

Marc Estibeiro

Thin Red Vein

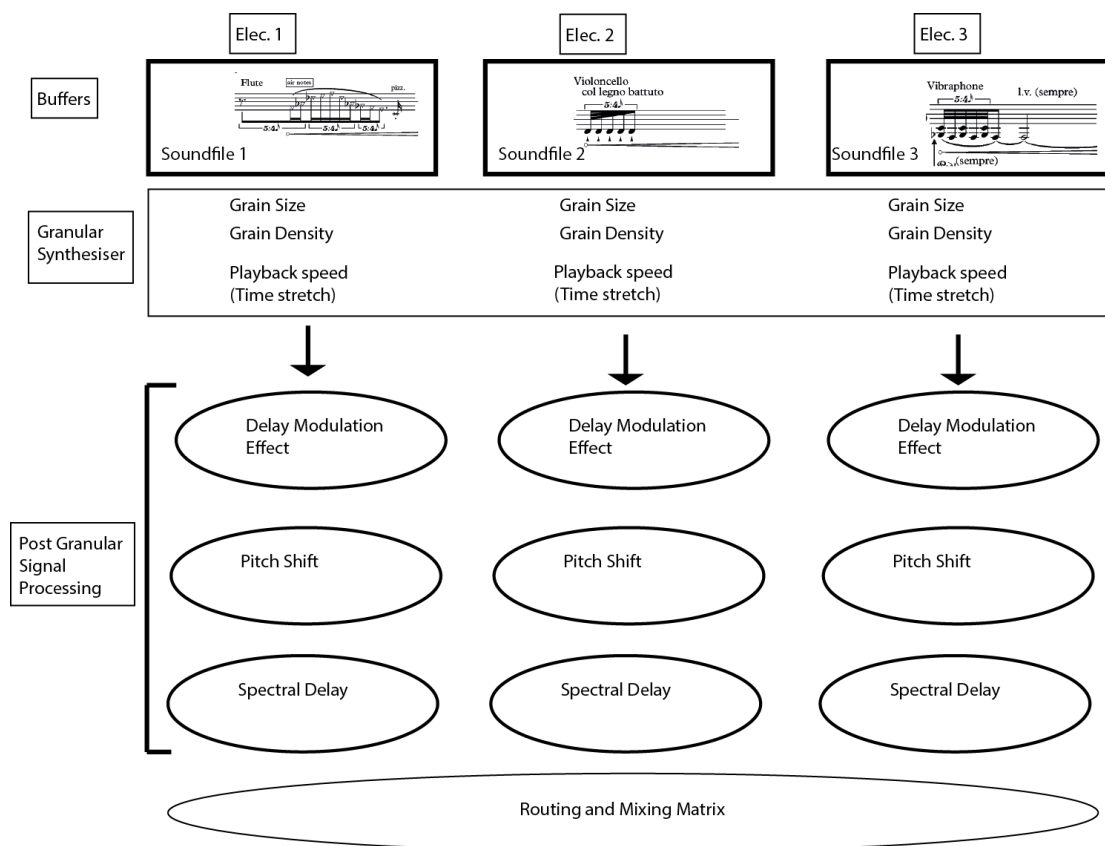
For Piano and Live Electronics

Approximate Duration: 8'00"

Score at Concert Pitch

Guide to the electronic part

The electronic part consists of a granular synthesis environment realised in Cycling 74's Max 6. A broad overview of the software is shown below:



The level of the electronic part should be balanced to match the level of the acoustic piano as indicated by the dynamics in the score.

A small mixing desk is necessary in order to make minor adjustments to the levels during the performance.

The piano should only be amplified only if necessitated by the size of the performance space.

The electronic part requires a computer running Max v. 6 or above (www.cycling74.com), a suitable digital to analogue convertor, a mixing desk and amplification appropriate for the room. The Max patch is available from the composer on request.

Each of the three channels is followed by identical signal processing chains consisting of a delay modulation effect, a pitch shifter and a spectral delay. Each channel carries out real-time granulation of a soundfile. The soundfile is a pre-recorded gesture taken from the acoustic part. These gestures should be

recorded before the performance and edited to eliminate silence and discontinuities at the beginning and end of the recording. The recordings should match, as far as possible, the ambience of the room in which the performance will take place.

An example of an acoustic gesture used in the electronic part is shown below:

The image shows a musical score for an electronic part. It is written in 4/4 time with a tempo marking of quarter note = 54. The score begins with a treble clef and a key signature of one flat. A box labeled "Cue 1" is positioned above the first measure. The music consists of several measures of complex, multi-layered textures. A bracket labeled "5" spans across several notes in the first few measures. The dynamic marking *mp* (mezzo-piano) is placed below the staff. A "time stretch" section is indicated by a series of overlapping, elongated oval shapes above the staff. This section is annotated with "(pbs 0.05)" and "(pbs -1)". The score concludes with a double bar line and a fermata symbol.


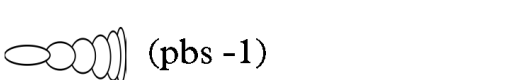


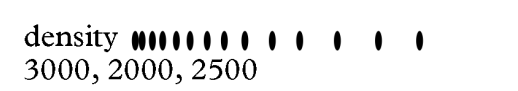


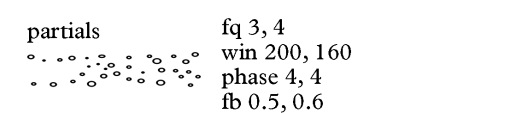
Pre-composed events are triggered manually from the software environment using numbered cues. These are indicated on the score as shown in the example above.

Although the events are pre-composed, all processing takes place in real time and there will be subtle but significant differences between performances.

There are twenty-five cues listed in the score.

Guide to Notation (Electronic Part)

A system of graphic notation has been used to indicate both performance parameters and the resulting textures. Examples from the system are described below, together with an explanation of abbreviations used.

<p>time stretch</p> 	<p>time stretch pbs</p>	<p>Playback speed decreasing Play back speed indicated (1 = original playback speed)</p>
	<p>reverse time stretch</p>	<p>Playback speed increasing (to minus 1 in example)</p>
<p>space</p> 		<p>Spectral delay effect</p>
<p>reorder</p> 		<p>Reorder elements in soundfile</p>
<p>density</p>  <p>3000, 2000, 2500</p>	<p>Density in milliseconds</p>	<p>Grain density (becoming less dense in example)</p>
<p>grain size</p>  <p>600, 500, 800</p>	<p>Grain size in milliseconds</p>	<p>Grain size (increasing in example)</p>
		<p>Frequency shift (becoming lower in example)</p>
<p>partials</p>  <p>fq 3, 4 win 200, 160 phase 4, 4 fb 0.5, 0.6</p>	<p>Add artefacts through delay modulation effect</p>	
<p>fq</p>	<p>frequency</p>	
<p>fb</p>	<p>feedback</p>	
<p>win</p>	<p>window size</p>	
<p>phase</p>		

Instruments

Piano

The piano part is written in standard notation

Computer running Max 6 or higher, audio interface, mixing desk, suitable microphones and amplification

"The thin red vein of order in the flux of experience"
George Santayana

Piano

♩ = 54

pp

5

ppp

6

Electronics

Ped. sempre

Cue 1

time stretch

(pbs 0.05)

(pbs -1)

♩ = 54

mp

Pno.

5

mp

ppp

6:4

Pno.

Cue 2

time stretch

(pbs -1)

mp

7

Pno. *mp* *8va⁻¹* *loco* *8va¹* *loco*

Elc. *mp* *8^{vb}* *8va* *time stretch* (pbs 1) (pbs 0.05)

Cue 3

*

11

Pno. *ppp* *ppp* *mp*

Elc. *8^{vb}* *ppp* *mp* *5:4* *mp*

Red. sempre

Cue 4 *time stretch* (pbs 1) (pbs 0.05)

16 *8va* *loco* *8va* *loco*

Pno.

loco

(8) *8vb* *

Elc. (pbs -1)

$\text{♩} = 80$
A

21 *mp* *mf* *p*

loco

Ped.

$\text{♩} = 80$
A

Elc.

23

Pno.

Elc.

pp

pp

ppp

8^{vb}

Red.

B

26

$\text{♩} = 58$

Pno.

Elc.

mf

p

mp

mf

mf

mf

8^{va}

loco

loco

loco

3

Cue 5

time stretch (pbs 0.1 sempre)

reorder

space

Cue 6

reorder

space

mf

mf

29

Pno.

Ped.
mf

f

pp loco

mf *8^{vb}*

loco

8^{vb}

5:4

Elc.

mf

f

reorder

space

Cue 7

C

33

Pno.

pp

Ped.

loco

ppp

loco

8^{va}

loco

6:4

5/4

5/4

Ped.

ppp

C

52

Elc.

5/4

D

6

38 $\text{♩} = 58$

Pno.

p *mf* *pp*

loco

mf

8^{va}

Ped. sempre

D

Elc.

5 $\text{♩} = 58$

Cue 8

pbs 0.4, -0.4, 0.1

space 0.3

grain size 600, 500, 800

pitch +1500, -400, 0

density 3000, 2000, 2500

mf

40

Pno.

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

8^{va}

*

Elc.

Cue 9

pbs 0.1, -0.1, 0.15

grain size sim. pitch -50, 500, -200

density 800, 600, 900

space sim sempre

mf

44

Pno.

loco *pp* *p* *mf* *p* *loco* *p* *mf*

8^{va} 8^{va}

loco

8^{vb} *mf*

Ped. sempre

Elc.

Cue 10

pbs 0.1, 0.01, 0.01

grain size 300, 250, 400

density 1000, 1000, 1000

pitch 1000, 700, 800

mf

46

Pno.

loco *p* *pp*

5

loco *ppp*

5

8^{vb} *

Elc.

Cue 11

E

8

49 $\text{♩} = 72$

Pno.

p *mf* *loco* *pp* *ppp* 8^{va} 8^{vb}

$\text{♩} = 72$

Elc.

E

F

52 $\text{♩} = 56$

Pno.

p *p* *mf* *p* *loco* *p* *Ped.*

$\text{♩} = 56$

Elc.

F

Cue 12 pbs 0.05, -0.05

partials

density 60, 60

grain size 60, 60

fb 0.5, 0.6

phase 4, 4

win 200, 160

fq 3, 4

mf

55 *8va* *7:4*

Pno. *p* *loco* *8va* *loco* *p* *mp*

loco *Ped.* *Ped.*

density sim.
grain size sim.
pbs 0.2, -0.2

Cue 13

partials

fq 16, 32
win 200, 160
phase 2, 4
fb 0.9, 0.9

Elc. *mf*

58

Pno. *p* *ppp*

Ped. *Ped.*

Cue 14

partials

fq 0.8, 0.85

pbs 0.01, -0.05

Elc. *mf*

10

61

Pno.

p

pp

8va

loco

pp
Ped. _____ Ped. sempre

Cue 15

partials

fq 1.85, 1.8

Elc.

mf

64

Pno.

pp \curvearrowright *p*

8vb

ppp

5:4

*

partials

Cue 16

Elc.

ppp

G

68 $\text{♩} = 72$

Pno.

mp
Ped. _____

mf
Ped. _____

p

pp

loco

G

Elc. $\text{♩} = 72$

H

72 $\text{♩} = 56$

Pno.

ppp

ppp

mp 6:4

ppp

8^{va}

loco

H

Elc. $\text{♩} = 56$

Cue 17

grain size
8, 9, 5

8^{va}

pbs 0.05, 0.01, 0.02

6:4

mf

Pno.

75 *mp* *ppp* *loco* *8va*

76 *ppp* *loco* *8va*

77 *ppp* *loco* *8va*

78 *ppp* *loco* *8va*

Ped. _____

time stretch

Elc.

pitch
-200, 200, 300

Pno.

79 *mf* *ppp* *8va*

80 *ppp* *Ped.*

81 *mp* *6:4* *8va*

Ped. _____

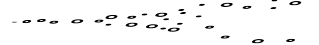
Cue 18

Cue 19

Elc.

(time stretch
sim. sempre)

partials



mf fq 1.85, 1.8, 1.2
win 20, 10, 15
phase 2, 4, 8
fb 0.1, 0.2, 0.3

82 *loco*

Pno. *mf* 6

Ped. *ppp* *mp*

Elc. pitch -600, 300, 400

85 *p* *loco* *loco*

Pno. *8va* *8va* *8va*

Ped. *sempre* *8vb*

Elc.

86

Pno.

Elc.

ppp

Cue 20

*

I

89

Pno.

Elc.

mf

mf

p

p

Red.

Cue 21

time stretch

pbs 0.05

grain size 80

mf

5:4

loco

loco

8va

8vb

3

mf

p

mf = 58

mf = 58

Pno.

92 (8) *mf* (loco) 5:4

mp *ppp*

loco 8^{va}

loco 15 *pp* 5

Ped. _____ Ped. (sempre)

Elc.

Pno.

94 *ppp* 6

Elc.

96

Pno.

mf *f* *mp* *pp*

p *mp*

8^{va}1

loco

Cue 22

Elc.

98

Pno.

pp *ppp*

8^{va}-

loco

8^{va}-

6

Ped.

Ped. (sempre)

Cue 23

grain size
20, 800, 30

time stretch

pbs 0.1, 0.01, -0.15

Elc.

mf

pitch
800, -200, 600

102 (8)-----|

Pno.

8^{va}] loco 8^{va}-] loco

ppp

5

ppp

8^{vb}

grain size
sim. sempre

Cue 24

pbs 0.25, 0.2, -0.4

Cue 25 *

Elc.

pitch
1000, -600, 1000

7'55"

The image shows a musical score for two instruments: Piano (Pno.) and Electric Cello (Elc.). The Pno. part is written in two staves (treble and bass clef). The top staff has a treble clef and a key signature of one flat. It starts with a measure containing a whole note chord with a circled '8' above it. The second staff has a bass clef and contains a sequence of notes, including a quintuplet of eighth notes marked with a '5' above it. The Elc. part is written on a single staff with a treble clef. It features a series of overlapping, horizontal oval shapes representing sound grains. Annotations include 'grain size sim. sempre' with arrows pointing to the grain boundaries, 'pitch 1000, -600, 1000' with arrows pointing to specific points on the Elc. staff, and two cue boxes labeled 'Cue 24' and 'Cue 25' with arrows pointing to the Pno. staff. A time signature '7'55"' is located at the bottom right.