortable silence
*all the indicated times are approximate
28
move mouse ad lib
in the left half of the screen

LT Solo

LT 2
raise pitch
sustain pitch

LT 3
raise pitch
sustain pitch

Cl.
slow vib.
fast vib.

Hn.

Perc.
start after cl. gliss.
scape bass drum and floor tom w/ superball

Vln.

Db.

(sul pont.)

(ord.)
sul pont.
LT Solo

II

start during vib. gliss.  
adj ust filter and playback speed ad lib.  
\textit{sample 3}

\textit{pp}

LT 2

II

fade out with cl. gliss.  
\textit{sample 4 off}
\textit{sample 3 off}

LT 3

II

fade out after db. gliss.  
\textit{sample 4 off}
\textit{sample 3 off}

Cl.

\begin{music}
\begin{align*}
\text{slow vib.} & \quad \text{slow gliss.} \\
\text{mf} & \quad \text{p}
\end{align*}
\end{music}

Hn.

\begin{music}
\begin{align*}
\text{slow gliss.} & \quad \text{slow gliss.} \\
\text{mf} & \quad \text{p} & \quad \text{mp}
\end{align*}
\end{music}

Perc.

\begin{music}
\begin{align*}
\text{pp}
\end{align*}
\end{music}

Vln.

\begin{music}
\begin{align*}
\text{sul pont.} & \quad \text{slow gliss.} \\
\text{mp} & \quad \text{p} \\
\text{sul pont.} & \quad \text{slow gliss.}
\end{align*}
\end{music}

Db.

\begin{music}
\begin{align*}
\text{mf} & \quad \text{mp} & \quad \text{pp}
\end{align*}
\end{music}

\textit{imitate LT solo as closely as possible. cymbals w/ bows and brushes.}