

Records of a Fractured Past

Flute, Cello, Percussion & Electronics

Jeff Roberts

Instrumentation

Flute (+ wine bottle)

Cello (+ wine bottle)

Percussion

10" tom, floor tom, bass drum, suspended 16" cymbal, handheld medium and large

Chinese cymbal, small 6" cymbal, flexible plastic tube, temple blocks (4-5), small prayer bowl

Several tin soda cans, chip can with tin bottom

Technological Requirements

Wifi Connection, Laptop Computer, iPad

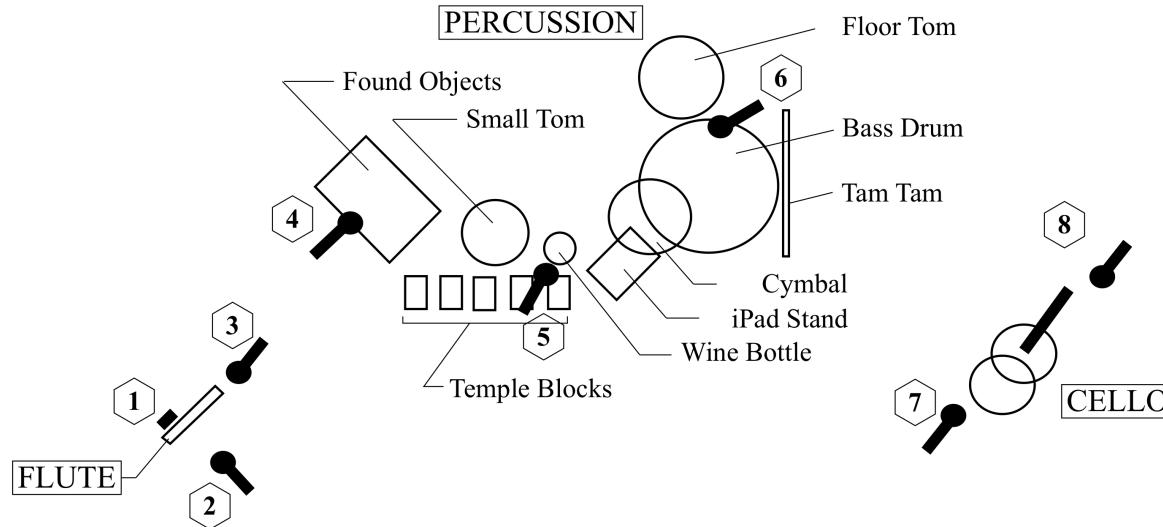
Max Runtime 6.0, Touch OSC and Editing Software

8 Microphones, mixing board & stereo sound system.

Ensemble and Microphone Setup:

NOTE: for microphone types, see "Records of A fractured Past – Technology Instructions", section IV.

If possible, playback speakers should be placed in front of the ensemble.



Performance Notes

Time Notation

This electro-acoustic, live electronic piece uses a Max-Msp patch, controlled by the percussionist, part of which contains a minute and seconds timer. Unless otherwise noted in individual parts, the tempo for the music is **quarter note = 60**. A laptop with the Max-Msp patch loaded should be situated in front of all three performers. On the screen will appear the minute and seconds timer. The time notation is meant to allow parts of the piece to be either collectively coordinated by the entire ensemble (as in a traditionally notated performance), performed together in tempo but not coordinated, or improvised. Thus, in the score and parts two designations will appear:

0'05" Ensemble
(all)

Designates that some or all ensemble members should perform the following section closely synchronized, as they would in a traditionally notated score.

0'16" independent

Designates a point at which the performer should still play in tempo with other performers, but can count and perform their part on their own.

Time markings in the parts should be thought of as 'jumping off points': after you get the tempo from the clock and begin, performers don't need to continue to constantly watch the timer while performing, but just play the music in tempo. Ensemble cues will be given by one performer.

General Performance Notes



Circle designates **Niente**, either beginning from or returning to silence.



Floating Grace Notes. Beginning points are marked in subdivisions of the beat and should be fit into the rhythmic space occupied by the gesture

breath/vocal sound Performers will be required to produce various vocalizations including **shhh** (closing teeth and exhaling) **sh-si-sh-si** (closed teeth and alternating no tongue & tongue) and a vocal **aah**, which involves an *aah* sound along with a desc. gliding pitch.

Wine Bottle

All players will be required to perform using a wine bottle. **Blow** designates producing a sustained pitch by blowing across the top of the bottle. **Overblow** designates forcing high pitched sound by a sudden and forceful stream of air across the top of the bottle. **Plunk**, involves hitting the palm of the hand quickly on the bottle top, producing a 'plunk' type sound.

Cello Performance Notes

extreme s.p.

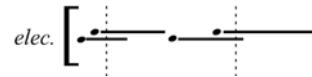
perform as close to the bridge as possible with strong bow pressure, forcing predominantly upper partials.

airy

Designates a lighter and rapid bow stroke to produce a lighter sound with some raspy bow noise.

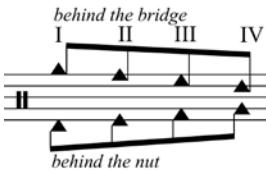


Expressive Glissandi. These gestures should be performed with subtlety and grace, not quick and abrupt. If an ending pitch is designated, it designates a general range in which to end the gliss: no specific/fixed ending pitch should be perceived.



Cello & Electronic Clusters. The Cellist should listen for and blend with the electronic part from 0'30 to 1'18", which consists of microtonal clusters of resonating guitar strings.

Performance Notes



Behind the bridge & Behind the Nut Pizz

This diagram exhibits notation for special pizz. The upper four notes, associated with the four different strings, designate plucking the string on the other side of the bridge. The lower four notes designate plucking the string behind the nut. Behind the nut pizz should be plucked with the fingernail in order to project the sound.

Cello Percussive Techniques

The cello part requires that the cellist perform light tapping and knocking percussive gestures on the body of the cello. **L.H.** and **R.H.** designate left hand and right hand respectively. **Tap** designates a tap with a fingertip, **knock** designates a crisp knock sound with a knuckle and **slap** designates a light percussive slap by several fingers on the front of the cello.

Th, 1, 2, 3 designate fingers and thumb on the left hand with which to perform percussive events. **tr** and **5 finger tremolo** designate a percussive tremolo technique on the cello body that should produce a rustling sound.

Cello: General Note on arco-pizz-perc Gesture Choreography

To facilitate movement between these different techniques, especially in particularly fast and dense sections of transition, percussive techniques should be performed on the cello body in close proximity to where other arco or pizz techniques occur. The overall effect should be a sequence of spontaneous, improvisatory like sound. While it is desired the cellist be as precise as possible with the rhythm and coordination with the other players, the flow of the choreographed techniques and sound can be memorized as 'chunks of spontaneous gesture' and if the flow is there, the exact rhythm or coordination with other parts becomes less crucial.

Percussion Performance Notes

Max-Msp & iPad Control Surface in the Percussion Part

The percussion part involves live interaction with the Max-Msp patch through both a laptop (with the Max-Msp patch loaded) and an iPad. The percussionist should read the file "**IO TRIO: Setting Up and Operating iPad and Max-Msp.pdf**".

Timing Responsibilities

Being in control of the Max-Msp patch, the percussionist will start and stop the timer used during performance.

iPad Interface in Pre-performance

The percussionist will need to do some pre-performance preparation of sampling involving samples to be used for playback at different times in the piece. The goal is for the performer to search for his/her own unique sounds rhythmic and resonant sounds (within the guidelines of the sampling instructions). Refer to the "**IO Trio....pdf**" for further instructions.

iPad Interface During Live Performance

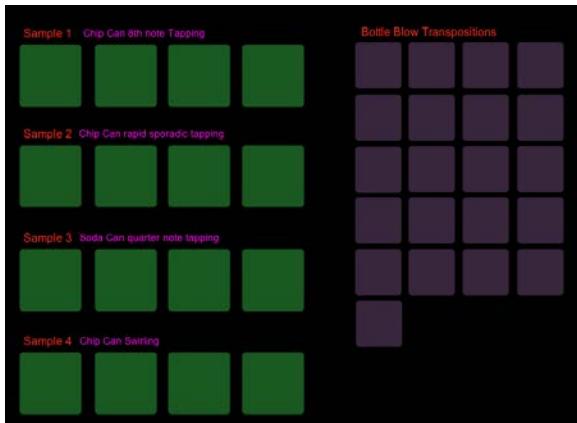
Frequently throughout the score, the percussionist will be required to interact with a series of touch interfaces on the **iPad**. These either involve **push buttons** that trigger flurries of shorter samples or collections of longer samples from the light touch of fingers on the **iPad**. There are also **X/Y axis** controllers, which involve mixing resonances of different objects. In many cases **iPad** performance happens interwoven with performance on acoustic percussion instruments. The percussionist should work with the **iPad** as an instrument of performance, becoming comfortable to interact with it while performing simultaneously on other percussion instruments. Note that **iPad** pages are designed to change automatically as the piece progresses and the

Performance Notes

correct control surface will appear automatically for each section of the piece where its use is needed.

iPad Sounds and Control Surfaces

iPad PAGE 2



0'53" Trigger Tapping Patterns Using **push buttons**, trigger several speeds of pre-sampled materials to create a moderately complex texture.

0'58" Trigger Soda Can tapping Using **push buttons**, trigger one or two transposition of pre-sampled soda can tapping.

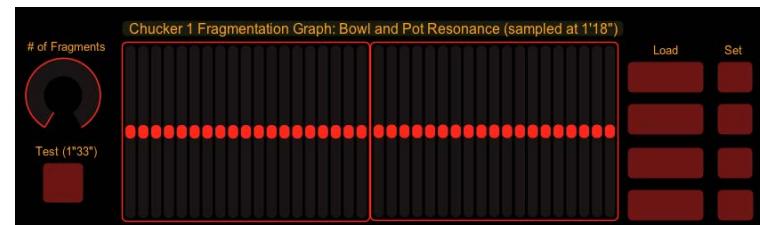
1'03", 1"24" Sparse Wine Bottle Transpositions. Using purple **push buttons**, flutter fingers over sporadically to set of a flurry of transposed wine bottle samples. Work to blend sounds with surrounding music texture.

1'11" Rhythm Samples with Live Interaction. Trigger a couple of tapping samples to set up a rhythmic texture and then interact with it with live sound. [Note: Chucker1 Samples this section (see 'chucker' notes)]

iPad PAGE 3

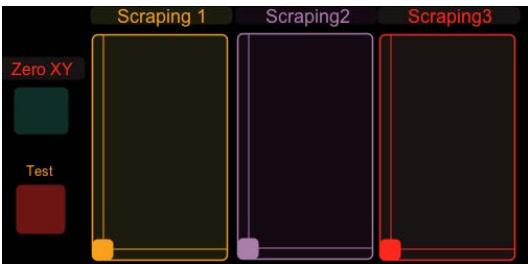


1'19", 1'33" X/Y Resonance Controls. Use the three X/Y iPad interfaces to control pre-sampled resonance to interact with live resonance of cymbal on Bass Drum [Note: Chucker2 samples 1'19" section (see 'chucker' notes)]

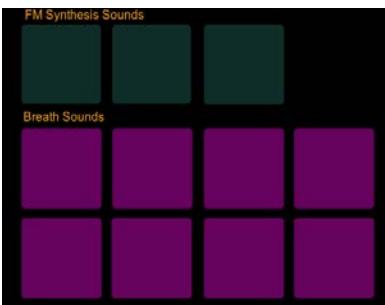


Chucker. Chucker is a Max-Msp object that takes a sample, divides it into a number of fragments and plays the cut up fragments in random orders. The percussionist can control the number of fragments and the order by pre-setting this on the iPad interface. The dial to the left of the interface controls the number of fragments. The sliders to the right control the order of fragment playback. Drag fingers to create different shapes/combinations. Use the four Set-Load buttons to the right to store several versions. Sampling of iPad sound control by the percussionist occurs at 0'53" – 1'01" (iPad triggering of rhythmic patterns) and at 1'19"- 1'27" (XY resonance and Wine bottle transpositions). The former Chucker is controlled on iPad Page 5 (Chucker 2), the latter on iPad Page 3 (Chucker 1). Initially, playback of these occurs through automatic playback triggered by the Max –Msp program before 3'00". After 3'00", the percussionist has live control over the playback of both chuckers as an element to create and blend textures.

Performance Notes

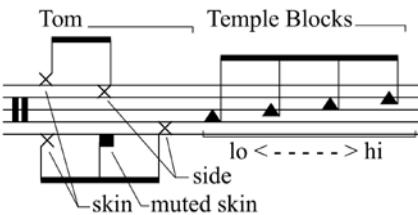


1'20" Live and Sampled Rubbing Textures. Using the **X/Y iPad** interfaces for '**scraping**', create a live & sampled texture of scraping surfaces.



2'23" Breath Sounds and Synth. Using **push buttons**, spontaneously flutter fingers over iPad buttons to create as sparse texture of sampled sounds to blend with the live music texture.

Percussion Instruments and Techniques



Tom and Temple Blocks. This diagram shows the notation for the small tom and temple blocks. The split notation of Tom is used only when both left and right hands are used. Exceptions to this occur when **rim** is written, which overrides the notation shown to the left.

Cymbal Techniques

side hit

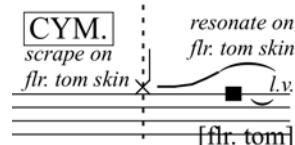
swish on skin

rub skin with cymbal

rustle on skin

CYM. **BASS DR.**

strike w/knuckle
resonate cym. on bass drum



CYM. **small**
bow on flr. tom

Bass Drum

use $\frac{1}{2}$ of a small rubber ball on a flexible stick and rub in

Rub with ball a slow circular motion on the skin of a bass drum to create friction and produce a low rumbling sound.

Tube whirl

A piece of flexible tube should be whirled around in a circular motion to produce a faint pitch. If written

tap a suspended 14" cymbal on its side with a stick producing a slight ring

Use a small to medium cymbal and swish it quickly across the skin of a bass drum and hold it up, allowing the cymbal to continue to resonate away from the drum.

Use 1 or 2 small cymbals and rub them on the skin of a bass drum or floor tom to Rustle 1 or 2 small cymbals on the top of a drum skin, allowing them to both scape and clash with each other or the drum rim

make a swirling/scratching sound texture. Knock a held Chinese Cymbal to initiate its resonance and then hover the cymbal very closely (about 1" or less) over the skin of a bass drum, which creates an amplification of the cymbal resonance.

Similar to above, but using the scrape of the cymbal on the drum skin to resonate it, and then holding it over the bass drum skin.

Use a small 6" cymbal to hold on the skin of a bass drum and the cymbal edge hanging over the rim edge. Bow the cymbal to produce a quick, short, loud and squeaking pitch. To vary pitch change the amount of cymbal hanging out past rim.

Performance Notes

force P5, the tube should be whirled with greater speed to produce the next partial in the overtone series.

Found Objects

Found objects should be organized in a ‘found object’ station in the percussion setup. All found object sounds will need to be performed in close proximity to a dedicated microphone for found objects to amplify their sound. The microphone should be placed so that all found objects and techniques can be amply amplified.

Special Found Object Techniques

Tin Can rattle situate 5-6 empty tin soda cans on a small towel so that they can easily bounce against one another. During performance, bounce cans constantly off of one another to produce a resonant-rhythmic texture of rattling tin cans.

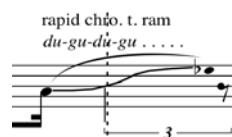
Tin Can even tap tap the middle part of a suspended tin can to create a brief resonant ring. The Even tap should be at a slightly under moderate tempo.

Chip Can tapping patterns Pattern 1 should be a sporadic sequence of rapid taps on the metal chip can bottom. Pattern 2 should be an even 8th note pattern alternating between the tin bottom and cardboard side.

Chip Can Scrape/swirl Using a metal beater, scrape the tin bottom of the chip can producing a swishing, pitch changing sound.

NOTE: the above mentioned found object sounds are also part of the percussionists pre-sampling process. These simple rhythms are sped up and slowed down in the triggered samples during performance to create **more complex layers of rhythm**. The more spare the rhythms in the pre-recorded samples are, the thinner the texture during playback. It is up to the percussionist the relative density of the samples, but thinner density allows more potential space in the textures for the percussionist to improvise against during performance.

Flute Techniques



t. ram [tongue ram]. With a quick breath of air, rapidly plug the breath hole with the tongue. A round popping sound will be produced a Major 7th below the fingered pitch. **Jet t. ram**. A variation on the tongue ram. Blow a fast short stream of air into the mouth piece leading up to the tongue pop sound.

rapid chromatic tongue ram. Moving upward through the designated note range apply the tongue ram technique using the syllables du-gu-du-gu. will produce both a tongue ram sound combined with a bubbling sound from the mouth when these syllables from the mouth.

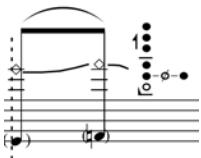
mouthpiece fingerslap. Using the index finger of the right hand, slap the breath hole of the flute using the designated rhythm. Will produce a popping sound a major 7th below the fingered pitch.

click. Make a tongue click sound into the breath hole of the flute at the designated pitch. Will produce a pitched clicking sound.

Guttural flutter growl. Using a throat tremolo technique, add vocalized growl sound.

Fingered breath gesture. Using only air blown through the mouth hole, finger rapid chromatic runs on the flute, producing a changing timbral, non-pitched breath sound

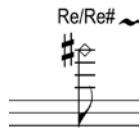
Performance Notes



Flute Harmonic bending. Following the fingering provided and the fundamental notes in parentheses below, produce a harmonic and bend the pitch using either a lip bend or the sliding on and off of finger holes (as designated by the fingering diagram)



Flute Embouchure – Outward Rolled. In order to produce thin wispy tones, especially with flute harmonics, roll the flute mouthpiece out away from the lips so that less air will pass through the breath hole. An upright U shape designates to return to normal flute embouchure.



Vocalization into Flute. Where designated, sing the notated pitches into the breath hole of the flute.

Re/Re# Designates a special tremolo effect on the fingered pitch by adding very rapid alterations using the Re & Re# tremolo keys. Should produce a very subtle and rapid fluttering effect.

Note on Flute and Percussion IMPROVISATION PATTERNS 1, 2, 3

These patterns should be created by the flutist and percussionist and involve a simple, and sparse repeating pattern to be repeated several times and fit into the designated time span. They should have a static quality compared to the material preceding and following them. Pattern 1 should be relatively slow. Pattern 2 should be a bit more aggressive and a bit faster. Pattern 3 should resemble Pattern 1 but be more sparse and some details of the pattern 1 type should be left out, as if the pattern is disintegrating as the piece ends. If performers would like suggestions on the type/quality of pattern, the composer can send several examples.

Records of a Fractured Past
for IO Ensemble & IO Fest

Jeff Roberts
(2012)

Staff 1 (Top):

- 0'05"**: Ensemble (All) at $\text{♩} = 60$. Flute: t. ram. Cello: pizz. L.H. I. Perc.: rapid chro. t. ram, du-gu-du-gu.....
- 0'07"**: Flute: f, mf. Cello: perc. tap. Perc.: perc. II, Behind nut.
- 0'09"**: Flute: ooo. Perc.: perc. III, Behind nut. II. Cello: perc. tap. Perc.: perc. IV, Behind br.
- 0'11"**: Flute: rapid chro. t. ram. Perc.: perc. V, Behind br. Cello: perc. VI, Behind br. Perc.: perc. VII, Behind br.
- 0'13"**: Flute: fingerslap. Perc.: perc. VIII, Behind br. Cello: perc. IX, Behind br. Perc.: perc. X, Behind br.
- 0'15"**: Flute: t. ram. Perc.: perc. XI, Behind br. Cello: t. ram. Perc.: perc. XII, Behind br.

Staff 2 (Bottom):

- 0'17"**: Flute: p. Perc.: rub skin w/cymbal.
- 0'19"**: Flute: f. Perc.: sh... sss....sh...si....
- 0'21"**: Flute: vocal (breath sound). Perc.: sh... sss....sh...si....
- 0'23"**: Flute: [flute]. Perc.: sh... sss....sh...si....
- 0'25"**: Flute: pp, mf, p, f. Perc.: sh... sss....sh...si....

Live Elec. (Bottom Left):

- Wine Bottle popping sounds.
- Textured Breath Sounds (shhh).
- Textured Breath Sounds (shh-si-shhs).

Live Elec. (Bottom Right):

- synth. sound gesture.

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2

0'27" Fl. *mf* arco

0'31" V.c. pizz. perc. knock arco

0'33" Ensemble (fl & vc) fingerslap click t. ram soft breath 3

0'35" t. ram 3 soft breath 3

0'37" U soft breath 3

W. BOT. plunk *ad lib.* blow

Perc. *mf* blow

Live Elec. Synth. B₁ C₁ B₁ C₁

TOM mallet skin *p f mf p* bottle popping textures Synth.

10

0'39" Fl. [flute] overblow *sffz* *p*

0'41" perc. knock arco

0'43" perc. L.H. tap 2 *pp* very light

0'45" Ensemble (All) click *mp* perc.

0'47" t. ram click sim. 41" *mp* side skin skin

sim. 36" & 41" *f*

W. BOT. [flute] overblow *sffz* *p*

perc. knock arco

perc. L.H. tap 2 *pp* very light

Ensemble (All) click *mp* perc.

t. ram click sim. 41" *mp* side skin skin

sim. 36" & 41" *f*

CHIP CAN Tapping Pattern 1 ad libitum

Tapping Pattern 2 sample playback sample playback

BASS DR. rub will ball

Live Elec. Synth. muted skin *mf* skin

0'49" 13

Fl. 8va *p*

V.c. breath attack *f*

Perc. *pp* *f* *pp* *mp*

Live Elec. [SODA CAN] Tap Even Rhythm (use stick side of mallet)

0'51" 3

Fl. 8va *p*

V.c. *pp* *f* *pp* *mp*

Perc. *pp* *TOM skin* *FLR. TOM rub skin w/cymbal* *pp* *mf* *p* *pp*

0'53" 5

Fl. *fingerslap* *f*

V.c. *vocal sigh (ahhh)* *mp*

Perc. *pp* *mp*

0'55" 3

Fl. 1080 *p* *mp*

V.c. *pp* *mp*

Perc. *pp* *mf* *p* *pp*

0'59"

Live Elec. [iPad Trigger Soda Can Tapping]

1'01" 16

Fl. g. flutter *p* *mf* *p* *mp* *p*

V.c. extreme s.p. norm. *pp* *p* *mp* *p*

Perc. *TOM mallet* *iPad Sparse Wine Bottle Transpositions* perc. L.H. knock

Live Elec. [BASS DR.] *rub will ball* *TUBE* *whirl*

1'03" 3

Fl. *breath attack* *p* *pp* *p* *mp*

V.c. *norm.* *pp* *p* *mp*

Perc. *rub will ball* *whirl*

1'05" 5

Fl. *breath attack* *p* *pp* *p* *mp*

V.c. *pp* *p* *mp*

Perc. *rub will ball* *whirl*

1'07" 3

Fl. *Re/Re#* *mf*

V.c. *perc. L.H. knock* *pp* *p* *mp*

Perc. *rub will ball* *whirl*

1'09" 5

Fl. *mf*

V.c. *perc. L.H. knock* *pp* *p* *mp*

Perc. *rub will ball* *whirl*

4 1'11" 1'13" 1'15" W. BOT. blow 1'17" [flute] 1'18" Ensemble (fl & perc) 1'21"

Fl. *mf* 5 *8va* *mp* *p* *f* *p* *f* *p* *p* *mf* *p* *p*

V.c. pizz. perc. tap arco *p* *mf* > *p* *f* > *p* *mf* *mp* *p* *mf* *p*

iPad 1-2 rhy. pattern samples w/subtle live interaction [sparse texture]

Perc.

CYM. / BASS DR. resonate cym. on bass drum strike w/knuckle *mf*

Live Elec. guitar string resonance D F F B A

1'23" 1'25" 1'27" soft breath attack! 1'29" 1'31"

Fl. *mp* *p* < *f* > *p* *mp*

V.c. *p* > *o* *f* *p* *tap* *th* *mf* *mp* *p*

iPad Sparse Wine Bottle Transpositions

Perc.

Live Elec.

jete

5 finger rustling

pizz. II

l.v.

iPad X/Y Res. Controls

Musical score for Flute (Fl.), Bassoon (V.c.), Percussion (Perc.), and Live Electronics (Live Elec.) at measures 25-27.

Measure 25: Flute and Bassoon play eighth-note patterns. Percussion has sustained notes. Live Electronics: Chucker (chopped-fragmented playback of live sampling).

Measure 26: Bassoon continues eighth-note pattern. Percussion has sustained notes. Live Electronics: Chucker (chopped-fragmented playback of live sampling).

Measure 27: Bassoon and Percussion play eighth-note patterns. Live Electronics: Chucker (chopped-fragmented playback of live sampling).

28

Fl.

V.c.

Perc.

Live Elec.

1'45" Re/Re# ~~~ sim. ~~~ 1'47"

mf

har. gliss

p = *mf*

3

1'49"

pp ~~~ *mf*

p ~~~ *mp*

finger & bow pressure
light ... *normal*

3

1'50" Ensemble (All)

mf

TOM mallets
skin ~~~ *side*

5

3

1'53"

mf

Prayer Bowl Resonance

Chucker Playback

6 1'55"

Fl. *p*

V.c.

Perc. *p*

Live Elec. (Prayer Bowl Resonance)

1'57" wind sounds

V.c. sul. pont. *detache airy*

III *p*

ad libitum Live & Sampled (iPad) Rubbing Textures

1'59" soft breath attack 10

2'01" g. flutter 5

2'03"

2'05" Ensemble (All)

PR. BOWL *lv.*

CYM. *scrape on flr. tom skin* *[floor tom]* *f*

resonate on flr. tom skin *lv.*

2'07" *multiphonic

Fl. *f* *p*

V.c. norm.

Perc. *f* *p*

Live Elec. iPad Breath Sounds GONG *p*

2'09 vocalization into flute (vary mouth shape/vowel sound)

V.c. extreme s.p.

Perc. *lv.*

2'11" (breath sounds) active & dense texture

2'13"

2'15" soft breath attack

Fl. *p* *mp*

V.c.

Perc. *mf* *pp* *p*

Live Elec. BASS DR. rub will ball

Fl.

V.c.

Perc.

Live Elec.

37

2'17" soft breath

2'18" Ensemble (All)

sul. pont. extreme s.p. sul. pont. norm. 8va

iPad (Scraping) CYM stick scrape Lv. ...scraping....

mallet side skin alternate mallet - hand.....

TOM mf

2'21" trill

2'23" trill

2'25" sul. pont. very light

2'27" fingered breath gesture

Fl.

V.c.

Perc.

Live Elec.

40

2'29" *multiphonic

sul. pont. ff 3 p

Rustle cym. on flr. tom continué when possible CYM bow on flr. tom ff ...rustle...

GONG p

TOM mallet

2'31" Ensemble (fl & perc)

2'33" mp sim. different pitch ...rustle...

2'35" pp p pp 5

2'37" sim. different pitch ff ...rustle... p 3

8 2'39"

Fl.

V.c.

Perc.

Live Elec.

2'41"

2'43"

2'45"

2'47" soft breath attack

2'49"

very light *sul. pont.* *jete* *high harmonic close to bridge*

pizz. *8va* *perc. tap* *L.H. 2 th.* *2 th.* *2 th.* *pizz. 8va*

[FLR. TOM] *scrape skin*

SODA CANS rattlevery active.....

iPad tapping rhythms at various tempi

2'51"

2'53"

2'55"

2'57"

2'59"

Fl.

V.c.

Perc.

Live Elec.

pp *ppp*

Fl. 49

3'01" 5
p pp 3'03
mp 3'05" 5
pp 3'07"
pp 3'09" Ensemble (vc & perc)
 perc. L.H. *tap* ² *th.* *slap* *pizz.*
 TEMPLE BL.
 TOM
mf *p*
 (chucker: resonance continued)

V.c.

Live Elec.

52 3'13" 10 5 5
perc. tap *3*
 3'15" 5
 3'17" 5
Ensemble (fl & vc) *66*
 3'18" *Ensemble (fl & perc)*
 PATTERN 1
 PATTERN 1
 Chucker: Resonance

V.c.

Live Elec.

10 2'23" 2'25" 2'27" 2'29" 3'30" Ensemble 1'31" 2'33"

55

Chucker: Resonance Chucker: Resonance Chucker: Rhythm;

3'35" 3'37" 3'39" 3'41" 3'43"

58

*multiphonic [need notation]

CYM. stick GONG

Chucker: Resonance Chucker: Resonance

IMPROV. PATTERN 2 IMPROV. PATTERN 2

3'45" 61
pizz. arco sul pont. airy
f **mp**
perc. tap
mf
f **mf**
slap
mf
TEMPLE BL.
TOM mallet
mp
3
3
Chucker: Rhythm
Chucker: Resonance
Chucker: Resonance
Chucker: Resonance (cont)
Ensemble (fl & vc)
d = 69
d = 69

64

3'57"

Ensemble (fl & vc)

ff **f** **mf** **p**

BASS DR.
rub will ball

perc.

Live Elec.

3'59"

4'01"

4'03"

4'05"

IMPROVISATION PATTERN 2 with perc.

IMPROVISATION PATTERN 2 with flute

Chucker: Resonance

12

4'09"

cut off abruptly

4'11" Ensemble
(fl & vc)

♩ = 69

4'13"

4'15" Ensemble
(fl & perc)

IMPROVISATION PATTERN 2

67

V.c.

Perc.

Live Elec.

Ensemble (fl & vc) (measures 12-13)

IMPROVISATION PATTERN 2 (measures 13-14)

Chucker: Rhythm (measures 12-13)

Chucker: Resonance (measures 12-13)

Cymbal Resonance (measures 12-13)

Chucker: Resonance (measures 13-14)

70

pp

♩ = 69

f

♩ = 54

♩ = 69

BASS DR. rub will ball

BASS DR.

♩ = 40

ppp

ppp < mp > p

Chucker: Resonance

PATTERN 3

Live Elec.

V.c.

Perc.

