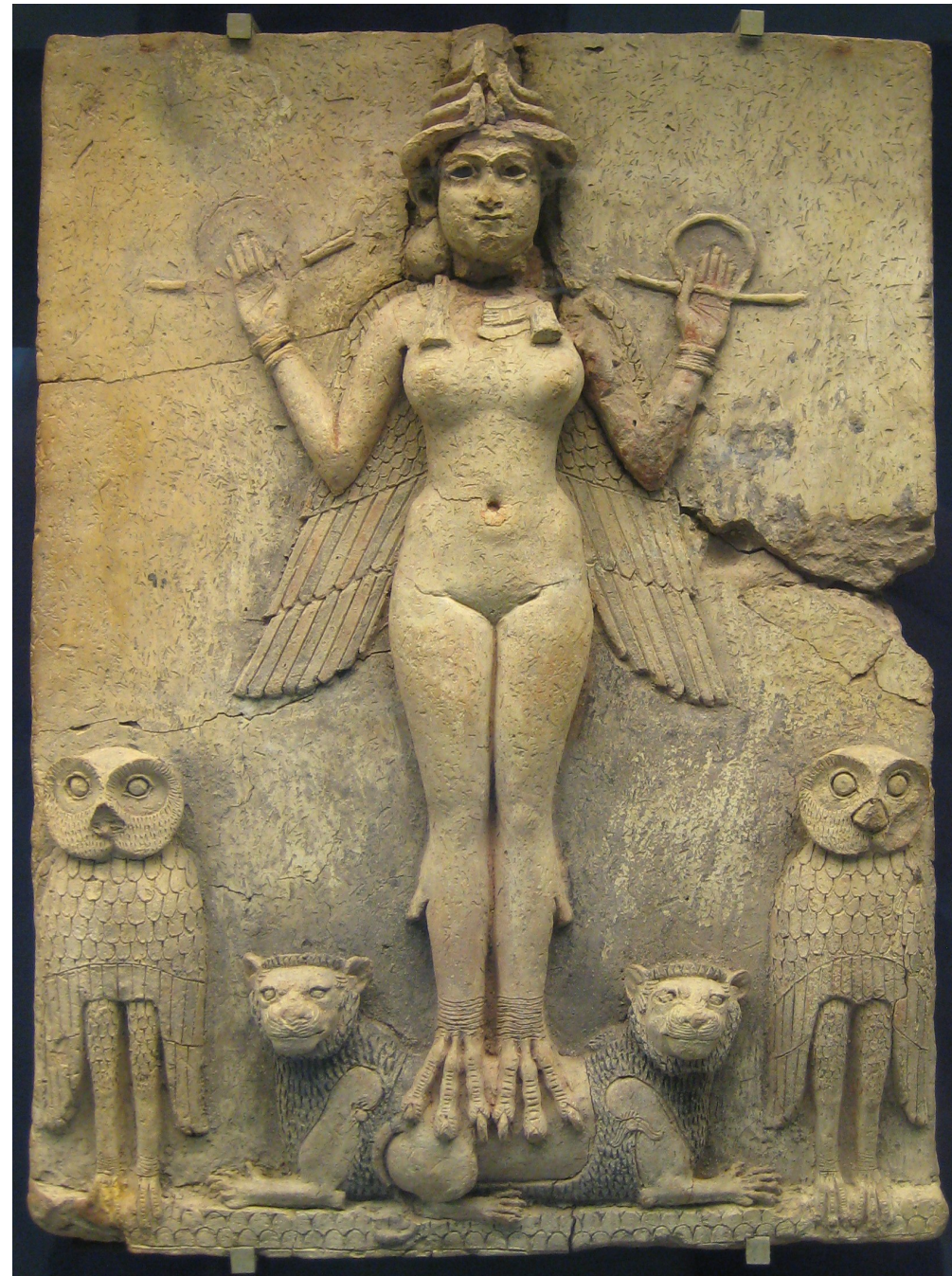


# Irkalla

*for bass flute, baritone saxophone, double bass, prepared piano and live-electronics*

Onur Dülger  
2019



**Program notes:**

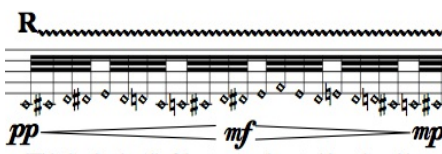
Irkalla, the name of the piece comes from Sumerian religion, and it means the ancient Mesopotamian underworld, was a dark, dreary cavern located deep below the ground, where inhabitants were believed to continue "a shadowy version of life on earth". Sumerian civilisation is the earliest known civilisation in the world and located in the historical region of southern Mesopotamia.

In the piece, the idea of a shadowy version of life of an ancient world is processed. Sounds are depicting not necessarily a place where souls suffer but a place where they are interacting and living in a different, strange version of life. Sounds, interacting and imitating each other can be seen as developing sound objects but also as an energy which is building narrative sound story.

The live-electronics are using the properties of sounds of four instruments independently as an input for the modulations of themselves. Therefore, the result is mostly a natural sounding extension of themselves. It is used to both enhance the different characteristics of instruments and also for formal musical solo extension of this music.

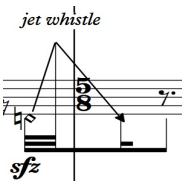
**Performance notes:**

**Bass Flute**

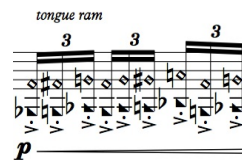


With the simple roll of the tongue, almost without breathing. Only cover the hole with the tip of the lips

**Rolling Tongue:** With the simple roll of the tongue, almost without breathing. Only cover the hole with the tip of the lips. It should sound like a roar.



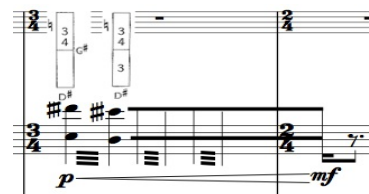
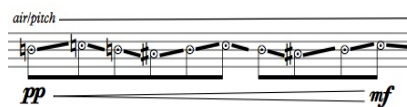
**Jet Whistle:** It is a forceful, loud attack of air. The embouchure hole of the flute is completely covered with the lips while exhaled air forced into the flute with a strong air/diaphragm impulse.



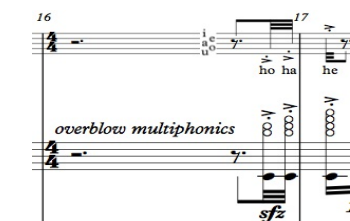
**Tongue ram:** it is an explosive percussive gesture produced by sealing the embouchure hole completely with the lips and strongly propelling the tongue into the embouchure hole. It sounds a major seventh below the fingered/written pitch.



**Air sound, sing and play:** Lower system is for flute and the upper is for voice. Air sounds are here a mixture of pitch and air.



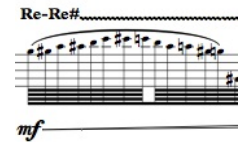
**Multiphonic trill:** It is a trill of two multiphonics which have very close fingerings.



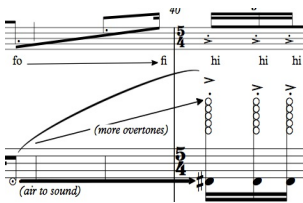
**Overblow Multiphonics:** These are produced by over blowing with air components. In Sciarrino's music these are called clusters.



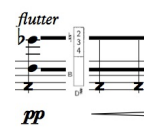
**Slap Tongue:** This is also called tongue pizzicato. Those are short percussive sounds. Tip of the tongue lies firmly on the roof of the mouth and then supported by a strong air stream, is explosively trown to the bottom.



**Re-Re# Trill:** This While playing the given notes, the player should make D-D# foot trill in order to obtain a fabulous glissando sound



**Air to sound:** It is possible to deliberately mix any amount of additional air with the pure flute sound. This is done through the flexible use of lip tension. In the example, the player should go from air to puer sound, while turning sound into overblow multiphonic. The sound should get more and more multiphonic character.



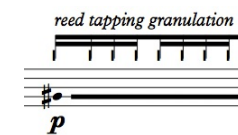
**Multiphonic flutter:** It is possible to mix the multiphonics with singing, flutter tongue.



**Multiphonic singing trill:** It is possible to mix the multiphonics with singing trill. If the frequency of the voice is not modulating the sound of the instrument, one can choose another pitch for singing.

For writing this piece Carin Levine's book **The Techniques of Flute Playing** I and II are used.

**Bariton Saxophone**



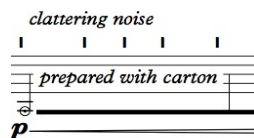
**Reed tapping granulation:** This technique involves flicking or tapping the reed with the right hand while holding down different keys with the left hand, producing short articulated pizz-style sounds. For more information and how to produce them and also see the video of it, visit: <https://heatherroche.net/2017/01/08/reed-tapping-articulation/>



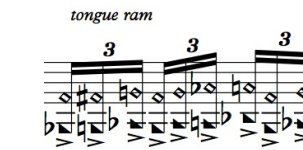
**Multiphonic slap tongue:** It is possible to mix the multiphonics with singing trill. It should resonate strongly.



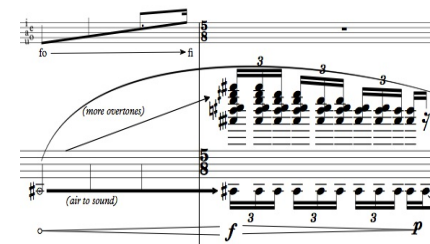
**Multiphonic Trill:** It is a trill of two multiphonics which have very close fingerings. In the example it is also mixed with singing with glissando



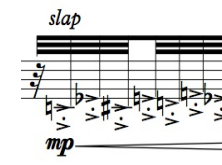
**Carton Preparation:** This preparation is a sheet of card. It's fixed to the sax's bell opening with a bulldog clip (the bass clarinet can be protected by gluing felt to the metal edges of the clip or by using bluetack). It's actually not so easy to find the right balance of the carton, so having a few different thicknesses to try is probably not a bad idea. When you make a crescendo on the lowest note "A" at some point it begins to make a clattering noise. These can be combined with singing, flutter tongue and overblown spectral multiphonics. For more information and how to produce them you can visit Heather Roche's clarinet page: <https://heatherroche.net/2014/03/24/on-bass-clarinet-preparations/>



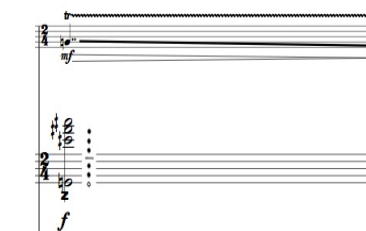
**Tongue ram:** With this articulation, the tongue rams against the reed. The closing action creates a darkly resonating sound. This one is with the mouth piece.



**Air to sound transition:** Sound should go from air to pitch, means that pitch components will gain while air noise components lose. In the example we see also spectral multiphonics. These are produced by over blowing.



**Slap:** It indicates an especially sharp tonguing of a percussive character. During the short moment of the attack, the tongue is pressed against the reed and almost immediately spit away from the vacuum created.



**Multiphonic singing trill:** It is possible to mix the multiphonics with singing trill and flutter tongue. Aim is to create more complex sound. If the frequency of the voice is not modulating the sound of the instrument, one can choose another pitch for singing.

For writing this piece Marcus Weiss's book **Techniques of Saxophon Playing** is used.

Some of the techniques are similar to bass clarinet. You can find infos for them here: <https://heatherroche.net>

**Double Bass**

**Quarter tones**

- ‡ one quarter tone higher
- # semi tone higher
- ## three quarter tone higher
- ♭ one quarter tone lower
- ♮ semi tone lower
- ♭♭ three quarter tone lower

**Right Hand Positions**

- tp : tail piece
- ws : wrapped strings
- bb : behind the bridge
- msp: molto sul ponticello
- sp : sul ponticello
- ord : ordinario
- st : sul tasto
- mst : molto sul tasto

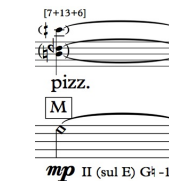
For more information about playing techniques for strings visit the following page:

<http://www.cellomap.com>

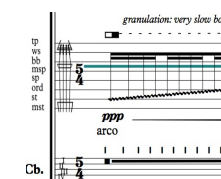
<http://www.themoderndoublebass.org.uk>

**Bow pressure levels**

- ☐ : under pressure
- ▤ : ordinary pressure
- ▥ : partially over pressure, halfway between "ordinary" and "over pressure"
- ▦ : over pressure
- ⏏ : noise symbol for over pressure



**Pizzicato Multiphonics:** The open string is much more present in the sound than for bowed multiphonics. The mid-high harmonics are weak; harmonics above the 10th seem to be inaudible. The multiphonic effect is notably more pronounced on the lower strings.



**Very slow bow granulation:** The combination of slow bow with little overpressure will result a granulation.

**Double Bass Part:** It is consisting of 5 systems: for voice, right hand, sounding pitches (loco), left hand, live-electronics.

**Multiphonics:** In general, to perform a multiphonic, one plays with light left-hand finger pressure and a medium-slow, fairly heavy bow stroke, further from the bridge than for normal harmonic playing. These conditions are relative to the 'usual' playing technique for the highest harmonic that contributes to the multiphonic, so they vary from multiphonic to multiphonic: the bow stroke will be lighter, faster and closer to the bridge if the multiphonic contains high components (e.g., 12th, 13th harmonics) than for multiphonics with only mid-range harmonics.

<http://www.cellomap.com/index/the-string/multiphonics-and-other-multiple-sounds.html>

**Controlling Loudness and Overtone Content**

The scope for varying bow pressure, bow speed and point of contact in multiphonics is limited compared to normal playing, and even compared to performing harmonics. In general, these factors control the loudness and noisiness of a multiphonic. However, they also influence which harmonics take part in a multiphonic and can block high/low components. Therefore, when trying to change the loudness or colour of a multiphonic, it is very easy to 'break up' the multiphonic and find yourself playing a single harmonic. A balance between flexibility of colour/loudness and reliability of multiphonics is difficult to achieve. In summary:

-Increasing bow pressure increases loudness and encourages a distortion-like sound. High bow pressure favours the lower harmonics, making them loudest in the mix of harmonic components. It also encourages the open string ('first harmonic') to contribute to the sound and can restrict high harmonics.

-Decreasing bow pressure makes a multiphonic sound quieter and 'purer'. Low bow pressure can restrict the lower harmonics in a multiphonic.

-Increasing bow speed increases loudness and encourages higher harmonics, eventually cutting out lower harmonic components.

-Decreasing bow speed decreases loudness and encourages lower harmonics, eventually cutting our higher harmonic components.

-Contact points quite close to the bridge encourage noisiness and favour low components, sometimes restricting high harmonics and allowing the open string to sound.

-Contact points very close to the bridge produce a 'purer' sound and favour high components, sometimes restricting low harmonics.

**Artificial Multiphonics:** These function in a same way as pure multiphonics but they are produced as stop multiphonics. The principle is the same.

prepare the IVth string with metal clip!!!

**Metal Clip Preparation:** The IVth string will be prepared with a metal clip so that, it stays on the bridge in order to make noise while playing.

**Chewing the Bow Hair:** Turn the backside of the instrument. Bow the back plate of the instrument and pressing down on the hair of the bow, making rotation motions. If the middle part of the bow is used, the sound quality will be bright. If the frog part used, the sound will be darker.

**Double stop harmonics:** Two different harmonics on the neighbour strings are played simultaneously.

**Artificial Multiphonic Glissando:** The artificial multiphonics are played with glissandi. It is difficult to sustain a consistent multiphonic effect, but reliability improves with practice.

**Pizz. Metal Clip Preparation:** The It is a normal bartok pizzicato but since the IVth string is prepared it sounds very noisy.

**Wrapped Strings' Sound:** It is played on the wrapped part of the string behind the bridge. If you move the bow vertically towards the fine tuning screws, the sound gets higher and brighter.

**Pizzicato on Two Strings:** Pizzicati are applied on the given strings by using two fingers, one finger on each string while making a glissando.

**Clattering Minor Seconds:** These are played on two adjacent strings. The higher note should be played on the lower string. In this example for instance A 3 quarter sharp is played on the 4th string where B on the IIIth.

**Trill with growing interval:** Trilling finger goes further away from the lower finger while the overall glissando.

**Superball Rubing:** A superball is played on the body of the instrument. Stave position of the activity indicates contact point of the superball to the instrument.

Line going down in the stave means going down on the body of the instrument. Wavy lines indicate wavy movements of the superball. Pressure of the superball is also indicated on the top of the stave.

**Cassette band:** The rosined cassette's magnetic tape is tied to all four strings and they stay on the bridge from the beginning of the piece. There is special string-clef used to indicate which string going to be played. Pull the tape band with your fingers to create a continuous noisy sound.

**Fork Harmonics Trill:** The right hand is trilling with the back of the metal fork between two indicated strings forth and back vertically shown in the upper stave, while left hand dampens indicated pitches. One will hear the harmonics of those strings going up and down.

**Seagull effect:** The effect is performed so that the left hand interval should be kept fixed between the stopped and harmonic fingers while making the glissando. As a result broken upwards glissandi are heard.

**Piano Part:** It consists of 5 systems: for voice, right hand on the strings, right hand on the keyboard, left hand on the strings, left hand on the keyboard and live-electronics.

**Multiphonics:** The right hand finger touches the node which lies at the given percent of the string (top staff), then quickly lifts after playing the given note with the left hand (bottom staff) on the keyboard, so that overtones occur (middle staff). This technique should be performed like a guitar harmonic playing technique.

**Pluck on the string:** The right hand holds the plectrum and plucks the given string inside the piano.

**Muted String:** The right hand mutes the given string inside the piano while left hand plays on the keyboard.

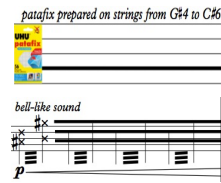
**Slow Granulation:** The right hand plays the given string so that it creates a slow granulation by scratching each winding of the string with the given rhythm.

**Book Mute:** A A4 size book should be placed on the indicated bar between A0 and A1. The right hand plays the given notes on the keyboard.

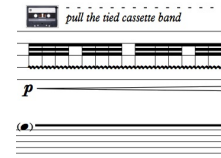
**Tuning Pin Granulation:** The right hand plays on the tuning pins to create metallic noises with the given rhythm.

**Horizontal Glissando:** The right hand holds the plectrum and makes a horizontal glissando (top staff) by scratching the winding fast on the given string (bottom staff) which causes very noisy sound.

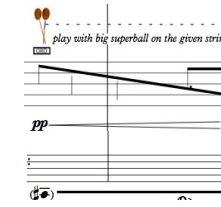
**Vertical Glissando:** All chromatic tones should be played between the given notes with a plectrum inside the piano towards the given direction.



**Patafix Preparation:** All strings tones between G#4 and C#6 should be prepared with a patafix on somewhere close to the hammers so that it causes bell-like sounds means multiphonics.

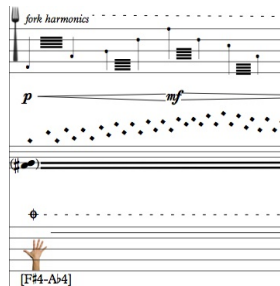


**Cassette Band:** G#3 and B3 strings should be prepared with cassette band. The right hand should pull the tied band on the given string to create a noisy granulation.

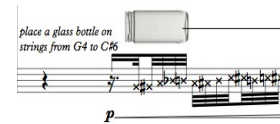


**Superball Rubing:** A superball is played on the given strings. Pressure of the superball playing is given on the top of the stave.

**pressure levels**  
 [ ] : ordinary pressure  
 [ ] : little over pressure  
 [ ] : over pressure



**Fork Harmonics Trill:** The right hand is trilling with the back of the metal fork between two indicated strings forth and back vertically as it is shown in the upper stave, while left hand dampens indicated pitches. One will hear the harmonics of those pitches go up and down.



**Glass Bottle Preparation:** The Glass bottles or glasses should be placed on on the strings between G4 and C#6 so that while left hand or right hand playing them on the keyboard, they make some characteristic noisy sounds.

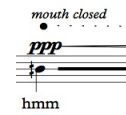
#### How to Play the Multiphonics

- 1) A light and small object (a node-obstacle) such as a plectrum is put on a mono- chord string, to rest on a slot of the copper winding. (kept in the right hand)
- 2) The corresponding key is hit quite loudly and held pressed. (left hand)
- 3) The plectrum is soon released upwards away from the string (right hand)
- 4) The key is released at latest after the sound has faded completely, or earlier (left hand). Also, the pedal can used, in which case the decay can be regulated more.

For more information about playing the multiphonics on the piano visit the following page to download the thesis regarding the multiphonics:

[http://ethesis.siba.fi/files/vesikkala\\_thesis\\_2016\\_fulltext.pdf](http://ethesis.siba.fi/files/vesikkala_thesis_2016_fulltext.pdf)

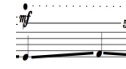
#### Voice



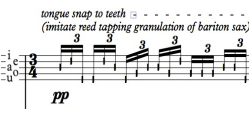
**Closed Mouth:** The given note should be sang while mouth is closed by saying "hmm". Black circle on the top of the note indicates that mouth should be closed.



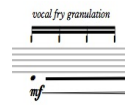
**Whistle Glissando:** This notation is used for whistling glissandi.



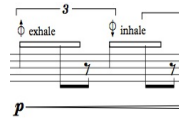
**Closed Mouth Glissando:** This notation is used for closed mouth glissandi.



**Tongue Snap:** This is a clicking noise, made by snapping the tongue to the teeth. "ieaou" clef is indicating high and low sounds respectively. This is used to imitate similar instrumental noises like reed tapping of sax.



**Vocal Fry Granulation:** Vocal Fry is the lowest vocal register and is produced through a loose glottal closure which will permit air to bubble through slowly with a popping or rattling sound of a very low frequency.



**Breath Noise:** Vocal This signs indicate the breathing noises first one while exhaling while the second one is inhaling.

For more information about the techniques please see the book called "**The Techniques of Singing**" by **Nicholas Isherwood**.

If you have question, please do not hesitate to write me. My e-mail adres is

[dulger@bu.edu](mailto:dulger@bu.edu)

# IRKALLA

for bass flute, baritone Saxophone, double bass, prepared piano and live-electronics

0" pre-1 3" 7" pre-2 12" 16" 20" pre-3

58

Voice: loco, jet whistle, sing while playing

Bass Flute: R, pp, mf, mp, sfz, p, mf, f

Live-Electronics: xn\_2, ensig\_2, xn\_1\_off, harm\_4, ensig\_1\_off

Baritone Saxophone: reed tapping granulation, p, sfz, p, mf, f, pp

Live-Electronics: harm\_2, ring\_3, harm\_1\_off

Voice: loco, mouth closed, hmmm, granulation: very slow bow

tp, ws, bb, msp, sp, ord, st, mst

Double Bass: loco, [10+19+9], [7+13+6], [5+9+13+4], arco

Live-Electronics: ring\_2, harm\_3, cop\_2, sog\_2-rec

Voice: touch the node, slow granulation, touch the node

Piano Right Hand: touch the node, mp, p, mf, mp

Piano Left Hand: touch the node, mp, mf

Live-Electronics: reson\_2, reson\_3, reson\_4, sog\_2-rec

With the simple roll of the tongue, almost without breathing. Only cover the hole with the tip of the lips

mouth closed

touch the node

slow granulation

touch the node

pre-4

Score for Voice, Flute, L-Elec, Bari. Sax., Voice, L-Elec, Voice, L-Elec, Cb., Voice, Pno. R.H., Pno. L.H., and L-Elec. The score is divided into measures 6 through 11, with time markers at 25", 30", 33", 37", 40", and 44".

**Measure 6:** Voice (gliss. while playing, pp), Fl. (pp), L-Elec (3/4), Bari. Sax. (mf), Voice (mf), L-Elec (3/4), Voice (mf), L-Elec (3/4), Cb. (mf), Voice (mf), Pno. R.H. (15<sup>th</sup>), Pno. L.H. (Ped), L-Elec (3/4).

**Measure 7:** Voice (3, 3, 3, 3, mf), Fl. (mf), L-Elec (3/4), Bari. Sax. (p), Voice (p), L-Elec (3/4), Voice (p), L-Elec (3/4), Cb. (2), Voice (p), Pno. R.H. (15<sup>th</sup>), Pno. L.H. (15<sup>th</sup>), L-Elec (3/4).

**Measure 8:** Voice (3, 3, 3, 3, mf), Fl. (mf), L-Elec (3/4), Bari. Sax. (mf), Voice (mf), L-Elec (3/4), Voice (mf), L-Elec (3/4), Cb. (4, 3), Voice (mf), Pno. R.H. (B0), Pno. L.H. (15<sup>th</sup>), L-Elec (3/4).

**Measure 9:** Voice (jet whistle, sfz), Fl. (jet whistle, sfz), L-Elec (3/4), Bari. Sax. (pp), Voice (pp), L-Elec (3/4), Voice (pp), L-Elec (3/4), Cb. (7), Voice (pp), Pno. R.H. (7), Pno. L.H. (7), L-Elec (3/4). Includes annotations: harm\_5, ring\_4, sog\_3\_play, cop\_1\_off.

**Measure 10:** Voice (R), Fl. (R), L-Elec (3/4), Bari. Sax. (pp), Voice (pp), L-Elec (3/4), Voice (pp), L-Elec (3/4), Cb. (7), Voice (pp), Pno. R.H. (7), Pno. L.H. (7), L-Elec (3/4). Includes annotations: ring\_4, sog\_3\_play, reson\_1\_off.

**Measure 11:** Voice (rit.), Fl. (rit.), L-Elec (3/4), Bari. Sax. (mp), Voice (mp), L-Elec (3/4), Voice (mp), L-Elec (3/4), Cb. (7), Voice (mp), Pno. R.H. (7), Pno. L.H. (7), L-Elec (3/4). Includes annotation: rit.

50" **pre-5** 53" **pre-6** 59" 1'02" 1'04" **pre-7** 1'08" **pre-8** 1'12"

**Voice** (Measures 12-18):  
 12: A tempo  
 13: pre-6  
 14: 59"  
 15: 1'02"  
 16: 1'04" **pre-7**  
 17: 1'08" **pre-8**  
 18: 1'12"

**B. Fl.** (Measures 12-18):  
 12: mp  
 13: harm\_6  
 14: p, mf  
 15: overblow multiphonics, sfz  
 16: slap, mp, p  
 17: harm\_1\_off, sog\_4-rec  
 18: p, mp

**L-Elec.** (Measures 12-18):  
 12: harm\_1\_off  
 13: harm\_6  
 14: harm\_1\_off  
 15: harm\_1\_off  
 16: harm\_1\_off  
 17: harm\_1\_off, sog\_4-rec  
 18: harm\_1\_off

**Bari. Sax.** (Measures 12-18):  
 12: p  
 13: slap, f, 3f  
 14: 3, mp  
 15: mp  
 16: reed tapping granulation, pp  
 17: reed tapping granulation, mp  
 18: reed tapping granulation, pp

**L-Elec.** (Measures 12-18):  
 12: ring\_1\_off  
 13: harm\_6  
 14: harm\_1\_off  
 15: harm\_1\_off  
 16: harm\_1\_off, harm\_7, sog\_4-rec  
 17: harm\_1\_off, harm\_7, sog\_4-rec  
 18: harm\_1\_off

**Voice** (Measures 12-18):  
 12: whistle gliss., p  
 13: mf  
 14: mp  
 15: mp  
 16: mp  
 17: mp  
 18: tongue snap to teeth (imitate reed tapping granulation of bariton sax), p, mp

**IP** (Measures 12-18):  
 12: mp  
 13: pp  
 14: p, mp  
 15: mp  
 16: p  
 17: p  
 18: p

**Cb.** (Measures 12-18):  
 12: mp, [7+13+6]  
 13: pp  
 14: p, [10+19+9], (b), (e)  
 15: mp, [10,53%], III (sul E)  
 16: mp, [9+17+8], (b), (e)  
 17: p, [11,8%], IV (sul F#)  
 18: p

**L-Elec.** (Measures 12-18):  
 12: ring\_5, sog\_1\_off  
 13: ring\_5, sog\_1\_off  
 14: ring\_5, sog\_1\_off  
 15: ring\_5, sog\_1\_off  
 16: ring\_5, sog\_1\_off  
 17: ring\_5, sog\_1\_off  
 18: ring\_5, sog\_1\_off

**Voice** (Measures 12-18):  
 12: A tempo, whistle gliss., p  
 13: mf  
 14: mp  
 15: mp  
 16: touch the node, 11,8%  
 17: touch the node, 11,8%  
 18: touch the node, 10,53%

**Pno. R.H.** (Measures 12-18):  
 12: mp  
 13: mp  
 14: [G5]  
 15: [9+17+8], (b), (e)  
 16: touch the node, 11,8%  
 17: touch the node, 11,8%  
 18: touch the node, 10,53%

**Pno. L.H.** (Measures 12-18):  
 12: Ped.  
 13: Ped.  
 14: mp  
 15: 8<sup>th</sup>, mp  
 16: 8<sup>th</sup>, mp  
 17: 8<sup>th</sup>, mp  
 18: 15<sup>th</sup>, P.

**L-Elec.** (Measures 12-18):  
 12: ring\_5, sog\_1\_off  
 13: reson\_5, sog\_1\_off  
 14: reson\_5, sog\_1\_off  
 15: reson\_5, sog\_1\_off  
 16: reson\_5, sog\_1\_off  
 17: reson\_5, sog\_1\_off  
 18: reson\_5, sog\_1\_off

1'18" pre-9 1'22" pre-10 1'27" pre-11 1'33" 1'36" 1'39" 1'43" pre-12 1'46"

19 20 21 22 23 24 25 26

19  
Voice

B. Fl.  
tongue ram  
3 3 3 3 3 3 3 3  
flutter  
pp mf

L-Elec.  
sog\_5\_play  
ensig\_1\_off  
ring\_7  
sog\_1\_off


Voice

Bari. Sax.  
prepared with carton  
p mf  
tongue ram  
3 3 3 3 3 3 3 3  
pp mf  
flutter

L-Elec.  
cop\_3  
harm\_1\_off  
sog\_5\_play  
cop\_1\_off  
ring\_7  
sog\_1\_off

Voice  
pp  
hmm

tp  
ws  
bb  
msp  
sp  
ord  
st  
mst

Cb.  
[M] 10,53%  
prepare the IVth string with metal clip!!! 




L-Elec.  
ring\_6  
ring\_1\_off

Voice  
pp  
hmm

Pno. R.H.  
[A0-A♭1]  
mp mf f p  
[D#2, F3] [A0-A♭1]

Pno. L.H.  
mp mf f  
Ped. Ped. Ped.

L-Elec.  
reson\_1\_off  
ring\_1\_off  
reson\_6



1'50" pre-13

1'54"

1'58" pre-14

2'01"

2'04" pre-15

2'08"

2'13" pre-16

2'17"

9

27 28 29 30 31 32 33 34

Voice: *p* *mf* *p* *mf*

B. Fl.: *p* *mf* *p* *mf* *pp* *mf*

L-Elec.: *ring\_1\_off* *4xn\_3*

Voice: *p* *mf* *pp* *mf* *pp* *mf*

Bari. Sax.: *p* *mp* *mf* *pp* *mf* *pp* *mf*

L-Elec.: *ring\_1\_off* *4xn\_3*

Voice: *p* *mp*

back plate: *p* *mf* *sub. pp* *mf*

Cb.: *harm\_8 sog\_6-rec*

L-Elec.: *harm\_1\_off* *sog\_7\_play*

Annotations: *press & rotate bow hair*, *tongue snap to teeth (imitate reed tapping granulation of bariton sax)*, *tp ws bb msp sp ord st mst*

Voice: *pp* *p* *mp*

Pno. L.H.: *mf* *p* *mf*

L-Elec.: *sog\_6-rec* *sog\_7\_play* *reson\_1\_off*

Annotations: *granulation on tuning pins*

pre-17

pre-18

pre-19

2'25" 2'29" 2'32" 2'35" 2'38" 2'41" 2'46" 2'49"

**A tempo**

35 36 37 38 39 40 41 42

Voice: fo → fi  
 hi he he ha ha ho hu hu  
 hi hi hi he he he ha ha ha ho ho ho hu hu hu  
 fu

B. Fl.: (more overtones)  
 (air to sound)  
 sfz p jet whistle sfz p

L-Elec.: xn\_1\_off harm\_9

Bari. Sax.: (more overtones)  
 (air to sound)  
 f p

L-Elec.: xn\_1\_off harm\_9

tp ws bb msp sp ord st mst

Cb.: arco [M] 10,53%  
 III (sul B) IV (sul F#) III (sul B) III (sul B)  
 f p

L-Elec.: ring\_9 sog\_1\_off

pre-19

35 36 37 38 39 40 41 42

Voice: fu

B. Fl.: (more overtones)  
 (air to sound)  
 sfz p jet whistle sfz p

L-Elec.: ensig\_4

Bari. Sax.: (more overtones)  
 (air to sound)  
 f p

L-Elec.: ensig\_4

tp ws bb msp sp ord st mst

Cb.: pizz. l.v.  
 mf prepared with metal clip mp

L-Elec.: ring\_10 ring\_1\_off

**A tempo**

35 36 37 38 39 40 41 42

Voice: touch the node horizontal gliss.  
 [A0-Ab1] mp f p

Pno. R.H.: [9+17+8] 11,8%  
 f p

Pno. L.H.: [M] 11,8%  
 mp f pp

L-Elec.: reson\_7 sog\_1\_off

Score for multiple instruments including Voice, B. Fl., L-Elec., Bari. Sax., tp, ws, bb, msp, sp, ord, st, mst, Cb., Pno. R.H., Pno. L.H., and L-Elec. The score is divided into measures with time signatures changing from 4/4 to 3/4 and back to 4/4. It includes various musical notations such as notes, rests, dynamics (e.g., *fff*, *mf*, *p*), articulation marks, and performance instructions like "grainulation on tuning pins" and "prepared with metal clip".

3'13" pre-21

3'17" pre-22

3'22" pre-23

3'26"

3'29"

3'33" pre-24

Score for Voice, B. Fl., L-Elec., Bari. Sax., Cb., Pno. R.H., Pno. L.H., and L-Elec. across measures 49-54.

**Measures 49-50:** Voice (mf), B. Fl. (mf), L-Elec. (harm\_11), Bari. Sax. (mf), Cb. (fff), Pno. R.H. (vertical gliss. f), Pno. L.H. (fff), L-Elec. (xn\_4).

**Measures 50-51:** Voice (fff), B. Fl. (p), L-Elec. (harm\_12 frz\_2\_rec), Bari. Sax. (fff), Cb. (p), Pno. R.H. (mf), Pno. L.H. (mf), L-Elec. (ring\_1\_off).

**Measures 51-52:** Voice (p), B. Fl. (p), L-Elec. (ring\_11), Bari. Sax. (mp), Cb. (tr), Pno. R.H. (mp), Pno. L.H. (Ped.), L-Elec. (ring\_11).

**Measures 52-53:** Voice (mf), B. Fl. (p), L-Elec. (ring\_11), Bari. Sax. (mp), Cb. (tr), Pno. R.H. (mf), Pno. L.H. (Ped.), L-Elec. (ring\_11).

**Measures 53-54:** Voice (fi), B. Fl. (fff), L-Elec. (vrd\_2\_rec), Bari. Sax. (fff), Cb. (f), Pno. R.H. (fff), Pno. L.H. (f), L-Elec. (vrd\_2\_rec).

**Annotations:** Re-Re#, (more overtones), (air to sound), clattering noise, prepared with carton, whistle, vertical gliss., horizontal gliss., 15<sup>th</sup>, Ped.

55 56 57 58

6 6 6 7

mf f frz\_3\_play

ho ho ho ho ho ho ha he he he he he he

mf f (more overtones) clattering noise (air to sound) prepared with carton

vocal fry granulation

mf f mf fff

tp ws bb msp sp ord st mst

fff mf mf ff mf pizz. fff

frz\_3\_play

vocal fry granulation

vertical gliss. horizontal gliss.

f ff mf f mp fff

Pno. R.H.

Pno. L.H.

fff (15) mp fff

Re-Re#

fff

3'54" pre-26

5'24" pre-27

5'28" 5'32" pre-28

5'36"

5'41"

**SOLO LIVE-ELECTRONICS ca.90"**

B. Fl. *p* *mf* *p*

L-Elec. *harm\_1\_off*

**SOLO LIVE-ELECTRONICS ca.90"**

Bari. Sax. *p* *mf* *p* *mf*

L-Elec. *vr\_d\_3\_play* *ring\_1\_off*

**SOLO LIVE-ELECTRONICS ca.90"**

Voice *p* *mp* *p* *mf* *mp* *f* *p* *mf*

Cb. *p* *mf*

L-Elec. *harm\_1\_off* *harm\_13* *frz\_1\_off*

*play with big superball on the back plate or else where on body of the instrument*

*pull the tied cassette band*

**SOLO LIVE-ELECTRONICS ca.90"**

Voice *p* *mp* *p*

Pno. R.H. *p* *mp* *p*

L-Elec. *harm\_1\_off* *harm\_13* *frz\_1\_off*

*patafix prepared on strings from G#4 to C#6*

*bell-like sound*

*pull the tied cassette band*

**SOLO LIVE-ELECTRONICS ca.90"**

Pno. L.H. *p* *mf* *p*

L-Elec. *vr\_d\_3\_play* *reson\_1\_off* *vr\_d\_1\_off* *harm\_13*

*remove the book* *patafix prepared on strings from G#4 to C#6*

*pull the tied cassette band*



545" 549" 553" 557" 601" **pre-29** **pre-30**

**B. Fl.** *mf* *p* *f* *mf* *f* *p* *mf* *mf* *p* *slap* *mp*

**L-Elec.** *harm\_14* *ring--13*

**Bari. Sax.** *p* *mf* *mp* *f* *p* *mf* *p* *slap* *mp*

**L-Elec.** *ring--13* *harm\_15*

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

**Cb.** *p* *mf* *p* *mf* *p* *f* *pizz.* *f*

**L-Elec.** *harm\_1\_off*

**Pno. R.H.** *mf* *p* *mf* *p*

**Pno. L.H.** *pp* *mpp* *mf mp* *f*

**L-Elec.** *ring\_13* *harm\_1\_off*

*exhale* *inhale* *vocal fry granulation: imitate the violin* *pull the tied cassette band* *bell-like sound* *play with big superball on the given strings*

pre-31

B. Fl. *f* *mp* *f* *p* *mf* *p mp*

L-Elec. *harm\_16* *vr\_d\_4\_rec*

Bari. Sax. *mf* *p* *f* *p* *mf* *p* *mp*

L-Elec. *harm\_16* *vr\_d\_4\_rec*

Voice *p* *mf* *p* *mf*

tp ws bb msp sp ord st mst *p* *f* *p* *mf* *p*

Cb. *pizz.*

L-Elec. *harm\_16*

Voice *p* *mf* *p* *mf* *p*

Pno. R.H. *mf* *p* *mf* *pp* *p*

Pno. L.H. *ped.* *ped.* *ped.* *ped.* *ped.*

L-Elec. *harm\_16* *ring\_1\_off*

Pno. R.H. *mf* *p* *mf* *pp* *p*

Pno. L.H. *ped.* *ped.* *ped.* *ped.* *ped.*

L-Elec. *harm\_16* *ring\_1\_off*



**Voice** (75-81):  
 - 75: Rest  
 - 76: Rest  
 - 77: Rest  
 - 78: *mp* (mezzo-piano)  
 - 79: Rest  
 - 80: *mf* (mezzo-forte), *p* (piano)  
 - 81: *p* (piano)

**B. Fl.** (75-81):  
 - 75: *5*, *6*, *7*  
 - 76: *5*, *6*, *7*  
 - 77: *5*, *6*, *7*  
 - 78: *ff* (fortissimo), *mf* (mezzo-forte)  
 - 79: Rest  
 - 80: *f* (forte)  
 - 81: Rest

**L-Elec.** (75-81):  
 - 77: *vrld\_5\_play*, *harm\_1\_off*  
 - 78: Rest  
 - 79: Rest  
 - 80: Rest  
 - 81: Rest

**Bari. Sax.** (75-81):  
 - 75: *6*, *6*, *7*  
 - 76: *5*, *6*, *7*  
 - 77: *ff* (fortissimo)  
 - 78: *mf* (mezzo-forte)  
 - 79: Rest  
 - 80: *f* (forte)  
 - 81: Rest

**L-Elec.** (75-81):  
 - 77: *vrld\_5\_play*, *harm\_1\_off*  
 - 78: Rest  
 - 79: Rest  
 - 80: Rest  
 - 81: Rest

**Voice** (82-88):  
 - 82: *p* (piano)  
 - 83: *f* (forte)  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**tp** (82-88):  
 - 82: Rest  
 - 83: Rest  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**wp** (82-88):  
 - 82: Rest  
 - 83: Rest  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**bb** (82-88):  
 - 82: Rest  
 - 83: Rest  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**mtp** (82-88):  
 - 82: Rest  
 - 83: Rest  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**ord** (82-88):  
 - 82: Rest  
 - 83: Rest  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**st** (82-88):  
 - 82: Rest  
 - 83: Rest  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**mst** (82-88):  
 - 82: Rest  
 - 83: Rest  
 - 84: Rest  
 - 85: Rest  
 - 86: Rest  
 - 87: Rest  
 - 88: Rest

**Cb.** (75-81):  
 - 75: *7*  
 - 76: *7*  
 - 77: *7*  
 - 78: *7*  
 - 79: *7*  
 - 80: *7*  
 - 81: *7*  
 - 77: *ff* (fortissimo)  
 - 78: *mf* (mezzo-forte)  
 - 79: Rest  
 - 80: *f* (forte)  
 - 81: Rest

**L-Elec.** (75-81):  
 - 77: *harm\_1\_off*  
 - 78: Rest  
 - 79: Rest  
 - 80: Rest  
 - 81: Rest

**Voice** (89-95):  
 - 89: *mf* (mezzo-forte)  
 - 90: Rest  
 - 91: *mp* (mezzo-piano)  
 - 92: Rest  
 - 93: *f* (forte)  
 - 94: Rest  
 - 95: Rest

**Patafix** (89-95):  
 - 89: *ff* (fortissimo)  
 - 90: Rest  
 - 91: *mf* (mezzo-forte)  
 - 92: Rest  
 - 93: *ff* (fortissimo)  
 - 94: Rest  
 - 95: Rest

**Patafix** (89-95):  
 - 89: *ff* (fortissimo)  
 - 90: Rest  
 - 91: Rest  
 - 92: Rest  
 - 93: *mf* (mezzo-forte)  
 - 94: Rest  
 - 95: Rest

**Pno. R.H.** (89-95):  
 - 89: Rest  
 - 90: Rest  
 - 91: Rest  
 - 92: Rest  
 - 93: Rest  
 - 94: Rest  
 - 95: Rest

**Pno. R.H.** (89-95):  
 - 89: Rest  
 - 90: Rest  
 - 91: Rest  
 - 92: Rest  
 - 93: Rest  
 - 94: Rest  
 - 95: Rest

**Pno. L.H.** (89-95):  
 - 89: Rest  
 - 90: Rest  
 - 91: Rest  
 - 92: Rest  
 - 93: Rest  
 - 94: Rest  
 - 95: Rest

**L-Elec.** (89-95):  
 - 89: Rest  
 - 90: Rest  
 - 91: Rest  
 - 92: Rest  
 - 93: Rest  
 - 94: Rest  
 - 95: Rest



patafix prepared on strings from G#4 to C#6

bell-like sound

horizontal gliss.

horizontal gliss.

pull the tied cassette band

8<sup>th</sup>

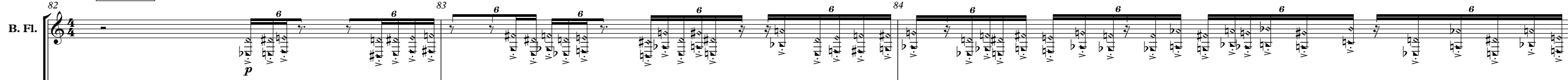
15<sup>th</sup>

harm\_1\_off

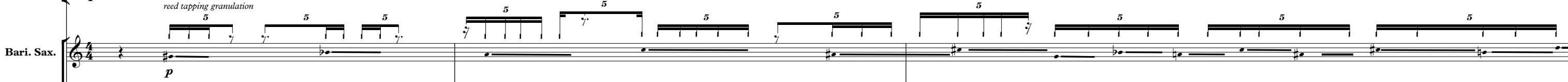
6'46" pre-33

6'50"

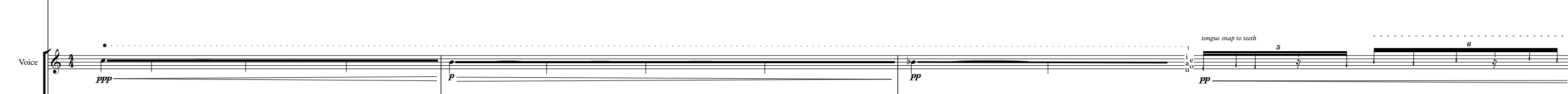
6'54"

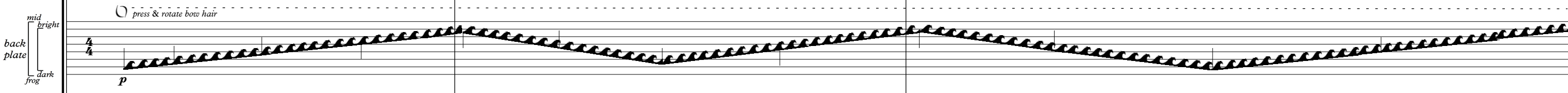
B. Fl. 

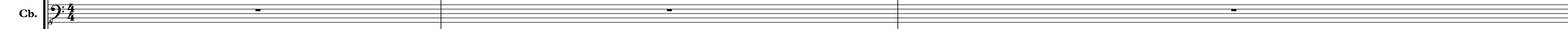
L-Elec. 

Bari. Sax. 

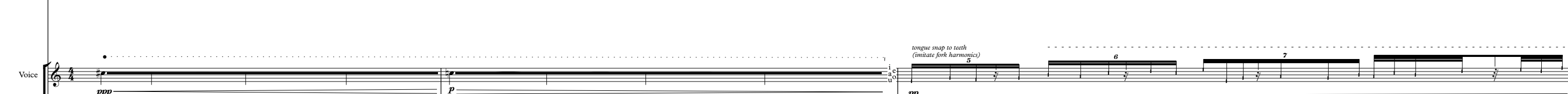
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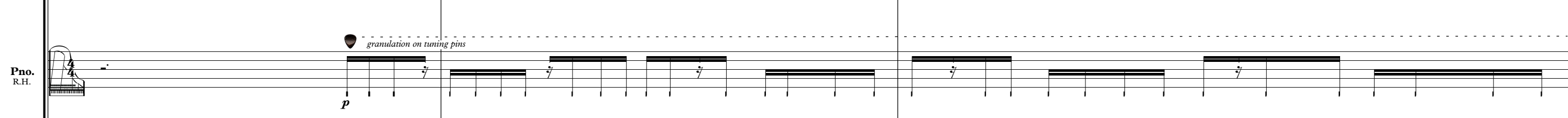
Voice 

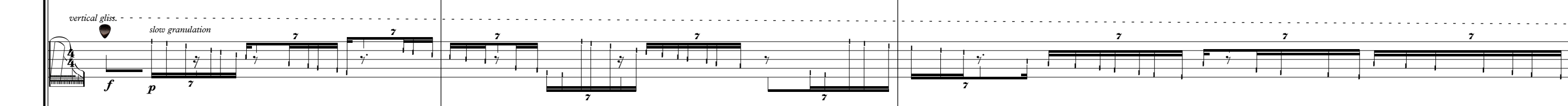
back plate 

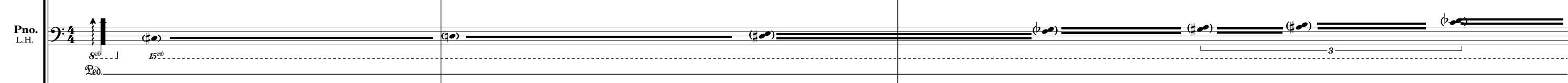
Cb. 

L-Elec. 

Voice 

Pno. R.H. 

Pno. R.H. 

Pno. L.H. 

L-Elec. 

Score for **pre-34** and **pre-35**, measures 85-91. The score includes parts for Voice, B. Fl., L-Elec., Bari. Sax., Cb., Pno. R.H., Pno. L.H., and L-Elec. (bottom).

**Measure 85:** Voice (*p*), B. Fl. (*p*), Bari. Sax. (*pp*), Cb. (*pp*), Pno. R.H. (*mf*), Pno. L.H. (*f5*).

**Measure 86:** Voice (*p*), B. Fl. (*p*), Bari. Sax. (*mp*), Cb. (*pp*), Pno. R.H. (*mf*), Pno. L.H. (*f5*). Includes *frz\_5\_play* and *tongue snap to teeth (imitate fork harmonics)*.

**Measure 87:** Voice (*mf*), B. Fl. (*mf*), Bari. Sax. (*p*), Cb. (*pp*), Pno. R.H. (*mf*), Pno. L.H. (*f5*). Includes *frz\_5\_play* and *fork harmonics*.

**Measure 88:** Voice (*p*), B. Fl. (*mf*), Bari. Sax. (*mf*), Cb. (*p*), Pno. R.H. (*p*), Pno. L.H. (*f5*). Includes *frz\_5\_play* and *seagull effect*.

**Measure 89:** Voice (*pp*), B. Fl. (*pp*), Bari. Sax. (*pp*), Cb. (*mp*), Pno. R.H. (*pp*), Pno. L.H. (*f5*). Includes *rit.* and *frz\_5\_play*.

**Measure 90:** Voice (*pp*), B. Fl. (*pp*), Bari. Sax. (*pp*), Cb. (*pp*), Pno. R.H. (*pp*), Pno. L.H. (*f5*). Includes *rit.* and *frz\_5\_play*.

**Measure 91:** Voice (*pp*), B. Fl. (*pp*), Bari. Sax. (*pp*), Cb. (*pp*), Pno. R.H. (*pp*), Pno. L.H. (*f5*). Includes *A tempo* and *frz\_5\_play*.

**Annotations and Effects:**

- SOLO LIVE-ELECTRONICS ca.30":** Indicated in boxes for Voice, Bari. Sax., and Pno. R.H. parts.
- frz\_5\_play:** Green text indicating a specific electronic effect.
- fork harmonics:** Indicated with a fork icon and notes.
- seagull effect:** Indicated with a seagull icon and notes.
- back plate:** Includes *mid bright* and *dark frog* settings.
- Hand icons:** Indicate specific techniques like *tongue snap to teeth* and *frz\_5\_play*.
- Chord diagrams:** *[G♭3-B♭3]* and *[F♯4-A♭4]* are shown.
- Performance instructions:** *remove the patafix* (with a crossed-out image), *place a glass bottle on strings from G♯4 to C♯6*.
- Other effects:** *ensig\_1\_off*, *vrld\_1\_off*, *xn\_1\_off*, *ring\_1\_off*.

7'56" 7'58" 8'01" 8'05" 8'08" 8'13" 8'16"

pre-36 pre-37

92 93 94 95 96 97 98

7 7 7 7 3 3 3 3 3 3

Voice: fo → fi hi hi hi he he he ha ha ha ha ho ho ho fu fu fu fu

B. Fl.: (more overtones) (air to sound) *sfz* 7 7 *p* jet whistle (more overtones) *sfz* 3 3 3 3 *p* jet whistle (more overtones) (air to sound) *sfz*

L-Elec.: harm\_17 firz\_1\_off

voice: fo → fi fu

Bari. Sax.: (more overtones) (air to sound) *mf* 5 5 *p* (more overtones) (air to sound) *f* 5 5 *p* (more overtones) clattering noise (air to sound) prepared with carton

L-Elec.: harm\_17 sog\_1\_off

tp ws bb msp sp ord st mst

Cb.: arco *M* 10,53% III (sul B) III (sul B) IV (sul F#) III (sul B) *pizz.* *mf* prepared with metal clip *mp*

L-Elec.: ring\_15 firz\_1\_off

Pno. R.H.: horizontal gliss. 11,8% *mp* *mf* *p* 38,5% *p* *f* *p* horizontal gliss. *mp*

Pno. L.H.: *M* 11,8% *mp* *mf* *p* 38,5% *mf* *f* *p* horizontal gliss. *mf* 15<sup>th</sup> *mf*

L-Elec.: reson\_9 sog\_1\_off

reson\_10 ring\_16 harm\_18



8'39" **pre-40** 8'44" **pre-41** 8'53" 8'56" **pre-42** 9'00" **pre-43** 9'04" **pre-44**

105 106 107 108 109 110 111

Voice: *mf* *fff* *p* *mf* *fff* *hi hi hi hi hi he he he he he ha ha ha ha ha ho ho ho ho ho* *ho ho ho ho ho ha ha*

Fl.: *mf* *fff* *p* *fff* *(more overtones)* *fff* *fff* *fff* *mf*

L-Elec.: *harm\_19* *xn\_7* *harm\_1\_off* *ring\_19* *sog\_10-rec* *ensig\_7* *xn-->8* *cop\_6*

Bari. Sax.: *mf* *fff* *mp* *mp* *(more overtones)* *clattering noise* *(air to sound)* *prepared with carton* *fff* *mf*

L-Elec.: *ring\_17* *xn\_7* *ring\_19* *xn\_8* *sog\_10-rec*

Voice: *mp* *fff* *f* *fff* *mf*

tp ws bb msp sp ord st mst: *fff* *mf* *p* *fff* *f* *fff* *mf*

Cb.: *fff* *mf* *p* *fff* *f* *fff* *mf*

L-Elec.: *xn\_6* *frz\_6\_rec* *ring\_18* *reson\_11* *ring-->19* *harm\_20*

Voice: *mp* *fff* *mf* *fff* *mf*

Pno. R.H.: *f* *fff* *ff* *mf* *horizontal gliss.* *mp* *fff* *mf* *vertical gliss.* *f* *ff*

Pno. L.H.: *fff* *mf* *mp* *fff* *mf* *vertical gliss.* *fff*

L-Elec.: *cop\_5* *frz\_6\_rec* *ring\_18* *cop\_1\_off* *reson\_11* *ring-->19* *harm\_20* *cop\_6*

Annotations: *Re-Re#*, *tr*, *whistle*, *whistle*, *vertical gliss.*, *horizontal gliss.*, *vertical gliss.*, *clattering noise*, *prepared with carton*, *vocal fry granulation*, *15th*

9'08"

9'13"

9'17"

9'21"

112 113 114 115

mf *Re-Re#* *fff*

SOLO LIVE-ELECTRONICS ca.45"

sog\_11\_play

mf *(more overtones)* *clattering noise* *fff*

*(air to sound)* *prepared with carton* *mf* *fff*

SOLO LIVE-ELECTRONICS ca.45"

sog\_11\_play

mf *vocal fry granulation* *fff*

*mf* *fff*

SOLO LIVE-ELECTRONICS ca.45"

frz\_7\_play

mf *vocal fry granulation* *fff*

*horizontal gliss.* *mf* *f* *mp* *fff*

*8<sup>th</sup>* *mf* *fff*

SOLO LIVE-ELECTRONICS ca.45"

frz\_7\_play