Marco Buongiorno Nardelli

String Quartet n. 1
Circle Limits

after M.C. Escher

Violin I

© 2006 Marco Buongiorno Nardelli

Movement n. 1 - Circle Limit II
intersections on the hyperbolic plane

Movement n. 2 - Circle Limit III
every line is a circle passing through infinity

Movement n. 3 - Circle Limit IV
on the harmony of the celestial spheres

Movement n. 1 - Circle limit II

intersections on the hyperbolic plane

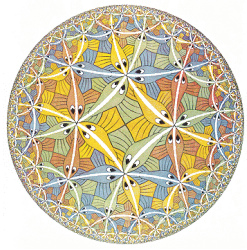
In this first movement, the violin and the cello trade “intersections” with each other in a free space of events. Each of the nine episodes evokes the dynamics of encounter and separation as for two curves that intersect in a point (the greek letter of the episodes’ titles) on a hyper-geometric space to then separate themselves to infinity. Inspired by the woodcut *Circle Limit II* by M.C. Escher.

M.C. Escher,
Circle limit II,
woodcut, 1958.

Movement n. 2 - Circle limit III

every line is a circle passing through infinity

The abstract hyperspaces of non-euclidean geometry are the inspiration for the second movement. As a traveller who accelerates to relativistic velocities will see the pattern of constellations as seen near the Earth continuously evolve according to infinitesimal transformation of dilations, translations and inversions, so the music follows a ciclic patterns where time and structure modulation displace the musical material in a continuously varying contrapuntal landscape. If we define a line to be a circle passing through infinity, then it can be shown that all these transformations map circles to circles, in a continuous, infinite series, as brilliantly exemplified in the woodcut *Circle Limit III* by M.C. Escher.

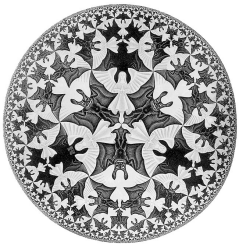


M.C. Escher,
Circle limit III,
woodcut, 1958.

Movement n. 3 - Circle limit IV

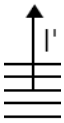
on the harmony of the celestial spheres

This last movement is based on a pitch set that encompasses all the musical intervals corresponding to the pythagorean definition of the music of the celestial spheres. From the Earth to the sphere of the fixed stars it goes like: Earth to the Moon, one whole step; Moon to Mercury, half step; Mercury to Venus, half step; Venus to Sun, minor third; Sun to Mars, whole step; Mars to Jupiter, half step; Jupiter to Saturn, half step; Saturn to fixed stars, a minor third. These intervals result in the so-called Pythagorean scale: C,D,Eb,E,G,A,Bb,B,D. Using these pitch classes, I have constructed a movement that reflects the equilibrium between darkness and light, from the Earth to the fixed stars, as symbolized by M.C. Escher in the wood-cut Circle Limit IV.



M.C. Escher,
Circle limit IV,
woodcut, 1958.

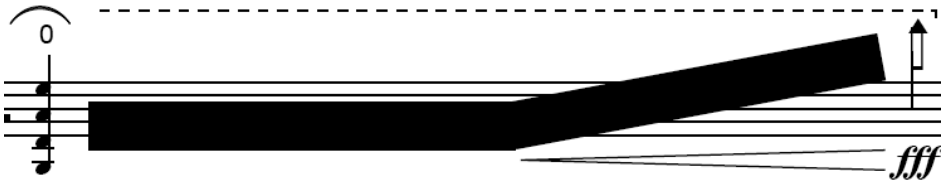
Performance notes:



Highest possible note on the specified string

Open string

Snap pizzicato



Disordered arpeggiato on all four string - then disordered arpeggiato glissando on all four strings to highest possible cluster note

Artificial harmonic

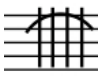
“whip bow” - whip bow in air to produce a whistling sound

players should apply an increasing pressure on the strings to produce a “grinding” sound. The width of the “ribbon” should give indications on which strings to apply the increasing pressure.

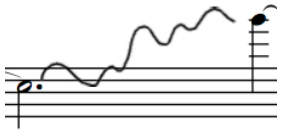
disordered bow vibrato (here shown on an artificial harmonics)

con la voce singing softly at arbitrary pitch while playing

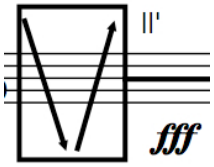
suck-in air with a gasping sound



arpeggiato on the four strings behind the bridge



irregular glissando (if between different notes) or wide irregular vibrato (if between the same notes). Performers should follow the indication of the line in the movement of the finger on the fingerboard.



wide up-down glissando on the string indicated

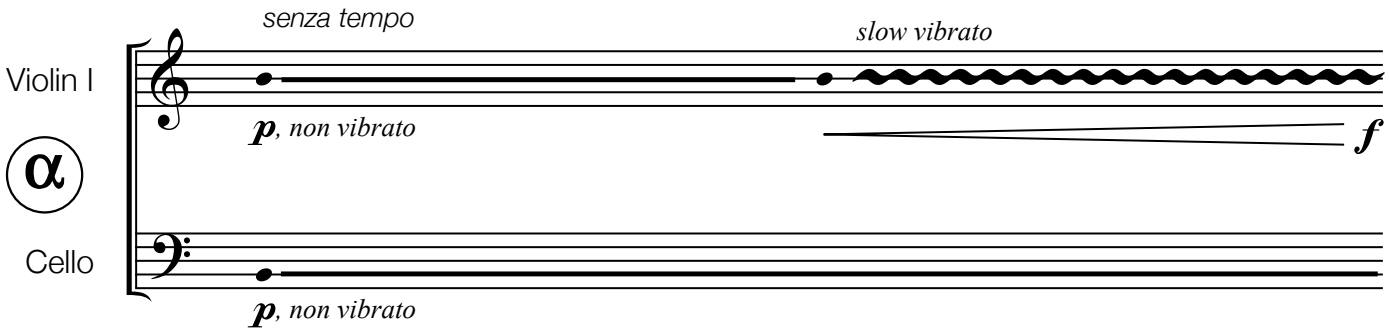
arco, S.P. - - - - - - - - ▸ Sul tasto - ▸| S.P. - - -

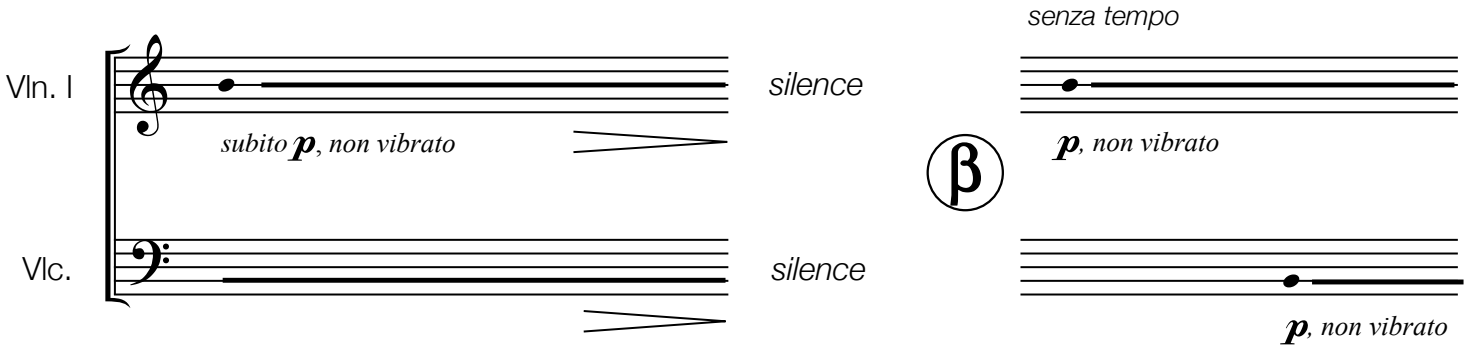
move the position of the bow from the *ponticello* to *tasto* and back

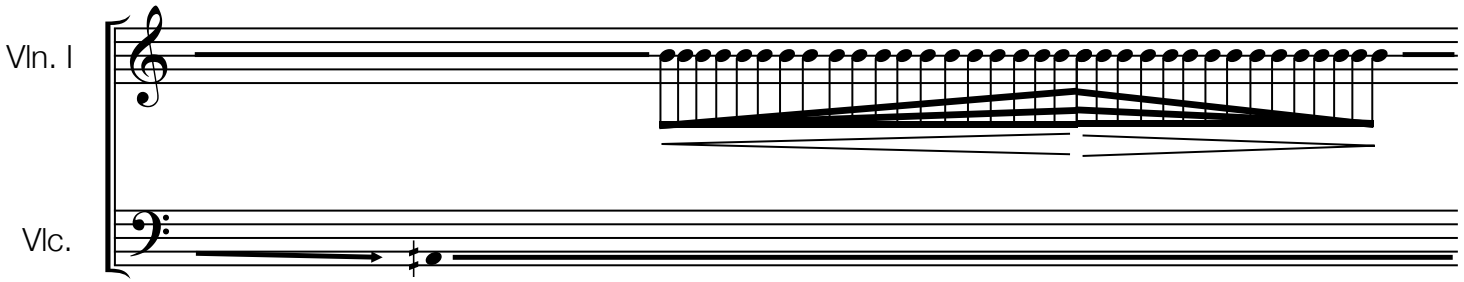
Movement n. 1 - Circle limit II

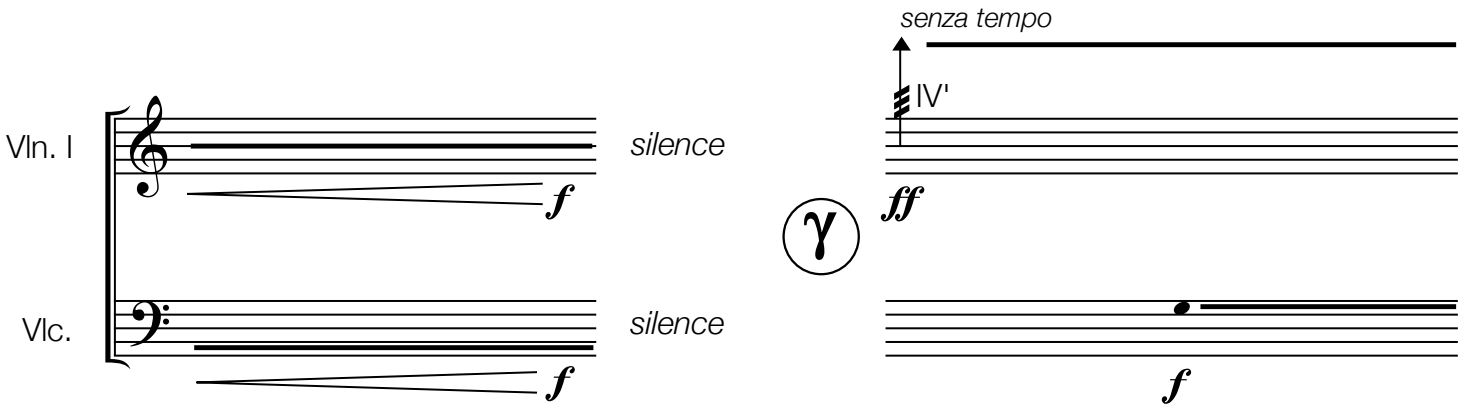
intersections on the hyperbolic plane

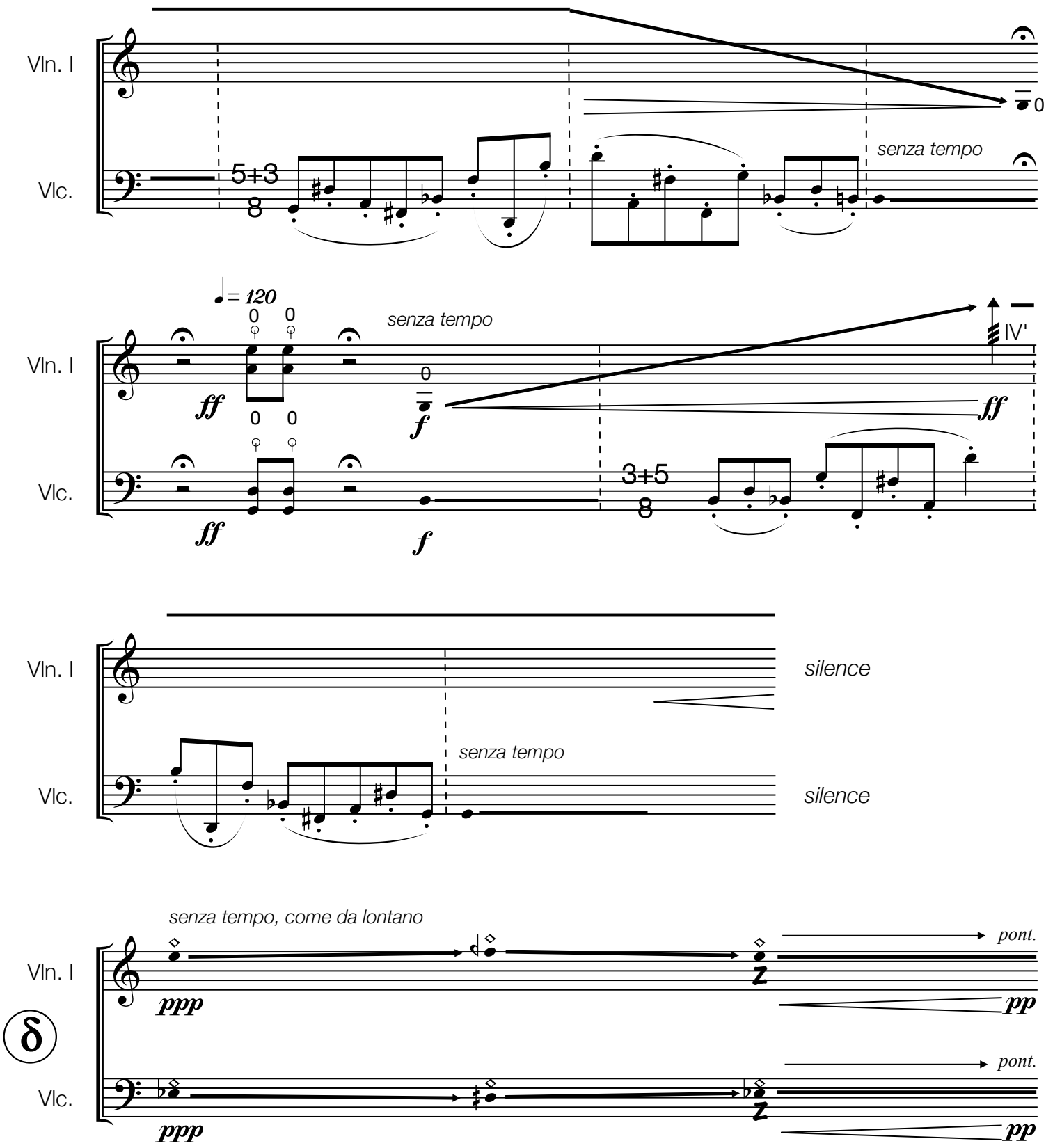
Violin II and Viola - TACET

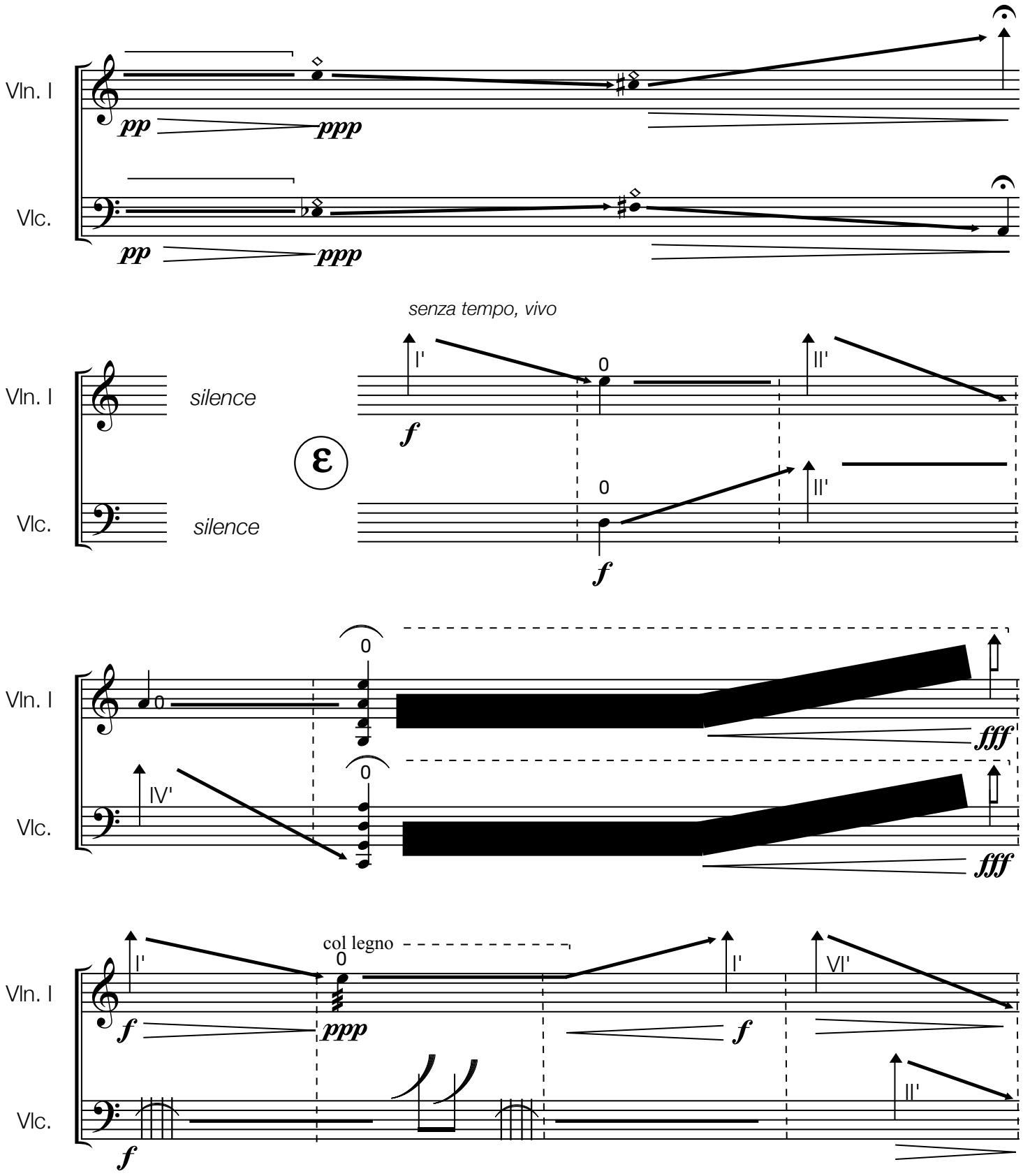


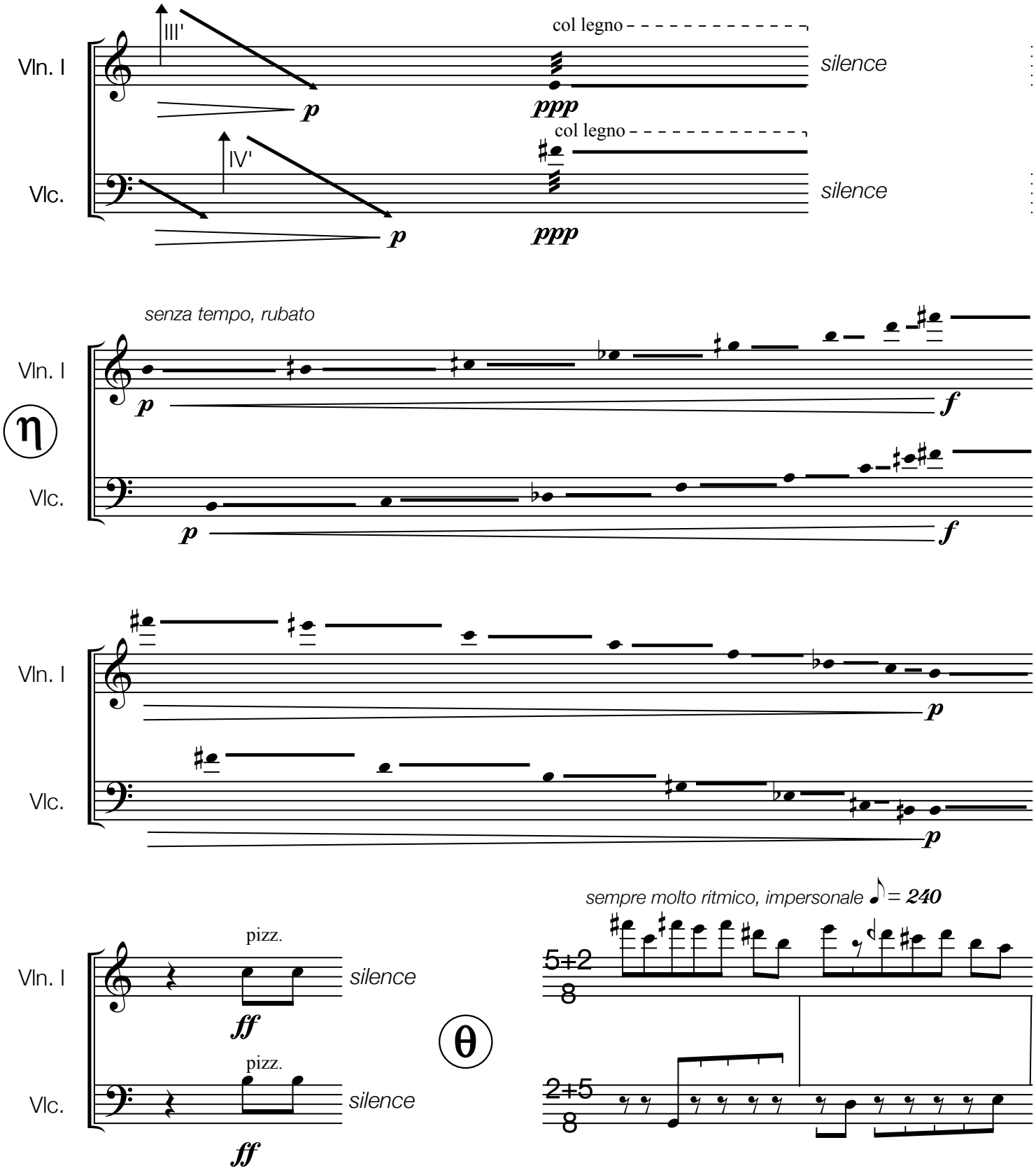


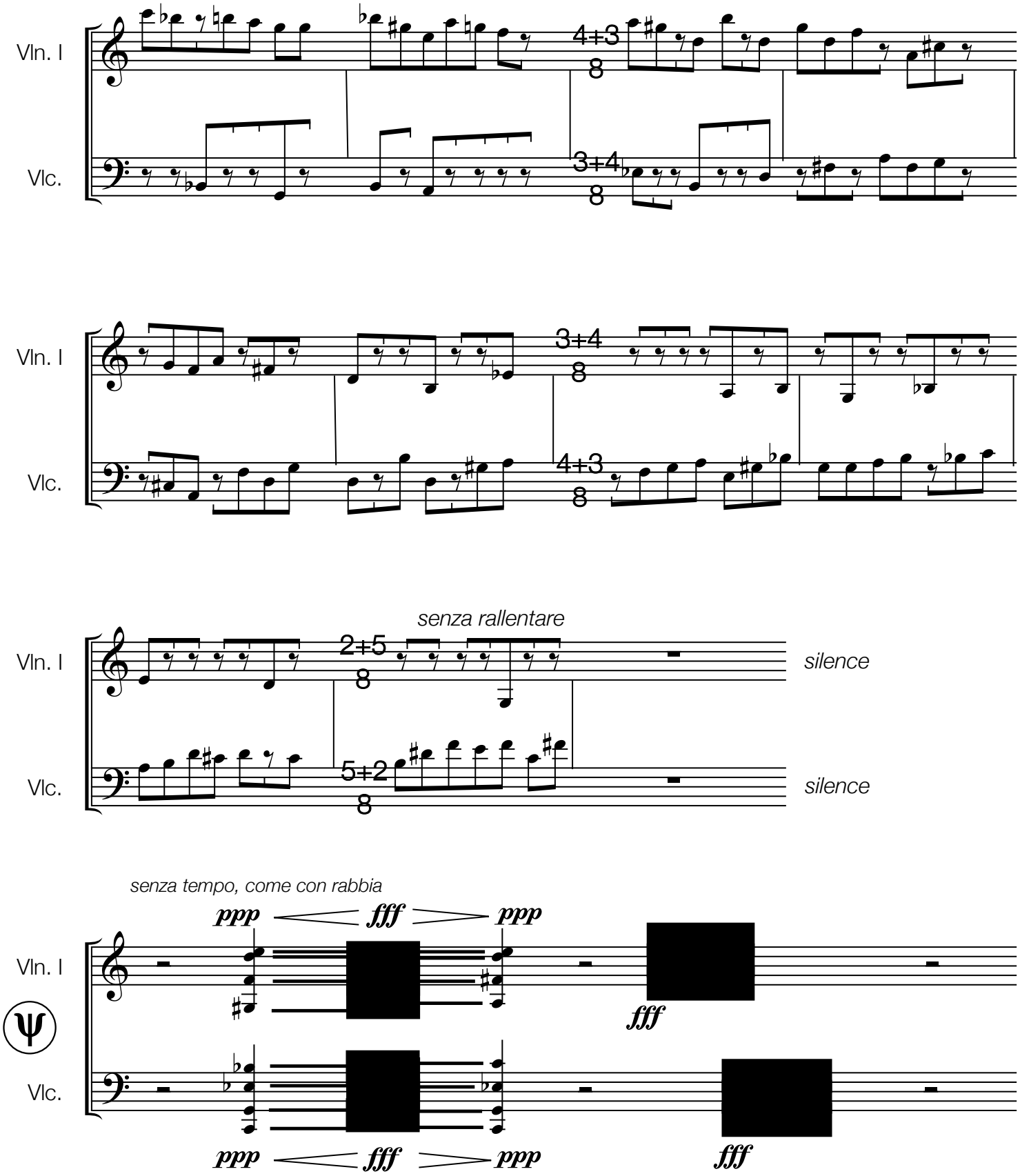


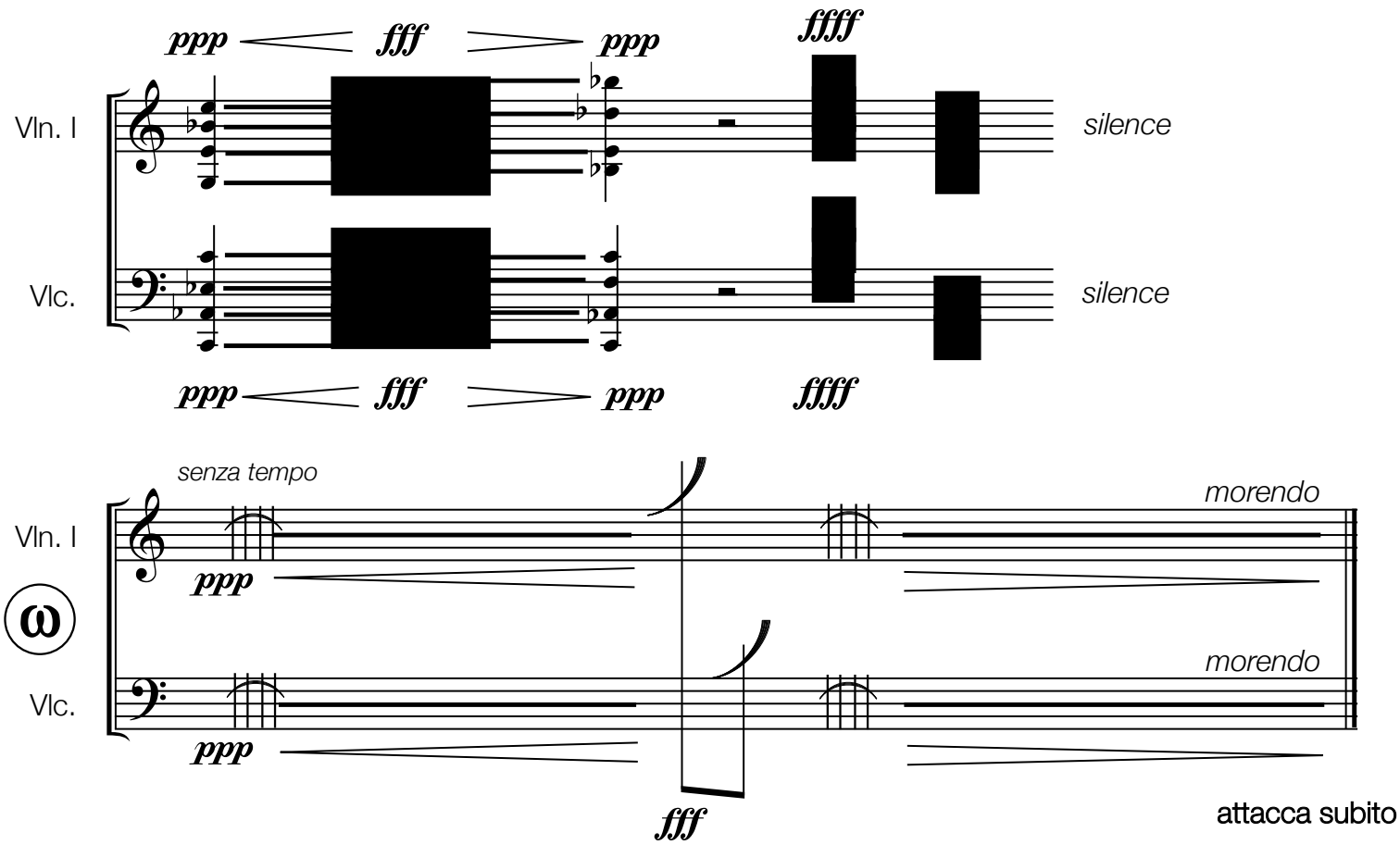



Vln. I
Vlc.
5÷3
8
senza tempo
♩= 120
ff
f
IV'
3÷5
8
silence
senza tempo, come da lontano
ppp
pont.
pp
δ


Vln. I
Vlc.
pp
ppp
pp
ppp
senza tempo, vivo
Vln. I
silence
Vlc.
silence
ε
I'
0
II'
f
0
II'
f
Vln. I
0
0
fff
Vlc.
IV'
0
fff
col legno
Vln. I
I'
0
I'
VI'
f
ppp
f
Vlc.
II'
f


Vln. I
III'
col legno
silence
p
ppp
Vlc.
IV'
col legno
silence
p
ppp
senza tempo, rubato
Vln. I
p
f
η
Vlc.
p
f
Vln. I
p
Vlc.
p
sempre molto ritmico, impersonale ♪ = 240
pizz.
Vln. I
silence
ff
θ
5+2
8
pizz.
Vlc.
silence
ff
2+5
8


Vln. I
Vlc.
4+3
8
3+4
8
3+4
8
4+3
8
senza rallentare
2+5
8
5+2
8
silence
silence
senza tempo, come con rabbia
ppp
fff
ppp
fff
ppp
fff
ppp
fff



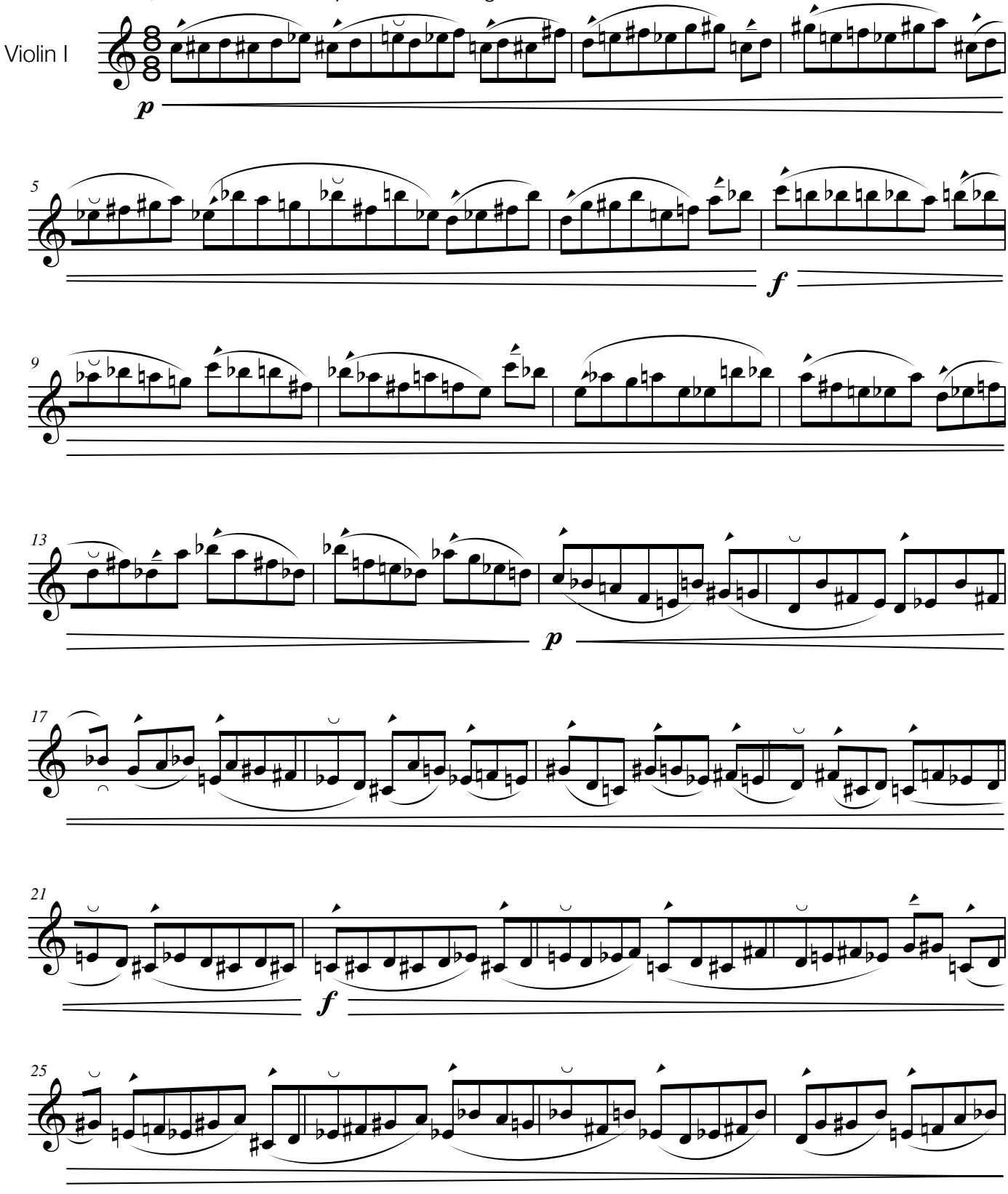
THIS SPACE IS INTENTIONALLY LEFT BLANK

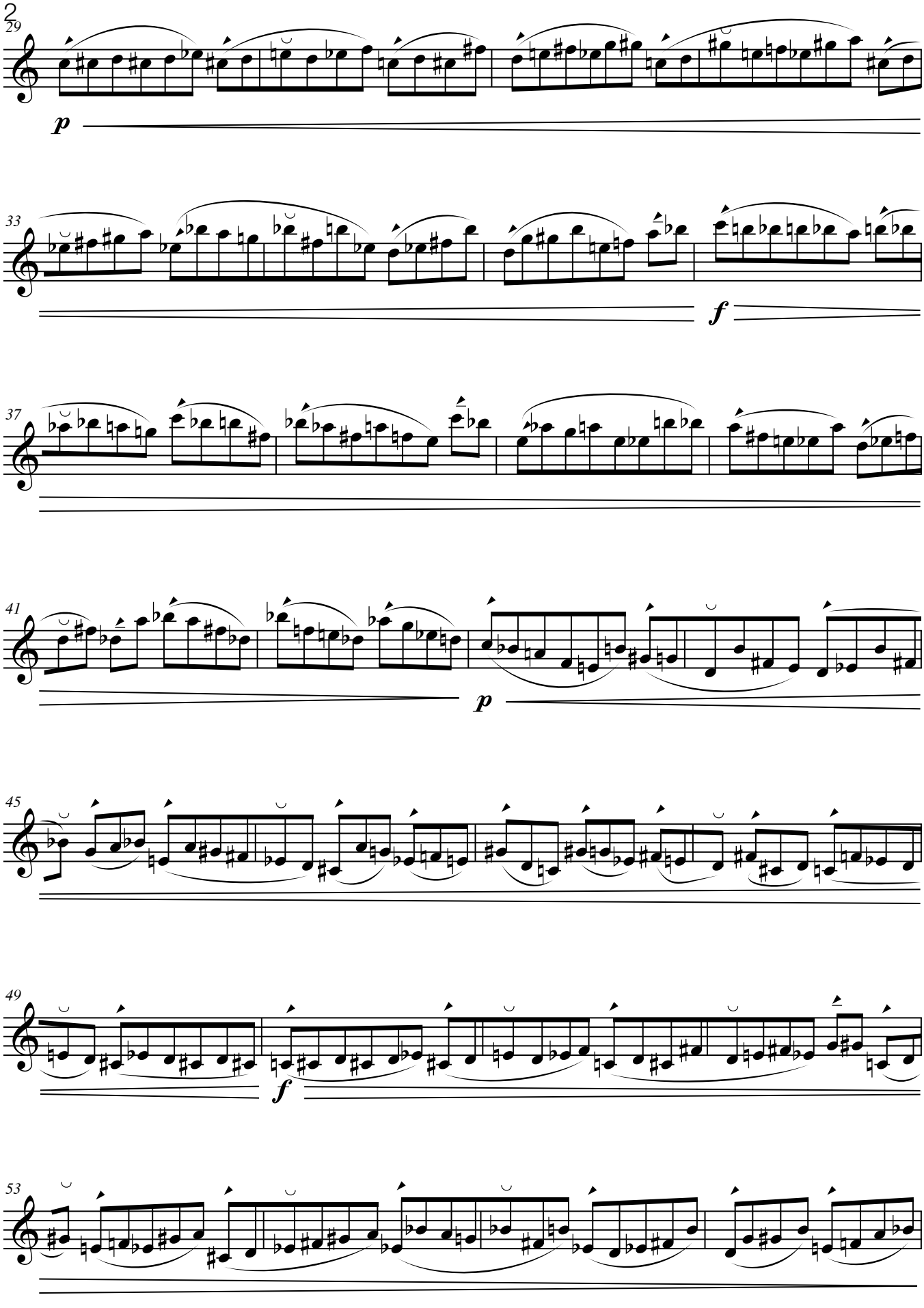
Movement n. 2 - Circle Limit III

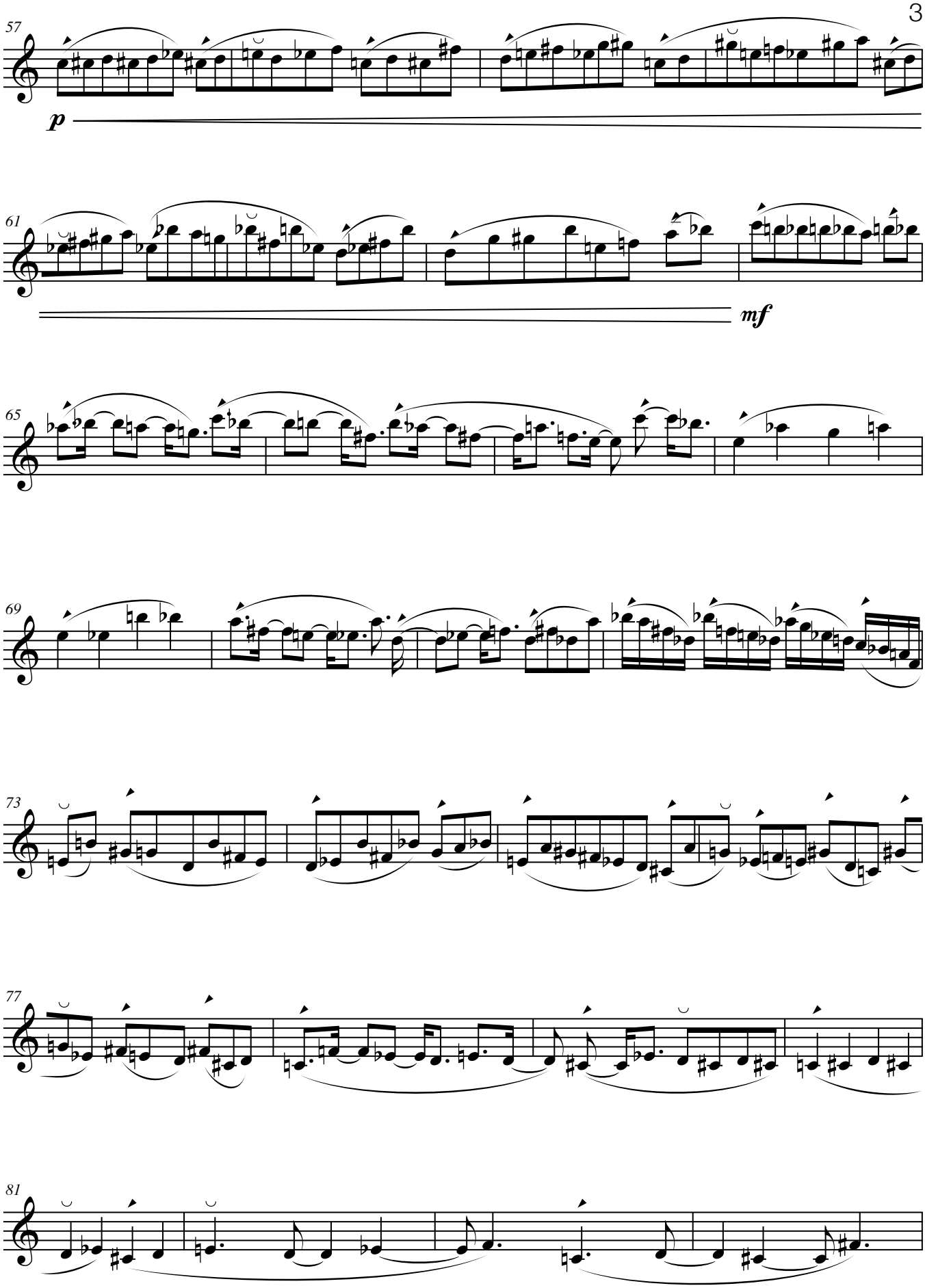
every line is a circle passing through infinity

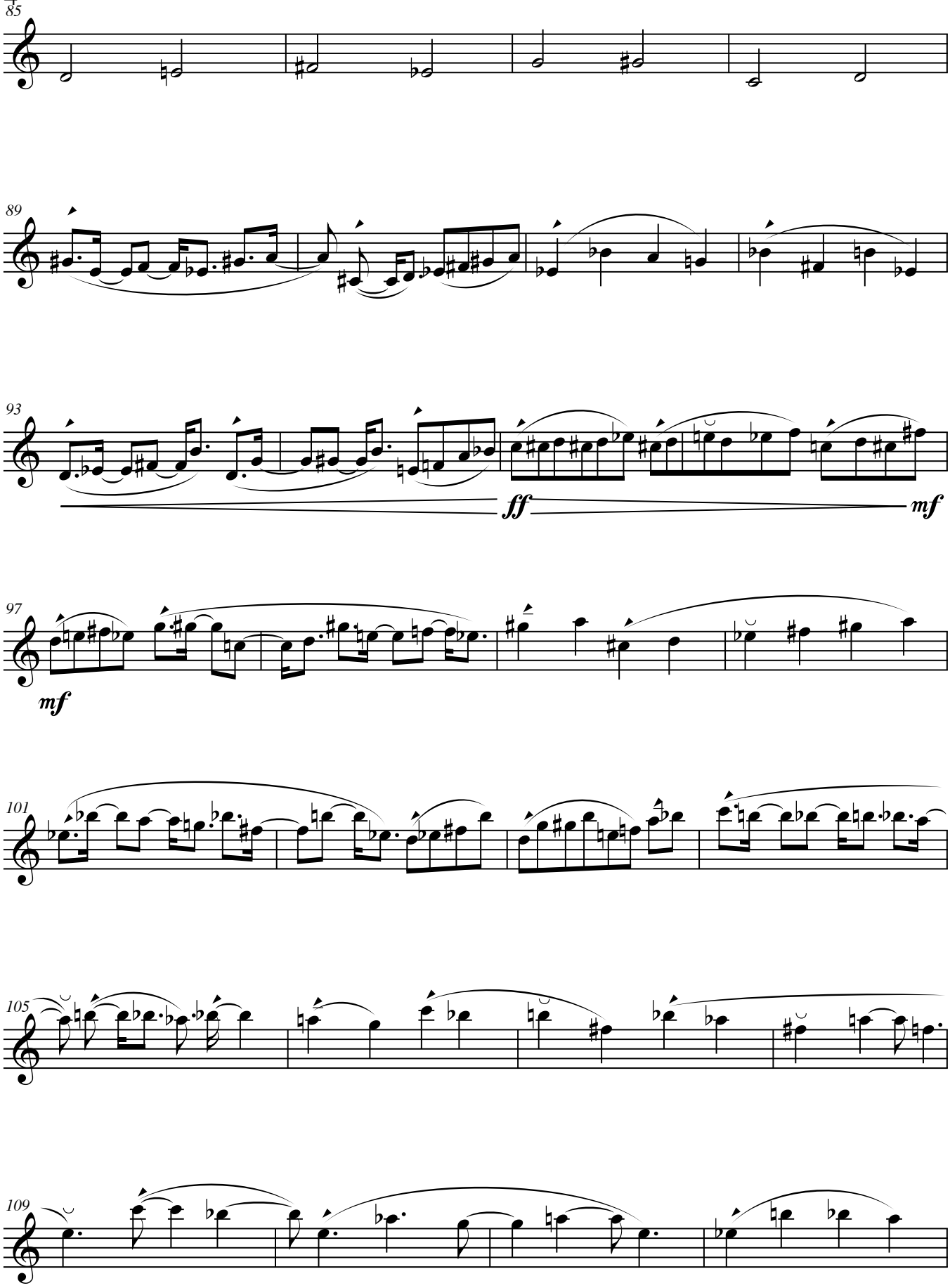
vivo, with metronomic precision throughout ♪= 280

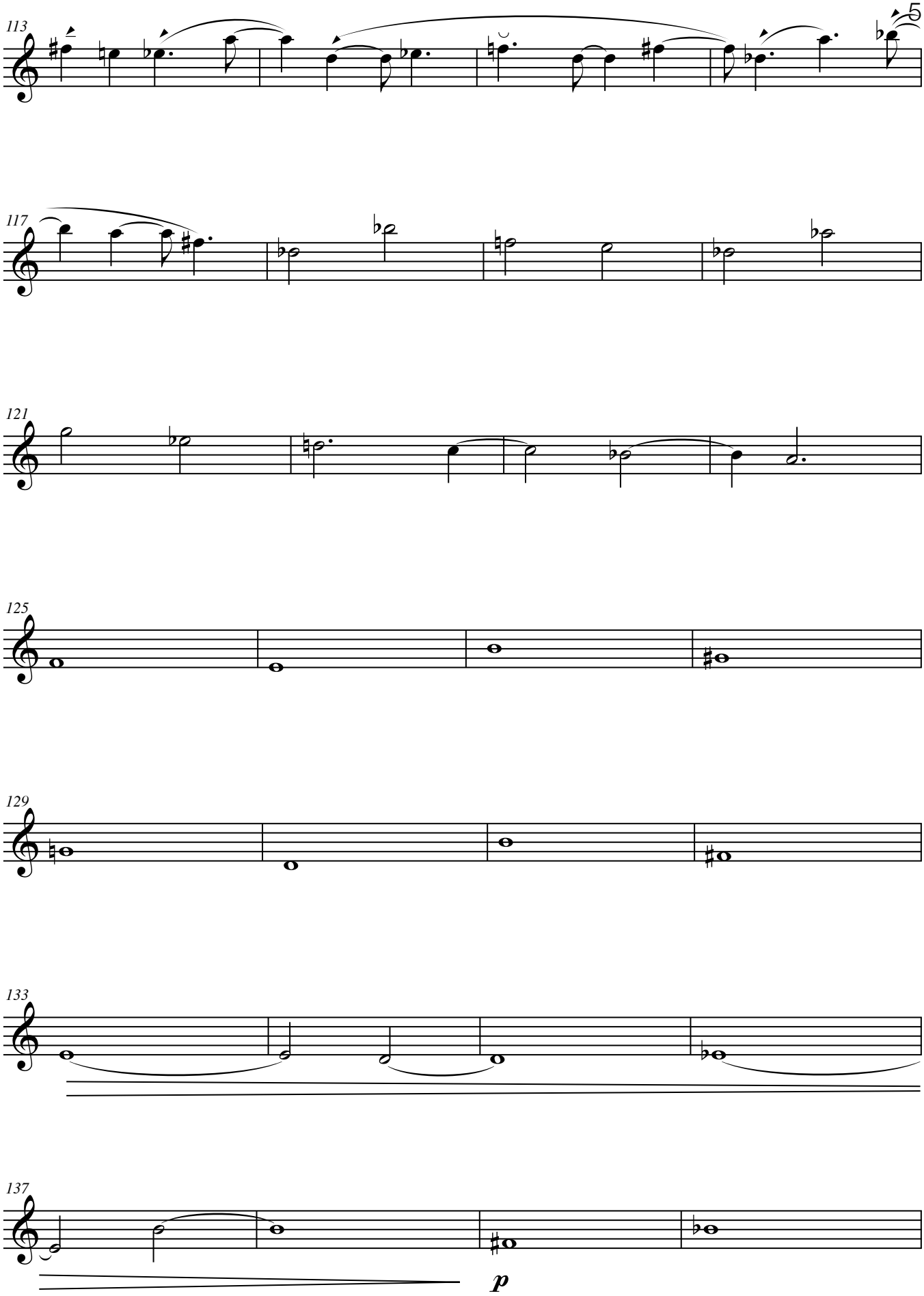
Violin I

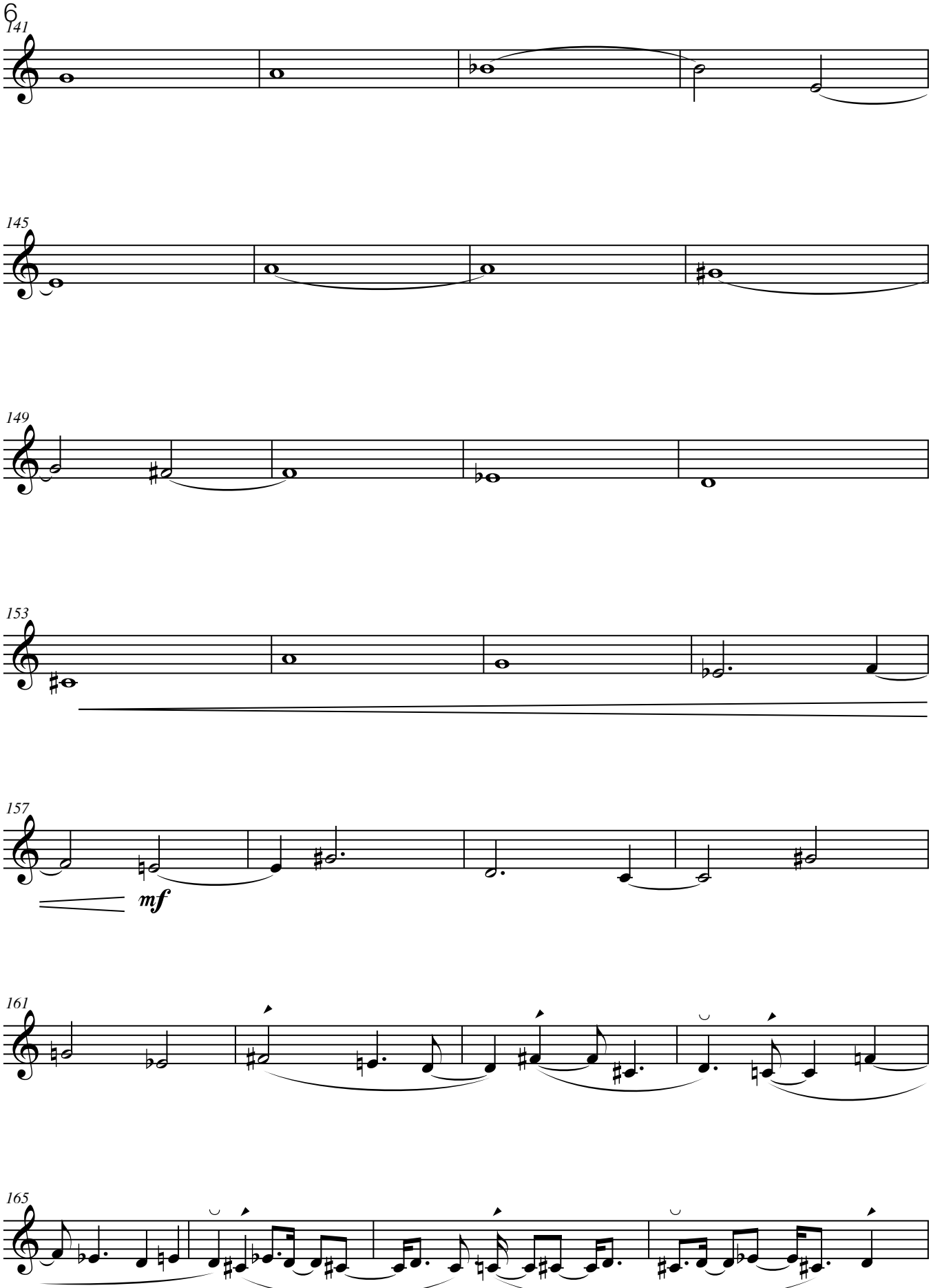


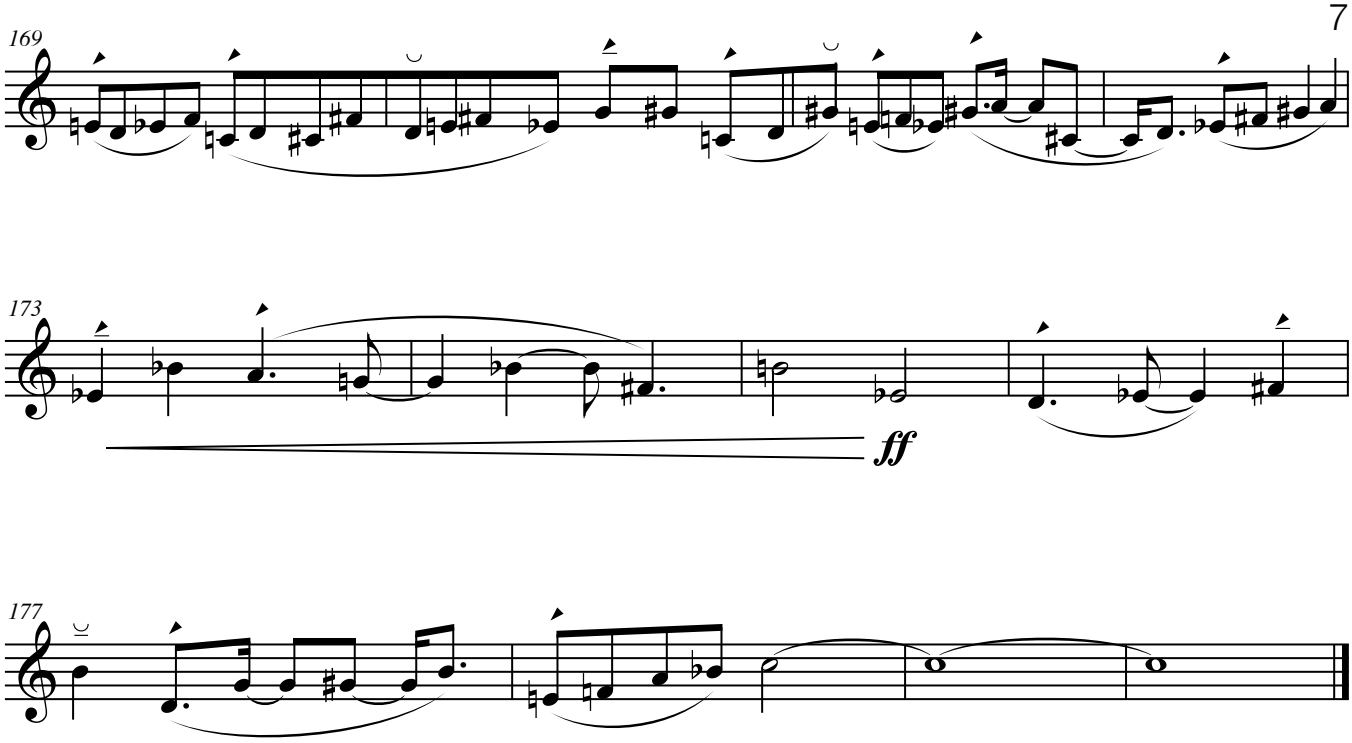

29
p
33
f
37
41
p
45
49
f
53


57
p
61
mf
65
69
73
77
81


85
89
93
ff
mf
97
mf
101
105
109


113
117
121
125
129
133
137
p

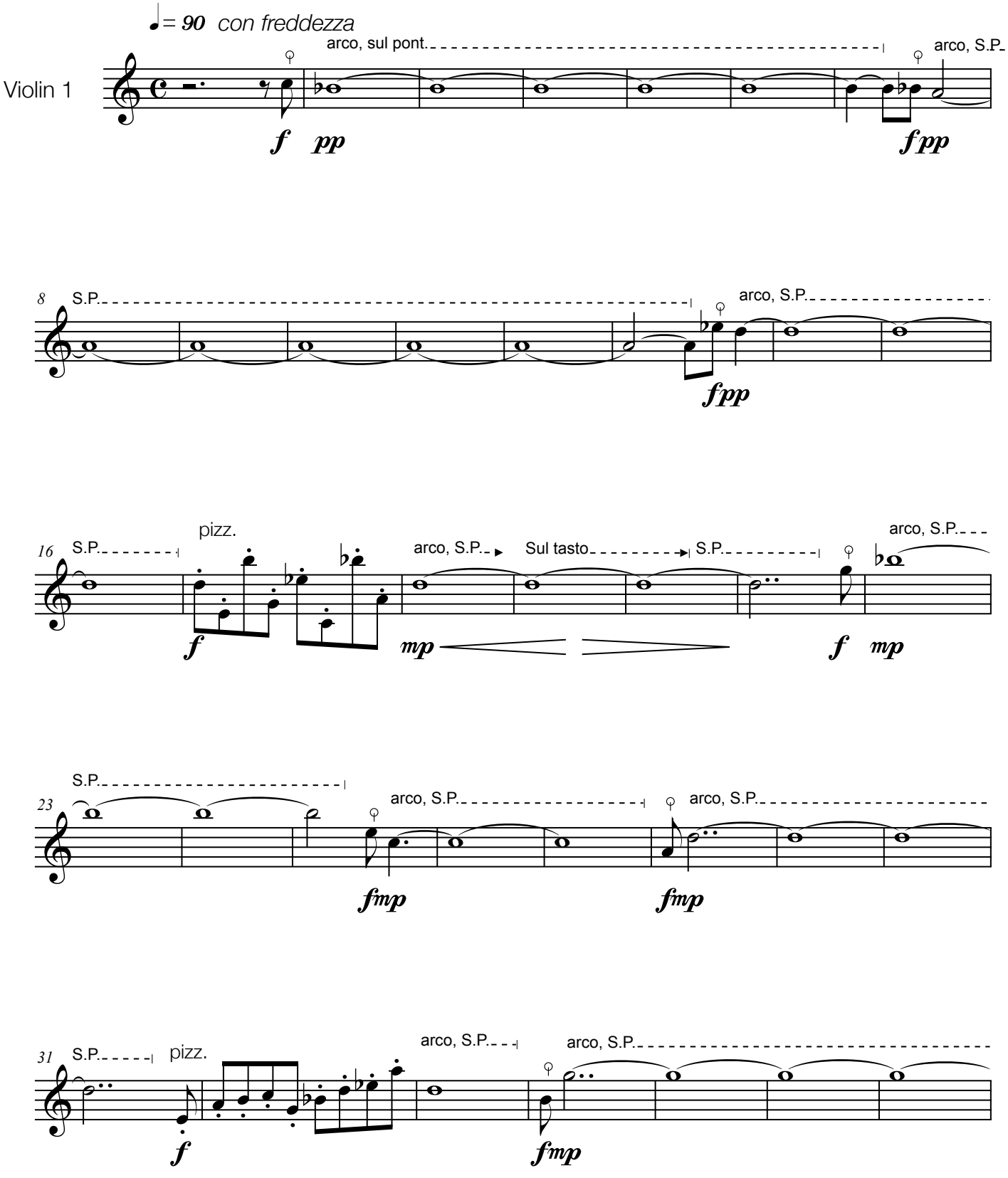

141
145
149
153
157
mf
161
165

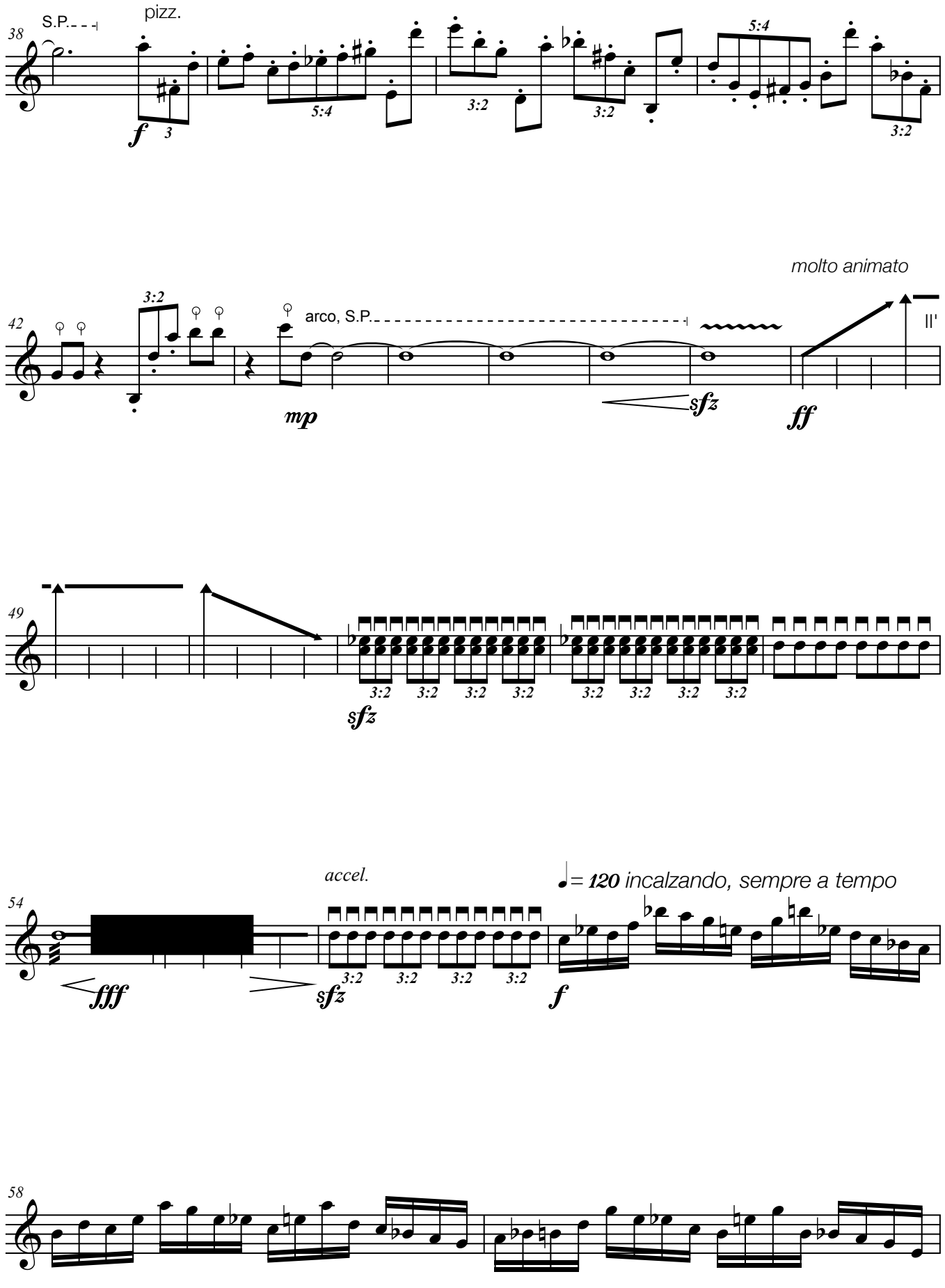


THIS SPACE IS INTENTIONALLY LEFT BLANK

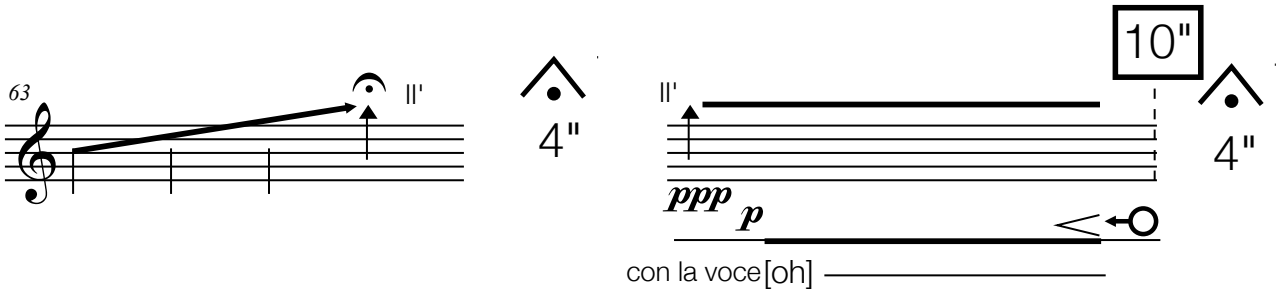
Movement n. 3 - Circle Limit IV

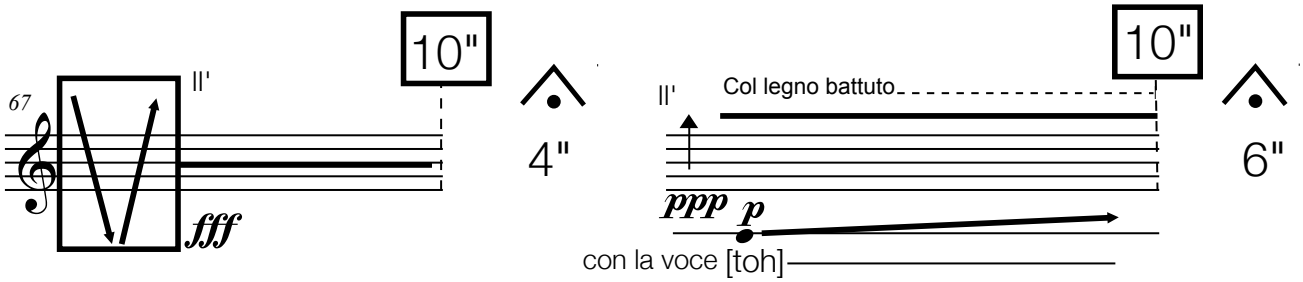
on the harmony of the celestial spheres

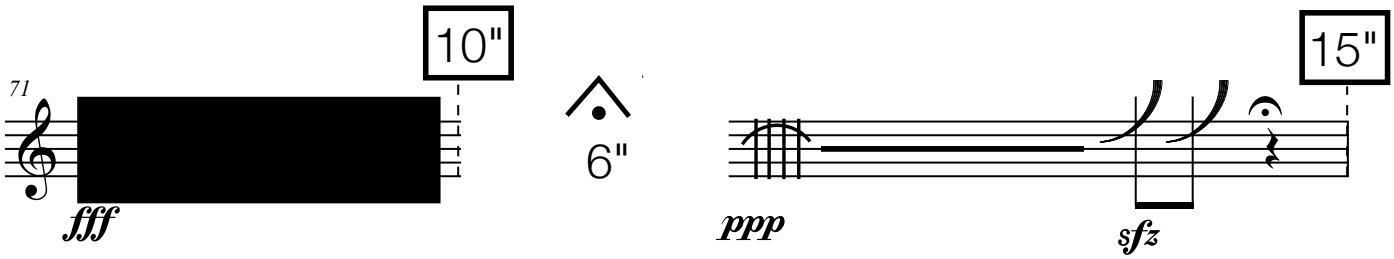


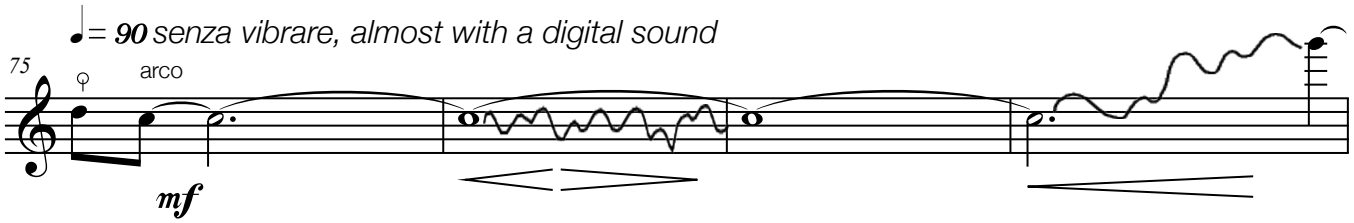

38
S.P.
pizz.
f
3
5:4
3:2
3:2
5:4
3:2
molto animato
42
3:2
arco, S.P.
mp
sfz
ff
II'
49
3:2
3:2
3:2
3:2
3:2
3:2
3:2
3:2
sfz
accel.
♩= 120 incalzando, sempre a tempo
54
fff
sfz
3:2
3:2
3:2
3:2
f
58

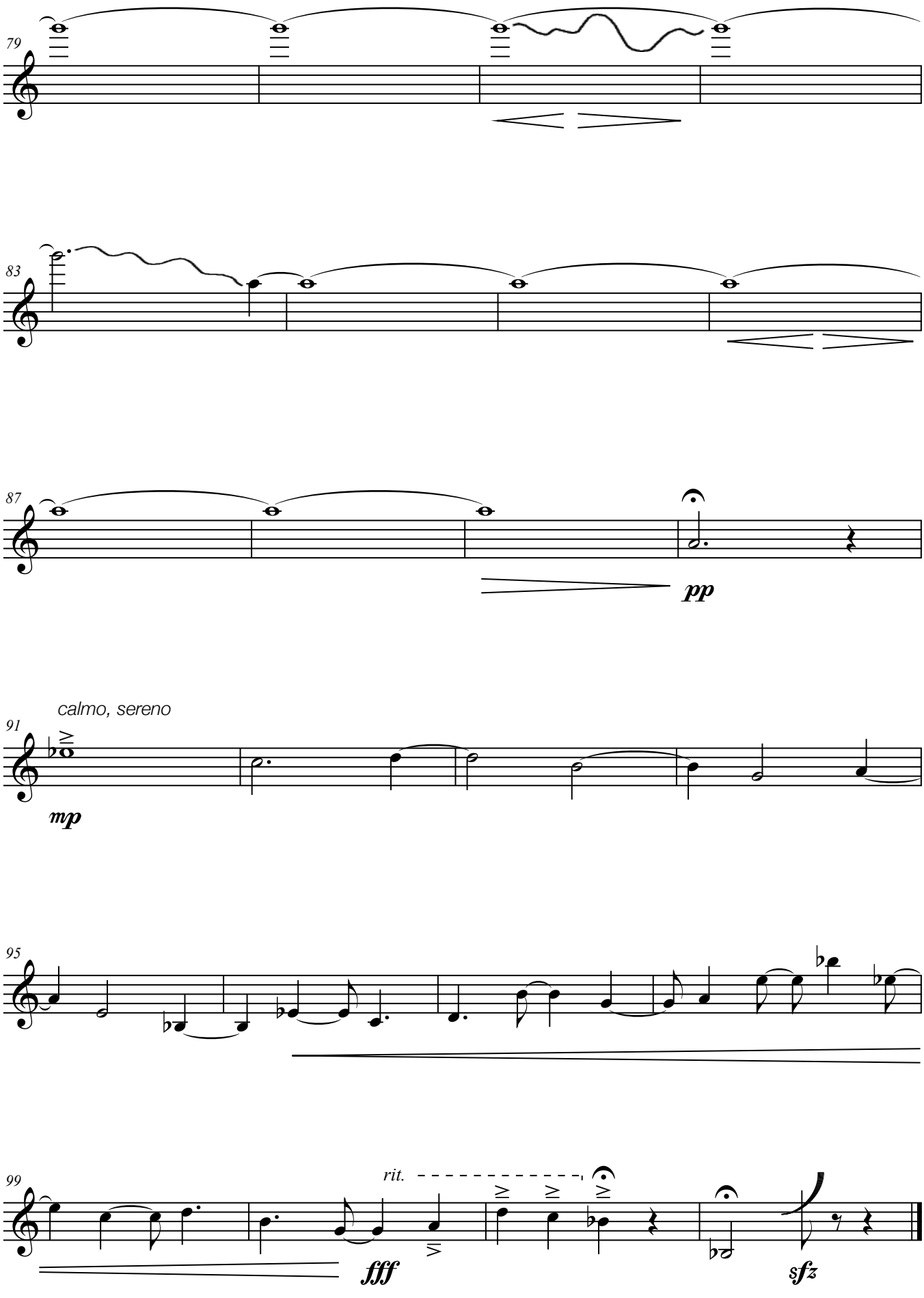
60


63
II'
4"
II'
10"
4"
ppp
p
con la voce [oh]


67
II'
10"
4"
fff
II'
Col legno battuto
10"
6"
ppp
p
con la voce [toh]


71
10"
fff
6"
15"
ppp
sfz


= 90 senza vibrare, almost with a digital sound
75
arco
mf


79
83
87
pp
calmo, sereno
91
mp
95
99
rit.
fff
sfz