Geysir

for seven pianists and electronics

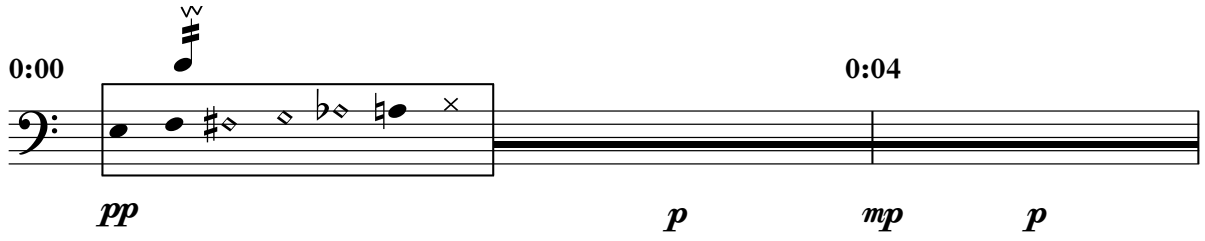
Christopher Luna-Mega (2016/2019)

This piece is a study of the acoustic properties of an Icelandic geyser recorded 180 miles East of Reykjavik in the valley of Haukadalur. Its complex harmonies, dynamics and rhythms shift perpetually and in subtle ways. If listened to as a background, the sound may appear to be static. With a focused listening, musical shapes emerge from the sound mass. With the intention of musically assimilating into the sonic characteristics of the geyser, the score for seven pianists and electronics translates its harmonic, dynamic and rhythmic activity, from the lowest to highest register of the piano. Each pianist focuses on an octave and is projected through a speaker, which results in a diffused sound around the audience. The electronics present the geyser in its original form, divided into seven tracks, one track per octave, in order to be fused with the pianos and spatialized around the hall.

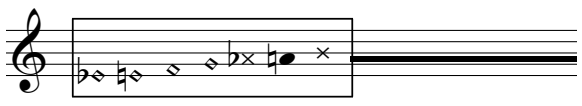
Performance notes

Time

The piece must be performed with a stopwatch. Each bar is 4 seconds long and always includes a time cue:



Pitch (categories of predominance)



Until a new box or silence suggest a change, perform the pitches from the box considering the following categories:

- High presence
- ◇ Medium presence
- × Low presence

Rhythm (categories of saturation)

Each boxed pitch material should always be performed using either of the following rhythmic categories. The symbol ʷ, indicates all rhythms performed must be <u>irregular</u>, never repeating pulses or rhythms):

- not more than one note per two seconds
- not more than one note per second
- not more than two notes per second
- not more than four notes per second
- not more than eight notes per second
- as many notes as possible per second

Technical requirements

There are several options for performance of this piece, considering the availability of resources in the performance space. The options range from an abundant resource scenario to a simple setup. The following is the setup used for the premier of the piece in Old Cabell Hall, at the University of Virginia, in October 2016.

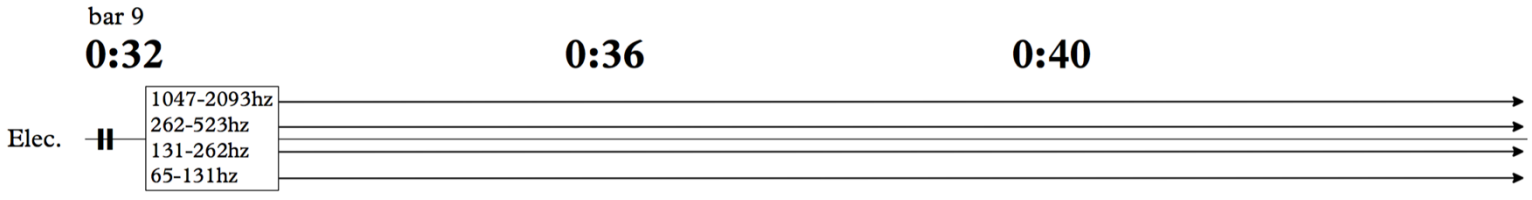
- 1 piano on stage; 3 pianos outside the concert hall, in practice rooms (sound proof) and telematically amplified in the hall.
- 7 microphones (assortment of cardioid condenser microphones, among them AKG 414 or similar)
- XLR cables
- Stage snake (minimum 8-channel input)
- 7 microphone stands
- 7 loudspeakers (placed surrounding the audience)
- Mixing board
- Laptop with a Digital Audio Workstation (Logic, Reaper, etc.)

Electronics

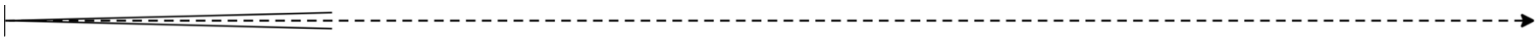
The electronics of the piece are seven tracks with seven frequency strata of the field recording of the geyser from which the piano parts are derived. Each track corresponds to the frequency range of each of the piano parts. The tracks are the following:

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

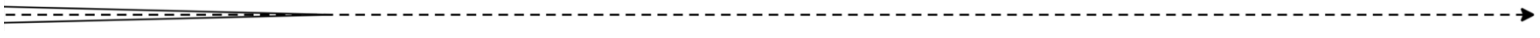
The electronic performer follows the score at the mixer board, fading the seven tracks in and out and balancing their dynamics with those of the pianists. The dynamics of the geyser sounds and the live performers must always be balanced. The main notations are the following:



Sounding frequency band tracks throughout until otherwise notated



Crescendo throughout the dotted arrow



Diminuendo throughout the dotted arrow until track fade out

*The electronic tracks will be provided for performance upon request.

Setup

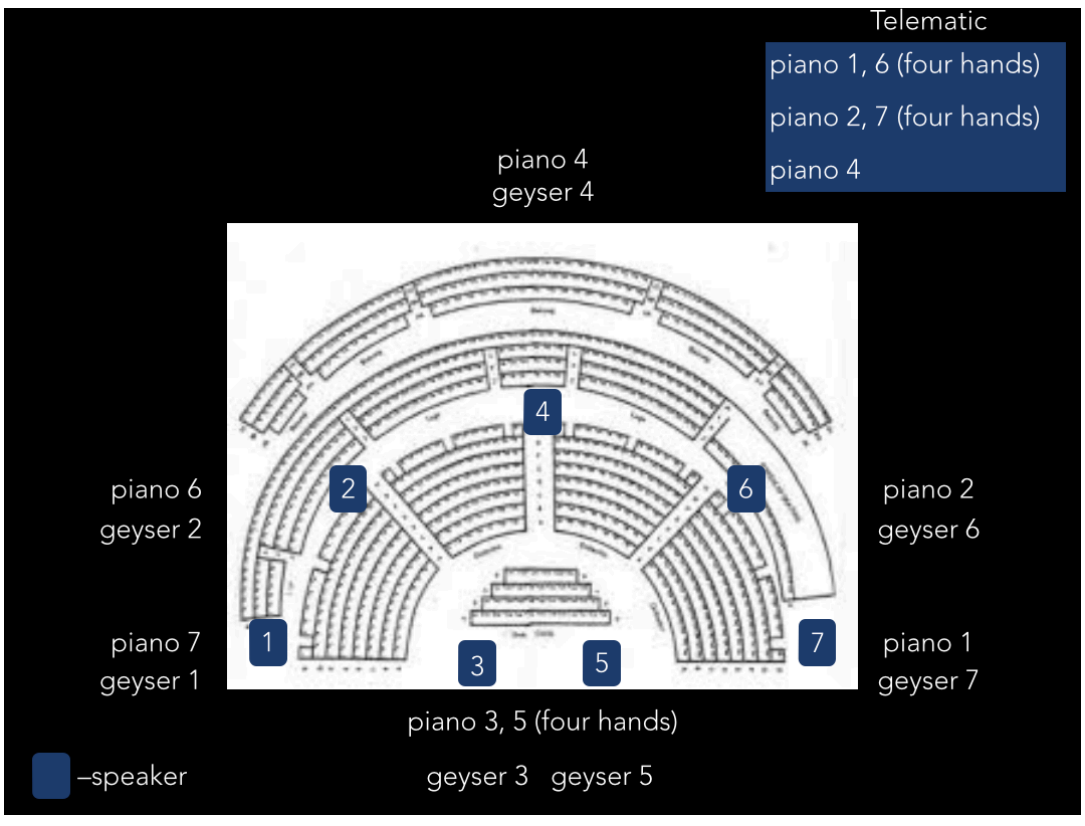
- Three of the four pianos are played four hands. The distribution of the parts are the following:

Piano parts 1 and 6	Offstage piano 1
Piano parts 2 and 7	Offstage piano 2
Piano part 4	Offstage piano 3
Piano parts 3 and 5	Stage piano

- Microphones must be as close to the strings as possible, in order to pick the minimum amount of sound from the pianist at the opposite end

- Routing of Piano parts and Electronics to loudspeakers (see diagram below):

Geyser 1 (track 1 of the electronics) / Piano 7	Speaker 1
Geyser 2 / Piano 6	Speaker 2
Geyser 3 / Piano 5	Speaker 3
Geyser 4 / Piano 4	Speaker 4
Geyser 5 / Piano 3	Speaker 5
Geyser 6 / Piano 2	Speaker 6
Geyser 7 / Piano 1	Speaker 7



Full Score

Geysir

for seven pianists and electronics

Christopher Luna-Mega (2016)

0:00 0:04

Piano 7

ppp *pp*

Geyser frequency bands

Electronics

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 3

0:08 0:12 0:16

Pno. 7

mp

Elec.

1047-2093hz
262-523hz
131-262hz

bar 6

0:20 0:24 0:28

Pno. 7

mp

Elec.

1047-2093hz
262-523hz
131-262hz
65-131hz

bar 9

0:32 **0:36** **0:40**

Elec. 1047-2093hz 262-523hz 131-262hz 65-131hz

bar 12

0:44 **0:48** **0:52**

Pno. 1 *ppp*

Elec. 1047-2093hz 262-523hz 131-262hz 65-131hz 20-65hz

bar 15

0:56 **1:00** **1:04**

Pno. 1 *ppp*

Elec. 1047-2093hz 262-523hz 131-262hz 65-131hz 20-65hz

bar 18

1:08 **1:12** **1:16**

Pno. 7 *pp* *p* *pp*

Pno. 1 *pp* *ppp* *pp* *ppp*

Elec. 1047-2093hz 262-523hz 131-262hz 20-65hz

bar 21

1:20 1:24 1:28

Pno. 7

Pno. 2

Pno. 1

Elec.

1047-2093hz
20-65hz

bar 24

1:32 1:36 1:40

Pno. 7

Pno. 2

Pno. 1

Elec.

1047-2093hz
65-131hz
20-65hz

bar 27

1:44 1:48 1:52

Pno. 2

Pno. 1

Elec.

65-131hz
20-65hz

4 bar 30

1:56 2:00 2:04

Pno. 7

Pno. 2

mf

Pno. 1

p *ppp* *pp* *p* *pp* *mp* *pp* *mp* *pp* *mf*

Elec. 65-131hz 20-65hz

bar 33

2:08 2:12 2:16

Pno. 3

mp *p* *mp*

Pno. 2

mp *pp* *mp*

Pno. 1

ppp *mp* *p*

Elec. 131-262hz 65-131hz 20-65hz

bar 36

2:20 2:24 2:28

Pno. 3

p *f*

Pno. 2

Pno. 1

ppp *mp* *pp*

Elec. 131-262hz 65-131hz 20-65hz

bar 39

2:32 2:36 2:40 2:44

Pno. 3

p

Pno. 2

mf *mp*

Pno. 1

mp *ppp* *p* *ppp* *mp*

Elec.

131-262hz
65-131hz
20-65hz

bar 43

2:48 2:52 2:56 3:00

Pno. 4

mf *ppp*

Pno. 3

mp

Pno. 2

p

Pno. 1

ppp *mp* *ppp* *p* *ppp*

Elec.

262-523hz
131-262hz
65-131hz
20-65hz

bar 47

3:04 3:08 3:12 3:16

Pno. 4

mp *ppp* *crescendo*

Pno. 3

p *ppp*

Pno. 2

ppp

Pno. 1

pp *ppp* *pp* *ppp*

Elec.

262-523hz
131-262hz
65-131hz
20-65hz

bar 51

3:20 3:24 3:28

Pno. 5

ppp *pp* *ppp*

Pno. 4

p *mf*

Pno. 3

p *pp* *mp*

Pno. 2

mp

Pno. 1

pp *ppp* *p*

Elec.

262-523hz
131-262hz
65-131hz
20-65hz

bar 54

3:32 3:36 3:40

Pno. 5

Pno. 4

Pno. 3

Pno. 2

Pno. 1

Elec.

523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 57

3:44 3:48 3:52 3:56

Pno. 6

Pno. 5

Pno. 4

Pno. 2

Pno. 1

Elec.

523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 61

4:00 **4:04** **4:08**

Pno. 7

p

Pno. 6

diminuendo ----------

Pno. 5

pp *ff* *mp* *p* *pp* *f* *p*

Pno. 4

f *mp* *p* *pp*

Pno. 3

p *pp*

Pno. 2

mp

Pno. 1

p

Elec.

523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 64

4:12 **4:16** **4:20** **4:24**

Pno. 7

pp

Pno. 6

ppp

Pno. 5

ppp *pp* *p* *ppp*

Pno. 4

ppp *pp* *ppp*

Pno. 3

ppp *pp* *ppp* *pp*

Pno. 1

pp *ppp*

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 68

4:28 4:32 4:36 4:40 4:44

Pno. 6

Pno. 5

pp *ppp*

Pno. 4

pp *ppp*

Pno. 3

ppp

Pno. 1

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 73

4:48 4:52 4:56 5:00

Pno. 6

ppp *ppp*

Pno. 5

p *ppp* *pp* *ppp* *pp* *ppp*

Pno. 1

p *ppp*

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 77

5:04 **5:08** **5:12**

Pno. 6

Pno. 5

Pno. 1

Elec.

p *diminuendo*

p *pp* *mp* *ppp*

pp *ppp* *p*

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 80

5:16 **5:20** **5:24**

Pno. 6

Pno. 5

Pno. 3

Pno. 2

Pno. 1

Elec.

p *mp*

pp

mf

pp *mp*

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 83

5:28 **5:32** **5:36**

Pno. 7

pp

Pno. 6

ppp

crescendo

Pno. 5

p

Pno. 3

ppp

p

Pno. 2

p

Pno. 1

pp

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 86

5:40 5:44 5:48 5:52

Pno. 7

Pno. 6

Pno. 5

Pno. 4

Pno. 3

Pno. 2

Pno. 1

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 90

5:56 **6:00** **6:04** **6:08**

Pno. 7

Pno. 6

p *diminuendo*

Pno. 5

ppp *mp*

Pno. 4

ppp *p*

Pno. 3

pp *ppp*

Pno. 2

p *ppp*

Pno. 1

ppp

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 94

6:12 6:16 6:20 6:24

Pno. 7

pp

Pno. 6

ppp

Pno. 5

mf *pp* *p* *pp*

Pno. 4

ppp *pp* *ppp* *pp*

Pno. 3

mp *pp*

Pno. 2

pp

Pno. 1

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 98

6:28 **6:32** **6:36** **6:40**

Pno. 7

Pno. 6

Pno. 5

Pno. 4

Pno. 3

Pno. 2

Pno. 1

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 102

6:44 **6:48** **6:52** **6:56**

Pno. 7

pp *crescendo*

Pno. 6

p

Pno. 5

pp *ppp* *mf*

Pno. 4

pp *ppp* *pp* *p* *mf* *p* *pp*

Pno. 3

pp *mp* *pp*

Pno. 2

ppp *p*

Pno. 1

mp *p* *pp* *mp*

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 106

7:00 **7:04** **7:08** **7:12**

Pno. 7

Pno. 6

ppp ***p***

Pno. 5

p ***mp*** ***mf***

Pno. 4

p ***mp*** ***p***

Pno. 3

p ***mp*** ***p***

Pno. 2

pp ***p*** ***ppp***

Pno. 1

p ***ppp***

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz

bar 110

7:16 **8:40**

Pno. 7

subito

Pno. 6

subito

Pno. 5

subito

Pno. 4

subito

Pno. 3

subito

Pno. 2

subito

Pno. 1

subito

Elec.

2093-4186hz
1047-2093hz
523-1047hz
262-523hz
131-262hz
65-131hz
20-65hz