

Andrew Lovett

On the Curves of the Winds

for cello and computer

(2013)

SCORE

On the Curves of the Winds (2013) for cello and computer

Composed at CCRMA, Stanford University, California, January to April 2013
Revised, January 2016 (Princeton).

Samples: Chris Chafe (cello) and Roberto Fernandez (flute).
Additional samples: Judith Mitchell (cello), Damien Royannais (saxophone), Tim Palmer (percussion).

Samples recorded by Jay Kadis and the composer.

Duration: 13.30

For Chris and June

Performance Instructions:

This piece is intended for playback through a multi-speaker system.

The computer part consists of twelve audio channels which may be mixed during performance or pre-mixed during rehearsal. Playback from a laptop requires an audio interface, preferably with ten outputs.

For full details see appendix 1.

A stereo version is available for rehearsal purposes (see appendix 2).

The cello is amplified. Careful use of digital reverb is encouraged, which should be varied during the course of the performance.

Although the computer playback is fixed, there is scope for flexibility in timing and (micro-) tuning by the performer. Long pauses by the player (while the computer-part continues) are indicated by a tail-less solid note with a line following. The solo part should fade into the computer part very gradually (usually there is a computer component corresponding to the pitched note).

Approximate pitches are indicated by cross note-heads and high indeterminate pitches are indicated by arrowhead note-heads. In these passages, rhythm and timing may be very flexible, too.

The score contains a simplified transcription of the computer part, with timings corresponding to the fixed taped-part.

Theatre:

There is, potentially, a theatrical element. The performer may use props, costume-elements and lighting to create an impression that s/he is flying an early biplane (constructed of wood and string). During pauses - especially the long pause at letter X - the performer may be preoccupied adjusting some aspect of the craft. A lighting plot may be created to help reinforce this idea.

Programme note:

A bird maintains itself in the air by imperceptible balancing, when near to the mountains or lofty ocean crags; it does this by means of the curves of the winds which as they strike against these projections, being forced to preserve their first impetus bend their straight course towards the sky with divers revolutions, at the beginning of which the birds come to a stop with their wings open, receiving underneath themselves the continual buffetings of the reflex courses of the winds.

— Leonardo da Vinci

Andrew Lovett moved from the UK to live in Princeton (joining the Music Department at Princeton University as a Professional Specialist) in September 2009. He composes chamber-opera, chamber music and electroacoustic music. His work has been performed in Germany, France, Switzerland, Portugal, Spain, Sweden, Japan, Canada, Cuba, the USA and throughout the UK.

Lonely Sits the City (2009), for solo voice and surround-sound electronics, was premiered at the Junction, Cambridge by The Electric Voice Theatre.

Abraham On Trial (2005), an opera for five singers, electroacoustic music and digital video, was performed at the Junction Theatre, Cambridge by The Electric Voice Theatre, directed by Patrick Morris.

The Colour of Sadness (2003) for soprano saxophone and electronics, was premiered by Damien Royannais and recorded by for AMPublishing.

Unknown Terrors (2000) for cello, keyboard and electronics was premiered by Judith Mitchell and Clive Williamson and broadcast on Radio 3.

Voyage (1997) for ensemble and electroacoustic music was performed by the London Sinfonietta at the South Bank Centre, London in April 1999, conducted by Martyn Brabbins.

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I: ♩ = 72 light, fluttering - senza vib

Con sord.

Cello

Computer

ppp *mp*

COMPUTER START

(0.00)

Detailed description: This block contains the first four measures of the score. The Cello part is in bass clef, 4/4 time, with a key signature of one flat. It begins with a half note G2, followed by a series of sixteenth notes (A2, B2, C3, D3, E3, F3) with a 'Con sord.' marking. The dynamics start at *ppp* and rise to *mp*. The Computer part is in treble and bass clefs, 4/4 time. It has a 'COMPUTER START' box at the beginning of measure 2. The tempo is marked as ♩ = 72.

Vc.

Cmptr

5

sul pont. nat [still] A sul tasto nat

ppp *sfz* *(poco) sf*

(0.24)

Detailed description: This block contains measures 5 through 8. The Violin part is in bass clef, 4/4 time. Measure 5 starts with a triplet of eighth notes (G2, A2, B2) marked 'sul pont.', followed by a half note C3 marked 'nat'. The dynamics are *ppp* and *sfz*. A box labeled 'A' is above measure 7. The Violin part ends with a half note G2 marked 'sul tasto' and a half note A2 marked 'nat'. The Computer part is in treble and bass clefs, 4/4 time, with sustained notes in the upper register. The dynamics are *(poco) sf*.

6

slight ritardando

sul pont

nat.

Vc. *11*

sfz p *ff* *f* *p*

Cmptr

(0.41)

[still]

B

sul tasto

[blend into computer harmonic]

via sord.

Vc. *16*

pp

Cmptr

(0..58)

24

Vc.

Cmptr

p

(1.28)

31

Vc.

Cmptr

(on the D string)

harmonic gliss

f

accel.

f

3 3 3

* Harmonic glissandi can be approximate (notes and timing) - follow the glissandi in the computer part.

II: ♩ = 112

stronger and more energetic alternating with moments of stillness

[still]

Vc. 37

Cmptr

(1.57)

[still]

Vc. 43

Cmptr

(2.12)

C ♩ = 168

49

Vc.

Cmptr

(2.22)

Detailed description of measures 49-55: The Violin (Vc.) part begins with a whole rest in 3/4 time. In measure 50, it plays a quarter note G2 with an accent (>) and a forte (f) dynamic, followed by a quarter note A2 with an accent (>) and a sforzando (sfz) dynamic. In measure 51, there is another whole rest. In measure 52, it plays a quarter note G2 with an accent (>) and a forte (f) dynamic, followed by a quarter note A2 with an accent (>) and a sforzando (sfz) dynamic. In measure 53, there is another whole rest. In measure 54, it plays a quarter note G2 with an accent (>) and a forte (f) dynamic, followed by a quarter note A2 with an accent (>) and a sforzando (sfz) dynamic. In measure 55, there is another whole rest. The Cmptr part consists of a bass line with various chords and notes, including a forte (f) dynamic in measure 50. The time signature changes from 3/4 to 2/4 in measure 50 and back to 3/4 in measure 52.

56

Vc.

Cmptr

(2.33)

D

Detailed description of measures 56-62: The Violin (Vc.) part begins with a whole rest in 3/2 time. In measure 57, it plays a quarter note G2 with an accent (>) and a sforzando (sfz) dynamic, followed by a quarter note A2 with an accent (>) and a sforzando (sfz) dynamic. In measure 58, it plays a quarter note G2 with an accent (>) and a sforzando (sfz) dynamic, followed by a quarter note A2 with an accent (>) and a sforzando (sfz) dynamic. In measure 59, it plays a quarter note G2 with an accent (>) and a sforzando (sfz) dynamic, followed by a quarter note A2 with an accent (>) and a sforzando (sfz) dynamic. In measure 60, it plays a quarter note G2 with an accent (>) and a sforzando (sfz) dynamic, followed by a quarter note A2 with an accent (>) and a sforzando (sfz) dynamic. In measure 61, it plays a quarter note G2 with an accent (>) and a forte (f) dynamic, followed by a quarter note A2 with an accent (>) and a forte (f) dynamic. In measure 62, it plays a quarter note G2 with an accent (>) and a forte (f) dynamic, followed by a quarter note A2 with an accent (>) and a forte (f) dynamic. The Cmptr part consists of a bass line with various chords and notes, including a sforzando (sfz) dynamic in measure 57. The time signature changes from 3/4 to 3/2 in measure 56.

62

Vc.

Cmptr

Detailed description: This system contains measures 62 through 67. The Violin (Vc.) part is written in a single staff with a bass clef and a 3/4 time signature. It features a melodic line with various note values, including eighth and sixteenth notes, and rests. There are dynamic markings such as *mf* and *fz* with accents. A hairpin crescendo is present between measures 62 and 63. The Computed (Cmptr) part consists of two staves, treble and bass clef. It provides harmonic support with chords and moving lines in both hands.

68

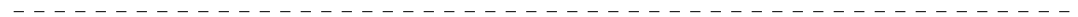
Vc.

Cmptr

Detailed description: This system contains measures 68 through 73. The Violin (Vc.) part continues the melodic line, ending with a fermata and a dynamic marking of *sfz* with an accent. A hairpin crescendo is visible between measures 68 and 69. The Computed (Cmptr) part continues with harmonic accompaniment, including some triplet figures in the bass line. The time signature changes to 7/4 at the end of measure 73.

E

accel.



74

Vc.

f

Cmptr

(2.51)



79

Vc.

repeat - irregularly

sfz

Cmptr

F ♩ = 72

hold note (ad lib) blending with computer sounds...

85

Vc.

Cmptr

f *ff*

computer solo

8

8

(3.01)

G ♩ = 112

97

Vc.

Cmptr

(fl flutter)

pizz.

3

3

3

3

3

(3.34)

H ♩ = 168

I

103

Vc.

Cmptr

(3.40)

(3.45)

109

Vc.

Cmptr

J ♩ = 72

K ♩ = 168

114 *intense*

Vc. *f*

Cmptr *pizz.*

(3.51) (4.06)

accel.

122 *sf* *sf* *sfz* *sf* *intense*

Vc.

Cmptr

(4.12)

L ♩ = 72

M ♩ = 168

128

Vc.

Cmptr

(4.22)

Detailed description of the first system: The Violin part begins with a half note G4, followed by a half note A4, and then a quarter note B4 with a fermata. The Cmptr part has a similar melodic line. Dynamics include sf and sfz. Time signatures change from 2/4 to 3/4 and back to 2/4.

136

Vc.

Cmptr

pizz.

arco

Detailed description of the second system: The Violin part features a half note G4 with a fermata, followed by a half note A4, and then a quarter note B4 with a fermata. The Cmptr part has a similar melodic line. Dynamics include sfz and sf. Time signatures change from 3/4 to 2/4 and back to 3/4.

N

accel.

142

Vc.

Cmptr

(4.32)

sfz *sfz* *mp* *sfz*

150

Vc.

Cmptr

sfz *sfz* *sfz* *sfz* *sfz*

distorting bow-pressure...

repeat - irregularly - smooth transition from repeated notes to tremolo, distorting bow-pressure...

156

Vc.

Cmptr

sfz *sfz* *sfz* *fff*

III: ♩ = 112

powerful and commanding - gradually calming...

166

Vc.

Cmptr

nat.

ff

(4.52)

ff

calming very gradually

171

Vc.

Cmptr

p

O

178

Vc.

Cmptr

pp

mf

----- (sul pont)

(5.18)

P

185 [blend] sul tasto _____ nat.

Vc. *ppp* 3

Cmptr (breath sounds)

(5.35)

Q

191 _____ sul tasto _____ (gradually...) _____ nat

Vc. *ppp* 3 *mp*

Cmptr (breath sounds)

(5.58)

R

199

Vc.

Cmptr

(6.11)

Musical score for measures 199-204. The Violin (Vc.) part features a melodic line with triplets and a 7:8 ratio. The Computer (Cmptr) part provides a rhythmic accompaniment with a 'breathy-wind / harmonics' effect. The dynamic is marked *p*.

S

205

Vc.

Cmptr

(6.24)

Musical score for measures 205-209. The Violin (Vc.) part continues the melodic line with a triplet. The Computer (Cmptr) part continues the rhythmic accompaniment. The dynamic is marked *p*.

210 [still] [blend] *mp*

Vc.

Cmptr

(sax-fluttertongue m'phonics)

217 *fr* *mp* [still] **T**

Vc.

Cmptr

distorting...

(6.54)

U

224

Vc.

7

-- COMPUTER SOLO --

Cmptr

7

7

(7.11)

234

Vc.

7

Cmptr

7

(non vib)

238

Vc.

mf

Cmptr

V

242

Vc.

f

3

Cmptr

(7.39)

246

Vc.

Cmptr

f *pp*

(In section 4, exact pitch and timing are not essential - follow and respond to the surround-sounds)

IV: (same tempo)

playful... (all harmonics)

(approximate pitches)

255

Vc.

Cmptr

mf

(flt / harmonics)

(8.03)

262

Vc.

Cmptr

(A-string)

Musical score for measures 262-268. The Violin (Vc.) part starts with a dotted quarter note, followed by rests. It then has a triplet of eighth notes with a '3' above them, and ends with a slur over a quarter note. The Cmptr part has a complex rhythmic pattern in the upper voice and sustained chords in the lower voice. A dashed line labeled '(A-string)' is above the Vc. staff.

269

Vc.

Cmptr

(A-string)

Musical score for measures 269-275. The Violin (Vc.) part has a slur over a quarter note, followed by a triplet of eighth notes with a '3' above them, and ends with a slur over a quarter note. The Cmptr part has a complex rhythmic pattern in the upper voice and sustained chords in the lower voice. A dashed line labeled '(A-string)' is above the Vc. staff.

(A-string)

276

Vc.

Cmptr

W suddenly tense...

(short, hard pizzicato notes - as high as possible - alternating across strings...)

280

Vc.

Cmptr

pizz.

sfz

sfz

3

(very hard taut pizzicato)

(8.56)

286

Vc.

sfz *sfz sfz* *sfz sfz* *sfz sfz* *sfz* *sfz* *sfz* *sfz* *sfz*

Cmptr

293

Vc.

arco scratchy distorted

very noisy
gliss from
highest possible

-----nat.

sfz *sfz sfz* *sfz sfz sfz* *sfz* *sfz* *sfz* *sfz* *sfz* *sfz* *sfz* *sffz* *fff* *sffz*

Cmptr

V: ♩ = 72

301

very rough

3

----- sul pont -----

nat. >

Vc.

fff

sfz

fff

Cmptr

(9.40)

306

Vc.

Cmptr

X

-- COMPUTER SOLO --

very long hold - gradually blending into computer

311

Vc.

mp *fff*

20

Cmptr

20

(10.21)

Y

Con sord.

sul tasto

334

Vc.

pp *pp*

3

Cmptr

(11.30)

Z

Vc. 342

Cmptr

f *p*

Detailed description: This system contains measures 342 through 348. The Violin (Vc.) part is in bass clef and features a melodic line with a triplet of eighth notes at the start of measure 342, followed by a series of eighth notes and quarter notes, all under a long slur. The Computer (Cmptr) part consists of two staves. The upper staff has a series of octaves (marked '8') in the treble clef, with a dynamic marking of *f* (forte) and a *p* (piano) section starting in measure 346. The lower staff is mostly silent, with a few notes in measure 346.

(12.11)

Vc. 349

Cmptr

Detailed description: This system contains measures 349 through 354. The Violin (Vc.) part is in bass clef and begins with a triplet of eighth notes in measure 349, followed by a melodic line with a slur. The Computer (Cmptr) part consists of two staves. The upper staff has a series of notes in the treble clef, with a dynamic marking of *f* (forte) and a *p* (piano) section starting in measure 354. The lower staff is mostly silent, with a few notes in measure 354.

355

Vc.

Cmptr

pp

(12.57)

363

Vc.

Cmptr

(13.34)

Appendix 1: Computer audio material.

The audio material is recorded at 48kHz, 24 bit with C=440

The "unmixed" version consists of 12 channels:

1&2 - main stereo channels (space filling - some slight left and right information)

3&4 - high stereo channels (one or two speakers high above the audience and performer)

5- 12 - eight individual mono channels - in four pairs, intended to be spaced as follows:

speakers 1 and 2 front left and right (narrow)

speakers 3 and 4 - front left and right (wide)

speakers 5 and 6 - middle left and right (wide)

speakers 7 and 8 rear left and right (wide)

In an ideal situation, there are 8 speakers around the audience with two high above. Channels 1&2 are sent to all eight lower speakers with stereo separation (odd=left, even=right)

The eight individual channels are sent to the eight individual speakers.

Channels 3&4 are sent to the high stereo (or mono) speaker.

Depending on the space and configuration, the output channels will have to be balanced in rehearsal.

There is a pre-mixed version for 7.1 surround-sound configuration.

Appendix 2: rehearsal CD

The rehearsal CD is for practice. It contains a slightly compressed stereo version of the piece (44.1/16).