

Echoic Memories

I. *Preface* II. *Jumbled Photographs* III. *Epilogue*

For Piano, Violoncello and Electronics

A. Keegan-Bole

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Programme Note:

Echoic Memories

I – Preface (1')

II - Jumbled Photographs (6')

III – Epilogue (1')

This piece contemplates musical memory. Ideas for the piece were originally sparked by a concert of duets given by György and Márta Kurtág whose intimate performance hinted at a relationship experienced in and through music – where musical memories are inextricably bound up with a life spent together. 'Echoic memory' is the cognitive process of sounds/music triggering specific memories. Usually these memories are not an accurate narrative but sensorial snapshots loaded with emotion (and often nostalgia). In a nod to instances of my own echoic memories tiny snippets of music by Bach, Britten, Kurtág and Webern forms the basis for a good portion of the musical material.

The piece opens with a miniature – a one-minute series of piano chords and a cello line that exist as a brief, complete piece. Focusing on thick textures and stark rhythms the language is dark, only softening as the minute comes to an end. The main central section of this piece begins with a wash of sound, unfocussed and harsh – searching for a pitch or theme to cling to. Once the cellist gets hold of a full sound the music flits through snippets of material (as though flicking through jumbled photographs), some fragments are repeated, some discarded, whilst others are interrupted as fragments of the opening are found. The second half of the movement settles into a repeated rhythm with the cello holding a consistent pitch as the piano and electronics work through iterations of a remembered theme.

The piece closes with the cello playing a slightly altered version of its opening material.

AKB

Performer Notes:

Piano:

- Where not explicitly stated use pedal as appropriate
- Grace notes occur before the beat

Cello:

- An example of the sound at the start of the 2nd movement (live cello sound plus the electronic manipulation) is provided with this score

Notes Regarding Technical Implementation

The part for electronics uses live signal from the cellist (mono input) and piano (stereo input) as well as short fragments of a single pre-recorded tape track. Processes used include harmonising the live input by means of real-time transposition, granulating the live input (taking fragments of the live sound (grains) and subjecting these to various processes) and holding or freezing a moment of the live input.

Operator should be positioned in a good listening position with clear eye-line to the on-stage performers.

Microphone placement:

Piano:

In developing this piece, two omni-directional microphones (DPA 4061) were positioned as described below. The aim is to take a detailed, accurate sound from the instrument that has a slight bias toward the upper register. The position outlined may be inappropriate depending on the specific piano used (for example if the steelwork inside the piano is obtrusive) but aim to position the microphones around the pitches D3 and E5. Generally the best sound is found 2-3 inches away from the striking point of the hammers.

Cello:

In developing this piece, different microphones were used depending on the acoustic of the room, with less sensitive equipment being used the more reverberant the space. The very best results were found using an Earthworks QTC-1 but due to the omni-directional polar pattern and sensitive diaphragm, feedback in reverberant environments was an issue. Good results in most conditions were found using an AKG C-414 (cardioid). The aim is to take a detailed, accurate sound from the instrument, not to intrude on the player's technique and position in sympathy with the speaker (see 'speaker placement' below) to avoid feedback. Generally the best sound is found close to the instrument pointing toward the bridge roughly level with the bottom of the f-hole (i.e. slightly below the bridge). Position the mic on the left hand side of the player to cause minimal distraction. Ensure the microphone is far enough away from the cello to avoid contact during performance.

Speaker Placement:

There are two full-range speakers placed around the piano, these are referred to as 'stereo speakers' in the score. There is one full-range speaker placed with the cellist, this is referred to as 'mono speaker' in the score. They should be positioned roughly as in the diagrams below. The object is, as far as possible, to make the sound emanate from the instrument with which the speakers are placed but to avoid feedback into the microphones. The following represents the best position found whilst developing the piece.

Echoic Memories

A. Keegan-Bole

I. Preface

♩ = c. 54
una corda

8va-----

Piano

Violoncello

Pno.

5

8

Vc.

(8)

8

Pno.

Vc.

pp

Detailed description: This system contains measures 8 and 9. The piano part (Pno.) is written in a grand staff with treble and bass clefs. Measure 8 features a melodic line in the right hand with a slur and a dynamic marking of *p*. The left hand has a bass line with a dynamic marking of *pp*. Measure 9 continues the melodic development in the right hand and has a dynamic marking of *pp*. The violin part (Vc.) is in the bass clef, starting with a dynamic marking of *pp* and a hairpin crescendo. It features a series of chords and a long note in measure 9.

rit.

(8)

10

Pno.

Vc.

ppp

III
IV

Detailed description: This system contains measures 10, 11, 12, and 13. The piano part (Pno.) is in a grand staff. Measure 10 has a dynamic marking of *ppp* and features triplets in both hands. Measure 11 continues with *ppp* dynamics and triplets. Measure 12 has a dynamic marking of *ppp* and includes a hairpin crescendo. Measure 13 ends with a dynamic marking of *ppp*. The violin part (Vc.) is in the bass clef, starting with a dynamic marking of *p* and a hairpin crescendo. It includes fingering indications for positions III and IV. The system concludes with a dynamic marking of *ppp*.

Jumbled Photographs

♩ = c. 54

mp (pitch contour follows piano)
broken fragments of piano line & pitches transposed

Stereo Speakers

mp tape (heavy reverb, mushy, no attack but pitches clear) *p* piano pitches held

no pedal

Piano

ppp

bow as necessary but smoothly. Allow upper partials & harmonics to come out
move smoothly and consistently from the nut to octave harmonic node

Violoncello

mp *gliss.* *p*

Mono Speaker

(harmonised cello) *mp* (dynamic contour follows cello) **P**

Operator

1 2 3 4



St

9

Pno

ppppp *mf*

Vc.

f *ppp* *mp* *pp* *mf*

8vb *sul tasto* *pizz*

Mo

P

Op

5 6

(♩=104)

13 ♩=♩

St

Pno

Vc.

Mo

Op

p

mp

arco

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

legato

red.

II III II I

17

St

Pno

Vc.

Mo

Op

mp

f *pp*

mp *mf* *ppp*

cello pitches held

III IV

C

7

19

St

Pno

Vc.

Mo

Op

mp *pp* *mf* *p* *f*

(cello transposed)
mp (with cello)

C 8 9 10

23

St

Pno

Vc.

Mo

Op

mp *n* *8va* *loco* *p* *f* *pp*

Red.

II I

11 12

27

St

Pno

Vc.

Mo

Op

8va

una corda

p

pp

8vb

sul tasto

pizz

arco

pizz

p

mf

p

mf

33

St

Pno

Vc.

Mo

Op

tre corde

8va

loco

mf

p

mf

2

p

arco

sul tasto

pizz

arco

p

mf

mf

36

St

Pno

Vc.

Mo

Op

gva

loco

pp *mp*

mp *f* *mf* *p*

II I

St

Pno

Vc.

Mo

Op

38

tape

p

arco

II III

mp *mf* *mp* *f* *pp* *fp* *fp*

legato

molto vib.

43 **poco accel.** **a tempo**
 St *transposed cello*
 Pno
 Vc. **poco accel.** **a tempo**
 Mo *jeté* *molto vib.* → *non vib.*
 Op 14 15 16 17
ff < ff < fff < f < ppp < f
 (dynamic contour with cello)

47
 St piano chords held and blended together until bar 62
 Pno *ppp* *8va*
 Vc. *norm*
 Mo
 Op P P P P P
 18 19 20 21 22
p espress. *p* *mp* *sim.*

52

St

(8)

Pno

Vc.

Mo

Op

23 24 25 26

mf *sim.*

56

St

(8)

Pno

Vc.

Mo

Op

27 28 29 30

f *ff* *f*



p (tape)

60

St

(8) -----

Pno

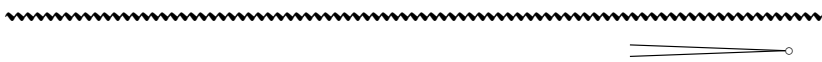
Vc.
mf *p* *p* *pp*

Mo

Op
P **P** **P**

31

32



63

St

(held piano)

Pno

Vc.
rubato *Slower*
p espress. *mf* *p* *pp*

Mo

Op

33

34

Epilogue

♩ = c. 50 (a little slower)

Rubato
con sord

The first system of music is in bass clef with a 4/4 time signature. It begins with a piano (*p*) dynamic. The first measure contains a quarter note G2, a quarter note A2, and a half note B2. The second measure contains a quarter note B2, a quarter note C3, and a half note D3. The third measure contains a quarter note E3, a quarter note F3, and a half note G3. The fourth measure contains a quarter note A3, a quarter note B3, and a half note C4. The fifth measure contains a quarter note D4, a quarter note E4, and a half note F4. The sixth measure contains a quarter note G4, a quarter note A4, and a half note B4. The seventh measure contains a quarter note C5, a quarter note D5, and a half note E5. The eighth measure contains a quarter note F5, a quarter note G5, and a half note A5. The ninth measure contains a quarter note B5, a quarter note C6, and a half note D6. The tenth measure contains a quarter note E6, a quarter note F6, and a half note G6. The eleventh measure contains a quarter note A6, a quarter note B6, and a half note C7. The twelfth measure contains a quarter note D7, a quarter note E7, and a half note F7. The thirteenth measure contains a quarter note G7, a quarter note A7, and a half note B7. The fourteenth measure contains a quarter note C8, a quarter note D8, and a half note E8. The fifteenth measure contains a quarter note F8, a quarter note G8, and a half note A8. The sixteenth measure contains a quarter note B8, a quarter note C9, and a half note D9. The system concludes with a double bar line. Fingerings are indicated above the notes: III IV, II III, II III, II III, I II, I II. Dynamics include *p*, *f* > *pp*, and *mp*. There are also slurs and accents.

The second system of music is in bass clef with a 5/4 time signature. It begins with a mezzo-forte (*mf*) dynamic. The first measure contains a quarter note G2, a quarter note A2, and a half note B2. The second measure contains a quarter note C3, a quarter note D3, and a half note E3. The third measure contains a quarter note F3, a quarter note G3, and a half note A3. The fourth measure contains a quarter note B3, a quarter note C4, and a half note D4. The fifth measure contains a quarter note E4, a quarter note F4, and a half note G4. The sixth measure contains a quarter note A4, a quarter note B4, and a half note C5. The seventh measure contains a quarter note D5, a quarter note E5, and a half note F5. The eighth measure contains a quarter note G5, a quarter note A5, and a half note B5. The ninth measure contains a quarter note C6, a quarter note D6, and a half note E6. The tenth measure contains a quarter note F6, a quarter note G6, and a half note A6. The eleventh measure contains a quarter note B6, a quarter note C7, and a half note D7. The twelfth measure contains a quarter note E7, a quarter note F7, and a half note G7. The thirteenth measure contains a quarter note A7, a quarter note B7, and a half note C8. The fourteenth measure contains a quarter note D8, a quarter note E8, and a half note F8. The fifteenth measure contains a quarter note G8, a quarter note A8, and a half note B8. The sixteenth measure contains a quarter note C9, a quarter note D9, and a half note E9. The system concludes with a double bar line. Fingerings are indicated above the notes: II I, II I, I II I, I II. Dynamics include *mf*, *pp*, *mp* > *pp*, *f*, and *mp*. There are also slurs and accents.

The third system of music is in bass clef with a 4/4 time signature. It begins with a piano (*p*) dynamic. The first measure contains a quarter note G2, a quarter note A2, and a half note B2. The second measure contains a quarter note C3, a quarter note D3, and a half note E3. The third measure contains a quarter note F3, a quarter note G3, and a half note A3. The fourth measure contains a quarter note B3, a quarter note C4, and a half note D4. The fifth measure contains a quarter note E4, a quarter note F4, and a half note G4. The sixth measure contains a quarter note A4, a quarter note B4, and a half note C5. The seventh measure contains a quarter note D5, a quarter note E5, and a half note F5. The eighth measure contains a quarter note G5, a quarter note A5, and a half note B5. The ninth measure contains a quarter note C6, a quarter note D6, and a half note E6. The tenth measure contains a quarter note F6, a quarter note G6, and a half note A6. The eleventh measure contains a quarter note B6, a quarter note C7, and a half note D7. The twelfth measure contains a quarter note E7, a quarter note F7, and a half note G7. The thirteenth measure contains a quarter note A7, a quarter note B7, and a half note C8. The fourteenth measure contains a quarter note D8, a quarter note E8, and a half note F8. The fifteenth measure contains a quarter note G8, a quarter note A8, and a half note B8. The sixteenth measure contains a quarter note C9, a quarter note D9, and a half note E9. The system concludes with a double bar line. Dynamics include *p*, *mf*, *p*, and *pp*. There are also slurs and accents.

