

2018.1

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Commissioned by the Beckett Chamber Music Series,
for performance by Sarah Sew, Yseult Cooper Stockdale and Jonathan Morris

To Seán ó Dálaigh

(I) G# N.B. Heavily damp top octave of piano
lightly damp second-highest octave

♩ = 64-84

Violin ord. → -31 poco pont. → ord. (II) pizz. 8 16 7

p cresc. poco *dim. poco* *poco f*
simply, mechanically

Violoncello ord. → -14 poco pont. → ord. 8 16 7

p cresc. poco *dim. poco*

Piano ♩ = 64-84 15^{ma} pp *sempre* 8 16 7

poco f
simply, mechanically

p

(III) E 0 -29 arco 3 p *release*

(IV) p *più p* *pure* 0 -2 *ossia: leave out B*

(I) E +4 poco pont. 16 3 16 3

poco pont. pizz. mechanical mp *molto dim.*

(II) pizz. mechanical arco

(III) G mp *molto dim.*

1/5 IN FREE TIME 1/5 RH: touch nodes in piano
LH: play written keys

p poco f *bell-like, declamatory* 15^{ma} pp mechanical secco

with pedal p

(I)

(IV)

Vln. 8

Vc.

Pno.

IN FREE TIME
RH: nodes
LH: keys

ord. +4 **pont.** -12 OR +45

pizz.

p **pp static** *poco f, mechanical* *do not phrase!*

p **pp static** *poco f, mechanical* *do not phrase!*

mp **pp** *poco f, mechanical* *do not phrase!*

with pedal **p** **pp**

(III)

(IV)

Vln. 11

Vc.

Pno.

arco **arco**

E **C** **E/C**

p cold **pp warm** *cold warm* **p warm and pure**

p cold **pp warm** *cold warm* **pp gravelly, non dim.** *ensure both notes sound together **p warm and pure***

p cold **pp warm** *cold warm* **p** *più f* *più f*

IN FREE TIME
RH: nodes
LH: keys **1/5** **1/6** **2/7**

8va **1**

(III) E D \sharp E (IV) B C G

0 -29 arco 0 -31 +41/-27 0

Vln. *p* *sweetly* *p* *fit into piano sound, emphasise upper partials* *re-focus to lower partials (but still fit into piano sound)*

Vc. arco 0 -2 +5 -27 OR +41 -49 +5 0 -31 *p* *sweetly, legato* *p* *fit into piano sound, emphasise upper partials* *re-focus to lower partials (but still fit into piano sound)*

IN FREE TIME
RH: nodes
LH: keys x/15 1/4 1/5 (on pianist's side of dampers)

Pno. *p* *sweetly* *mp* *like distant bells*

8^{vb} with pedal
N.B. grace note ON beat
N.B.B. we can compromise on this phrase if necessary, and you can pick any harmonic sounding as a B and play it three times!

(I) G \sharp ord. → poco pont. → ord. (II) pizz.

23 -31 *p* *cresc. poco* *dim. poco* *poco f* *mechanical*

ord. → poco pont. → ord. *p* *cresc. poco* *dim. poco* *pizz.* *poco f* *mechanical*

-14 *pp* *sempre* *poco f* *mechanical*

8^{va} *p*

(III) C loco II pizz. arco

Vln. 25 *15^{ma}* arco **ppp** warm and pure *p* a little hectic *covered* *mechanical*

Vc. arco *p* warm and pure *III* -31 *IV* -14 *pure* *p* chalky

Pno. **IN FREE TIME** RH: nodes LH: keys 1/3 **IN TEMPO** *pp* languid and tender *mp* mechanical *p*

8^{va} *Red.*

R.H. Ossia:
find first node, then step
gradually towards self, ensuring
a different partial is produced with
each step.

(III) C IV I

Vln. 29 +41 -27 *p* dolce *nearly loud; joyful*

Vc. *languid, tender* *mp* pure, warm *joyful*

Pno. *coolly* *pp* with finality *più f* aggressive!

grace note just an instant before the harmonic

IN FREE TIME RH: nodes LH: keys x/7

31 (II) pizz. *mf* mechanical and ironic

Vln.

Vc. arco (pizz.like) *poco f* mechanical, surging forwards

Pno. *poco f* mechanical, surging forwards

artificially abrupt!

33

Vln. extremely mechanical

Vc. as before

Pno. as before

(III) pizz. G +45 G# +45 Bb +45 (IV)

Vln. *top voice extremely resonant*
p suddenly cold

Vc. pizz. -12 -12 +6
p suddenly cold
extremely resonant
round and warm
(pizz. nat.)

Pno. 15^{ma} 1/6
p suddenly cold
RH: nodes **p** play as a
LH: keys *repercussion of*
cello pizz. [timing exact]

(I) arco (poco tasto) 37 -14 -14

Vln. **p** reset; as if opening the piece

Vc. arco (poco tasto) +2 +2
p reset; as if opening the piece

Pno. 15^{ma} **p** reset; as if opening the piece **pp** (fingering suggested only)
mp

38 (II)

Vln.

Vc.

Pno.

pizz.

mechanical

pizz.

mechanical

8vb

The musical score for "The Great Wall" by John Cage is presented for Violin (Vln.), Viola (Vc.), and Piano (Pno.). The score is divided into three measures, each with a specific time signature and key signature.

Measure 1 (3/4, E#): The Vln. and Vc. parts begin with a half note G#4 (Vln.) and G#3 (Vc.), followed by a half note A#4 (Vln.) and A#3 (Vc.). The Pno. part begins with a half note G#4 (RH) and G#3 (LH), followed by a half note A#4 (RH) and A#3 (LH). The performance instruction is *p astringent, but getting sweeter*.

Measure 2 (6/16, D#): The Vln. and Vc. parts begin with a half note G#4 (Vln.) and G#3 (Vc.), followed by a half note A#4 (Vln.) and A#3 (Vc.). The Pno. part begins with a half note G#4 (RH) and G#3 (LH), followed by a half note A#4 (RH) and A#3 (LH). The performance instruction is *p astringent, but getting sweeter*.

Measure 3 (2/4, E#): The Vln. and Vc. parts begin with a half note G#4 (Vln.) and G#3 (Vc.), followed by a half note A#4 (Vln.) and A#3 (Vc.). The Pno. part begins with a half note G#4 (RH) and G#3 (LH), followed by a half note A#4 (RH) and A#3 (LH). The performance instruction is *almost weightless*.

The score includes various musical notations such as notes, rests, and dynamic markings. The performance instructions are *p astringent, but getting sweeter* and *almost weightless*.

(I) D F# F (II) E (III)

Vln. 44 $\overset{-31}{\Delta}$ *p* $\overset{+2}{\Delta}$ *sf* $\overset{+4}{\Delta}$ *p*

Vc. *p* *thrown away, fleetingly* *p* *sul pont.* *poco cresc. mechanical* *ord.* $\overset{+6}{\Delta}$ *p* *with release*

Pno. *pp* *sempre* *15^{ma}* *p* *mechanical*

(I) E D# A (IV)

Vln. 46 *15^{ma}* *bouncing out of fundamental* *nearly loud; joyful* $\overset{+2}{\Delta}$ $\overset{0}{\Delta}$ $\overset{-14}{\Delta}$ *mp* *pure, warm*

Vc. *mp* *pure, warm*

Pno. *pp* *in deep freeze* *mf* *joyful aggressive!* *with pedal* *mf*

IN FREE TIME
RH: nodes
LH: keys
1/5 1/4

50 D (II) **Push to barline**

Vln. *poco f* *poco cresc.*

Vc. *poco f* *poco cresc.*

Pno. *poco f* *rabid and mechanical* *poco cresc.*

(III) D E (IV)

52 ** slurred tremolo between the two notes*

Vln. *f* *lurching stabs*

Vc. *f* *lurching stabs*

Pno. *f* *lurching stabs* *mf* *mp* *try to reach this quickly, springing out of previous chords* *with pedal*

1/5 **IN FREE TIME**
RH: nodes
LH: keys

(I) (II)

F#

Vln. 54 *mp* *cold and mechanical*

Vc. *mp* *warm* *mp* *mechanical, surging forwards*

Pno. *p* *mp* *mechanical, surging forwards*

(III) (IV) (I)

G#

Vln. 56 *f* *sudden lurch* *p* *earthy, sighing*

Vc. *f* *sudden lurch* *p* *earthy, sighing*

Pno. *f* *stabbing lurch* *mp* *unexpected* *pp*

IN FREE TIME
RH: nodes 1/5
LH: keys

58

Vln. *pizz.*
mf with an air of detachment

Vc. *arco (pizz.like)*
mf mechanical, surging forwards

Pno. *mf mechanical, surging forwards*

f

f

pp serene, suspended in flight

IN FREE TIME
RH: nodes 1/5
LH: keys 1/4 (B)

D *E*

arco
+2 +2
+6 +6

-27 / +41
-49 / +28

-27 / +41
-49 / +28

61

(I) *D*

Vln. *pp released sigh*

Vc. *pp released sigh*

Pno. *ppp*

mf an objective comment

mf mechanical, surging forwards now more intense

mf mechanical, surging forwards now more intense

explosive crescendo

Push to barline

Push to barline

pizz.

3 *3*

p

(III)

64 arco $\begin{matrix} D \\ +2 \\ +6 \end{matrix}$ $\begin{matrix} G \\ +2 \\ +6 \end{matrix}$ $\begin{matrix} D \\ +2 \\ +6 \end{matrix}$ $\begin{matrix} E \\ +2 \\ +6 \end{matrix}$ $\begin{matrix} F \\ +2 \\ +6 \end{matrix}$ $\begin{matrix} C \\ +2 \\ +6 \end{matrix}$ (IV) Time suspended $\begin{matrix} E \\ 0 \end{matrix}$ arco

Vln. *ff* violently lurching *p* cold, pure and still

Vc. $\begin{matrix} -27 / +41 \\ -49 / +28 \end{matrix}$ Δ /+etc. *ff* violently lurching *mp* *pp* pure and still - this bowed note to emerge from the dying resonance of the pizzicato

* the cello may mimic the violin and use slurred tremolo here

Pizz. $\begin{matrix} -14 \end{matrix}$ arco $\begin{matrix} -14 \end{matrix}$

Pno. *ff* violently lurching

Time suspended

IN FREE TIME
RH: nodes
LH: keys

with pedal

66 $\begin{matrix} \square \square \end{matrix}$ \bigcirc ONE

Vln. *taper*

Vc. $\begin{matrix} \square \square \end{matrix}$ *taper*

Pno. $\begin{matrix} 1/5 \end{matrix}$

keep pedal down for a long time, then lift it gently and wait

In tempo

(I) F

70 poco pont. ord.

Vln. 3

p woody 0 +5 +4

Vc. poco pont. molto pont. →

p woody

Pno. 8va

ppp

pp

(II)

71 -2 -14 +2 pizz.

Vln. release a little tension *p* cold *p* mechanical with absolutely no expression

Vc. ord. -14 pizz.

release a little tension *p* cold *p* mechanical with absolutely no expression

Pno. (8) *pp* *p* mechanical with absolutely no expression

pp

73

Vln.

Vc.

Pno.

81

Suddenly faster

(III) A tempo

[C] arco

[F]

Vln.

still mechanical

p legato

p long, but separated

3

Vc.

still mechanical

p poco cresc.

pp sub.

mp

Suddenly faster

A tempo

with rising excitement

cresc.

Pno.

84

Vln. *mp* *p* *mf* *emphatically resolute* *poco dim.*

Vc. *pp* *mf* *sweetly but triumphant*

Pno. *poco f* *bombastic* *emphatically resolute* *mf* *a dark twist*

8va

G

(I) Eb

87

Vln. *mf* *a dark twist* *mp*

Vc. *mf* *a dark twist* *mp*

Pno. *mf* *mp* *p*

(8)

15ma

mf

mf

A *8va* **E**

(II)
In tempo

Vln. *89*
pp gossamer
Held back
-14 -27
p woody

Vc.
0 -29 +45 -29
p grainy
15ma +28
pp woody

Pno.
(15)
pp
Held back
In tempo
cello leads this chord
mf mechanical and ugly, heavy
secco

Pno. *92*

Vln. *94 pizz.*
mf mechanical

Vc.
pizz.
mf mechanical

Pno.

[illegible]

102 **Pushing forwards**

Vln. *poco cresc.*

Vc. *pp* *reeling away from violin* *pp*

Reset tempo

ppp *suddenly miniscule*

104 **Pushing forwards**

Vln. *ord.* *p* *very warm*

Vc. *ord.* *p* *very warm*

Reset tempo

suddenly miniscule

ppp

105

Vln. *ord.* *p* *very warm*

Vc. *ord.* *p* *very warm*

Reset tempo

suddenly miniscule

ppp

15^{ma}

8^{va}

15^{ma}

8^{va}

107

C

Vln.

-31
+2

Vc.

-14
+2

legato

poco cresc.

Complicated

+2
-14

+45

-31

D \flat

0
+2

(8)

Pno.

8^{vb}

109

Vln.

mp marcato!
violent

Vc.

mp marcato!
violent

mp mechanical and ill-tempered

Pno.

113

Vln.

cresc.

+28

f

a huge collapsing gesture

Vc.

pizz.

mp mechanical

arco

cresc. (marcato, violent)

3 3 3

pizz.

ff dim. molto

Pno.

explode into violence

Unfurl these chords as if one hyper-instrument

(III)

Bb +28 +45

Eb +5 +5 +4

Cb +45

C# +5

C -14 -14

116

Vln.

p

p sweet and sad

arco

-14

I

Vc.

p

II

+28

0

p sweet and sad

II

+28

0

+2

0

Unfurl these chords as if one hyper-instrument

Pno.

p

The musical score for the first system includes the following details:

- Vln. (Violin):** Treble clef. Fingerings: 124, 0, 2, 2, 6. A bracket groups the first four notes.
- Vc. (Violoncello):** Bass clef. Fingerings: -14, +2, 0. A bracket groups the first three notes.
- Pno. (Piano):** Treble and Bass clefs. Treble part: *non legato*, 15ma. Bass part: 8vb. A bracket groups the first two notes in the bass.
- Diagram:** A diagram at the top shows a string configuration with a box labeled (I) F and another box labeled A^b.

Vln. (8) C G E Eb
 Vc. -29 0 -31 -2 -14
 Pno. (15) (8)

Vln. (8) Db G
 Vc. +6 -14 +2 0 +2 0 -27
 Pno. (15)

(loco) vib. possible now

also check:
0
+41

134

Vln. *almost loud, in a euphoric, manic state* *revert to previous mood* *cadential*

Vc. *cadential* *wild! cresc.*

Pno. *in a euphoric, manic state* *wild! cresc.*

Chords: E^b , G , $F\#/G$ (E.T. tuning), $F\#$

Figured bass: -14 , 0 , -14 , $+2$, -14 , 0 , -14 , 0 , 0 , $+2$, $+6$, -14 , 6 , -31 , 5 , 5

two (II)

137

Vln. *arco - abrasive, pizz.-like sound* ***f** mp (accuracy not very important)*

Vc. *arco - abrasive, pizz.-like sound* ***f** mp (accuracy not very important)*

Pno. *mechanical* ***f** risoluto* *incisive but mechanical*

Chord: B

Figured bass: $+2$, 0 , -14

139

Vln.

Vc.

Pno.



141

Vln.

Vc.

Pno.

pizz.



144

Vln.

Vc.

Pno.

*sound as if the
right hand has
stopped playing
without you noticing*



(III) $F\sharp$
arco

148

Vln. f with accumulated tension (like a spring)

Vc. f with accumulated tension (like a spring)

Pno.

B Assume 8ve or perfect 5th (+2) unless mentioned

A (non stacc.)

f sempre ecstatic, freewheeling

Assume 8ve or perfect 5th (+2) unless mentioned

(non stacc.)

8va

8va

$A\sharp$ $C\sharp$ F

152

Vln. f

Vc. f

Pno.

8vb

Violin (Vln.) and Viola (Vc.) parts are shown in 3/8 time, with a key signature of one sharp (F#). The Piano (Pno.) part is in 3/8 time, with a key signature of one sharp (F#). The score includes fingerings (e.g., 5, 3, 16, 6, 14, 2, 3, 5), dynamics (e.g., -31, -14, +2, -14, -14, +2, -14, +2), and articulation (e.g., ^, ^). The Viola part includes the instruction *legato, broad* and the Roman numerals III -14 and IV (+2). The Piano part includes the instruction *legato, broad* and the Roman numerals III -14 and IV (+2). The score is divided into measures 157, 158, 159, and 160, with a 2/4 time signature change at the end of measure 160.

The image displays a musical score for the song "The Sound of Silence" by Simon & Garfunkel. It features three staves: Violin (Vln.), Viola (Vc.), and Piano (Pno.). The score is divided into three measures, each with a key signature change indicated by a box above the staff: D# (D major), C# (C major), and A (A major). The first measure starts at measure 162. The second measure is marked with a 4/4 time signature. The third measure is marked with a 2/4 time signature. Fingerings are indicated by numbers 0, -14, -31, +2, and 6. Dynamics include "broader" and "8vb" (8va). The score is written in treble and bass clefs.

(I) B

165

Vln. $\begin{matrix} +2 \\ -14 \end{matrix}$ *f blazing*

Vc. $\begin{matrix} 0 \end{matrix}$ *f blazing*

Pno. *15^{ma}* *poco f*

Measure 165: Violin and Viola play sustained notes. Piano right hand has a rapid sixteenth-note run. Measure 166: Similar sustained notes in strings, piano right hand continues the run.

B

167

Vln. $\begin{matrix} -14 \\ 0 \end{matrix}$

Vc. $\begin{matrix} +2 \\ 0 \end{matrix}$

Pno. *(15)*

Measure 167: Violin and Viola play sustained notes. Piano right hand has a rapid sixteenth-note run. Measure 168: Similar sustained notes in strings, piano right hand continues the run.

169

Vln.

Vc.

Pno.

F# / B **C# / B** **F#**

+6
+2

meno **f**
tense

building tension
and volume gradually

0
+2

meno **f**
tense

building tension
and volume gradually

(15)

8^{va}

8^{vb}

171

Vln.

Vc.

Pno.

A **B** **C#**

+45
-31

+5
0

0
+2

0
-29

-14
+4

-2
+45

-14
+45

-14
+6

8^{va}

(8)

173

C **D** **C#**

Vln. $\begin{matrix} +4 \\ +2 \end{matrix}$ $\begin{matrix} 0 \\ +28 \end{matrix}$ $\begin{matrix} -29 \\ -31 \end{matrix}$ $\begin{matrix} -14 \\ +2 \end{matrix}$

Vc. $\begin{matrix} -29 \\ -31 \end{matrix}$ $\begin{matrix} -14 \\ +2 \end{matrix}$ $\begin{matrix} +2 \\ 0 \end{matrix}$ $\begin{matrix} -14 \\ -31 \end{matrix}$

Pno. *8va*

(8)

175

B **G** **F#** **A**

Vln. $\begin{matrix} -49 \\ +6 \end{matrix}$ $\begin{matrix} +2 \\ 0 \end{matrix}$ $\begin{matrix} 0 \\ -31 \end{matrix}$ $\begin{matrix} 0 \\ +6 \end{matrix}$ $\begin{matrix} -31 \\ +2 \end{matrix}$

Vc. $\begin{matrix} -14 \\ 0 \end{matrix}$ $\begin{matrix} -14 \\ +2 \end{matrix}$ $\begin{matrix} -31 \\ +2 \end{matrix}$ $\begin{matrix} -14 \\ 0 \end{matrix}$ $\begin{matrix} 0 \\ +2 \end{matrix}$

Pno. *8va*

(8)

177

G **C#**

Vln. $\begin{matrix} 0 \\ +2 \end{matrix}$ $\begin{matrix} -31 \\ -14 \end{matrix}$

Vc. $\begin{matrix} -31 \\ -14 \end{matrix}$

Pno. *f*

fp cresc. poco a poco

fp cresc. poco a poco

Improvise interlocking rhythms, dodging cello

Improvise interlocking rhythms, dodging violin

(8)

183

Vln. *molto cresc.* B/C# Stop improv at end of this bar (i.e. play 185 as written) E# F# 0 -14 *ff cresc. (not harsh)*

Vc. *molto cresc.* Stop improv at end of this bar (i.e. play 185 as written) +2 0 *ff cresc.*

Pno. *molto cresc. ad lib!* 6 *ff cresc.*

Red.

187

Vln. G +2 0 A 0 -14 5/16

Vc. +2 -31 +2 0 3 3 5/16

Pno. 5/16

189 A# B

Vln. $\frac{5}{16}$ $\frac{3}{16}$ $\frac{2}{4}$ $\frac{2}{4}$

Vc. $\frac{5}{16}$ $\frac{3}{16}$ $\frac{2}{4}$ $\frac{2}{4}$

Pno. $\frac{5}{16}$ $\frac{3}{16}$ $\frac{2}{4}$ $\frac{2}{4}$

ff climactic

ff climactic

8va

7

192 A#

Vln. $\frac{2}{4}$ $\frac{3}{4}$ $\frac{2}{4}$ $\frac{2}{4}$

Vc. $\frac{2}{4}$ $\frac{3}{4}$ $\frac{2}{4}$ $\frac{2}{4}$

Pno. $\frac{2}{4}$ $\frac{3}{4}$ $\frac{2}{4}$ $\frac{2}{4}$

ff pulling away

ff pulling away

f

ff pulling away

f

8va

195 A

Vln. $\frac{2}{4}$ $\frac{2}{4}$ $\frac{2}{4}$ $\frac{2}{4}$

Vc. $\frac{2}{4}$ $\frac{2}{4}$ $\frac{2}{4}$ $\frac{2}{4}$

Pno. $\frac{2}{4}$ $\frac{2}{4}$ $\frac{2}{4}$ $\frac{2}{4}$

meno f

mf

meno

meno f

mf

meno

8vb

198 **THREE** pizz.

Vln. *mf* mechanical, on a totally different sphere to what just happened

Vc. pizz. *mp* mechanical, on a totally different sphere to what just happened

Pno. *mp* mechanical, on a totally different sphere to what just happened

mf sardonic
8vb



202

Vln.

Vc.

Pno.



206

Vln.

Vc.

Pno.

sardonic

210

Vln.

Vc.

Pno.

arco

plodding

pizz.

sardonic

silence like a vacuum

silence like a vacuum

214

Vln.

Vc.

Pno.

arco

plodding

pizz.

sardonic

218

Vln.

Vc.

Pno.

arco

a little less plodding

surging forward a little

8^{vb} *a little less plodding*

surging forward a little

Detailed description: This system contains measures 218 through 221. The Violin (Vln.) and Viola (Vc.) parts are marked 'arco'. The Piano (Pno.) part features a complex texture with a double bass line in the lower register, indicated by an '8vb' (octave below) marking. The tempo/mood is described as 'a little less plodding' and 'surging forward a little'.

222

Vln.

Vc.

Pno.

pizz.

very sardonic

(8) *very sardonic*

Detailed description: This system contains measures 222 through 225. The Violin (Vln.) part has a 'pizz.' (pizzicato) marking. The Viola (Vc.) and Piano (Pno.) parts continue the 'very sardonic' mood. A repeat sign is present at the end of the system, with a first ending bracket labeled '(8) very sardonic'.

226

Vln.

Vc.

Pno.

8^{vb}

Detailed description: This system contains measures 226 through 229. The Violin (Vln.) and Viola (Vc.) parts are mostly rests. The Piano (Pno.) part continues with the '8vb' marking. The texture is sparse, focusing on the piano accompaniment.

Meno mosso (III)

37

The musical score consists of three staves: Violin (Vln.), Viola/Cello (Vc.), and Piano (Pno.).

- Vln. Staff:** Starts at measure 230. Features a series of notes with fingerings (e.g., -14, 0, -31) and dynamics (*pp*). Above the staff are boxed letters A, E, A, E, F.
- Vc. Staff:** Mirrors the Vln. part with similar fingerings (+2, +5, -12) and dynamics (*pp*). Includes the instruction "(cello: small noteheads to be played instead of lower 8ve if part deemed too risky)".
- Pno. Staff:** Labeled "CH". It includes chords and single notes with dynamics (*mp icy*, *pp*, *p like a dying moth*, *p icy*). The tempo marking "Meno mosso" appears above the staff.

At the bottom left, there is a label "(8)" followed by a dashed line and a bracket pointing to the end of the piano part.

The musical score for "The Iceberg" by John Cage is presented in three staves: Violin (Vln.), Viola (Vc.), and Piano (Pno.). The score is in 2/4 time and consists of 15 measures. The Vln. staff begins with a treble clef and a key signature of one sharp (F#). The Vc. staff begins with a treble clef and a key signature of one flat (Bb). The Pno. staff begins with a grand staff (treble and bass clefs) and a key signature of one flat (Bb). The score includes various musical notations such as notes, rests, and dynamic markings. Performance instructions are provided for the Vln. and Vc. staves, including "icy", "threatening to warm up", "gravelly", and "icy". The Pno. staff includes a section marked (8) and a section marked 3. The score is divided into measures by vertical bar lines, and the measures are numbered 235, 236, 237, 238, and 239.

247

Vln.

Vc.

Pno.

FOUR

E^b

D

F^\sharp

0

-14

0

-2 +4 +2 -2

pp

pp

pppp

a ghostly apparition of the passage at b. 96

+28 this chord **MUST** -49 be tuned as written

-14

-31

pp

pp

pppp

a ghostly apparition of the passage at b. 96

8va

3

3

3

3

pp *ghostly pin-pricks*

The musical score for "The Great Wall" by John Cage is presented for three instruments: Violin (Vln.), Viola (Vc.), and Piano (Pno.). The score is divided into four measures, each with specific musical notations and performance instructions.

Measure 1: The Vln. staff begins with a treble clef and a key signature of one flat (Bb). The Vc. staff begins with a bass clef and a key signature of one flat (Bb). The Pno. staff begins with a grand staff (treble and bass clefs) and a key signature of one flat (Bb). The Vln. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Vc. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3.

Measure 2: The Vln. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Vc. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3.

Measure 3: The Vln. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Vc. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3.

Measure 4: The Vln. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Vc. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3. The Pno. staff has a measure rest followed by a quarter note G4, a quarter note F#4, and a quarter note E4. The Pno. staff has a measure rest followed by a quarter note G3, a quarter note F#3, and a quarter note E3.

Performance Instructions: The score includes several performance instructions: "missing tunings correspond to A series but are not that important" (repeated twice), "8va" (octave up), "15ma" (15th harmonic), "mp molto dim." (mezzo-piano, molto diminuendo), and "pp" (pianissimo).

261

C Eb/C Eb/Bb D

Vln.

Vc.

Pno.

265

F#

Vln.

Vc.

Pno.

(I) C

269

Vln.

Vc.

Pno.

p allow interference to enter the sound

15ma

C D CH

270

Vln.

Vc.

Pno.

p sit within cello sound

p warm

p more stable

(15)

p skittish and unsettled

8vb

272

Vln.

Vc.

Pno.

p expansive
already searching for F# major

(15)

(8)

8vb

275

Vln.

Vc.

Pno.

p expansive
searching for F# major

(15)

(8)

278

C **VS** **F#**

Vln. *poco cresc.* *resonant, warm, at peace*

Vc. *poco cresc.* *resonant, warm, at peace*

Pno. (15)

(secco!)

Detailed description: This system contains measures 278, 279, and 280. The Violin (Vln.) part starts with a treble clef and a key signature of one flat. It features a series of sixteenth and thirty-second notes with various accidentals and fingerings (e.g., -31, +45, -31, +6, 3, +41, +2, +4, -2, -14, +2, -14). The Viola (Vc.) part is in the bass clef and mirrors some of the rhythmic patterns with fingerings like 5, 0, -14, -14, -29, -14, -29, 0, +2. The Piano (Pno.) part has a treble clef and includes a trill marked (15) and a triplet of eighth notes. Dynamics include 'poco cresc.' and 'resonant, warm, at peace'. The system ends with a 'secco!' marking.

281 **molto rit.** ♩ = 84 //

Vln. *dim. peacefully* //

Vc. *dim. peacefully* //

Pno. **molto rit.** ♩ = 84 //

Detailed description: This system contains measures 281, 282, and 283. The Violin (Vln.) and Viola (Vc.) parts are marked 'molto rit.' and 'dim. peacefully'. They feature sustained chords and slow-moving lines. The Piano (Pno.) part is also marked 'molto rit.' and 'dim. peacefully', with sustained chords. The tempo is indicated as ♩ = 84. The system concludes with double bar lines (//).

284

289

Vln. D[#] FIVE (III) 293 G[#]

Vln. *p* rising serenely and calmly *arco* 0 +2 0 -14 -31 0 +4 *8va* -14 -49 +2 +41 -31 +45 +2 0 *sweetly* (unfurling chords like hyper-instrument) *p*

Vc. *p* *arco* 0 -14 *sweetly* (unfurling chords like hyper-instrument) *p*

Pno. (I) *p* gently pushing to end of bar *3* *3* *8va* *sweetly* (unfurling chords like hyper-instrument)

Vln. 296 D F *a little more tense* *poco cresc. tension rising*

Vc. *a little more tense* *poco cresc. tension rising*

Pno. *a little more tense* *poco cresc. tension rising*

300

Vln.

Vc.

Pno.

F^\sharp

0 +2 0

0 +5 +4 -2 -14 -49 -14

5

-31 -14 -31 +28 or -49 0

-14 +2

3

3

Ped.

302

Vln.

Vc.

Pno.

A

+5 0 -31

-31 -31 +2 +2 -14

3

*wild, unrestrained -
but not loud*

8vb

304

A#

Vln. *turn the screw* -31

Vc. *turn the screw* -14

Pno. *15ma*

8vb

305

G# **F**

Vln. *turn the screw again* -14 0 *relax a little* -14

Vc. *pp turn the screw again* 0 +2 0 -14 +2 -31 0 +4 -14 -49 +2 -27 0 *pp more relaxed*

Pno. *(15)* *turn the screw again*

8vb

[illegible]

309

Vln. *manic but quiet*

Vc. *manic but quiet*

Pno. *manic but quiet*

15ma

f

f

The musical score is for a piece titled "Manic but quiet". It features three staves: Violin (Vln.), Viola (Vc.), and Piano (Pno.). The Violin and Viola parts are in treble and alto clefs, respectively, and the Piano part is in grand staff. The score is marked with a tempo of 309. The Violin and Viola parts are marked with a dynamic of *f* (forte) and a tempo of 309. The Piano part is marked with a dynamic of *f* (forte) and a tempo of 309. The score is divided into two systems. The first system contains measures 309-314. The second system contains measures 315-320. The score is marked with a tempo of 309. The Violin and Viola parts are marked with a dynamic of *f* (forte) and a tempo of 309. The Piano part is marked with a dynamic of *f* (forte) and a tempo of 309. The score is divided into two systems. The first system contains measures 309-314. The second system contains measures 315-320. The score is marked with a tempo of 309. The Violin and Viola parts are marked with a dynamic of *f* (forte) and a tempo of 309. The Piano part is marked with a dynamic of *f* (forte) and a tempo of 309.

314 pizz.

Vln.

*cold, disconnected,
mechanical*

Vc.

*cold, disconnected,
mechanical*

Pno.

*cold, disconnected,
mechanical*

Voice 4 is ossia - but seems to work nicely as a harmonisation of v1!

319

Vln.

Vc.

Pno.

(III)

324

Vln.

Vc.

Pno.

mf skeletal

mp a little grotesque

poco f mechanical, grotesque

8va

Violin (Vln.) and Viola (Vc.) parts are shown in 8/16 and 4/16 time signatures. The Piano (Pno.) part is in 8/16 and 4/16 time signatures. The score includes fingerings, accidentals, and dynamic markings.

Measures 333-346:

- Violin (Vln.):** Measures 333-346. Key signature changes from D major to A-flat major. Fingerings: -2, -14, -29, +28, +2, +5, -49. Dynamic: *f* release tension with pleasure.
- Viola (Vc.):** Measures 333-346. Fingerings: 0, +2, 0, 3, -14, +2, -31, 0, -12, -31, +2. Dynamic: *f* release tension with pleasure.
- Piano (Pno.):** Measures 333-346. Fingerings: 7, 8va. Dynamic: *f* release tension with pleasure.

Measures 338-346:

- Violin (Vln.):** Measures 338-346. Key signature changes from A-flat major to D major. Fingerings: +2, -14, -49, +28. Dynamic: *f* release tension with pleasure.
- Viola (Vc.):** Measures 338-346. Fingerings: 0, -14, +2, -14. Dynamic: *f* release tension with pleasure.
- Piano (Pno.):** Measures 338-346. Fingerings: 15ma, 15ma. Dynamic: *f* release tension with pleasure.

340 C_b STILL NOT 53
CERTAIN OF
THIS BAR! ,

Vln. +2 -14 6 +41 0 +4

Vc. -14 0

Pno. (15)

341 (II) pizz. arco

Vln. 0 -14

Vc. +2 0

Pno. *mechanical, like a band of skeletons*

8^{vb}

343

Vln.

Vc.

Pno. (8)

345

Vln.

Vc.

Pno.

arco

suddenly heartfelt

arco

suddenly heartfelt

suddenly heartfelt

(8).....

Red.

8vb

(III)

Follow LH Piano for Harmony

348

Vln.

Vc.

Pno.

f wild, incensed

f wild, incensed

f wild, incensed (approximate clusters acceptable)

cresc. push to barline

cresc. push to barline

cresc. push to barline

350

B \flat

Vln. *f* *ecstatic, lyrical*

Vc. *f* *ecstatic, lyrical*

Pno. *f* *ecstatic*

8vb

352

F \sharp **F** **D \flat** **A** **A \flat** **B \flat**

Vln. *violent, incensed* *ecstatic*

Vc. *violent, incensed* *ecstatic*

Pno. *violent, incensed* *ecstatic*

(approx. ok)

(I)

354

Vln. Ab/F Bb F A Bb F Db

Vc.

Pno.

8va

bb. 356-7
RH: only accented Fs are important
focus on LH and approximate RH

p *mp* *f* *p*

p *f* *p*

f *p*

f *p*

SEVEN F sharp tonality

357

Vln. Ab F\# *rit.* //

Vc. *dolce* *p cresc.* *p poco cresc.* *f with a sudden collapse of momentum* *p* //

Pno. (8) *rit.* *with a sudden collapse of momentum* *f dully thudding* *p* //

with a sudden collapse of momentum

with a sudden collapse of momentum

(II)

359 $\text{♩} = 84$
pizz.

Vln. *p* calm, sweet, hesitant

Vc. pizz. *p* calm, sweet, hesitant

arco sul pont. *mf* harsh incongruous

mp

Pno. $\text{♩} = 84$ *p* calm, sweet, hesitant

mf harsh incongruous

(p)

(III)

SOMETHING AMAZING HERE?

362

Vln. arco *mp* a little berserk

Vc. ord. *f* spinning out of control

Pno. *f*

F#

58

[D] **[D/B]** **[D]**

364

Vln.

Vc.

Pno.

hammered *spinning again* *hammered*

cresc. *dim.*

0 -14 0 -14 +2 -31 -31 +2

7

3 3 3

(I)

[C#] **[E]** **[C]** **[E/A#]** **[A]**

366

Vln.

Vc.

Pno.

f *p* *f* *mp*

f *p* *f* *mp*

15ma *8va* *15ma*

f *p* *f* *mp*

+45 +2 -14 +2 -14 0 +2 -14 0 -14 +2

367

Vln. **p** *very bouncy*

Vc.

Pno.

(15)

8^{va}

15^{ma}

8^{vb}

Chords: E, D, F#, C#

Interval numbers: 0, +2, 0, -14, +2, 0, +45, -31, +2, -29, 0, -14, +2, 0

368

Vln. **f** **mp** *cresc.* **f**

Vc. **f** **mp**

Pno. **f** **mp**

(15)

8^{vb}

Chords: B, A, G#, G, F#

Interval numbers: +2, +45, 0, 7, 0, +5, +4, +28, 0, +2, -14, -31, -14, +2, -14

(II)

369 pizz. *mf* mechanical

Vln.

Vc. pizz. arco *mp* mechanical like crinkling paper

G.P. *mf* mechanical

Pno. *mp* mechanical, percussive

absurdly violent

ff

Red.

(III) [E]

372 arco *mf* dolce

Vln.

Vc. arco *più f* broadly

Pno. *f*

8^{vb}

FINAL RISE TO CLIMAX

[illegible]

ABSOLUTE CLIMAX

(I)

380 In Free Time

Vln. *ff blazing light*

Vc. *ff blazing light*

IN FREE TIME
 RH: touch nodes in piano
 LH: play written keys

Although this passage can be improvisatory, ensure there is an accelerative trajectory - the moment where the harmonic is struck needs to be earth-shattering!

fff cadenza! (poco ad lib.)

[illegible]

The musical score for 'The Dandelion' by John Cage is presented in three systems. The first system includes staves for Violin (Vln.), Viola (Vc.), and Piano (Pno.). The Vln. staff begins with a tempo of 386 and a 'pizz.' (pizzicato) instruction. The Vc. staff also has a 'pizz.' instruction. The Pno. staff starts with a measure marked (15). The score is divided into four sections: (II), (III), and (IV). Section (III) includes a table of intervals for the Vln. and Vc. staves. The Vln. staff has dynamic markings of *mf* mechanical but joyful, *f* exaggerated, heavy and lurching, *mf* warm, and *mp*. The Vc. staff has dynamic markings of *mf* mechanical but joyful, *f* exaggerated, heavy and lurching, and *mp* like the seed of a dandelion. The Pno. staff has dynamic markings of *mf* mechanical but joyful, *f* exaggerated, heavy and lurching, and *poco p* with fading ecstasy. The score concludes with a final measure in 2/4 time.

(II)

386 pizz.

Vln.

mf mechanical but joyful

(III)

arco

-31 +2

-31 +2

-29 +2

f exaggerated, heavy and lurching

mf warm

mp

Vc.

pizz.

mf mechanical but joyful

f exaggerated, heavy and lurching

mp like the seed of a dandelion

(IV)

(15)

mf mechanical but joyful

f exaggerated, heavy and lurching

poco p with fading ecstasy

(I) C

389

Vln. -31

Vc. -14

IN FREE TIME
RH: touch notes in piano
LH: play written keys

powerful *dolce, regal*

pp *peaceful*

p *peaceful, a little cold*

p

(II)

391

Vln. pizz.

Vc. pizz.

mf *mechanical, attempting to recover momentum*

mf *mechanical, attempting to recover momentum*

mf *mechanical, attempting to recover momentum*

(15)

(III)

393 G^b arco 8^{va} -31 +2

(IV)

NINE F^\sharp

(I) C^\sharp

In Free Time

Vln. p finally giving up

Vc. p finally giving up

Pno. p finally giving up

IN FREE TIME
RH: touch nodes in piano
LH: play written keys

1/5 x/7 x/3

leading to next bar

In Free Time

1/5 1/6 1/5 1/4 or 8? 1/5 2/7

suddenly tranquil

N.B. Not sure of octaves of sounding partials here
Will test at a piano again next week

(II)

396 **A tempo** -31

Vln. p warm, homely

Vc. p warm, homely

A tempo 15^{ma}

pp with a sense of resolution (don't rush)

pizz. p out of place

pizz. p out of place

p out of place

(III)

398

Vln. *arco* 0 0 +2 0 # -14 +2 -31 *pp* totally at peace

Vc. *arco* 0 0 +2 0 # -14 +2 3 3 3 3 *pp* totally at peace

Pno. *p* totally at peace *senza pedale* *pp* 8vb

(IV)

401

Vln. *G#* 8va- 0 0 +2 0 # -14 *pp* remembering the hyper-chords

Vc. 8va- -31 -31 +2 0 0 # -14 *pp* remembering the hyper-chords

IN FREE TIME UNTIL act two
RH: touch nodes in piano
LH: play written keys

$\frac{2}{9}$ $\frac{1}{8}$ $\frac{2}{7}$ $\frac{1}{6}$ $\frac{1}{5}$ $\frac{1}{4}$ $\frac{1}{3}$, $\frac{1}{4}$ or 8

2/7 alternatively: play 3/14 and sound 8ve higher

Pno. *can approximate in way of choice*

(IV)

TEN G tonality

404

Vln.

Vc.

Pno.

pp *cold, thin, absolutely no vibrato*
poco sul tasto

pp *colourless*

p *distant, glacial*

1/4 1/5 1/4 1/5 1/5

407

Vln.

Vc.

Pno.

2/7 1/5 1/5 3/14 1/6 3/14 x/6

(try to blend with harmonics i.e. ppppp)

Violin

Violoncello

Piano

long silence

long silence

long silence

The image shows a musical score for three instruments: Violin, Violoncello, and Piano. Each instrument has a staff with a treble clef and a bass clef. The Violin and Violoncello staves are grouped together with a brace on the left. The Piano staff is below them. Each staff has a single horizontal line in the middle, indicating a long silence. The text 'long silence' is written above each staff. The staves end with a double bar line.

ACT TWO

E TONALITY

(IV) E

(I) G#

(Tempo as before!)

Violin

408

pp cold, non vibrato

-2

0

-31

Violoncello

-14

-14

pp cold, non vibrato

(Tempo as before!)

Piano

IN FREE TIME

RH: notes

LH: keys

p

pp

cold

15^{ma}

8^{va}

8^{vb}

Red.

(II)

Vln.

413

pizz.

pp cold and mechanical

Vc.

pizz.

pp cold and mechanical

pp

arco

0

-29

pp

arco

0

+2

-14

0

pp

very pure

(III)

Pno.

pp cold and mechanical

pp

p

8^{vb}

(IV) B \flat (i) D (II)

420 8^{va} -14

Vln. *p* plain and thin *p* inexpressive, but relish the dissonance *pp* mechanical pizz.

Vc. *p* inexpressive, but relish the dissonance *pp* mechanical

Pno. **IN FREE TIME**
RH: nodes
LH: keys 1/4 15^{ma} *pp* *pp* mechanical

8^{vb} *hard, quiet* 8^{vb}

(III) D arco -14

425

Vln. *pp*

Vc. arco -31 -31 +41 *sempre p*

Pno. *p* 8^{vb} 8^{vb}

435 two

Vln.

Vc.

Pno.

arco -31

sempre **pp**

arco 0

+2 0 -14 -31

-14

8va

8vb

(8)

(I)

440

Vln.

Vc.

Pno.

G# **C** **E** *8va* (II)

pp *pp* *3* *15ma* *5* *8vb* *pizz.*

Detailed description: This musical score for section (I) spans measures 440 to 444. It features three staves: Violin (Vln.), Viola (Vc.), and Piano (Pno.). The Violin part begins with a treble clef and a key signature of one sharp (F#). It contains a sixteenth-note triplet (fingering -14, 0, -14, -31) marked *pp*, followed by a quarter note (fingering -14) and a half note (fingering -14). The Viola part starts with a bass clef and a key signature of one sharp. It features a sixteenth-note triplet (fingering -14, -2, +4) marked *pp*, followed by a quarter note (fingering 0) and a half note (fingering +45, -31). The Piano part consists of a right-hand staff with a treble clef and a left-hand staff with a bass clef. The right hand plays a continuous sixteenth-note pattern (fingering 5) marked *15ma*. The left hand plays a half-note pattern (fingering 8vb) marked *8vb*. The section concludes with a *pizz.* (pizzicato) instruction.

(III)

445

Vln.

Vc.

Pno.

F **D**

arco *pp* *pulsating* *with release* *3* *pp* *pulsating* *pp* *8vb* *(8)*

Detailed description: This musical score for section (III) spans measures 445 to 449. It features three staves: Violin (Vln.), Viola (Vc.), and Piano (Pno.). The Violin part begins with a treble clef and a key signature of one sharp. It contains a quarter note (fingering -49) marked *arco*, followed by a half note (fingering +28) and a quarter note (fingering -49). The Viola part starts with a bass clef and a key signature of one sharp. It features a sixteenth-note triplet (fingering +28, -49, +28) marked *pp* *pulsating*, followed by a quarter note (fingering -49) and a half note (fingering +28). The Piano part consists of a right-hand staff with a treble clef and a left-hand staff with a bass clef. The right hand plays a half-note pattern (fingering 8vb) marked *pp* *pulsating*. The left hand plays a half-note pattern (fingering 8vb) marked *pp* *pulsating*. The section concludes with a *3* (triple) instruction.

450

Vln.

Vc.

Pno.

pp pulsating

with release

15ma

8vb

8vb

453

C

(II)

four

Vln.

-31
+2

pp cold

Vc.

0

3

pizz.

pizz.

Pno.

15^{ma}

8^{vb}

(III)

 $E\flat$

457

Vln. F arco -49 $+28$ -49 $+28$ $+41$ -27 $+41$ -27 ,

Vc. $+28$ -49 $+28$ -49 -27 $+41$ -27 $+41$,

Pno. pp pulsating pp less 8^{vb} (II)

(I) D $B\flat$ B $five$ $+4$, pizz.

Vln. $+4$ -14 pp ppp , pizz.

Vc. -14 -31 $+6$, pizz.

Pno. 15^{ma} 8^{vb} 8^{vb}

466

(III) E arco 8^{va} $+2$ -31 (I) C $+4$,

Vln. pp ppp pp ,

Vc. -14 -14 pp ,

Pno. 15^{ma} pp possible 8^{vb}

(III) E seven (I)

472 (II) pizz.

Vln. arco -31 +2 -14 -14 ,

Vc. pizz. arco -14 0 -14 ,

Pno. *pppp* 15^{ma} (pp)

(II) (III) eight (IV) E (I) - disintegrate!

477 pizz.

Vln. *pp unpitched sound using string [any place on any string]* arco 8^{va} -14 +2 8^{va} +2

Vc. pizz. *pp unpitched sound using string [any place on any string]* arco 0 0

Pno. DON'T MOVE during this bar! IN FREE TIME: EXTREMELY SLOW RH: nodes LH: keys check 8ve 3 3 Red

481

Vln.

Vc.

Pno.

ppp
*unpitched sound
on A string, blend
with pitched open E*

unpitched sound on string





unpitched sound on string

*find any pitchless "node"
on any string*

The musical score is for three instruments: Violin (Vln.), Viola (Vc.), and Piano (Pno.). It consists of two systems of staves. The first system contains measures 481 through 484. The second system contains measures 485 through 488. In measure 482, the Violin and Viola parts have a performance instruction: **ppp** unpitched sound on A string, blend with pitched open E. In measure 484, the Violin and Viola parts have a performance instruction: unpitched sound on string. In measure 484, the Piano part has a performance instruction: find any pitchless "node" on any string. The score includes various musical notations such as rests, notes, and dynamic markings.

PERFORMANCE NOTES

Key:

 (Circled number)	Denotes sections of the piece (derived from underlying harmonic structure – not relevant as a performance instruction)
 (Boxed italic text)	Denotes the currently active fundamental pitch. Generally, all microtonal deviations are derived from the active fundamental (see table below).
-14, +41, 0 etc.	Deviation from equal temperament in cents. 1 semitone = 100 cents, therefore -31 is approx. a third of a semitone flat etc.
(II) (Bold, bracketed Roman numerals)	Denotes the type of material in use (see explanation)
 (Boxed fraction)	Denotes the position of piano harmonics (see explanation)
 (Square Fermata)	In the violin and cello parts, indicates that the pianist has to play harmonics inside the piano at this point (i.e. follow the pianist for timing)

Contents:

Note on playing techniques **(**)** *p. ii*

Tempo **(***)** *p. ii*

Tempo during harmonics sections **(***)**

Tempo in Act Two **(***)**

Use of overtone tuning in the string parts **(**)** *p. iii*

Harmonics 1–32 collapsed into one octave **(**)**

The First 32 Harmonics of the Overtone Series

Explanation of the harmonic series

Tuning and the harmonic series

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Piano Preparation **(***)**

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Relationship between Acts One and Two

(*)** = indicates required reading for all performers

(*) = required reading for pianist

()** = required reading for violinist and cellist

Remaining material is optional but potentially useful

Note on playing techniques:

Normal bow position / playing technique should not be assumed.

Where expressive text is given but no specific playing technique indicated, the player should feel free to achieve the desired result with any kind of bowing/extended technique they wish. For example: the marking 'gravelly' could be executed via sul ponticello bowing, or by varying bow pressure, or in many other ways.

In the violin part, a double-slashed tremolo on a double-stopped note indicates that they are to be played as a very fast slurred tremolo between the two notes.

Tempo:

Although a metronome mark is given, it need not be adhered to strictly. The semiquavers in material marked **(II)** in the score should be reasonably fast but in no way rushed.

Tempo during piano harmonics sections:

In all sections marked **(IV)** in the score (i.e. in all places where the piano plays harmonics inside the piano), tempo should be taken as being entirely free. The violin and cello should note how their parts line up with the piano part in these places and watch the pianist carefully. The pianist is in total control in all these places. Tempo reverts to normal immediately after these sections.

Where there are markings such as 'Push to barline' or 'Held Back', the tempo reverts to normal after the instruction is complete (i.e. it is not a permanent tempo change).

Tempo in Act Two:

Tempo in Act Two can be freely slowed down at will as the movement progresses. Secondly, all silent moments can be extended indefinitely. It should feel like time grows ever slower as this movement progresses.

Use of overtone tuning in the string parts:

The piece makes extensive use of pitches tuned in line with partials of the overtone series, throughout all sections of material marked **(I)** and **(III)**.

These tunings are indicated with small numbers in the string parts accompanied by + or -. All of these deviations from equally tempered tuning are derived through being partials of a local fundamental. As such, the sensible approach to learning the tuning system (if this is new to you) is to get the individual intervals on your ear, rather than purely learning to tune passages from the piece.

In the context of this piece, it may be helpful to think of the harmonic series as an alternative to a chord; in fact, as I wrote, I was thinking this way – rather than a passage being on the chord C, I thought of it as being on the harmonic series of a C fundamental.

The local fundamental is indicated in the score and parts in boxed italic text. Mainly, but not always, the fundamental is included in the played notes (most often in the left hand piano part).

Although the exact tuning desired is written on every note in the relevant sections, some of the smaller deviations from equal temperament can be freely ignored if limited rehearsal/practice time makes that necessary. They are notated anyway, so that the harmony of the piece is clear to the players at all times (e.g. it may be useful to know that your note is a minor 2nd above the fundamental, even if you do not aim to play it 5 cents sharp)

The most important interval to actually get right is the major third harmonic, which is a pure third (14 cents flatter than an equally tempered third) and should be a familiar sound to you from baroque and probably quartet playing.

Similarly, the perfect fifth (2 cents sharp) is just a pure fifth and is second nature to string players anyway.

The flat minor seventh (31 cents flat, and made famous in Britten's *Serenade for Tenor, Horn and Strings*) is also easy to get on your ear and important to get right.

The pure, warm sound of chords using these intervals (perfect major third, perfect fifth, harmonic minor seventh) is very important to the soundworld of this piece. For practical purposes, you will probably want to prioritise these and worry less about the rest.

The more extreme deviations from equal temperament (e.g. augmented fourth, minor sixth, sharp major seventh) can be approximated as quartertones or eighthtones, and by trying to find a tuning that sits well in the chord or passage. As above, the smaller ones can simply be ignored.

I would recommend listening to music such as the opening few minutes of GF Haas' *String Quartet No. 2* as part of the process for getting these intervals on your ear.

Tables of the overtones needed for this piece are on the next page.

Harmonics 1–32 collapsed into one octave:

(Shown with the C series overlaid for illustrative purposes; can be transposed to any other fundamental)

C	Dfl	D	Efl	E	F	Fsh	G	Afl	A	Afl	B
Fund	min 2nd	Maj 2nd	min 3rd	Maj 3rd	Perf 4th	Aug 4th /dim 5th	Perf 5th	min 6th	Maj 6th	min 7th	Maj 7th
0	+5	+4	-2	-14	-29	-49 +28	+2	+41 -27	+6	-31 (+30)	-12 +45

The intervals required for 2018.1 are listed above.

Row 1: named pitch, for illustrative purposes (assuming series is based on C)

Row 2: interval relative to fundamental

Row 3: all possible tunings for this interval, using the first four full octaves of the harmonic series.

N.B. the sharp minor seventh harmonic is not used in this piece

The First 32 Harmonics of the Overtone Series:

0	0	+2	0	-14	+2	-31	0	+4	-14	-49	+2	+41	-31	-12	0	+5	+4	-2	-14	-29	-49	+28	+2	-27	+41	+6	-31	+30	-12	+45	0
Fund	8v	P5	8v	M3	P5	m7	8v	M2	M3	A4	P5	m6	m7	M7	8v	m2	M2	m3	M3	P4	d5	A4	P5	m6	m6	M6	m7	m7	M7	M7	8v
	First 8ve			2 nd octave			3 rd octave								4 th octave																5 th
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

F = fundamental m = minor M = major d = diminished A = augmented

Row 1: deviation in cents from equal temperament

Row 2: interval of harmonic relative to fundamental

Row 3: octave relative to fundamental

Row 4: harmonic number (i.e. its position in the harmonic series)

Explanation of the harmonic series:

The harmonic series (or overtone series) is a mathematical and physical concept that underpins both the nature of pitched sounds and the basic intervals used in most (all?) musical cultures.

A simple way to explain the phenomenon begins with taking a taut string (say: a low C, pitched at around 65Hz). When a string is forced to sound, the resulting note is composed not just of the full string vibrating (65 times per second, in our example), but also of many other sound waves.

The frequency of these sound waves can be calculated by multiplying the fundamental frequency by each of the positive integers (1, 2, 3 etc.) in turn. Dividing the total string length by each integer in turn and touching it at that point on its length yields the next audible frequency.

For example: the next frequency produced by the C string is 130Hz ($65\text{Hz} \times 2$). This frequency is produced because each half of the string vibrates independently of the full string, and because the frequency of a sound wave produced by a string is in proportion to its length (with faster vibrations producing higher notes). We hear this doubled frequency as an octave. The third frequency produced by our C is 195Hz ($65\text{Hz} \times 3$). This frequency is produced by the string vibrating at every third of its full length. It produces a pitch we recognize as being an octave and a fifth above the fundamental (which is vibrating three times faster than its fundamental).

Each of these additional frequencies can be called a partial, or overtone, of the fundamental note. The harmonic series continues infinitely, but audible partials are limited by three factors: the limitations of our ears, the physical makeup of instruments and the fact that higher partials vibrate with less energy. [I'm not sure if this is entirely scientifically correct]

Doubling the fundamental pitch successively produces a series of octaves (therefore 65Hz, 130Hz, 260Hz, 520Hz all sound as Cs). As a result of this, each octave of the harmonic series contains twice as many partials as the previous one.

Western harmony developed out of experiments dividing strings into sections that produced pleasing sounds and noticing that dividing them into proportions relating to counting numbers produced consonant sounds, but that is a topic best discussed elsewhere...

Tuning and the harmonic series:

The intervals produced by the harmonic series are extremely beautiful, but they cause serious problems in music that requires a fixed keyboard and ventures into different keys.

A note used as a major third in one key would then be flat if used as the fundamental in a following key (meaning that the major third above that will either have to be flattened as well to sound equally beautiful, or left sounding sharp in the original key – either way, one key will not be tuned to the harmonic series).

Because of the need for composers to modulate, equal temperament gradually developed. The great loss of these pure intervals can be heard by comparing equally tempered instruments to choral singing, historically informed performance of baroque music etc. and there are many movements by contemporary composers to find ways to reintegrate tunings based on the harmonic series into classical music.

The approach used in this piece reconciles equal temperament and overtone tunings, using the conflict between the two incompatible systems as a musical tool.

PIANO PREPARATION AND HARMONICS

Preparation of piano:

The top octave of the instrument (C to C) should be prepared with soft fabric draped over the strings so that the sound is heavily damped/muted, but still clearly pitched. There should be next to no sustain on these notes. This could be achieved with cloth weighed down lightly, or with several layers of heavy cloth.

The second-highest octave should be damped more lightly, so that the sound is halfway between the prepared top octave and the normal sound of the rest of the instrument. This can be achieved with a single layer of clothing (e.g. a jumper) without weight applied.

Playing piano harmonics:

Piano harmonics (played inside the piano) are used in the piece. The player should mark the dampers of relevant strings for easy reference and may also wish to mark nodes (e.g. with tiny pieces of paper tape or small pieces of yarn).

Piano harmonics are played with one hand touching a harmonic node on a string of the instrument, with the other hand depressing the key. Generally, the pedal should be held down in passages featuring piano harmonics.

Notation:

The harmonics are notated in the following way: the bottom stave of the piano part features the keyed note, and a diamond notehead on the staff above notates the desired sounding pitch. Over this is a boxed fraction x/y . In this fraction, the most important number is the denominator (y), which indicates the sounding partial.

The entire fraction represents the exact position of the harmonic on the string, relative to the player's end of the string. For example: the fraction $2/7$ indicates that the required node is two sevenths of the string length away from the player and will sound as a seventh harmonic. This harmonic could also be sounded $3/7$, $4/7$ etc. down the string – but these are less easy to reach.

Further details:

Different harmonics work well on different pianos (in terms of both sound and accessibility). Because of this, the player should take license to swap a harmonic for one which sounds at the same note, if they are struggling to reliably reproduce the required note. Any harmonic multiplied by 2 will sound an octave higher. This means that $x/14$ is an octave higher than $x/7$. Transferring harmonics up or down an octave is acceptable in *2018.1* when it does not disrupt a melodic line. This is relevant to the following harmonics used in the piece: $1/6$ & $1/3$; $2/7$ & $3/14$; $1/8$ & $1/4$.

The following harmonics are used in the piece, on various fundamental strings:
 3^{rd} , 4^{th} , 5^{th} , 6^{th} , 7^{th} , 8^{th} , 9^{th} , 14^{th} , 15^{th}

Of these, all but the 15^{th} can be found within the space of about eighteen inches in front of the dampers (further than the dampers from the player) on a Yamaha C3. I intend to check on other pianos if possible.

The 15^{th} harmonic is used once, on the lowest C of the piano, and can be found a couple of inches behind the dampers, in a very dense area of harmonics – it has a very strangled sound.

Excellent diagrams and information can be found at pianoharmonics.com and further information and advice can be obtained from the composer at sebastian.adams@hotmail.com

Structure of the piece:

Overlaid structures:

2018.1 unfolds several structures of varying complexity simultaneously.

The simplest structure is the relationship between the two movements (or Acts) of the piece, which are closely modelled on one another but very different in size and impact.

Two complex structures are articulated by the material (with alternating sections that get longer towards the middle of the piece) and long-term harmony (beginning with extremely long sections and gradually shortening them).

The harmonic and material structures have two overlapping points (firstly: the first global change in harmony happens at the moment that the pockets of material begin to get longer; the second is discussed in the next paragraph) but other than this they are not synchronised.

Alongside these formulaic structures is a more intuitively figured out goal-driven structure which controls the ebb and flow of musical tension. This structure is framed around two climaxes, which are both linked to important structural points in the material and harmony. The first is around bb. 153–200, led in from around b. 140. The centre of this climactic area is the point at which the pockets of material are at their longest, and it takes up the tonal section labelled ‘TWO’. The second climax (b. 378) could be thought of as the absolute climax, and it combines the arrival of tonal section ‘EIGHT’ (in C major) with the return to the shortest pockets of material, and also the reintegration of material type **(IV)**.

Although the note row (discussed below) is the essential driver of the harmonic structure, it can also be thought of a structural device in its own right. I believe it delivers an audible impression of their being some sort of internal logic driving the piece along – this is made especially obvious in sections **(II)**, where the logic is brought to the surface of the music.

Material:

2018.1 uses four distinct types of material, which are presented in consecutive order repeatedly throughout the entire piece.

Material and Structure:

Material type (IV) is used only at the start and end of each movement, serving as an audible structural marker. Outside these sections, the order is: **(I) (II) (III) (I) (II) (III)** etc.

The sections of material begin as fragments and get gradually longer towards the middle of the piece, reaching a maximum length of around 32 bars per section before fragmenting again as the end approaches, blurring the line between local phrasing and global structure. A similar process occurs in the short second movement.

All four kinds of material are derived from stage directions from the opening page of Beckett’s *Happy Days*. These directions are paraphrased below for reference. The material types/sections are denoted throughout the score with the markings **(I) (II) (III)** and **(IV)**, but will be immediately obvious anyway.

(II) should be seen as a disruptor of **(I)** and **(III)**, getting in the way of their relatively coherent dialogue. **(IV)** should come from an entirely different temporal world, totally stopping the progress of the piece whenever it appears.

Each of the material types undergoes radical changes from the descriptions below, but these lines of text should be kept in mind throughout.

(I) *expanse of scorched grass rising*

- low fundamentals played in left hand of piano
- muted, very high fast notes in piano, spinning out of the rest of the material
- spectrum of fundamental notes filled out by strings playing partials

(II) *maximum of simplicity and symmetry*

- very mechanical music, directly quoting and transforming the generative note row (see below), for example with canons, inversion etc.
- it is very important to note (see structure, above) that the internal logic of the piece is being brought to the surface in (II). This is reflected in the expressive text, and should be in your thoughts as you play it.
- uses standard tuning (i.e. not overtone tuning, but not necessarily precisely equally tempered)

(III) *blazing light*

- generally more sonorous, dense chords

(IV) *pauses, bells, gazes*

- piano harmonics; time stops; very little happening in the string parts
- the tonal landscape of piano harmonics is different again from both standard tuning and overtone tuning.

Generative Note Row:

The words of the Irish folk song *Óró, sé do bheatha 'bhaile* were used to create a long series of notes which formed a grid on which the whole piece sits. Every event in the piece is developed from a note taken from this grid, and each of these events occurs at the rhythmic position of the note from the note row. In **(II)**, sections are taken verbatim from the note grid and then processed (see Material). Elsewhere, a single note from the row is generally used as the seed (mostly the piano fundamental) for an entire phrase.

The folk song includes a chorus which repeats the title three times, thus forming a distinctive pattern of notes. This chorus figures large in the final piece and was used as a defining presence in the harmonic structure of the piece (see Harmonic Structure).

The entire song contains 612 letters (or notes), and the repeated motif in the chorus lasts 21 notes. A larger structure is created using these as a base (again, see Harmonic Structure)

The letters of the Irish alphabet were converted to pitches in an arbitrary fashion, with each letter mapped to a pitch between 0 – 11. I created a Max patch (*with bach.score object*) to convert the text into numbered notated pitches.

The idea to use a generative note row in this manner came from attending an analysis seminar on Beat Furrer's Piano Concerto given by a student at Columbia University in March 2018 (unfortunately, I can't remember his name). I began working on the piece just after this.

Harmonic Structure:

In the first movement, the generative note row is repeated over and over, with sections cut from the start and end with each repetition. In this fashion, the note row is gradually reduced from 612 notes until it lasts the 21 notes of the repeated motif (or chorus) discussed above. Each of these sections is a harmonic region (i.e. it is based on a home pitch), and therefore there is a gradual progression from extremely long/stable harmonic regions to extremely short ones over the length of the entire first movement. The individual note-row sections (11 in total) are transposed, using the uniquely occurring pitches from the chorus. The order of the transposed sections is derived by arcing outwards from the E [the tonic note of the note row in its original transposition] that appears at the centre of the chorus (a coincidental, but rich occurrence) – so that the global harmonic structure of the piece reflects the chorus material. F sharp is repeated a second time as there are more pitches on the opposite side of the arc, and F sharp occurs joint most-often in the original chorus.

These sections are denoted in the score by spelled out numbers enclosed in a circle (see **Key**)

Chorus:

F# G# F# A G# F# F E B G D Bb B D E B D C D G

Unique notes of chorus, in order of appearance:

F# G# A F E B D Bb C G

Including a mistake, where G is left out of its actual first appearance – I can't recall whether this is simply an error or if I had a reason for this, but the final structure of the piece reflects this error/forgotten manoeuvre

Harmonic structure of Act One, arcing the unique chorus notes outwards from E in order of appearance:

E F B A D G# Bb F# C [F#] G | E (act two)

Act Two is made up of one full instance of the note row (612 notes), and therefore the same mechanism could not be applied in it. Instead, I mapped the exact sizes of each tonal section of the first act on to the original note row, and divided the piece into sections based on that. At each section, I excluded a note. At the beginning of the movement, C# and D# are already excluded, as they are not present in the tone row. Notes are then excluded until gradually only an E major chord is left. Eventually, no notes remain at all. The notes are removed in the order they appear in the harmonic series of E, which achieves the dual purpose of linking the tonal language and structure of the piece together, and of bringing about a gradual and systematic rejection of dissonant intervals.

This order is as follows:

[C# D#] A G F C Bb F# D G# B E

The final bars of the piece consist purely of unpitched noise.

Relation between Acts One and Two:

The reason for act two's harmony being a microscopic version of act one is that the structure of the piece is modelled on ideas from Beckett's plays *Happy Days* and *Waiting for Godot*, which I was reading as I started writing the piece (spurred by the commission for the Beckett Series). The former comprises two acts of disproportionate lengths, and the proportions of my piece are modelled on that (somewhere in the region of 4:1 in favour of act one). In *Godot*, the second act essentially presents the same sequence of events as the first (like my piece). From *Happy Days* again, the fact that the second act is bleaker (emphasised by Winnie sinking even further into the ground when the act opens) led me to the idea that the second act should take the most fragmentary moments of the first as its starting point and take them to an extreme point.