

*still & stretched:
a mute tumult of memories*

for digitalized boxes and chamber ensemble

heather b. frasch (2017)

Flute (Alto and Bass Flute)

Clarinet (Contrabass and Bb Clarinet)

Percussion

Harp


Electronics

Performance Notes:

General


Score is transposed. Bass flute sounds an octave lower than written. Alto flute will sound a perfect fourth below. Bb clarinet will sound a major second lower than written and Bb contrabass clarinet will sound two octaves and a major second lower than written.

Microtones


 One-quarter sharp, one-quarter flat and 3-quarters sharp.
To be played as accurately as possible.

Fermata sections


 = precise duration of fermata. Given example is 40 seconds


 = approximate duration of fermata. Given example is between 30 and 40 seconds.
When no time is give, duration is at the discretion of the performers.


Winds

 = air sounds: no tone. breathy white noise sounds only. Dynamics should be respected accordingly.
Example shows a quarter and a half note.

 = air sound + flutter with tongue. No pitch. When **flz only** is indicated for the flute, no air should be used.

 = *saliva sound*: Flutist should accumulate a bit of saliva in the mouth and gently slurp through tube while inhaling to create a subtle gurgling effect. The character of the sound should be not be aggressive or overly animated.

 = *small tongue taps*: On the clarinet the tongue should lightly tap against the reed without an aggressive slap sound. Mouth should be slightly open to produce quiet and wet-like tapping sounds. Finger given note but no extra air or pitch should be added to the sound.
On the flute the tongue should start between the teeth and pull back like the pizz. technique for single sounds. *Tk* should be a fast double tongue effect. In this piece all tapping sounds occur inside the flute. Finger given note but no extra air or pitch should be added to the sound.

 = as many taps as possible in given time frame.

Multiphonics for clarinet are taken from the following website resource: <https://heatherroche.net/2015/09/25/a-selection-of-contrabass-clarinet-multiphonics/>

Multiphonics for flute are found on: <http://www.bassflute.co.uk/06-multiphonics/multiphonics-fingering-chart.html>

Pitches are approximately transposed accordingly. Fingers have come from these resources. If alternations are necessary, the performer should respect the pitches as closely as possible while retaining the character of the phrase.

Amplification: Both winds instruments should be equipped with an amplification system that can be turned on and off during the performance without making extra noise. For the flute only the alto flute needs to be amplified.

Harp

Plectrum: two string instrument bows, 2 guitar pics, fishing wire, two soft timpani mallets, metal tuning key, honey spoon, thick piece of cloth or felt, baking paper, milk foamer, soft bristle brush (paint or make up)
 All indicated harp techniques used in this piece can be found at: harpnotation.com



= *bow strings*: strings should be bowed using a string instrument bow. The bow should be inserted horizontally between two strings with the bow hairs facing the string with the written pitch. The bow is drawn over that string to make a sound. It may be necessary to push the string that is not supposed to be played out of the way.



= *slow whistling sounds*: whistling-like sounds created by slowly sliding the palm down the strings in an imprecise location. Hands should move only in a downward fashion. Sounds should be a soft and continuous murmuring sound. Notation indicates right and left hand coordination which can be altered to accommodate comfort of the harpist.



= *use timpani mallets on strings*: tremolo created using two very soft timpani mallets



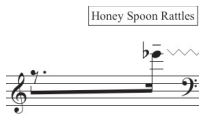
= *milk foamer*: A soft piece of tape or fabric should be attached to foaming circle, acting like the blade of a fan. Then it should hit the strings repeatedly, creating a long sustained note. At m 53: Fan should be used in between tuning and bridge pins very delicately, so barely audible pitches emerge.



= *muted effect*: Palm should mute the strings as firmly as possible to eliminate resonance. Finger tremolo is created by quickly moving other hand rapidly to create a flutter-like effect, (m33) or by using milk foamer to create a more erratic and animated flutter effect (m39). Placement is non-specific.



= *tuning peg*: A metallic tuning peg is held horizontally and pressed against the string. The other hand plucks the string and then the tuning peg is moved slowly down to create a short glissandi sound. Sound should be delicate.



= *honey spoon rattles*: a wooden honey spoon should be placed between the Eb and F strings as notated. (The object must have the right diameter to fit between the strings and not slip down.) It should be pulled gently by the fingers and the rattle should decay naturally after.



= *guitar pic*: use guitar pic to pluck strings instead of fingers. At m. 46, a double guitar pic tremolo between tuning and bridge pins is created with a back and forth motion for a guiro-like sound.

m 64: Strings should be prepared with paper and a thick felt in the given ranges to effect the sound. The material should be threaded between strings in the lower half of the strings. Then strings are played in a regular way. The felt or thick cloth should be woven in such a way that the strings are as muted as possible.

b.d.l.c = bas dans les Cordes

p.d.It = Près de la table



p.d.ch = Près de chevilles : play in the area between tuning and and bridge pegs. At m45, movement and placement should be ad. lib. while LH fingers move in an erratic flutter motion.

Xyl. = *Xylophonic Sounds*: One hand mutes the string by pressing fingers close to the sounding board. The other hand plays the string normally.

Tuning:

These pitches should be tuned accordingly at the beginning of the piece:

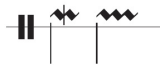


Amplification: Harp should be equipped with an amplification system that can be turned of and off while playing.

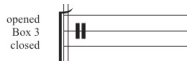
Percussion:

Percussionist plays 3 digitalized cigar boxes with objects and electronics. Technical information about the set up for the boxes and electronics is below. The percussionist should keep in mind that discretion about objects inside of the box is an important aspect when playing the piece.

Objects: 2 thin wooden sticks, Half of 1 small clothes attached to a long fishing wire, 2 small wooden pencils, a pinecone that has thin edges so that it can be crinkled, 2 thin but long pieces of wood (15 cm x 7 cm) , 2 small metallic can lids (such as from a can of coffee)



= *transducer rattle*: Box 1 will contain 2 small transducers. The percussionist will need to carefully place the objects on top of the transducers to create a rattle effect. The noteheads are equivalent to a filled and white notehead respectively. So given example shows a quarter and a half note.



= *open/close clef*: Box 3 contains a sensor that measure the opening/closing distance of the boxes. The notation is indicated with the bottom line representing the box being completely closed and the top line when it is completely opened. The middle line and spaces are approximate distances in between. Starting at m 81, positions are precise. They can be found by listening closely to the pitches emerging from transducer.

Trigger clef indicates when the foot pedal should be pushed in order to control the electronics.

Electronics:

Equipment: 3 Digitalized Cigar Boxes, Computer running max/msp, 4 channel speakers, foot pedal trigger, sound card, small amplifier and arduino board.

The 3 Cigar Boxes are digitalized in the following way:

Box 1 = contains 2 small transducers which are connected to a small amplifier and receive outs 5 and 6 from sound card. It also contains 1 small microphone.

Box 2 = contains 1 small microphone

Box 3 = contains a short distance infrared sensor and an electronic rubber string. Needs to be connected to the arduino board

Boxes can be provided by the composer or re-created.

A foot pedal connected to the computer is also needed to control the overall electronics. All processing goes through the computer using max/msp/jitter and sent to 4 Channel speakers.

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Transposed Score

heather b. frasch

for Digitalized Boxes and Chamber Ensemble

Flute (Alto Flute) G.P. "5-7" "40" G.P. "10"

Bb Contrabass Clarinet

opened Box 3 closed

Percussion

Trigger

Harp

Electronics

Soundfile + Sinetones

Amplification OFF

p

$\bullet = c. 50$
Cloud-like

A. Fl.

Bb Contrabass Cln

Box 1

Perc.

Trigger

Harp

Electronics

Amplification On

Amplification Off

Saliva only - (No pitch)
Very gentle slurping
with inhaled
INSIDE

ppp

n

ppp

p

Open

2 very thin sticks

place on top of transducer so objects will lightly rattle

pp

Slow Palm Whistles
Downward Motion*

⊕ R.H.

⊖ L.H.

ppp

sim.

Honey Spoon Rattles

pppp

n

b.d.l.c.

*Sweep Rhythms may be slightly altered in order to accommodate a comfortable hand position

Processing: on Flute and Sticks
Harmon Setting 1
Transducer 25 Hertz

All 4 Speakers + Subs.

Musical score for measures 8-9. The score includes parts for A. Fl., Bb Contrabass Cln, Perc. (Box 1 and Trigger), Hp., and Electronics. The A. Fl. part features a glissando effect with the instruction: "** create glissando by slowly sliding finger away from hole (when applicable) and then slowly raising it to open". The dynamic marking *pppp* is present. The Bb Contrabass Cln part has a triplet of eighth notes. The Hp. part includes *b.d.l.c* markings and dynamics *pp*, *p*, *pppp*, and *p*. The Electronics part is marked with a double bar line and a 7/4 time signature.

Musical score for measures 10-11. The score includes parts for A. Fl., Bb Contrabass Cln, Perc. (Box 1 and Trigger), Hp., and Electronics. The A. Fl. part has dynamics *n*, *ppp*, and *n*, with a box labeled "Amplification OFF to Bass Flute". The Bb Contrabass Cln part has a dynamic marking *mp* and a box labeled "Amplification OFF". The Hp. part includes *ppp*, *p*, *ppp*, and *pp* dynamics, along with *b.d.l.c* markings and a "Honey Rattle" effect. The Electronics part is marked with a double bar line and a 7/4 time signature.

12 Norm.

B. Fl. *mp*

Bb Contrabass Cln

Box I

Perc.

Trigger

Hp.

Electronics

15 to Alto Flute

B. Fl. *p* *pppp*

Bb Contrabass Cln *pppp*

Box I

Perc. *Open*

Hp. Mallet Trem. *n* *ppp*

Electronics

18

A. Fl.

Bb Contrabass Cln

Box 1

Perc.

opened Box 3 closed

Hp.

Electronics

"10~15

"10~15 G.P. B

"25~30

Small Clothes Pin

Ad lib. rhythms

Slowly lower stick on string onto transducer let it very lightly bounce

Close

Slow Palm Whistles
Downward Motion
Alternate R/L/H
Ad lib. Rhythms

ppp

n

2:04 low notes only

FRONT L & R

23

A. Fl.

Bb Contrabass Cln

Box 1

Perc.

Trigger

Hp.

Electronics

"10

G.P.

Amplification On

Inside (as many & fast as possible)

measured 5 sim.

tktkk... pp

tktkk... p t k t . . . ppp

Stop

2 very thin sticks place on top of transducer so objects will lightly rattle

pp

Honey Rattle

R R.H. Mute: Firmly Press

Rapid Finger Trem. Indistinct cluster

pp

REAR L & R

FRONT R

2:20

27

A. Fl. *pppp* *sim.* *ppp* *pp* *ppp*

Bb Contrabass Ctn *pppp* *pp* *ppp* *p*

Box 1

Perc. Box 2 **Open Box 2** *mf* *ppp*

Trigger

Hp. *ppp* *pp* *p* *pp* *p* *ppp* *pp* **Amplification OFF**

Electronics **FRONT L** **REAR R**

29

A. Fl. *n*

Bb Contrabass Ctn *pppp*

Box 1

Perc. Trigger

Hp. *p* *ppp* *pp*

Electronics

6/4

6/4

5/4

5/4

6/4

6/4

6/4

6/4

5/4

6/4

31

A. Fl. *Very gentle slurping with inhale INSIDE*
pppp *p* *ppp* *n*

Bb Contrabass Cln *sim.*
pp *pppp*

Box 1 *2 very thin sticks*
pp

Perc. *Wood Slates + small wood stick*

Trigger

Hp. *Amplification On*
Honey Rattle *p.d.ch* *pp* *p* *ppp* *pp* *ppp* *pp* *ppp* *pp*
 ∅ R.H. *pp*
 ∅ L.H.

Electronics REAR L → FRONT R REAR L & R

33

A. Fl. *air + t. flz*
pppp *pp* *pppp* *G.P.*

Bb Contrabass Cln *pppp* *pp* *pppp*

Box 1

Perc. Box 2 *2 mid-size sticks*
pppp *p* *pppp*

Trigger

Hp. *Honey Rattle* *pp* *pppp* *p* *pppp* *(remove honey spoon)*

Electronics FRONT R REAR R → FRONT L

Rapid Finger Trem. Indistinct cluster ∅ R.H. Mute: Firmly Press

C

A. Fl. *Inside*
* *flz. only*
* (flutter only no pitch / no air)
n *mf*

Bb Contrabass Cln *Amplification OFF*
mf

Box 1 *Wood Slate*
mf

Perc. Box 2 *sim.*
mf *ppp*

Trigger

Hp. *sim.*
pp *mf* *pp* *pp* *mp* *pp* *p*
b.d.l.c.

Electronics *3:16* All 4 Speakers + Subs.
Harmon transpose down

Mute: Press Firmly
Use prepared milk loamer to create flutter effect over strings over an unspecified cluster area

40 *flz. only* *sim.*
n *n* *mf* *n* *mf* *pp*

Bb Contrabass Cln *3* *3* *p* *n*

Box 1 *sim.*
mp *mf*

Perc. Box 2 *mf* *ppp*

Trigger

Hp. *Finger trem.* *p* *mp* *ppp*
b.d.l.c. *p.d.l.t.*

Electronics

Amplification OFF

A. Fl. *p* *n* *mp* *n*

Bb Contrabass Cln *pp* *n* *n* *mp*

Box 1

Perc. Box 2 *ppp* *mf* *ppp* *n* *p*

Hp. *p* *p* *n* *ppp* *n* *pp*

Electronics Harmon at pitch

Annotations: p.d.ch *finger trem. *very light finger trem. L.H. random placement/movement
b.d.c. etoufee +mf etoufee

2 Wood Slates

A. Fl. *mf* *pppp* *mp* *ppp* *p* *n* *n*

Bb Contrabass Cln *n* *ppp* *mp* *ppp* *n* *p* *n* *p* *n*

Box 1 *mf* *mp*

Perc. Box 2 *n*

Trigger

Hp. *ppp* *n* *p* *pppp*

Electronics

Annotations: * from p.d.ch double guitar pic upper range

to Bass Flute

D Norm

A. Fl. *pp* *n* *p* *s*

Bb Contrabass Cln *n* *pp* *n* *p* *s*

Box 1 *p*

Perc. Box 2 *pp* *ppp*

Trigger

Hp. *mp* *ppp* *p* *pppp* Xyl. *s*

Electronics 4:24

Amplification OFF

Xyl.

to Alto Flute

B. Fl. *ppp*

(discreetly sneak breaths as needed)

Bb Contrabass Cln *ppp* *p*

Box 1 *pp* *Small Wood clothes pin on String*

Perc. Box 2 *pine cone* *Delicately crinkle* *ppp*

Trigger

Hp. *pppp* *ppp* *pppp* *p.d.c.h. ad. Bk. placement upper range very delicate*

Electronics *b.d.c.* *pp* REAR Speakers + Subs.

Amplification On
 Very gentle slurping
 with inhaled
 INSIDE

B. Fl. *p*

Bb Contrabass Cln

Box 1 *pp* *p*

Perc.

Box 2 *pp* *p* *pp*

Hp. *pp* *pppp* *ppp* *pppp*

Electronics



A. Fl. *pppp*

Bb Contrabass Cln

Box 1 *ppp* *pp* *ppp*

Perc. tap on side lightly rattle tap on side

Box 2 *p* *ppp* *pp* *ppp*

Hp. *pp* *pppp* *pp* *pppp*

Electronics *n*

50 30 20

E

A. Fl. *ad lib.* very sparse spacing between (*7-12) erratic taps **PPP**

Bb Contrabass Cln. **Amplification On** *ad lib.* very sparse spacing between (*7-12) erratic taps **PPP**

Box 1 Dangle Stick on String Lightly Tap Sides *ad lib.* spacing very sparse (*5-10) **PPP**

Perc. Box 2 Delicately crinkle pine cone *ad lib.* spacing - Very Sparse (*7-15) **PPP**

Trigger

Hp. *ad lib.* continue phrases in the same way *ad lib.* spacing (*3-7 pauses) **PPP** **pppp** **n**

Electronics 5.06 * switch to soft paint brush maintain phrasing

25 30 **F**

A. Fl. tk **pppp**

Bb Contrabass Cln. *Very Sparse* (*10-20) **Stop** **n**

Box 1 *Very Sparse* (*10-20) **Stop**

Perc. Box 2 **Stop** **PPP**

Trigger

Hp. p.d.ch *ad lib.* Individual plucks placement varies within range **ppp** **Stop** **Amplification OFF**

Hp. *ad lib.* spacing very sparse (*10-20) **Stop** Prepare strings tightly with thick cloth for a VERY muted sound

Electronics 62 **4/4** **5/4**

65 *ik* *ik* "7-10" Amplification OFF to Bass Flute

Bb Contrabass Cln Amplification OFF *n* *ppp* *n*

Box 2 *pp*

Perc. Trigger

65 Prepare strings with Baking Paper *pp* *ppp* *ppp* *pppp* *etoufee* *3*

Hp. Bass Notes should sound very faint, almost not there *etoufee* *3* *ppp* *pppp*

65 7.56

Electronics

69 G.P. G Norm. *n* *ppp*

B. Fl. *n* *ppp* *n*

Bb Cln *n* *ppp* *n*

Perc. Trigger

69 *pp* *etoufee* *3* *ppp*

Hp. *ppp* *etoufee* *3* *ppp*

69 8.51

Electronics

Musical score for measures 74-76. The score includes staves for B. Fl., Bb Cl., Perc. Trigger, Hp., and Electronics. Measure 74 starts with a *n* dynamic in the B. Fl. and *ppp* in the Bb Cl. Measure 75 features a *pp* dynamic in the Hp. and a *pp* dynamic in the Bb Cl. Measure 76 includes a *pppp* dynamic in the B. Fl., a *pp* dynamic in the Bb Cl., and a *pppp* dynamic in the Hp. The Hp. part is marked *etouffée* and includes a *+* sign above the *pp* dynamic. The Electronics part shows a 4/4 time signature changing to 7/4 and then 5/4.

Musical score for measures 77-79. The score includes staves for B. Fl., Bb Cl., Perc. Trigger, Hp., and Electronics. Measure 77 starts with a *pp* dynamic in the B. Fl. and *pp* in the Bb Cl. Measure 78 features a *pppp* dynamic in the B. Fl. and *pppp* in the Bb Cl. Measure 79 includes a *pp* dynamic in the Hp. and *pppp* in the Bb Cl. The Hp. part is marked *Quietly Remove Paper* and includes a *p* dynamic. The Electronics part shows a 5/4 time signature changing to 6/4 and then 4/4.

80

B. Fl. *pppp* *pp* *pppp*

Bb Clarinet *n* *ppp* *pppp*

Sounding 698 hz

Perc. opened Box 3 closed (Position 1)

Trigger

Hp. Xyl. *pp* *pp*

9-40

Electronics

83

B. Fl. *p* *pppp*

Bb Clarinet *p* *pppp*

Sounding 690 hz, 673 hz

Perc. opened Box 3 closed (Position 2)

Trigger

Hp. Xyl. *ppp* *pp* *p* *pp* *p* *pp*

(Remove Cloth)

7.03

Electronics

86

B. Fl.

n *ppp* *n*

Bb Cln

n *ppp* *n*

to Bb Contrabass Clarinet

Sounding

690 hz
680 hz

p

Perc. opened
Box 3
closed

86

Trigger

86

Hp.

Xyl.

p *pp* *ppp* *n*

1

Electronics

86

89

B. Fl.

p

Bb Contrabass Cln

pp

* In this multiphonic, there are more pitches than the ones indicated. Beatings should occur.

(2)

Sounding

680 hz

p *mp*

690 hz
680 hz

Perc. opened
Box 3
closed

89

Trigger

89

Hp.

p *n*

1

Electronics

89 10.36

Musical score for measures 92-94. Instruments: B. Fl., Bb Contrabass Cln, Sounding, Perc. opened Box 3 closed, Trigger, Hp., Electronics.

Measures 92-94 are marked with a common time signature of 7/4. A fermata labeled "I" spans measures 92-94. The B. Fl. part features a long note with a fermata. The Bb Contrabass Cln part has a long note with a fermata, marked with a dynamic of *p*. The Sounding part has a long note with a fermata, with frequency markings of 503 hz and 512 hz. The Perc. part has a long note with a fermata. The Hp. part has a long note with a fermata, marked with a dynamic of *p*. The Electronics part has a long note with a fermata.

Musical score for measures 95-98. Instruments: B. Fl., Bb Contrabass Cln, Sounding, Perc. opened Box 3 closed, Trigger, Hp., Electronics.

Measures 95-98 are marked with a common time signature of 5/4. A fermata labeled "J" spans measures 95-98. The B. Fl. part features a long note with a fermata, marked with a dynamic of *n*. The Bb Contrabass Cln part has a long note with a fermata, marked with a dynamic of *n*. The Sounding part has a long note with a fermata, marked with a dynamic of *mf*. The Perc. part has a long note with a fermata. The Hp. part has a long note with a fermata, marked with a dynamic of *n*. The Electronics part has a long note with a fermata.

Annotations include: "Lid on Transducer 1", "Lid on Transducer 2", "Bow with Fishing Wire 523 hz", "Ring Mod. Sweeps (500-512 hz 512 hz)", and "pull/release string slowly change positions to change ring modulation".

The score is divided into seven measures, each with a duration of 10, 7, 30-40, 7, 10, 25, and 10 seconds respectively. The instruments and their parts are:

- B. Fl. / Bb Contrabass Cln:** Both parts are mostly silent, with a few notes in the first and last measures.
- Sounding:** Features sustained notes with a 503 hz frequency label. Includes a *p* dynamic marking and the instruction "Ad lib. Durations Dangle wooden object over lid to create subtle buzz".
- Perc:** Includes a section labeled "less motion" with an arrow, and a section labeled "Very slowly close lid".
- Trigger:** Contains specific trigger events corresponding to the percussion and sounding parts.
- Hp.:** Features a sustained note with a *n* dynamic marking.
- Electronics:** Remains silent throughout the piece.

Additional annotations include "BOX 1" and "BOX 3" highlighting specific sections of the score.