

# **L e f t O v e r s**

## **A c h o r e o g r a p h y - o f - s p r i n g s m u s i c**

for piano, springs-organ, guitars (classical & electric), cello, springs director and LeftOvers machine

(Work in Progress)

June 2013

Duration: 15-17 min

**Sivan Cohen Elias**

## **Collaborators of the additional installations:**

### **LeftOvers machine:**

Conceptual design: **Teddy Mudge, Sivan Cohen Elias**

Machine construction: **Teddy Mudge**

### **Piano installation and Spring Organ:**

Conceptual design and construction: **Sivan Cohen Elias**

LeftOvers Machine and installations final design and construction:

**Helmut Dietz, Kestutis Svirnelis**

**The project LeftOvers is dedicated to Akademie Schloss Solitude  
and especially to Mr. Jean-Baptiste Joly and Fr. Marieanne Roth  
with much appreciation for their support in the project**

**The piece is written for ensemble Ascolta to be premiered at the  
Sommer in Stuttgart June 22<sup>nd</sup> 2013 at the Theaterhaus Stuttgart**

## Technical instructions

### Instrumentation:

Piano + net with springs

Guitars (electric and classical)

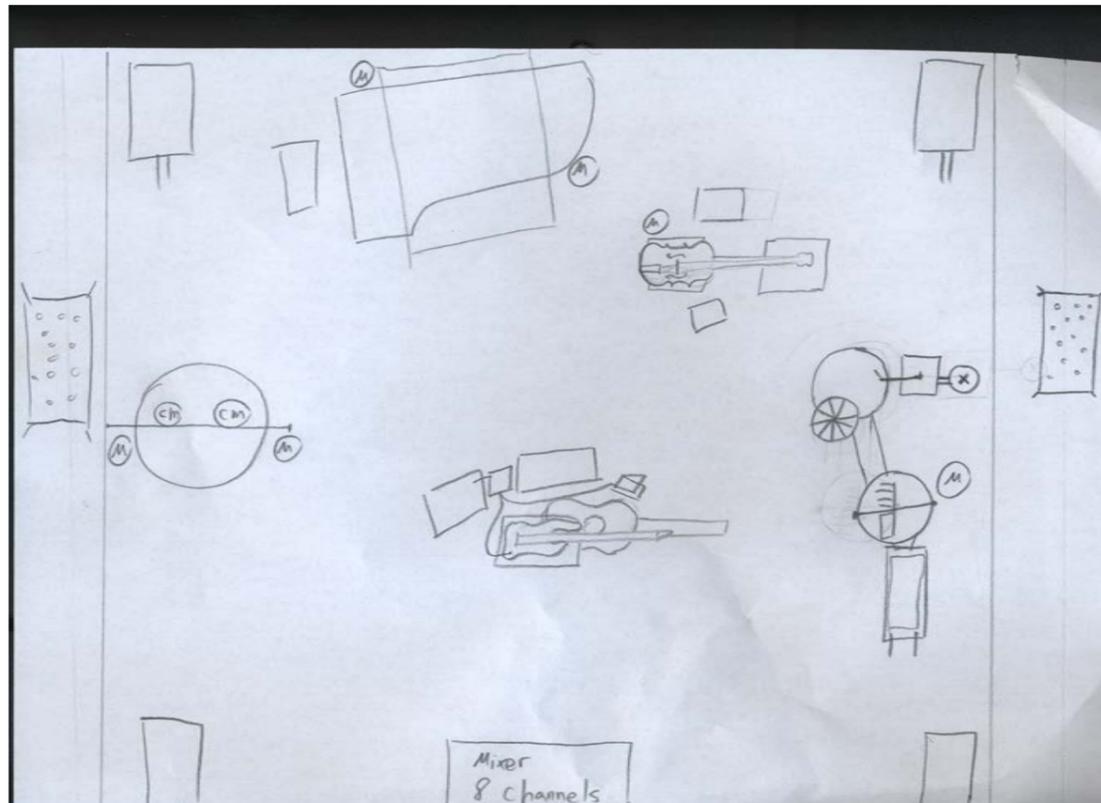
Percussion (Springs-organ)

Cello

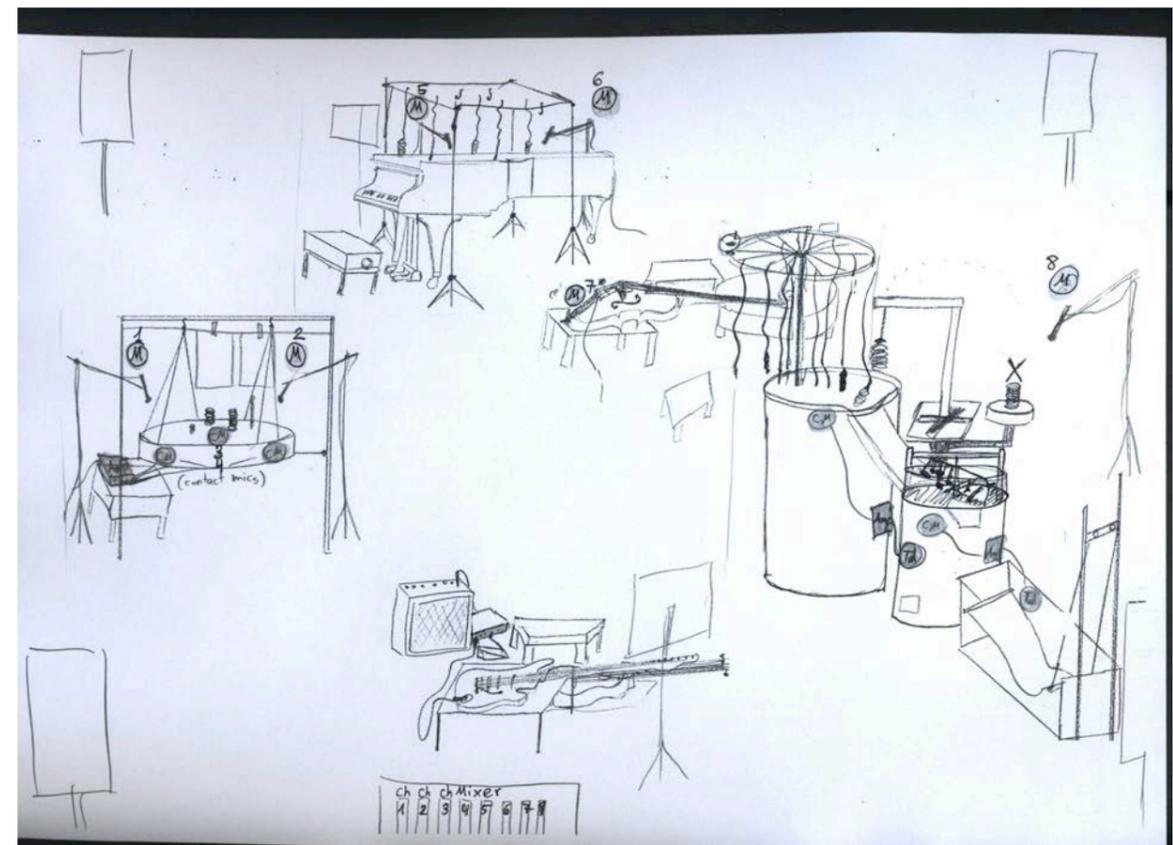
Extra performer: 'LeftOvers' machine operator and springs director

### Stage arrangement:

View from above:



View from the audience side:

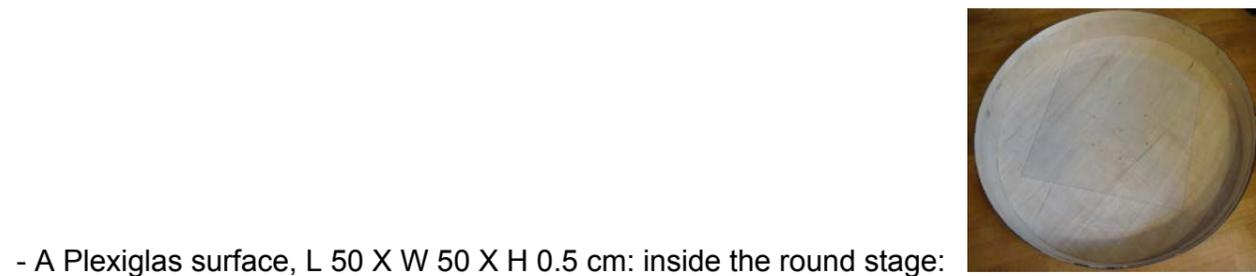


## Installations and extra tools at the beginning of the piece

### Percussion: Springs-Organ:

The percussionist installation is called 'Springs Organ'. This is a mobile construction that is put together throughout the performance.

At the beginning of the piece the 'Springs Organ' consists of the following materials:



- A hardboard surface, L 100 X W 80 X H 0.5 cm: on top of the round stage:



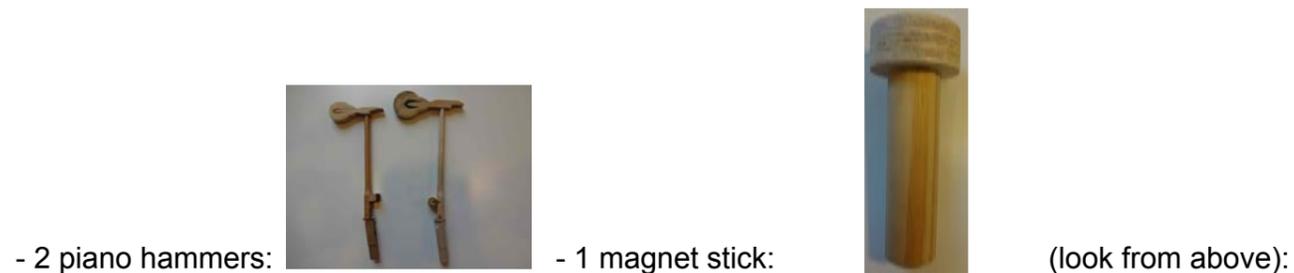
- A wooden surface, 60 X 60 X H 0.5 cm, with wooden cups to attach to the springs later in the piece:



(look from upper side of the surface: )

\* All this has to stand on a W 120 X L 160 H 120 cm table.

### \* Additional tools on the table:



- 1 dense spring 15cm in length (identical to General Spring no. 1):



- 1 percussion hard-stick.

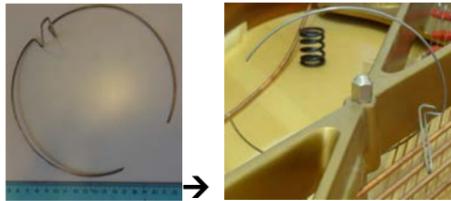
## Grand piano:

A net with springs is suspended above the piano strings. In order to do so, the piano wing has to



be completely removed:

Different springs are placed inside the following holes inside the piano: Left side of strings:



Right side of strings:



- Ping-pong ball on the second system from the right:

- General Spring no. 5 is a bass piano string that is put on the left of the equivalent bass piano strings inside the piano. Its loop head has to be put in a position comfortable to grab and drag it



outside the piano without hitting the other springs:

VI

At the beginning of the piece the pianist holds Spring no. 1:

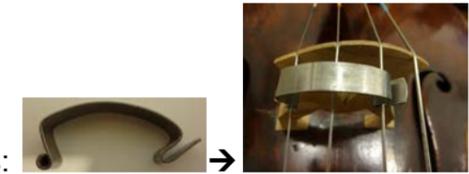


## Cello:

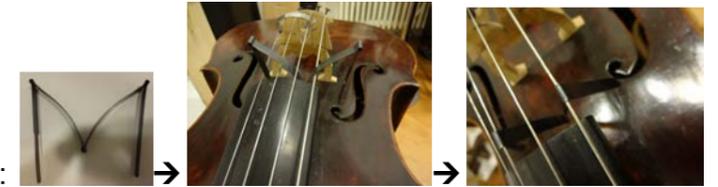
The cello is lying flat on its back, on top of two stools (or stands). The player can choose whether to sit or stand.

Two hooks and slinky (4cm diameter) are attached to the cello in the following manner:

Wide hook: close to the bridge on the 1-3 strings:



M hook: close to the tasto on the 2-4 strings:



Slinky: attached to the strings at the tuning-pegs area above the fingerboard:



At the beginning of the piece the cellist has on the side: 1 magnet stick

## Guitars:

The electric guitar and classical guitar are lying flat on their backs on top of stools (or stands) at a comfortable height for the guitarist to play in a sitting position. The electric guitar is in front of the guitarist and the tuning pegs are positioned to his/her left and the soundboard is to his/her right. The classical guitar is lying with the same direction to the right side of the electric guitar (and the player) and creates a 90 degree angle between them, as in the following picture:



Guitarist

Additional tools:

- 2 piano hammers:
- 1 metal bottleneck
- 1 magnet stick

### LeftOvers Machine:

The LeftOvers machine contains 3 parts:

The first part consists of a bike-wheel with 4 motors attached from which different strings and springs are hanged above a circular board. The wheel is standing about 60 cm above the board.

The second part, called the miller, is a circular board with a compressor that is rotating when operated by a motor.

The third part, called the drier, is a rectangular container with a honeycomb elastic board hanged from both sides. A motor rotates an irregularly shaped wooden wheel, pushing the sticks that hold the honeycomb board and creating different rhythms of bouncing. Underneath the honeycomb board stands a heating fan, which can be adjusted in terms of temperature and amount of air omitted.

### The Spring Director

Part of the Spring director's role is to pass particular springs to particular players throughout the piece. For this he needs to store the following springs at the following areas:

#### **General springs:**

General Spring no. 2 is placed near the box at the same area on the left side of stage:



General Spring no. 3, 4:  and 6 (=Springs-Organ no 2) are placed near the wheel part of the machine.

The box with the springs for the Springs-Organ is placed on the left side of stage. The following springs are inside the box:

#### **Springs-Organ springs:**

- Springs-Organ spring no. 1:



- Springs-Organ spring no. 1a:



put



together:

- Springs-Organ spring no. 5: identical to General springs no. 3+4

- Springs-Organ spring no.

6: 

- Springs-Organ spring no. 7:



- Springs-Organ spring no. 8:



- Springs-Organ spring no. 9:



**Extra materials needed from the production:**

**Piano:** - piano wing removed

**Guitars:** - 2 stools to lie the guitar on

**Percussion:** A W 120 X L 160 H 120 cm table

**Cello:** 2 stools for laying the cello on and 1 seat for the player

**LeftOvers Machine:** Take into consideration the size of the stage: The machine is standing at the right side of the stage and occupies about 3.5 (L) X 1.5 (W) meters with different heights (see picture)

**Amplification:**

**The optimal arrangement is as follow:**

2 contact mics + 1 condenser mic underneath the springs-organ

2 condenser-mics for the piano

1 condenser-mic for the guitar

1 condenser-mic for the cello

1 contact mic for the cello

2 condenser mics for the machine

8 channel mixer

4 speaker stands in 4 corners of the stage or the entire hall

## Performance notes:

### General instructions:

#### - **Walking and interactive activities:**



: Steps markings: walk from one place to the next place indicated on the score. In addition to other tools that you might need to take with you, you may also wish to take the card with the guide of your tour until you come back to your initial position in front of your instrument and the score.

#### - **Sense of Togetherness: mm. 127-133:**

All the players are following particular instructions of how to strike their instrument. The main point is that every strike has to happen together with all the others, but the restriction is that no one player is allowed to look at the other players and nobody is giving a queue or count. Take your time and when you sense that all the others are about to strike... then strike.

### Two different spring numbering systems:

- 1) The numbering of the general springs refer to their chronological appearance throughout the piece.
- 2) The numbering of the Springs-Organ's springs refer to the order of the springs for the percussionist only.

### Percussion:

#### **Maze no. I:** mm. 1-22:

- One player
- Two piano-hammers (pno-hammers)
- On sheet separate to your part-score, hangs two hand-drawn colored mazes, one for each hand.
- You should follow the lines of the mazes and imitate them by dragging the pno-hammers along the board. Start with both hands together. After that, you can decide how to alternate between them, the speed at which you wish to move and the amount of pressure against the board that you want to give at each moment. The only restriction is that you have to prevent the hammers from leaving the surface. If a "knot" is created between the hands and there is no other way to proceed, you should start from the beginning.

- Every color relates to a different way of holding the hammer against the board:

Black: The edge of the hammer's head is facing the board and produces a hissing sound while rubbing it against the board.

Blue: Turn the hammer's head to one of its sides so its entire surface is now rubbing the board.

Red: Turn the hammer's head completely to its backside (hammer head facing upwards) and rub its entire backside, including the top and the bottom of the stick.

Green: With the hammer head facing upwards, rub only the small round cushion that is near its bottom.

#### **Dragging the Springs:** mm. 24-45

According to the drawings in your part-score, drag and change positions of the spring (no. 2) on the board. The rhythm is not strict, but rather approximate timing. The sound color alternates

between humming, high and low frequencies and when you change positions there are natural knockings of the spring on the pno-hammers and the board.

### Spring Ping-Pong: mm. 45-68

- The spring is lying on the board so its narrower end is facing the audience and its broader end is facing you.
- Hit the spring with the pno-hammer in one hand and then with the hammer in the other in order to roll the spring from side to side at the indicated areas and in the indicated angles.
- The final aim is to cause the spring to rotate (roll in a complete circle) by itself at the center of the board as fast and stable as possible, starting from mm. 56.

- In mm. 67 the player has to take out the Plexiglas and put it on top of the hard-board:



### mm. 74-85:

RH: Hold the piano hammer so that the joint between the head and the wooden stick is touching the pno-string on top and drag it along the string as indicated in the score (written with the upper note-stem).

LH: Use the percussion hard-stick to drag it along the pno-string as indicated in the score (written with the lower note-stem).

### Spring-Squash: mm. 87-112

- two players (percussion and Spring-director)
- Plexiglas surface framing the board of the game
- One 7cm wide X 12 cm length spring is the "ball"
- One piano hammer for each player are the "bats"

### Guide:

- Spin the spring in the center of the board. The player that the spring goes towards after the spinning serves first.
- The player that serves always hits the spring diagonally. The player that returns always hits the spring straight.
- The player that causes the spring to go outside the glass frame loses the rally.
- The winner of the rally serves to start the next point.
- The first serve (when the server changes) is always from the right side of the server.
- If the server were to win this point he/she serves from the left to start the next rally.
- The serves alternate between right and left as long as the server continuous to win the rallies.
- If the server loses, his/her opponent starts the next rally by serving from the right side (of the new server).

### Sound consideration:

- When the spring goes outside the board, let it roll on the black hardboard, so the change of the sound color will appear.

### Maze no. II: Springs and magnets: mm. 122-127, 140-145

- One player
- Use two magnet sticks. Put them underneath the wooden surface and imitate the line by taking the indicated springs to the indicated spots relatively to the big springs that are on the board.

### L: mm. 136:

Drag the pno-hammer along the Springs-Organ's spring no. 6 in the indicated manners, producing a quasi arpeggio sound in a dynamic of mf-f.

### mm. 146-157:

Hold the Springs-Organ's spring no. 1 with your LH and scratch the Springs-Organ's spring no. 1a with the 15 cm dense spring (General Spring no. 1) with up and down movements as fast and strong as possible.

When it is marked “Change” – drag the spring that is held by LH into another position on the board and keep on scratching spring 1a with the general spring no. 1.

**mm. 158-161, 166-170:**

Take out spring no. 1a and insert it into Springs-Organ’s spring no. 2. Keep on scratching spring no. 1a as before and change the positions of spring no. 2 when it is marked to do so.

**mm. 162-165:**

Drag the pno-hammer along Springs-Organ’s spring no. 6 (the tallest one) up and down as fast as possible.

**mm. 171-172:**

Drag the pno-hammer along spring no. 6 and then spring no. 4.

**Piano:**

 : Raise the heel while pressing the pedal

 : Drop heel back to the floor while pressing the pedal

**spring no. 1 : mm. 1- 33 (A + B):**

Drag spring no. 1 along the piano keys:

The spring is put horizontally on the approximate indicated keys. The relative depth position is more important than the actual keys.

 : Indicating the actual position of the spring on the keys from the horizontal point of view.

**The depth positions on the black and the white keys:**

 : Drag the spring along the farthest end of the black keys. In this position the spring will also touch the wooden frame of the piano.

 : Drag the spring along the middle of the black keys

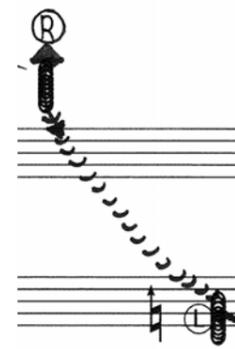
 : Drag the spring along the black keys at the closest point to the white keys.

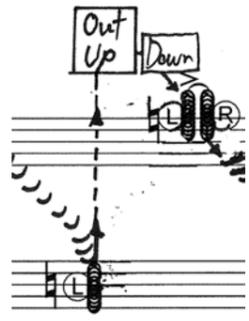
 : Drag the spring along the part of the white keys closest to the tip of the black keys. In this position the spring will touch also the tip of the black keys.

 : Drag the spring along the middle of the white keys

 : Drag the spring along the white keys at the closest point to you

 : Drag the spring along the side edge of the white keys

 : Push the spring with the right hand so it will go, by itself, towards the indicated place and catch it with the left hand. This can happen also from LH to RH.



: LH takes the spring up in the air, then puts it back on the indicated keys, then swap hands so that the RH catches the spring at its middle point and drags it to the next indicated place. Springs are moved in the air when a dotted line appears.



(mm. 28): Change the position of the spring from horizontal to diagonal (45 degrees).

**On the cello:** mm. 37-43:

Stand in a position facing the cellist from the other side of the cello so the bridge is on your right and the tuning pegs are to your left.

With Spring no. 1: Bow the wide hook.

▣ : Bow the spring towards you

∇ : Bow the spring away from you.

**Duo game with the cellist at the cello position:**

**Roll & Catch:** mm. 44-57: Cello with spring no 1 (15cm).

Standing positions: The two players are facing each other. One stands at the head of the cello, the other at its base. The player standing at the head is the 'catcher' and the player at the base is the 'roller'.

Game rules: The roller starts by releasing the spring from the point where the neck of the cello separates from its body. The aim of the roller is for the spring to reach the catcher without falling

off the side of the cello strings. Every time the roller does not succeed, the catcher performs a demonstration by taking the spring, placing it on the point at which the spring fell off the strings, and rolling it back to herself. This is briefly repeated three times. Once the catcher decides that the roller has succeeded from this point of release, the catcher chooses a new point of release for the roller by rolling the spring (guiding it with both hands) along the strings (from head to base) and offering the spring to the roller at the new point of release.

**Follow the bouncing springs (and conductor-sticks):** mm. 74-88,

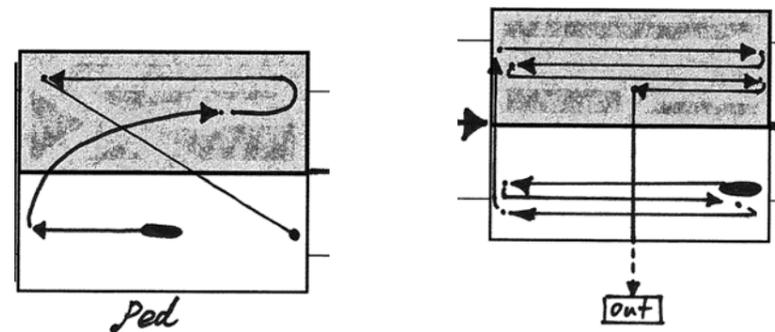
144-170:

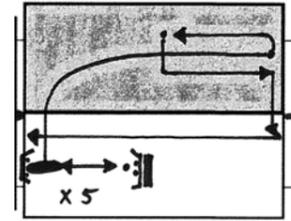
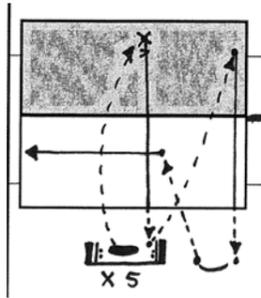
Play an irregular fast tremolo on the indicated keys (black and white) and move positions according to the bouncing springs and the conductor-sticks.

**spring no. 7:** mm. 93-115:

The shaded area in the diagram below refers to the black keys and the un-shaded area to the white keys.

Put spring no. 7 horizontally along the indicated keys. Bump the spring according to the arrows. For example, if the arrow indicates a leftward movement, the spring is bumped with the right hand and controlled with the left hand. The indicated point need not be achieved with a single bump (many bumps are permitted in order to achieve the change of location). When the spring has to move from its position on the white keys to a new position on the black keys, the spring is rolled across the point where it transfers from white to black keys (then bumped again when horizontal movement is required). The spring is never lifted off the keys completely unless a lifted movement is indicated by a dotted line. The black circular shape in every diagram represent the starting point of a particular sequence.





**Follow the middle conductor-stick:** mm. 122-126:

(Find instructions inside the score).

**Follow the bass conductor-stick:** mm. 127-133 (Sense of Togetherness),

142-143:

Follow the same instructions as for the middle conductor-stick, but here follow the conductor-stick that is put on the bass strings.

**Follow the bouncing of the ping-pong ball:** mm. 136-139 (L): trill the

indicated notes and let the ping-pong ball to bounce on the strings. If the ball goes out from the strings you are allowed to place it back on the indicated strings.

**Cello:**

**mm. 1-24, 89-100:**

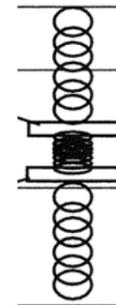
RH: Bow the wide hook, LH: lift the slinky up and down as indicated.

**Slinky game:** mm. 25-43:

The slinky is open along the side of the cello and clipped in at both ends (at the tuning-pegs and under the bridge), as in the following picture:

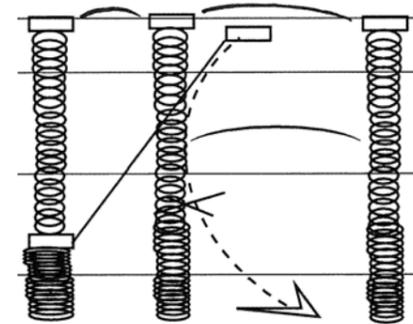


XIII



Drag palms along the slinky and hold it in the indicated points. The upper rectangle refers to the right hand and the lower to the left hand, unless indicated otherwise (for example mm. 38). The dotted lines requires you to lift or move it in the air in the direction of the arrow.

Example (mm. 37):



: Here the right hand holds the right side of the slinky (in the diagram it is shown as the top area of the slinky). The LH first holds the left side (1/4<sup>th</sup> up from the bottom), then it is lifted and move in the air to the right side, close to the RH. At the middle drawing the LH moves in the air from right to left but along the way it catches the slinky and drags it shortly and then drops it again. At the end of the movement it goes back to the left side outside of the slinky.

**Duo game with the pianist: Roll & Catch: mm. 44-57** : with spring no 1

(15cm).

Standing positions: The two players are facing each other. One stands at the head of the cello, the other at its base. The player standing at the head is the 'catcher' and the player at the base is the 'roller'.

Game rules: The roller starts by releasing the spring from the point where the neck of the cello separates from its body. The aim of the roller is for the spring to reach the catcher without falling off the side of the cello strings. Every time the roller does not succeed, the catcher performs a

demonstration by taking the spring, placing it on the point at which the spring fell off the strings, and rolling it back to herself. This is briefly repeated three times. Once the catcher decides that the roller has succeeded from this point of release, the catcher chooses a new point of release for the roller by rolling the spring (guided by both hands) along the strings (from head to base) and offering the spring to the roller at the new point of release.

### mm. 65-88:

RH: Bow at the indicated position along the indicated strings.

LH: Press and gliss the palm over all the four strings along the fingerboard at the indicated areas.

### mm. 77-80:



: LH presses the two indicated strings towards each other



: LH stretch the strings to be far-away from each other

### mm. 113-117:

Insert the piano-string in-between the classical guitar strings:

### Bouncing bow and bowing spring no. 1: mm. 124-139:

RH: Position the bow in between the wide hook and the M hook at the approximate ordinary position. Play a heavy jeté. The bouncing of the bow is supposed to produce buzzing sounds from the strings. Start the bouncing on the middle strings (II and III) and then change to different ones as you wish.

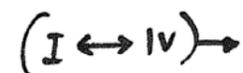
LH: (start in measure 123): Hold spring no. 1 vertically (as if it is a bow) on the strings. Start by positioning it on the highest pitch-point of the fingerboard on strings IV and III together. After every one or two jete-s of the RH create a short up or down-bow with the spring. You may also take it along the strings to another position on the fingerboard. After every bowing, stay at the place you ended with in order to start the next bowing from that place.

### mm. 141-156:



: Bow an irregular tremolo on the M hook (remember that the M hook is placed on the I and III strings, so the bow is crossing all the three strings together when it stands on the M hook)

### mm. 157-161:



: RH: Bow on the strings moving back and forth throughout all the four strings from the I string to the IV string.



: LH: The same as the RH, starting from the IV string going to the I back and forth.



: Gradually change positions on the strings between the bridge and the tasto with the RH and along the fingerboard line with the LH.

### mm. 165-170:

While the LH is still bowing the spring at the ordinary position, the RH catches the two points of the M spring and gently detach it from the strings, although the hook still has to hang on the strings. Since the cello is in a standing position the hook will then hang naturally on the bottom close to the bridge.

#### Positions of the bow and the spring relatively to the hooks and the bridge:



(mm. 168): place the bow in between the wide hook and the M hook and the spring above the M hook



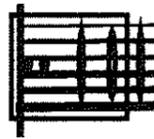
(mm. 169): put the spring on the side



(end of mm. 170): Take the bow up from being in between the two hooks and let the M hook dropped naturally back to the bridge area and bow above both of the hooks to produce the most ordinary / classical tone.

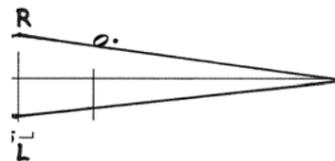
**Guitars:**

**Drag palms: mm. 1-12: electric guitar**



Bridge clef: at the horizontal line one can see the 6 strings of the guitar. At the depth line one can see the three pickups of the guitar. The square is framing the area where both hands should be placed equally straight on the strings as the starting point.

The palms are damping the strings and slightly press them down. You should prevent, as much as possible, normal guitar sounds from appearing.



: Drag the palms up and down in the depth line according to the indicated lines. Follow the rhythm approximately. The hands should never be lifted from the strings - when the palm moves up along the strings and there is still time to go more, then use the forearm to proceed. When you move back down, the last point you can use is the tip of your fingers.

**Bounce piano-hammer (pno-hammer) and slide a bottle-neck (BN): mm. 14-34, 49-52, 136-139 (L):**



RH holds the piano-hammer with the head positioned upwards. The BN is held vertically relatively to the strings. Gradually move both of them towards the first indicated area where they should play. In measure 14, let them touch the strings at the same time in the indicated manner (pno-hammer is dropped towards the strings and bounces while the BN is attacking the

indicated strings and stays there). The three lines below the hammer in the diagram shows that it should bounce many times after dropping it on the strings.



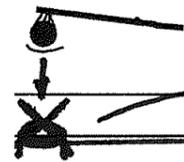
: Change position of the pno-hammer (pull up or push down, depends on the previous position)



: The bracketed-note-head means to detach the hammer from the strings. Pull back the hammer so you can drop it forward again at the next indicated point.



: Hammer with one line underneath means it attacks the string once and remains on the string until the next indication.

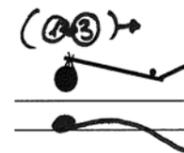


: mm. 25: A special place where the hammer falls exactly on the BN's head. Try to produce the indicated pitches.

mm. 35-46:

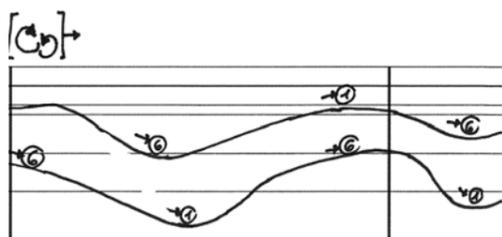


: LH drag the BN. Go back and forth along all the strings that are indicated. Move along the fingerboard as indicated. It is not necessary to follow each point of the drawing precisely but to follow the direction and the amount of movement in each bar.



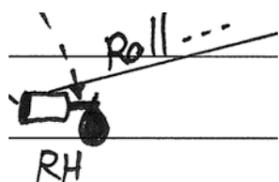
: Follow the same instructions as the LH with the RH holding the pno-hammer.

**Circular pno-hammer and BN: mm. 47-49:**



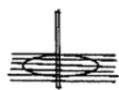
: The diagram shows the string number and the position on the fingerboard that each hand should be relatively to the other hand so together it creates an alternation of circular dragging, so the right hand goes anti-clockwise and the left hand goes clockwise.

**Rolling the pno-hammer: mm. 53-54:**

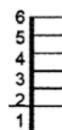


RH : Insert the pno-hammer into the BN so its head is outside the BN. Pull the pno-hammer with the indicated direction and let the BN roll along the strings.

**Spring no. 1 plays on the classical guitar (gtr): mm. 69-73, 86-113:**



: This clef shows the guitar seen from above. The circle is the soundboard hole and the vertical line is the spring inserted in-between the strings.



: This clef looks like a tablature. The difference is that the note-heads are referring to the two strings the spring has to be inserted in between and which string is being played among the two.

For example:



: Here the note head is written in between the second and the third strings, means the spring has to be inserted in between the second and the third string. The thicker line of the head is on

the second string, means the spring has to be dragged in or out on that string as indicated above the note.

↓ : Arrow going down above the note shows to drag the spring towards the guitar hole in the indicated rhythm until the next symbol appear.

↑ : Arrow going up above the note shows to drag the spring away from the guitar hole in the indicated rhythm until the next symbol appear.



: These symbols are shown above the arrows if the position of the string relatively to the hole has to change. The line shows where the string has to be played: at the center of the hole, at the right or the left side of it.



: When the spring has to remove into another in-between-strings area it is indicated to take it out off the strings completely and then to insert it back in between the next indicated strings.

**Quasi rasguado with spring no. 1 on the classical guitar: mm. 74-85:**

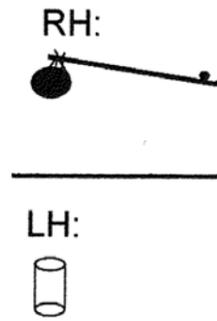


: This clef shows now that the spring is completely out off the strings (from the previous vertical position) and is now lying horizontally along the strings in the center of the soundboard hole.



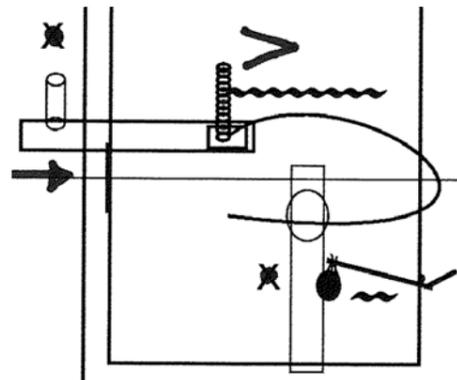
: The tremolo sign means to brush the spring along all the strings fast up and down quasi rasguado.

**mm 124-126 (J):**



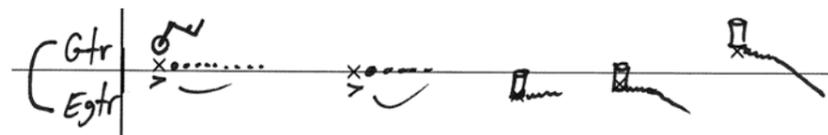
: RH with the pno-hammer improvises between either striking the strings of the electric guitar or the classical guitar or the standing spring and LH holds the BN vertically above the electric guitar strings and drops it on the strings from 1-2 cm above, so it will bounce. Every strike or drop of the pno-hammer or BN produce a bouncing of the spring and a vibration of the guitar. When the vibration fades out you may create another move.

**Sense of Togetherness part (mm. 127-133):**



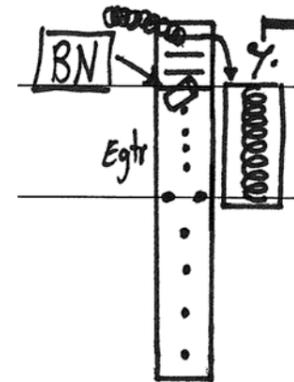
: Every one of the five striking moments should include the pno-hammer striking any part of the classical guitar strings or striking the pno-string itself and the BN has to be dropped on the electric guitar strings or attack the standing spring - both play at the same time in each striking moment.

**mm. 136-139 (L):**



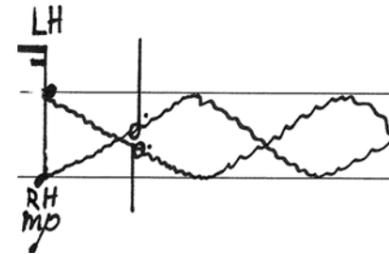
: Let the pno-hammer bounce on either the classical guitar or the electric guitar strings or the pno-string and drop and drag the BN in different areas in a more rapid manner than before.

**Playing on the vertical spring: mm. 141-144:**



: The first clef shows the entire picture of how the electric guitar should be: Spring no. 7 has to stand vertically on the magnets. The BN is placed diagonally in between the third pick-up and the end of the fingerboard as indicated. The actual clef is the one to the right of that diagram, which shows the standing spring only.

**mm. 141-143:**



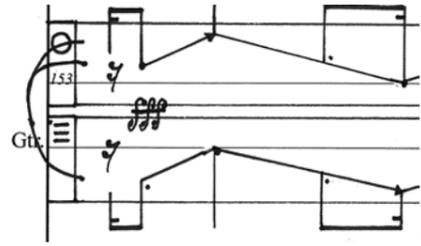
: Hold pno-hammer in each hand and alternate between dragging it up and down the standing spring.

**Roll the BN held by two pno-hammers: mm. 144-152:**



: Roll the BN towards the indicated areas by holding it in between the two pno-hammers.

### Scratching strings with the pno-string: mm. 153-166:



: Hold the pno string at its two edges - RH holds the classical guitar edge and the LH holds the electric guitar edge. The arrows show which hand is pulling the string to a particular direction. In this diagram one can see that the first arrow is placed in the classical guitar area upwards, meaning the RH is pulling the string towards the soundboard hole of the guitar and the LH is naturally following the direction. Then the downwards arrow is on the electric guitar, meaning the LH is pulling the string towards the fingerboard area and the RH is follow the direction naturally. The rhythm is approximate.

### Pulling the pno-string outside the classical guitar: mm. 167-170:

*Pull string out entirely*



: After the pno-string is dropped to the floor from the electric guitar side, the RH is pulling the string beyond the guitar strings entirely. This action produces a pitched scratching sound.

Immediately after the string is off the strings, you may drop the string on the floor and position the guitar in a more ordinary way in order to play the last chord with a classical sound.