

Steve Antosca

elements ~ five transfigurations for cello and computer

flow ≈ water drift ≈ time float ≈ cloud

pulse ≈ air speak ≈ night

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flow ≈ water drift ≈ time float ≈ cloud

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Composed for and Dedicated to Tobias Werner

Music technology designed by William Brent

Commissioned by The Fromm Music Foundation at Harvard University

World Premieres - National Gallery of Art West Garden Court November 16, 2014

American University Katzen Museum October 8, 2015

Washington, DC

Program Notes

elements ~ five transfigurations for cello and computer was commissioned by the Fromm Music Foundation at Harvard University. *elements* was composed for and is dedicated to cellist Tobias Werner, who premiered the composition. *elements* explores aspects of extended techniques and performance gestures, timbre, sonic characteristics and computer processing for the cello. William Brent developed the technology for *elements*, in close collaboration with the composer.

The music in *elements* blends these extended performance techniques with real-time computer processing. This interaction between performer and computer generates a sound environment where they become a unified and "essentially equal" instrument. The symbol \simeq in the movement titles represents asymptotic equivalence, meaning that through their blending and transfiguration the sounds approach equivalency. They eventually become essentially equal, but are never the same. The symbol \simeq can be read as "like".

The five movements of *elements* are *flow \simeq water*

drift \simeq time

float \simeq cloud

pulse \simeq air

speak \simeq night

Movement i. *flow \simeq water* introduces multiple extended techniques in *elements*. These include harmonic glissandi, indeterminate pitch boxes, and extended glissando gestures both smooth and irregular. Exploitation of various bowing styles, placement and pressure are played with throughout *flow \simeq water*.

Movements ii. *drift \simeq time* and iii. *float \simeq cloud* are nearly identical but several of the performance gestures are exchanged from one movement to the other, and the degree and style of computer processing differs in each movement.

Movement iv. *pulse \simeq air* is a languorous exploration of pizz. notes, including snap or Bartok pizzicati and arpeggiated chords, which are altered through various computer processes.

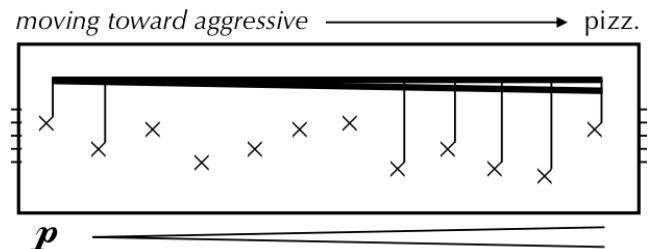
Movement v. *speak \simeq night* returns to some of the extended techniques from *flow \simeq water* with a lengthy, mellifluous conclusion to *elements*.

elements ~ five transfigurations for cello and computer was premiered by Tobias Werner and William Brent on Sunday, November 16, 2014 and an acoustic version was presented on Sunday, February 15, 2015 in the West Garden Court in the West Building of the National Gallery of Art in Washington, DC. The first performance of all five movements occurred at the inaugural CONNECTED: MUSIC IN THE MUSEUM concert at the American University Museum at the Katzen Arts Center.

PERFORMANCE NOTES

The performance of *elements* requires tuning the low C♯ string to B♭. The performer's version of the score is notated as if the C string is not re-tuned, resulting in pitches on the C string sounding a M2 lower.

 indicates that the cellist should apply added pressure with the bow.

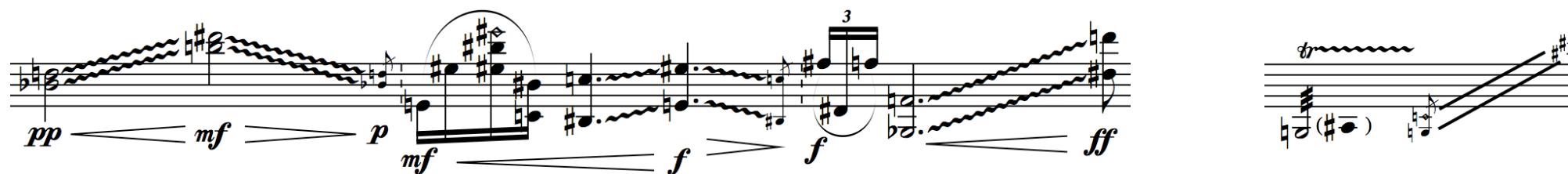


Boxed gestures allow the performer to play a non-specific set and number of notes, moving in the direction of the performance instructions for that box.

The tilde dynamic marking ~ directs the performer to vary the dynamic shape while moving toward the general dynamic direction indicated by the traditional dynamic marking.



There are glissandi of two types: rough where the slide is irregular in bowing and finger pressure, indicated by a wavy line, and smooth, as even as possible, indicated as a straight line.



Steve Antosca



elements ~ five transfigurations for cello and computer

The C string is tuned to B_b
The score is at pitch

Composed for and Dedicated to Tobias Werner
Computer technology designed by William Brent
Commissioned by The Fromm Music Foundation at Harvard University

elements

flow \simeq water
always changing ~ always the same

Steve Antosca
2009-2010

Tune C string to B \flat

Violoncello: *shimmering and translucent*, *sul pont.* alter the harmonic by quartertones +/-. **Computer**: ▲ COMPUTER #1 - ON lo B \flat drone with upper partials prominent; slow evolving texture, shifting among the multichannel monitors. **Vc.**: II legatissimo, rapidly, very fast ord. **Cmpt.**: ▲ COMPUTER #2 - ON, ▲ COMPUTER #3 - ON, ▲ COMPUTER #4 - ON, ▲ COMPUTER #5 - ON. **Vc.**: 6 seconds: ord., poco rit., sul pont. 4 seconds: ord., a tempo, sul pont. 3 seconds: ord., sul pont. 2 seconds: deliberate sul pont. 5 seconds: non-trem. **Cmpt.**: ▲ COMPUTER #7 transform 1, ▲ COMPUTER #7 transform 2, ▲ COMPUTER #7 transform 3, ▲ COMPUTER #7 transform 4, ▲ COMPUTER #6 - ON. **Vc.**: 7 seconds: ord., ff, pp, f. 27 seconds: ord., arco, ff, p, pp, mf, p, mf, f, ff. **Cmpt.**: ▲ COMPUTER #7 transform 5, ▲ COMPUTER #8 - ON.

Vc. Cmpt.

sul tasto continuously variable 5 ord. sul pont. 8va ↑ ord. sul D 1/4 7 rapidly, flowing, smoothly 3 6 6

p *pppp* *p* *sfp* *f* *pp* *sul A sus.*

▲ COMPUTER #9 – ON COMPUTER #9 – OFF ▲

Vc. Cmpt.

sul pont. 6 wait for audio to end ord. 5 sul pont. 3 3 3

sfp *ff* *pp* *mf* *p* *ff* *sfp* *f* *ff* *p* *ff*

▲ COMPUTER #10 – ON

Vc. Cmpt.

sul pont. ord. 3 3 6 poco rit. 3 5 sul pont. ord. 3

sfp *f* *ff* *mf* *f* *p* *ff* *pp* *ppp* *p* *f* *ff* *sfp* *ff*

Vc. Cmpt.

3 3 6 jete 3 5 7 ord. 3 3 ff

ppp

▲ COMPUTER #11 – ON

Vc. {

3 6 3 5 7 6 3 5

f < ff f

Cmpt.

Vc. {

ord. sul pont. ord. continuously variable harmonic glisses 20 seconds

sfp < ff pp

~ p

9 seconds

sul pont. l.v.

Cmpt. ▲ COMPUTER #12 – ON COMPUTER #12 – OFF ▲ ▲ COMPUTER #13 – ON

Vc. {

6 6 6 6 6 6 3 5

pp

lighter, mellifluous

poco rit. sul pont. articulate jete

f ff

Cmpt. ▲ COMPUTER #14 – ON

Vc. {

ord. tr sul pont. 3 5 articulate jete ord. 7 sul pont. ord. 6 6 III 6 6

ff

Cmpt.

Vc. {

slower, espressivo
sul pont. vary rate and pitch
tr

ff fff

COMPUTER #14 – OFF ▲ ▲ COMPUTER #15 – ON

Cmpt.

secco ord. secco

pp mf p pp

Vc. {

port. sul D

p pp

mf sus.

▲ COMPUTER #16 – ON

Cmpt.

Vc. {

f p sus.

p f 3 3 7

ff

▲ COMPUTER #17 – ON COMPUTER #17 – OFF ▲

Cmpt.

Vc. {

increase intensity articulate articulate sul pont. ord.

3 jete 7 7 3

pp f p p f

ff

▲ COMPUTER #18 – ON

Cmpt.

Musical score for Violin (Vc.) and Cello (Cmpt.) at measure 16. The Violin part includes dynamics such as *sul pont.*, *ord.*, *pizz.*, *I*, *arco*, *sul pont.*, *lighter, mellifluous*, *ord.*, *6*, *f*, *subp*, *sfp*, *p*, and *6*. The Cello part has a dynamic *p*. The score also includes performance instructions like *<>* and *>*.

Musical score for Violin and Cello, page 10, measures 11-12. The score consists of two staves: Violin (top) and Cello (bottom). The Violin staff has a treble clef, a key signature of one sharp, and a common time signature. The Cello staff has a bass clef, a key signature of one sharp, and a common time signature. Measure 11 starts with a dynamic of *p*. The Violin plays sixteenth-note patterns with grace marks. The Cello provides harmonic support with sustained notes. Measure 12 begins with a dynamic of *f*. The Violin continues its sixteenth-note patterns. Measure 13 starts with a dynamic of *p*, followed by *port.* (portamento), *ff* (fortissimo), and *p*. The Cello has a prominent role in this measure. Measure 14 concludes with a dynamic of *p*. The score includes performance instructions such as "sul tasto" and "slower and open, espressivo". Measure numbers 6, 11, and 12 are indicated above the staves. Measure 13 is divided into two parts labeled I and II. Measure 14 is divided into three parts labeled 6, I, II, and 6. Measure 15 is indicated at the end of the page.

The C string is tuned to B \flat .
The score is at pitch.

elements

drift \approx time

20 seconds

Steve Antosca
2011

The score consists of five staves of musical notation for Violoncello (Vc.). The staves are numbered 1 through 5. The notation includes various dynamics (ff, p, mf, f), articulations (sul pont., arco, pizz.), and performance instructions (e.g., 'freely as long a gliss. as possible', 'accel. short bursts', 'rough gliss.', 'moving toward aggressive'). A box highlights a section of the first staff with the instruction 'muttering, barely audible at first, very fast'. The score is titled 'drift ≈ time' and includes a note about the C string being tuned to B-flat.

Violoncello

drift \approx time

20 seconds

muttering, barely audible at first, very fast

Violoncello

drift \approx time

20 seconds

muttering, barely audible at first, very fast

Vc.

a tempo

pizz.

Vc.

freely as long a gliss. as possible

sim.

accel. short bursts

arco

pizz.

arco sim.

rough gliss.

sul pont.

n

30 seconds

6 sul pont. *f* *mf* *ff* *smoothly* *sub p* *smoothly* *pp* *mf* *ff*

7 sul pont. *mf* *sfp* *a breath, a sigh* *3* *use either clef* *arco, ord.* *sul pont.* *p* *ff*

8 *arco, ord.* *arco* *arco* *sul pont.* *ord.* *sul pont.* *ff* *p* *pizz.* *sul tasto* *pizz.* *pp* *f*

9 *a breath, a sigh* *3* *very freely, expressivo* *arco* *sfp* *secco* *softly* *rough gliss.* *slowly* *4* *3* *sul pont.*

20 seconds

10 *a punta d'arco*
shimmering and delicate, fast and irregular
sul G *pppp* *f* *sliding artificial harmonic gliss.; poco accel and rit.* *pp* *n*

The C string is tuned to B \flat .

The score is at pitch.

elements
float = cloud

Steve Antosca
2012

30 seconds

aggressive, very fast, becoming slower and inaudible

Violoncello { *arco* *l. v.* *ff* *mf* *ord.* *ff* *p* *f* *ff* *sul pont.* *4* *ff* *ff* *p* *pp* *n*

Computer ▲ COMPUTER #1 - ON ▲ COMPUTER #2

30 seconds

Vc. { *l. v.* *ord.* *sul pont.* *ff* *p* *mf* *p* *mf* *f* *ff* *rapidly arco* *p* *f* *ff*

Cmpt. ▲ COMPUTER #3 ▲ COMPUTER #4

Vc. { *a tempo pizz.* *ff* *mf* *ff* *mf* *3* *5* *f* *ff* *arco* *5* *ff* *arco* *5* *ff* *mf* *ff*

Cmpt. ▲ COMPUTER #5

Vc. { *l. v.* *freely as long a gliss. as possible* *arco* *sim.* *pp* *mf* *p* *ff* *accel. short bursts sim.* *ff* *pp* *ff* *arco* *ff* *arco* *ff* *quickly* *ff*

Cmpt. ▲ COMPUTER #6

Vc. { *rough gliss.* *pp* *ff* *3* *ff* *5* *ff* *sul pont.* *ff* *pp* *n*

Cmpt. ▲ COMPUTER #7

Vc. {
 Cmpt. ▲ COMPUTER #8

6 sul pont.
f *p* *ff* *mf* *f* *ff*
smoothly slowly
ord. *sub p* *f* *pp* *mf* *ff*

Vc. {
 Cmpt. ▲ COMPUTER #9

7 *a breath, a sigh*
6 *7*
mf *f* *sfp* *p* *pp* *pp*
arco, ord. → *sul pont.*
p *ff*

Vc. {
 Cmpt. ▲ COMPUTER #10

8 *ord.* → *sul pont.*
p *mf* *sfp* *mf* *f* *ff*
sul tasto *p* *pp* *f*
l. v.

Vc. {
 Cmpt. ▲ COMPUTER #11

9 *a breath, a sigh*
arco *f* *sfp* *f* *sfp* *ff*
secco *softly*
pizz.

Vc. {
 Cmpt. ▲ COMPUTER #12

10 *a punta d'arco*
shimmering and delicate, fast and light
slowly, airy, floating in & out
pp *pp* *pp* *p* *pp* *ffff* *fff*
10 seconds

Vc. {
 Cmpt. ▲ COMPUTER #13

▲ COMPUTER #14 – FADE OUT

The C string is tuned to B \flat .
The score is at pitch.

elements

pulse \approx air

Steve Antosca
2014

24 seconds

1 ord. → sul pont.
shimmering and translucent
alter harmonic by quartetone +/_

Cello

Computer ▲ COMPUTER #1 ▲ COMPUTER #2 ▲ COMPUTER #3 ▲ COMPUTER #4

2 accumulation
pizz. sul pont., with the tip of the bow arco

Vc

Computer ▲ COMPUTER #5 ▲ COMPUTER #6.1 transform1 ▲ COMPUTER #6.2 transform2 ▲ COMPUTER #6.3 transform3 ▲ COMPUTER #6.4 transform4

3 slowly pizz. arco very fast pizz. 15 decay pizz. 24

Vc

Computer ▲ COMPUTER #6.5 transform5 ▲ COMPUTER #6.6 transform6 ▲ COMPUTER #7

4 rit. pizz. slowly pizz. 3 pizz. jeté 6 arco slowly pizz. f# rit. arco, sul pont. pizz. f# d

Vc

Computer ▲ COMPUTER #8 ▲ COMPUTER #9.1 transform1 ▲ COMPUTER #9.2 transform2 ▲ COMPUTER #9.3 transform3

60 seconds

5

Vc. *p* > > *f* > > *mf* *f* > > *pp* *mf* *f* *ppp* *sul C arco/jeté* *pizz.* *sul D* *1/4* *6* *6* *6* *ff* *n*

Cmpt. ▲ COMPUTER #10 ▲ COMPUTER #11

60 seconds

6

Vc. *p* < > *f* < > *p* < > *f* < > *p* *f* *p* *mf* *6* *lyrical* *3* *IV III* *sul pont.* *p* < > *ff*

Cmpt. ▲ COMPUTER #12

7

Vc. *pizz.* *6*, *arco, sul pont.* *6 seconds* *pizz.* *10* *3*, *arco, sul pont.* *4 seconds*

fff l.v. *p* < > *f* < > *p* < > *f* < > *p* < > *fff* l.v. *p* < > *f* < > *p* < > *ff* < > *p*

Cmpt. ▲ COMPUTER #13.1 ▲ COMPUTER #13.2

8

Vc. *pizz.* *10* *3*, *arco, sul pont.* *4 seconds* *pizz.* *10* *3*, *arco, sul pont.* *3 seconds*

fff l.v. *p* < > *f* < > *p* < > *ff* < > *p* > *fff* l.v. *p* > *f* < > *f* < > *subpp* < > *f* < > *f*

Cmpt. ▲ COMPUTER #13.3 ▲ COMPUTER #13.4

Musical score for Violoncello (Vc.) showing measures 10-11. The tempo is quarter note = 92. Measure 10 starts with pizzicato (pizz.) and sixteenth-note patterns. Measure 11 begins with a dynamic poco a poco cresc. followed by sixteenth-note patterns. The section ends with a forte dynamic ff. Measure 11 also includes a 'jeté' instruction with a curved line and a '3' dynamic.

11

very fast
pizz.

13

slowly

arco, sul pont.

l.v.

pizz.

pp l.v.

16

a breath

17

Vc.

p

ff

ff

arco

p

sfp

f

Cmpt.

▲ COMPUTER #16.1 ▲ COMPUTER #16.2 ▲ COMPUTER #16.3 ▲ COMPUTER #16.4

arco

Vc.

12

sul tasto

pizz.

l.v.

pp

l.v.

very, very fast

pizz.

12

ff

pizz.

27

fff

Cmpt.

▲ COMPUTER #16.5 ▲ COMPUTER #16.6 ▲ COMPUTER #17 COMPUTER #17 — OFF ▲

This musical score page for strings (Vc.) shows four staves of music. The first two staves begin with 'arco' dynamics 'p' and 'pp'. The third staff starts with 'l.v.' and ends with 'l.v.'. The fourth staff begins with 'ff' and ends with 'fff'. The score includes performance instructions like 'sul tasto' and 'pizz.'. Measure numbers 12 and 27 are indicated above the staves. Below the score, there are four computer control boxes labeled '#16.5', '#16.6', '#17', and 'COMPUTER #17 — OFF'.

The C string is tuned to B \flat

The score is at pitch.

elements

speak = night
a song within a song

Steve Antosca
2012-2014

Steve Antosca
2012-2014

Intense, yet free, insectoid
sul pont.
jeté

speak = night
a song within a song

Violoncello

Computer

▲ COMPUTER #1 - ON

Musical score for strings and piano. The strings (Vc, Cmtr.) play eighth-note patterns in measures 2-5. The piano (II) plays eighth-note chords in measure 6. Measure 7 starts with a forte dynamic (ff), followed by a piano dynamic (p) and a loco instruction. Measures 8-9 show eighth-note patterns with dynamics ff and f respectively. Measure 10 ends with a forte dynamic (ff). Performance instructions include 'sul pont.' above the strings' part and 'ord.' (ordinario) below the piano's part.

Vc. 4
Cmpr. computer solo 2, approximately as long as previous cello segment

10 seconds

4

sul G

ord.

p

ff

f

sul pont.

p

ff

f

ff

3

▲ COMPUTER #3

transition as smoothly as possible from finger rolls to bow

11

Vc. Cmpr.

slowly, smooth and intense 30 - 40 seconds r. h. finger roll to create tremolo pizz. 10 seconds arco 20 seconds ord. sul pont. **ff**

computer solo 6, approximately as long as previous cello segment ▲ COMPUTER #9 **n**

slowly pizz. l. v. II I. v. pp use a resonant area of the cello body percussive with thumb and finger with thumb **ff** **pp** **fff** percussive with thumb unbowed double gliss. **pp** **fff** 8va with thumb and finger **fff**

▲ COMPUTER #10 10 seconds

Musical score for strings and piano. The strings (Vc. and Cmpr.) play pizzicato patterns with dynamic markings *p*, *ff*, *sim.*, *l.v.*, and *freely*. The piano part consists of eighth-note chords with dynamics *p*, *f*, *ff*, *sim.*, *l.v.*, and *freely*. Measure 15 begins with a piano dynamic *f*.

Musical score for Cmpr. (Computer #12) showing measures 15-18. The score includes two staves: Vc. (Violoncello) and Cmpr. (Computer #12). The Vc. staff uses a bass clef and a 6/4 time signature. Measure 15 starts with pizzicato (pizz.) and dynamic ff. Measures 16-18 show various bowing techniques (I, II, III) and dynamics (pp, ff). Measure 19 begins with an irregular double glissando (irregular double gliss.) and arco, sul pont. Measure 20 concludes with pp.

Musical score for Violin (Vc.) and Computer #13 (Cmpr.). The score is in 6/4 time, key signature of B-flat major. Measure 16 starts with a dynamic of ***ff***, followed by ***p***. The instruction ***quicker, ♩ = 92*** is above the staff. The violin part consists of eighth-note patterns with grace notes and slurs. The computer part is indicated by a box labeled **COMPUTER #13**. The score includes dynamics ***arco, sul pont.***, ***f***, and ***p***, and performance instructions like ***3*** (triplets) and ***3*** (with a bracket). The section ends with ***arco, sul pont.*** and ***f***.

Musical score for Violin (Vc.) and Cimbalom (Cmpr.). The score consists of two staves. The top staff is for the Violin, which starts with a dynamic *p* and a crescendo line. The bottom staff is for the Cimbalom. Measure 17 begins with a dynamic *f*. Measure 18 begins with a dynamic *p*. Both staves feature complex rhythmic patterns with sixteenth-note figures and grace notes. Measure 18 concludes with a dynamic *f*.

quick, very edgy
sul pont.
jeté

Vc. Cmprt. ▲ COMPUTER #15

19 6 3 5 7 7 7 ord. 3 3 5 jeté 3

pp p f> pp f pp p

Vc. Cmprt. ▲ COMPUTER #16

20 3 3 6 ord. sul pont. 8va loco pizz. arco 6 5 7

pp f ff p ff mf f p f

Vc. Cmprt. ▲ COMPUTER #17

21 6 6 6 6 6 6 3 7 ff l. v. 3 7 ff

p ff l. v. f 3 7 ff

Vc. Cmprt. ▲ COMPUTER #17

22 10 seconds col legno battuto sul pont. → col legno tratto arco gliss. poco rit.

ppp p f pp ff pp f p

Vc. Cmprt. ▲ COMPUTER #17

23 percussive with thumb with thumb and finger = 46, slowly at first but acquiring energy and passion moving toward the end of each phrase

ff pp fff sffz f bp. p 3 3 3 3 ff

Vc. Cmprt. ▲ COMPUTER #

24

Vc. *sfp* *f* *p* *f* *ff*

Cmptr.

25

Vc. IV *gliss.* *percussive*
with thumb
with thumb and finger

Cmptr. *ff* *ff* *pp* **▲ COMPUTER #** *fff* *sfp* *f* **▲ COMPUTER #**

26

Vc. *irregular double gliss.*
trill against the open strings

Cmptr. **▲ COMPUTER #** *mf* *f* **▲ COMPUTER #** *f* *ff*

27

Vc. *f*

Cmptr. **▲ COMPUTER #** *p* *pp* *n*

28

Vc. *sfp* *ff* *mf* *f*

Cmptr. **▲ COMPUTER #**

10 seconds

Vc.
Cmptr. ▲ COMPUTER #

29 ♩ = 126, abrupt and violently
Vc. **ff**
Cmptr. ▲ COMPUTER #

30 ♩ = 56, slowly, thoughtfully, with reflection, strum lower notes sul tasto, bow upper note molto vibrato
Vc. **pp**
Cmptr. ▲ COMPUTER #

optional repeat:
 freely sing top line while
 improvising cello theme

31 slowly, airy, floating in & out
Vc. **pp**
Cmptr. ▲ COMPUTER #

32 shimmering and delicate, fast and light
Vc. **pp**
Vc. **ff**
Cmptr. ▲ COMPUTER #

1 minute
 harmonic trill on & off the string
 I II
Vc. **fff**
 Punta d'arco
 → sul pont.
n