

# Introduktion und Motoren

for flute, violin, violincello, piano and motorized and mechanical percussion-objects (4 performers)

Morten Ladehoff 2017

Comissioned and written for Plus-Minus Ensemble, United Kingdom  
Duration approx. 8'50''

- Score -

Supported by: **DANISH ARTS FOUNDATION**

# Instrumentation:

**Flute** + motorized, pedal-operated noisemachine 'M1' (high pitched) and pedal-operated slap-stick

**Violin** + motorized, pedal-operated noisemachine 'M3' (low pitched) and pedal-operated cardboard box drum (alternative: muted bass drum)

**Violincello** + motorized, pedal-operated noisemachine 'M2' (middle pitched)

**Piano** (prepared) + castanet

# Staging:

(Audience)

---

(slap-stick) (M1)  
**Flute**

(M3) (drum)  
**Violin**

(M2)  
**Violincello**

**Piano**

# Performance notes:

## All



Play the measure(s) 3 times all in all.



'Irrational' meter - cut off the triplet.

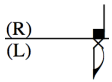


A quarter-tone sharp.



A quarter-tone flat.

## Flute



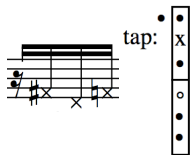
Square notehead = motorized noisemachine M1 (right foot). Cross note = slapstick (left foot). Dynamic level: fortissimo.



Whistle tones. Very weak and fragile sound. Approx. pitch (harmonics) and rhythm. Fundamental fingering = diamond notehead.



Harmonics. Fundamental fingering = diamond notehead.



Key tapping without air. A combination of pitch and key-noise. Tap with the finger marked 'X'.



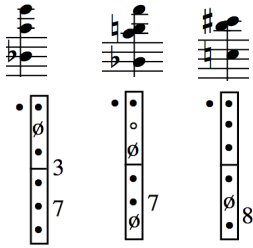
Wind tones – more air than tone.



Exhale and inhale while covering the mouthpiece with the lips. Sounds an octave above the fundamental fingering.



Same as above but with a strong blow – like warming up.

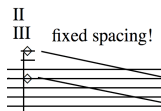


Multiphonics

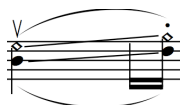
## Violin



Cross notehead = cardboard box drum (right foot). Square notehead = motorized noisemachine M3 (left foot). Dynamic level: fortissimo.



Glissando with natural harmonics – fixed finger spacing (left hand).



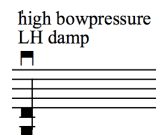
Even glissando (artificial harmonic) – no articulation or bowchange within the slur.

ST

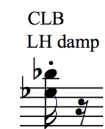
Sul tasto.

SPE

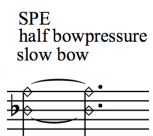
Sul ponticello estremo.



High bowpressure – damp the strings with left hand. Noise only – no pitch.



Col legno battuto on the notes indicated. Damp the strings with left hand.



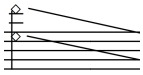
Sul ponticello estremo, half bowpressure, slow bowing on indicated harmonics. Complex sound spectrum with lots of noise.

# Violincello



Square note above ordinary staff = motorized noisemachine M2 (right foot).  
Dynamic level: fortissimo.

fixed spacing!



Glissando with natural harmonics – fixed finger spacing (left hand).



Even glissando – no articulation or bowchange within the slur.

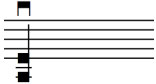
ST

Sul tasto.

SPE

Sul ponticello estremo.

high bowpressure  
LH damp



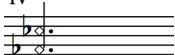
High bowpressure – damp the strings with left hand. Noise only – no pitch.

CLB  
LH damp



Col legno battuto on the notes indicated. Damp the strings with left hand.

SPE  
III half bowpressure  
IV slow bow



Sul ponticello estremo, half bowpressure, slow bowing on indicated harmonics.  
Complex sound spectrum with lots of noise.



Glissando (artificial harmonic) – fixed finger spacing (left hand). 'Seagull'.

# Piano

Preparation:



Damp these strings with a cylindrical nugget of sticky tack approx. 2 centimeters from the the edge of the dampers inside the piano. Bell-like sound (audible 7th).



Damp all the strings from d1 to d2 with a plate of cardboard or wood. Buzz-like sound.



Damp the strings with felt/fabric/sticky tack. No audible pitch.



Place a custom-made device with a mounted castanet on top of these notes. No keys will be pressed when hitting the castanet. The white keys below will not be affected.



Castanet.



Press down the note silently.



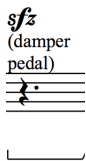
Damper-pedal activated exactly at the fourth semiquaver. 'Grab' the reverberation.

UC

Una corda.

TC

Tre corde (ordinary).



Audible damper-pedal.

# Introduzione und Motoren

Morten Ladehoff  
2017

♩ = 70 *Iniziale e espansivo*

Objects: Motor 1 (right foot)  
Pedal slap stick (left foot)

Flute

Violin

Object: Motor 2

Violincello

Pno.

senza vibrato sempre!

x3

whistle tone

8<sup>va</sup>

mp

15<sup>ma</sup>

ppp

(silent)

pp cresc. poco a poco

senza ped.

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

(3)

con sord.

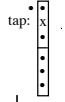
8<sup>va</sup>

ppp

(3)

(3)

(3)



Obj. (R) (L) 13

Fl. 13 whistle tone *mp* 3 3 key tap *mf*

Obj. (R) (L) 13

Vn. 13 senza sord.

Obj. (R) (L) 13

Vc. 13 con sord. *ppp* II

Pno. 13 (release) *p cresc. poco a poco* ped. sempre

8va

Obj. (R) (L) 19

Fl. 19

Obj. (R) (L) 19

Vn. 19 III *p cresc. poco a poco* *mp cresc.*

Obj. (R) (L) 19

Vc. 19 senza sord. *p cresc. poco a poco* *mp cresc.*

Pno. 19 *mp cresc.*

8<sup>va</sup> 8<sup>va</sup> 8<sup>va</sup> 8<sup>va</sup> 8<sup>va</sup> 8<sup>va</sup>



Obj. (R) (L)

Fl. *mf cresc. poco a poco* *f cresc.*

Obj. (R) (L)

Vn. *mf cresc.* *f cresc.* II III fixed spacing!

Obj. (R) (L)

Vc. *mf cresc.* *f cresc.* I II fixed spacing!

Pno. *mf cresc.*

8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup>

**A**

*Meccanico e energico con precisione*

♩ = 84

Obj. (R) (L) no pitch correction! (-14 cent)

Fl. *ff*

Obj. (R) (L)

Vn. *ff* SPE

Obj. (R) (L)

Vc. *ff* high bowpressure LH damp

Pno. *f cresc.* *ff* (castanet)

8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> 8<sup>vb</sup> damp!

35

Obj. (R) (L)

Fl.

Vn.

Obj. (R) (L)

Vc.

Pno.

ord

*f*

*ff*

high bowpressure  
LH damp

38

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

wind tone

*mp*

*ff*

ord

*mf*

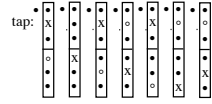
*ff*

SPE

*ff*

*mf*

*ff*



41

Obj. (R) (L)

Fl. *mf* *ff* *mf* (3) (3)

Obj. (R) (L)

Vn. *ff* *mf* (3) (3)

Vc. *mf* *ff* (3) (3)

Pno. *mf* *ff* *pp* (3) (3)

ord

high bowpressure  
LH damp

key tap

CLB  
LH damp

III  
IV

15<sup>ma-</sup>

UC

45

Obj. (R) (L)

Fl. *ff* *sfz* (3)

Obj. (R) (L) *ff* (3) (3)

Vn. *ff* (3) (3)

Vc. *ff* *f* (3)

Pno. *ff* *mf* (3) (3)

high bowpressure  
LH damp

arco

ST

ord

TC

48

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn. ord

Vc. SPE 6 V

Pno.

*ff*

*ff*

*ff*

*ff*

*f*

15<sup>ma</sup>

51

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn. SPE ord

Obj.

Vc. high bowpressure LH damp V

Pno.

*ff*

*ff*

*ff*

*f*

*ff*

*fz*

54

Obj. (R) (L)

Fl.

Vn.

Vc.

Pno.

*ff*

*mf*

*ff*

*ff*

*ff*

*mf*

*pp*

x4

EX IN EX IN

CLB LH damp IV

CLB LH damp I

UC

**B**

57

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj.

Vc.

Pno.

*ff*

*ff*

*ff*

*ff*

*f*

*pp*

x6

x6

x6

x6

x6

high bowpressure LH damp

arco

arco ST

15<sup>ma</sup>

15<sup>ma</sup>

15<sup>ma</sup>

TC

UC

Musical score for measures 62-65. The score includes parts for Oboe (R/L), Flute, Violin, Viola, and Piano. Measure 62 features a flute trill and a piano triplet. Measures 63-65 show a full orchestral texture with various dynamics and articulations. Performance markings include *ff*, *f*, *sfz*, and *TC*. Specific techniques like *SPE* and *ord* are noted for the strings.

Musical score for measures 66-69. The score includes parts for Oboe (R/L), Flute, Violin, Viola, and Piano. Measure 66 features a flute trill and a piano triplet. Measures 67-69 show a full orchestral texture with various dynamics and articulations. Performance markings include *mp*, *mf*, *ff*, *pp*, and *UC*. Specific techniques like *wind tone*, *CLB LH damp*, *high bowpressure LH damp*, and *arco* are noted for the strings.

70  
Obj. (R) (L)  
Fl.  
Obj. (R) (L)  
Vn.  
Obj. (R) (L)  
Vc.  
Pno.

70  
70  
70  
70  
70  
70  
70

6  
3  
3  
3  
3  
3  
3

*mf* *f* *sfz*  
*mf* *f*  
*mf* *mf*

(3) (3) (3) (3) (3) (3) (3)

ord  
I V 3  
I

C

75  
Obj. (R) (L)  
Fl.  
Obj. (R) (L)  
Vn.  
Obj. (R) (L)  
Vc.  
Pno.

75  
75  
75  
75  
75  
75  
75

*ff* *mf* *ff*  
*ff* *f* *mf* *ff*  
*ff* *mf* *pp* *ff*

(3) (3) (3) (3) (3) (3) (3)

SPE V  
ord I V  
III IV  
CLB LH damp  
high bowpressure LH damp  
arco  
ST

15<sup>ma</sup> 15<sup>ma</sup> 15<sup>ma</sup>

UC TC

81

Obj. (R) (L)

Fl. EX IN *mf* *mp*

Obj. (R) (L)

Vn. CLB LH damp IV *mf* ord I II *f* *mf*

Obj. (R) (L)

Vc. CLB LH damp I *mf*

Pno. *mf* *mf*

85

Obj. (R) (L)

Fl. *ff*

Obj. (R) (L)

Vn. SPE *ff* ord *f*

Obj. (R) (L)

Vc. high bow pressure arco LH damp V *ff* ord *f*

Pno. *ff* *sfz* *sfz*



D

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

89

*sfz* (3)

*ff*

*mf*

*ff*

*f* (3)

*ff* (3)

*mf* (3)

*ff* (3)

*mf* (3)

*sfz* (damper pedal)

*ff*

high bowpressure LH damp

SPE

ord I V 3

ST

high bowpressure LH damp

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

95

*mf* (3)

*mp*

*mf* (3)

*mf* (3)

*mf* (3)

*mf* (3)

*f* (3)

*mf* (3)

*pp* (3)

*mf* (3)

*mf* (3)

*mf* (3)

CLB LH damp

III IV

ord II

SPE half bowpressure III IV slow bow

ord I V 3

15<sup>ma</sup>

8<sup>ma</sup>

UC

TC

101  
Obj. (R) (L)  
Fl.  
Vn.  
Vc.  
Pno.

*ff* *ff* *ff* *ff*

EX IN  
*mf*

CLB LH damp IV  
*mf*

SPE 6 V 6 6 6  
*ff* *mf*

CLB LH damp I  
*mf*

3 3 3 3 3 3

**E**

105  
Obj. (R) (L)  
Fl.  
Vn.  
Vc.  
Pno.

*sfz* *mf*

ord SPE half bowpressure II slow bow III  
*f* *f*

CLB LH damp III IV  
*mf*

1 ord  
*f*

15<sup>ma</sup> 15<sup>ma</sup>  
*mf* *f* *sfz* *sfz* *pp*

UC

III

Obj. (R) (L)

Fl. III EX

Vn. III

Obj. III

Vc. III

Pno. III 15<sup>ma</sup> sfz pp sfz pp sfz

TC UC TC UC TC

117

Obj. (R) (L)

Fl. 117 EX f mf sfz

Vn. 117 I ord II V f

Obj. 117

Vc. 117 I V 3 mf f

Pno. 117 15<sup>ma</sup> pp mf

UC TC

Musical score for measures 123-128. The score includes parts for Oboe (R/L), Flute, Oboe (R/L), Violin, Oboe (R/L), Viola, and Piano. Measure 123 features a forte (*ff*) dynamic. Measure 124 includes performance instructions: "high bowpressure LH damp" for the Violin and Viola, and "ST" for the Viola. Measure 125 has a forte (*ff*) dynamic. Measure 126 includes a 15-measure rest (*15<sup>ma</sup>---*) for the Piano. Measure 127 has a mezzo-forte (*mf*) dynamic. Measure 128 includes a 3-measure rest (*3<sup>me</sup>---*) for the Piano. The Piano part features a 6-measure rest (*6<sup>me</sup>---*) in measure 123 and a 3-measure rest (*3<sup>me</sup>---*) in measure 128.

**F**

Musical score for measures 129-134. The score includes parts for Oboe (R/L), Flute, Oboe (R/L), Violin, Oboe (R/L), Viola, and Piano. Measure 129 features a forte (*ff*) dynamic. Measure 130 includes a sforzando (*sfz*) dynamic and a 3-measure rest (*(3)*) for the Flute. Measure 131 has a forte (*ff*) dynamic. Measure 132 has a mezzo-forte (*mf*) dynamic. Measure 133 has a sforzando (*sfz*) dynamic and a 3-measure rest (*(3)*) for the Flute. Measure 134 has a forte (*ff*) dynamic. The Violin part includes performance instructions: "high bowpressure LH damp" in measures 131 and 134, and "ord" in measures 132 and 133. The Viola part includes performance instructions: "SPE" in measure 129, "ord" in measure 132, and "high bowpressure LH damp" in measures 131 and 134. The Piano part features a 3-measure rest (*3<sup>me</sup>---*) in measure 129, a mezzo-forte (*mf*) dynamic in measure 130, a forte (*ff*) dynamic in measure 131, a mezzo-forte (*mf*) dynamic in measure 132, a 3-measure rest (*3<sup>me</sup>---*) in measure 133, and a forte (*ff*) dynamic in measure 134. The Piano part also features a 6-measure rest (*6<sup>me</sup>---*) in measure 134.

135

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

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

SPE half bowpressure slow bow high bowpressure LH damp

ord I II III I II V (3)

ST (3)

(3) (3)

(3)

142

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

*mf* *mp* *f* *mf* *pp* *ff*

EX (3)

CLB LH damp IV (3)

ord I II V (3) III IV (3)

15<sup>ma</sup> (3) 15<sup>ma</sup> (3)

(3) (3) (3)

G

148

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

ord

*f*

SPE half bowpressure slow bow

III IV

ord

SPE half bowpressure slow bow

III IV

15<sup>ma</sup>

*sfz*

*f*

*sfz*

*f*

156

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

ord

*f*

high bowpressure LH damp

*ff*

CLB LH damp

III IV

(3) *mf*

ord

I V

*mf*

15<sup>ma</sup>

*mf*

*ff*

*pp*

*mf*

(3)

(3)

(3)

(3)

163

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

**H**

170

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

178

Obj. (R) (L)

Fl. *mp* *f*

Obj. (R) (L)

Vn. *f* ord I II V SPE half bowpressure slow bow II III

Obj.

Vc. *f*

Pno. *f*

(3)

(3)

(3)

(3)

(3)

(3)

I

$\text{♩} = 60$  gradual accelerando poco a poco - to the double tempo

187

Obj. (R) (L)

Fl. *mp* *cresc. poco a poco*

Obj. (R) (L)

Vn. ord *mf* *cresc. poco a poco*

Obj.

Vc. ord fixed spacing! *mp* *cresc. poco a poco*

Pno. *sfz* (damper pedal) *p* *cresc. poco a poco* *15<sup>ma</sup>* *15<sup>ma</sup>* *8<sup>vb</sup>* *8<sup>vb</sup>*

senza ped.



*stepwise accelerando*

♩ = 60 - *not gradual!* ♩ = 64

Musical score for measures 196-200. The score includes parts for Oboe (R/L), Flute, Oboe (R/L), Violin, Oboe, Viola, and Piano. The tempo is marked as *stepwise accelerando* with a note equal to 60, and a specific instruction *- not gradual!* with a note equal to 64. The piano part features a 15<sup>ma</sup> interval. The strings play a rhythmic pattern of eighth notes. The woodwinds play a melodic line with a *f* dynamic. The oboe parts have a *x4* marking. The viola part has an upward bowing direction arrow.

Musical score for measures 201-205. The score includes parts for Oboe (R/L), Flute, Oboe (R/L), Violin, Oboe, Viola, and Piano. The tempo is marked as *stepwise accelerando* with a note equal to 67, 71, 76, 80, and 85. The piano part features a 15<sup>ma</sup> interval. The strings play a rhythmic pattern of eighth notes. The woodwinds play a melodic line with a *f* dynamic. The oboe parts have a *x4* marking. The viola part has an upward bowing direction arrow.

Tempo markings: ♩ = 90, ♩ = 95, ♩ = 100, ♩ = 107, ♩ = 113

206

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

15<sup>ma</sup> 8<sup>va</sup>

8<sup>ub</sup>

x5

Tempo markings: ♩ = 90, ♩ = 120

211

Obj. (R) (L)

Fl.

Obj. (R) (L)

Vn.

Obj. (R) (L)

Vc.

Pno.

15<sup>ma</sup> 8<sup>va</sup>

8<sup>ub</sup>

x3

damp!