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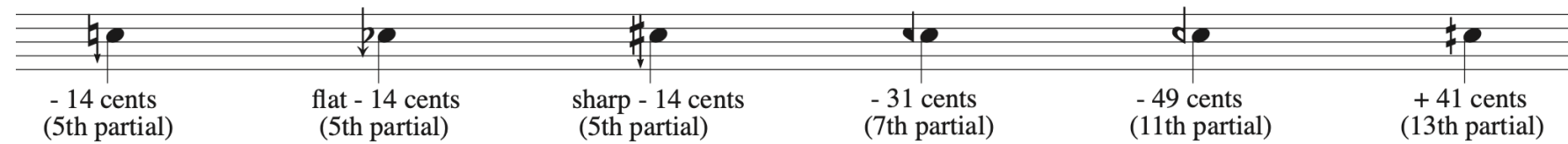
Liminalities

(2023)

flute, bass clarinet, trombone, piano, percussion, violin, cello
with digital signal processing

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Accidentals: Accidentals carry through the measure, but only in the octave in which they are indicated. The following accidentals are used to indicate just-tuned intervals:



Dynamics: The dynamic marking *n* is frequently used to indicate notes that begin imperceptibly and gradually fade in over the length of the indicated crescendo. Similarly, decrescendos that end at a rest without a dynamic marking indicate a complete diminuendo to silence. Please note the starting and ending points of these transitions precisely.



Thrown bow: Jeté, or "thrown bow" technique for strings is indicated by a slur following the note with a series of dots underneath it:



The motion begins at the indicated note, and the bow is then allowed to freely bounce as long as possible until preparing the next note.

Trills: Trills are always a whole step, unless indicated otherwise.

Contact:

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Additional information may be found on the following website: <http://rand.info>

Liminalities

♩ = 80

The score is for the piece "Liminalities" in C major, 4/4 time, with a tempo of 80 beats per minute. It features seven instrumental parts: flute, bass clarinet, trombone, piano, vibraphone, violin, and cello. Each instrument part is accompanied by a DSP (Digital Signal Processing) track. The flute part starts with a dynamic marking of *mf*. The bass clarinet part starts with *f*. The trombone part starts with *f* and includes a DSP note: "4 echoes (120 ms) panning left to right, barely audible at first gradually increasing in amplitude through ms. 7". The piano part starts with *f* and includes a *ff* marking with a *soo* (sustained) marking. The vibraphone part starts with *mp*. The violin part starts with *pizz.* and *f*. The cello part starts with *pizz.* and *f*. The DSP tracks for the flute, bass clarinet, and cello include numerical values: +41, -49, +41, +41, +41, -49, +41, -12 for the flute; and -49, -31, -31, -31, -49, -49, -31, -31 for the cello.

fl

dsp

+41 +41 -49 -12 -12

sfzpp *ff* *f*

delay (160 ms) with feedback panned left

bs. cl.

dsp

+41 -12 -49

sfzpp *ff* *f*

delay (200 ms) with feedback panned right

trb.

dsp

(echoes) (echoes, as before)

sfzpp *ff* *f*

delay (120 ms) with feedback in center

pno

dsp

-49 -49 -31 -31 -49 -49 -31 -31 -49 -31

f *mf*

delay (140 ms) with feedback panned left

vib.

dsp

f *mf*

vln.

dsp

-49 -49 -31 -31 -49 -49 -31 -31 -49 -31

pizz. *arco* *sfzpp* *pp* *ff* *f*

delay (140 ms) with feedback panned left

vc.

dsp

pizz. *arco* *sfzpp* *pp* *ff* *f*

fl
dsp
bs.cl.
dsp
trb.
dsp
pno
vib
vln
dsp
vc
dsp

The musical score is divided into six systems, each with a main staff and a DSP (Digital Signal Processing) staff. The instruments and their DSP annotations are as follows:

- fl (Flute):** DSP includes delay with feedback and gain adjustments (+41, -49, -29, +41).
- bs.cl. (Bass Clarinet):** DSP includes delay with feedback and gain adjustments (+2).
- trb. (Trumpet):** DSP includes delay with feedback.
- pno (Piano):** No DSP annotations.
- vib (Vibraphone):** No DSP annotations.
- vln (Violin):** DSP includes delay with feedback and gain adjustments (-31, -49, -31, -31, -31).
- vc (Violoncello):** DSP includes delay (180 ms) with feedback panned right and gain adjustments (-49, -31).

Dynamic markings and performance instructions include *sfzp*, *ff*, *mf*, *f*, *n*, *pizz.*, *arco*, and *arco n.v.*. The score also features various time signatures (4/4, 3/4, 5/4) and articulation marks like *leg.* and **.*

♩ = 60

fl
dsp

mf
+41 +41 -49
delay with feedback

n f
+41 +41 -12
delay with feedback

bs.cl.
dsp

f
delay with feedback

sfzp f
-29 +41b
delay with feedback

sfzp f
+41 +41 -12
delay with feedback

n f
+45 -29b
delay with feedback

trb
dsp

f
delay with feedback

sfzp f
-29 +41b
delay with feedback

f sfzp mf
+41 +41 -12
delay with feedback

gliss (up 1/4 tone)
6 6
multi-tap delay with feedback
pp

♩ = 60

pno

f
Reo

mf
Reo

mf
Reo

f
Reo

mf
Reo

vib

mf
Reo

f
Reo

mf
Reo

f
Reo

vln
dsp

pizz f
-49 -49 -31
delay with feedback

arco n f
-12 -14
-12

pizz f
-49 -49 -31
delay with feedback

arco n f
-12 -14
-12

vc
dsp

pizz f
-49 -49 -31
delay with feedback

arco n f
-31 -31
-31

pizz f
-49 -49 -31
delay with feedback

arco n f
-31 -31
-31

fl

dsp

n *mf* *n* *mf* *ff*

+41
-29

12 -2

bs.c.

dsp

n *f* *n* *f*

trb

dsp

pp *mf* *mf* *f*

gliss (up 1/4 tone)

3 6

multi-tap delay with feedback

pno

Leg.

vib

vln

dsp

n *f* *n* *f* *n* *f* *ff*

gliss (up 1/4 tone)

-2b
-49

-29
-31

-49 +41

vc

dsp

n *f* *n* *f* *n* *mf* *ff*

(-31)

-31

fl *sfzp* *mf* *n* *mf*

dsp +41 -49 -49 +41 +41 ⁻¹² ₋₂₉ +41

bs.cl. *f* *sfzp* *f* *n* *mf* *f*

dsp

trb *mf* *sfzp* *mf* *gliss (up 1/4 tone)*

dsp

pno *f* *scd.* * *scd.* *

vib *mf* *f* *mf* *f*

vln *pizz.* *f* *arco* *n* *mf* *pizz.* *f* *arco* *n* *mf* *pizz.* *f*

dsp -49 -29 -31 -31 -31 ⁻⁴⁹ ₊₄₁ -49

vc *pizz.* *f* *arco* *n* *mf* *pizz.* *f*

dsp ⁻³¹

fl

dsp

bs. cl.

dsp

trb

dsp

pno

vib

vln

dsp

vc

dsp

fl: *n* → *f*, *mf*, *n* → *f*

bs. cl.: *n* → *f*, *sfz* → *f*, *sfz* → *mf*, *ff*

trb: *sfz* → *mf*, *gliss (up 1/4 tone)*

vib: *mf*, *f*, *mf*

vln: *arco sul pont.*, *pp* → *f*, *pizz.*, *f*, *arco*, *n* → *f*, *pizz.*, *arco*, *n* → *mf* → *ff*

vc: *arco sul pont.*, *pp* → *f*, *pizz.*, *f*, *arco*, *n* → *f*, *pizz.*, *arco*, *n* → *mf* → *ff*

fl
dsp

bs.cl.
dsp

trb.
dsp

pno

vib

vln
dsp

vc
dsp

fl
dsp

bs.c.
dsp

trb
dsp

pno

vib

vln
dsp

vc
dsp

Dynamic markings: *n*, *mf*, *ff*, *f*, *sfzp*, *f*, *mf*, *f*, *mf*, *f*, *n*, *mf*, *f*, *mf*, *f*, *mf*, *n*, *f*, *n*, *mf*, *n*, *mf*.

Performance instructions: *arco*, *pizz.*, *gliss (up 1/4 tone)*.

Capo markings: +41, -12, -29, -49, +6, -31, -49, +41, -31, -49, +41, -12, -31, -49.

fl
dsp

bs.cl.
dsp

trb
dsp

pno

vib

vln
dsp

vc
dsp

This musical score page includes the following staves and details:

- fl (Flute):** Treble clef, 4/4 time. Features a melodic line with dynamics *ff*, *sfzp*, and *ff*. Includes fingerings 5 and 6, and trills.
- dsp (Drum Set):** Treble clef. Includes a +41 measure rest.
- bs.c. (Bassoon):** Bass clef, 4/4 time. Features a melodic line with a dynamic *f*.
- dsp (Drum Set):** Bass clef.
- trb (Trumpet):** Bass clef, 4/4 time. Features a melodic line with a dynamic *f*.
- dsp (Drum Set):** Bass clef.
- pno (Piano):** Treble and Bass clefs, 4/4 time. Features complex textures with dynamics *mf* and *ff*. Includes fingerings 6, 3, and 3, and a double bar line with an asterisk.
- vib (Vibraphone):** Treble clef, 4/4 time. Features a melodic line with a dynamic *f*.
- vln (Violin):** Treble clef, 4/4 time. Features a melodic line with a dynamic *f* and a -31 measure rest.
- dsp (Drum Set):** Treble clef. Includes a -31 measure rest.
- vc (Violoncello):** Bass clef, 4/4 time. Features a melodic line with a dynamic *f*.
- dsp (Drum Set):** Bass clef.

fl

dsp

bs.c.

dsp

trb

dsp

pno

vib

vln

dsp

vc

dsp

fl

dsp

bs.c.

dsp

trb

dsp

pno

vib

vln

dsp

vc

dsp

fl

dsp

bs. cl.

dsp

trb

dsp

pno

vib

vln

dsp

vc

dsp

-49

-12

ff

p

ff

5

3

3

ff

f

sfzp

ff

p

ff

f

5

3

3

Loco

** (loco)*

sost.

mf

ff

f

Loco

Loco

f

Loco

7

arco op

ff

3

3

5

5

mf

ff

pizz.

f

Loco

vc

ff

arco

mf

ff

fl

dsp

bs.c.

dsp

trb

dsp

pno

vib

vln

dsp

vc

dsp

84

Musical score for page 14, measures 84-88. The score includes parts for flute (fl), bassoon (bs.c.), trumpet (trb), piano (pno), vibraphone (vib), violin (vln), and cello (vc). The score features various musical notations such as dynamics (*f*, *sfzp*, *ff*, *p*, *mf*), articulation (accents, gliss), and performance instructions (*arco op*, *pizz.*). The time signature is 4/8.

fl *mf* 5 *ff* 3 7 *f* *ff* 5 *sfzp* *ff*

bs.c. *sfzp* *ff* 5 *mf* *ff*

trb *sfzp* *f* 3 *sfzp* *f* *harm.*

pno *f* *Lea.* * *Lea.* * *Lea.* *mf* 6 6

vib *f* *Lea.* 5 * *mf*

vln *pizz.* *f* -31 -49 -31

vc *arco* *ff* 5 *mf* *ff* *p* *ff* *pizz.* *f* *arco* 5 *mf*

fl
dsp

bs. cl.
dsp

trb
dsp

pno
dsp

vib

vln
dsp

vc
dsp

fl *ff* *sfzp* *ff* *mf* *ff* *sfzp* *ff*

bs.c. *ff* *f* *sfzp* *ff* *f* *sfzp* *f*

trb *sfzp* *f* *harm.* *f* *harm.* *8vb*

pno *8vb sost.* *6* *6* *6* *6* *3* *3* *3* *3* *8vb sost.* *p* *ff* *8vb* *8vb*

vib *mf* *f* *8vb* *mp* *f* *3* *mp* *f* *5*

vln *pizz.* *f* *-31* *-31* *-31*

vc *arco sul pont.* *p* *ff* *5 pizz.* *arco (ord.)* *pizz.* *arco* *5* *3*

fl
f p f sfzp ff mf ff

bs.cl.
sfzp f sfzp f sfzp ff

trb.
sfzp f sfzp f sfzp f sfzp f

pno.
g^{ub} loco p f

vib.
f

vln.
ff arco op p ff pizz. arco op mf ff

vc.
pizz. arco p ff f pizz. arco mf ff pizz. sul pont. p

fl
dsp

bs.c.
dsp

trb
dsp

pno
dsp

vib

vln
dsp

vc
dsp

fl

dsp

bs.cl.

dsp

trb

dsp

pno

vib

vln

dsp

vc

dsp

ff 6 f

sfzp ff

mf ff 6

ff 5 sfzp ff

sfzp ff

sfzp f

harm. f

sfzp f

harm. sfzp f

p 3 ff

mf ff

8vb sost.

mp f

mf ff

pizz. arco op

pizz. arco sul pont. 5 pizz. arco (ord.)

pizz. arco mf ff p

fl

5 *sfzp* 5 6 *ff* 6 *f* *p* *f* *sfzp* *ff* *mf* 5 5 6 *ff*

bs.cl.

5 *ff* *mf* *ff* *f* *sfzp* *f* *f* *p* *f*

trb.

sfzp *f* *sfzp* *f* *harm.* *8vb loco* *sfzp* *f*

pno.

6 6 3 3 3 3 5 3 3 *p* *ff* *f* *8vb sost.* *8vb* *sost.* *p* *ff*

vib.

5 3 3 *mp* *f* *8vb* *8vb* 5 3 5 5 *

vln.

5 5 *mf* *sfzp* *ff* *marcato* *pizz.* *arco esp.* *arco op* 3 3 5 5 *mf* *ff*

vc.

ff *pizz.* *arco* *pizz.* *arco* 5 *mf* *ff* *mf* *ff* *pizz.* *arco* *pizz.* *arco* *p* *ff*

fl
dsp

Musical score for Flute (fl) and Double Bassoon (dsp). The flute part features a melodic line with slurs and dynamic markings of *mf*, *ff*, *f*, *mf*, *ff*, *f*, and *ff*. Fingerings are indicated with numbers 5, 6, and 7. The double bassoon part is mostly silent.

bs.cl.
dsp

Musical score for Bass Clarinet (bs.cl.) and Double Bassoon (dsp). The bass clarinet part has a melodic line with slurs and dynamic markings of *sfzp*, *ff*, *sfzp*, *f*, and *sfzp*. Fingerings 3 and 5 are shown. The double bassoon part is mostly silent.

trb.
dsp

Musical score for Trombone (trb.) and Double Bassoon (dsp). The trombone part includes a *harm.* section and *loco* markings. Dynamic markings are *sfzp* and *f*. Fingerings 3 and 5 are indicated. The double bassoon part is mostly silent.

pno.
dsp

Musical score for Piano (pno.) and Double Bassoon (dsp). The piano part features complex textures with chords and arpeggios. Dynamic markings include *sost.*, *p*, *ff*, *mf*, *ff*, *f*, and *Lo.*. Fingerings 6 and 5 are shown. The double bassoon part is mostly silent.

vib.
dsp

Musical score for Vibraphone (vib.) and Double Bassoon (dsp). The vibraphone part has a melodic line with slurs and dynamic markings of *Lo.*. Fingerings 7, 3, and 5 are shown. The double bassoon part is mostly silent.

vln.
dsp

Musical score for Violin (vln.) and Double Bassoon (dsp). The violin part includes *esp.* markings and dynamic markings of *mf* and *ff*. Techniques like *pizz.* and *arco op* are used. Fingerings 5 and 3 are shown. The double bassoon part is mostly silent.

vc.
dsp

Musical score for Viola (vc.) and Double Bassoon (dsp). The viola part has a melodic line with slurs and dynamic markings of *mf*, *ff*, *p*, *ff*, *mf*, *ff*, *pizz.*, *arco*, *pizz.*, *arco*, *pizz.*, and *arco*. Fingerings 5 and 3 are shown. The double bassoon part is mostly silent.

fl

ff 5 f 3 3 ff 5 sfzp ff 5 mf f 6 6 6 pp

bs.cl.

ff sfzp f mf ff f sfzp

trb

harm. mute (tbd)

pno

mf (loco)

vib

mf

vln

p ff esp. mf ff arco op f

vc

pizz. arco p ff pizz. 3 arco mf ff pizz. 3 arco sul pont. p f

fl
dsp

bs. cl.
dsp

trb.
dsp

pno

vib.

vln.
dsp

vc.
dsp

rit. ♩ = 48

♩ = 80

fl

n mf n mf p

#2 #29

+41 -49

bs.cl.

n mf n mf n p p

trb.

n mf n mf p

pno

rit. ♩ = 48

♩ = 80

3 # 3 (b) 3 p 3

8^{vb} 8^{vb} mp 8^{vb} *

vib

3 3 5 3 3 3 mp p pp *

vln

n mf mp

-49 -12 -49 -31

vc

n mf n mf mp

dsp

fl *bisbigliando*
 dsp *mf* *p* *mf*
 +41 -12 +41 -49 +41 +41 -49 +41 -12

bs.cl. *pp* *mf* *pp* *p* *mf*
 dsp

trb *p* *mf* *p* *mf*
 dsp *gliss (up 1/4 tone)*

FINE
 8.11.22.1.23.34.13

pno *mp* *mf*
 dsp *Reo.* *loco*

vib *mp* *p* *mf*
 dsp *Reo.*

vln *pizz. arco sul pont.* *arco (ord.)* *pizz. arco* *pizz.*
pp *mf* *mp* *p* *mf* *mp* *mf*
 dsp -31 -31 +41 -49 +41 -49 -49 -31 -49 -49 -31 -49 -31

vc *pizz. arco* *pizz.*
p *mf* *mf*
 dsp