Grégoire Lorieux

Passage de la lumière

String Quartet with electronics

Commission of the french Ministry of Culture

2009

«Ce passage de la lumière est dédié, en toute amitié, au quatuor Multilatérale.»

Program Note

Some films, damaged, blurred or retouched, sometimes give a thick and touchy consistency to light. With black and white especially one works on the volatile matter of the light plans. The string quartet, though monochrome at first listening, does express that this kind of expressive, solid or small brightness variations.

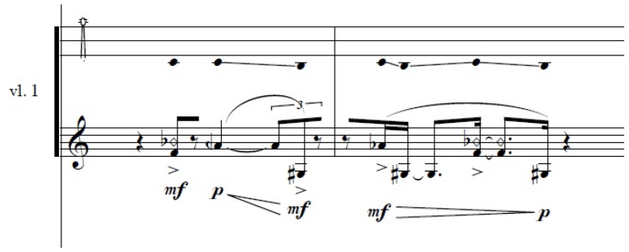
What is dark or bright in a bow movement will be separated by electronics, as the skin peeled of a fruit: to reveal the resonances enclosed in the roughness of a crushed sound or bring attention to the flick of hair on a rope nearly choked, amplify and let them to hear in remote places; darken or brighten the dark heart of the quartet, first dig, raise, "ensilence" its surrounding space, until it freezes.

Unlike the shadows that close slowly on Joan Fontaine in Hitchcock's *Suspicion*, musicians extricate themselves first from the heavy brutal black they produce themselves. As a metal object in the dark, electronics desperately hang their little light. The fist of shadow that surrounds relaxes until the apparition of electronics that hid behind them: a luminous canvas of silence, which is torn up and gradually violently darken.

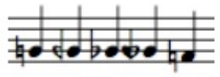
Grégoire Lorieux

NOTATION

Music is notated on 2 staves.
The upper staff indicates bow movements (right hand).
The down staff is the regular staff (left hand).

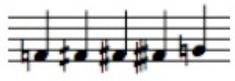


General



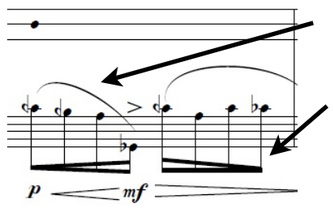
descending scale

Quarter tone notation :



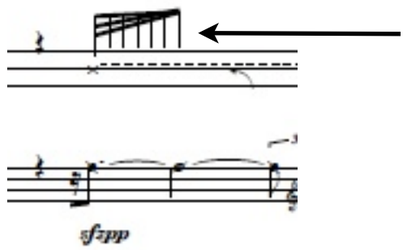
ascending scale

Agogic variations :



accelerando

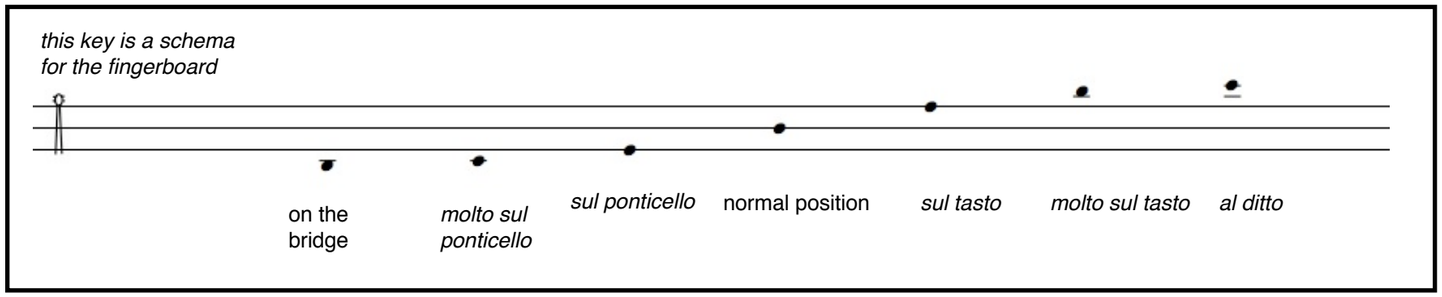
ralentando



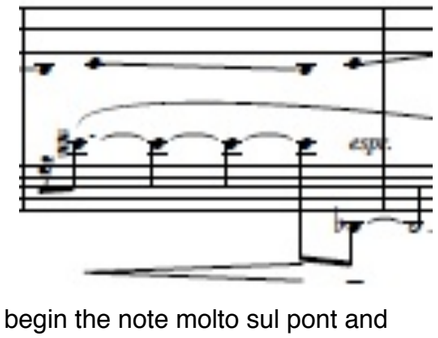
«jeté»

Instrumental notation

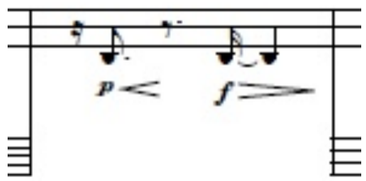
Upper staff :
Position on the bow on the string



Examples :

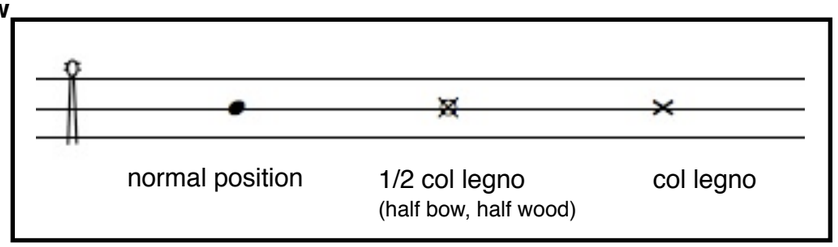


begin the note molto sul pont and
end it on the bridge (breath effect)



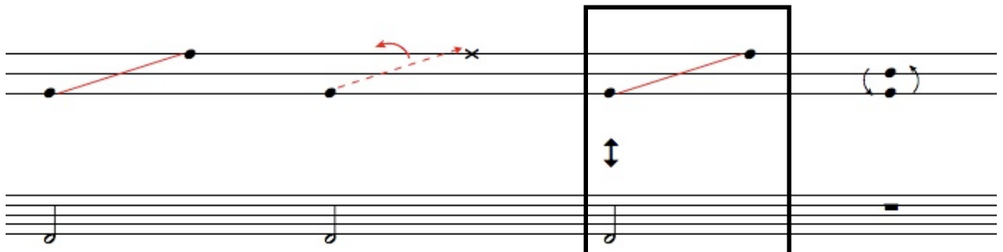
play only on the bridge (breath effect)

Rotation of the bow



battuto / tratto depending on the context

Examples :



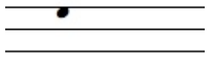
passage from sul pont to sul tasto.

passage from sul pont to sul tasto by rotating the bow to col legno tratto

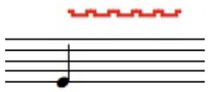
vertical bow

bow position ad.lib btw. indicated positions

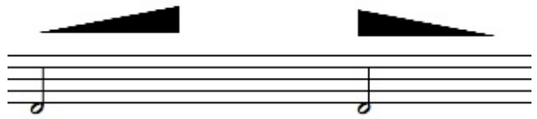
Bow pressure :



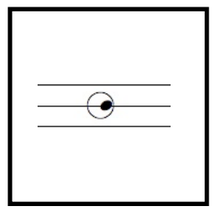
«perforated sound» : slow bow + excessive pressure



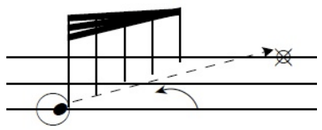
Variations of bow pressure



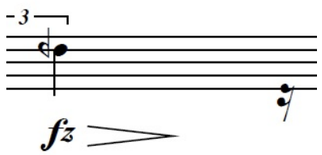
«**bow tap**» : play a note with the bow + hit the fingerboard with the wood of the bow through the hair



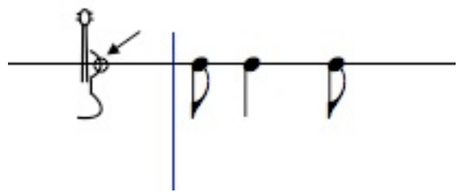
attaque avec "bow tap"



Example:



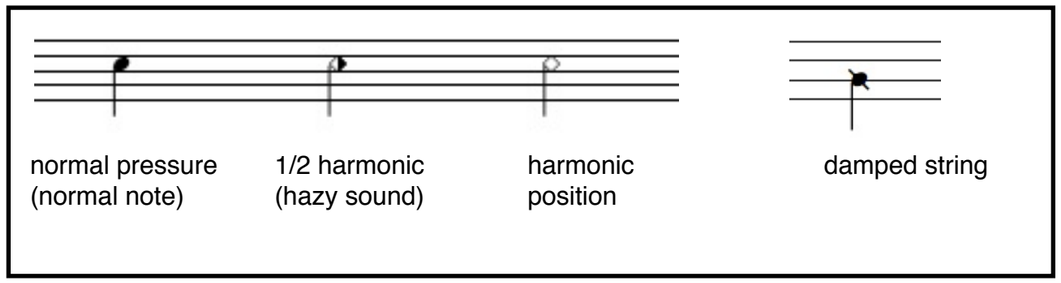
Play on the body of the instrument :



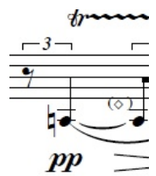
(gettato is possible!)

Down staff

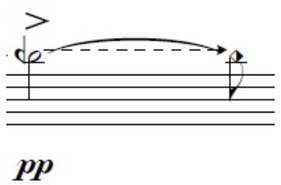
Finger pressure



Examples :

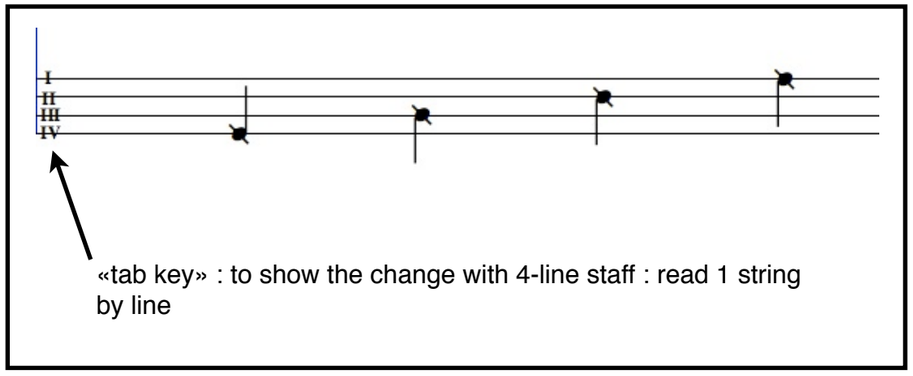


trill btw. cello open string and harmonic note

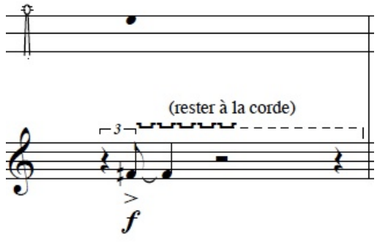


progressively release pression of the finger.

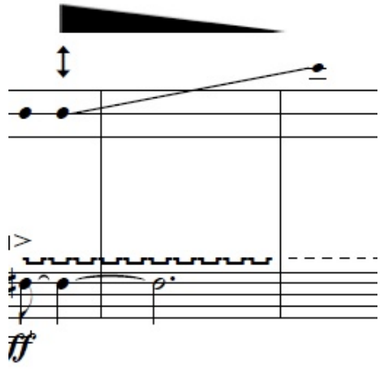
Damped strings:



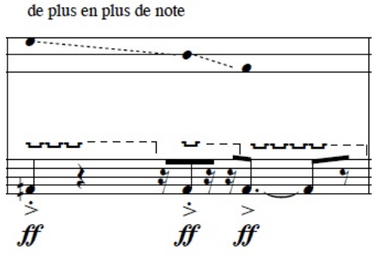
SPECIAL



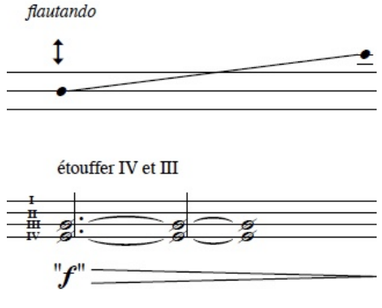
vl1, mes. 1 : «keep on string»
perforated sound, keep the bow on the string without breath



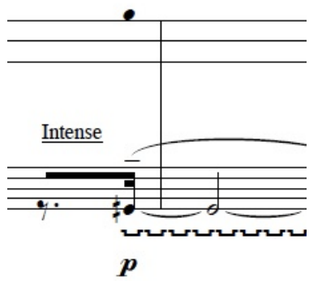
vcl, mes. 1 :
perforated sound with vertical bow. You may hear down octave of the sound. Don't release the pressure to fast.



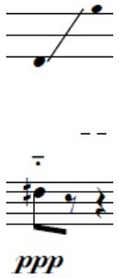
vl1, mes. 4 : «more and more note»
when moving to the bridge, more and more pitch is perceived



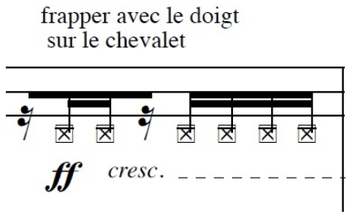
vl2, mes. 8 :
-strings IV et III damped (toward the nut)
- «f» indicates more bow speed
- vertical bow with few pressure.
- You hear a modulated breath.



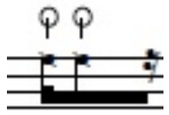
a., mes. 9 :
piano perforated sound
more dull sound when playing at the high on fingerboard.



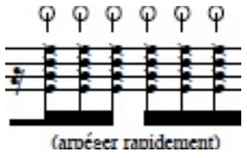
vcl, mes. 10 :
fast bow slide
quasi flautando



vl2., mes. 223 :
strike hard with the finger on the bridge



vl2 , mes. 222 :
bartok pizz on damped string I

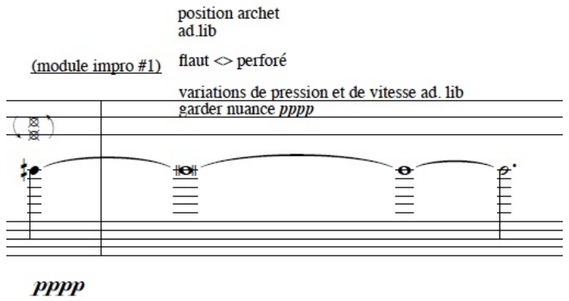


vl2., mes. 224 :
bartok pizz. on 4 strings with arpeggio

Improvisation modules

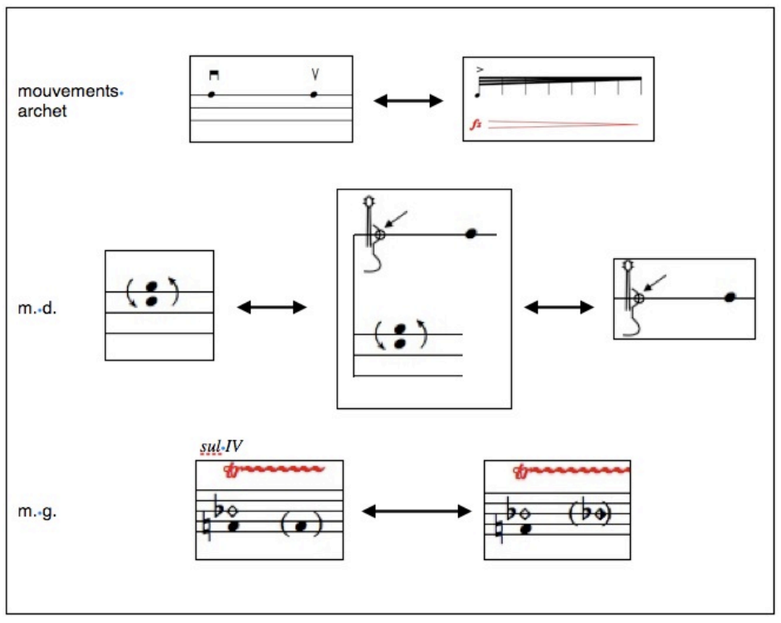
There are 3 «free» modules for very long sounds.

impro module #1
vl. 1, mes. 17,
vcl , mes 77



« bow position ad. lib
flautando <> perforated
variation ad lib. of bow
pressure and speed.
keep *pppp.*»

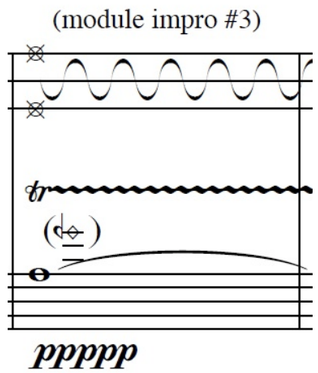
Module impro #2
a, mes. 71,
v1 , mes 78



separated parameters :
- bow movements (incl. gettatto)
- bow position (on the fingerboard, on the body + on the fingerboard, on the body only)
- trill around and harmonic position
- arrows indicate to go freely from one to the other

- for viola (m.71) play one octave down than the vl1.

Module impro #3
vcl, mes. 78,



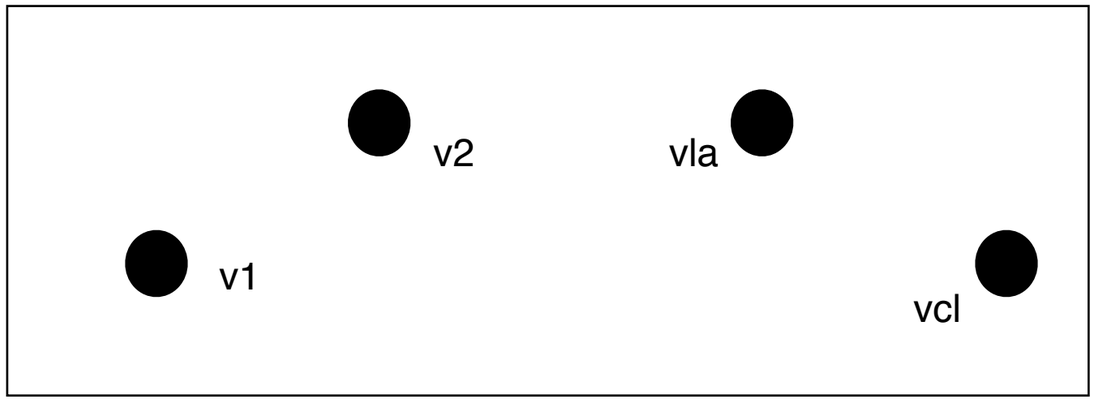
trill btw open string and natural 7th harmonic. bow moves from fingerboard to bridge, with half-col-legno.

Setup :

«background»

LS. 3

LS. 4



«foreground»

LS. 1

LS. 2

AUDIENCE

TECHNICAL RIDER

Passage de la lumière,
String quartet w/ electronics

Grégoire Lorieux
gregoirelorieux@gmail.com

PA system

- 4 loudspeakers (preferred systems : L-Acoustics, d&b), system power must be coherent with venue size
- Low frequency loudspeakers reinforcement is preferred.
- Digital mixing desk (preferably Yamaha DM 1000/DM 2000)
- All necessary connections between the mixing desk and the stage (2 microphone lines minimum)

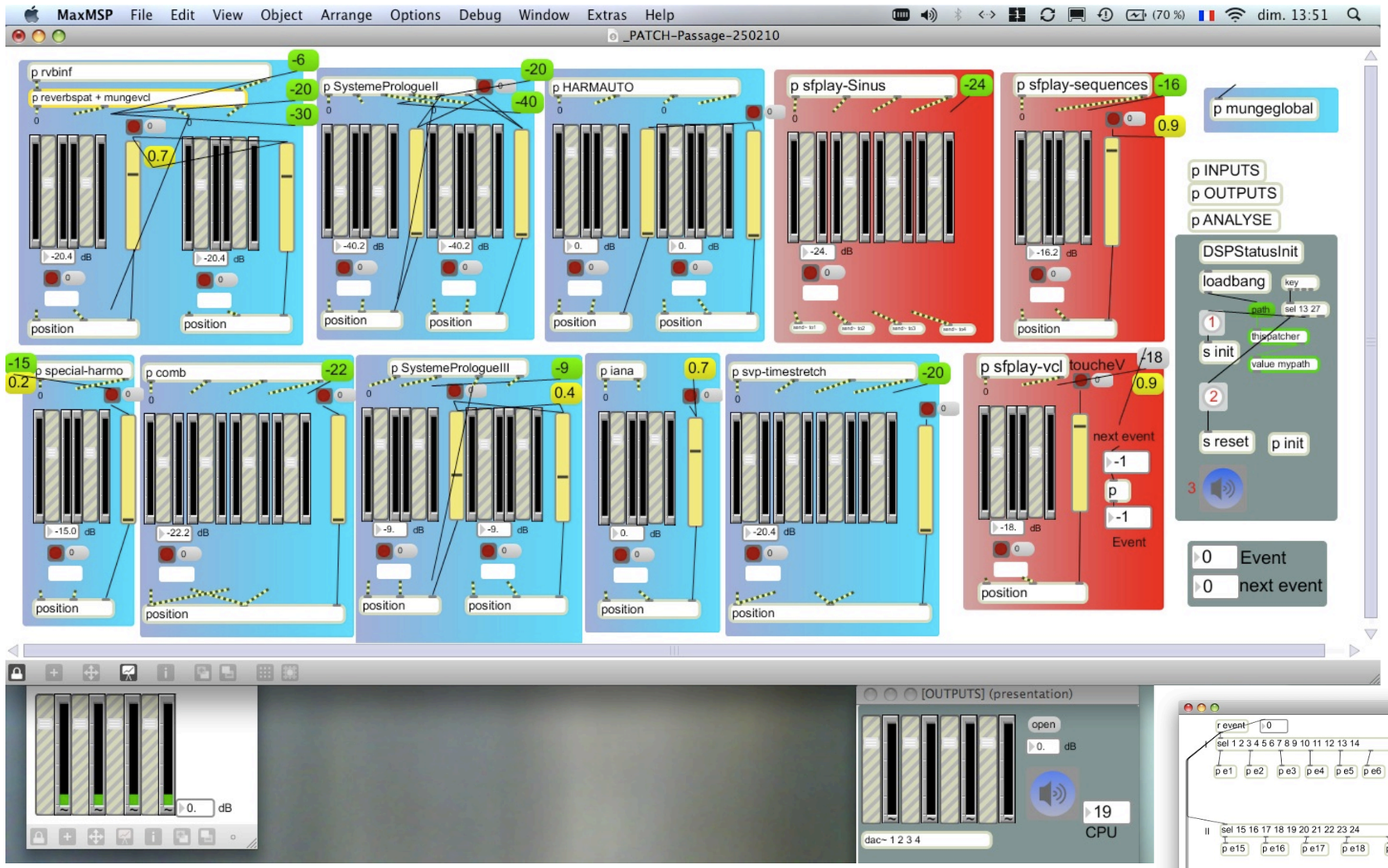
Microphones

- 4 **DPA 4061** with **holder for strings**

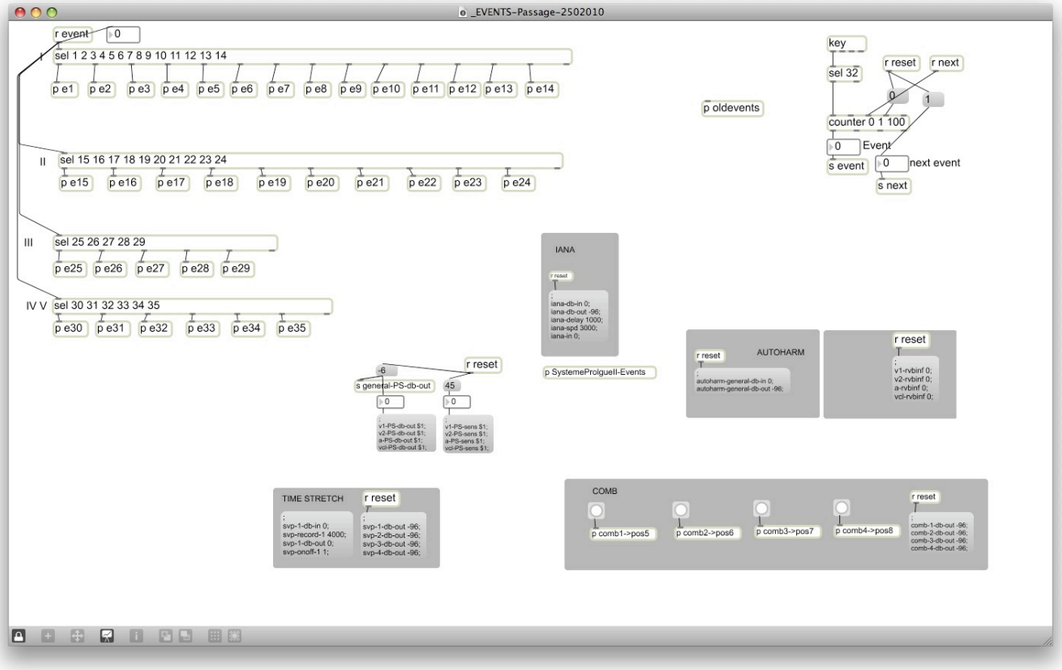
MIDI and computer system

- 1 computer with all software materials required (see : «Documentation» note)
- 1 sound card (type FIreFace 400 or equivalent)
- 1 midi interface (type BCF2000 - needs a footswitch input in jack 6’35’)

The electronic part is made with 2 MaxMSP patches (version 5.1 or more recent) :



«Passage-Patch» deals with the treatments
. «Passage-Events» remotely controls the treatments.



This string quartet has two movements : the first with the whole string quartet (ca. 13 mn) and the second only for cello solo (ca 3’30 mn).

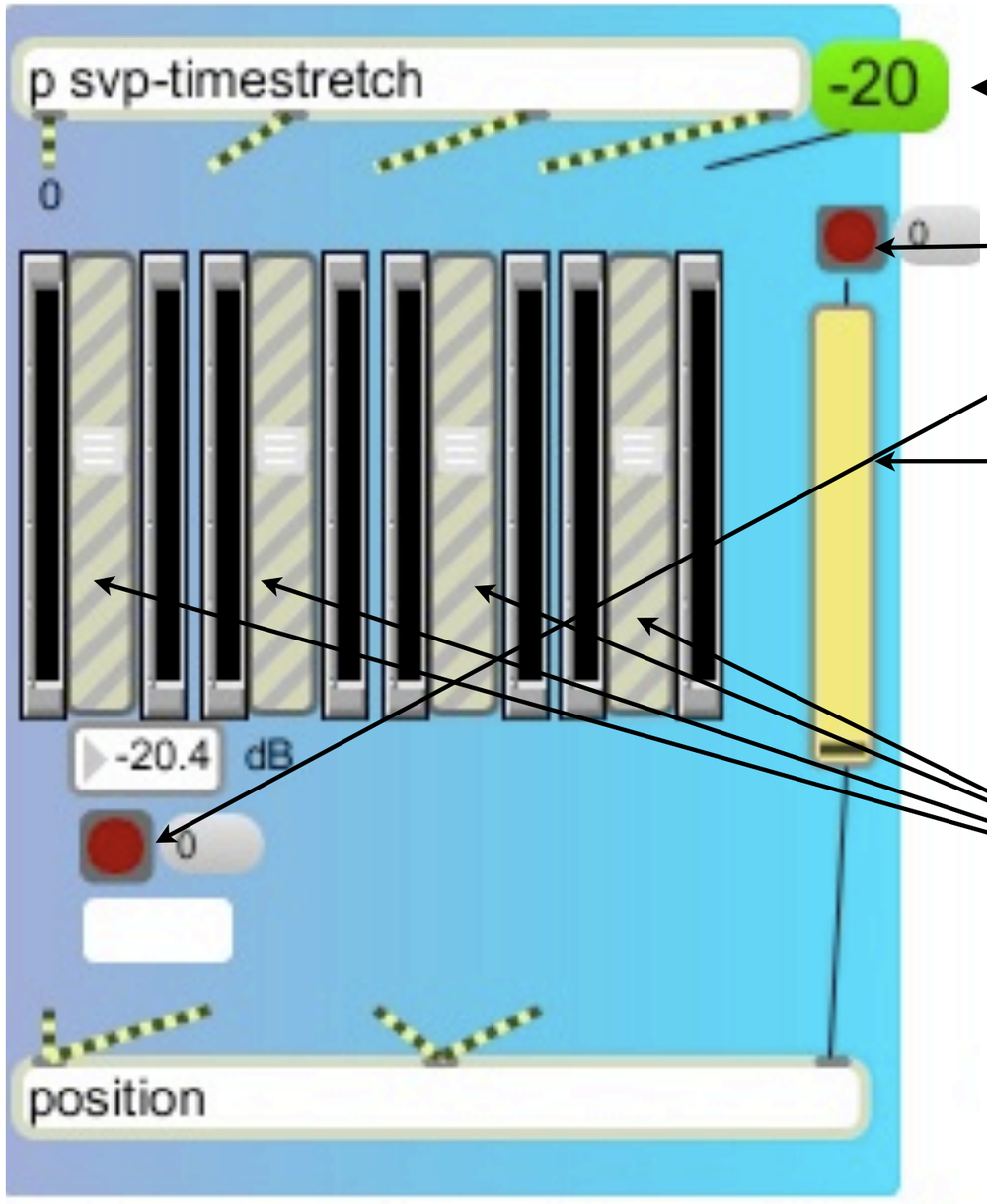
Description of treatments (blue background) :

- **rvbinf -> reverbspat + mungevcl :** reverberation (with ircam’s spat) often used for its infinite reverb. Combined with a treatment on the cello for the 2 movment.
- **SystemePrologueII** & **SystemePrologueIII** : like in the last part of Prologue for viola, by Gérard Grisey, instruments are used to trigger sound samples. For **SystemePrologueII**, the harmonicity rate controls the triggering of pre-recorded string instrument sounds. For **SystemePrologueIII**, the amplitude. So check the calibration of this amplitude and harmonicity data (that come from a yin~ object) when this treatments are on, on the «ANALYSE» subpatcher.
- **HARMAUTO :** transposition of 2 octaves lower combined with a compression of the quartet.
- **special-harmo** : progressive transposition 2 octaves lower (glissando)
- **comb** : comb filter
- **iana** : analysis et additive resynthesis
- **svp-timestretch** : time stretch with separate mix of noisy part and sinusoidal part.
- **munge-global** : granulation at the output of **SystemePrologueIII.**

Description of sound file players (red background) :

- **sfplay-Sinus** : quadriphonic sounds : «quasi-larsen», made with the cross-synthesis technique.
- **sfplay-sequences :** stereo sounds you have to spatialize (foreground or background)
- **sfplay-vcl :** sounds for the 2nd movement. Stereophonic sounds dédiés au second mouvement.ereo sounds you have to spatialize (foreground or background), but rather in background.

During the rehearsal or the concert, the Computer Music Musician controls the output level of each treatment on the main window of the «Passage-Patch» patcher. Press the space bar to trigger events for the first movement, and «v» for the 2nd movement.



general level of the treatment (in db)

click here to assign a midi controller to the fader (midilearn)

«spatialisation» on the background (slider at the top) or foreground (slider at the bottom) : controls the «position» subpatch

each volume slider controls the output of the treatment for 1 instrument (v1, v2, vla, vcl in that order)

Amplification is important

The amplification of the quartet is as much important as the electronic part.

In the first movement, the noisier is the quartet, the more compressed and placed on the forground it must be. Less noisy quartet means more reverberation and amplification on the background loudspeakers.

Given the score, amplification must follow this :

	I	**II**	**III**	**IV**	**V**
Quartet :	crushed sound	more and more notes	just notes	more and more noise	crushed sounds, pizz
amplification :	compression, foregr.	→	reverb, backgr.	→	compression, foregr.

Électronique

1 harm auto ON

amplification : *f*, plan frontal, compression

2 v2 : tstretch 2,5 sec.

5/4 = 120

Brusque, sombre, intense (lourd, clos)

3/4 5/4 8/4 3/4 9/4

Violon 1

(rester à la corde)

de plus en plus de note

Violon 2

(à la corde) (IV)

flautando

étouffer IV et III

Alto

(à la corde)

Violoncelle

(rester à la corde)

9

3 "Sinus" : sequence A

4 a : tstretch 2 sec.

5 v2 : tstretch 4,5 sec.

Élec.

5/4 A | 8/4 | 3/4 | 1/4 | 5/4 | 3/4

vl. 1

ff <fff | ff | f | pp ff | pp

vl. 2

ff fff | ff | f | ppp | pp<ff | pp | pppp

a.

ff fff | p "f" Intense | pp<ff | ff>pp pp

vcl.

ff | p Intense | ppp | pp | ppp

16

6 sinus : sequence B

7 v1 : tstretch 5 sec.

8 sinus : sequence C

Élec.

5/4 B

15/4

3/4 C

position archet
ad.lib

(module impro #1) flaut <> perforé

variations de pression et de vitesse ad. lib
garder nuance ***pppp***

vl. 1

pp *ff* *pppp* *f* *f* *ff* *ff* *p* *p*

Intense

"*f*" "*p*"

vl. 2

pp *ff* *ff* "*f*" *p* (II) *p*

a.

ff *p* *ff* *ff pp* "*f*" "*p*"

Intense

vcl.

comme une ombre

pp *ppp* *pp* *ff pp* "*f*"

Intense

22

9

v2 : harmo-special ON
a : comb ON

Élec.

vl. 1

vl. 2

(IV)

p

pp

flaut.

a.

"*f*"

p

f

vcl.

"*p*"

"*f*"

mf

30

10 v2 : harmo-special OFF
v2 : t-stretch 4s
a : comb OFF

11 Sinus : sequence D

Élec.

12/4 | 5/4 D | 7/4 | 5/4 | 7/4

vl. 1

sourdine

ff | ff pp ff p

vl. 2

étouffer au sillet

sourdine ~~sourdine~~

ff ff ff | ff | ff p

a.

sourdine

de plus en plus de note

ff ff ff | ff pp ff p

vcl.

sourdine

ff ff | ff pp | pp ff

35

12 Sinus : sequence E

13 Sinus : sequence F

Élec.

5/4 E | 4/4 | 2/4 F | 5/4 | 3/4 | 2/4 | 3/4

vl. 1

ôter sourdine

ff p p f "f"

vl. 2

ôter sourdine

ff f p p

a.

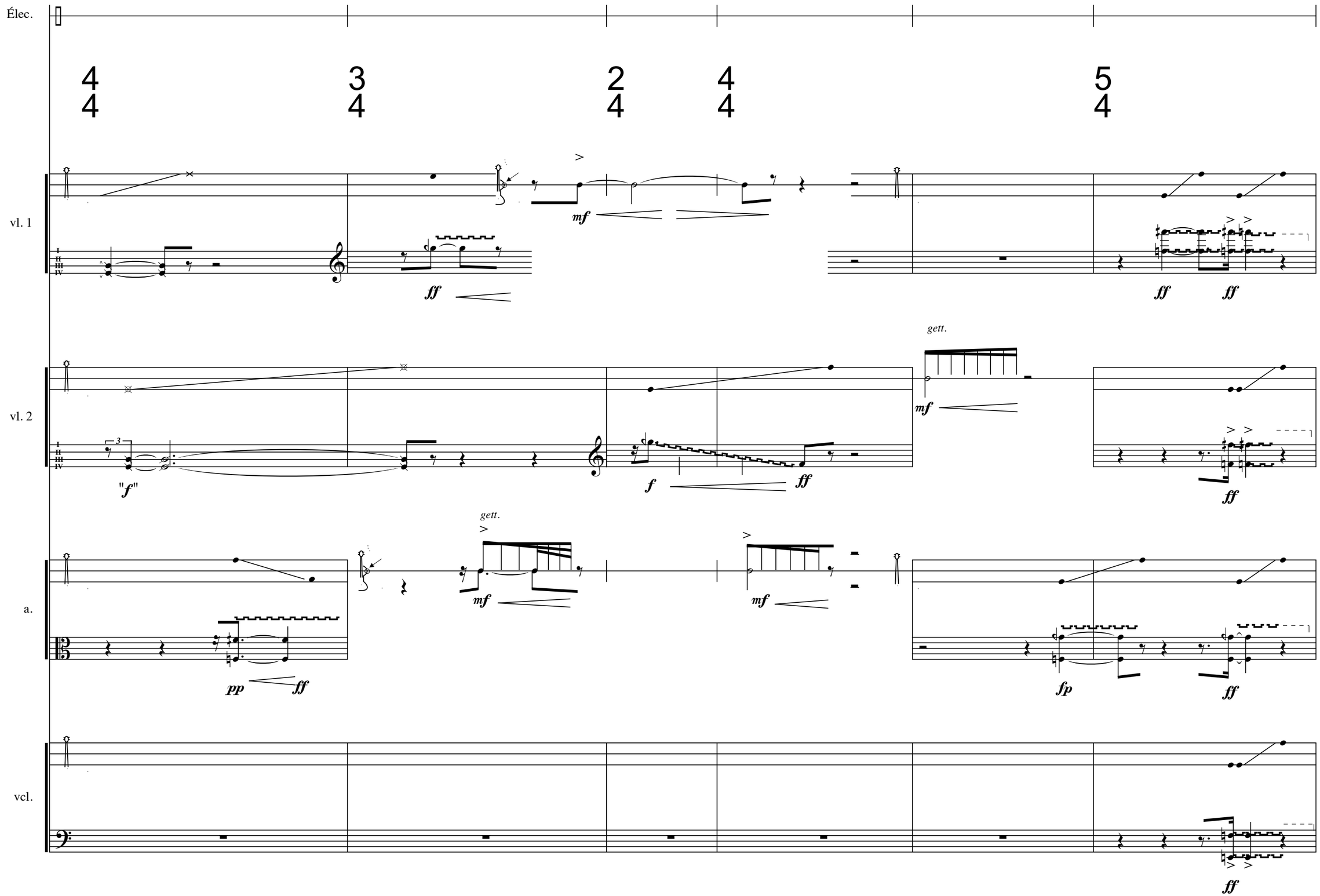
ôter sourdine

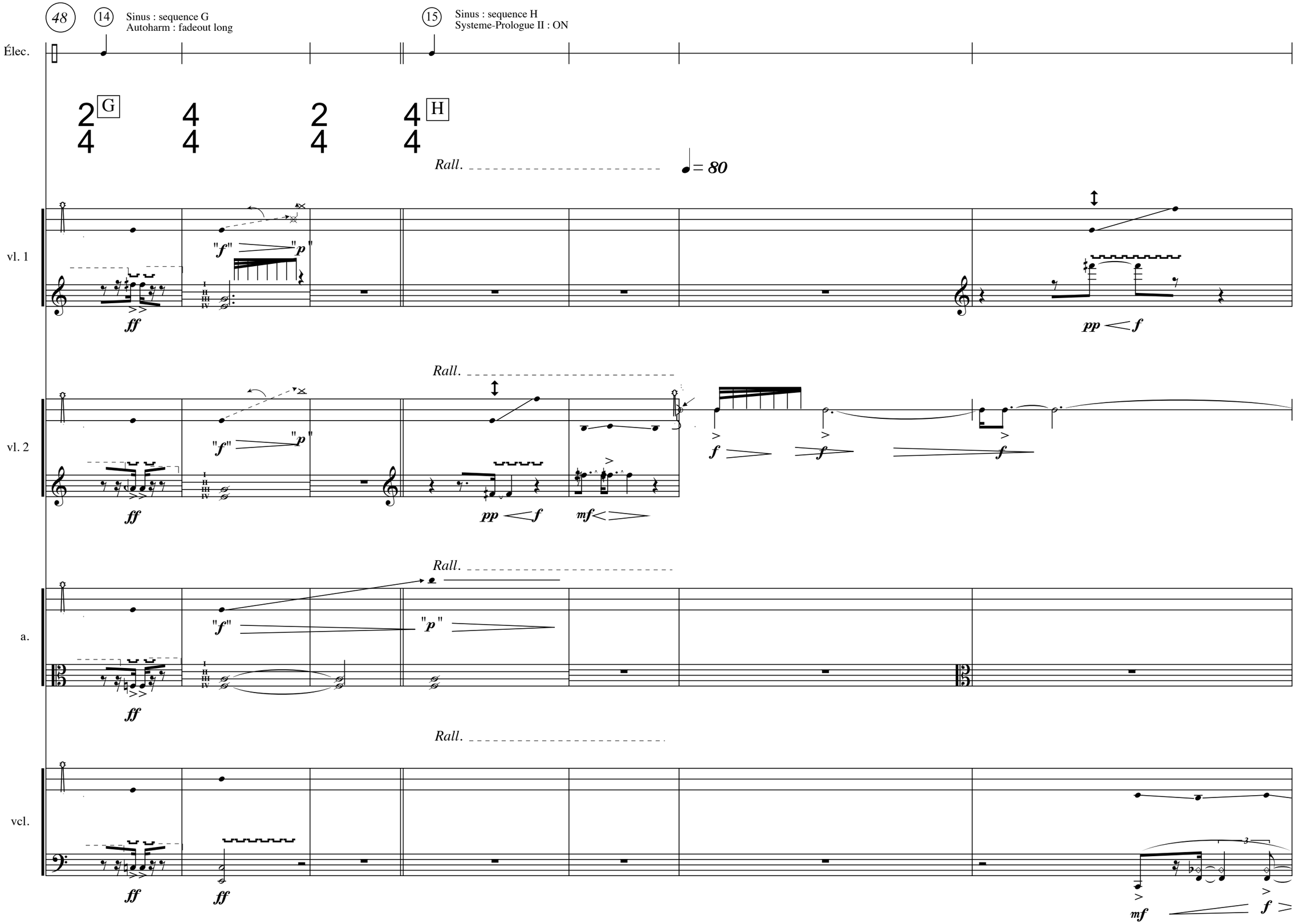
ff p "f" pp ff

vcl.

ôter sourdine

p ff f p


Élec.
vl. 1
vl. 2
a.
vcl.
gett.
gett.


48
14
Sinus : sequence G
Autoharm : fadeout long
15
Sinus : sequence H
Systeme-Prologue II : ON
Élec.
G
H
Rall.
= 80
vl. 1
vl. 2
a.
vcl.
ff
pp
f
mf
"f"
"p"

55

16

v1 : tstretch 6,7 s
vcl : tstretch 6s
vcl : harm-special 7s

Élec.

3
4

vl. 1

mf p mf f mf

vl. 2

(1/2 col legno)

mf f

(IV)

p

a.

(jeté mesuré)

"f" "f"

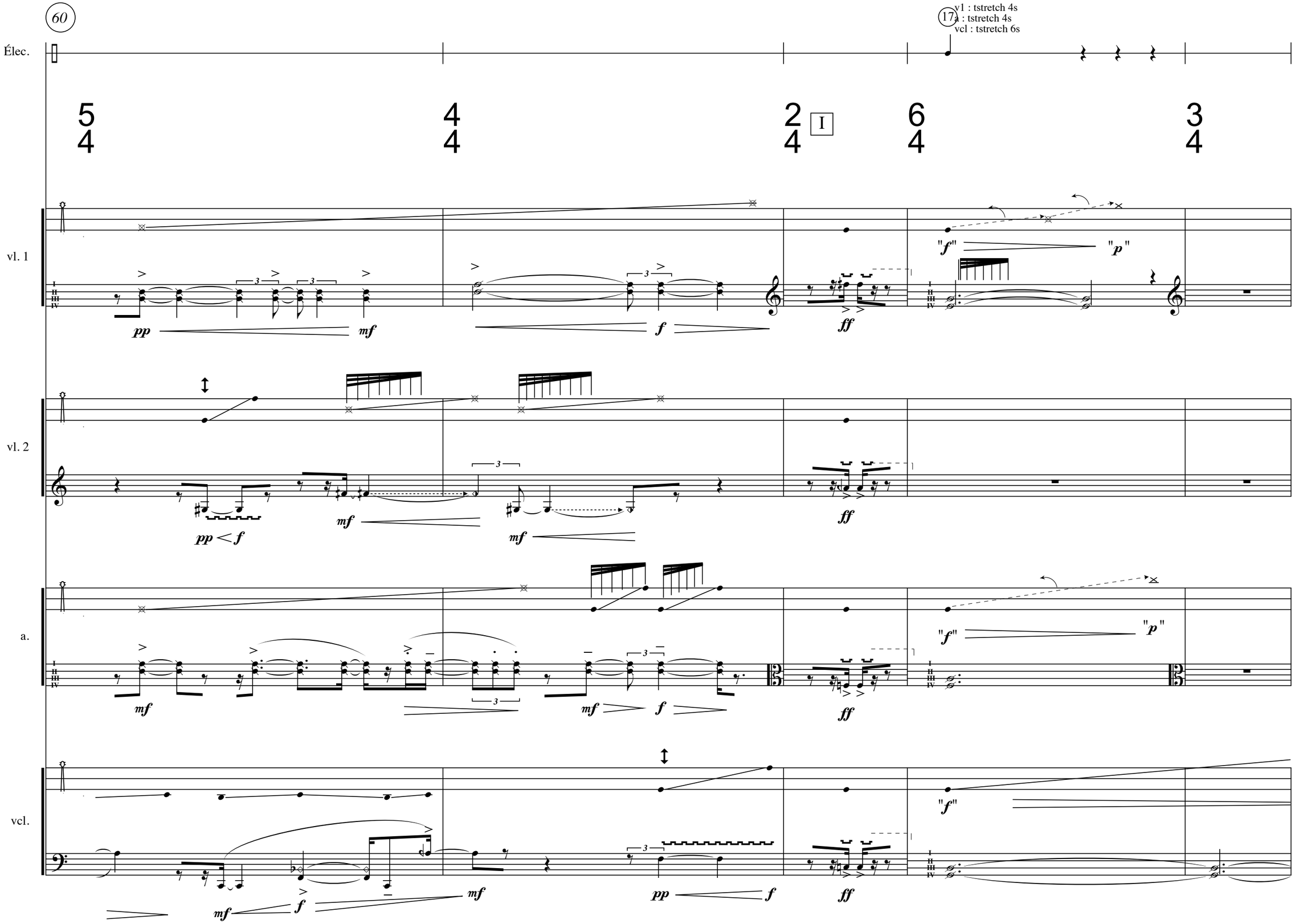
mf mf mf

vcl.

mf f mf f mf

mf f

pp f mf


17
v1 : tstretch 4s
a : tstretch 4s
vcl : tstretch 6s
Élec.
vl. 1
vl. 2
a.
vcl.
I
pp
mf
f
ff
"f"
"p"

65

18 a : comb ON

Élec.

vl. 1

vl. 2

a.

vcl.

J

4/4 3/4 4/4 3/4

mf p mf mf p p f p

"f" "p" "f" p mf p f p f pp

flaut. (voir vl. 1 mesure 79)

MODULE IMPRO #2

f pp mf p mf f pp

flaut. poco vib.

"p" "f"

mf mf mf p mf p

72

19

a : comb OFF

20

vcl : comb ON
vcl : tstretch 15 sec.

Élec.

2/4 4/4 3/4 4/4

vl. 1

flaut.

ppp

sul IV

p *p <*

vl. 2

attaque avec
"bow tap"

fz *ppp* *ppp*

fz *p*

a.

attaque avec
"bow tap"

fz *p* *fz* *p* *ppp*

vcl.

module impro #1

• position archet ad.lib
• flaut <> perforé

• variations de pression et de vitesse ad. lib
• garder nuance *pppp*

p *pp* *pp* *pppp*

K

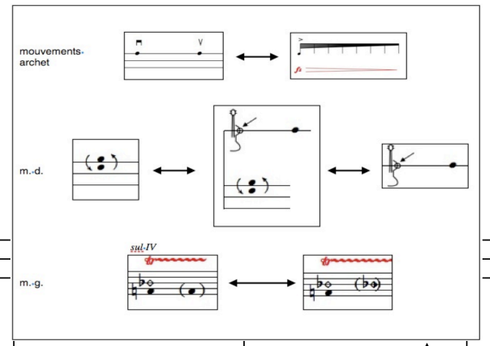
77

21 v1 : comb ON, fade in
vcl : comb OFF
"son long"

22 vcl : comb ON fade in
Systeme-Prologue III : ON

Élec.

vl. 1



3 3 3

pp

MODULE IMPRO #2

vl. 2

flaut.

a.

3 3 3 3

pp *p* *pp* *p* *pp*

(module impro #3)

vcl.

sourdine

3

p *pp*

tr

ppppp

87

23 v1 : comb OFF, fade out
vcl : comb OFF, fade out

24 v1 : tstretch 8s
v2 : tstretch 8s
vcl: tstretch 6s

Élec.

L

2/4 8/4 4/4

vl. 1

+ bow tap

"f"

sfz ff

vl. 2

"f" "p"

ff

espressivo

a.

sourdine

pp pp p

ff

vcl.

"f" "p"

ff

Amplification : le quatuor est très révébéré
et projeté sur le plan arrière.
Au contraire les sons issus de "systemePrologueIII" sont projetés à l'avant

96

25 SystemeProlologue II OFF

26 v2 : réverb ∞ (1s d'ouverture)

Élec.

M *Hésitant, puis de plus en plus affirmé. Expressif*

4/4 ♩= 60

3/4

2/4

vl. 1

flaut.

"*p*"

environ 10s

accorder IV en sol#

sourdine

pp

vl. 2

flaut.

environ 10s

sourdine

pp

flaut., hésitant

a.

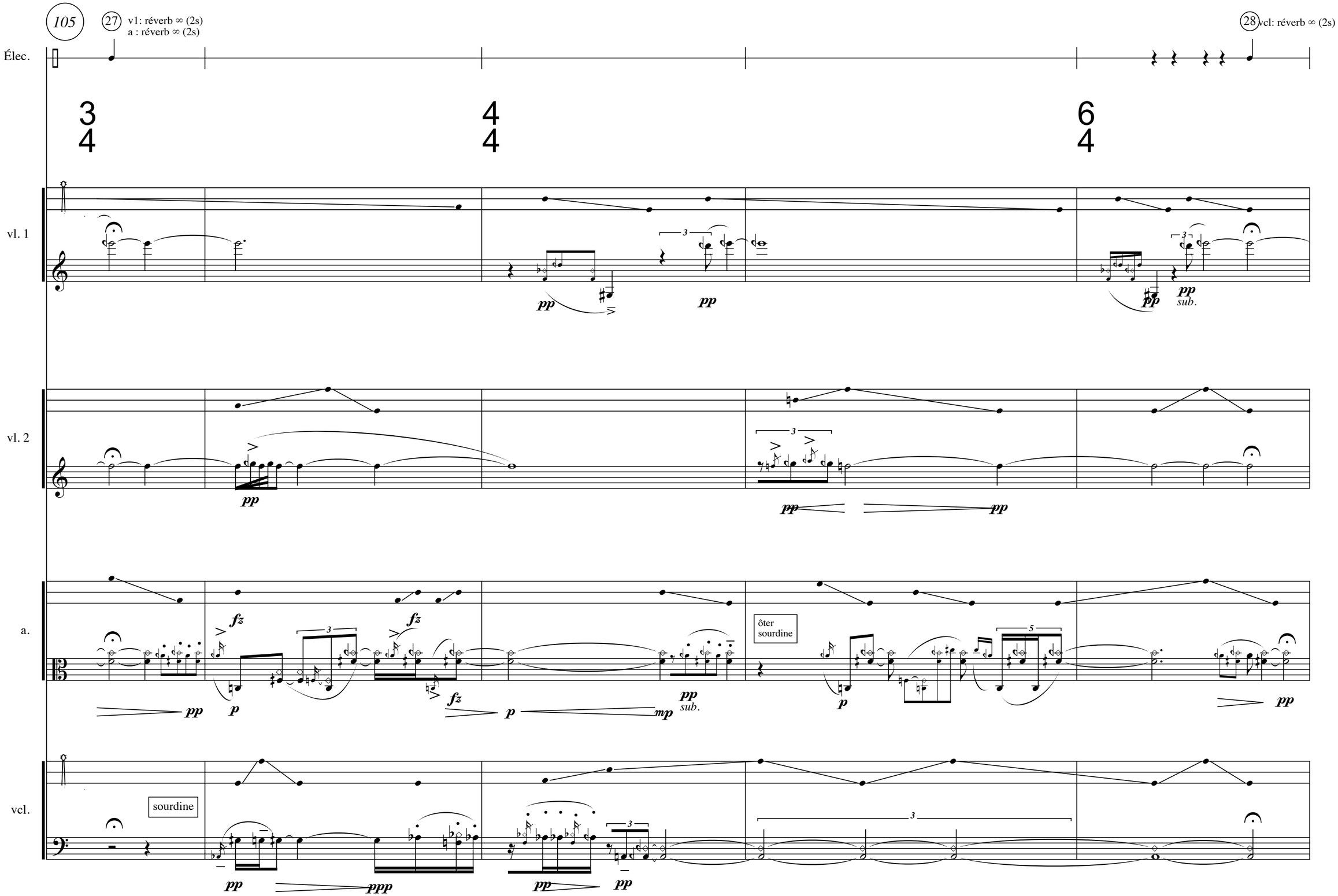
sourdine *espressivo*

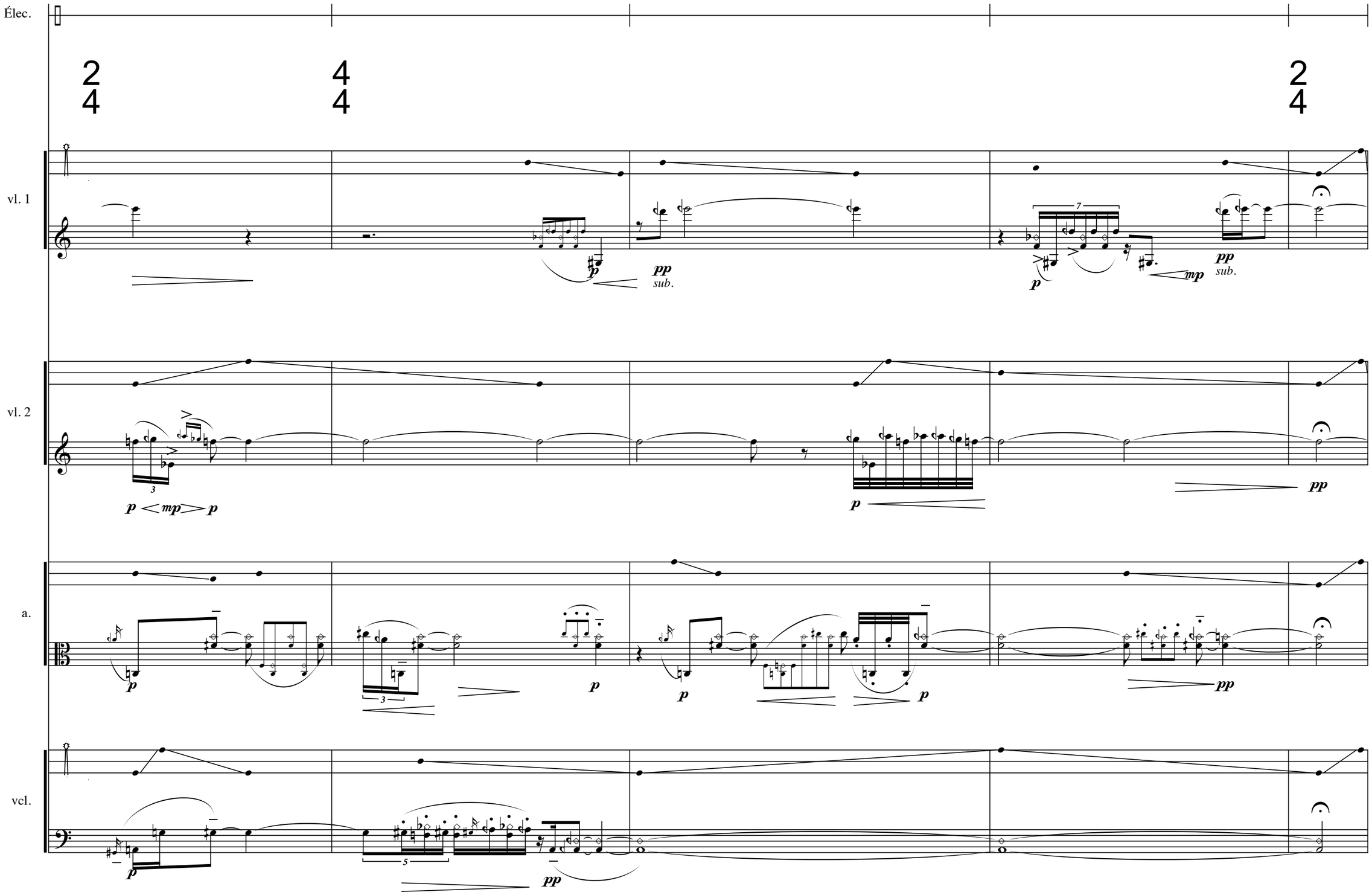
environ 10s

pp *ppp* *p* *pp*

vcl.

environ 10s


105
27
v1: réverb ∞ (2s)
a : réverb ∞ (2s)
28
vcl: réverb ∞ (2s)
Élec.
vl. 1
vl. 2
a.
vcl.
pp
sub.
fz
p
mp
ôter sourdine
sourdine
ppp


Élec.
vl. 1
vl. 2
a.
vcl.
pp
sub.
mp

Élec.

vl. 1

vl. 2

a.

vcl.

5/4 N

2/4

4/4

2/4

ôter sourdine

6

p mp p

p

pp mp p

p

mf p

mp p

mf

p

mf mp

p

p

Élec.

vl. 1

vl. 2

a.

vcl.

3
4

4
4

p *mp* *mf*

p *mf* *p* *pp*

p *pp*

f

mf *p*

ôter
sourdine

f *ff* *mf*

123

Élec.

O

vl. 1

fz *f* *p* *f* *f*

vl. 2

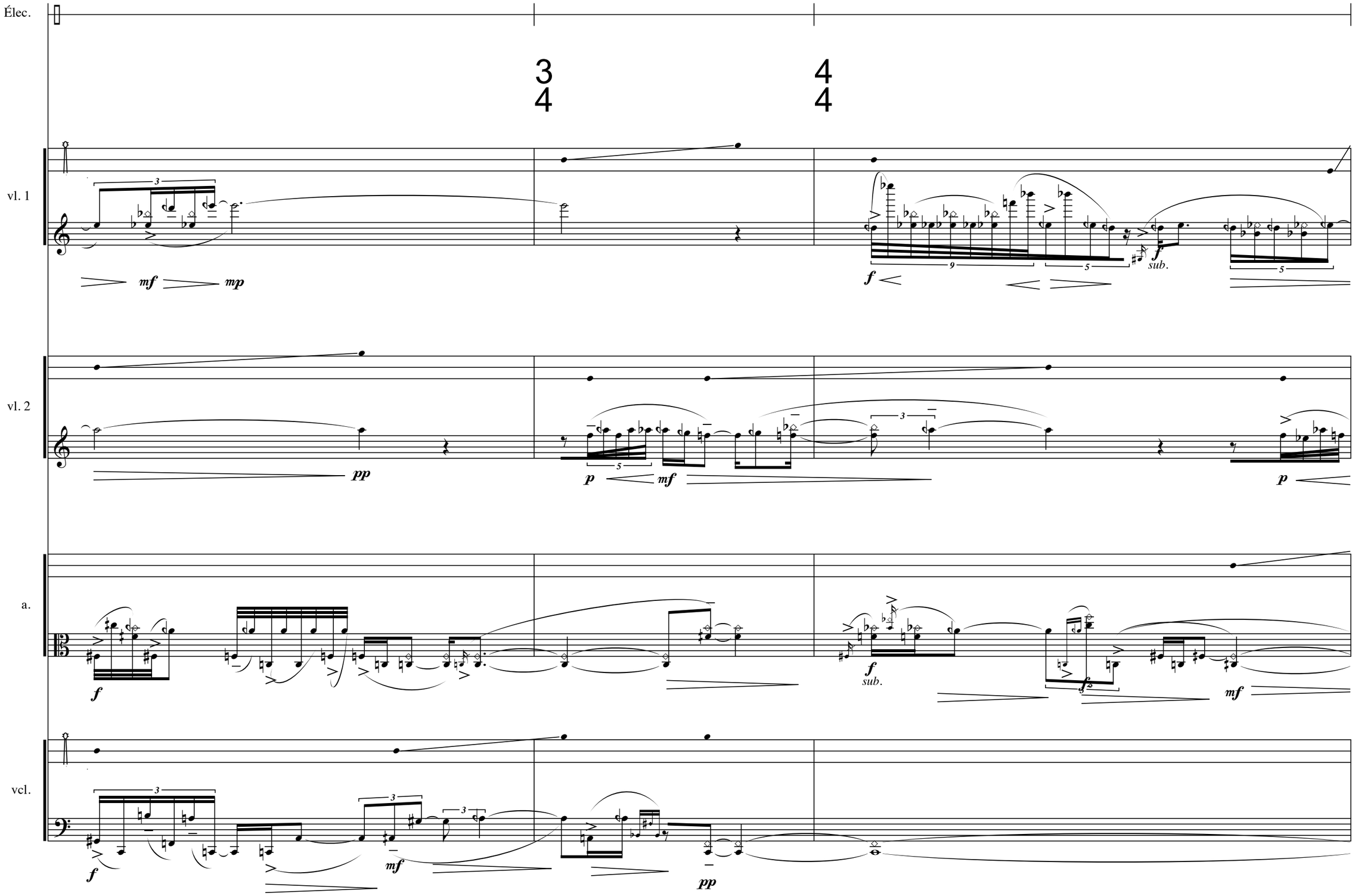
p ôter sourdine *p* *mf* *p*

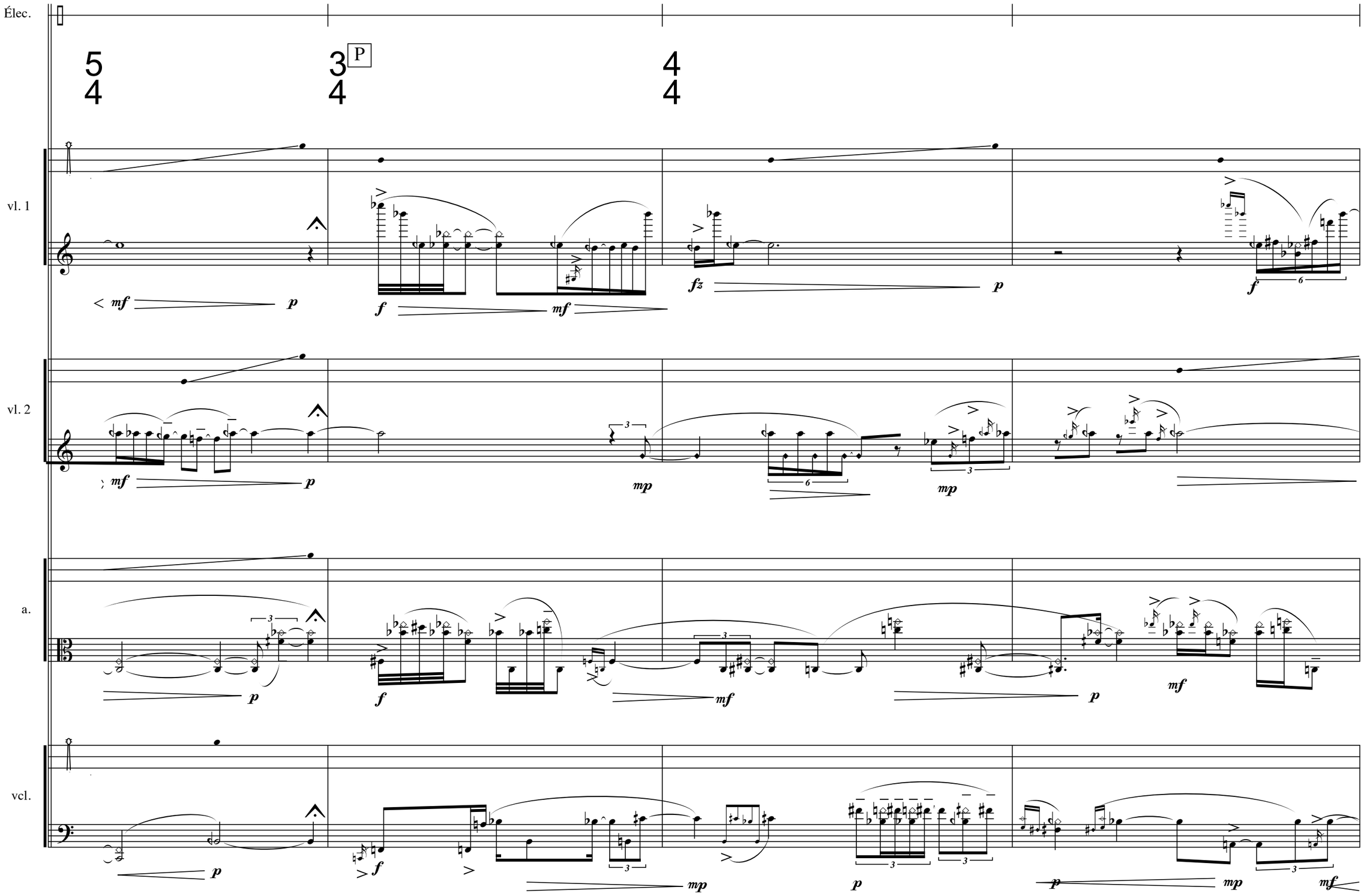
a.

3 *f* *ff* *f* *mp*

vcl.

p *p*


Élec.
3
4
4
4
vl. 1
mf
mp
f
sub.
vl. 2
pp
p
mf
p
a.
f
f
sub.
mf
vcl.
f
mf
pp


Élec.
5
4
3
4
P
4
4
vl. 1
vl. 2
a.
vcl.

Élec.

vl. 1

8va

mf

f

p

vl. 2

p

mf

p

mf

a.

mp

p

mf

espr.

mp

p

vcl.

p

pp

mp

mp

Élec.

Q

vl. 1

vl. 2

a.

vcl.

Élec.

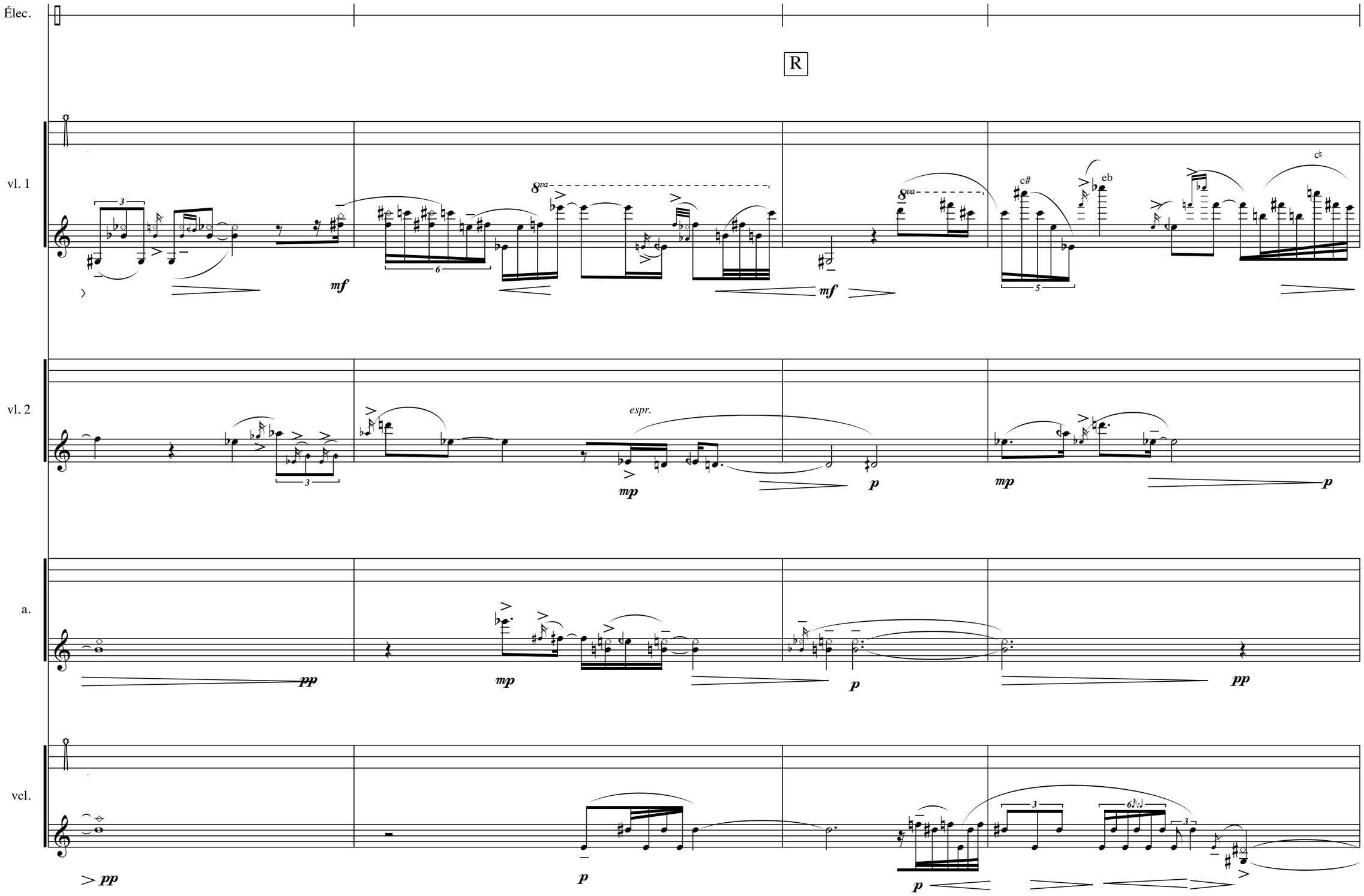
Baisser peu à peu la réverb ∞

vl. 1

vl. 2

a.

vcl.


Élec.
R
vl. 1
vl. 2
a.
vcl.
mf
mf
espr.
mp
p
mp
p
pp
mp
p
pp
pp
p
p

149

29

son 9.1
v1+v2+a+vcl : rvb∞ OFF -> delay 12s -> rvb∞ ON (ouverture 18s)
v1+v2+a+vcl : iana (ouv 20s, delay 13s) (à placer sur le plan lointain)

Élec.

vl. 1

vl. 2

a.

vcl.

Élec.

Rall. = 50

vl. 1

(8va)

réaccorder IV en sol

mp p pp

Rall.

vl. 2

5 5 6

pp pp pp pp pp

Rall.

a.

3

ppp ppp

Rall.

vcl.

157

30 son 9.2
SystemePrologueII ON

Élec.

S

T ♩= 50

Lumineux, pur
Calme, plein

attendre la fin
du son élec.

vl. 1

pizz.

f

Très pur

pp

vl. 2

pizz.

f

pp

a.

pizz.

f

pp

vcl.

pizz.

f

très pur

pp

Élec.

U

♩ = 60

vl. 1

Accel.

8va

3

pp

vl. 2

Accel.

III

IV

pp

mp

a.

Accel.

poco vib.

pp

mp

pp

vcl.

Accel.

poco vib.

pp

mp

pp

Élec.

V

♩= 80

Accel.

vl. 1

8va

mp pp

espr., poco vib.

mp pp

Accel.

vl. 2

(8va)

8va

espr., poco vib.

sim.

mp p

mp pp

Accel.

a.

poco vib.

p mp

8va

espr. !

p

fzp

Accel.

vcl.

8va

pp

poco vib.

pp

p mp

Intense, *vib.*

p

189

31

vcl : tstretch 5s.

Élec.

W

♩ = 120

6
4

vl. 1

Accel.

p pp p mp p sub. p mp p p pp

vl. 2

Accel.

8va

p pp pp p mf pp mp pp p pp

a.

(8va)

fzp p mp p p mp p mp mp p pp

vcl.

Accel.

pp vib. mp pp mp pp p pp

espr.

197

32

SystemePrologueII OFF
SystemePrologueIII ON
Sinus : sequence X
v1+v2+a+vcl : rvb∞ 4sec.
AUTO-HARM : ON
iana : OFF
munger : ON ws 5000 ms.

baisser la reverb∞

33

vcl : Harmo-special ON 12s
munger ws 4000 ms.

Élec.

X *En tension, de plus en plus voilé (vers le sombre)*

3/4 4/4 5/4 3/4 5/4

♩= 60

vl. 1

ppp *ppp* *ffz pp* *pp*

vl. 2

ppp *ppp* *sfzpp* *sfz p*

a.

ppp *ppp* *sfz pp* *pp* *p*

vcl.

ppp *p*

34

rvb∞ OFF
vcl : harmospecial OFF
munger ws 3500ms

Élec.

vl. 1

4
4

sfzp

espr.

mf

vl. 2

espr.

mp

3

3

a.

p

mf

vcl.

Intense

3

mp

mf

f

35 munger ws 2000 ms

36 munger ws 1000 ms

37 munger ws 500 ms

Élec.

Y

vl. 1

vl. 2

a.

vcl.

pizz.

étouffer I

arco

+ bow tap

219

Élec.

38 munger ws 5000 ms

39 munger ws 250 ms
Systeme PrologueIII OFF
AUTOHARM OFF

amplification : *ff*

Z

vl. 1

étouffer I

étouffer IV

pizz.

vl. 2

pizz.

a.

étouffer IV

pizz.

vcl.

pizz.

225

40 munger ws 200ms

41 munger ws 100ms

42 munger ws 50ms

43 munger ws 0ms

Élec.

munger : fade out

3/4 2/4 *Brutal, sourd*

vl. 1

fff *ffff*

vl. 2

pizz.

fff *ffff*

a.

pizz. pizz. pizz.

fff *ffff*

vcl.

fff *ffff*

II-1

Violoncelle

♩= 80

Brusque, sourd (clos)

(II)

II-5

vcl.

II-9

vcl.

(1/2 col legno)

(+ tap)

(col legno)

quasi gett.

II-13

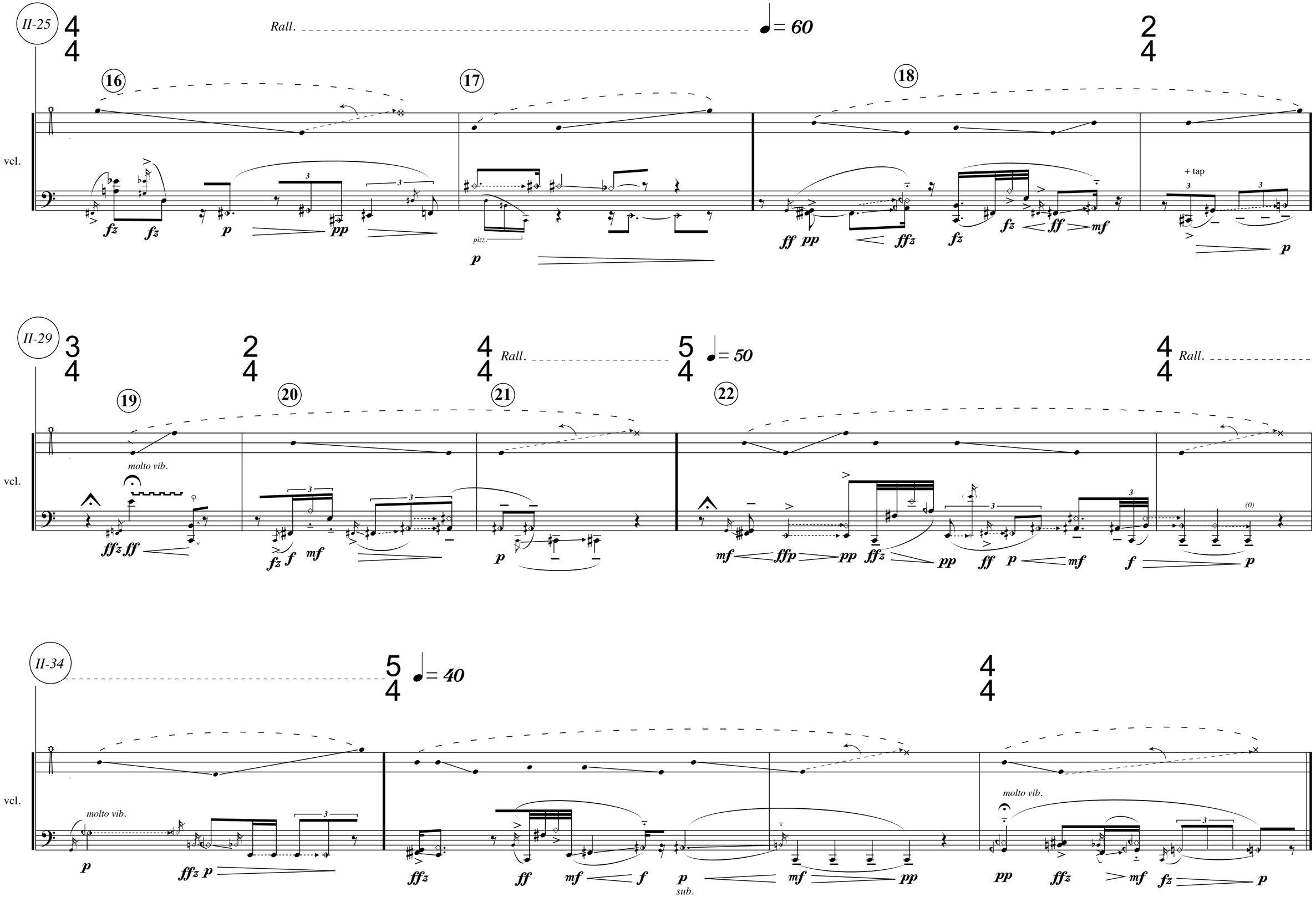
vcl.

II-17

vcl.

II-21

vcl.


II-25
Rall.
= 60
16
17
18
vcl.
pizz.
+ tap
II-29
Rall.
= 50
19
20
21
22
molto vib.
II-34
= 40
molto vib.
sub.