

::: full score :::

Panopticon

for 12 periphonically spatialized clarinets

Louis GOLDFORD (2013)

“Morals reformed - health preserved - industry invigorated - instruction diffused - public burthens lightened - Economy seated, as it were, upon a rock - the gordian knot of the Poor-Laws are not cut, but untied - all by a simple idea in Architecture!”
-Jeremy Bentham, 1780

Panopticon was written for Auer Hall, at Indiana University, resulting from countless recitals I heard in that space, including recitals of electronic music on which my own works for multichannel sound were performed. I began to wonder how simulating the three-dimensional compositional procedures common to electronic music might sound using acoustic instruments instead of loudspeakers.

Scored for twelve clarinets, the positions of the instruments and conductor loosely resemble Bentham’s panopticon. Here, the individual clarinetists are analogous to the inmates of a prison, the conductor functioning as the watchman in the tower; keeping a close eye on everybody despite that the inmates will never see their guardian or know exactly when they’re being watched. Michel Foucault posits this arrangement as the panoptic society in which we live; the ideal modernization of punishment, prison itself being only one in a large network of sovereign institutions — schools, factories, hospitals — that conditions its citizens, This renders the panoptic society according to its classic “visual surveillance” terms, but an extension of this principle is offered when considering other forms, such as sonic surveillance.

The philosopher/musicologist Peter Szendy explores this possibility in *Sur écoute. Esthétique de l’espionnage* (2007) in which he traces the lineage of auditory surveillance across history, through spy movies. In an acoustic panopticon such as this arrangement of clarinets and conductor, not a single instrumentalist knows where the conductor’s ears are focused at any given moment — if they’re being “watched” or not. But, “Dissymmetry is always reversible,” Szendy warns us. This “panacousticon” offers “infinite points of exteriority,” where listeners can tap each other, and where there is no longer a single point of control or authority. Surveillance in the acoustic domain is, therefore, a dangerous game.

The pitch material for *Panopticon* is mostly drawn from the analysis of bass clarinet multiphonics. The opening presents one multiphonic analysis cast as a series of pulses whose polyrhythmic ratios are proportional to its frequency ratios, a technique inspired by the music of Yan Maresz. This texture is interrupted by another multiphonic and ensuing sonorities based on its analysis. These sonorities follow one another throughout the piece as new rhythmic elements are interspersed throughout the texture. Sudden, invasive memories of Iraqi *jurjina* and Bulgarian *kopanitsa* rhythms evoke the clarinet’s rich and varied history as integral to these genres.

Louis Goldford
October 2013
Bloomington

performance notes

- ♯ quartertone sharp
- ♭ quartertone flat

Bass clarinet multiphonic #96



No. 96 from Harry Sparnaay’s *The Bass Clarinet: A Personal History* (pg. 154). This multiphonic should be playable at all dynamic levels. “Only embouchure. The higher the harmonics, the more the lower jaw should move towards the base of the reed.” Best executed as a dynamic fade if possible, otherwise, light rearticulations of the tongue may help gradually move in and out of the multiphonic.



A note about dynamic fades

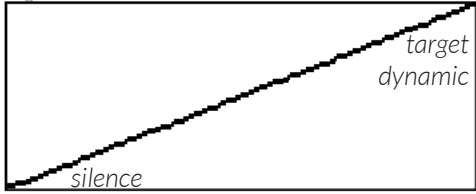


Fades from *niente* (*n*) are meant to imitate *equal-power panning* curves used in multi-channel sound. For this, it is crucial that performers are careful about dynamic levels and about rates of growth and decay in volume; which must must be non-linear.

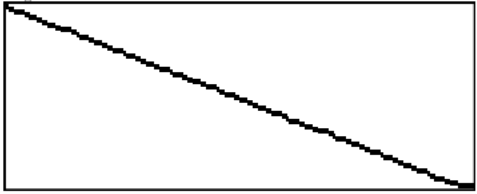
In the example above, the target dynamic is *forte*, but often the target dynamic is much softer: *piano* or *pianissimo*. Therefore, more degradations of loudness between *niente* and *pianissimo* must be available to the performer, and must be spaced carefully across the hairpin crescendos & decrescendo indications.

To create realistic panning, these fades (from silence to a target dynamic and vise versa) must be non-linear, as described below:

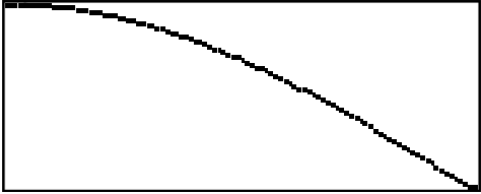
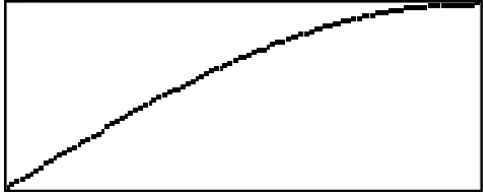
crescendo stage



decrescendo stage

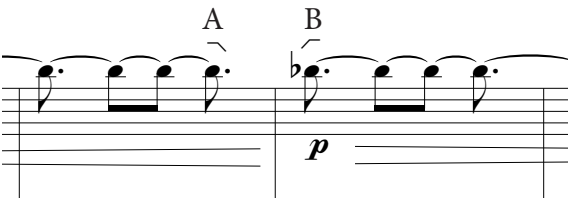


Our normal attempt to make fades linear.



Fades should be executed closer to this rate of growth & decay, with reasonable accuracy but NOT by a laborous attempt to approximate sin & cosine curves.

These curves mimic our normal perception of loudness and are more closely tied with how we may actually execute hairpins. Therefore, performers are asked to be somewhat sensitive to these rates of crescendo but not overly concerned with them. More important is to resist the attempt to linearize the crescendos as in the upper-most pair of swells.



Articulations without the tongue:

- A.) imperceptible release;
- B.) imperceptible attack.

For the opening section, mm. 1 - 41, rehearsal materials are avaiable from the composer (ljgoldford@gmail.com). These include click-track MIDI mockups to aid in practicing the irregular polyrhythmic subdivisions in each part. It is strongly advised that perfomers work with these materials prior to ensemble practice.

DURATION: ca. 6’30”


YOU GUESSED IT!
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Score in B^b

Panopticon

for 12 periphonically spatialized clarinets*

Louis GOLDFORD (2013)

Mechanical, clock-like pulses; all notes equally staccato [ = 96**]



*See the performance setup diagram in the score preface for information 2 on how each part is to be spaced. 3

**Although the basic pulse has been given as a quarter note, performers are encouraged to feel the music in a subdivided cut time, rather than 4/4. This will aid in executing the complex tuplets across the half note.

12

7:4♩ 3:2♩

11 (Bass)

10

7:4♩ 5:4♩

9 (Bass)

8

3:2♩ 3:2♩ 7:4♩

7

3:2♩ 7:4♩

6

3:2♩ 7:4♩ 7:4♩

5

7:4♩ 5:4♩ 5:4♩

4 (Bass)

3:2♩ 7:4♩ 7:4♩ 7:4♩

3

7:4♩

2

I (Bass)

7:4♩ (p) 7:4♩

3:2♩

5:4♩ 7:4♩

sf 7:4♩ (p) 7:4♩

sf

7:4♩

7:4♩ 7:4♩

7:4♩ 7:4♩

7:4♩

12



11 (Bass)



10



9 (Bass)



8



7



6



5



4 (Bass)



3



2



1 (Bass)



7

8

9

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

10

11

12

15

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

16

17

18

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

19

20

21

The musical score is written for a 12-part ensemble. The parts are numbered 1 through 12 on the left. Parts 1, 4, 9, and 11 are labeled as Bass. The score is divided into three measures, numbered 19, 20, and 21 at the bottom. The notation includes various rhythmic values (e.g., 7:4, 5:4, 3:2), dynamic markings (p, sf), and articulation marks (accents). Dashed lines indicate cross-measure ties between parts. The key signature has one flat (Bb).

[illegible]

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

25

26

27

31

12

II (Bass)

10

mp 7:4 7:4

9 (Bass)

sf (p) 5:4

8

3:2 3:2 3:2 3:2

7

7:4 7:4

6

p

5

7:4 7:4

4 (Bass)

3:2 sf

3

3:2

2

7:4 7:4 3:2 3:2 7:4

I (Bass)

5:4

32

33

mp 7:4 7:4

3:2 3:2 7:4

3:2 3:2 3:2 3:2

7:4 7:4

7:4 7:4

7:4 7:4

7:4 7:4

(p)

34 Steadily towards full note values & presence, as if the sound was getting closer...

The musical score consists of 11 staves, numbered 1 to 11 from bottom to top. The staves are labeled as follows: 11 (Bass), 10, 9 (Bass), 8, 7, 6, 5, 4 (Bass), 3, 2, and 1 (Bass). The score is divided into three measures, numbered 34, 35, and 36 at the bottom. Measure 34 shows various rhythmic patterns, including eighth and sixteenth notes, with some staves having a 7:4 time signature. Measure 35 continues the patterns, with some staves having a 3:2 time signature. Measure 36 shows the patterns concluding. Dynamics include *p* sub. and *mp*. The score is written in a single system, with the staves connected by a brace on the left.

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

I (Bass)

37

38

39

37

38

39

41 Long waves ($\leftarrow \text{♩} = \text{♩} \rightarrow$) [$\text{♩} = 48$]

[illegible]

[illegible]

52

12

mf

11 (Bass)

mf

ff

solo

5:4

6:4

7:4

10

mf

9 (Bass)

fff

8

mf

7

fp

6

fp

5

mf

fp

4 (Bass)

mf

fp

mf

3

mf

fp

2

mf

fp

1 (Bass)

mf

fp

53

54

59

63 Jurjina (← ♩ = ♩ →) [♩ = 144]

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

60 61 62 63 64 65 66

[illegible]

The musical score consists of 12 staves, numbered 1 to 12 on the left. The staves are arranged in a vertical column. The measures are numbered 73 to 79 at the bottom. The score includes various musical notations such as notes, rests, dynamics (mf, mp, n), and articulation marks. Several parts have 'N.B.' (Nota Bene) boxes highlighting specific musical phrases. Part 11 is labeled '(Bass)' and Part 9 is labeled '(Bass)'.

Measure 73: Part 1 (Bass) starts with a rest, then a note with an accent. Part 2 starts with a rest. Part 3 starts with a note. Part 4 (Bass) starts with a rest, then a note with an accent. Part 5 starts with a note. Part 6 starts with a note. Part 7 starts with a rest. Part 8 starts with a rest. Part 9 (Bass) starts with a note. Part 10 starts with a note. Part 11 (Bass) starts with a note. Part 12 starts with a note.

Measure 74: Part 1 (Bass) starts with a note. Part 2 starts with a rest. Part 3 starts with a note. Part 4 (Bass) starts with a note. Part 5 starts with a note. Part 6 starts with a note. Part 7 starts with a rest. Part 8 starts with a note. Part 9 (Bass) starts with a note. Part 10 starts with a note. Part 11 (Bass) starts with a note. Part 12 starts with a note.

Measure 75: Part 1 (Bass) starts with a note. Part 2 starts with a note. Part 3 starts with a note. Part 4 (Bass) starts with a note. Part 5 starts with a note. Part 6 starts with a note. Part 7 starts with a rest. Part 8 starts with a note. Part 9 (Bass) starts with a note. Part 10 starts with a note. Part 11 (Bass) starts with a note. Part 12 starts with a note.

Measure 76: Part 1 (Bass) starts with a note. Part 2 starts with a note. Part 3 starts with a note. Part 4 (Bass) starts with a note. Part 5 starts with a note. Part 6 starts with a note. Part 7 starts with a rest. Part 8 starts with a note. Part 9 (Bass) starts with a note. Part 10 starts with a note. Part 11 (Bass) starts with a note. Part 12 starts with a note.

Measure 77: Part 1 (Bass) starts with a note. Part 2 starts with a note. Part 3 starts with a note. Part 4 (Bass) starts with a note. Part 5 starts with a note. Part 6 starts with a note. Part 7 starts with a rest. Part 8 starts with a note. Part 9 (Bass) starts with a note. Part 10 starts with a note. Part 11 (Bass) starts with a note. Part 12 starts with a note.

Measure 78: Part 1 (Bass) starts with a note. Part 2 starts with a note. Part 3 starts with a note. Part 4 (Bass) starts with a note. Part 5 starts with a note. Part 6 starts with a note. Part 7 starts with a rest. Part 8 starts with a note. Part 9 (Bass) starts with a note. Part 10 starts with a note. Part 11 (Bass) starts with a note. Part 12 starts with a note.

Measure 79: Part 1 (Bass) starts with a note. Part 2 starts with a note. Part 3 starts with a note. Part 4 (Bass) starts with a note. Part 5 starts with a note. Part 6 starts with a note. Part 7 starts with a rest. Part 8 starts with a note. Part 9 (Bass) starts with a note. Part 10 starts with a note. Part 11 (Bass) starts with a note. Part 12 starts with a note.

N.B. Parts 1, 2, 4, 6, 9 & 11 need not worry about starting this phrases precisely on such a fast entrance that deviates from the normal Jurinja beat division; a slight phase difference between these parts will reinforce the artificial reverberation effect already at work in these canonic entrances.

81 $\frac{3}{4}$ Kopanitsa ($\leftarrow \text{♪} = \text{♪} \rightarrow$) [$\text{♪} = 144$]

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

mf *n* *f* *n* *f* *n* *f* *n*

80 81 82 83 84 85 86 87

[illegible]

100

101

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

ff sub.

ff

ff sub.

ff

ff sub.

ff sub.

mf sub.

ff sub.

ff sub.

101

102

103

104

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

109

110

111

112

ff sub.

ff sub.

ff sub.

f sub.

f sub.

ff sub.

f sub.

f sub.

ff sub.

f sub.

113

ff *sub.*

pp *sub.*

ff *sub.*

pp *sub.*

ff *sub.*

mf *sub.*

ff

mf *sub.*

pp *sub.*

mf *sub.*

mf *sub.*

113 114 115 116 117

[illegible]

12

p

n

11 (Bass)

p

10

p

9 (Bass)

p

p

8

p

7

mp

6

p

5

pp

4 (Bass)

p

3

p

2

p

n

1 (Bass)

p

124

125

126

127

128

[illegible]

134

12



p

11 (Bass)



10



p

9 (Bass)



8



p

n

7



n

mp

6



n

mp

5



n

mp

4 (Bass)



p

p

3



n

mp

n

2



n

mp

n

1 (Bass)



p

133

134

135

138

12



n

11 (Bass)



p

10



p
mp

9 (Bass)



p
mp

8



mp
n

7



n
p

6



n
p

5



n

4 (Bass)



mp

3



2



mp

1 (Bass)



p

136

137

138

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

139

140

141

139

140

141

142

12



p

11 (Bass)



10



n

9 (Bass)



ff

8



n

7



ff

6



n

5



mp

4 (Bass)



3



ff

2



1 (Bass)



ff

142

143

144



p

11 (Bass)



10



p

9 (Bass)



(ff)

8



n

7



(ff)

6



n

5



n

4 (Bass)



3



(ff)

2



1 (Bass)



(ff)



11 (Bass)



10



9 (Bass)



8



7



6



5



4 (Bass)



3



2



1 (Bass)



12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

145

146

147

147

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

mf

ff

n

f

ff

n

mf

n

mf

ff

148

149

150

151

154

155

12



11 (Bass)



10



9 (Bass)



8



7



6



5



4 (Bass)



3



2



1 (Bass)



156

157

158

159

40

Panopticon | Goldford

160

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

f

pp

mp

n

mp

n

mp

n

ff

160

161

162

163

f

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

mp

n

mp

n

n

mp

n

mp

f

pp

f

ff

f

pp

ff

p

164

165

166

167

170

This musical score page contains measures 168 through 171. The notation includes various dynamics such as *f*, *ff*, *mp*, and *n*. It features complex rhythmic patterns, including sixteenth-note runs and triplets, across multiple staves. The score is written in treble clef with a key signature of one sharp (F#).

175

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

pp

f

ff

mp

n

f

172

173

174

175

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

176

177

178

179

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

ff

ff

f

pp

f

ff

f

ff

180

181

182

183

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

184

185

186

187

f *ff* *mp* *n* *f* *fff* *f* *ff*

190

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

188

189

190

191

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

n

mp

ff

n

p

ff

n

mp

ff

n

mp

ff

f

ff

f

ff

f

pp

f

pp

ff

192

193

194

195

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

196

197

198

199

Musical score for 12 staves, measures 204-207. The score is written for a 12-part ensemble. The staves are numbered 1 through 12 on the left. The key signature is one sharp (F#). The time signature is 4/4. The score is divided into four measures: 204, 205, 206, and 207. Measures 204 and 205 show the first two parts (I and II) playing a rhythmic pattern of eighth and sixteenth notes, starting with a forte (*f*) dynamic and increasing to fortissimo (*ff*). Measures 206 and 207 show the first two parts playing a similar pattern, but with a fortissimo (*ff*) dynamic and a crescendo leading to a piano (*p*) dynamic. The other staves (3-12) are mostly silent, with some parts (3, 4, 5, 6, 7, 8, 9, 10, 11, 12) playing a simple harmonic pattern of quarter notes in measures 206 and 207.

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

208

209

210

211

212

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

mp

n

mp

n

mp

mp

n

n

f

ff

f

pp

f

pp

ff

212

213

214

215

217

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

216

217

218

219

12

11 (Bass)

10

9 (Bass)

8

7

6

5

4 (Bass)

3

2

1 (Bass)

220

221

222

223

This musical score page contains measures 224 through 227. The notation is spread across 12 staves, with some staves labeled as Bass (4, 7, 9, 11) and others as I (1, 12). The score includes various musical notations such as notes, rests, and dynamic markings. Key dynamics include *ff* (fortissimo), *f* (forte), *n* (normal), and *pp* (pianissimo). The score is divided into four measures, with measure numbers 224, 225, 226, and 227 indicated at the bottom of each column. A circled measure number 227 is also present at the top right of the page.

12



11 (Bass)



10



9 (Bass)



8



7



6



5



4 (Bass)



3



2



1 (Bass)



228

229

230

231

12

f *mf*

11 (Bass) *f* *ff* *mf*

10 *f* *ff* *mf*

9 (Bass) *f* *mf*

8 *f* *ff*

7 *f* *ff* *f*

6 *f* *mf*

5 *ff*

4 (Bass)

3 *ff*

2 *ff*

1 (Bass) *ff*

232 233 234 235

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Bloomington, IN