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involute

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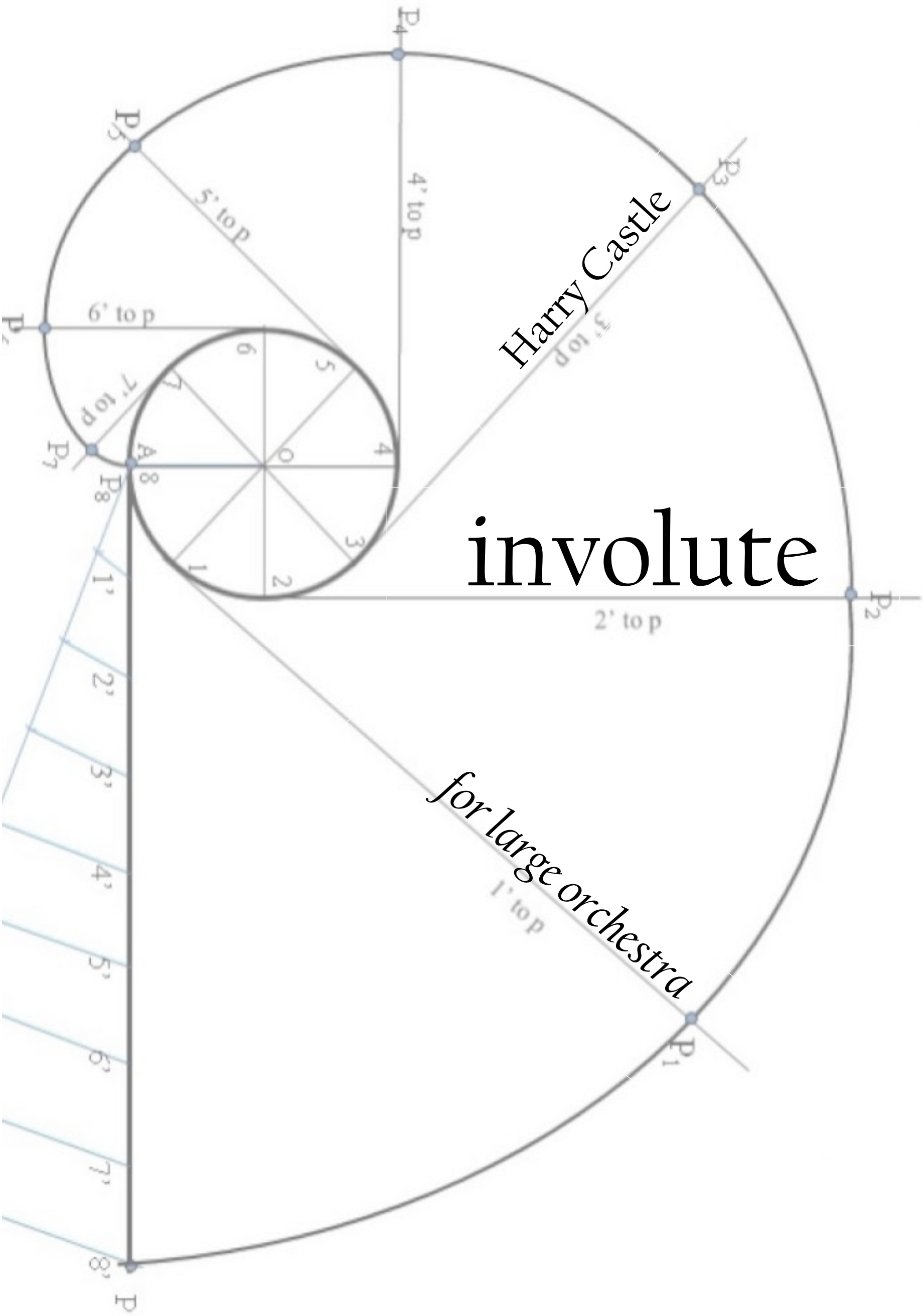

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involute

for

large orchestra

a few thoughts:

involute

n. the curve traced by a point as if it were on a taut string being unwound from another curve

v. to curl inward

adj. 1. complex, intricate, involved
2. (of petals, leaves) having edges that are rolled inwards
3. (of shells) coiled so tightly that the axis is obscured

involute is a short piece which I wrote for the Yale Symphony Orchestra. It is in two parts: a slow, nebulous opening texture with drifting harmonies and bubbling winds, and a quicker, groovy section full of shapeshifting rhythms and patterns. The piece is inspired by all five definitions above. There are several motifs that appear over the course of the piece, but by far the most important is the C-A-G-C-E motif which begins in the first bar. I thought of this collection of pitches as the DNA of the music; as the axis of the shell, the midvein of the leaf, the formula for the curve. From there I played with obscuring and revealing these pitches – how could I use them as rhythmic cell, harmonic support and featured melodic material? How could they roll and curl in on themselves one minute whilst unwinding into something very different the next? I'm pretty sure there are only a handful of the 175 bars that constitute this piece that don't contain some iteration of this motif. My biggest challenge in writing *involute* was creating an interesting and varied piece of modern music from just one piece of genetic information.

This also informed my treatment of groove. I wanted to write a piece which, frankly, slaps hard. I've played and heard a lot of new music that is difficult to get into – I didn't want this to be that. To get specific: in the faster section (from bar 43) there are two pulse activities going on. One is non-isochronous, combinations of twos and threes that sit in harmonically and melodically complete boxes, feeling like sets of funky composite time signatures. The other is isochronous, a collection of mostly 9/8 or 6/8 grooves that never need to catch up with each other and play out against each other until they either end, or have fulfilled their potential and need to change. I thought of these areas as the two curves of our involute, one tightly defined (a circle – our non-isochronous pulses) and the other running forever and never catching its tail (a spiral – our isochronous pulses), but both tangentially related to each other (perhaps through the conductor?) and sharing the same DNA (the C-A-G-C-E motif). My idea was that the conductor merely keeps the pulse steady whilst the players feel the grooves in their own parts, using the synchronicity and tension this creates to navigate the ups and downs of the overall score.

The recording I have submitted here is from a 30-minute first reading with the orchestra, and despite the complexities of the score and limited rehearsal time, a surprising amount of these intentions begin to read. I'm excited to spend more time with the orchestra on this music over the coming months, tightening up the screws on the music until it really slaps hard.

instrumentation:

3 flutes (3rd doubling piccolo)
3 oboes (3rd doubling cor anglais)
2 clarinets in Bb
bass clarinet in Bb (doubling Eb clarinet)
2 bassoons
contrabassoon

4 horns in F
2 trumpets in C (or Bb)
2 trombones
bass trombone
tuba

timpani (doubling triangle and vibraslap)
3 percussionists: marimba, glockenspiel, vibraphone, xylophone, crotales, bass drum, snare drum, tambourine, temple blocks, wood blocks, tam-tam, cymbals (suspended, china, sizzle), whip, 2 flexatones, maracas
harp (optional second harp)
piano

strings (at least 14.14.12.10.8 recommended)

duration: c. 8'

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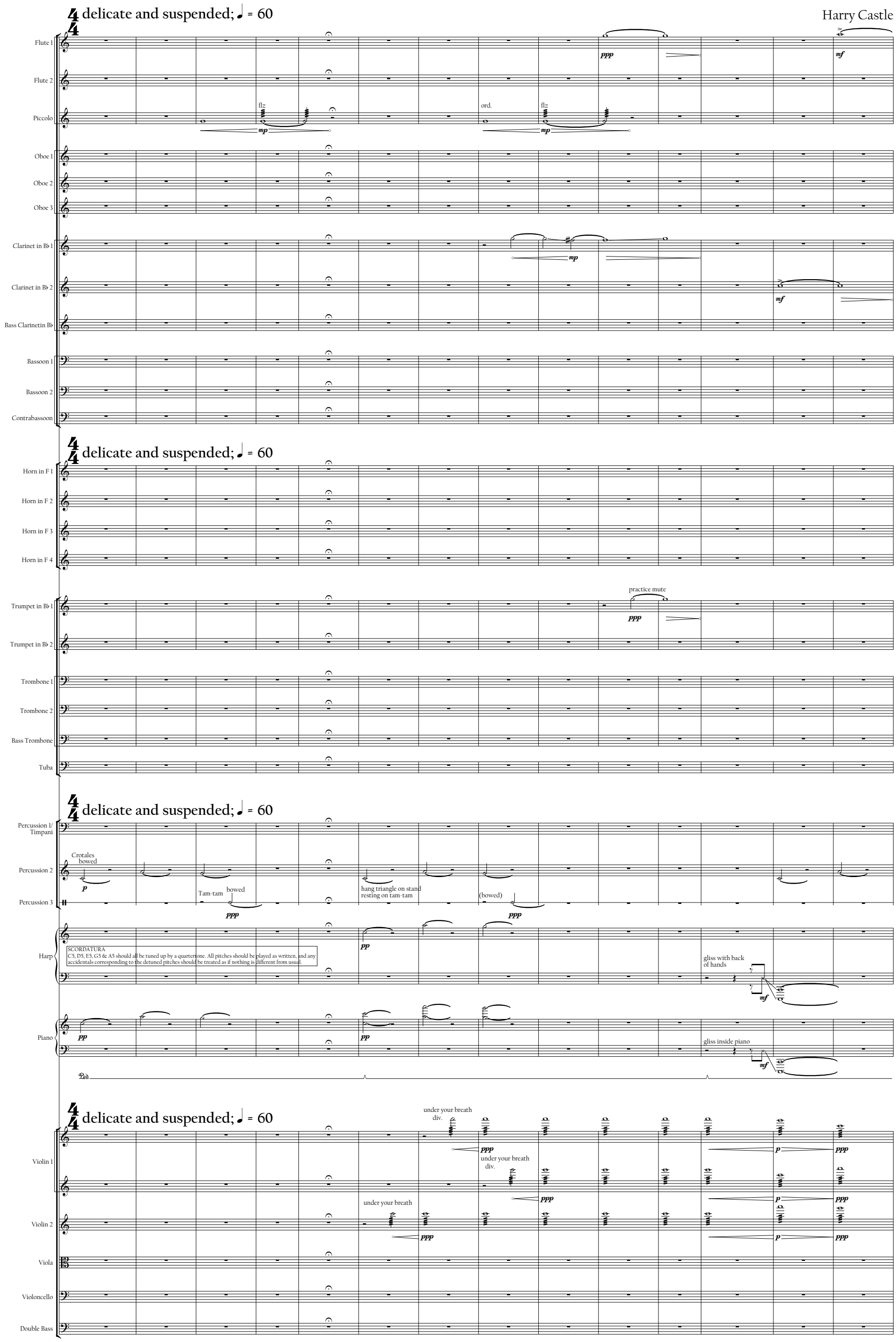
involute

Harry Castle



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15

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
Ob. 3
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Hn. 1
Hn. 2
Hn. 3
Hn. 4
Tpt. 1
Tpt. 2
Tbn. 1
Tbn. 2
Perc. 1
Perc. 2
Perc 3.
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.

flz
ord.
Clarinet in E♭
closed
practice mute
To Glock.
Glockenspiel
To Crot.
superball scrape
continuous glissandi on harmonics
random speeds
IV

24

Fl. 1
Fl. 2
Picc.
Ob. 2
Ob. 3
To C. A.
Cl. 1
Cl. 2
E♭ Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
closed
Hn. 2
closed
Hn. 3
closed
Hn. 4
closed
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Perc. 1
Perc. 2
Crotales
(bowed)
Perc 3.
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.

30

Fl. 1

Picc.

Ob. 1

Ob. 2

Cl. 1

Cl. 2

To B. Cl.

E♭ Cl.

Bsn. 1

Bsn. 2

Perc. 1

Cymbals

(all bowed)

suspended

Perc. 2

china

Perc 3.

Hp.

Pno.

Vln. 1

Vln. 2

Vla.

Vc.

Db.

32

Fl. 1

Fl. 2

Picc.

Ob. 1

Ob. 2

C. A.

Cl. 1

Cl. 2

Bass Clarinet in B♭

B. Cl.

Tpt. 1

straight mute

Tpt. 2

straight mute

Perc. 1

sizzle

Perc. 2

Crotales
(bowed)

Glockenspiel

Perc 3.

Hp.

Pno.

Vln. 1

Vln. 2

Vla.

Vc.

Db.

35

Fl. 1 — no attack — p — mf

Picc. — no attack — p — mf

Ob. 1 — no attack — p — mf

Ob. 2 — no attack — p — mf

C. A. — To Ob.

Cl. 1 — p — mp — mf

Cl. 2 — p — mp — mf

Bsn. 1 — mp — p — mf

Bsn. 2 — mp — p — mp

Hn. 1 — closed — p

Hn. 2 — closed — p

Hn. 3 — closed — p

Hn. 4 — closed — p

Tpt. 1

Tpt. 2

Tbn. 1 — p — pp

Tbn. 2 — p — pp

B. Tbn. — p — pp

Tba. — p — pp

Perc. 1 — Tam-tam soft beater — mp

Perc. 2

Perc. 3 — Vibraphone motor on — p — Ped. — mf

Hp.

Pno.

Vln. 1 — pp — mp — molto sul pont. — pp

Vln. 2 — pp — mp — molto sul pont. — pp

Vla. — molto sul pont.

Vc. — molto sul pont.

Db. — pp — mp — molto sul pont. — pp

38

accel.

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.

accel.

Hn. 1
Hn. 2
Hn. 3
Hn. 4

open

Tpt. 1
Tpt. 2

ord.

Tbn. 1
Tbn. 2
B. Tbn.
Tba.

straight mute

rip

accel.

Perc. 1

place china cymbal upside down on skin, execute cymbal roll

once the drum is ringing, adjust pitch up and down using pedal, culminating in:

bow china cymbal

Pedal sim.

Perc. 2

Tam-tam

Perc. 3

Xylophone

Flexatone

sim.

Hp.

unmetered, dramatic glissandi

don't let downbeat sound

Pno.

accel.

Vln. 1
Vln. 2

div.
ord.

Vla.

don't play

Vc.

pizz.

Db.

43

with plenty of groove(s); ♩. = 100

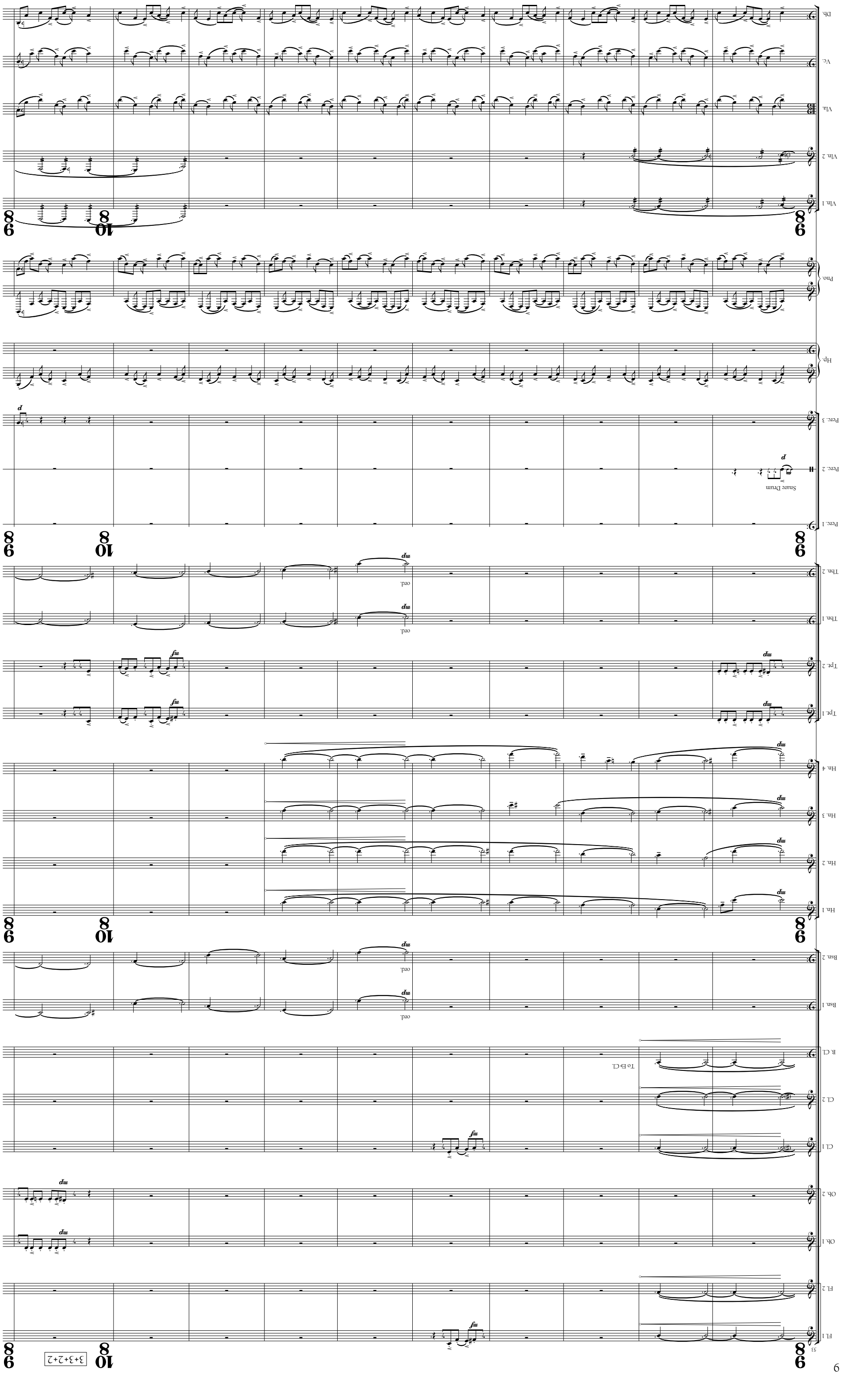
3+3+2+2

Fl. 1 — Fl. 2 — Picc. — Ob. 1 — Ob. 2 — C. A. (To Ob.) — Cl. 1 — Cl. 2 — B. Cl. — Bsn. 1 — Bsn. 2 — Cbsn.

Hn. 1 — Hn. 2 — Hn. 3 — Hn. 4 — Tpt. 1 — Tpt. 2 — Tbn. 1 — Tbn. 2 (rip) — B. Tbn. (rip) — Tba.

Perc. 1 — Perc. 2 (dampen immediately) — Perc. 3 (Glockenspiel) — Hp. (don't let downbeat sound) — Pno.

Vln. 1 (tutti) — Vln. 2 (tutti) — Vla. (pizz.) — Vc. — Db.


33
Fl. 1
Fl. 2
Ob. 1
Ob. 2
Cl. 1
Cl. 2
To B♭ Cl.
B. Cl.
Bsn. 1
Bsn. 2
ord.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
Tpr. 1
Tpr. 2
Tbn. 1
Tbn. 2
Perc. 1
Perc. 2
Snare Drum
Perc. 3
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.
3+3+2+2

63

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 4
Tpt. 1
Tpt. 2
Tbn. 1
Tbn. 2
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.

3+3+2+2

Clarinet in E♭

To B. Cl.

open

straight mute

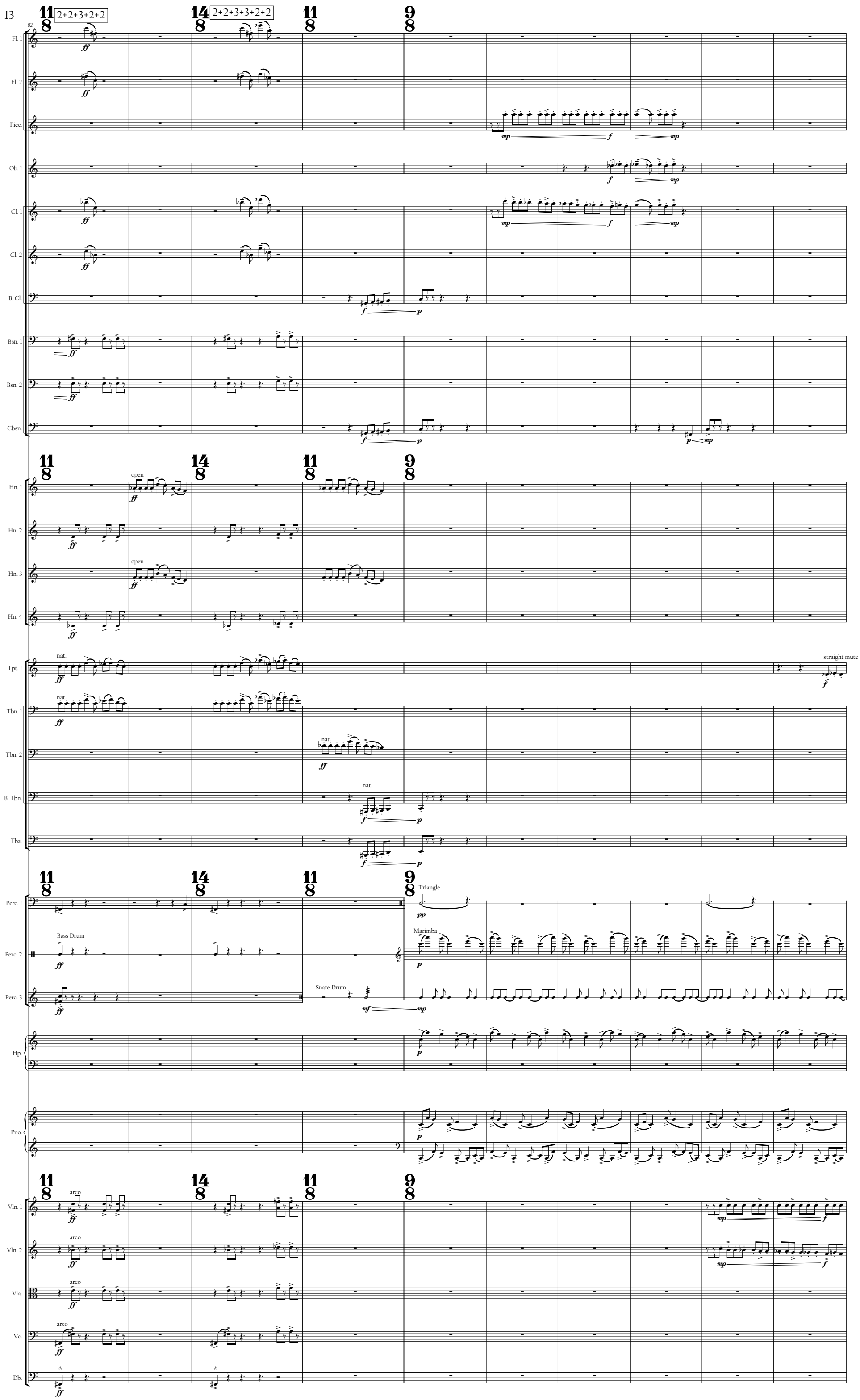
71

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
E♭ Cl.
Bass Clarinet in B♭
Cbsn.
Hn. 1
Hn. 2
Hn. 3
closed
Hn. 4
Tpt. 1
Perc. 1
Maracas
Perc. 2
Marimba
Perc. 3
Temple Blocks
Hp.
Pno.
Vln. 1
pizz.
Vln. 2
pizz.
Vla.
Vc.
Db.

76

Fl. 1
Fl. 2
Picc.
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 3
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vla.
Vc.
Db.

Vibraslap
To Xyl.
Timpani
Xylophone
closed
pizz.


2+2+3+2+2
2+2+3+3+2+2
Fl. 1
Fl. 2
Picc.
Ob. 1
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
open
Tpt. 1
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
nat.
straight mute
Perc. 1
Perc. 2
Perc. 3
Bass Drum
Triangle
Marimba
Snare Drum
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.
arco

92

12/8 — 9/8

Fl. 1 — mf — mp — f
Fl. 2 — mp — f
Picc. — sfz
Ob. 1 — p — mf — f — mp
Ob. 2 — mf
C. A. — sfz
Cl. 1 — p — mf — mp — f
Cl. 2 — mf — mp — f
B. Cl. — sfz
Bsn. 1 — mf — mf — mp — f — mp
Bsn. 2 — p — mf — mp — f — mp
Cbsn. — p — mp — mf — p

12/8 — 9/8

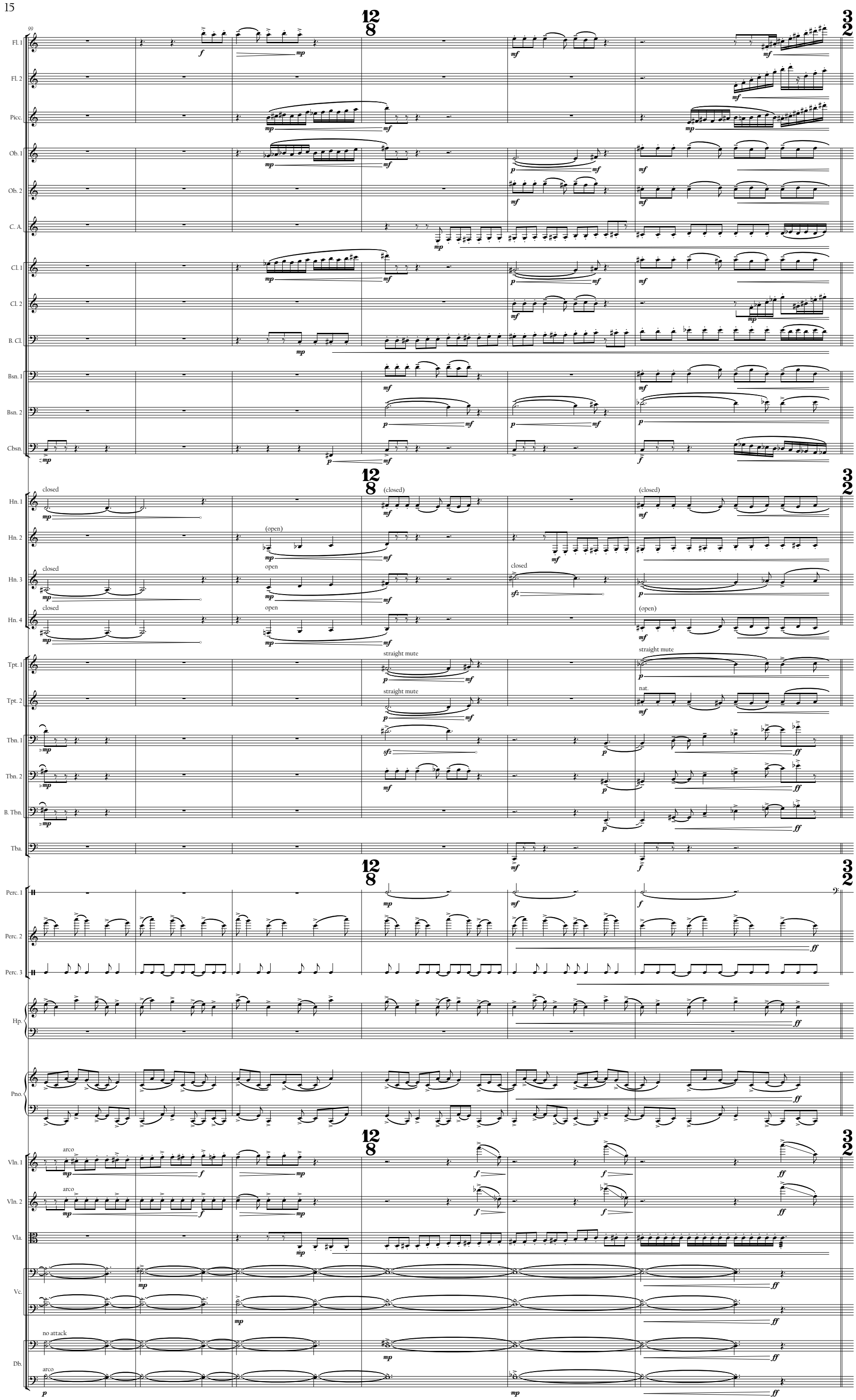
Hn. 1 — mf — mf
Hn. 2 — mp — mf — mf
Hn. 3 — mp — mf — closed — sfz
Hn. 4 — mp — mf — mf
Tpt. 1 — mp — sfz
Tpt. 2 — nat. — mf
Tbn. 1 — mf — mf
Tbn. 2 — mf — sfz — mf
B. Tbn. — sfz — sfz — f — mf
Tba. — f

12/8 — 9/8

Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.

12/8 — 9/8

Vln. 1 — mp — p — mf — p — mf — pizz. — ff
Vln. 2 — mp — p — mf — p — mf — pizz. — ff
Vla. — mf — mf — ff
Vc. — mf — ff — p — p
Db. — arco — p


99
Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
closed
(open)
open
(closed)
Tpt. 1
Tpt. 2
straight mute
nat.
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln. 1
Vln. 2
arco
Vla.
Vc.
Db.
no attack

105

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
Tpt. 1
Tpt. 2
straight mute
straight mute
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Timpani
damp
Perc. 1
Temple Blocks
Perc. 2
Bass Drum
Perc. 3
Tambourine
Hp.
Pno.
Vln. 1
pizz.
Vln. 2
pizz.
Vla.
pizz.
Vc.
pizz.
Db.
pizz.

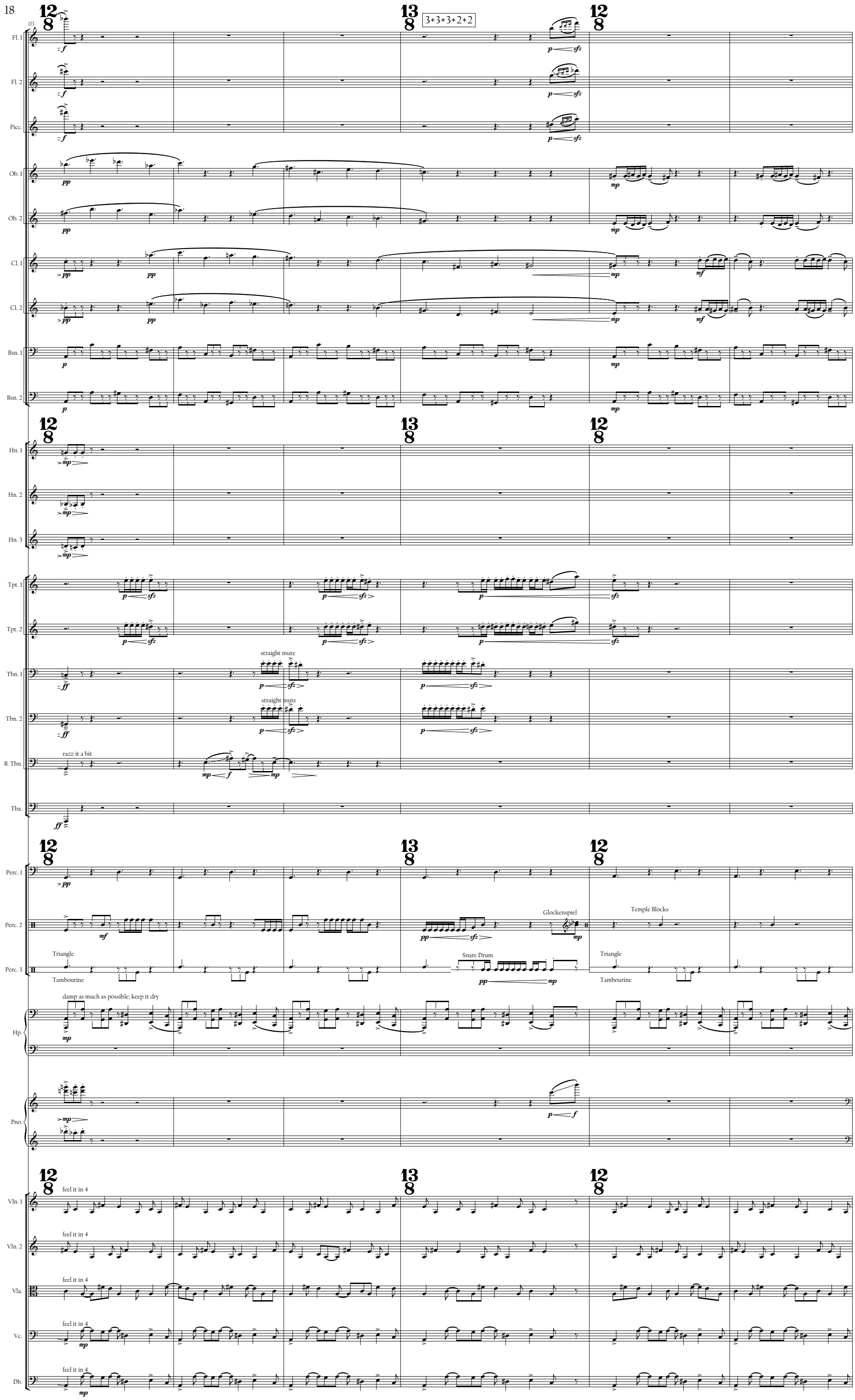
110

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
Tpt. 1
Tpt. 2
Tbn. 1
Tbn. 2
B. Tbn.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.

9/8 12/8

make it a bit slidey

make it a bit slidey


113
Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
Cl. 1
Cl. 2
Bsn. 1
Bsn. 2
3+3+3+2+2
Hn. 1
Hn. 2
Hn. 3
Tpt. 1
Tpt. 2
straight mute
Tbn. 1
Tbn. 2
razz it a bit
B. Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Triangle
Tambourine
Glockenspiel
Snare Drum
Temple Blocks
damp as much as possible; keep it dry
Hp.
Pno.
feel it in 4
Vln. 1
Vln. 2
Vla.
Vc.
Db.

119

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
To E♭ Cl.
Bsn. 1
Bsn. 2
Hn. 1
Hn. 2
Hn. 3
Hn. 4
open
Tpt. 1
Tpt. 2
nat.
Tbn. 1
Tbn. 2
(nat.)
Tba.
Perc. 1
Triangle
Perc. 2
Vibraphone
motor on
Perc. 3
Glockenspiel
Hp.
Pno.
Ped.
Vln. 1
Vln. 2
Vla.
Vc.
Db.
solo

J26

Fl. 1 — pp — p — pp — p — mp

Fl. 2 — p — p — mp

Picc. — pp — p — mf — mf — fl z. — ff — mf

Ob. 1 — p — mp

Ob. 2 — p — mf

C. A. — mf — mf

Cl. 1 — mp — mf

Cl. 2 — mp — mf — mf

B. Cl. — Clarinet in E♭ — p

Bsn. 1 — mf — mf — mf

Bsn. 2 — mf — mf

Hn. 1 — open — mf — mf

Hn. 2 — open — mf

Hn. 3 — open — mf

Hn. 4 — open — mf — mf

Tpt. 1 — mf — mf

Tpt. 2 — mf

Tbn. 1 — mf — mf

Tbn. 2 — mf

B. Tbn. — mf — mf — mf

Perc. 1 — Crotales — pp

Perc. 2 — mf

Perc. 3 — mf

Hp. — mf — mf — ff

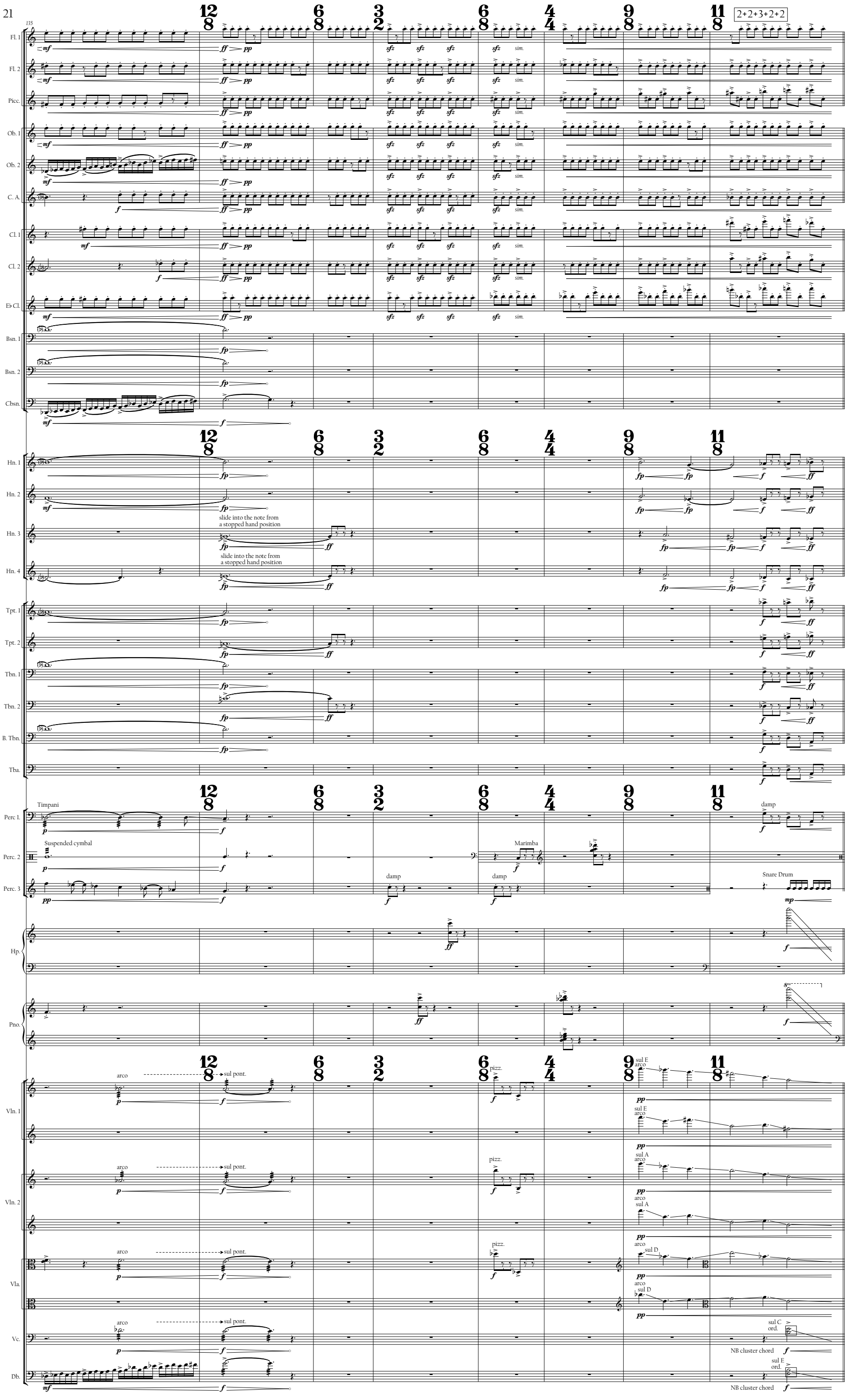
Pno. — mf — damp strings inside piano — ff

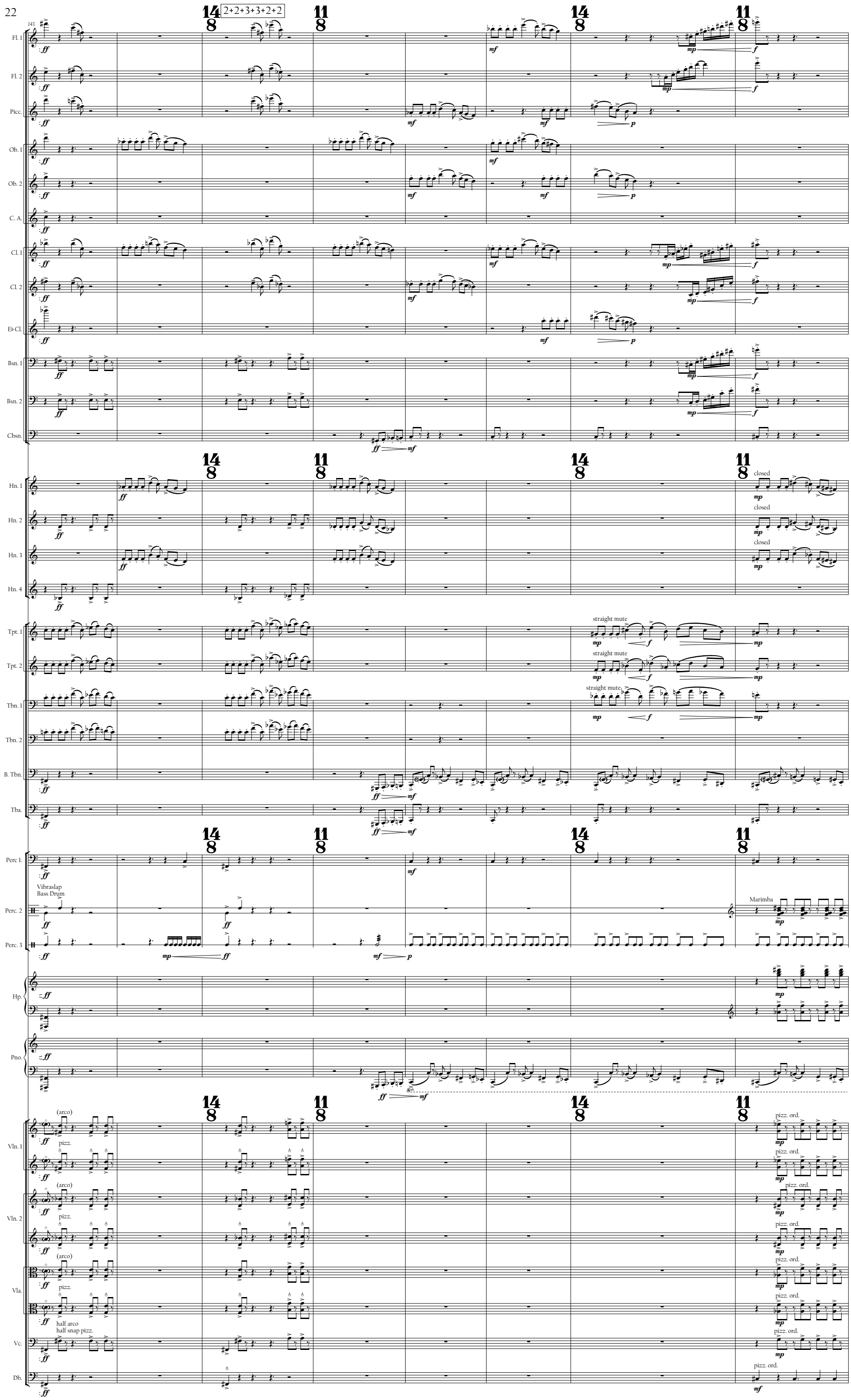
Vln. 1 — tutti — pp — mp — pizz. — ff

Vln. 2 — pp — mp — pizz. — ff

Vla. — pp — mp — pizz. — ff

Vc. — tutti — pp — pizz. — ff

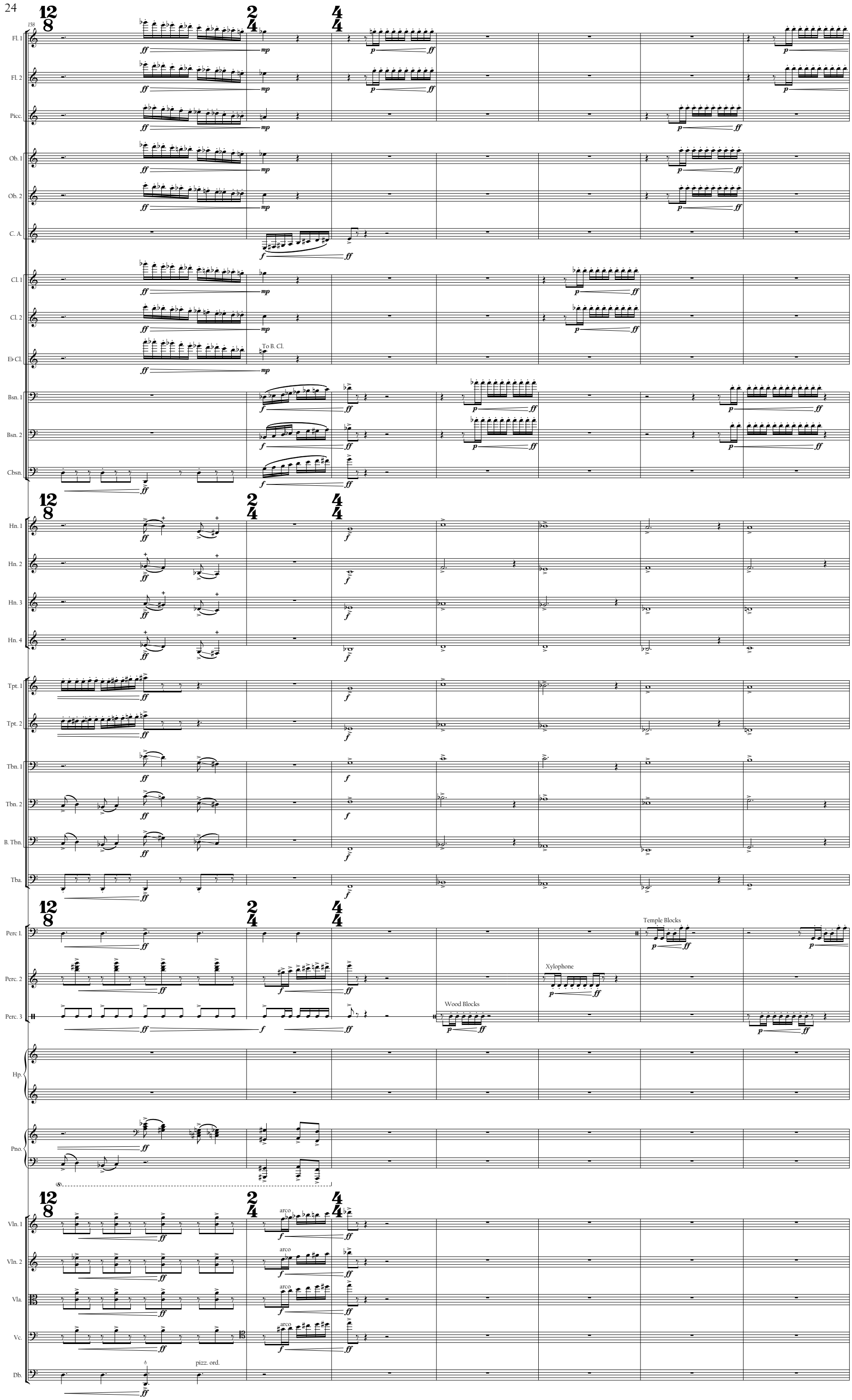

135
12/8
6/8
3/2
6/8
4/4
9/8
11/8
2+2+3+2+2
Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
E♭ Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
slide into the note from a stopped hand position
Tpt. 1
Tpt. 2
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Timpani
Perc 1.
Suspended cymbal
Perc. 2
Marimba
Perc. 3
damp
Snare Drum
Hp.
Pno.
arco
sul pont.
pizz.
sul E
sul A
sul D
sul C
ord.
NB cluster chord

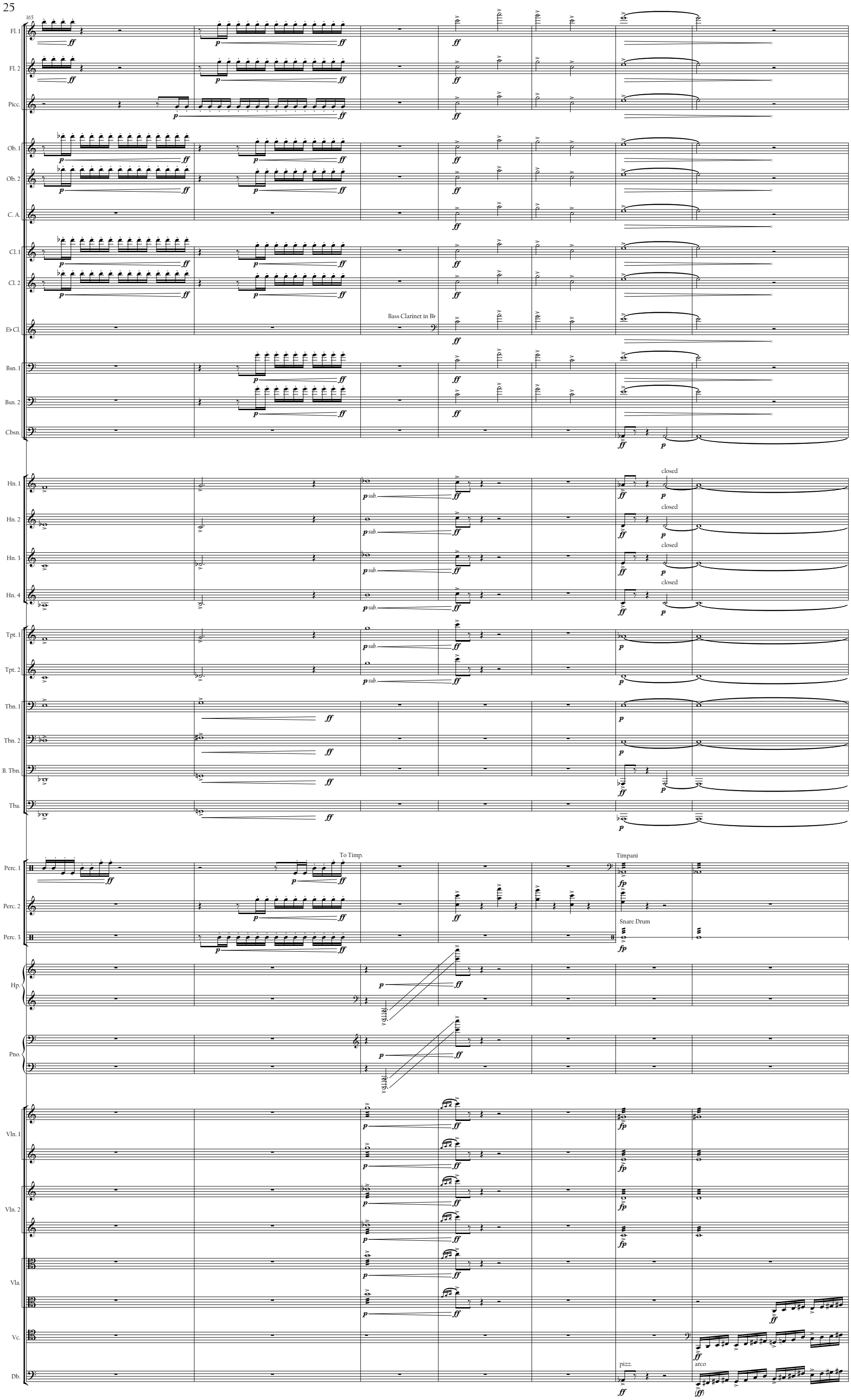

143
2+2+3+3+2+2
Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
E♭ Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
closed
Tpt. 1
Tpt. 2
straight mute
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Perc 1.
Vibraslap
Bass Drum
Perc. 2
Marimba
Perc. 3
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.
(arco)
pizz.
pizz. ord.
half arco
half snap pizz.

151

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
E♭ Cl.
Clarinet in E♭
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
open
Tpt. 1
Tpt. 2
nat.
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Perc 1.
Perc. 2
Perc. 3
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.

2/4 12/8


158
Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
E♭ Cl.
To B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
Tpt. 1
Tpt. 2
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Perc 1.
Perc. 2
Perc. 3
Temple Blocks
Xylophone
Wood Blocks
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.
arco
pizz. ord.


165
Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
E♭ Cl.
Bass Clarinet in B♭
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
closed
Tpt. 1
Tpt. 2
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
To Timp.
Timpani
Snare Drum
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.
pizz.
arco

172

Fl. 1
Fl. 2
Picc.
Ob. 1
Ob. 2
C. A.
Cl. 1
Cl. 2
B. Cl.
Bsn. 1
Bsn. 2
Cbsn.
Hn. 1
Hn. 2
Hn. 3
Hn. 4
Tpt. 1
Tpt. 2
Tbn. 1
Tbn. 2
B. Tbn.
Tba.
Perc. 1
Perc. 2
Perc. 3
Hp.
Pno.
Vln. 1
Vln. 2
Vla.
Vc.
Db.

Glockenspiel
Tam-tam
Bass Drum
damp!!
rimshot
open
pizz.