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Three Entistatios

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Publication Date
2020

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Three Entistatios
for Chamber Ensemble

Robert Laidlow (2019)

Score in C

Clarinet in Bb

Soprano Saxophone (doubling Alto Saxophone)

Bassoon

Horn in F

Trumpet in Bb

Violin I

Violin II

Viola

'Cello

Contrabass

2 Percussion:

Percussion 1

Vibraphone

Bass Drum

5 Temple Blocks

Cabasa

2 Cowbells (Low & Medium)

Agogo

Whip

Brake Drum (alt. Anvil)

6 Suspended Cymbals (shared with Perc. 2)

- Trash (6")
- Splash (7-8")
- Small China (8-10")
- Splash/Crash (10")
- Crash (12")
- Crash (14")

Percussion 2

Thundersheet (medium size)

Triangle (small)

Guiro

Cabasa

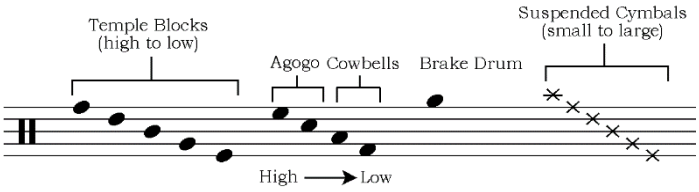
Vibraslap

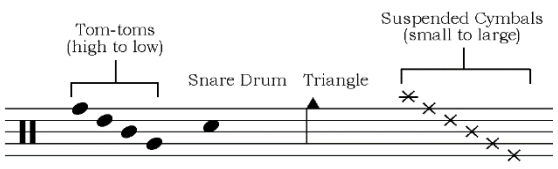
4 High Tom-toms

Snare Drum (small/medium)

6 Suspended Cymbals (shared with Perc. 1)

- Trash (6")
- Splash (7-8")
- Small China (8-10")
- Splash/Crash (10")
- Crash (12")
- Crash (14")

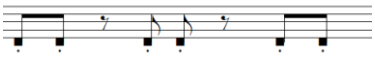




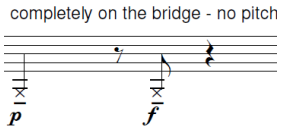
Duration c. 11"

Performance Note

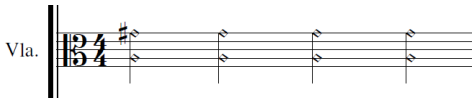
- Square noteheads for string instruments denote that the string should be played completely overpressured so that there is no pitch at all, only noise. Also known as scratch tone. This technique is also marked with “overpressure” or “o.p.” in the score.



- ‘X’ noteheads for string instruments denote that the instrument should be bowed completely on the bridge, producing no pitch



- In the third movement string instruments are instructed to finger non-speaking natural harmonics in order to produce the sound of bowing with no pitch.



- All tremolos are unmeasured
- The suspended cymbals should be set up between Percussion 1 and 2 so that each player can access them from either side. This means they should be set up in one long row, or in two rows of three directly above one another
    - In the first movement, both players will need to play the cymbals simultaneously. Percussion 2 is required to immediately mute cymbals struck by Percussion 1 by choking them with one hand.

Programme Note

This three-movement work is a piece inspired by, created in collaboration with, and responding to artificial intelligence. Most research into AI begins with a model that has learned as much as possible from its dataset – where its training is 'complete'. For this piece, I was interested in examining the AI at different stages of learning music.

The first movement is an exploration of the beginning of the learning process, where an AI has not yet learned what we consider the basics of coherent composition and musical technique. Its neurons fire randomly, producing many unrelated ideas at an extremely fast rate. It will also often 'overfit', meaning that it copies directly from its dataset, like a quote, or it might become stuck in a repeating cycle of one or two notes. Some of the material from this movement is derived directly from an AI in the early stages of training; other ideas are original, conceived to fit this overall narrative.

The second movement is a conversation between myself, the composer, and a state-of-the-art AI network that is fully trained upon my music. I would write music, then the AI would respond in a style it had learned from studying my previous works. I decided which of its ideas were interesting, reworked them into new forms, and then gave this as the algorithm's next input.

The final movement moves more towards science fiction. It is an imagined soundscape of a future-AI that has reached 'singularity' – the ability to rework and improve itself at an exponential rate. The incoherence and randomness of the untrained model is now totally replaced by a single-minded, obsessive world of whirring tones passing by at an ever-increasing rate. Eventually the computer ascends into a plane that is too rapid and fleeting to be heard by human ears.

An 'Entistatio' is a word devised and defined by the artificial intelligence network 'Lexiconjure', trained on the Merrian Webster English Dictionary and created by computational artist Ross Goodwin. Its definition is given as "a short piece of music or metal".

With thanks to my collaborator Christine Payne (OpenAI), and her model MuseNet.

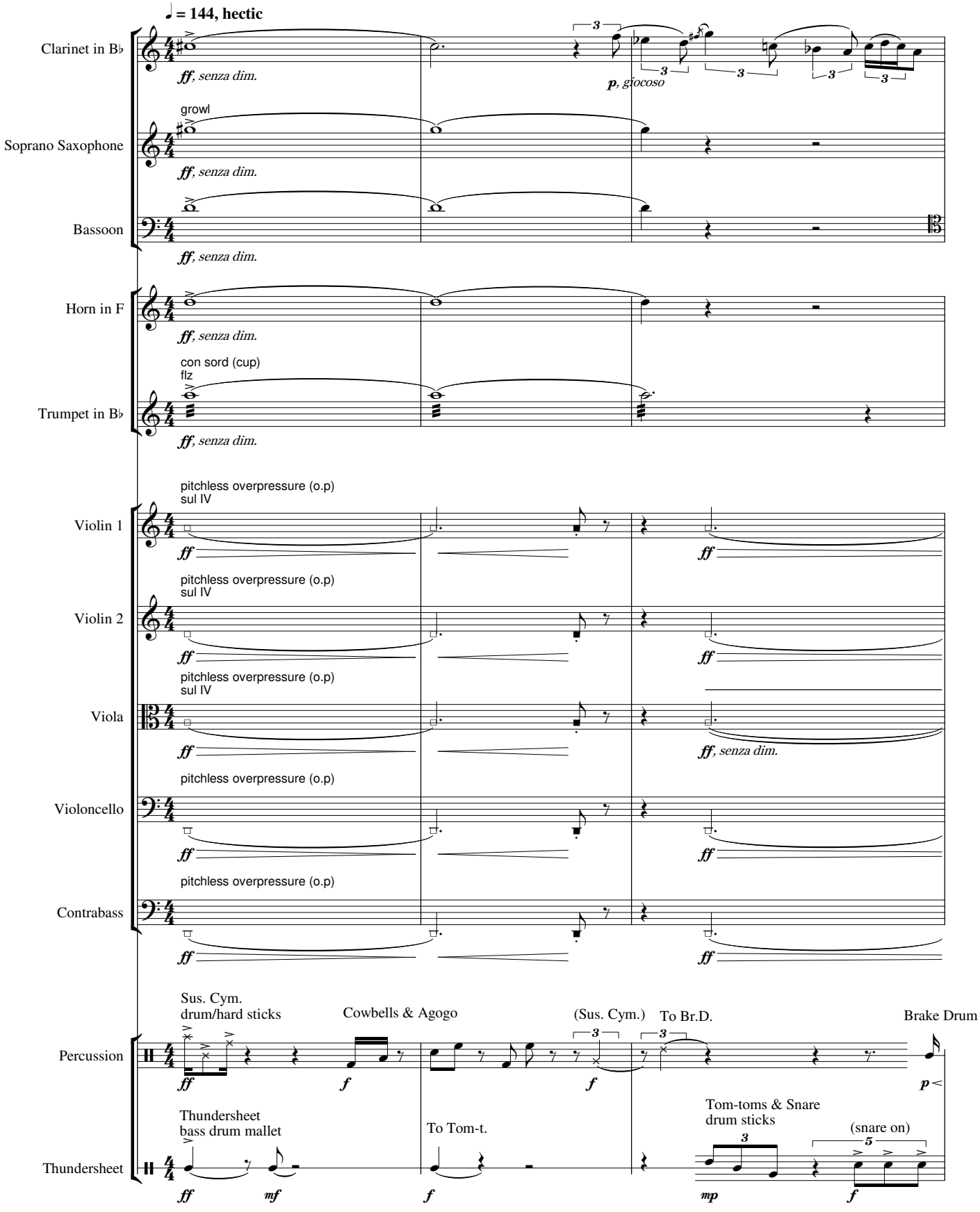
Three Entistatios for Chamber Ensemble was written for the BBC Philharmonic Orchestra. It was premiered at the Royal Northern College of Music on June 13th, 2019, conducted by Jack Sheen.

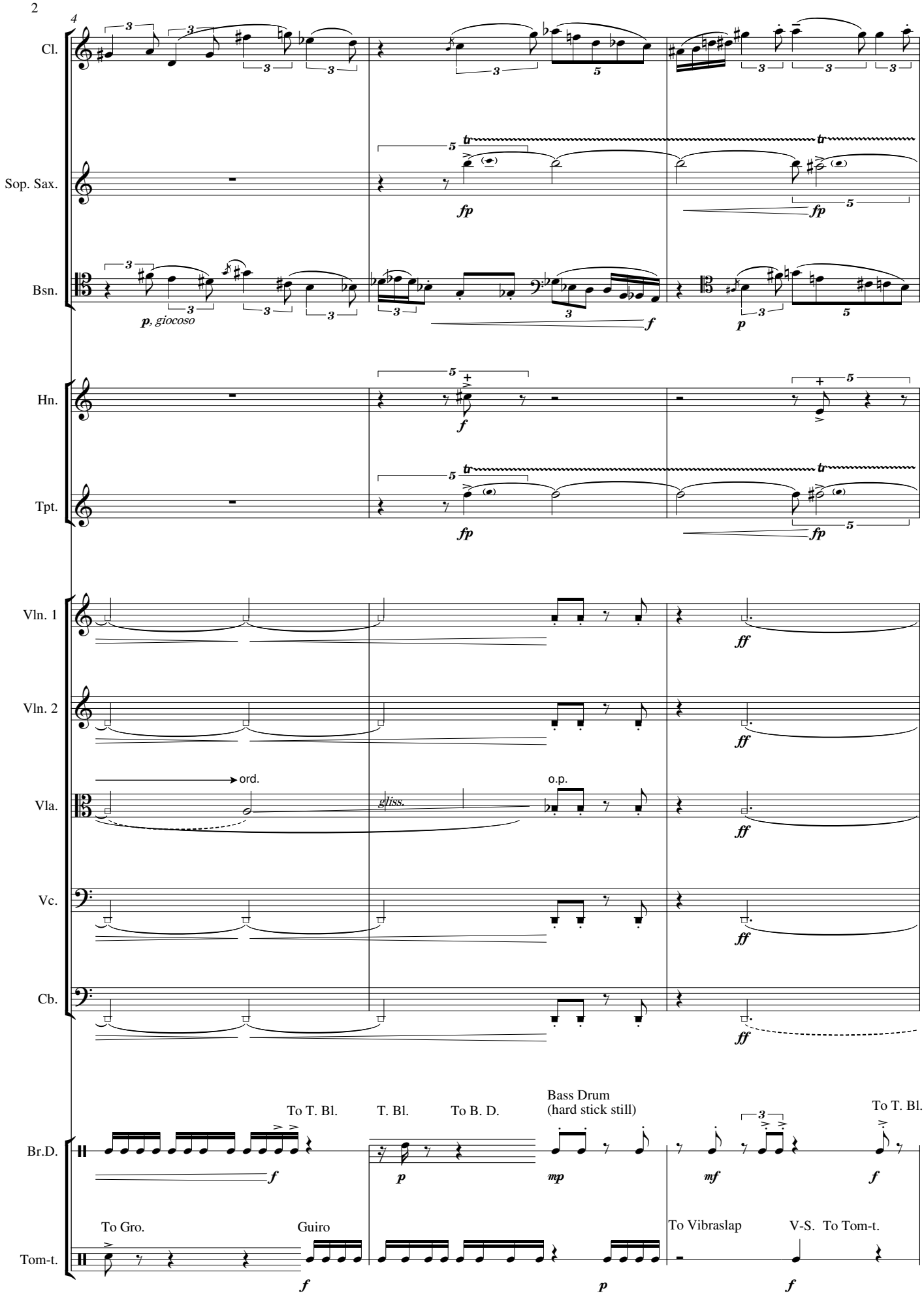
Three Entistatios for Chamber Ensemble

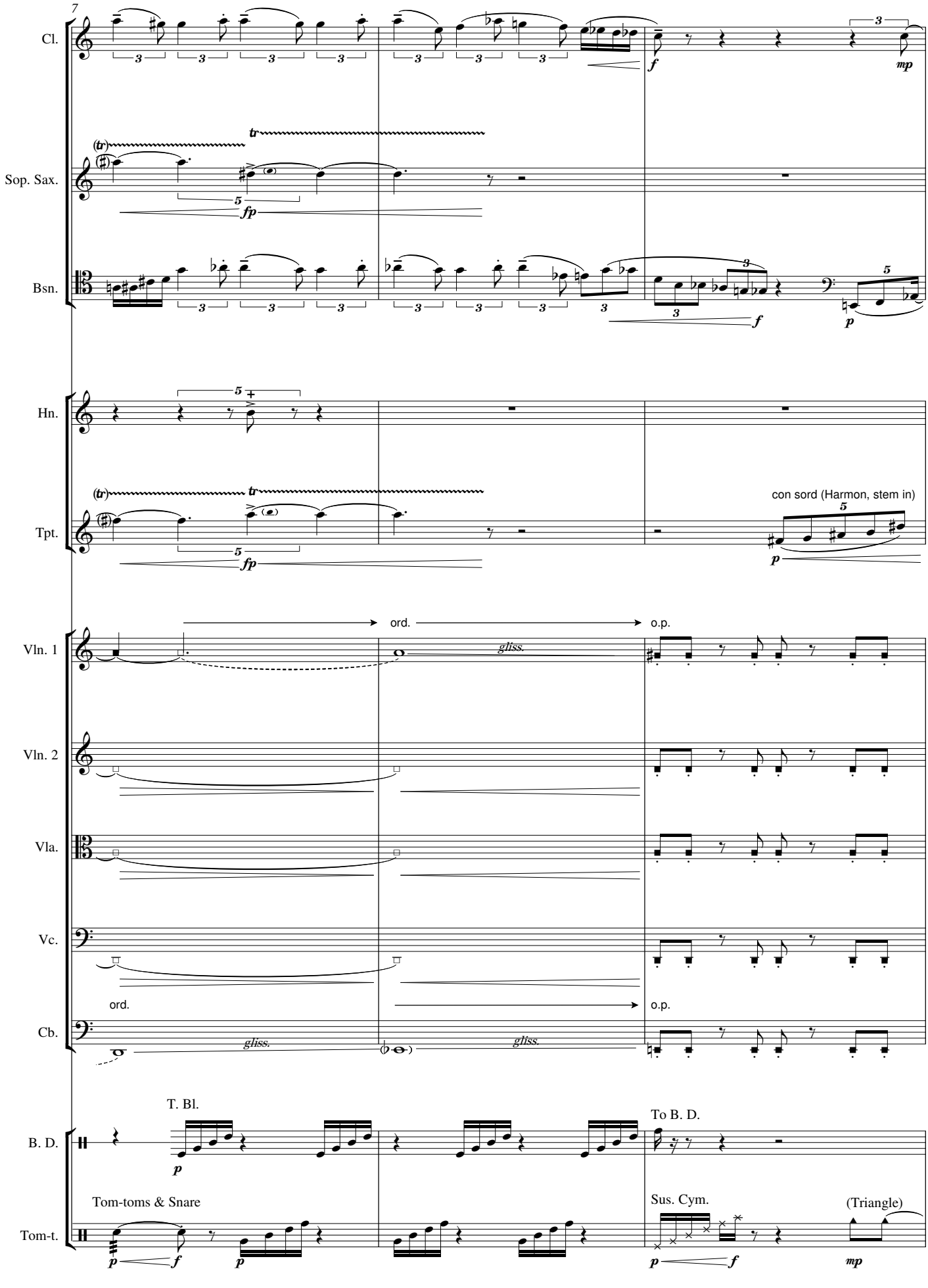
for the BBC Philharmonic Orchestra

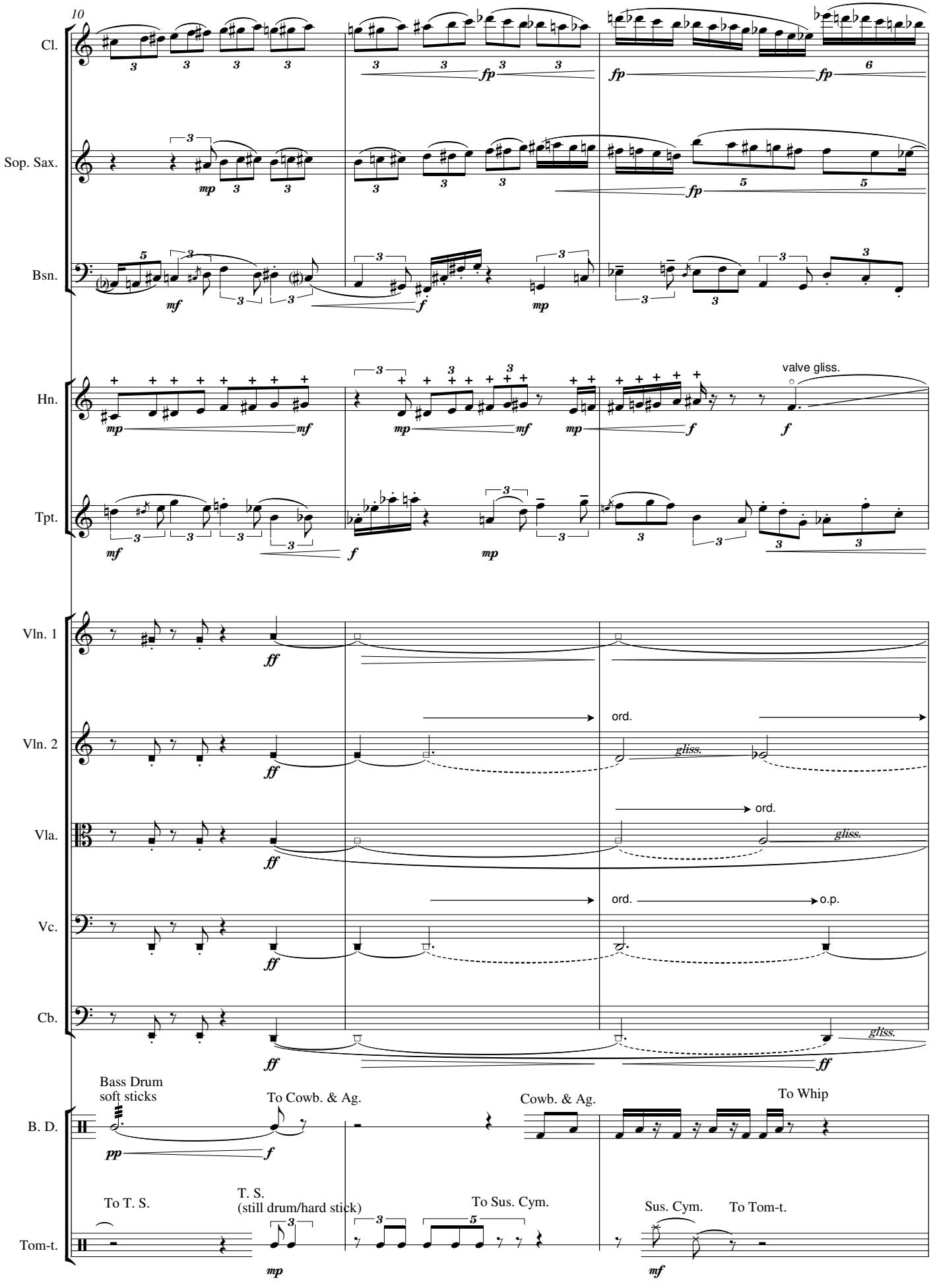
I

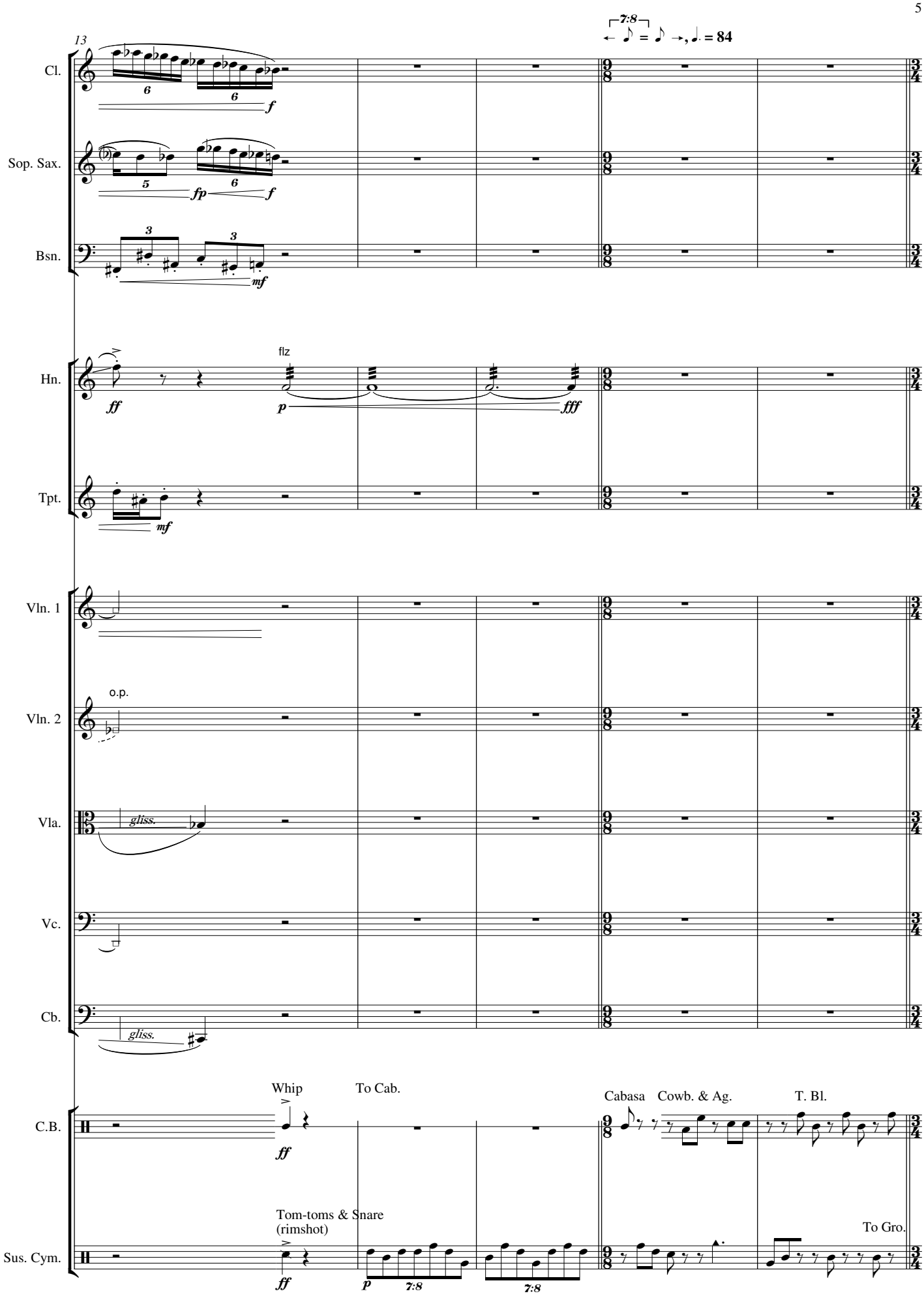
Robert Laidlow

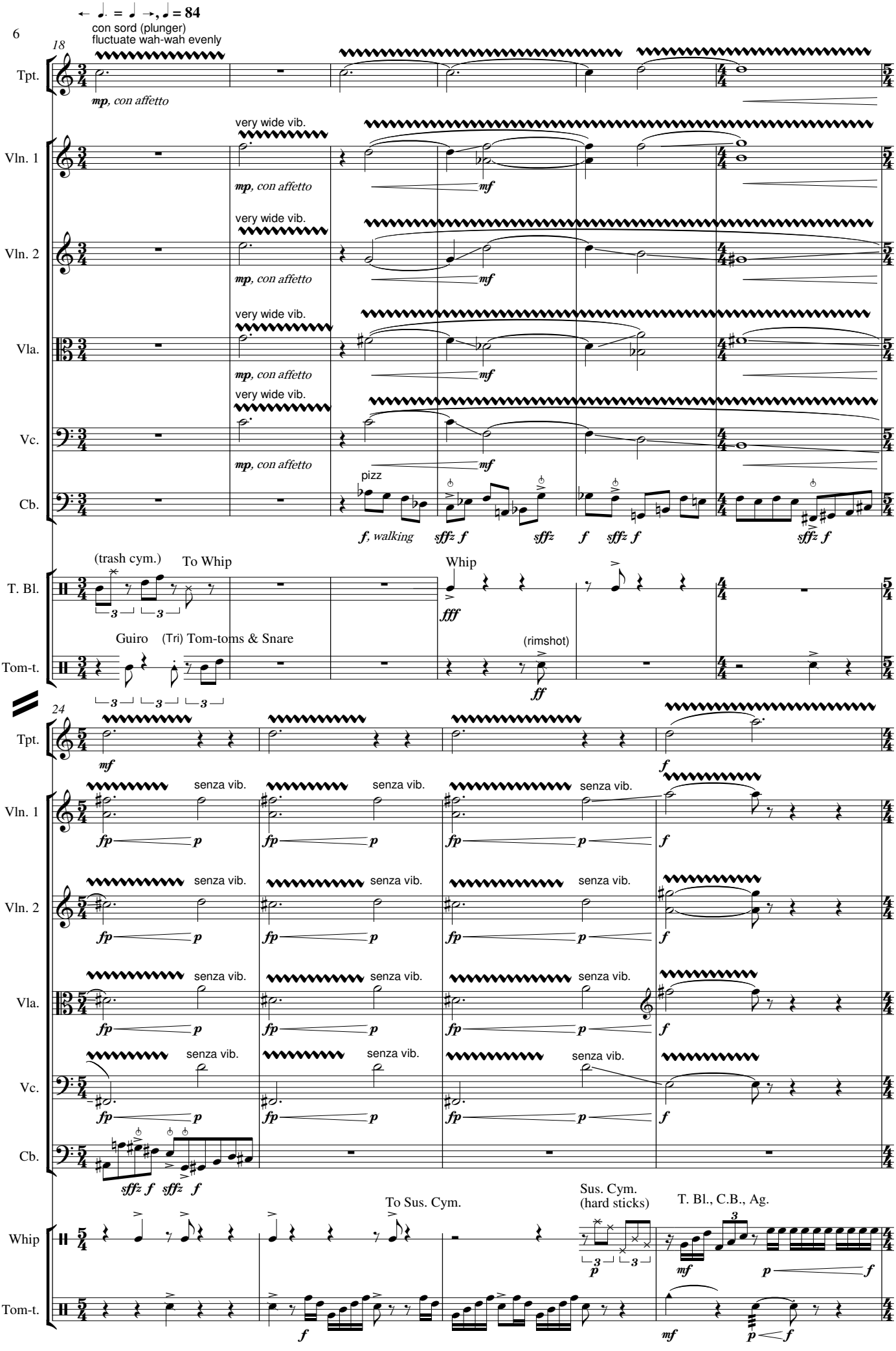


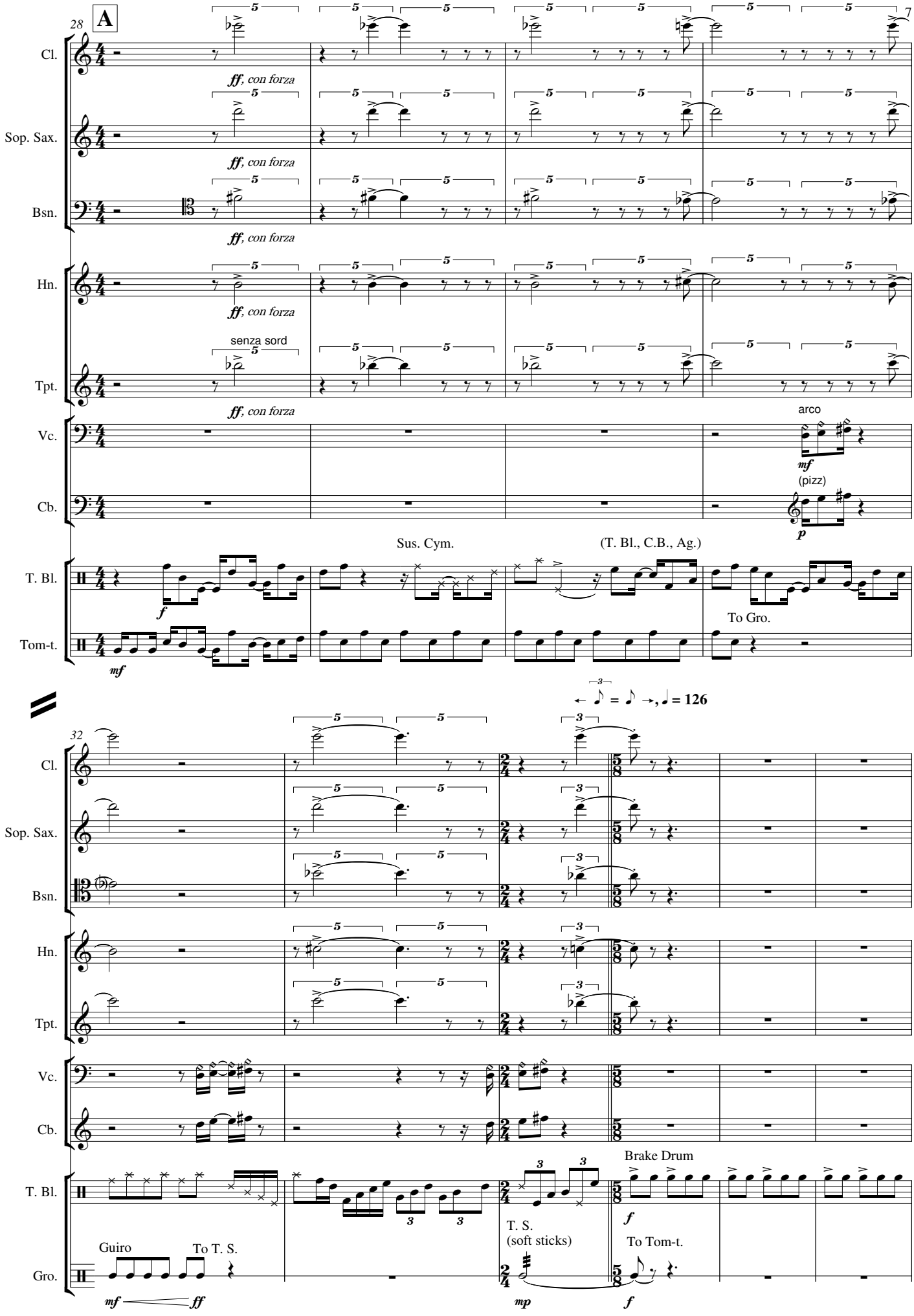

4
Cl.
Sop. Sax.
Bsn.
p, giocoso
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
ord.
gliss.
o.p.
Vc.
Cb.
Br.D.
To T. Bl.
T. Bl.
To B. D.
Bass Drum
(hard stick still)
To T. Bl.
Tom-t.
To Gro.
Guiro
To Vibraslap
V-S. To Tom-t.

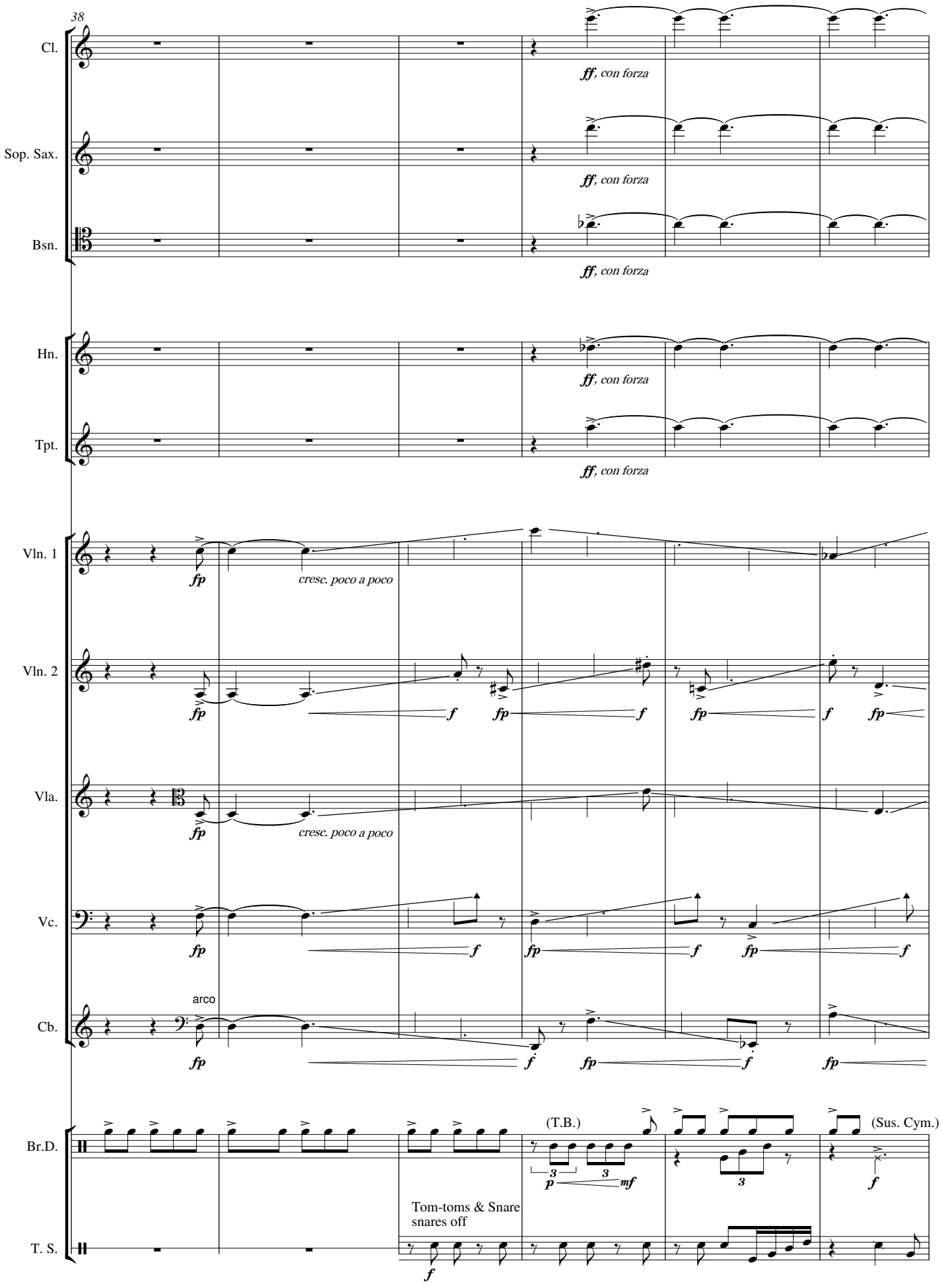

7
Cl.
Sop. Sax.
Bsn.
Hn.
Tpt.
con sord (Harmon, stem in)
Vln. 1
ord.
o.p.
gliss.
Vln. 2
Vla.
Vc.
Cb.
T. Bl.
To B. D.
B. D.
Tom-toms & Snare
Sus. Cym.
(Triangle)
Tom-t.

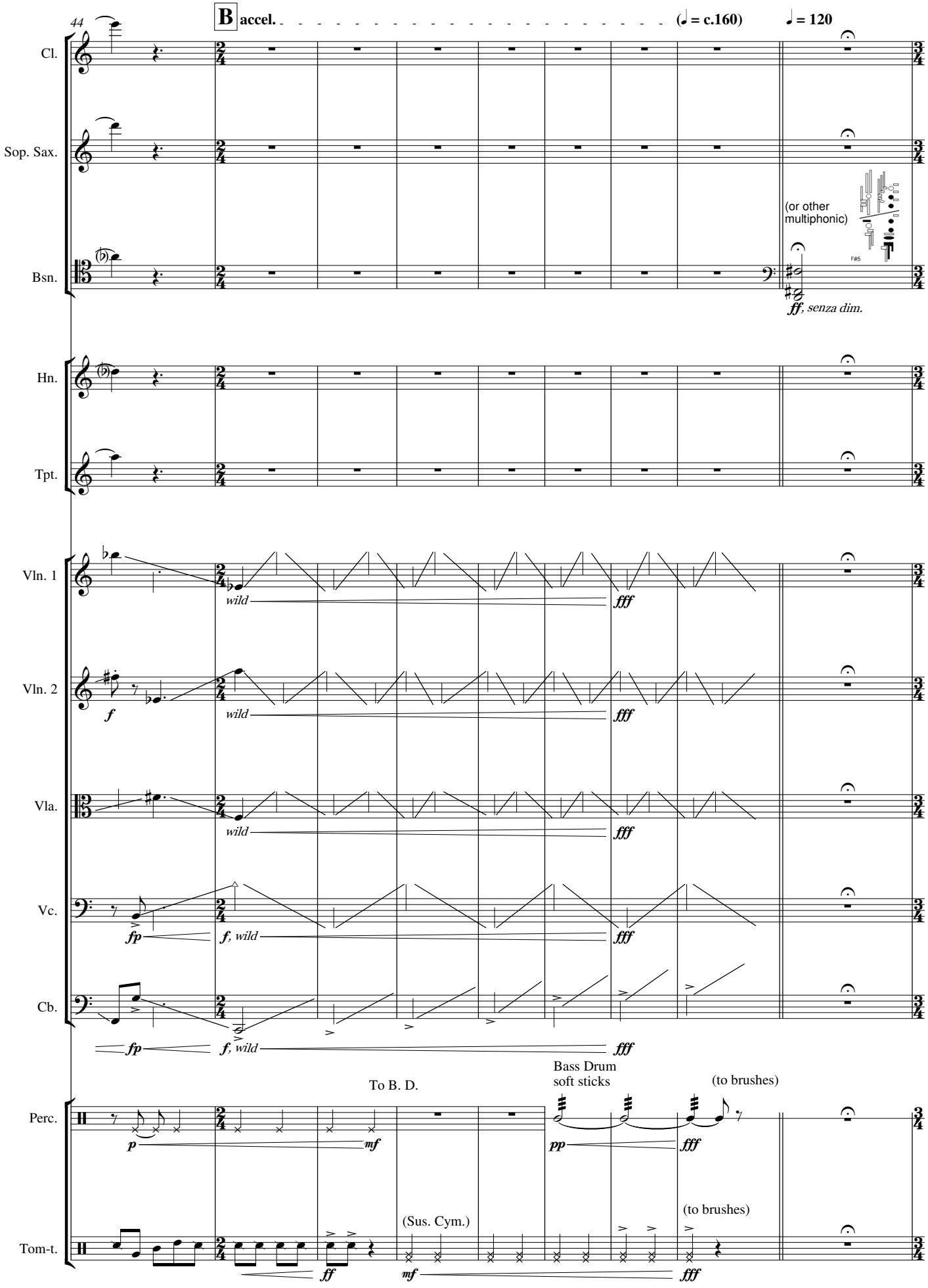

10
Cl.
Sop. Sax.
Bsn.
Hn.
valve gliss.
Tpt.
Vln. 1
Vln. 2
ord.
gliss.
Vla.
ord.
gliss.
Vc.
ord.
o.p.
Cb.
gliss.
Bass Drum
soft sticks
To Cowb. & Ag.
Cowb. & Ag.
To Whip
B. D.
To T. S.
T. S.
(still drum/hard stick)
To Sus. Cym.
Sus. Cym.
To Tom-t.
Tom-t.


13
7:8
♪ = ♪ →, ♩. = 84
Cl.
Sop. Sax.
Bsn.
Hn.
flz
Tpt.
Vln. 1
o.p.
Vln. 2
gliss.
Vla.
Vc.
Cb.
gliss.
Whip
To Cab.
Cabasa
Cowb. & Ag.
T. Bl.
C.B.
Tom-toms & Snare
(rimshot)
To Gro.
Sus. Cym.


← ♩. = ♩ →, ♩ = 84
con sord (plunger)
fluctuate wah-wah evenly
18
Tpt.
mp, con affetto
very wide vib.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
pizz
f, walking
sffz f
sffz
f
(trash cym.)
To Whip
Whip
fff
T. Bl.
Guiro
(Tri) Tom-toms & Snare
(rimshot)
ff
Tom-t.
24
mf
senza vib.
fp
p
To Sus. Cym.
Sus. Cym.
(hard sticks)
T. Bl., C.B., Ag.
Whip


28
A
7
Cl.
ff, con forza
Sop. Sax.
ff, con forza
Bsn.
ff, con forza
Hn.
ff, con forza
senza sord
Tpt.
ff, con forza
Vc.
arco
mf
Cb.
(pizz)
p
Sus. Cym.
(T. Bl., C.B., Ag.)
T. Bl.
f
To Gro.
Tom-t.
mf
♩ = ♪ →, ♩ = 126
32
Cl.
Sop. Sax.
Bsn.
Hn.
Tpt.
Vc.
Cb.
Brake Drum
T. Bl.
f
T. S.
(soft sticks)
To Tom-t.
Guiro
To T. S.
Gro.
mf
ff
mp
f


38
Cl.
ff, con forza
Sop. Sax.
ff, con forza
Bsn.
ff, con forza
Hn.
ff, con forza
Tpt.
ff, con forza
Vln. 1
fp
cresc. poco a poco
Vln. 2
fp
f
Vla.
fp
cresc. poco a poco
Vc.
fp
f
Cb.
arco
fp
Br.D.
(T.B.)
p
mf
(Sus. Cym.)
f
Tom-toms & Snare
snares off
T. S.
f


44
B accel.
(♩ = c.160)
♩ = 120
Cl.
Sop. Sax.
(or other multiphonic)
F#5
Bsn.
ff, senza dim.
Hn.
Tpt.
Vln. 1
wild
fff
Vln. 2
f
wild
fff
Vla.
wild
fff
Vc.
fp
f, wild
fff
Cb.
fp
f, wild
fff
To B. D.
Bass Drum
soft sticks
(to brushes)
Perc.
p
mf
pp
fff
(Sus. Cym.)
(to brushes)
Tom-t.
ff
mf
fff

C

53

Cl. — air sound - no pitch

Sop. Sax. — air sound - no pitch

Bsn.

Hn. — air sound - no pitch

Tpt. — air sound - no pitch
senza sord

Vln. 1 — completely on the bridge - no pitch

Vln. 2 — completely on the bridge - no pitch

Vla. — completely on the bridge - no pitch

Vc. — completely on the bridge - no pitch

Cb. — completely on the bridge - no pitch

B. D. — swipe with brush

To T. S.

Perc. — swipe with brush

Quasi-cadenza, non-conducted, c. 13"

59

Vc. molto sul ponticello — *f, furioso* — *ffff, tutta la forza*

Cb. molto sul ponticello — *f, furioso, con brio* — *molto* — *ffff, tutta la forza*

B. D. hard stick — *ff* — To Cab.

Perc. T. S. (shaken with hand) — *pp, senza cresc.*

60 **D** ♩ = 60

Cl. — *p, dolce*

Sop. Sax.

Bsn.

Hn. — *f* — *p*

Tpt. con sord (cup) — *f* — *p*

Vln. 1 — *pp, dolce*

Vln. 2 — *pp, dolce*

Vla.

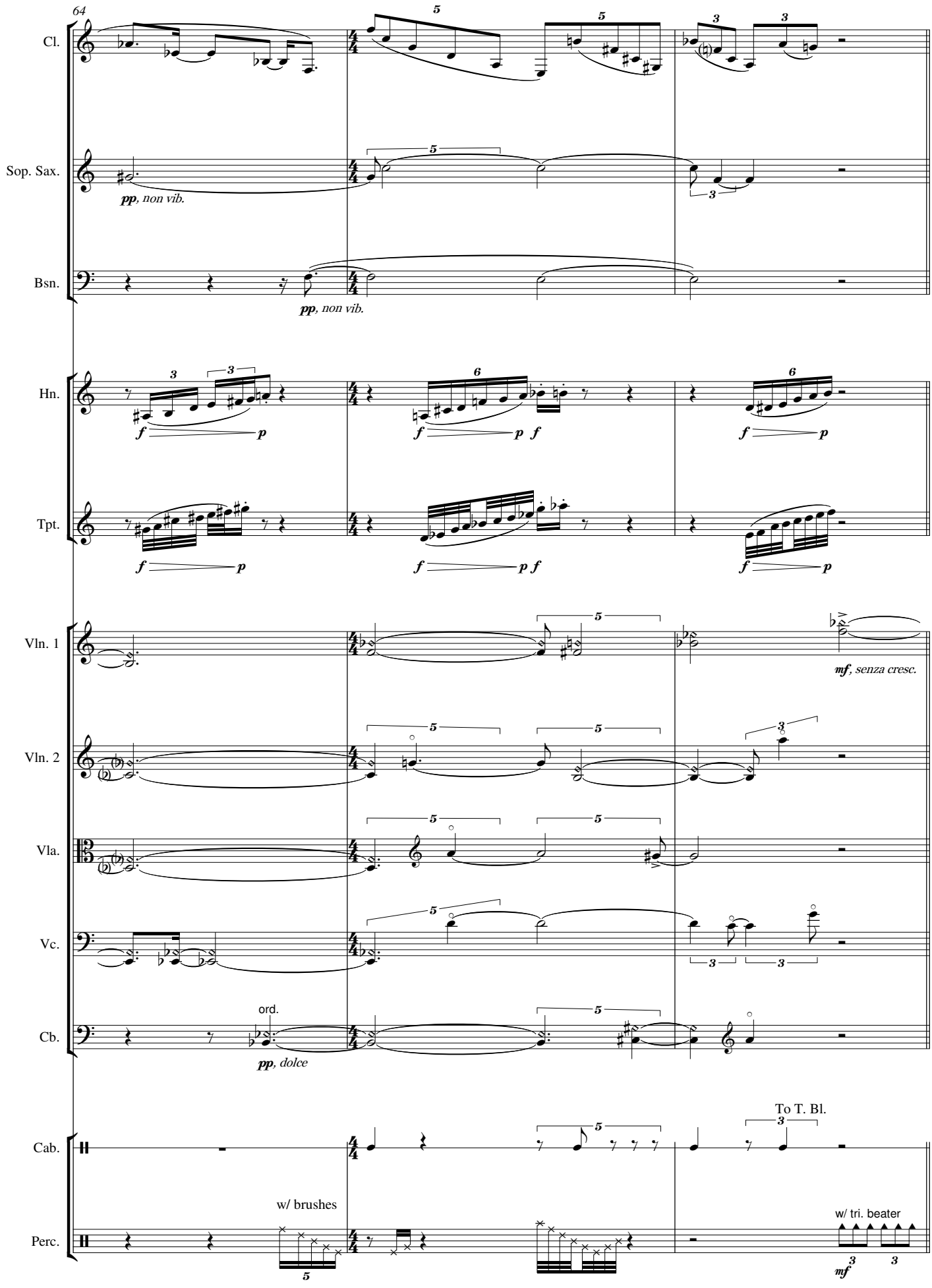
Vc. ord. — *pp, dolce*

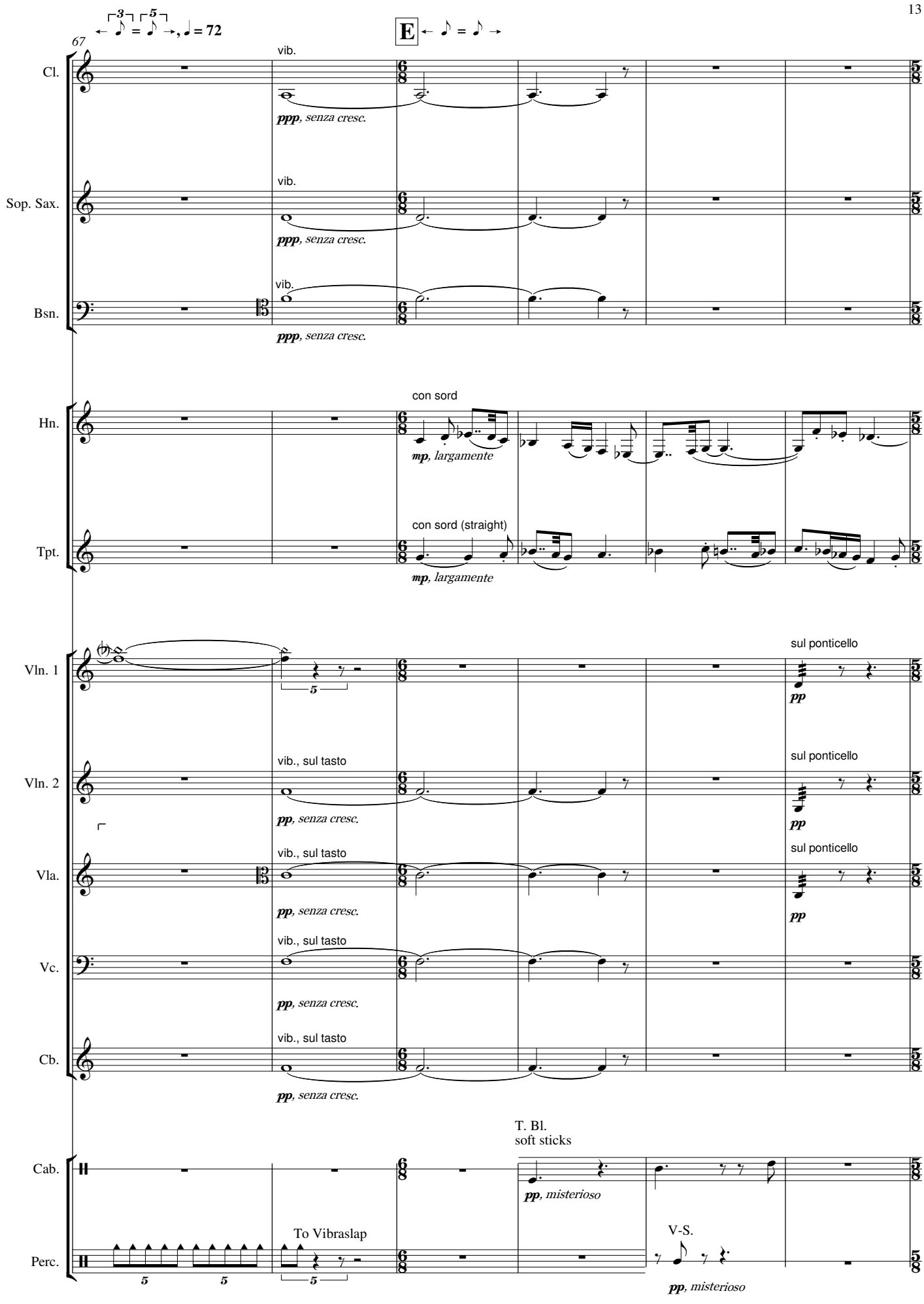
Cb.

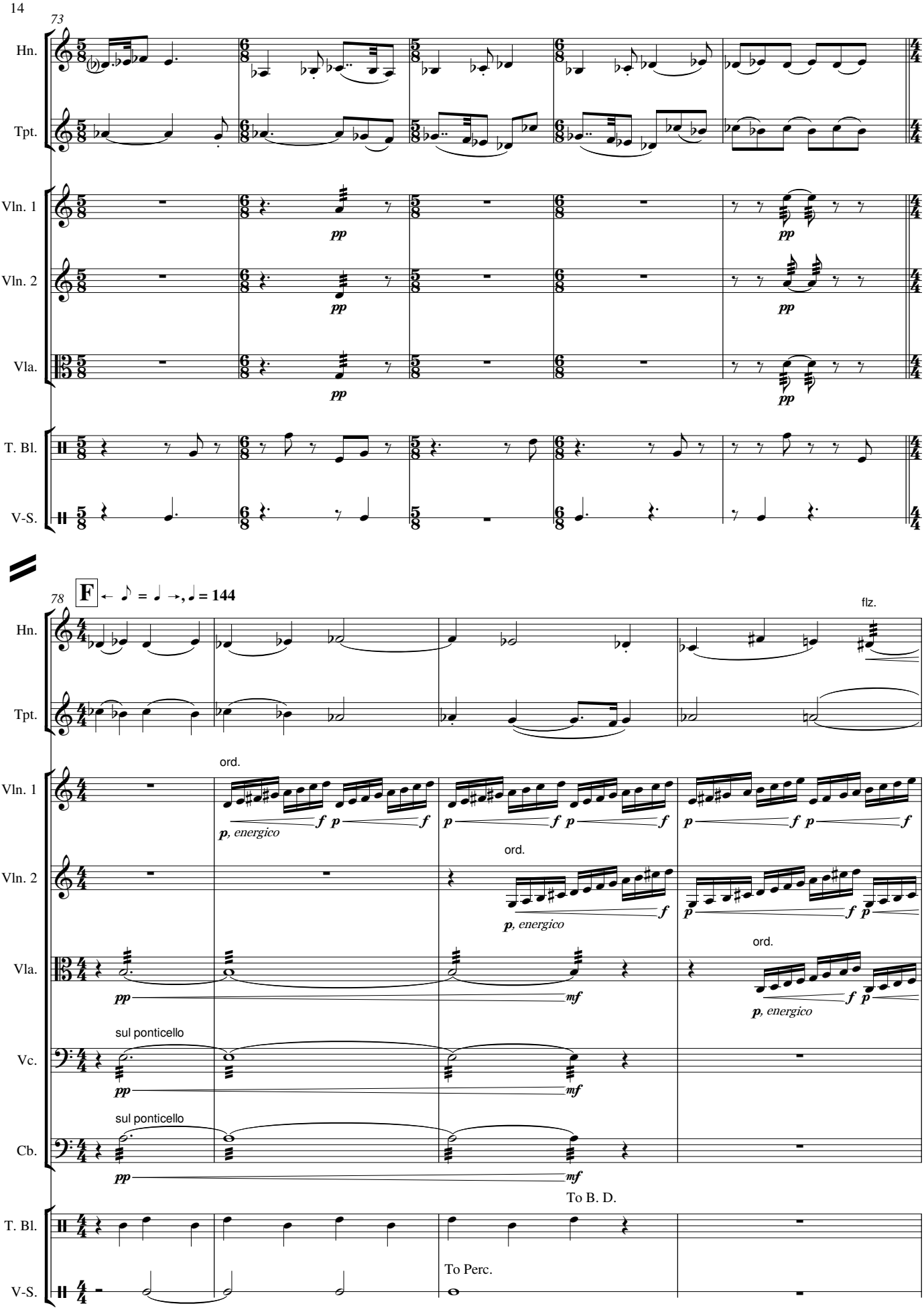
Cabasa

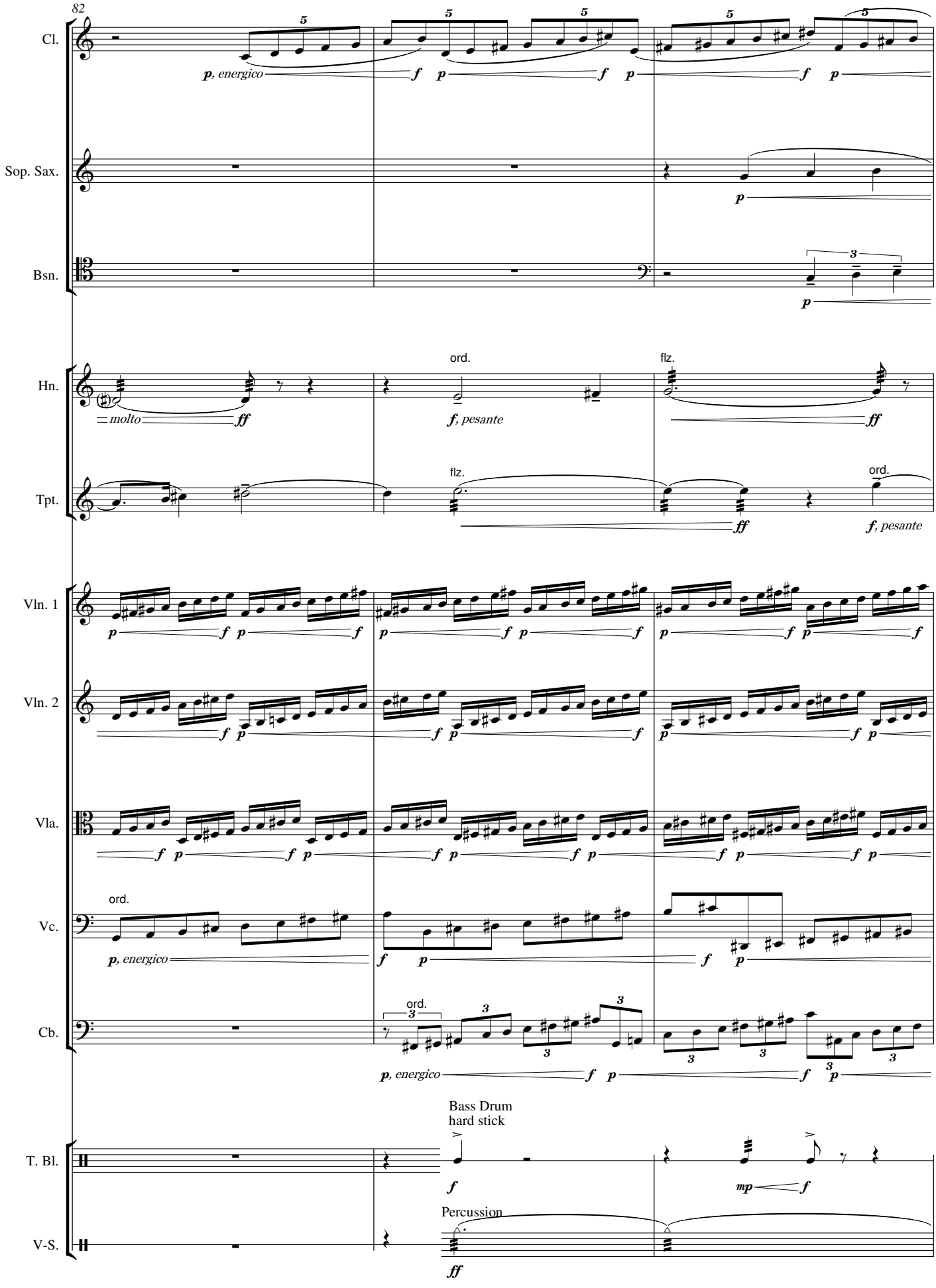
Cab. — *p*

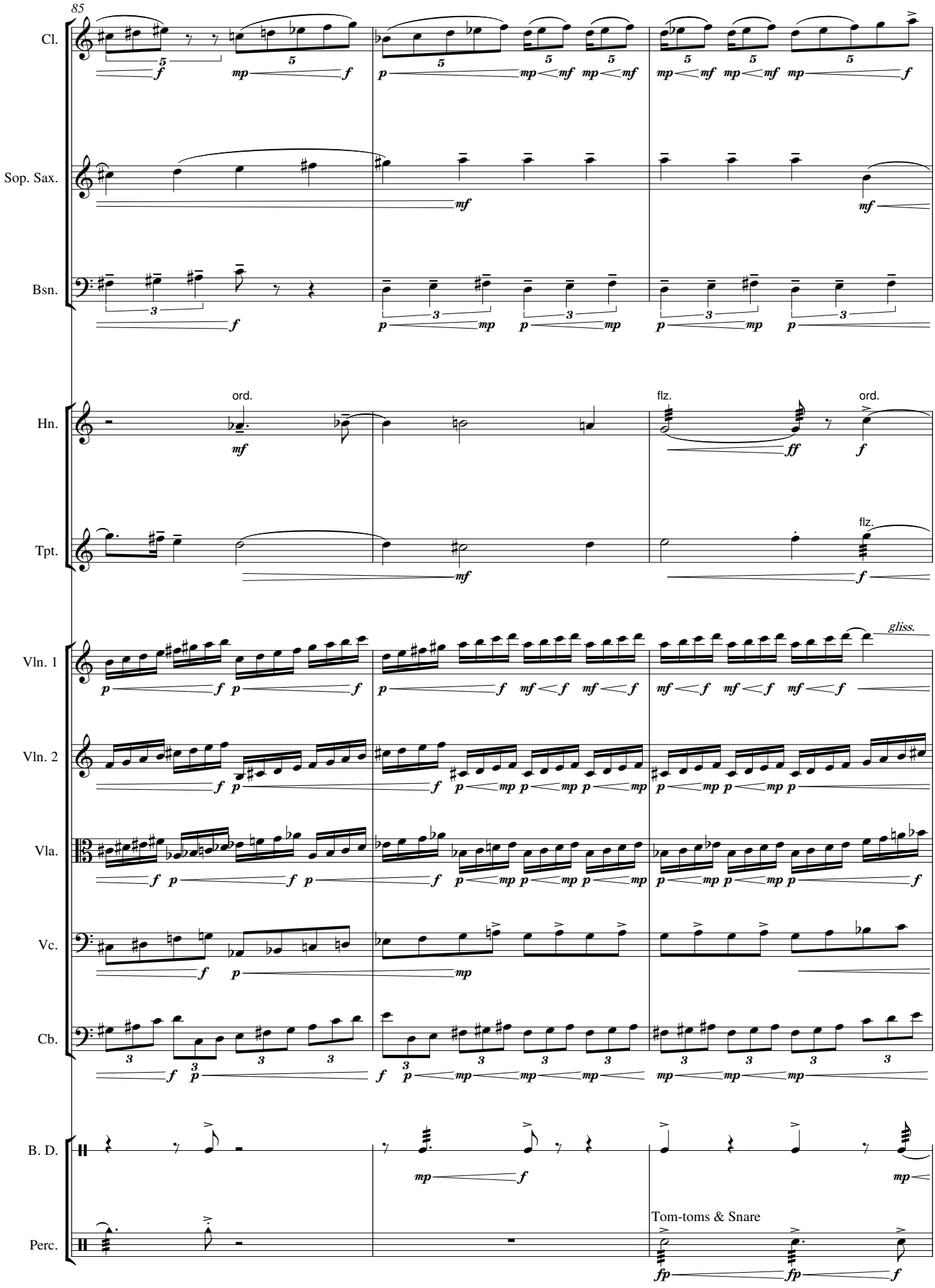
T. S. tapped w/ drumstick — *pp* — To Perc. — Percussion (Sus. cym.) on the bell — *p*

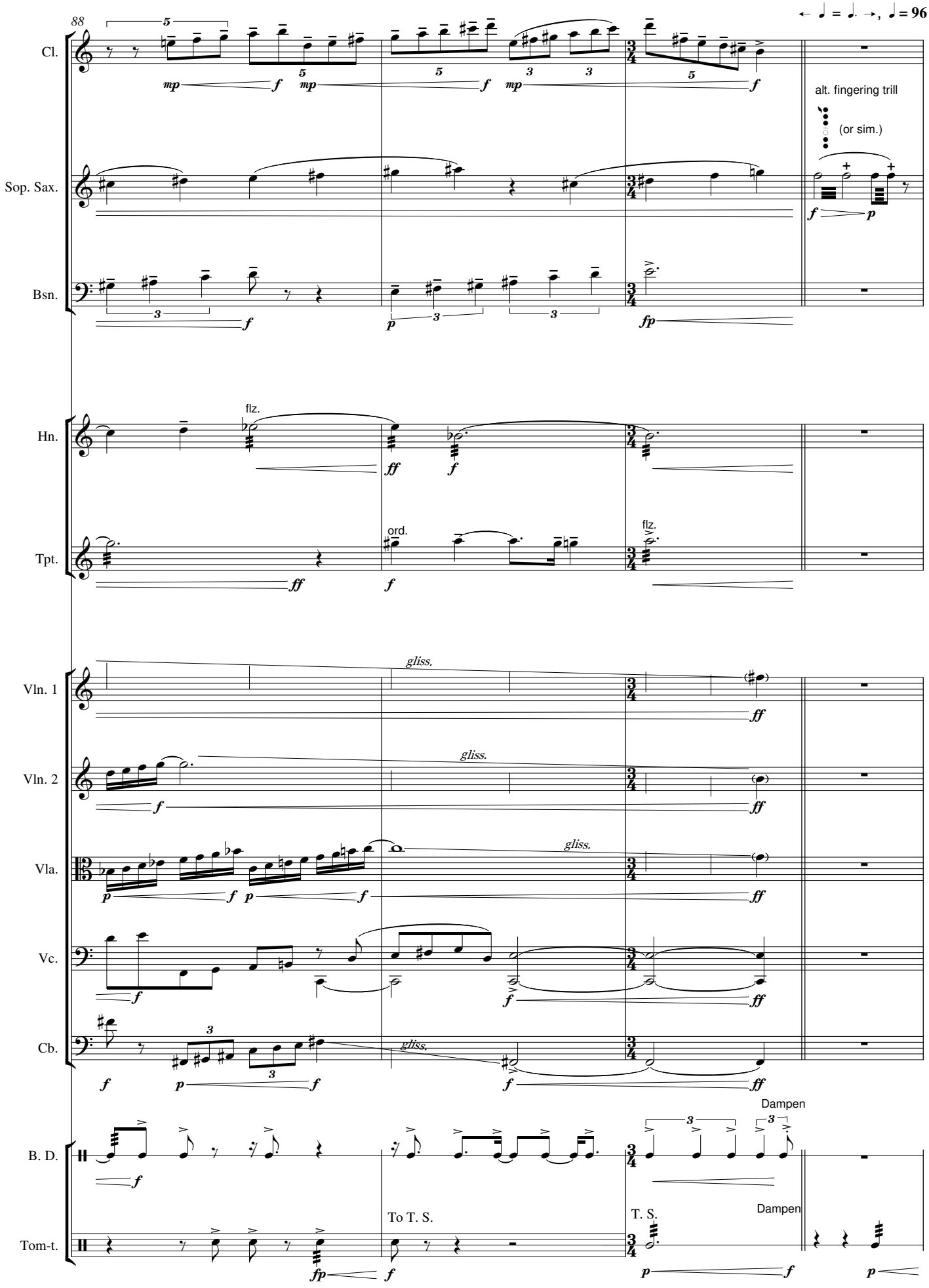

64
Cl.
Sop. Sax.
pp, non vib.
Bsn.
pp, non vib.
Hn.
Tpt.
Vln. 1
mf, senza cresc.
Vln. 2
Vla.
Vc.
Cb.
ord.
pp, dolce
Cab.
To T. Bl.
w/ brushes
Perc.
w/ tri. beater
mf

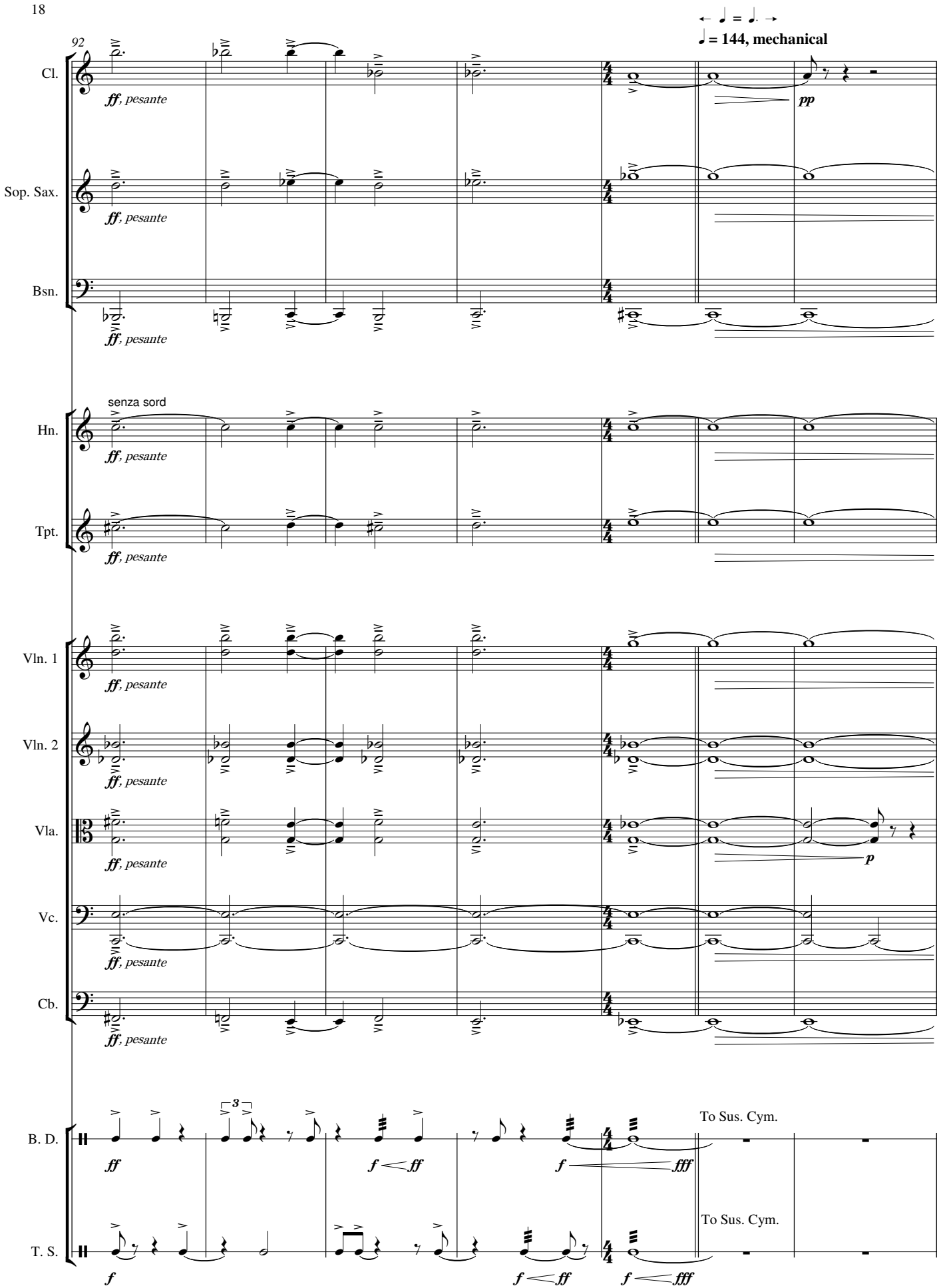

67
Cl.
Sop. Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Cab.
Perc.
E
vib.
ppp, senza cresc.
con sord
mp, largamente
con sord (straight)
sul ponticello
pp
vib., sul tasto
pp, senza cresc.
T. Bl.
soft sticks
pp, misterioso
To Vibraslap
V-S.

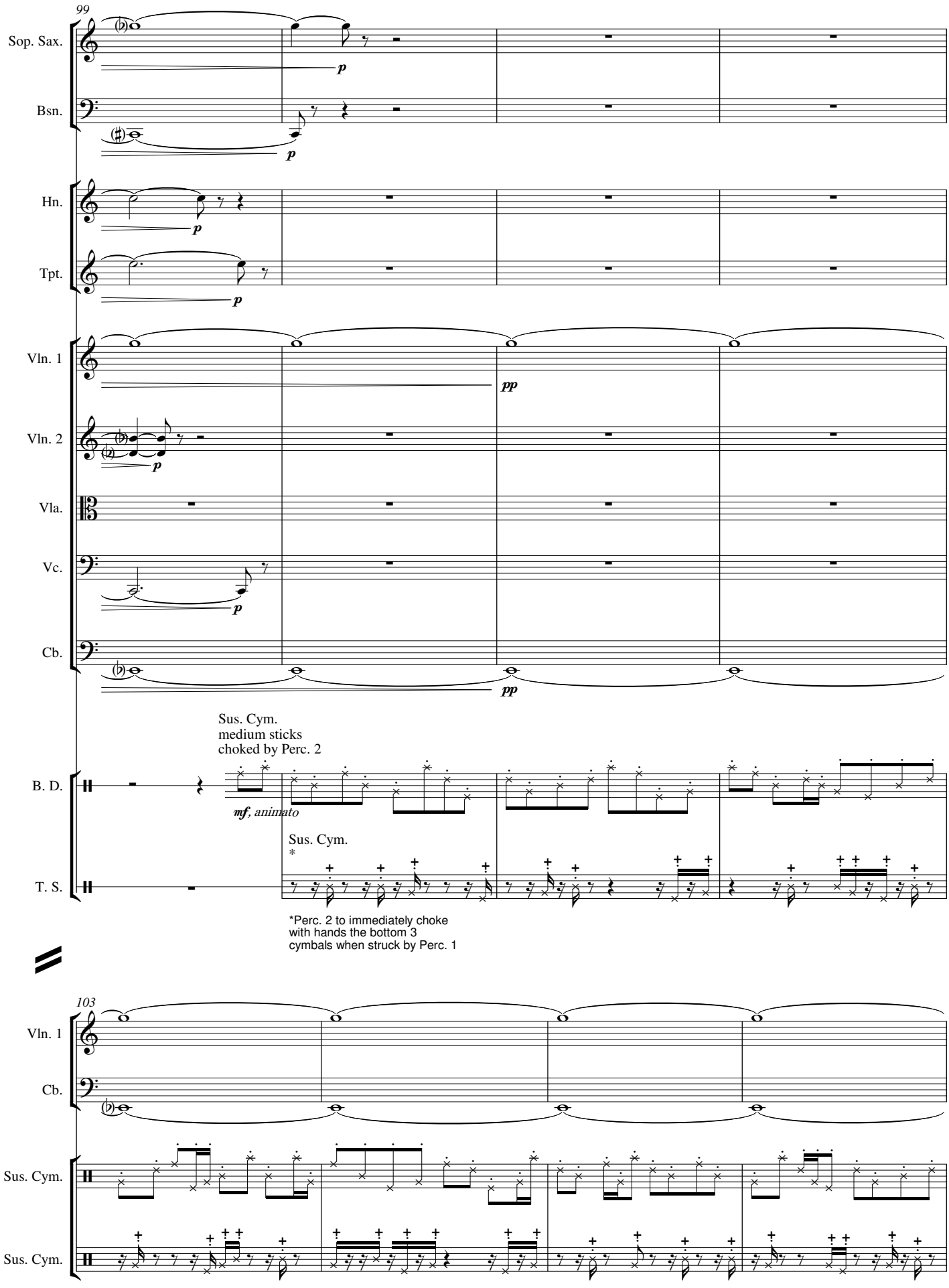

73
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
T. Bl.
V-S.
pp
78
F
♪ = ♩ →, ♩ = 144
flz.
ord.
p, energico
f
mf
sul ponticello
Vc.
Cb.
To B. D.
To Perc.

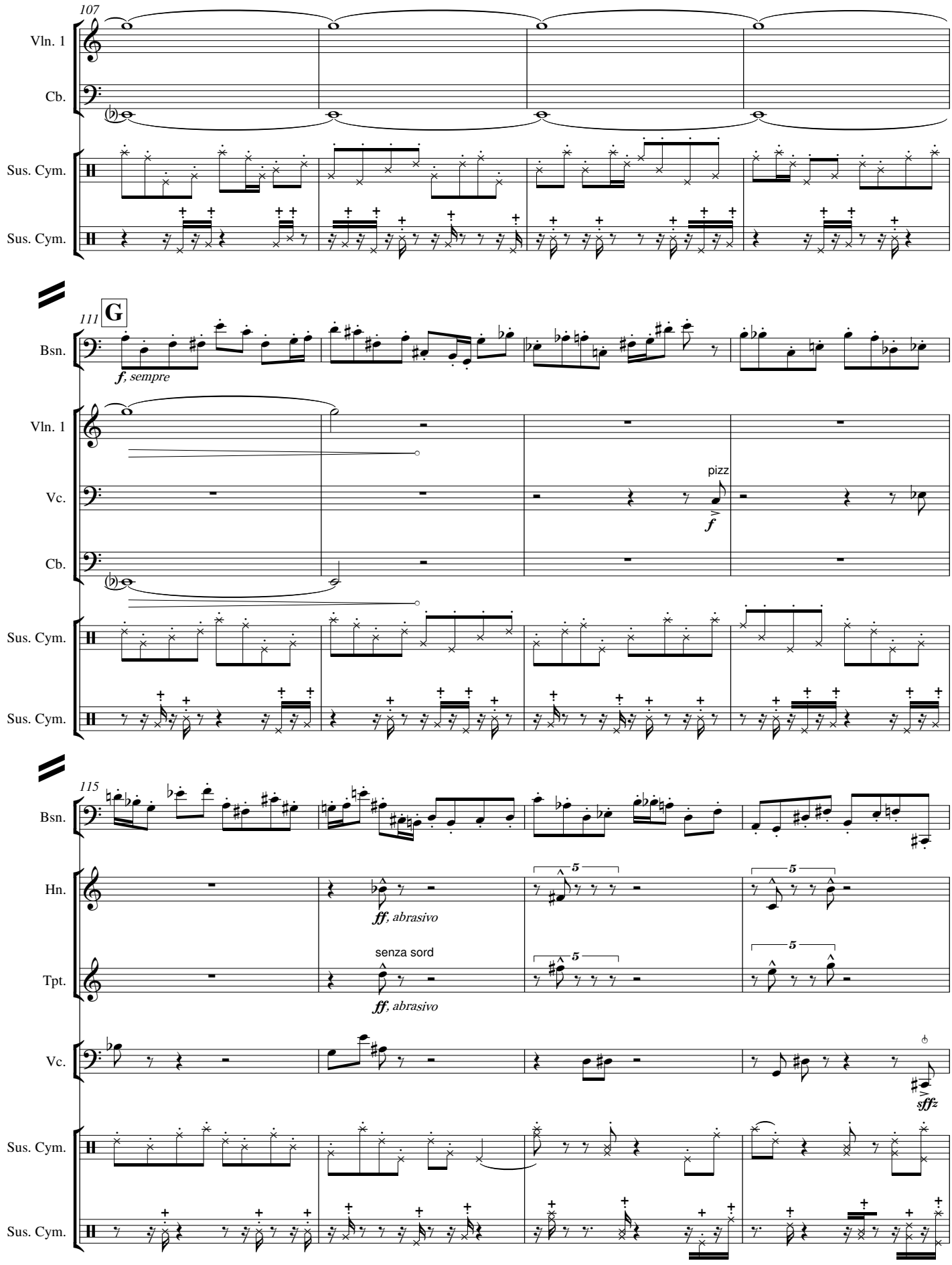

82
Cl.
p, energico
Sop. Sax.
Bsn.
Hn.
molto
ff
ord.
f, pesante
flz.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Bass Drum
hard stick
T. Bl.
mp
Percussion
V-S.

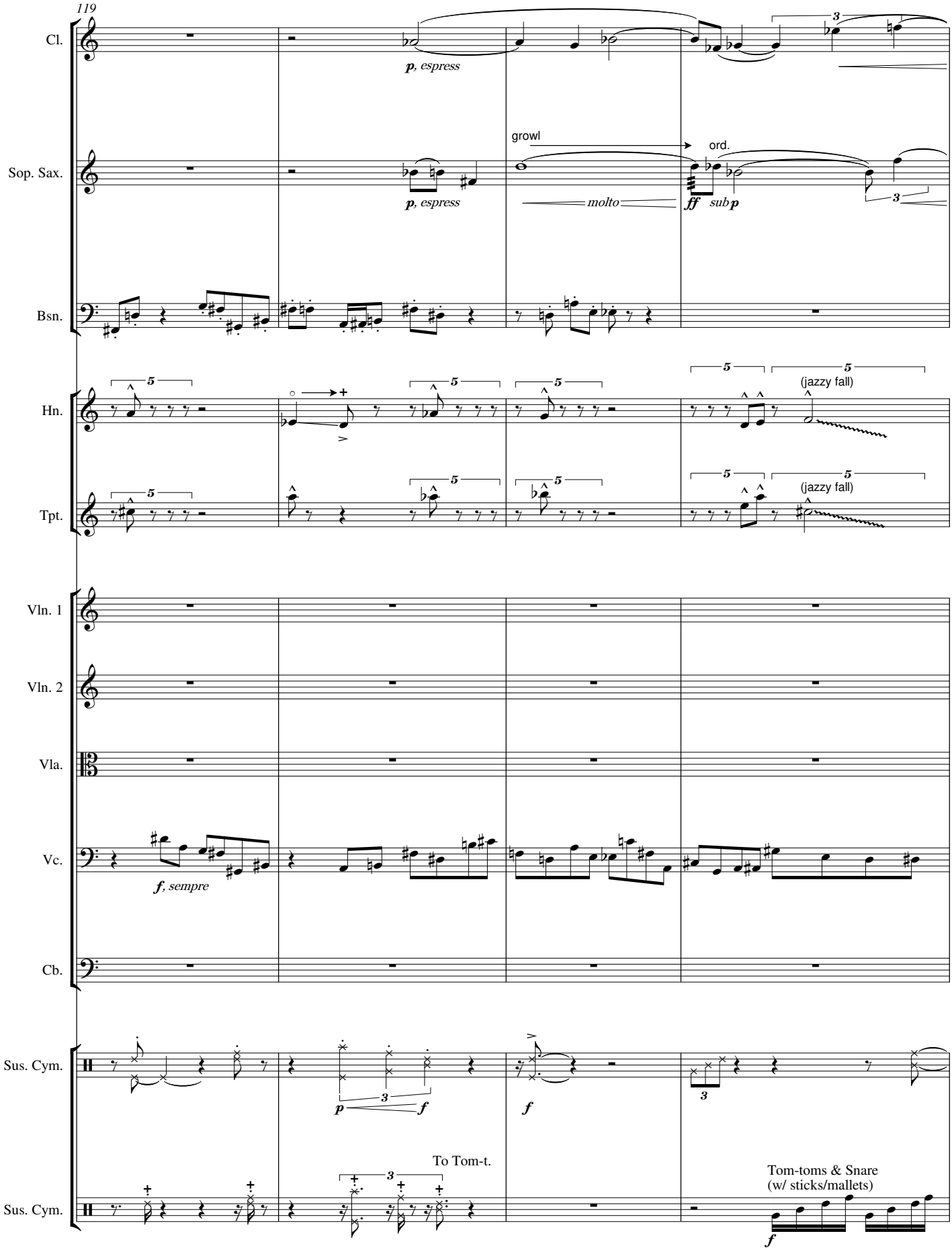

85
Cl.
Sop. Sax.
Bsn.
Hn.
ord.
flz.
ord.
Tpt.
flz.
gliss.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
B. D.
Perc.
Tom-toms & Snare

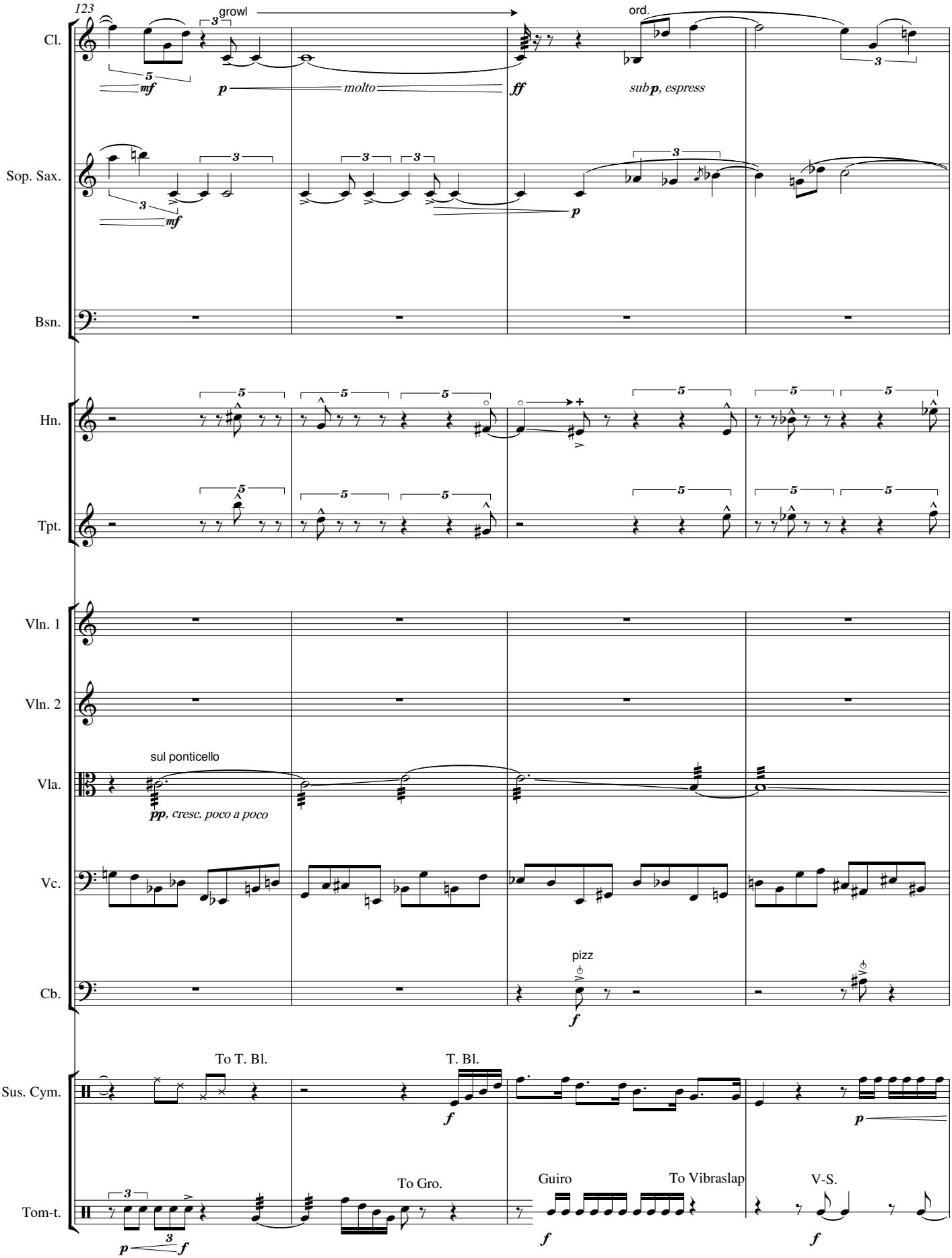

88
← ♩ = ♩. →, ♩ = 96
Cl.
Sop. Sax.
Bsn.
alt. fingering trill
(or sim.)
Hn.
flz.
Tpt.
ord.
flz.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
gliss.
B. D.
Tom-t.
Dampen
To T. S.
T. S.
Dampen

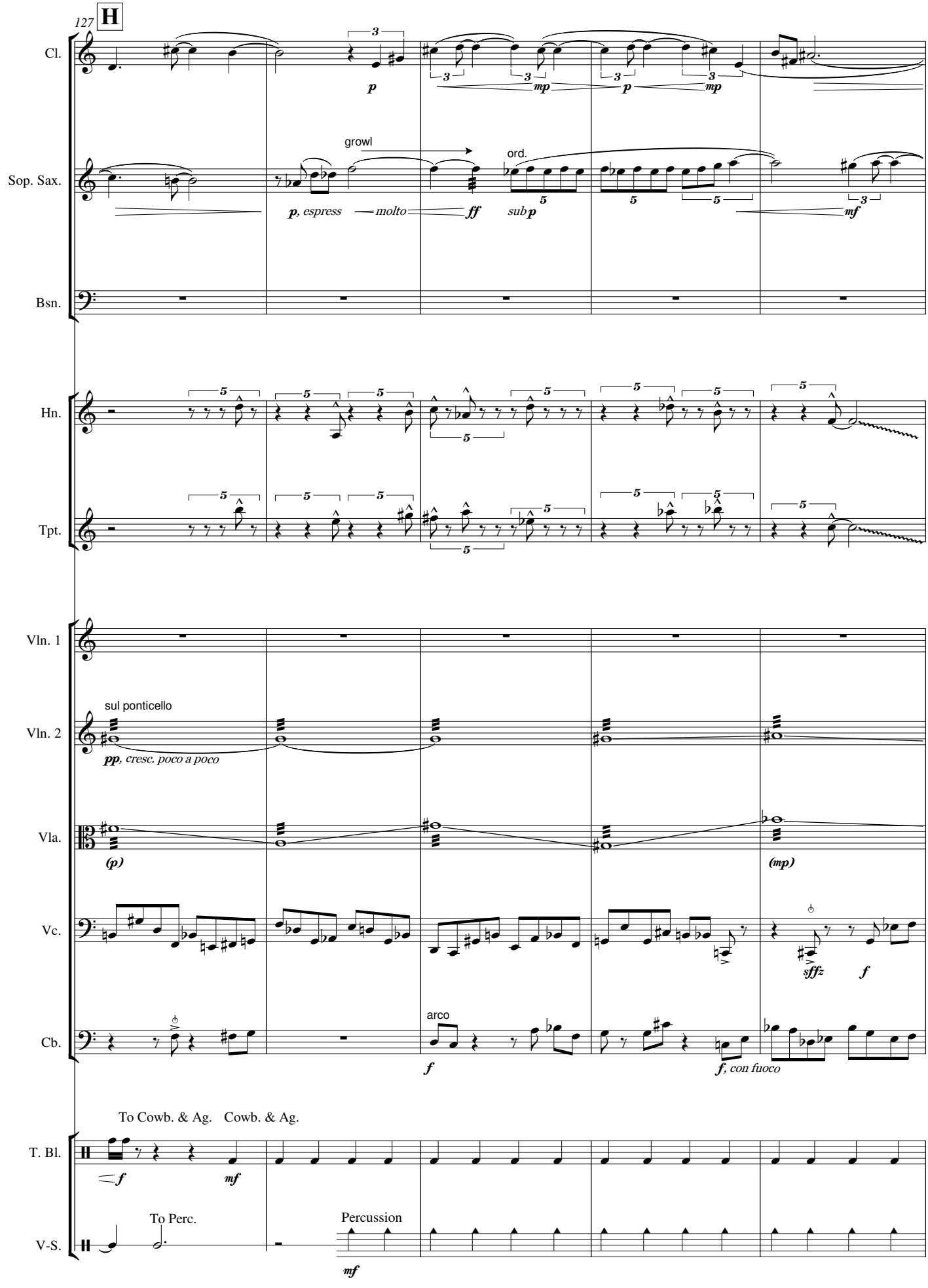

92
← ♩ = ♩. →
♩ = 144, mechanical
Cl.
ff, pesante
pp
Sop. Sax.
ff, pesante
Bsn.
ff, pesante
senza sord
Hn.
ff, pesante
Tpt.
ff, pesante
Vln. 1
ff, pesante
Vln. 2
ff, pesante
Vla.
ff, pesante
p
Vc.
ff, pesante
Cb.
ff, pesante
B. D.
3
ff
f ff
f fff
To Sus. Cym.
T. S.
f
f ff
f fff
To Sus. Cym.

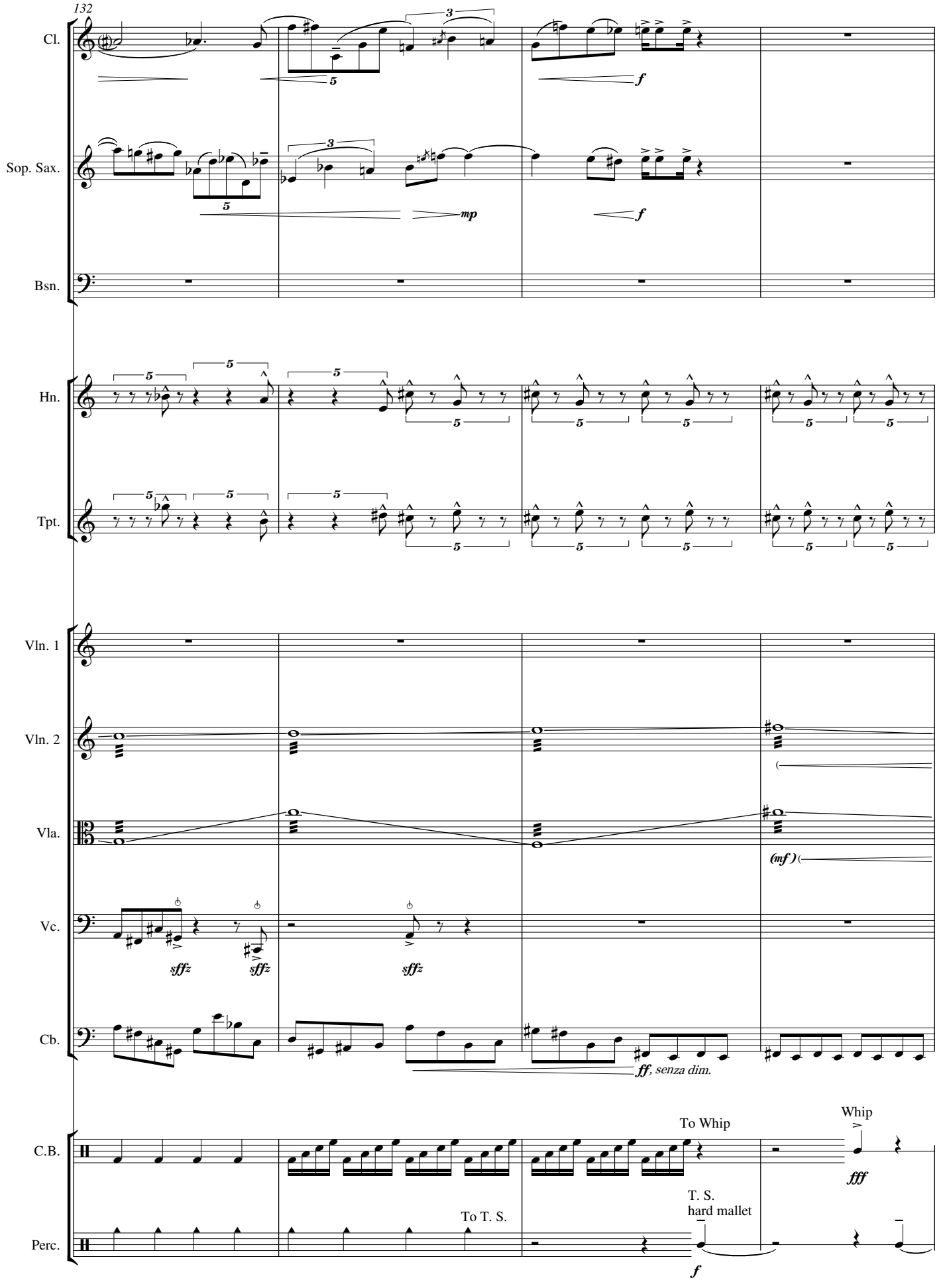

99
Sop. Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
p
pp
Sus. Cym.
medium sticks
choked by Perc. 2
B. D.
mf, animato
Sus. Cym.
*
T. S.
*Perc. 2 to immediately choke
with hands the bottom 3
cymbals when struck by Perc. 1
103
Vln. 1
Cb.
Sus. Cym.
Sus. Cym.

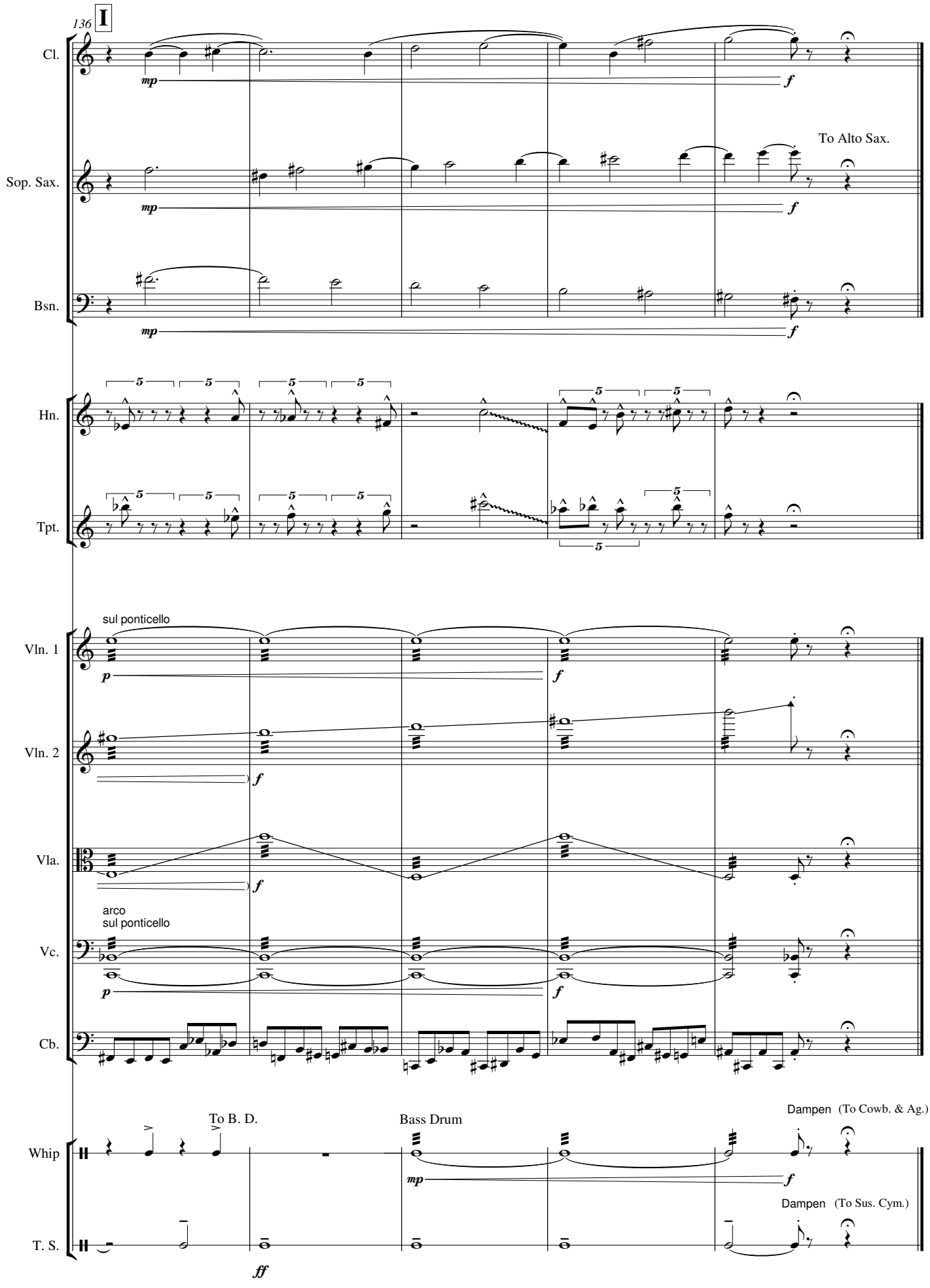

107
Vln. 1
Cb.
Sus. Cym.
Sus. Cym.
111
G
Bsn.
f, sempre
Vln. 1
Vc.
pizz
f
Cb.
Sus. Cym.
Sus. Cym.
115
Bsn.
Hn.
ff, abrasivo
5
Tpt.
senza sord
ff, abrasivo
Vc.
sffz
Sus. Cym.
Sus. Cym.


119
Cl.
p, espress
Sop. Sax.
p, espress
growl
molto
ord.
ff sub p
Bsn.
Hn.
(jazzy fall)
Tpt.
(jazzy fall)
Vln. 1
Vln. 2
Vla.
Vc.
f, sempre
Cb.
Sus. Cym.
p
f
f
To Tom-t.
Sus. Cym.
Tom-toms & Snare
(w/ sticks/mallets)
f

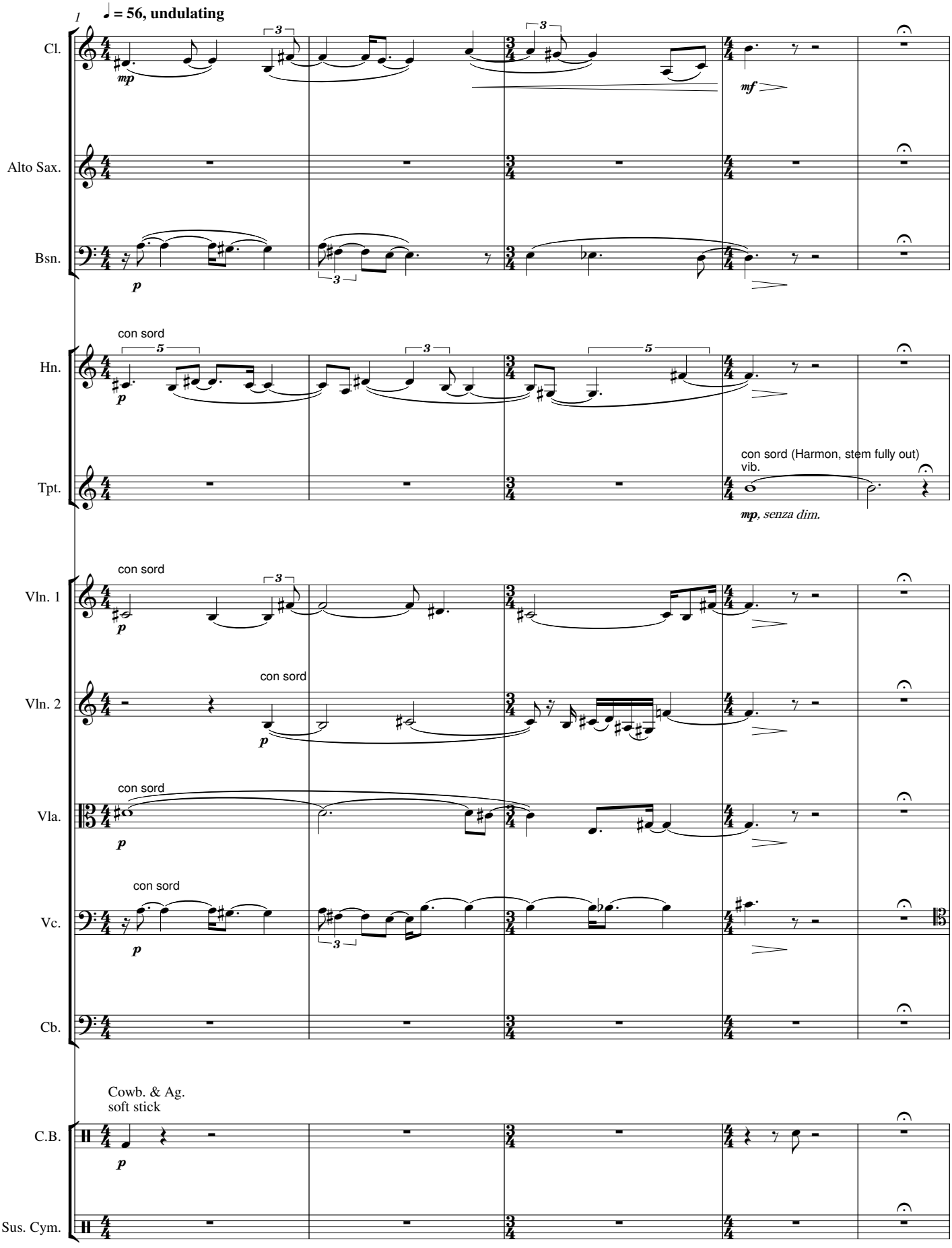

123
Cl.
growl
ord.
mf
p
molto
ff
sub p, espress
Sop. Sax.
mf
p
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
sul ponticello
pp, cresc. poco a poco
Vc.
Cb.
pizz
f
Sus. Cym.
To T. Bl.
T. Bl.
f
p
Tom-t.
To Gro.
Guiro
To Vibraslap
V-S.
p
f
f
f

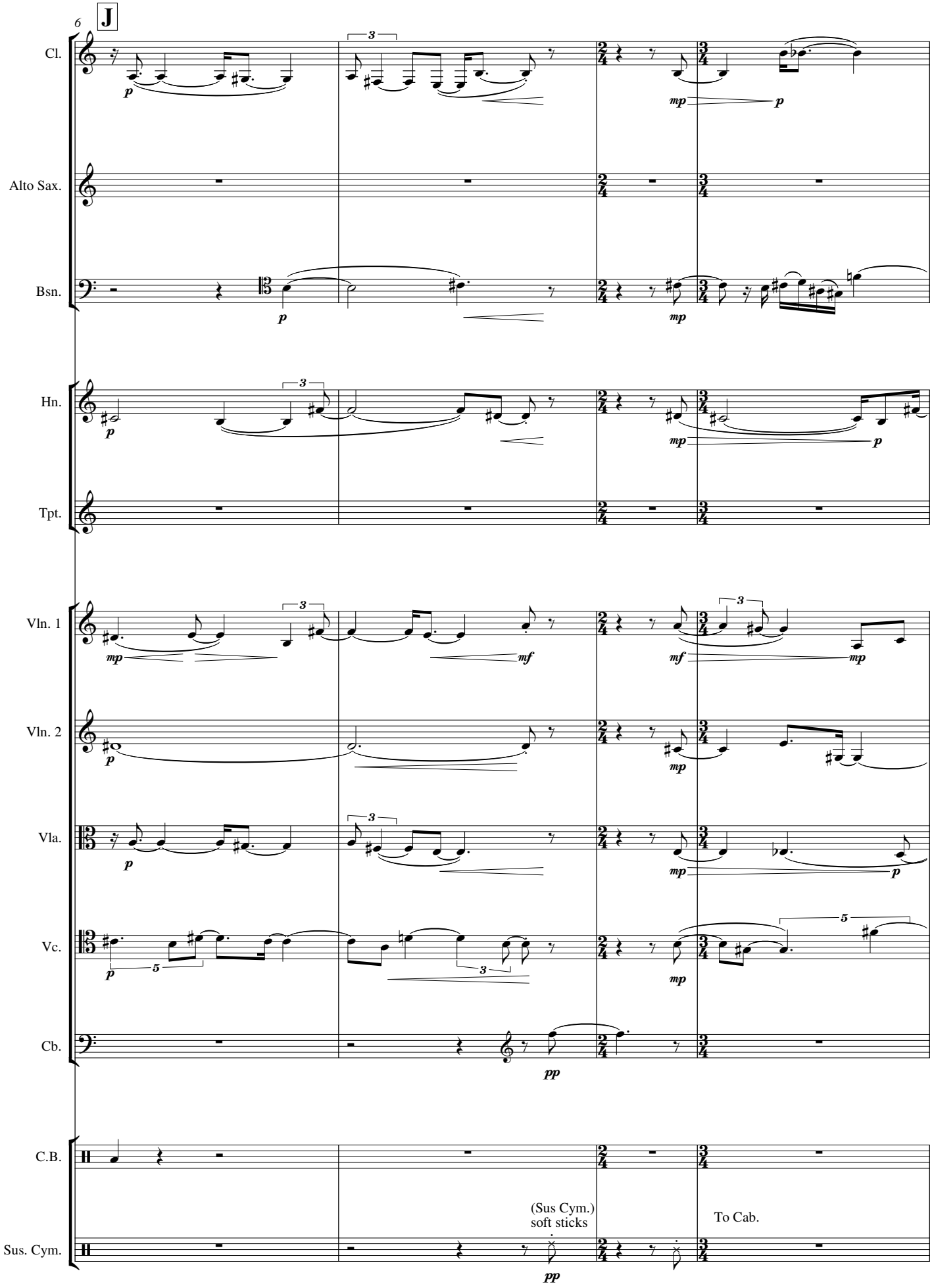

127
H
Cl.
Sop. Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
T. Bl.
V-S.
growl
ord.
p, espress
molto
ff
sub p
mf
sul ponticello
pp, cresc. poco a poco
(p)
(mp)
arco
f
f, con fuoco
sffz
To Cowb. & Ag.
Cowb. & Ag.
To Perc.
Percussion

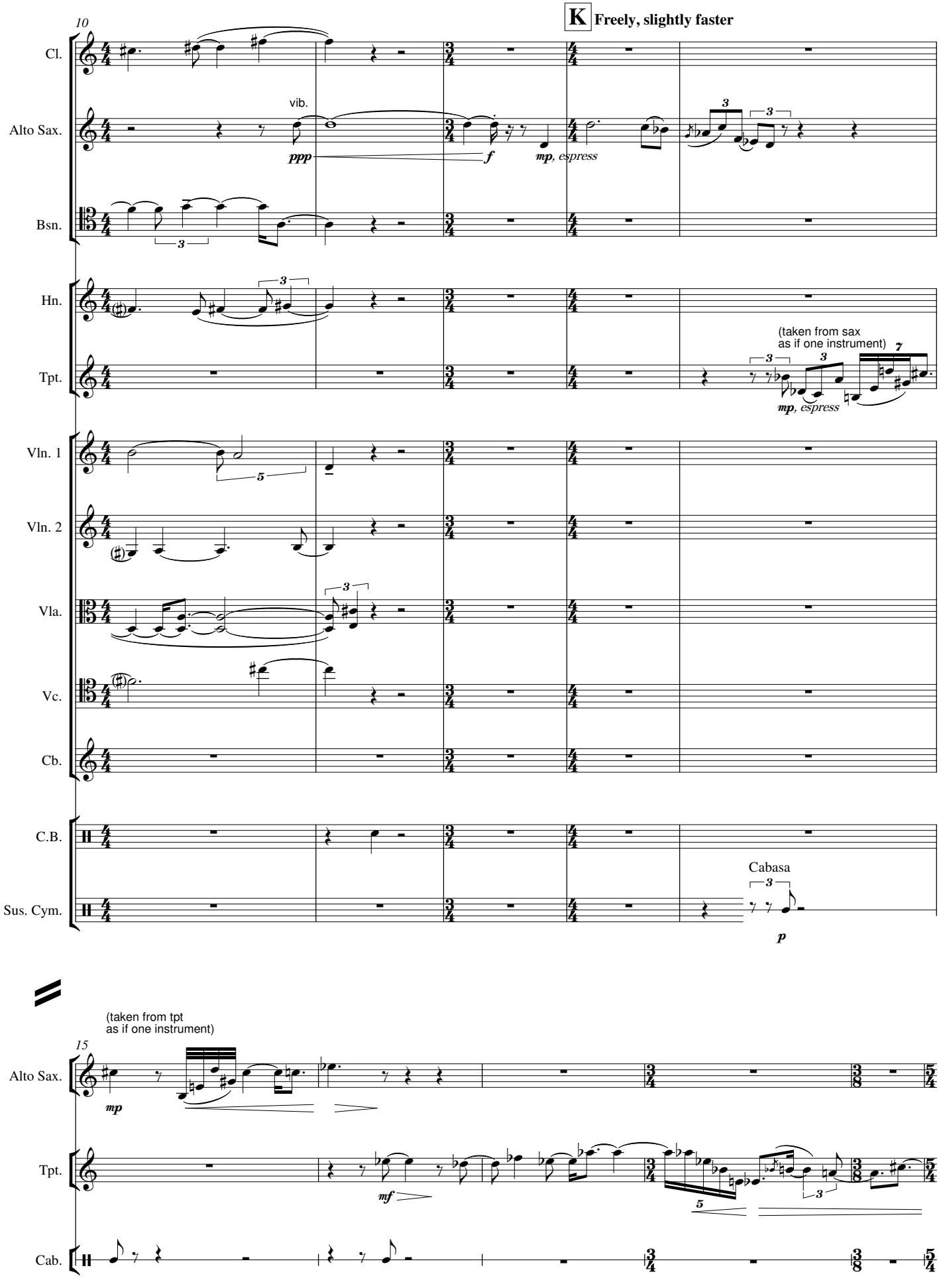

132
Cl.
Sop. Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Perc.
mp
f
(mf)
sffz
ff, senza dim.
To Whip
Whip
fff
To T. S.
T. S.
hard mallet

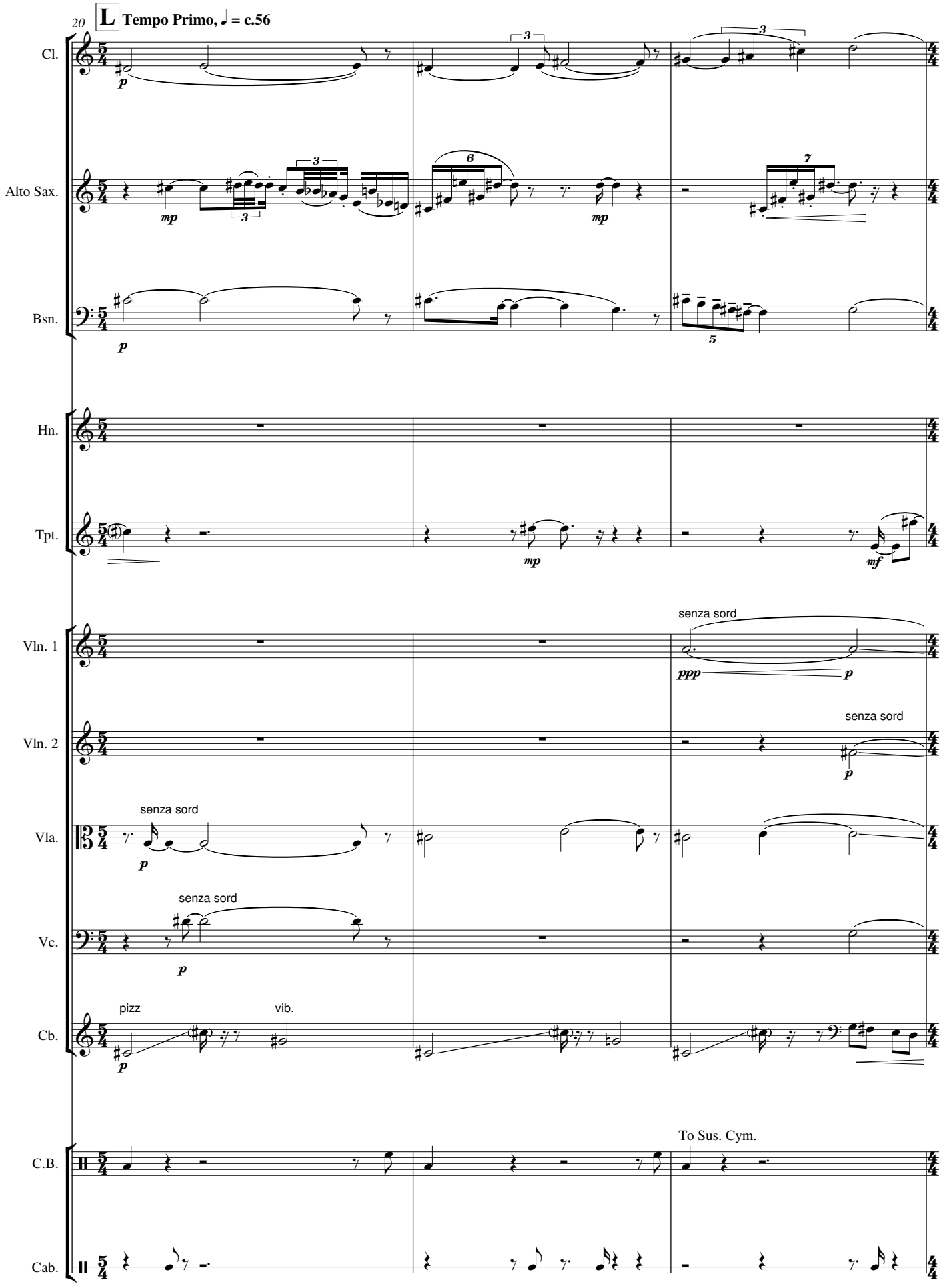

136
I
Cl.
mp
f
To Alto Sax.
Sop. Sax.
mp
f
Bsn.
mp
f
Hn.
Tpt.
sul ponticello
Vln. 1
p
f
Vln. 2
f
Vla.
f
arco
sul ponticello
Vc.
p
f
Cb.
To B. D.
Bass Drum
Dampen (To Cowb. & Ag.)
Whip
mp
f
Dampen (To Sus. Cym.)
T. S.
ff

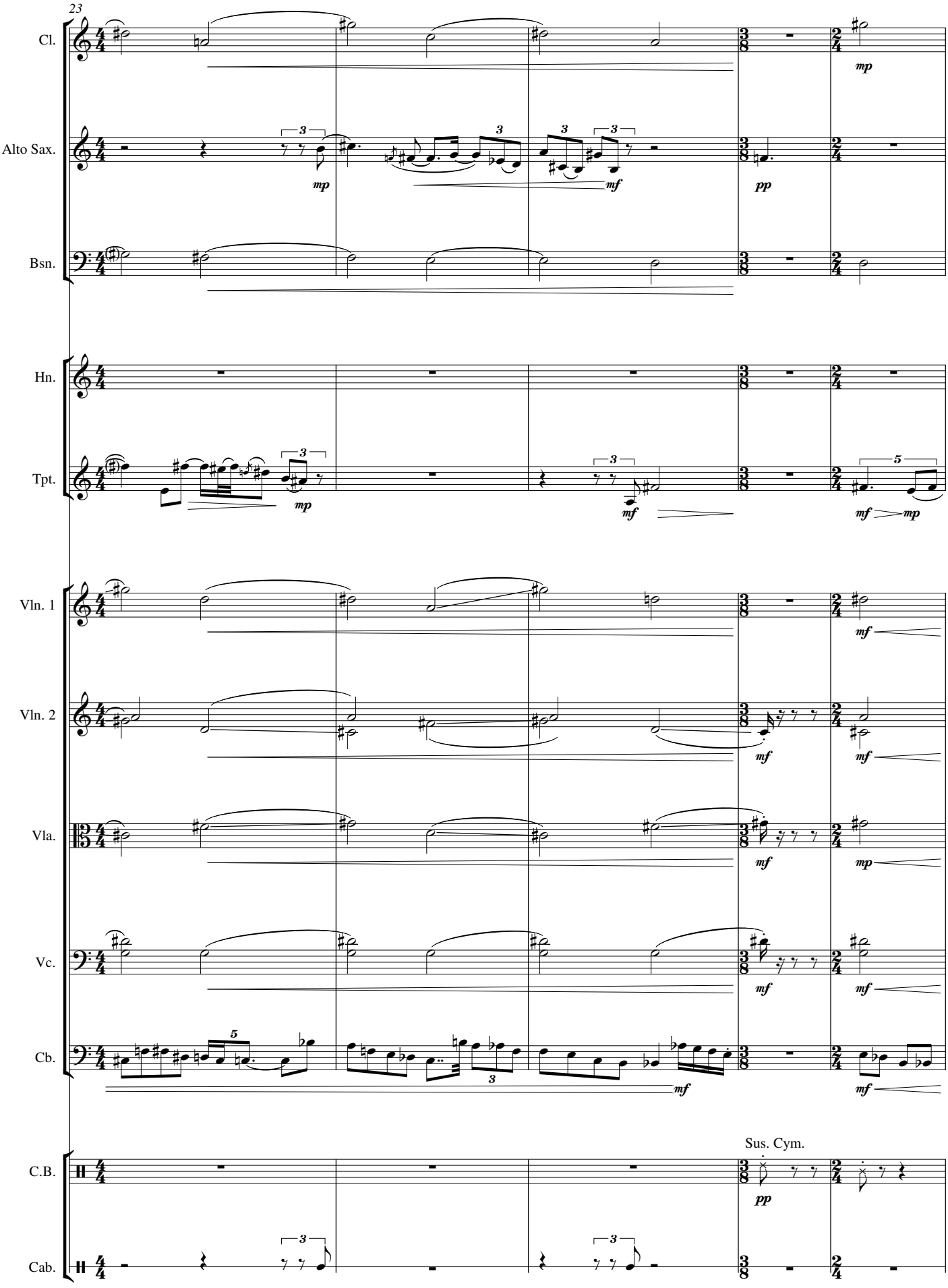
II

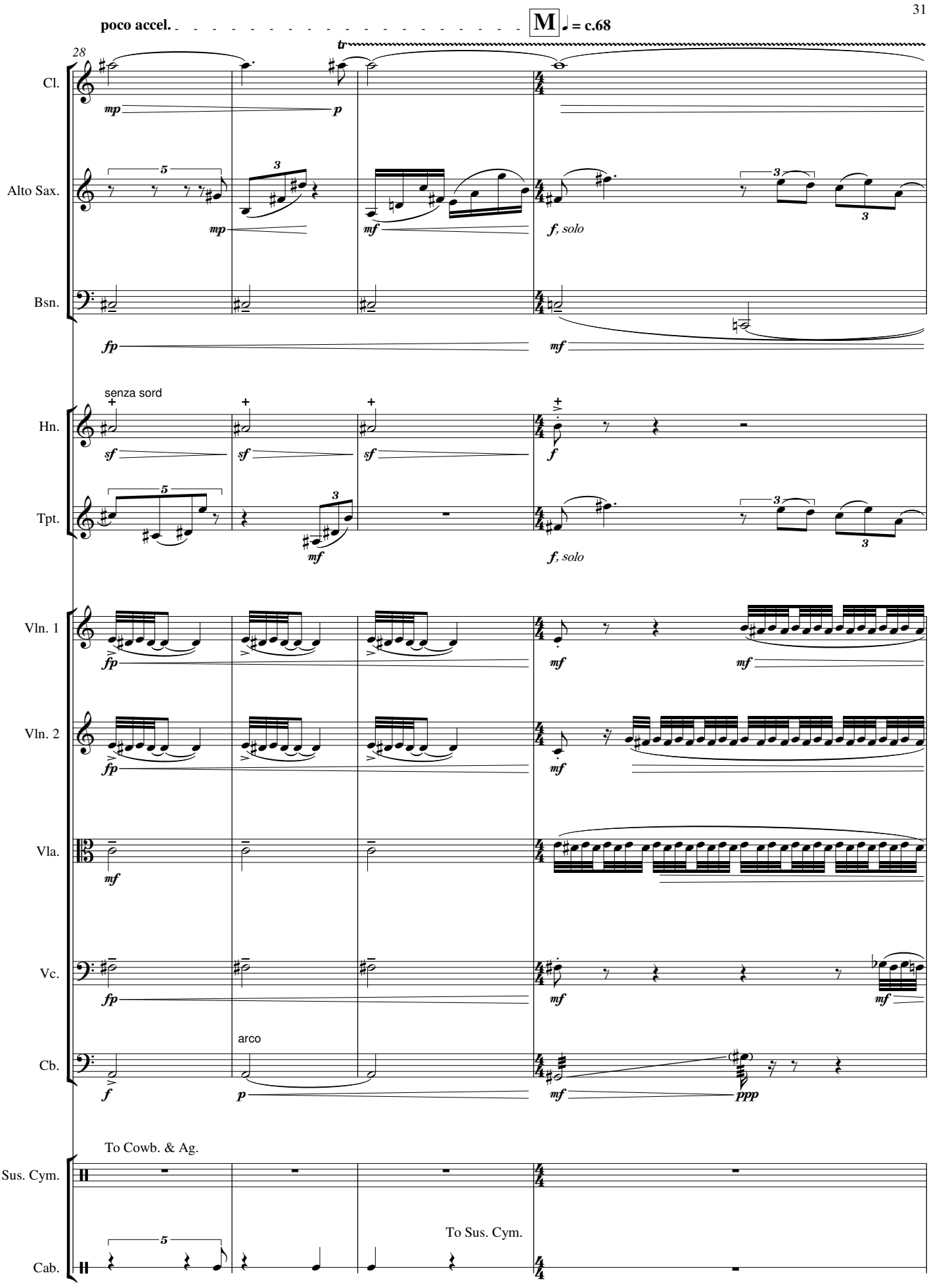

1
♩ = 56, undulating
Cl.
mp
mf
Alto Sax.
Bsn.
p
Hn.
con sord
p
Tpt.
con sord (Harmon, stem fully out)
vib.
mp, senza dim.
Vln. 1
con sord
p
Vln. 2
con sord
p
Vla.
con sord
p
Vc.
con sord
p
Cb.
C.B.
Cowb. & Ag.
soft stick
p
Sus. Cym.

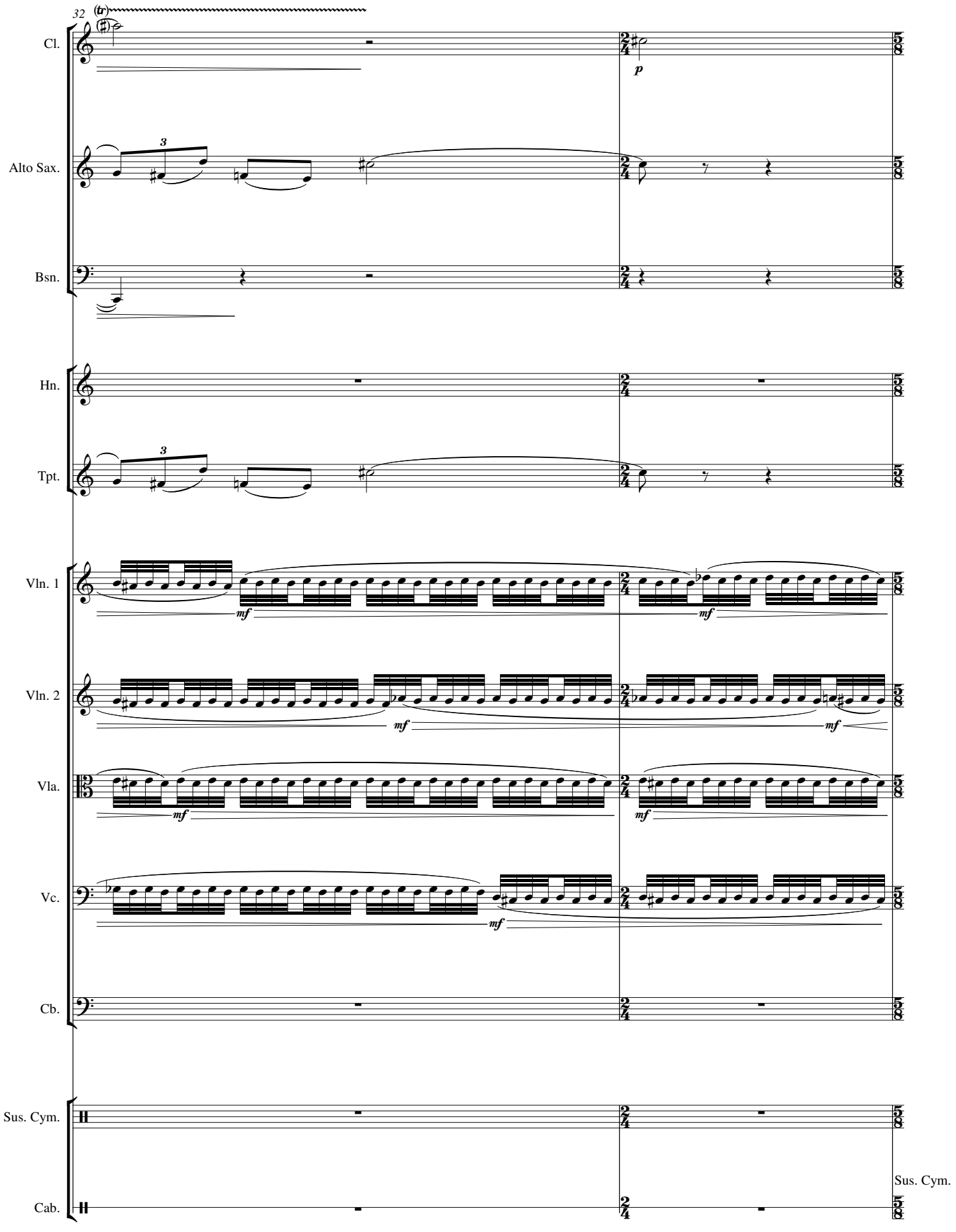

6
J
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Sus. Cym.
(Sus Cym.)
soft sticks
To Cab.

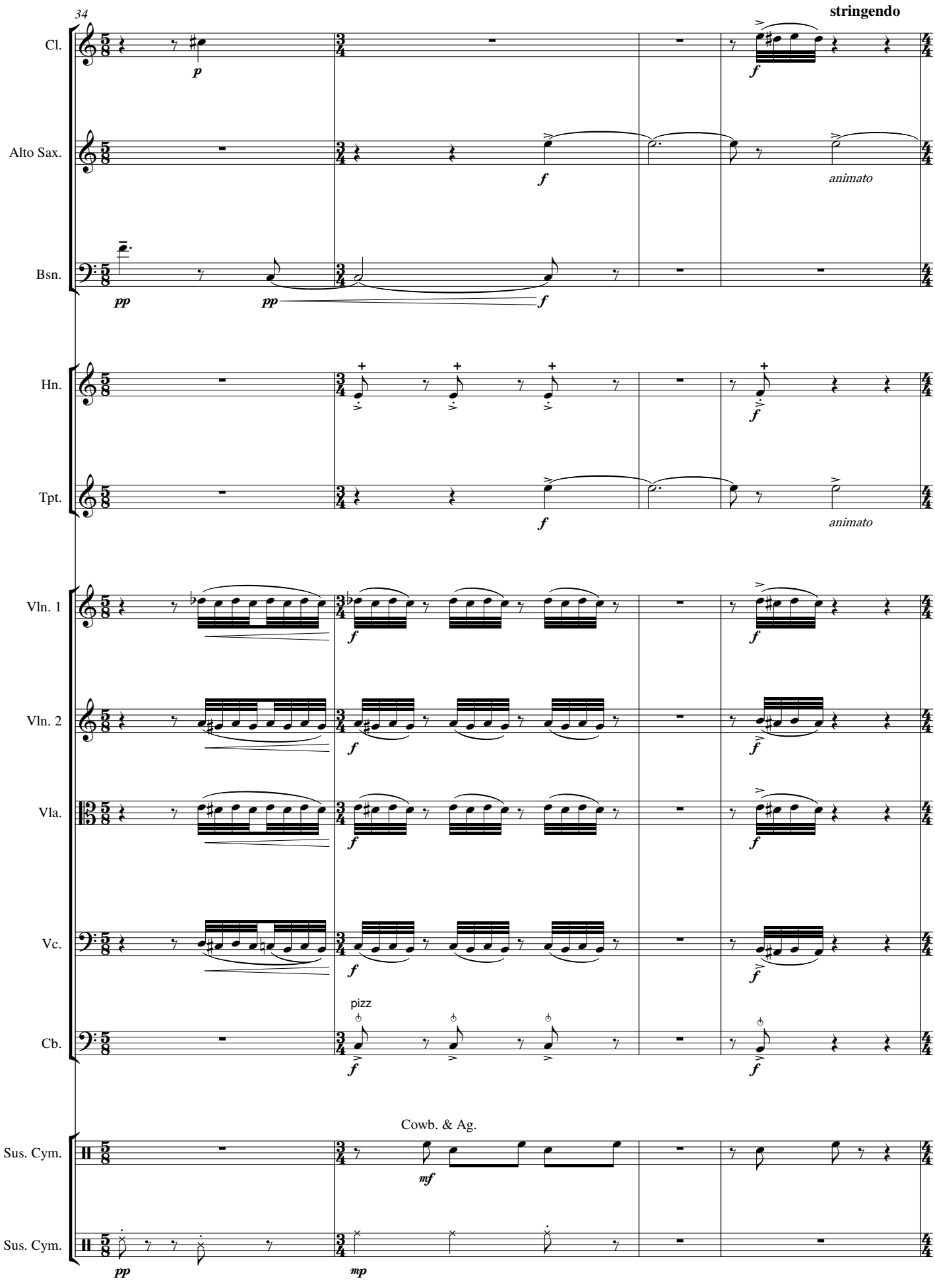

10
K Freely, slightly faster
Cl.
Alto Sax.
vib.
ppp
f
mp, espress
Bsn.
Hn.
Tpt.
(taken from sax
as if one instrument)
mp, espress
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Sus. Cym.
Cabasa
p
15
(taken from tpt
as if one instrument)
Alto Sax.
mp
Tpt.
mf
Cab.

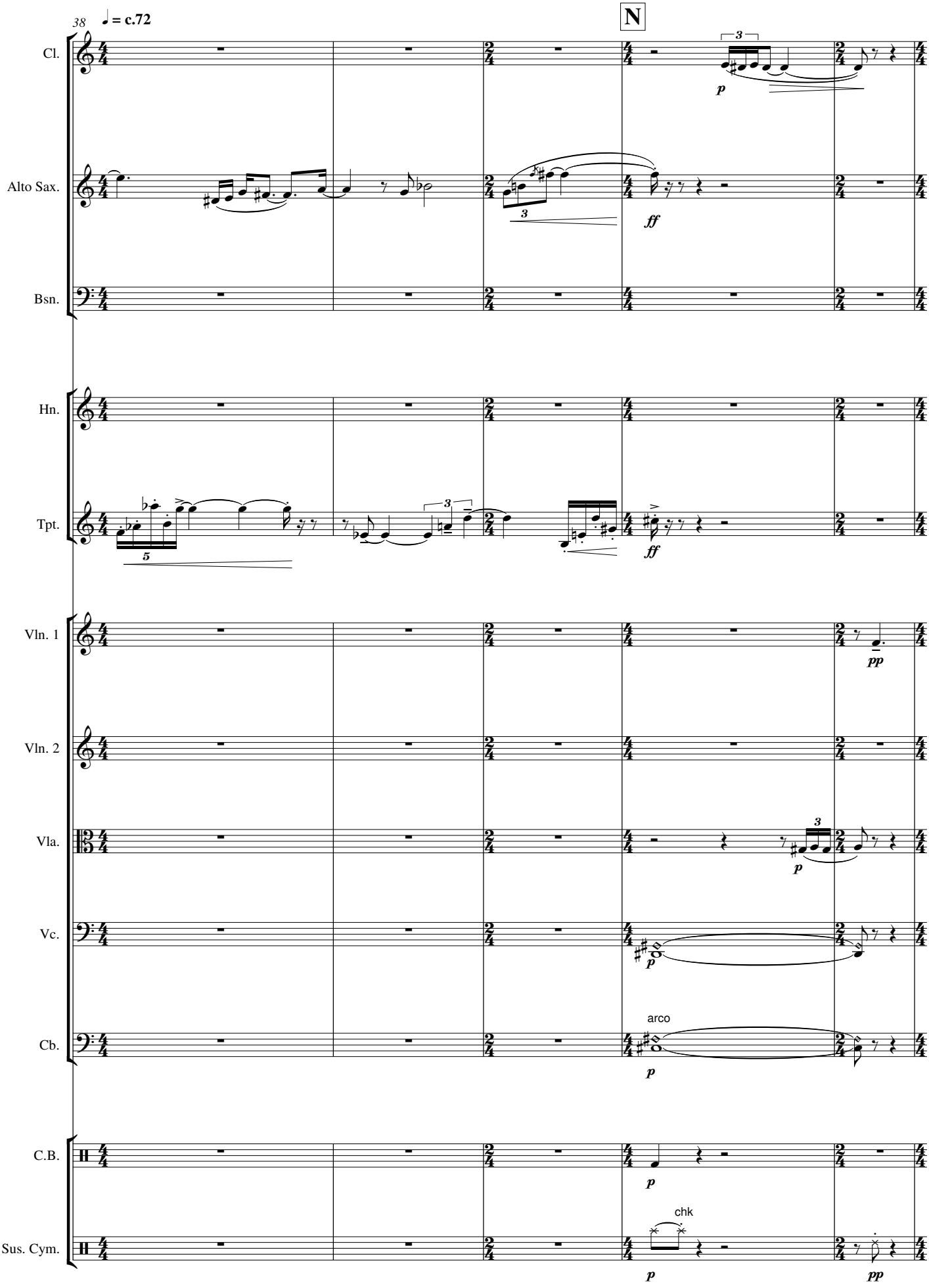

20
L
Tempo Primo, ♩ = c.56
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Cab.
senza sord
pizz
vib.
To Sus. Cym.

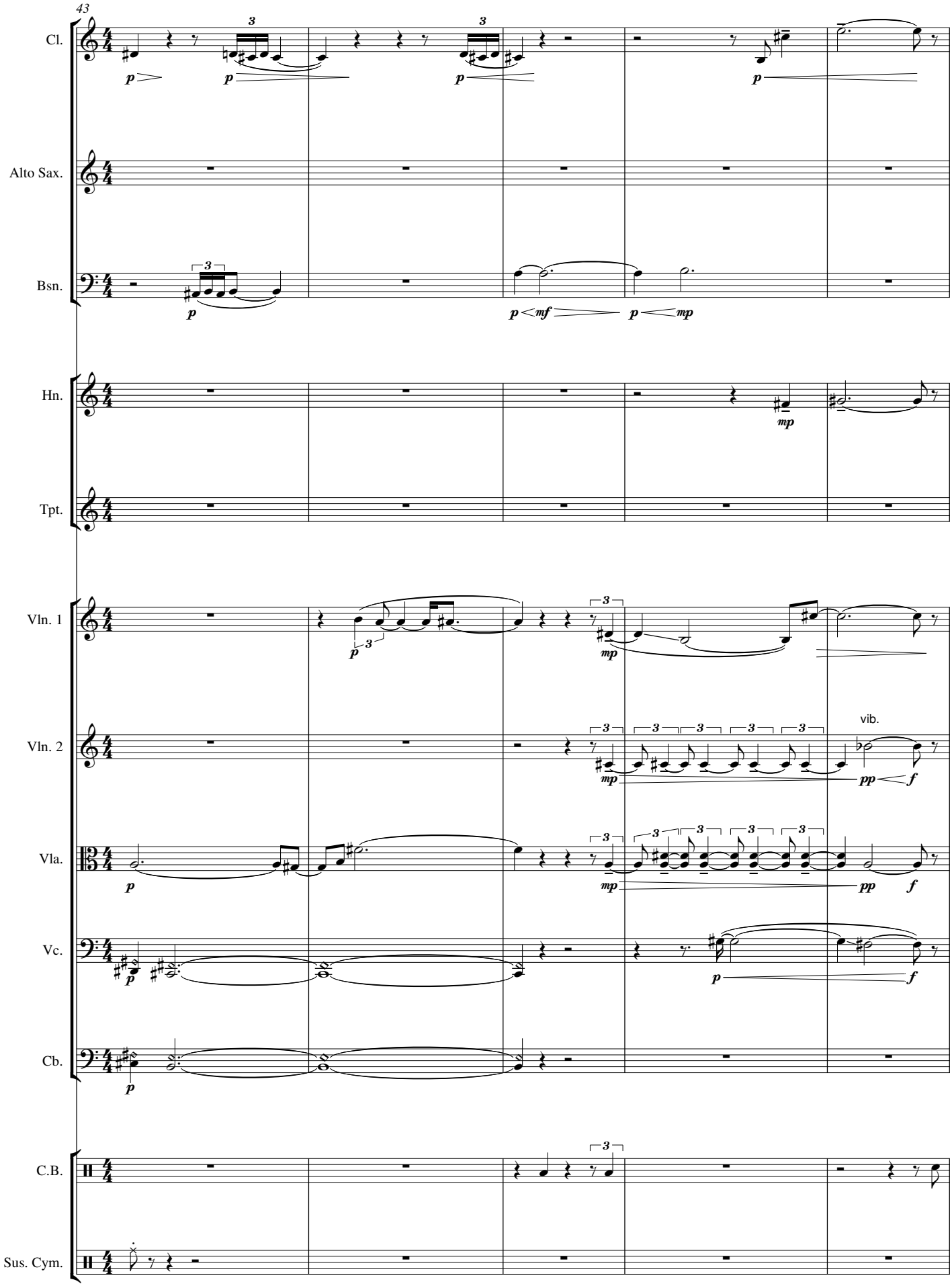

23
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Cab.
Sus. Cym.
mp
mf
pp

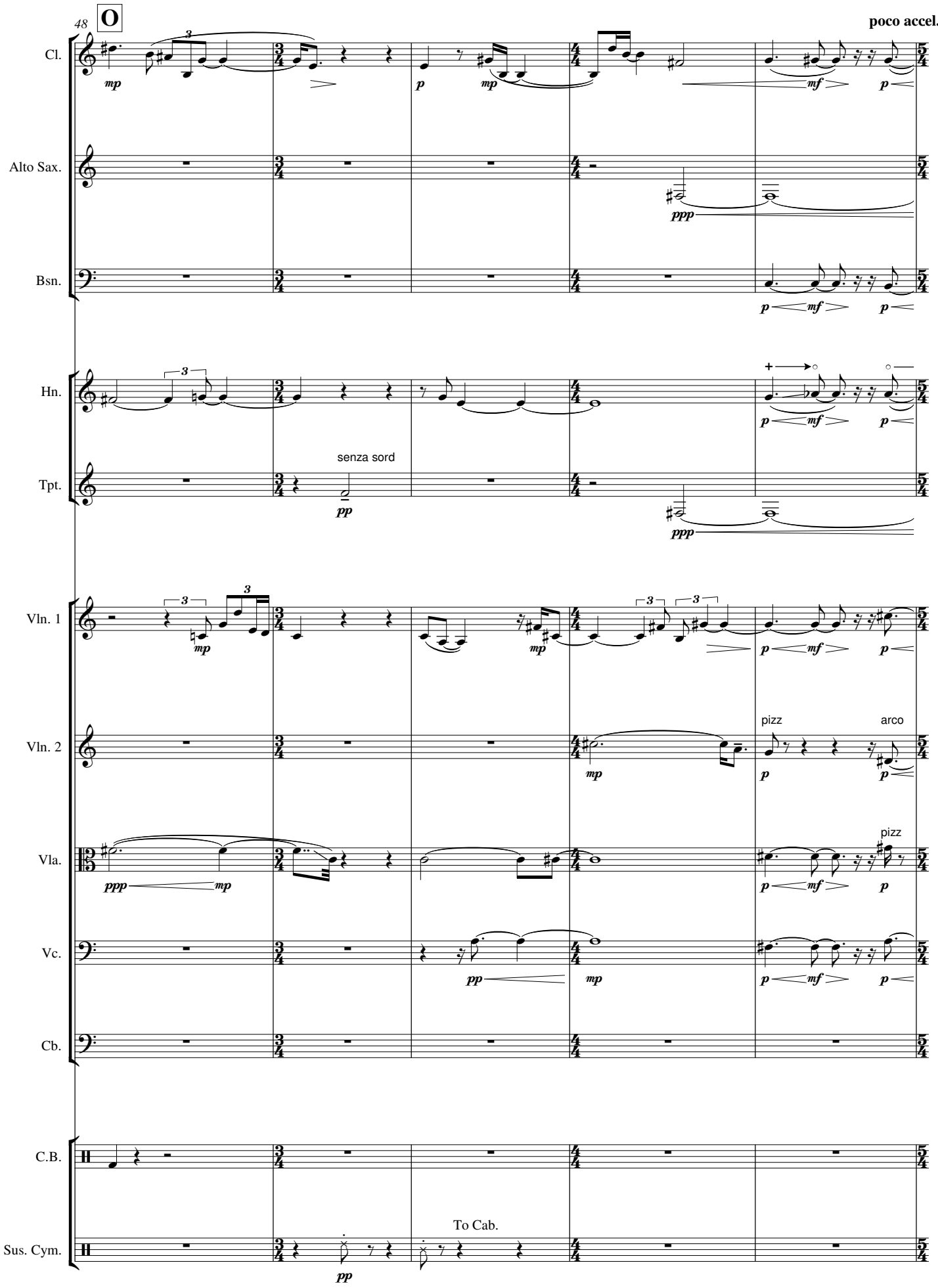

poco accel.
M
♩ = c.68
28
tr
Cl.
mp
p
Alto Sax.
mp
mf
f, solo
Bsn.
fp
mf
senza sord
Hn.
sf
sf
sf
f
Tpt.
mf
f, solo
Vln. 1
fp
mf
mf
Vln. 2
fp
mf
Vla.
mf
Vc.
fp
mf
mf
arco
Cb.
f
p
mf
ppp
To Cowb. & Ag.
Sus. Cym.
To Sus. Cym.
Cab.

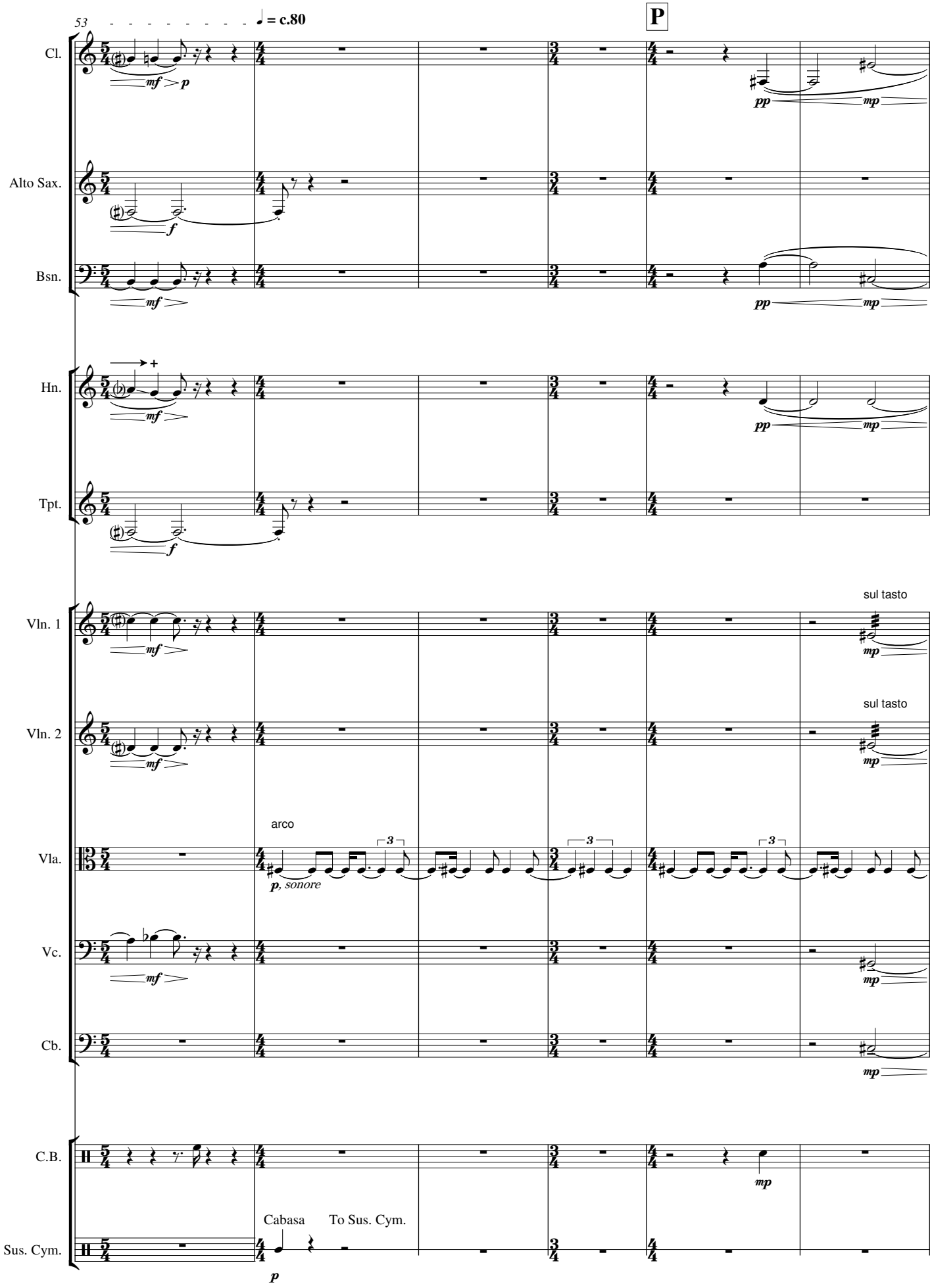

32
(tr)
Cl.
p
Alto Sax.
3
Bsn.
Hn.
Tpt.
3
Vln. 1
mf
mf
Vln. 2
mf
mf
Vla.
mf
mf
Vc.
mf
Cb.
Sus. Cym.
Cab.
Sus. Cym.

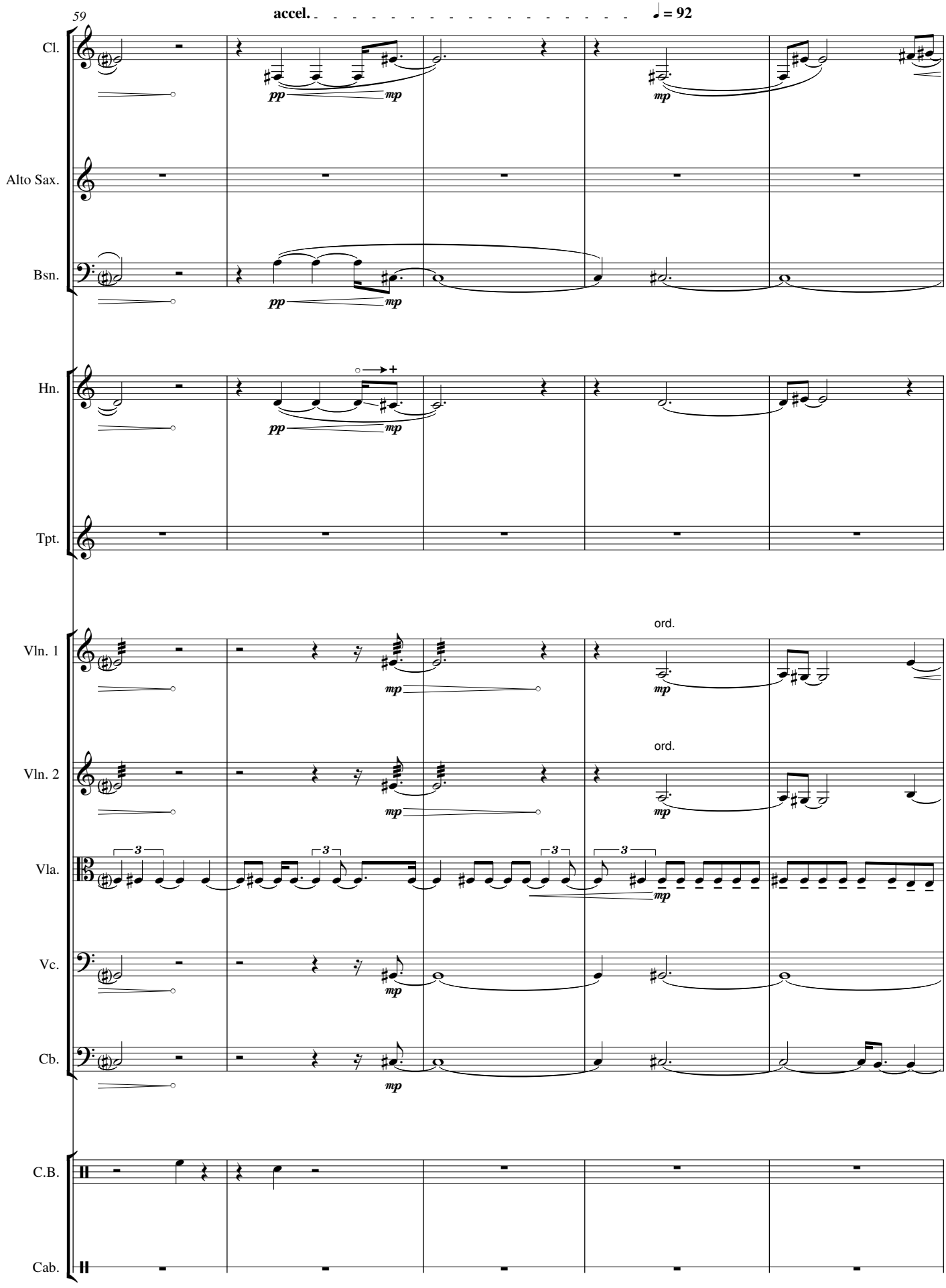

34
stringendo
Cl.
Alto Sax.
animato
Bsn.
Hn.
Tpt.
animato
Vln. 1
Vln. 2
Vla.
Vc.
pizz
Cb.
Cowb. & Ag.
Sus. Cym.
Sus. Cym.

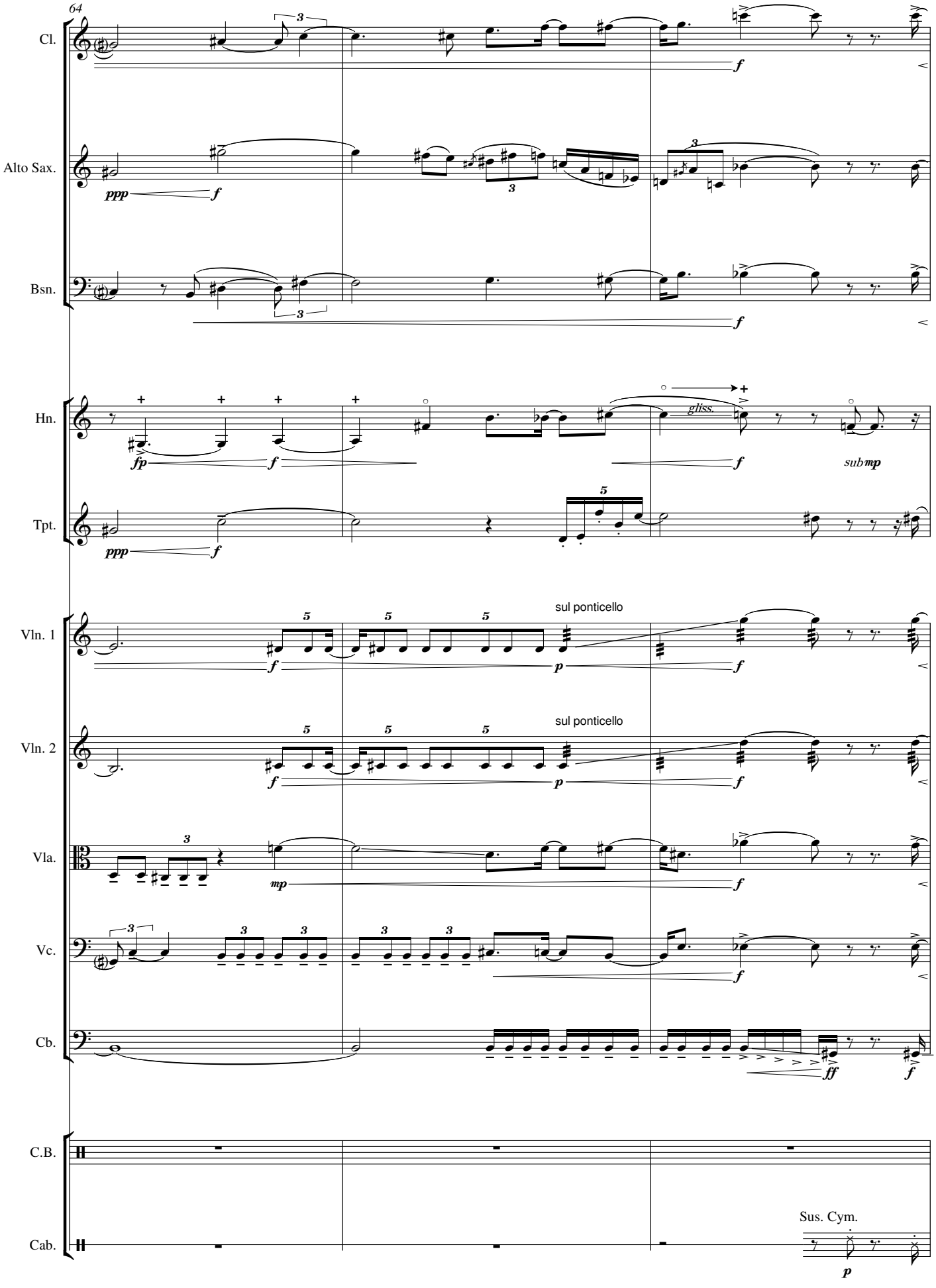

38
♩ = c.72
N
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Sus. Cym.
arco
chk

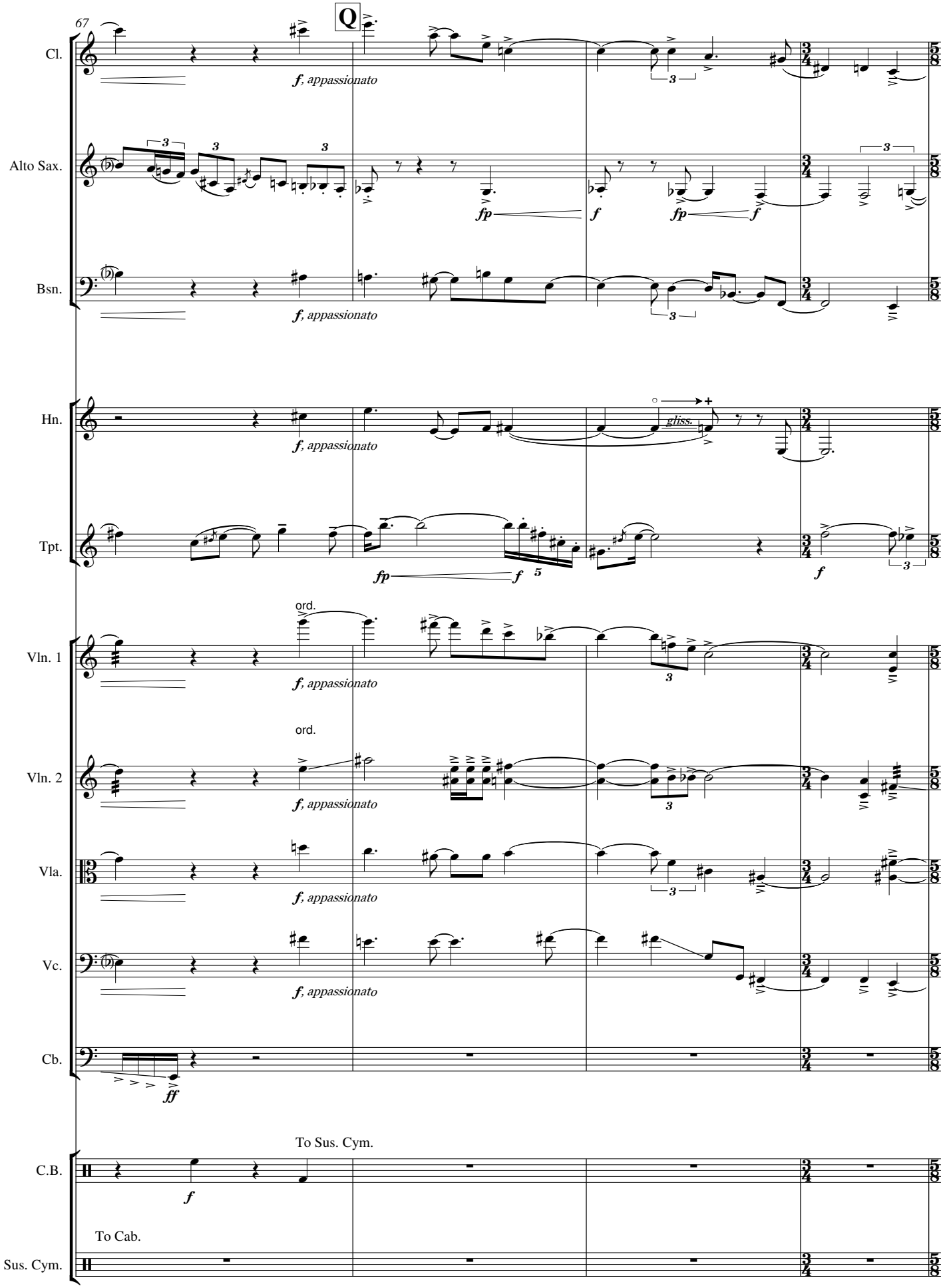

43
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Sus. Cym.
vib.

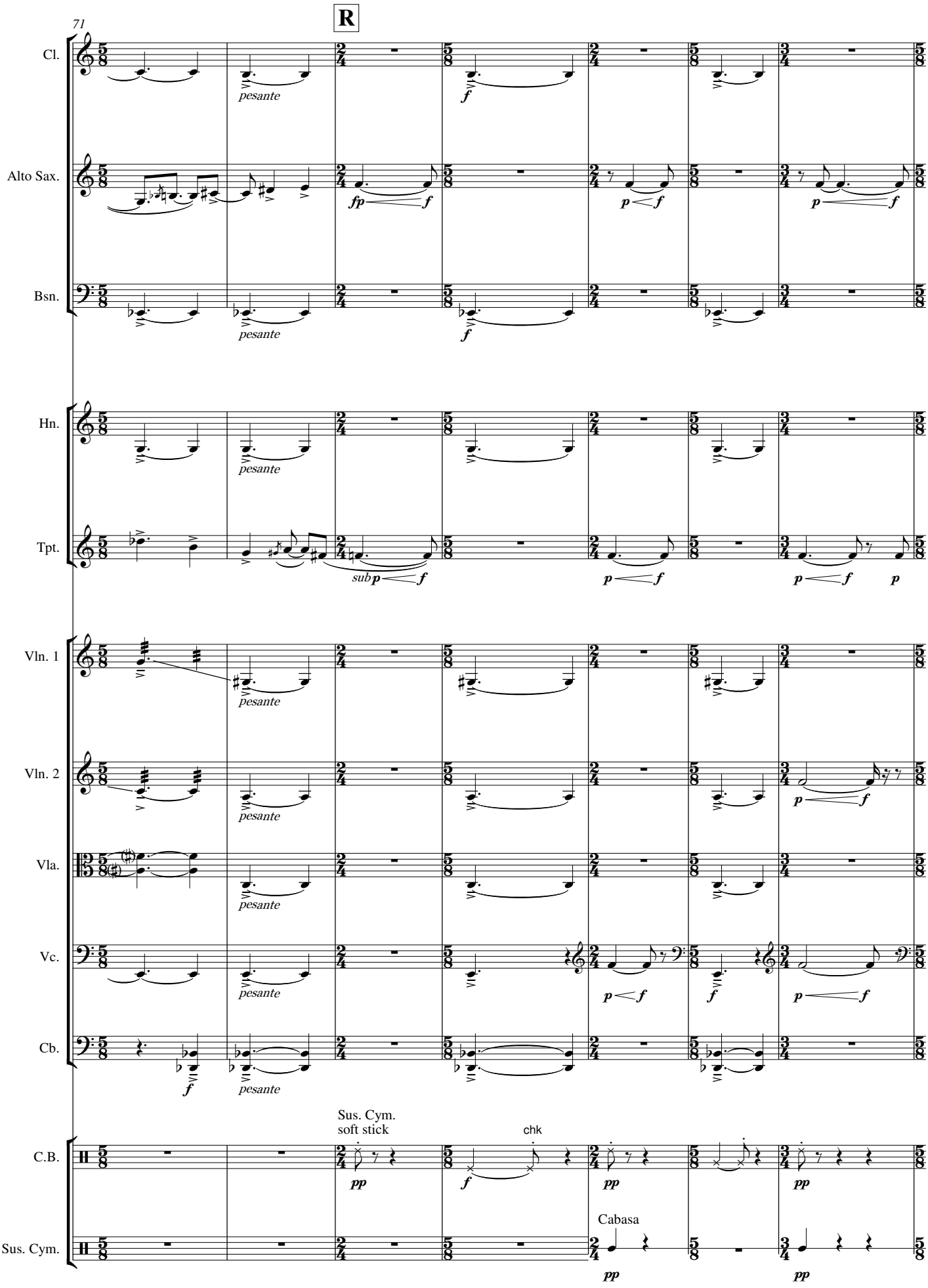

48
O
poco accel.
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
senza sord
Vln. 1
Vln. 2
pizz
arco
Vla.
pizz
Vc.
Cb.
C.B.
Sus. Cym.
To Cab.

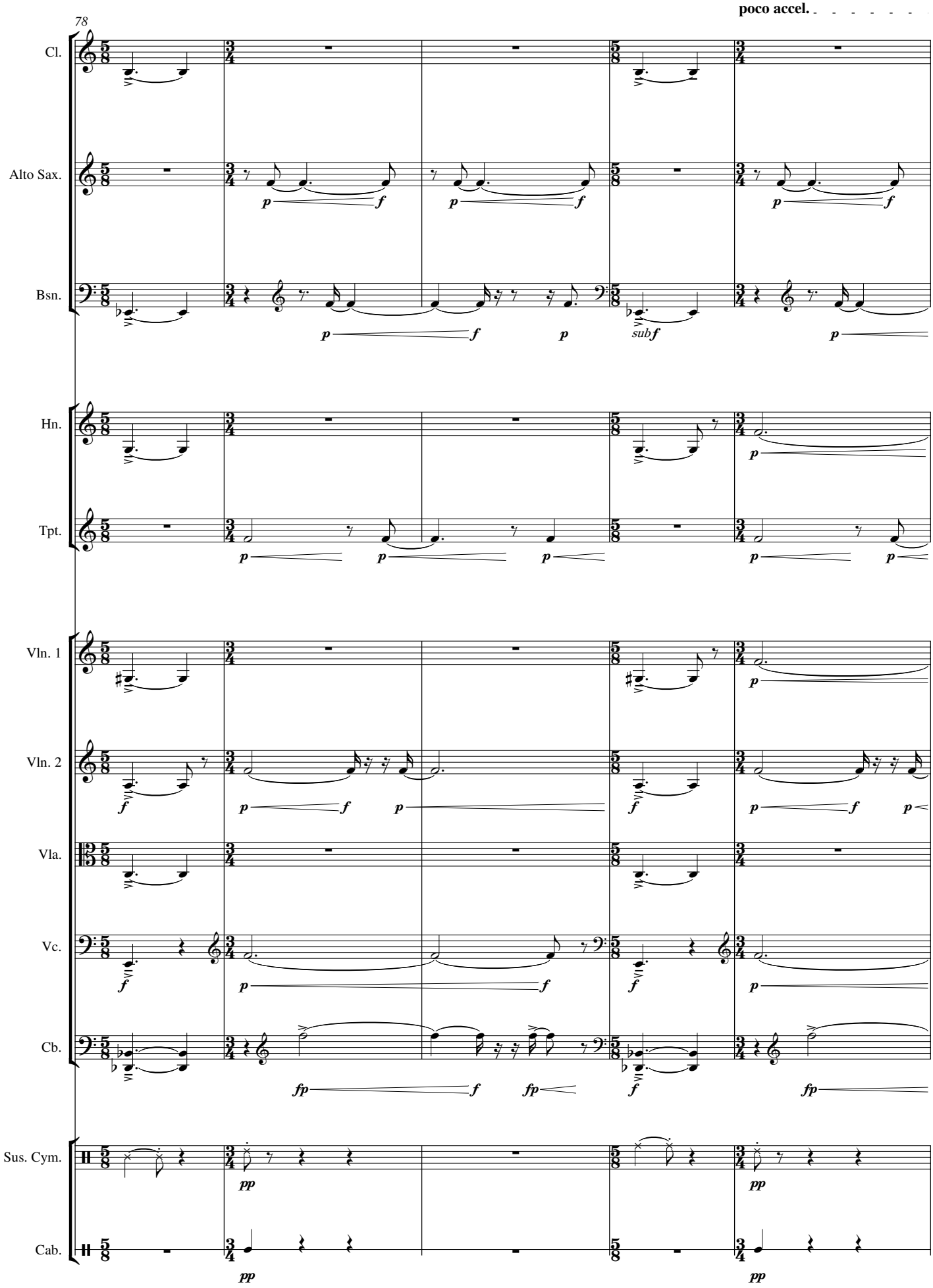

53
♩ = c.80
P
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Sus. Cym.
mf
p
f
pp
mp
sul tasto
arco
p, sonore
3
Cabasa
To Sus. Cym.


59
accel.
♩ = 92
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Cab.
pp
mp
ord.
3


64
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Cab.
gliss.
sub mp
sul ponticello
sul ponticello
Sus. Cym.


67
Q
Cl.
f, appassionato
Alto Sax.
fp
f
fp
f
Bsn.
f, appassionato
Hn.
f, appassionato
gliss.
Tpt.
fp
f
f
ord.
Vln. 1
f, appassionato
ord.
Vln. 2
f, appassionato
Vla.
f, appassionato
Vc.
f, appassionato
Cb.
ff
To Sus. Cym.
C.B.
f
To Cab.
Sus. Cym.


R
71
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
C.B.
Sus. Cym.
pesante
sub p
Sus. Cym.
soft stick
chk
Cabasa


poco accel.
78
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Sus. Cym.
Cab.

S

83

Cl.

Alto Sax.

Bsn.

Hn.

Tpt.

Vln. 1

Vln. 2

Vla.

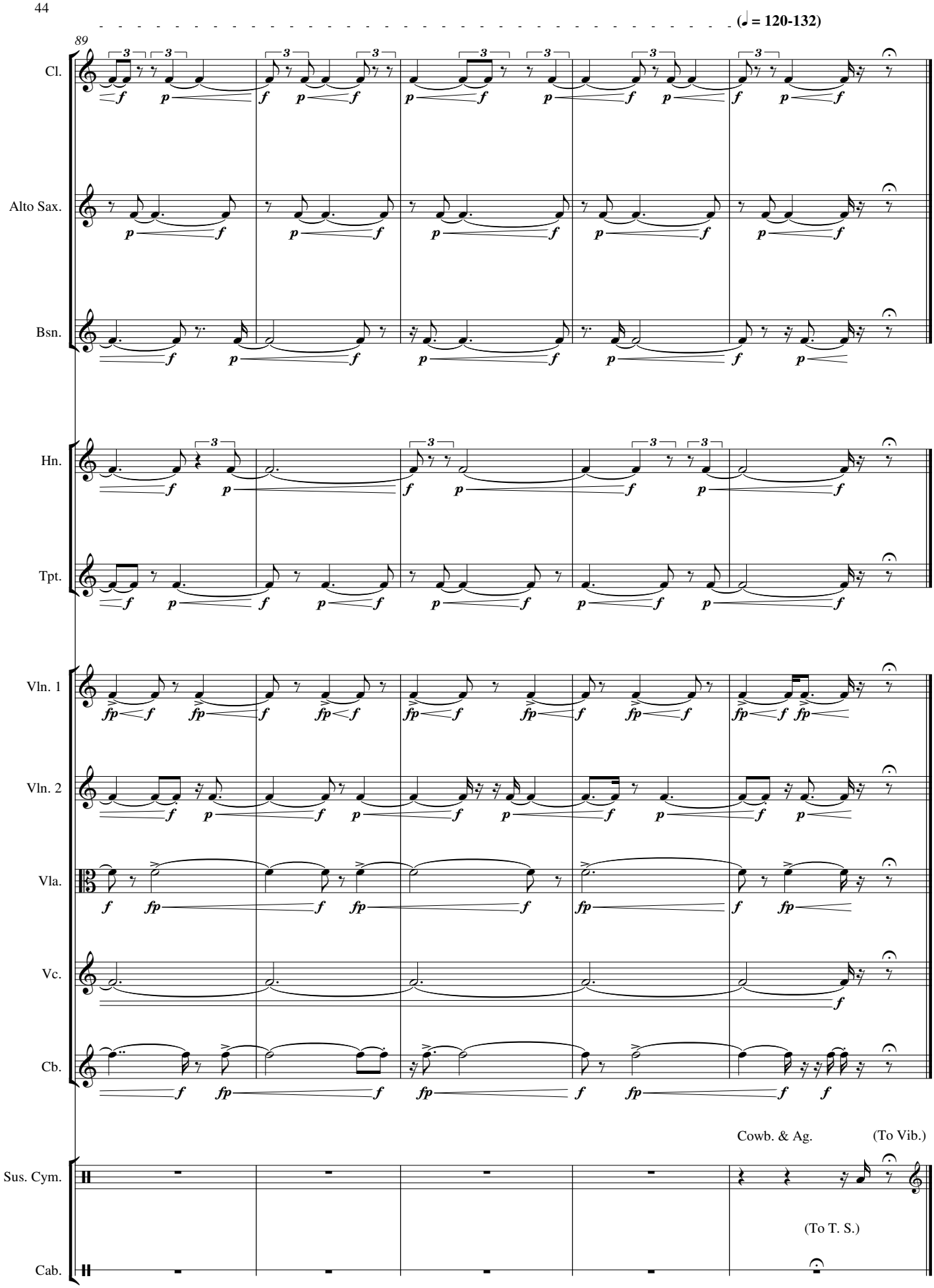
Vc.

Cb.

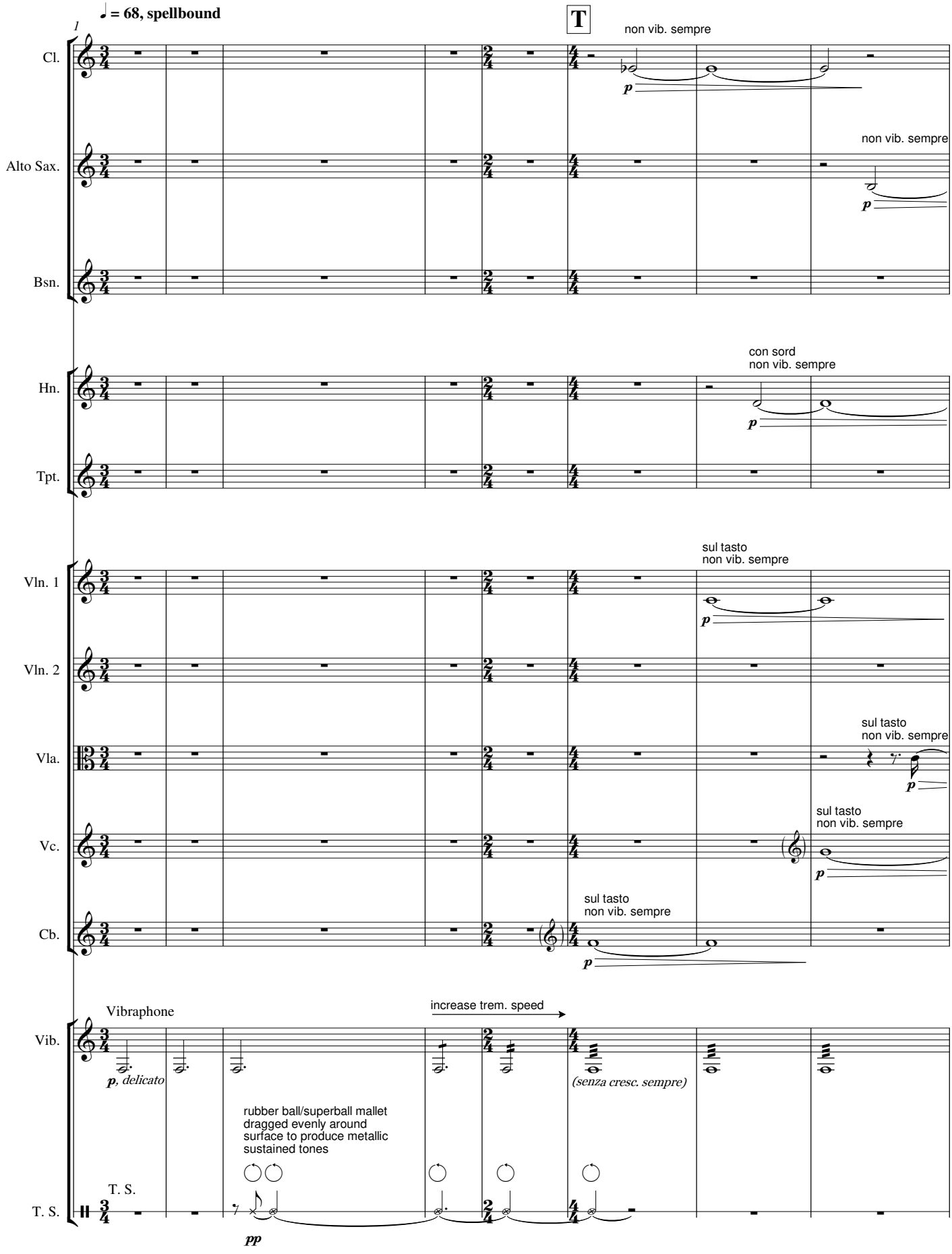
Sus. Cym.

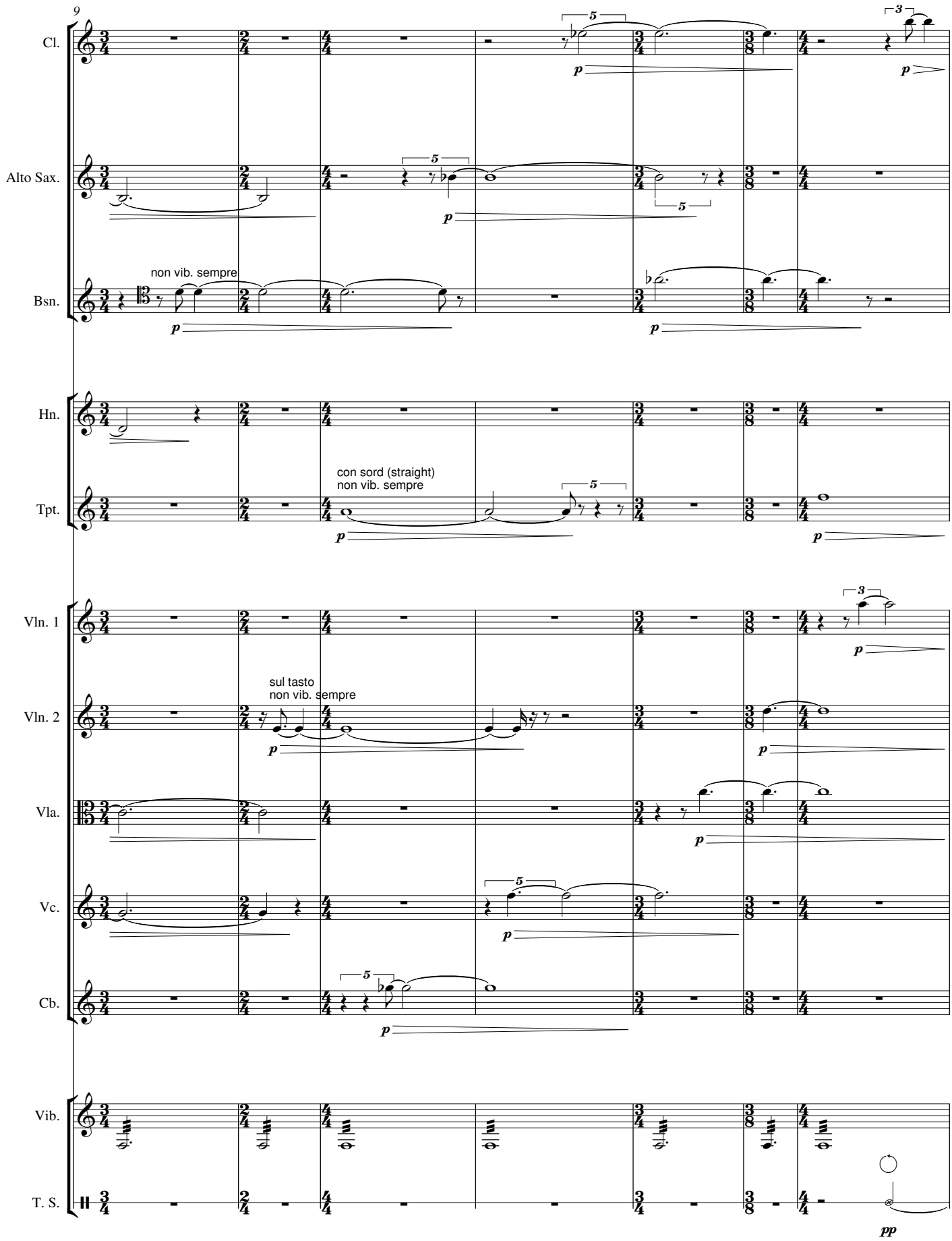
To Cowb. & Ag.

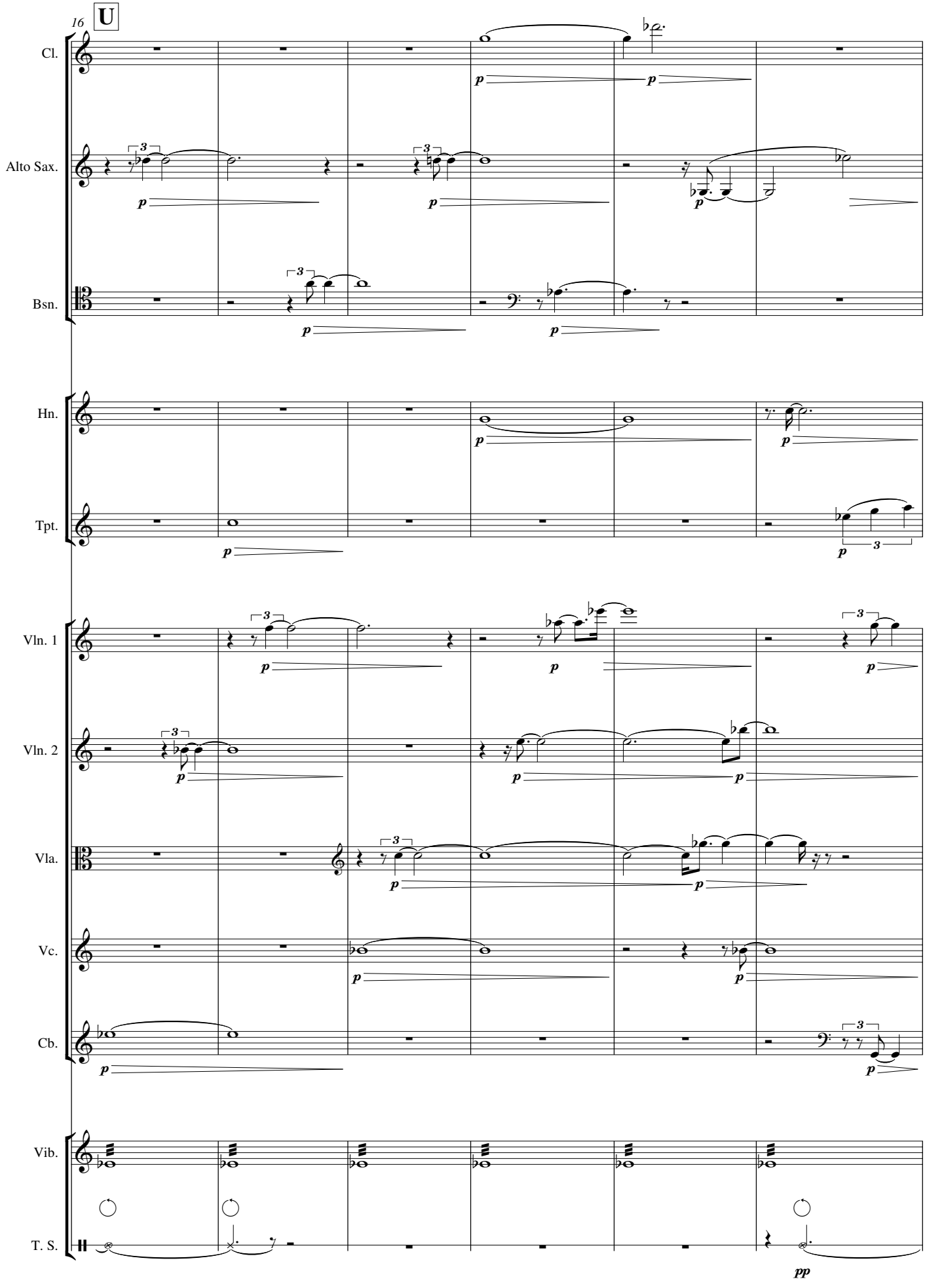
Cab.

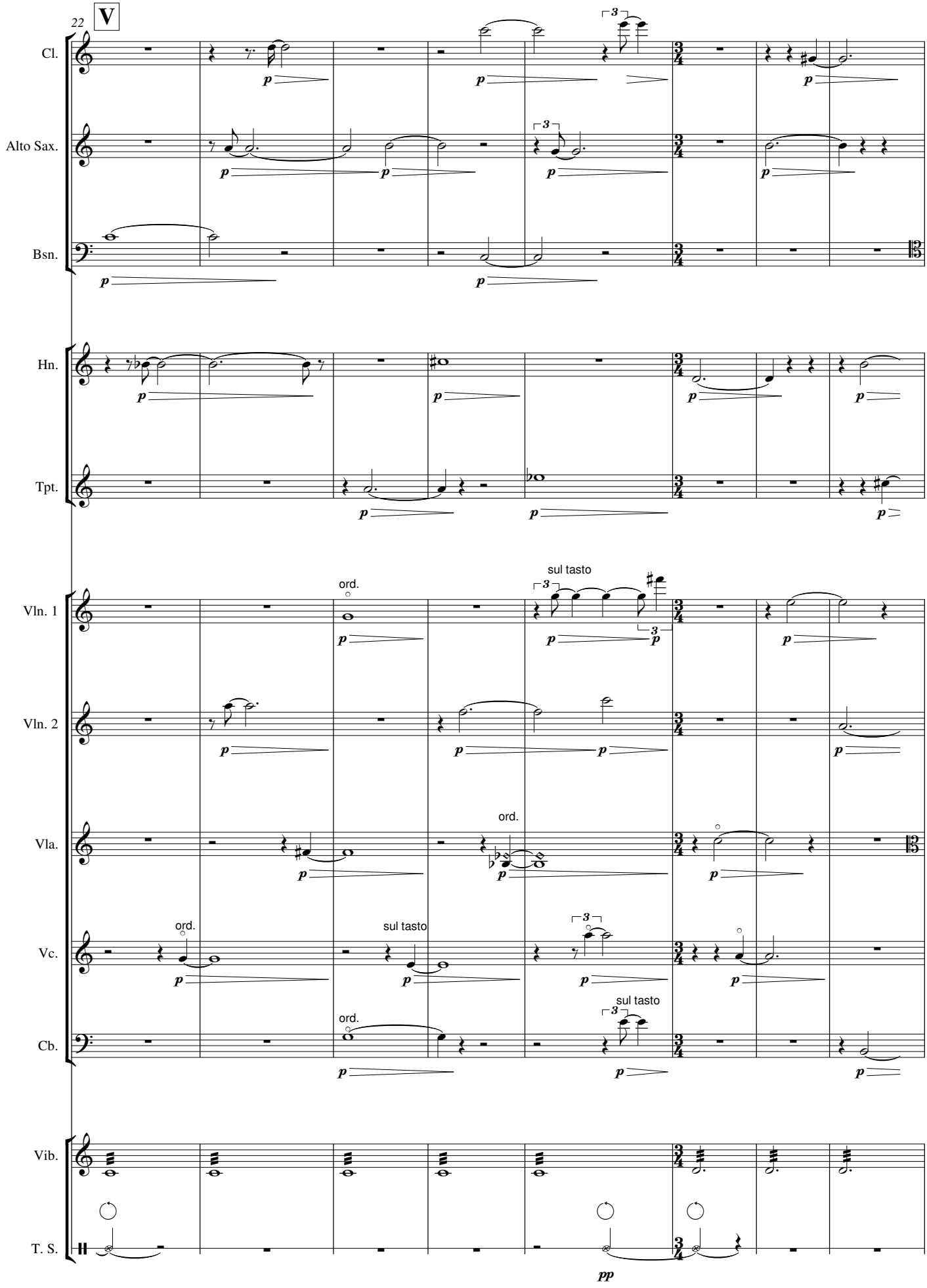

(♩ = 120-132)
89
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Cowb. & Ag.
(To Vib.)
Sus. Cym.
(To T. S.)
Cab.

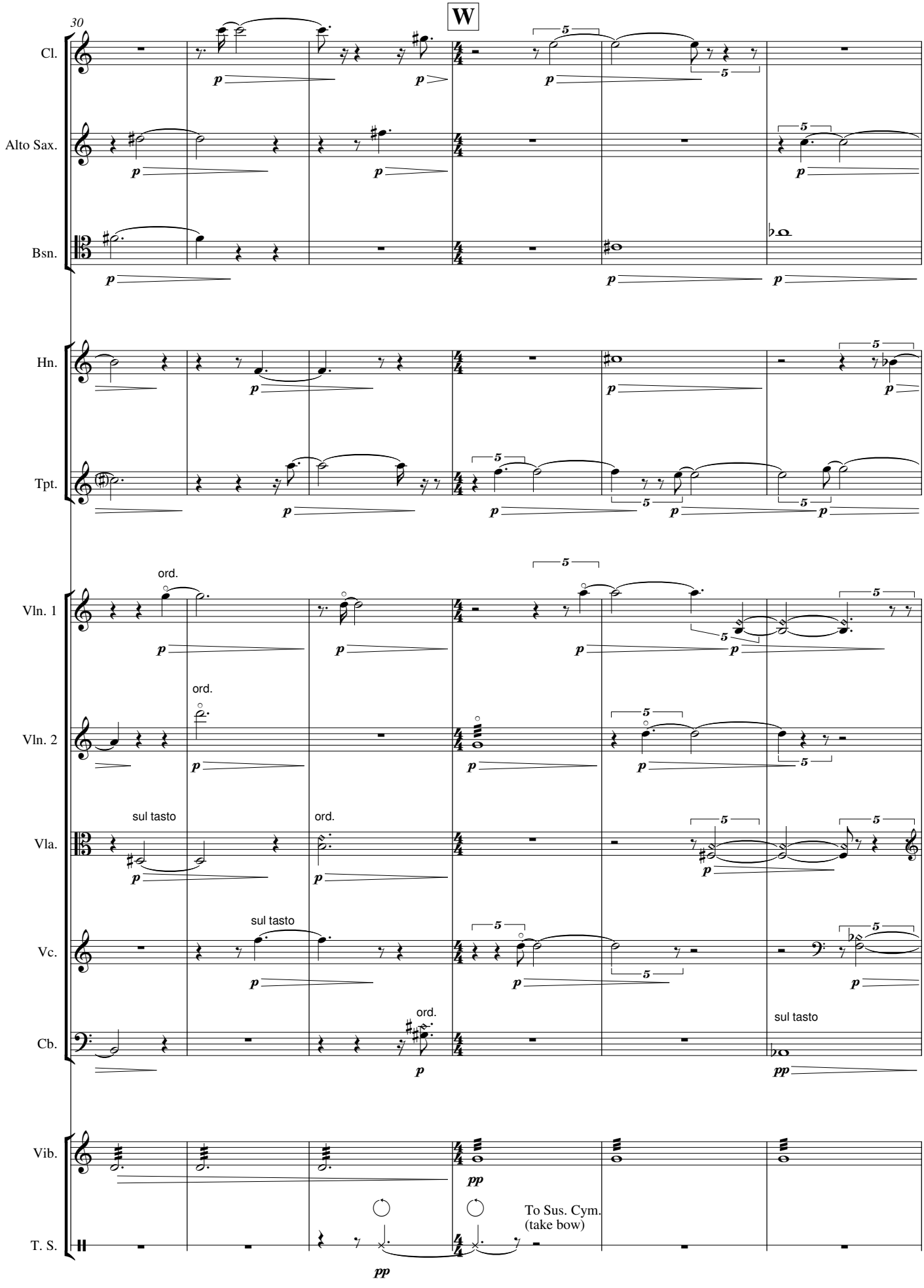
III

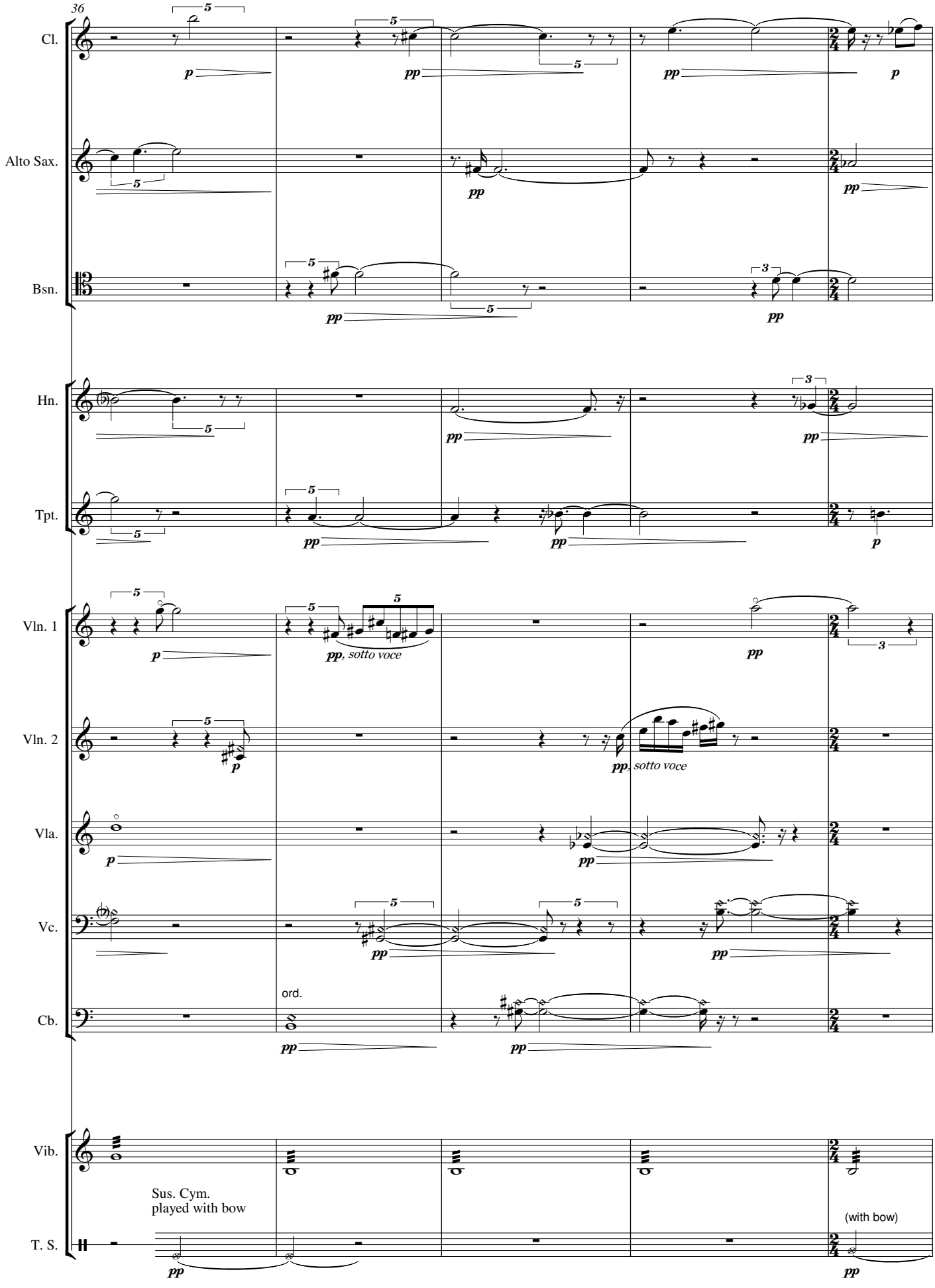

♩ = 68, spellbound
1
T
Cl.
non vib. sempre
p
Alto Sax.
non vib. sempre
p
Bsn.
Hn.
con sord
non vib. sempre
p
Tpt.
Vln. 1
sul tasto
non vib. sempre
p
Vln. 2
Vla.
sul tasto
non vib. sempre
p
Vc.
sul tasto
non vib. sempre
p
Cb.
sul tasto
non vib. sempre
p
Vibraphone
increase trem. speed
Vib.
p, delicato
(senza cresc. sempre)
rubber ball/superball mallet
dragged evenly around
surface to produce metallic
sustained tones
T. S.
T. S.
pp

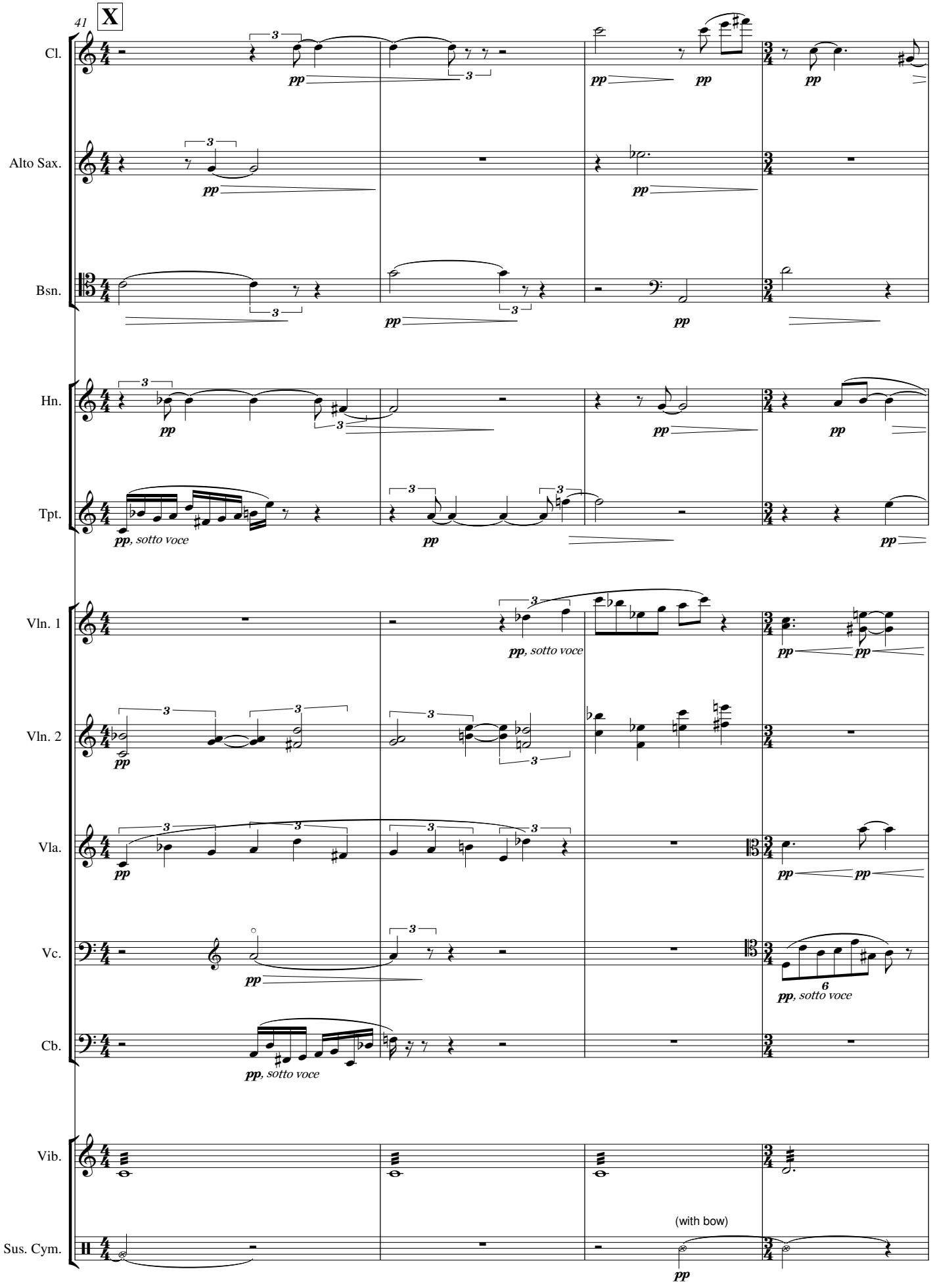

9
Cl.
Alto Sax.
Bsn.
non vib. sempre
Hn.
Tpt.
con sord (straight)
non vib. sempre
Vln. 1
Vln. 2
sul tasto
non vib. sempre
Vla.
Vc.
Cb.
Vib.
T. S.
p
pp

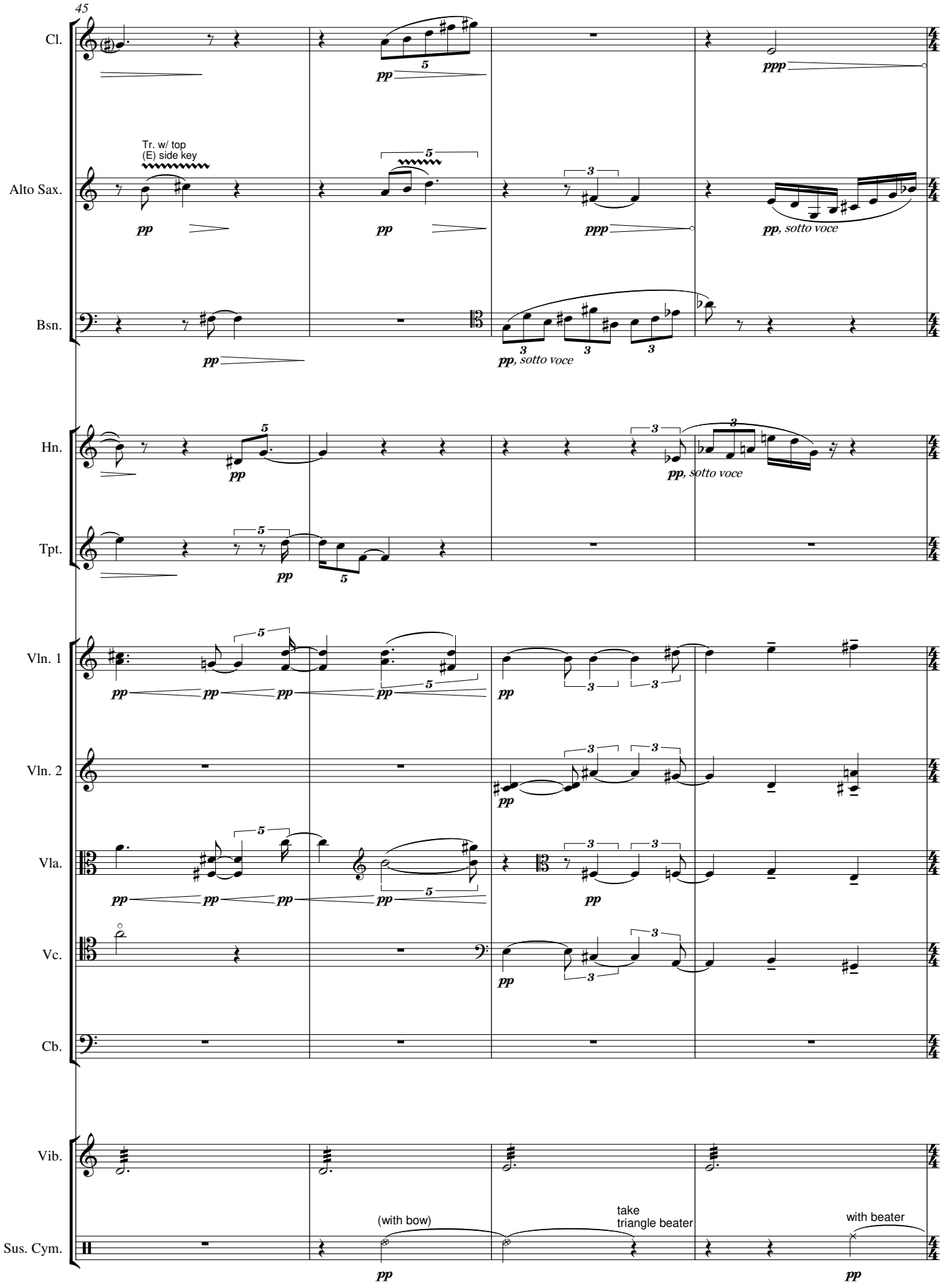

16
U
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Vib.
T. S.
p
pp

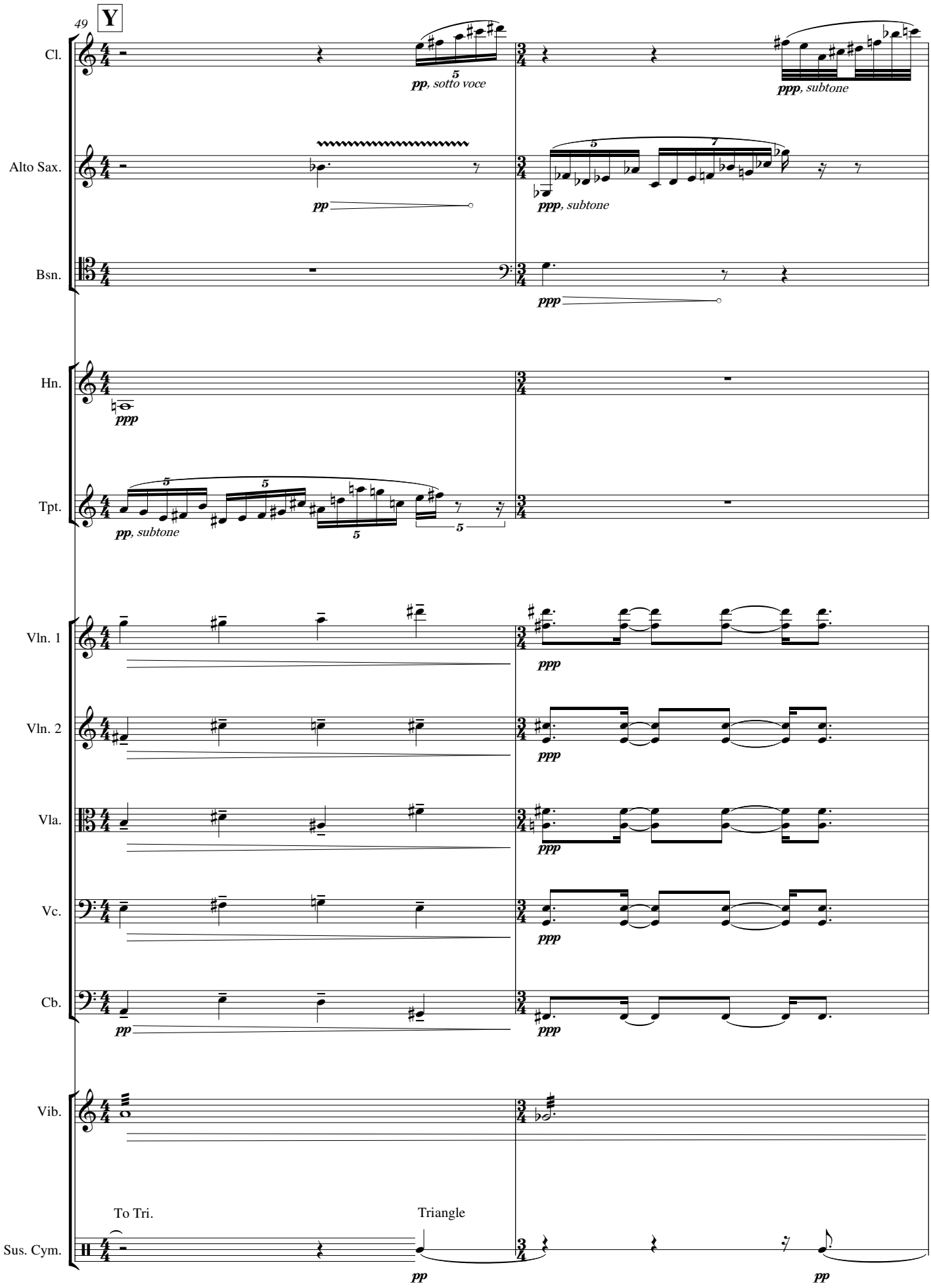

22
V
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Vib.
T. S.
ord.
sul tasto
pp

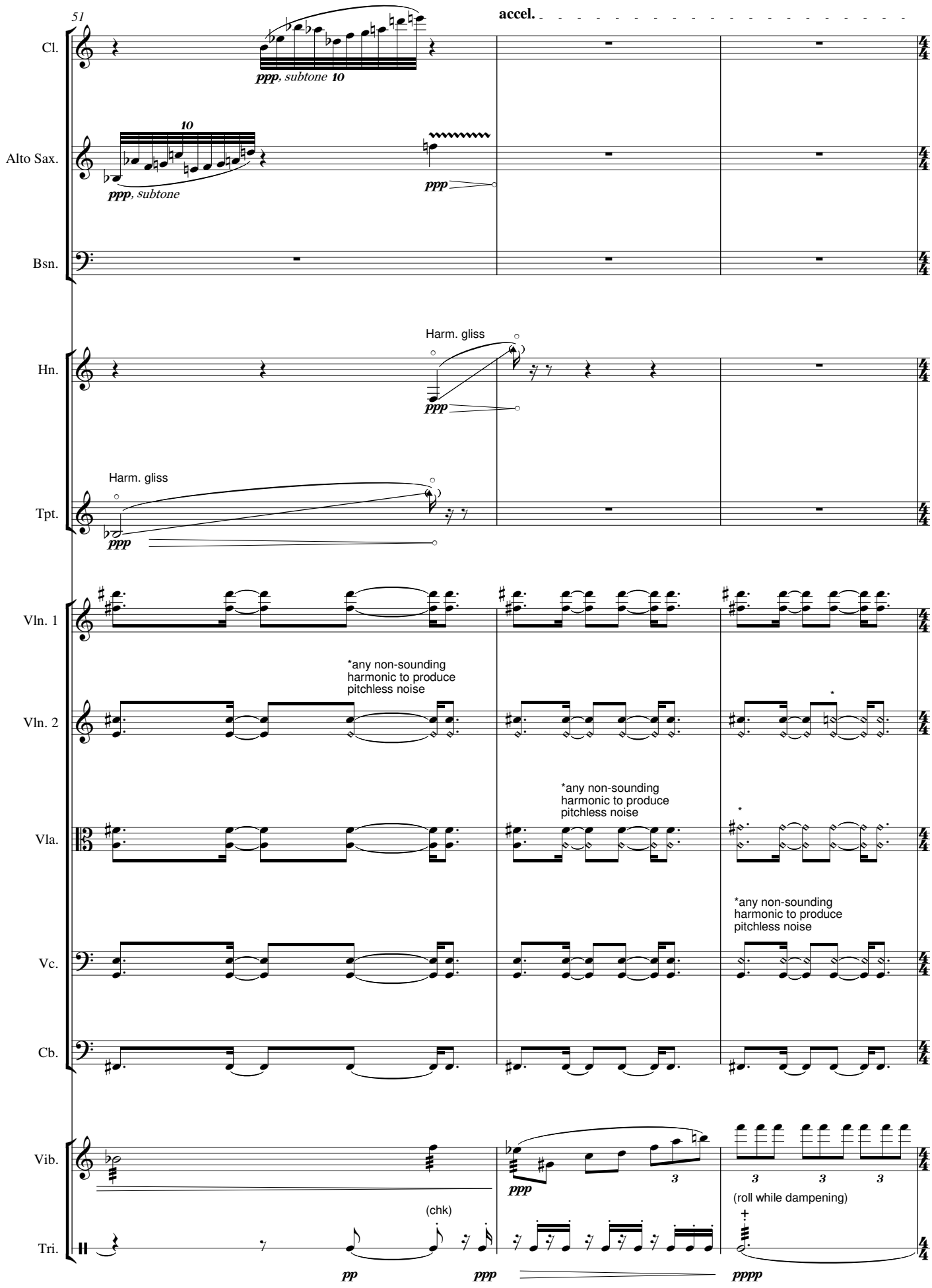

W
30
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Vib.
T. S.
ord.
sul tasto
To Sus. Cym.
(take bow)

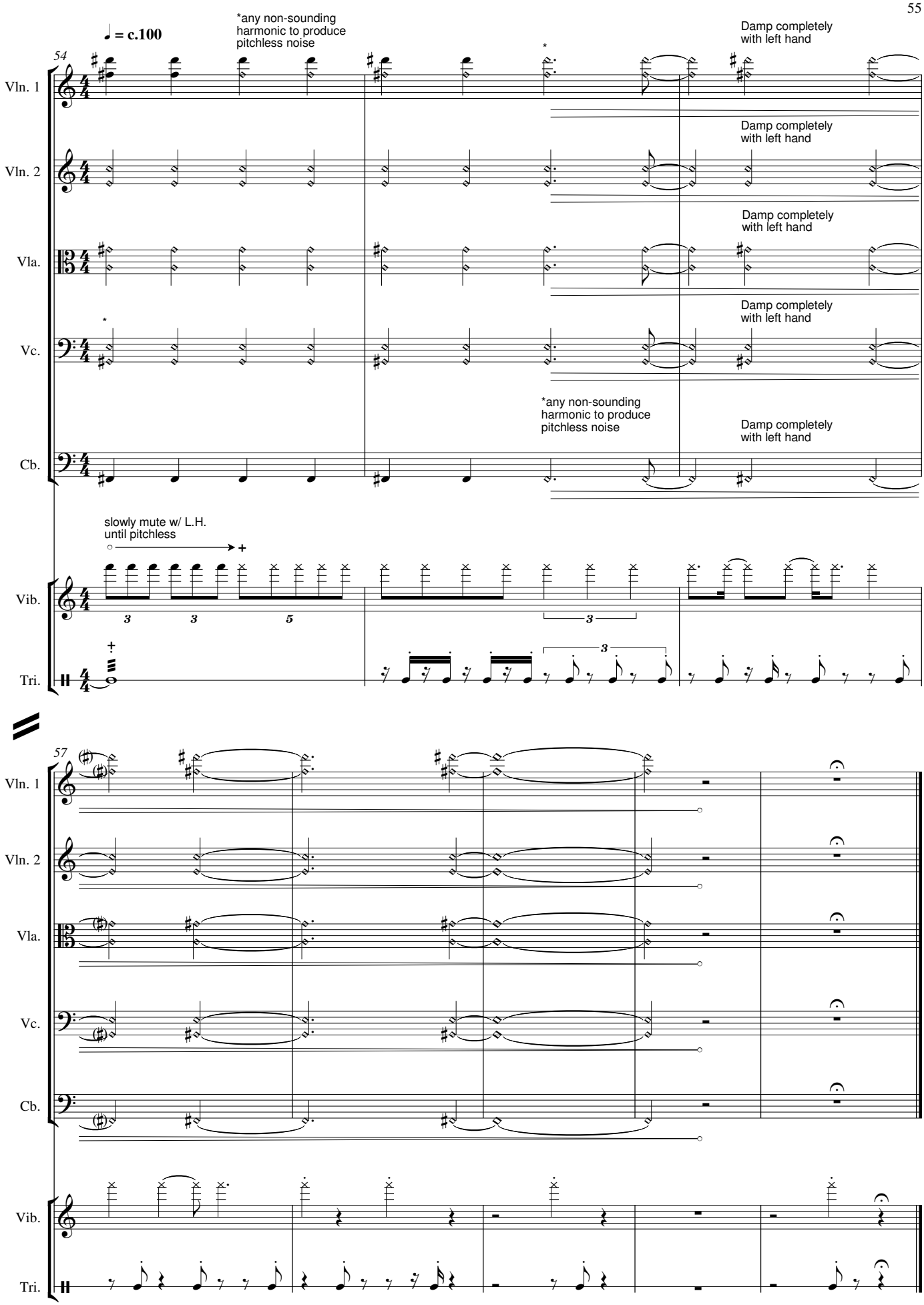

36
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Vib.
T. S.
p
pp
pp, sotto voce
ord.
Sus. Cym.
played with bow
(with bow)


41
X
Cl.
Alto Sax.
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Vib.
Sus. Cym.
pp
pp, sotto voce
(with bow)


45
Cl.
Alto Sax.
Tr. w/ top
(E) side key
Bsn.
Hn.
Tpt.
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
Vib.
Sus. Cym.
(with bow)
take
triangle beater
with beater
pp
ppp
pp, sotto voce


49
Y
Cl.
pp, sotto voce
ppp, subtone
Alto Sax.
pp
ppp, subtone
Bsn.
ppp
Hn.
ppp
Tpt.
pp, subtone
Vln. 1
ppp
Vln. 2
ppp
Vla.
ppp
Vc.
ppp
Cb.
pp
ppp
Vib.
To Tri.
Triangle
Sus. Cym.
pp
pp


51
accel.
Cl.
ppp, subtone 10
Alto Sax.
10
ppp, subtone
ppp
Bsn.
Hn.
Harm. gliss
ppp
Tpt.
Harm. gliss
ppp
Vln. 1
Vln. 2
*any non-sounding harmonic to produce pitchless noise
Vla.
*any non-sounding harmonic to produce pitchless noise
Vc.
*any non-sounding harmonic to produce pitchless noise
Cb.
Vib.
ppp
3
3 3 3
(roll while dampening)
Tri.
(chk)
pp
ppp
pppp


♩ = c.100
54
*any non-sounding harmonic to produce pitchless noise
Damp completely with left hand
Vln. 1
Vln. 2
Vla.
Vc.
Cb.
slowly mute w/ L.H. until pitchless
Vib.
Tri.
57