# אלה תולדת

(these are the generations...)

for 4 marimbas

and computer commentary

Larry Polansky

1985

for William Winant

(Cantillation Study #3)

# אלה תולדות

*(E'leh Tol'd'ot) (These are the generations...)*
*(Cantillation Study #3)*

for four marimbas and optional live computer commentary

for william winant

אלה תולדות is the third in a set of three works based on Masoretic Torah cantillation melodies for the shabbat morning. The first two pieces in this series are בראשית *(B'rey'sheet) (In the beginning...) (Cantillation Study #1)* for voice and live computer, and ולמשל *(V'leem'shol) (And to rule...) (Cantillation Study #2),* a computer composed work for five flutes.

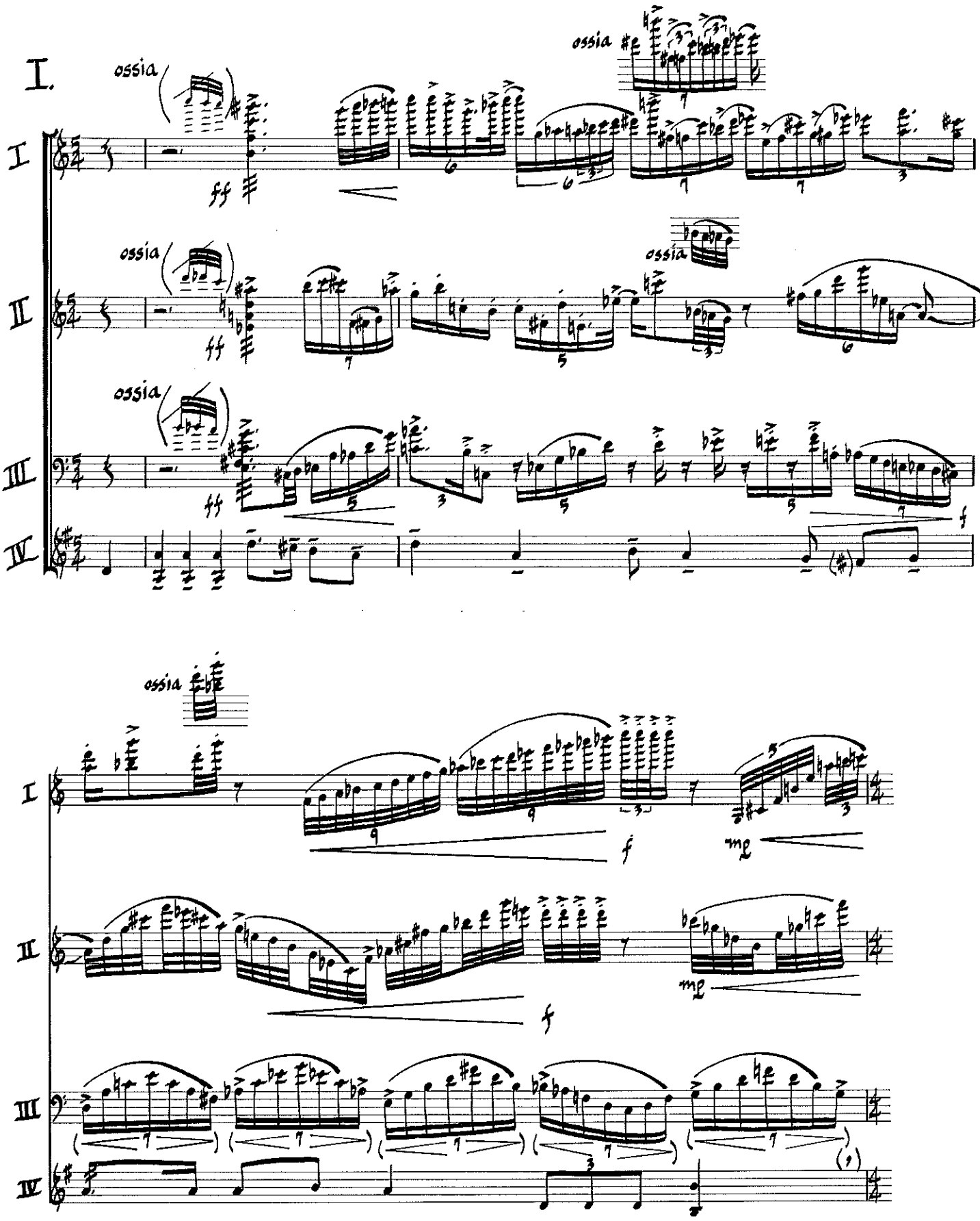
The piece may be played by four marimbas, or with live computer commentary. The optional computer commentary should be based on the same melody as occurs in Marimba 1 (the tropes themselves), and should be done live. A program by the composer for Macintosh, MIDI keyboard and MIDI synthesizer is available from the composer.

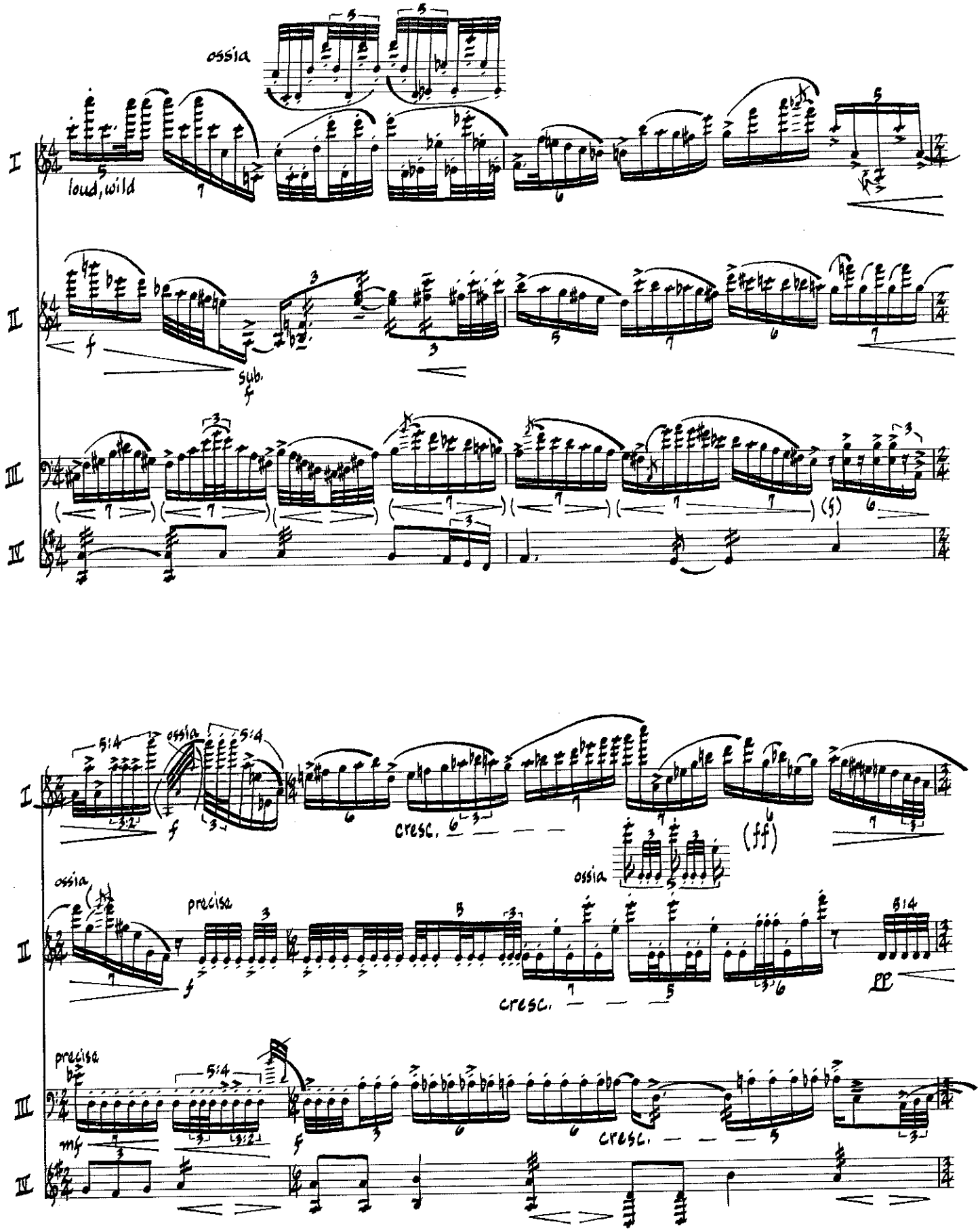
If the computer part is made by the performers themselves, many of the details are of necessity left to the software developer. However, there are certain criteria that should be kept in mind. The computer should either listen to the first marimba, or follow a keyboard or other MIDI input which plays the Marimba I part in unison (but should not be heard). The computer sounds should be based on that information (the tunes themselves). There should be a kind of "morphogenetic trajectory" in the commentary algorithms used which parallels that of the piece itself. This trajectory should begin with a high degree of computer generated morphological transformation of this part, and end by trying to follow it as closely as possible. The change from one extreme to the other should be gradual, changing a little bit with each "verse" of the piece. This process is analogous to the way the other marimba parts relate to the cantillation melodies over the course of the piece (and is the same, in some respects, as *Cantillation Studies #1* and *#2*). The work, in other words, begins in a state of maximal development, and gradually moves towards a state of no development. The computer algorithms used need not be complex. The most important idea is that they start out varying the tropes greatly, and gradually close in on unison.

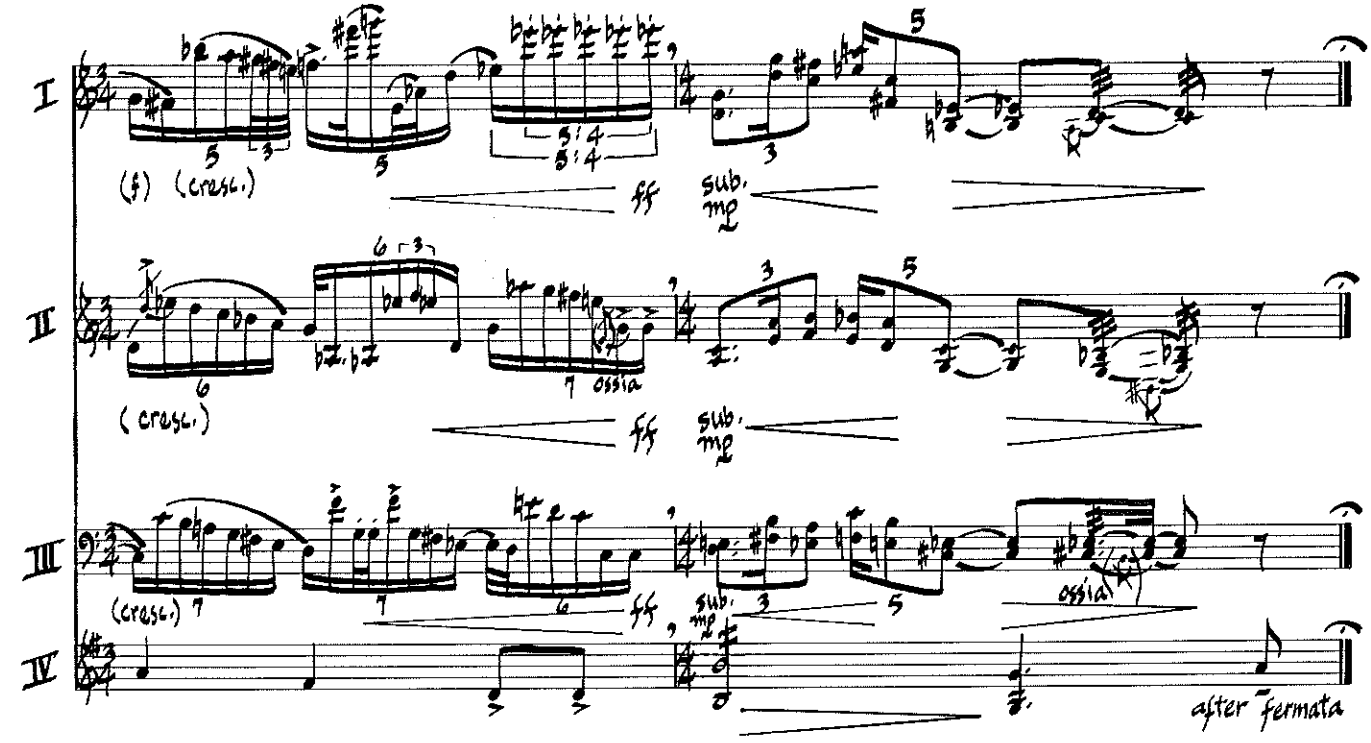
Optionally, the 17 verses from the Torah upon which the piece is based (בראשית II.4 - III.20, beginning with אלה תולדות and ending with the verse beginning ויקרא האדם) may be sung before the piece is played, using the same tropes as are in the piece. This part should ideally be sung by a woman.

אלה תולדות was premiered in Zurich, Switzerland, in March, 1994, by Jaqueline Ott, Matthias Wuersch, Christoph Brunner, Lucas N. Niggli, marimbas, and the composer performing the computer part.

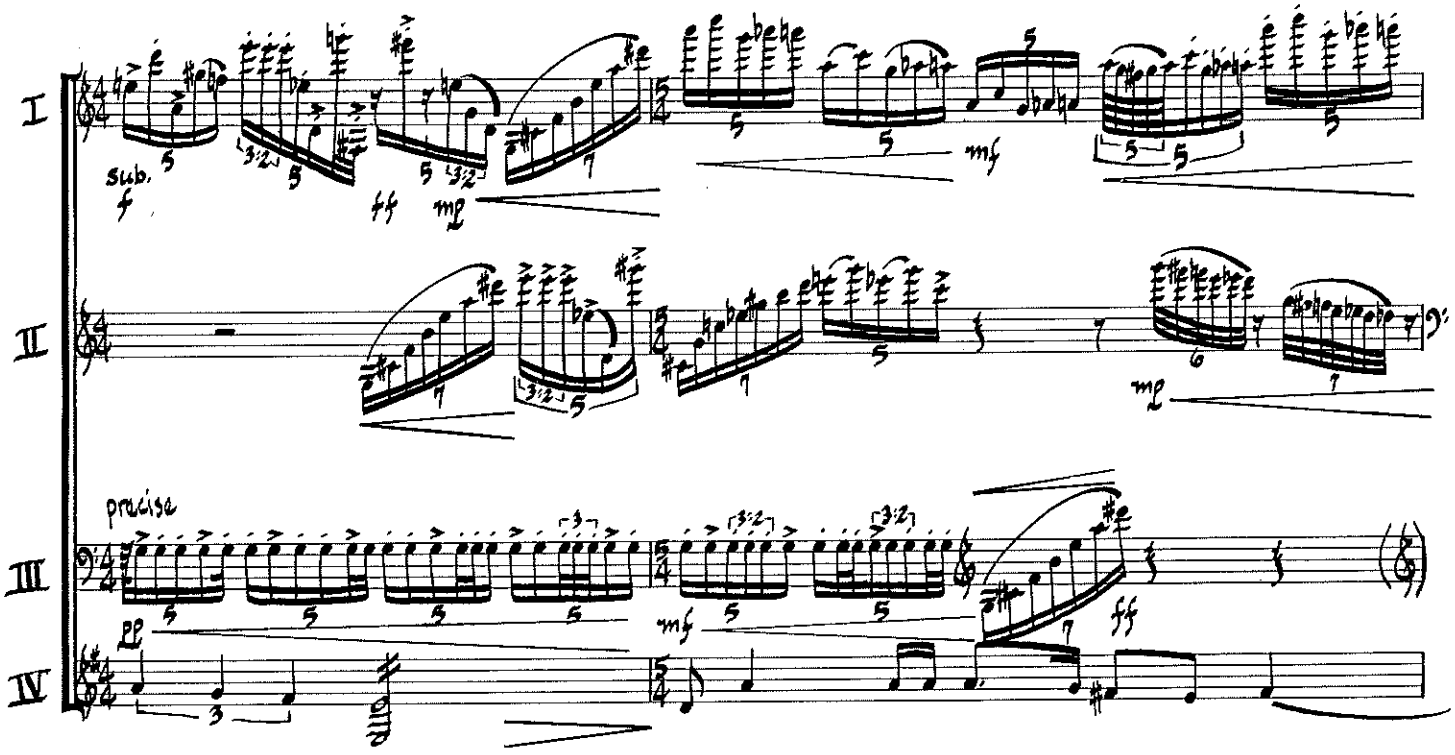
Larry Polansky
Oakland, CA/December, 1986
(slight edits: 5/6/94, Lebanon, NH)

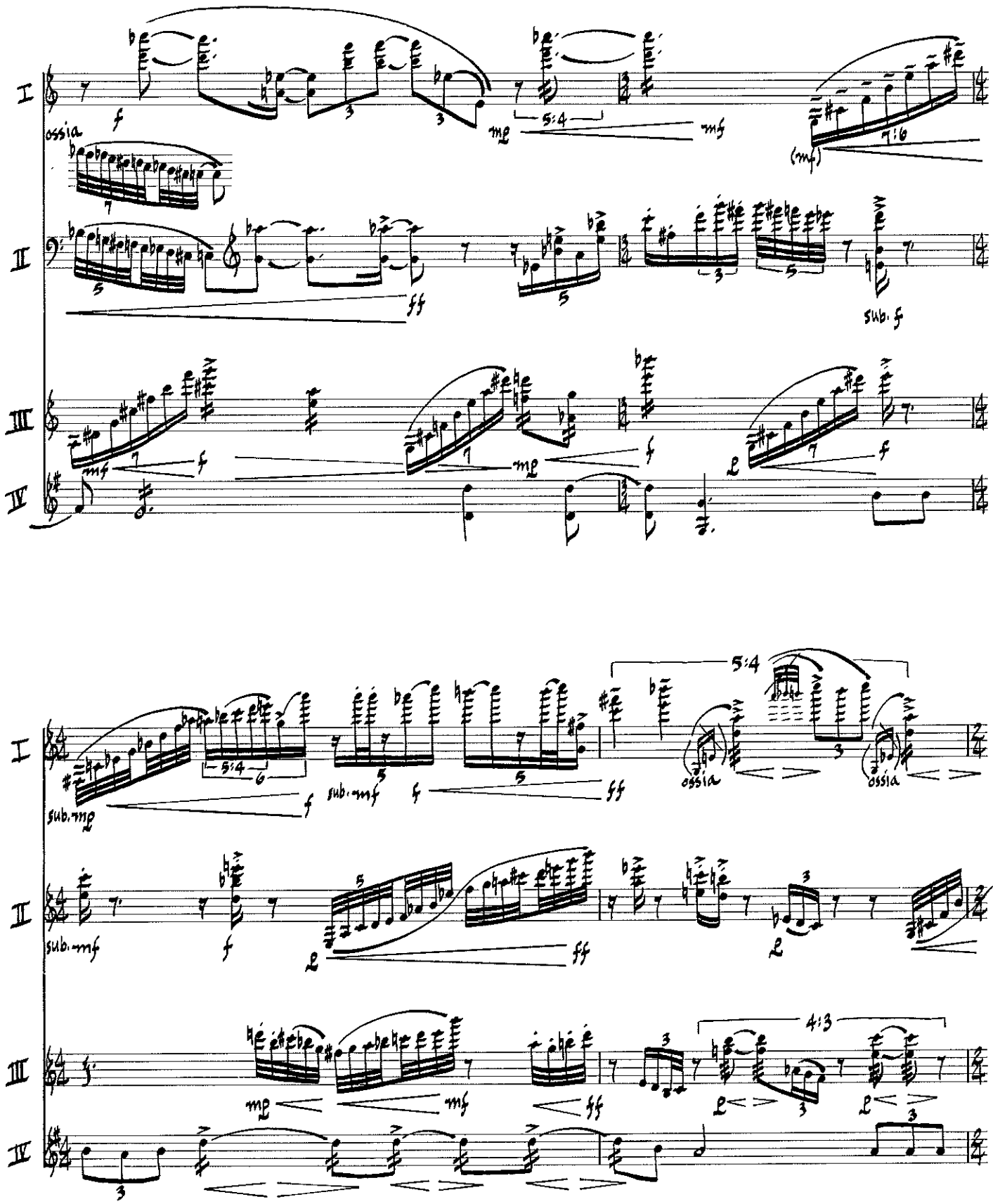

I.
ossia
ossia
ossia
ossia
ossia
ossia
I
II
III
IV
ff
f
mp

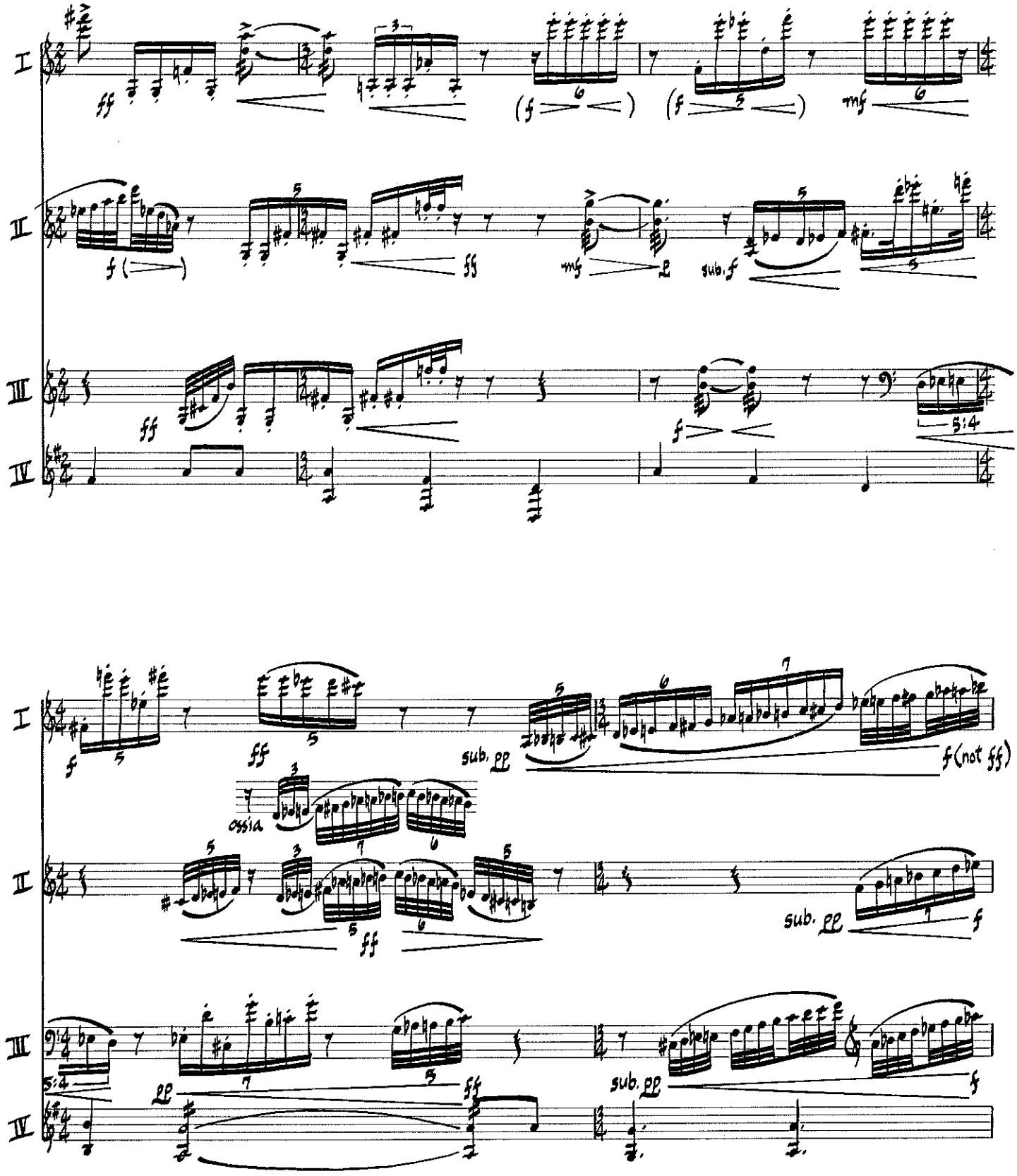

ossia
I
loud, wild
II
sub.
III
IV
5:4
ossia
5:4
cresc.
(fff)
ossia
ossia
precisa
cresc.
precisa
5:4
mf
cresc.

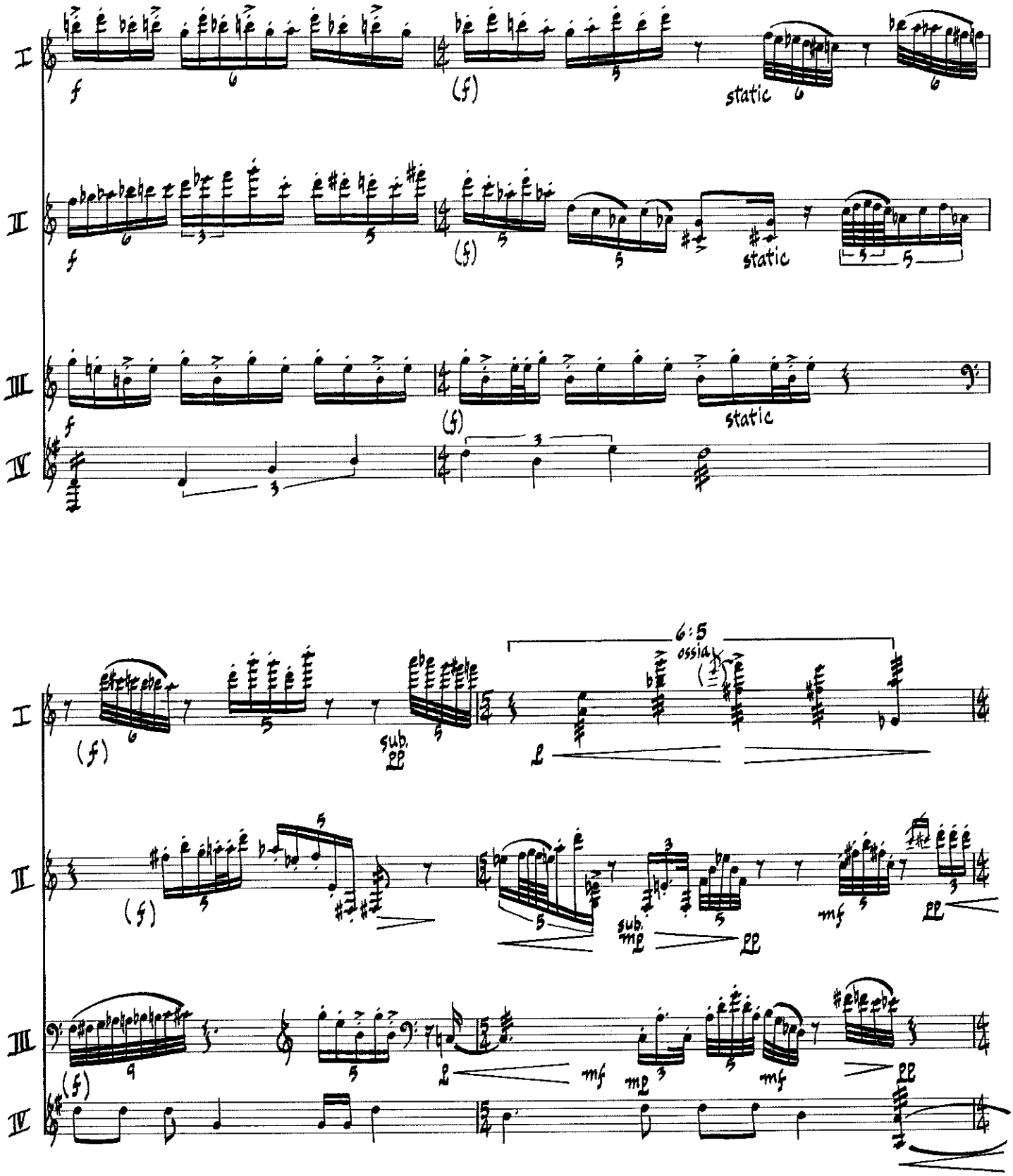

I
II
III
IV
(cresc.)
ossia
sub. mp
after fermata

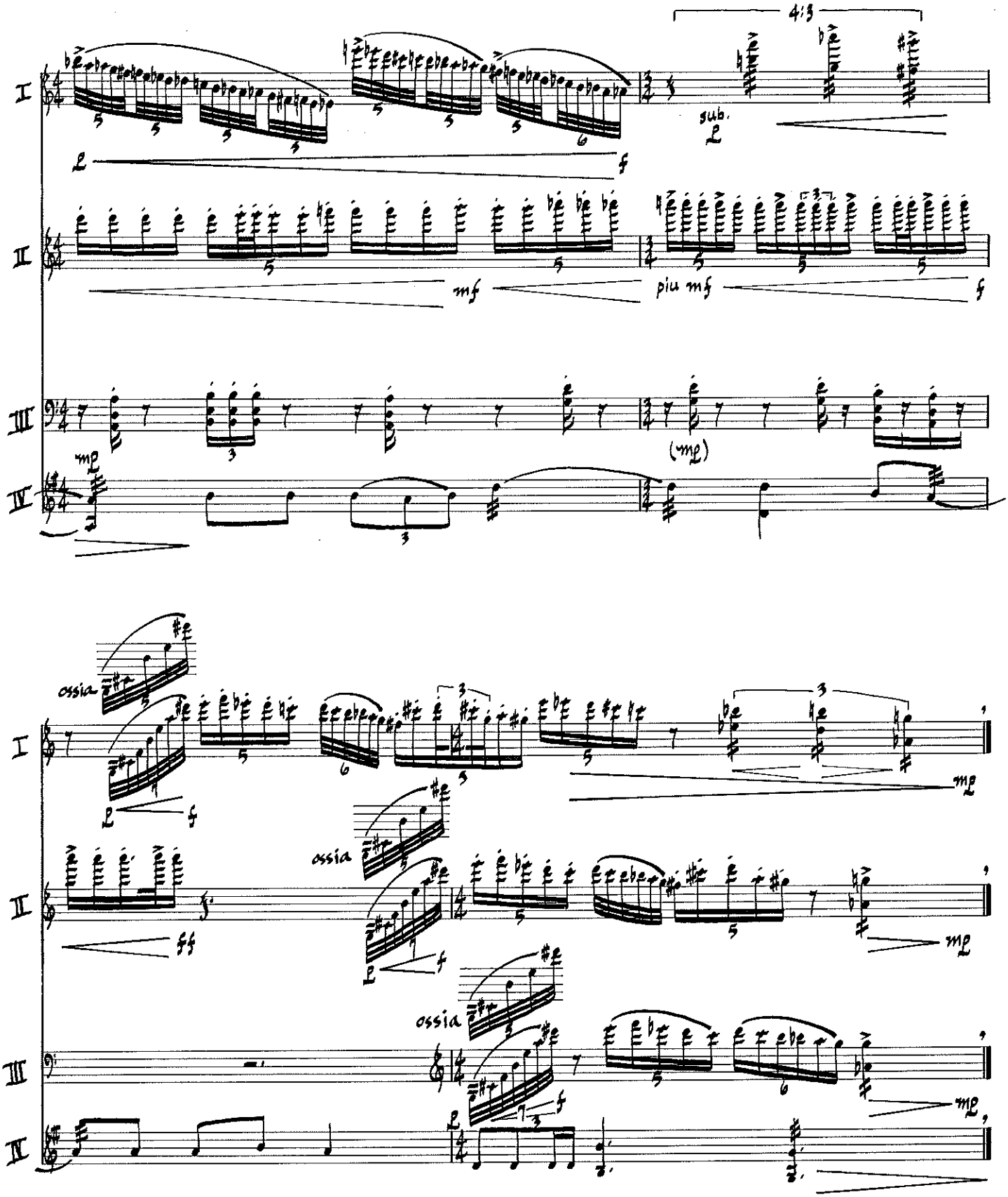
## II.

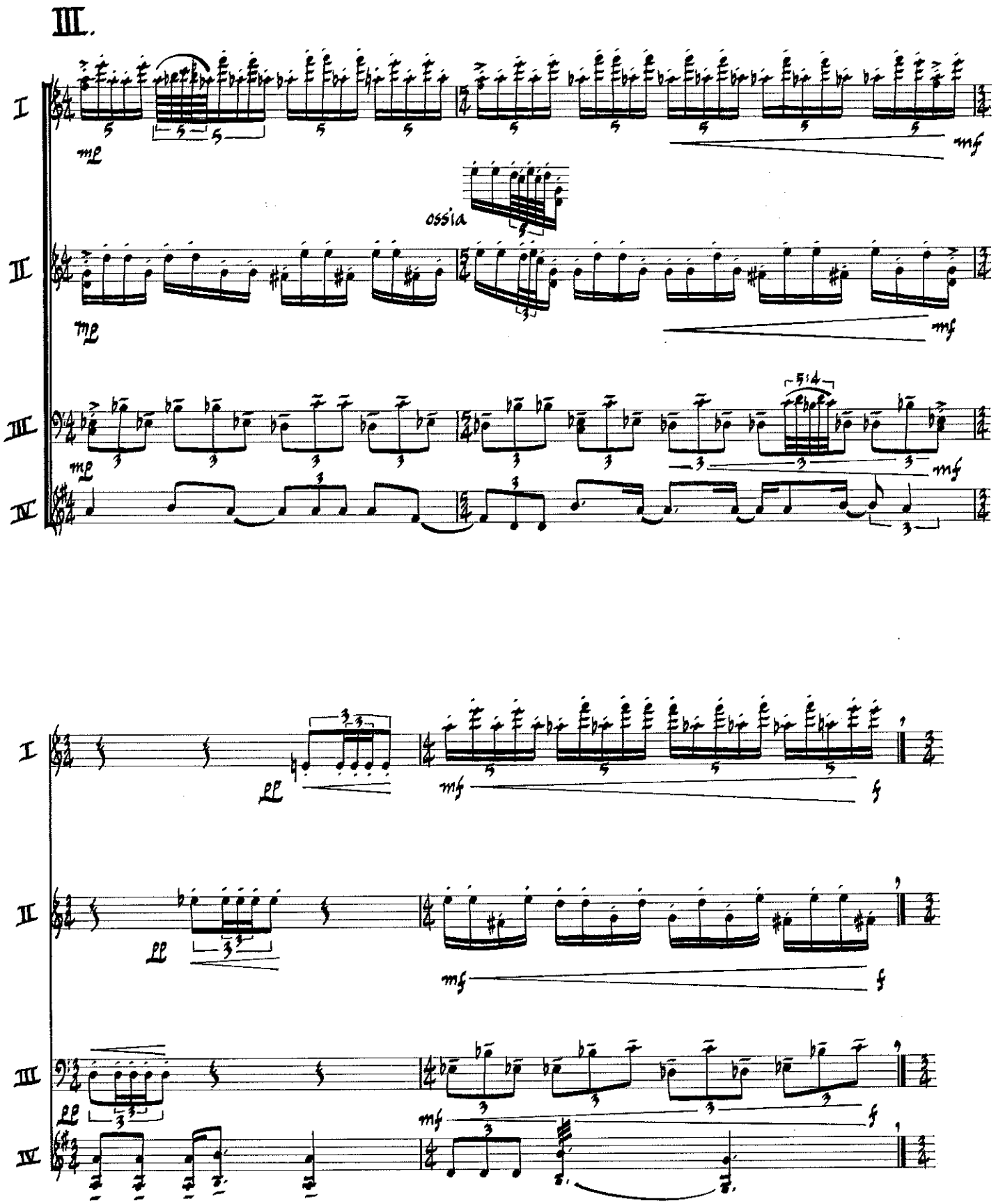

I
II
III
IV
sub. f
mf
mp
precisa
pp

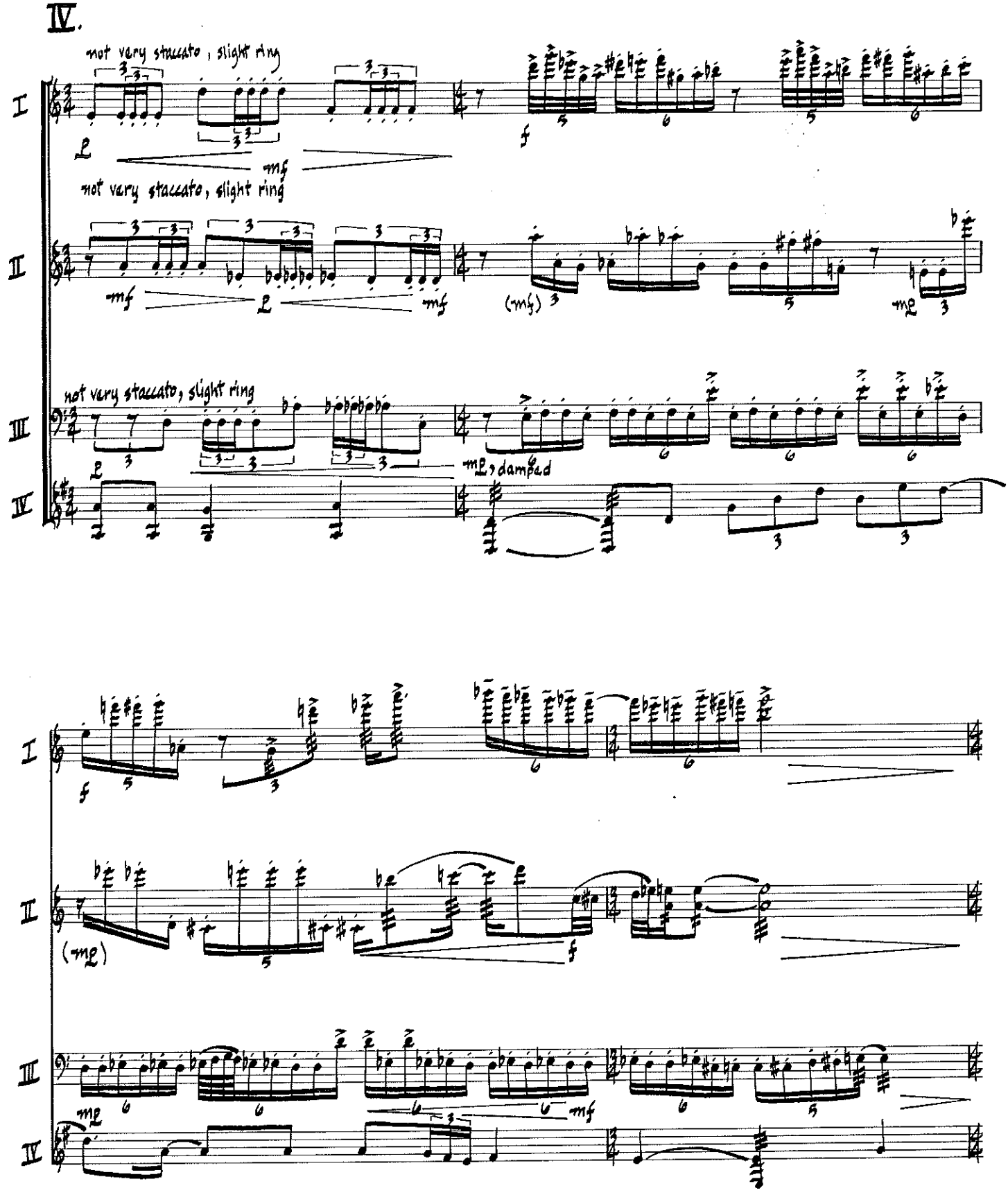

I
II
III
IV
ossia
5:4
7:6
sub. f
sub. mp
sub. mf
4:3

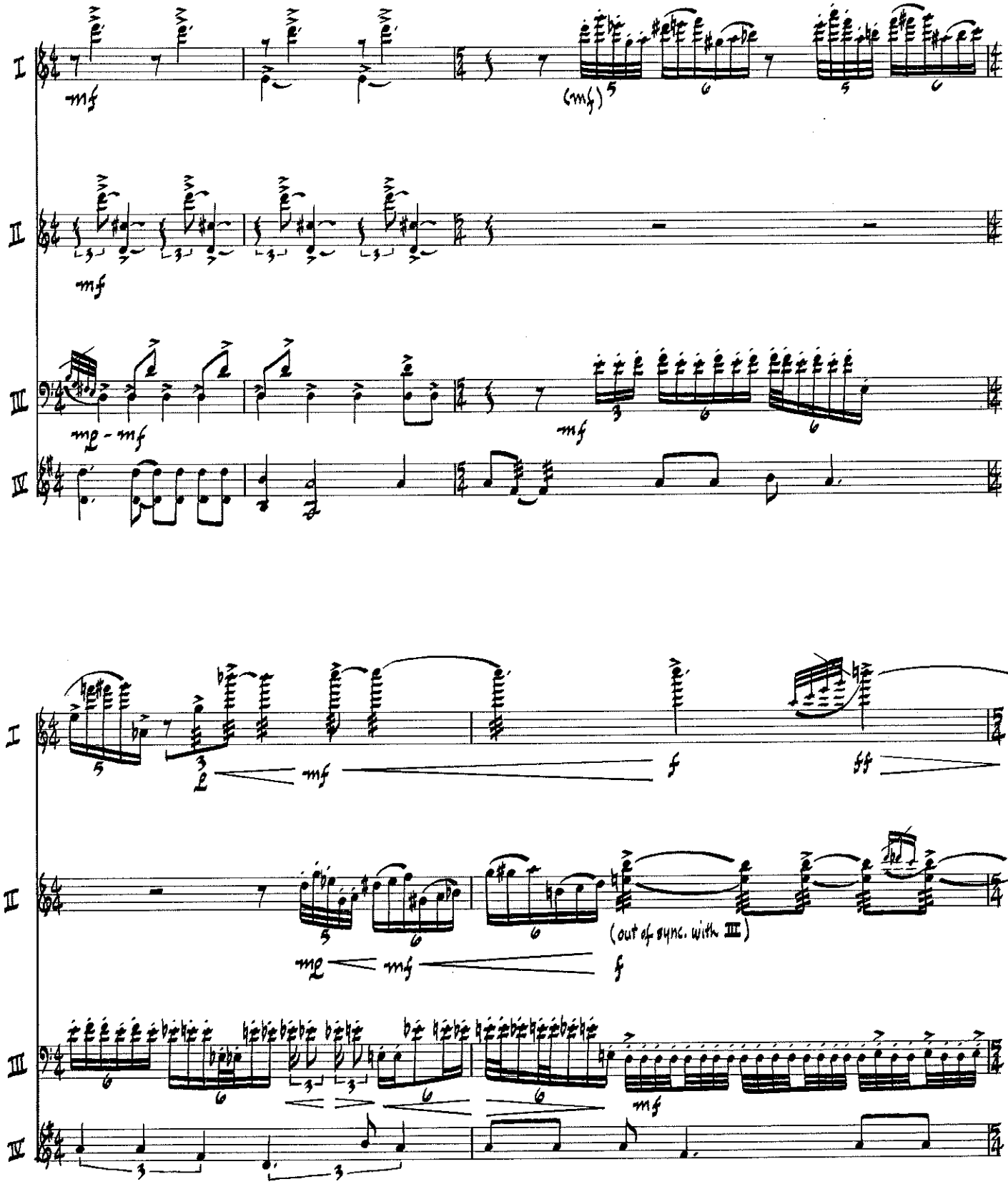

I
II
III
IV
ff
mf
sub. f
f
5:4
sub. pp
f (not ff)
ossia
pp

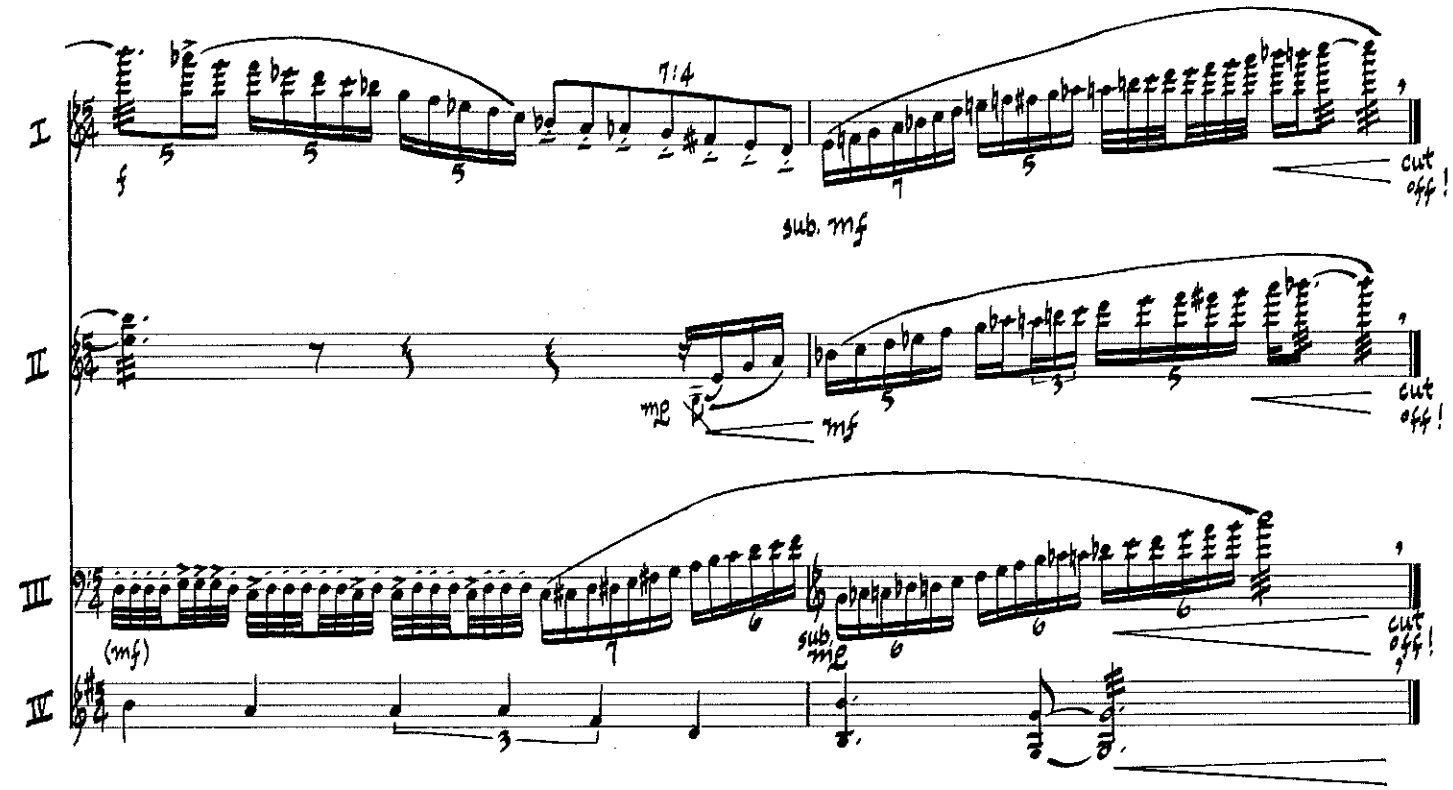

I
II
III
IV
static
6:5
ossia
sub.
pp
mf

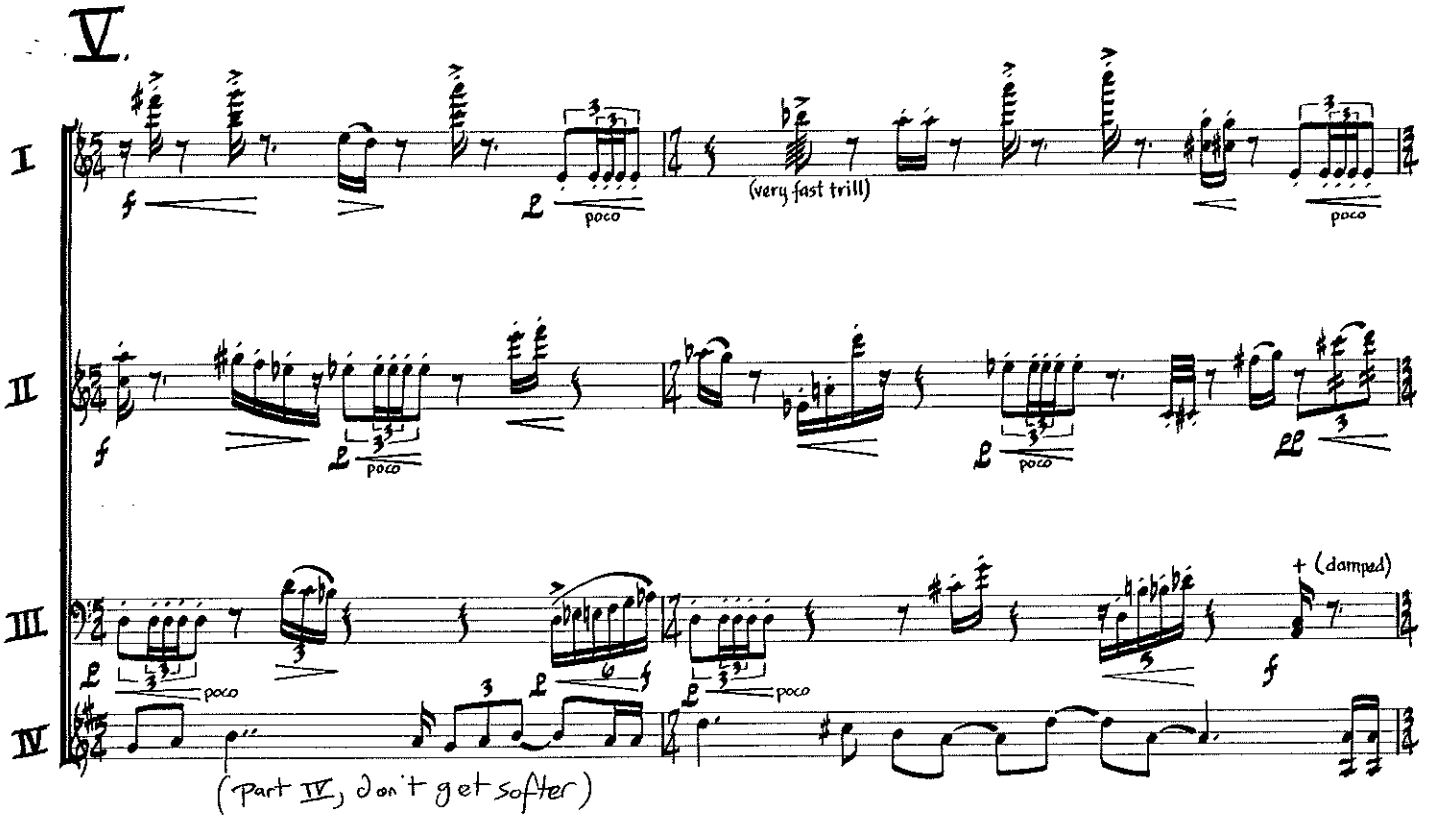

4:3
sub.
mf
più mf
f
mp
(mp)
ossia
ossia
ossia
ff
mp

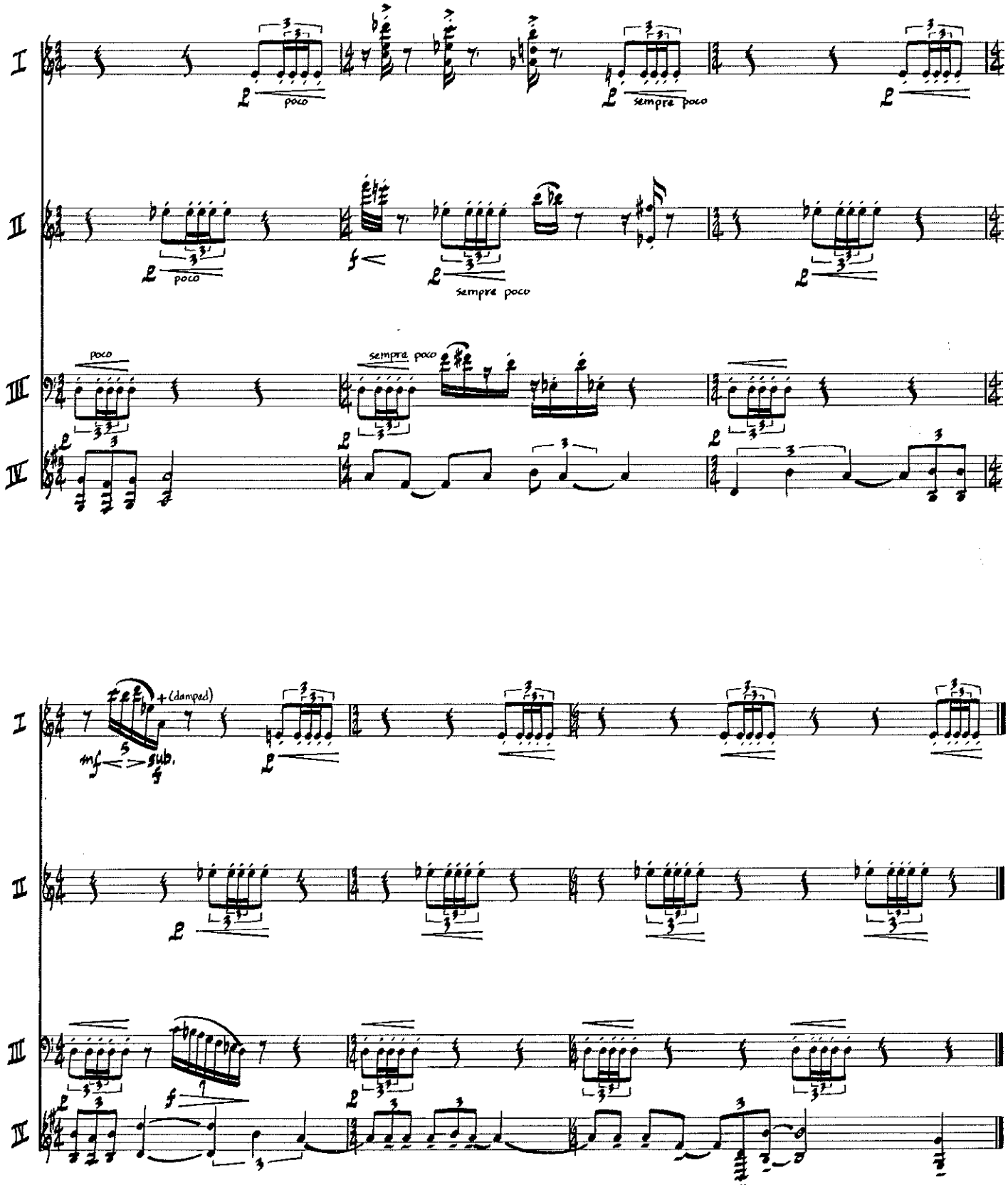

III.
I
II
III
IV
mp
mf
ossia
5:4
pp
mf
f


IV.
not very staccato, slight ring
I
II
III
IV
mf
not very staccato, slight ring
not very staccato, slight ring
mp, damped
f
(mf)
mp
(mp)
mf

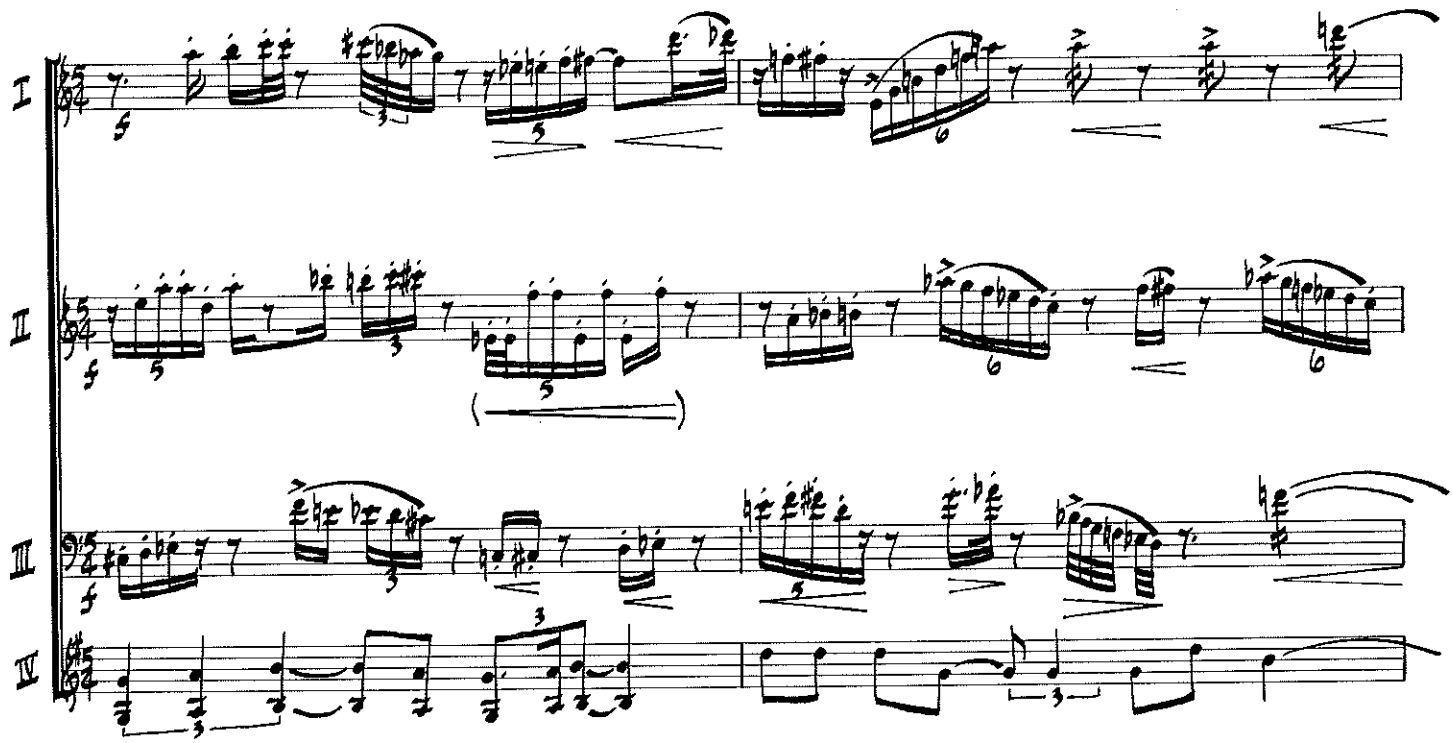

I
II
III
IV
mf
(mf)
mp - mf
mf
mf
f
ff
mp
mf
f
(out of sync. with III)
mf

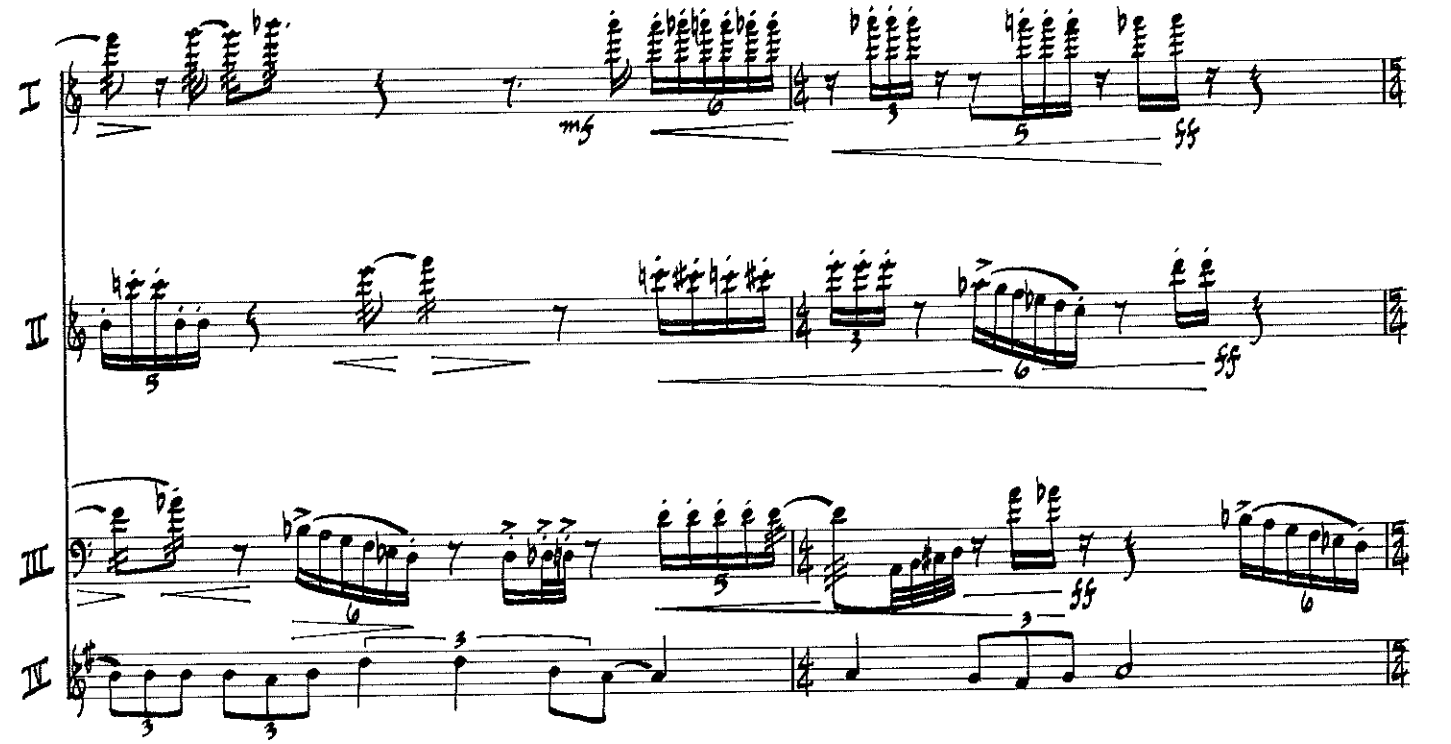

I
II
III
IV
7:4
sub. mf
cut off!
(mf)
sub. mf

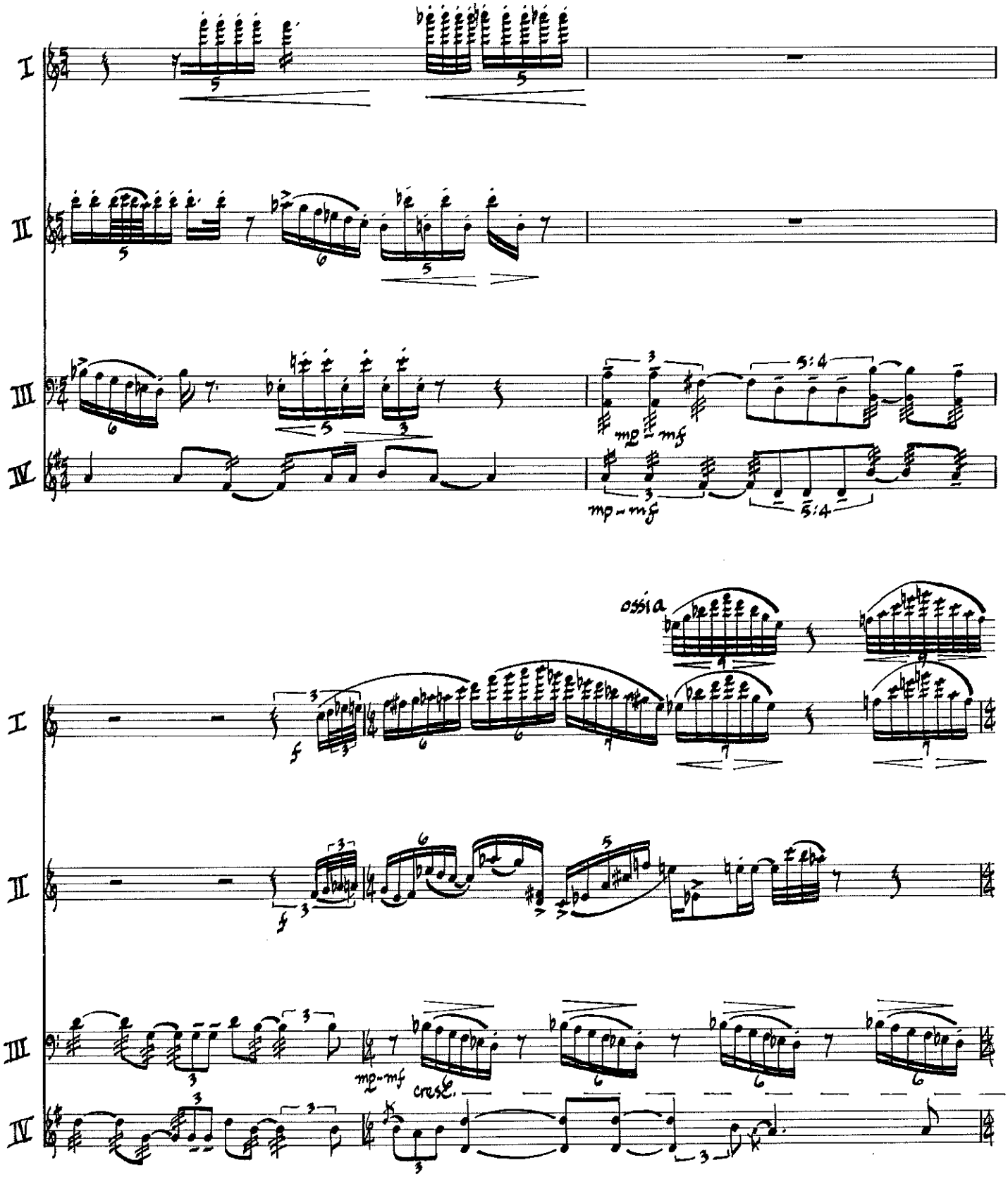

V.
I
II
III
IV
(very fast trill)
poco
+ (damped)
(part IV, don't get softer)

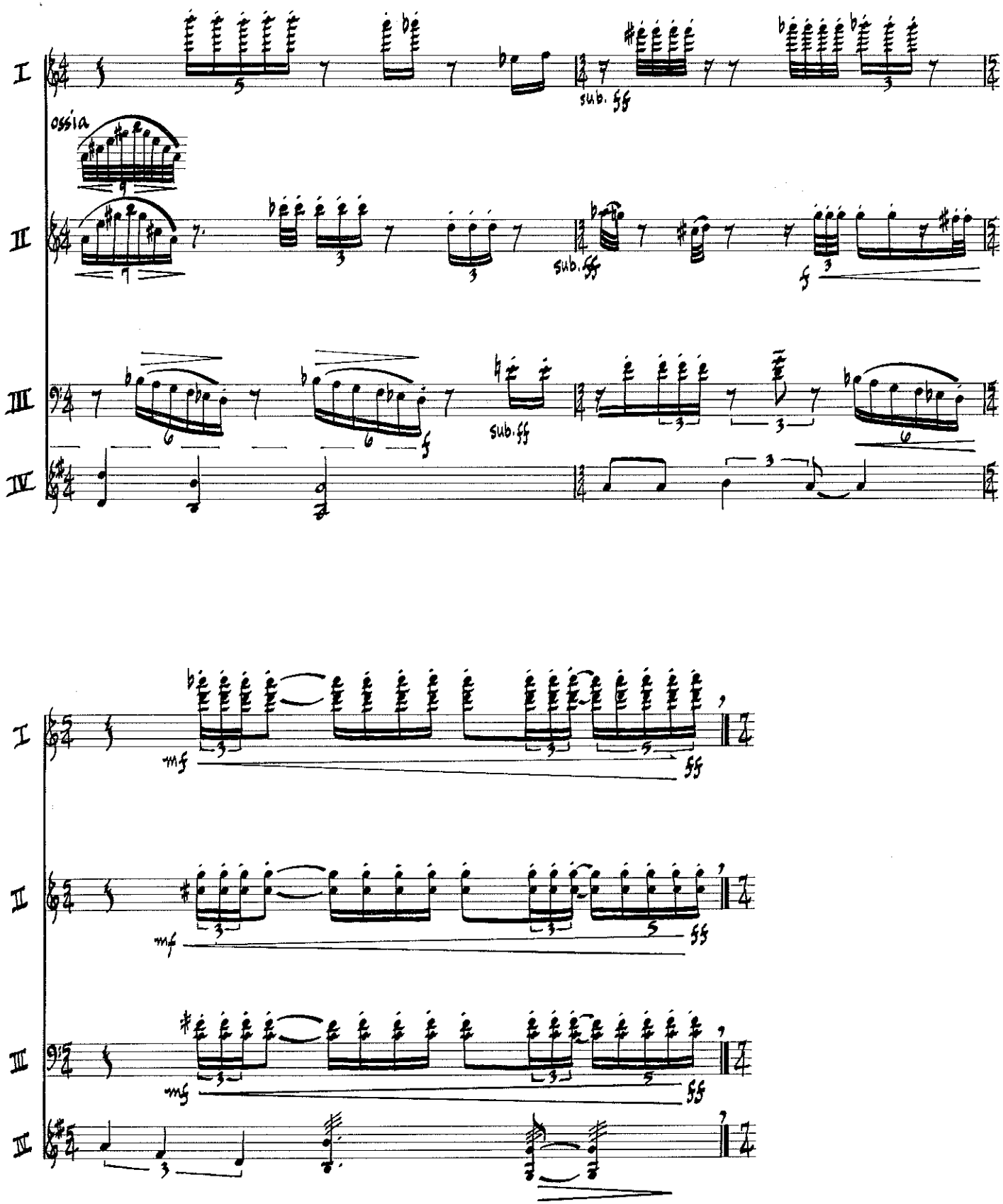

I
II
III
IV
poco
sempre poco
(damped)
mf
sub.
f

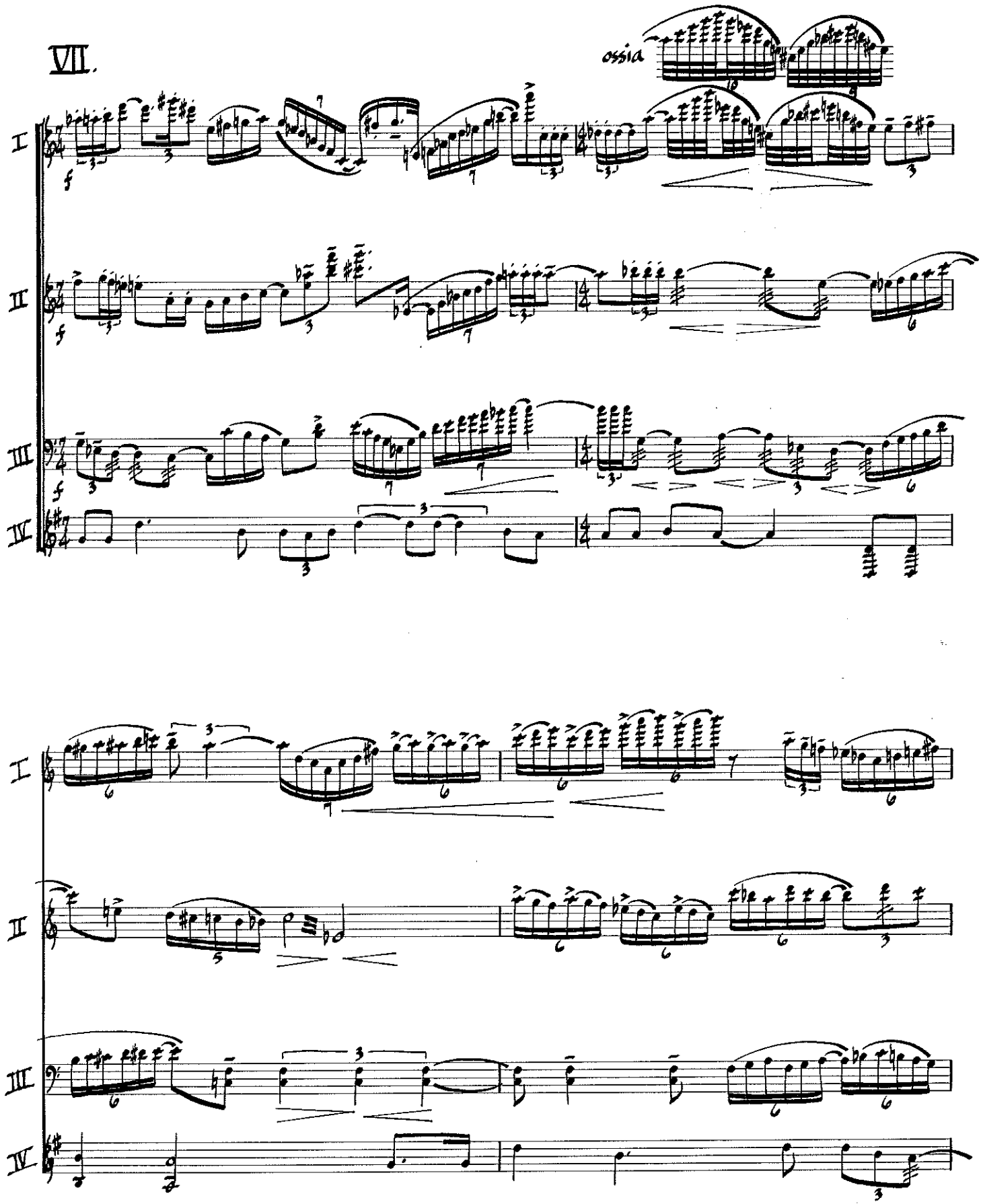
VI.

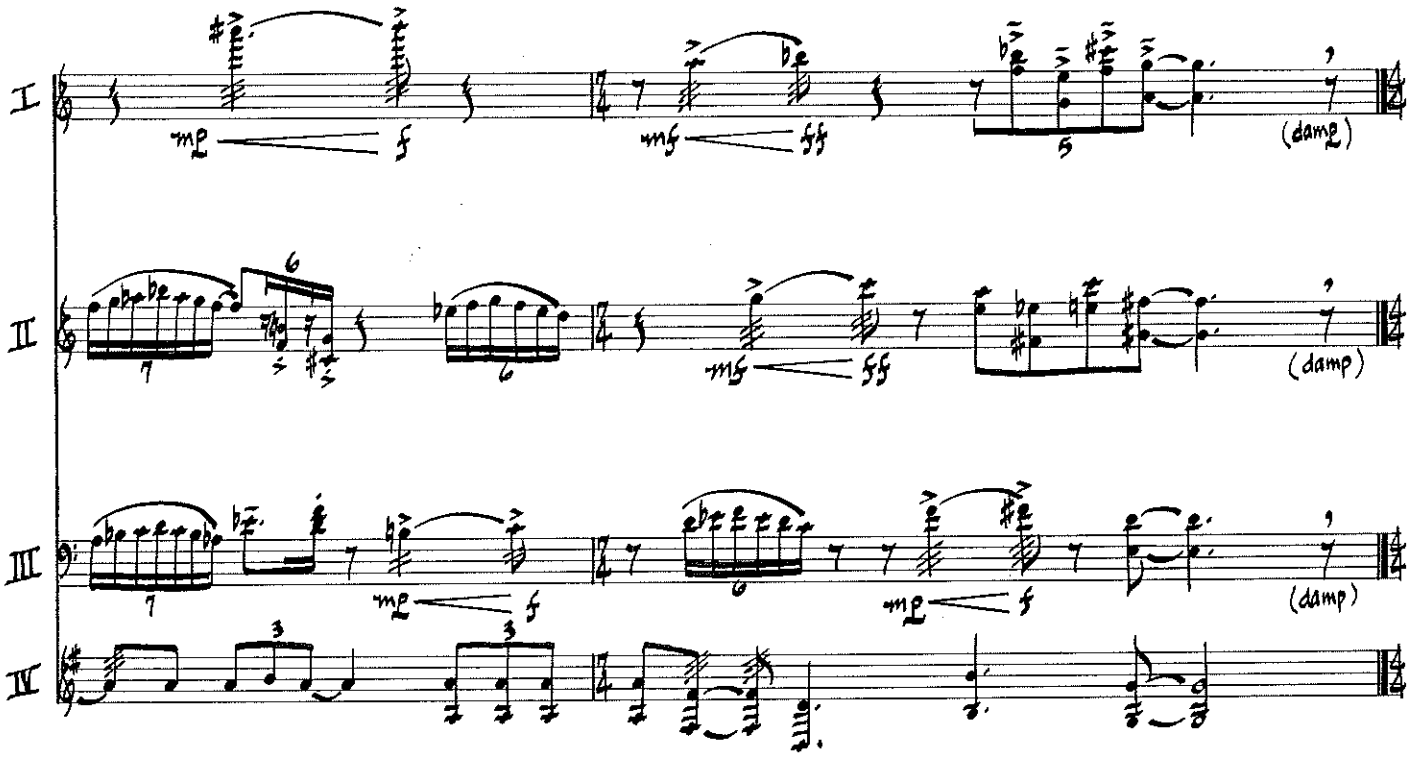


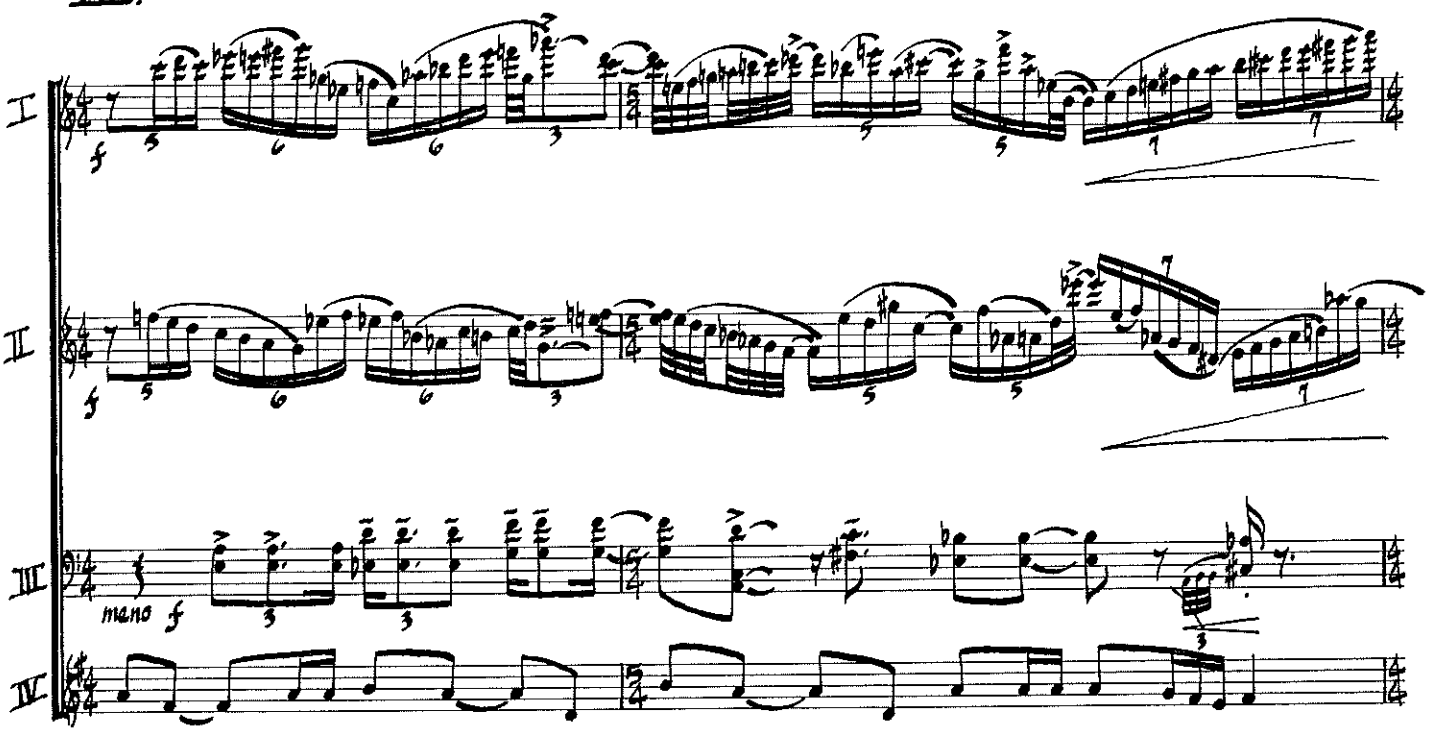

I
II
III
IV
mp
mf
mp-mf
ossia
f
cresc.

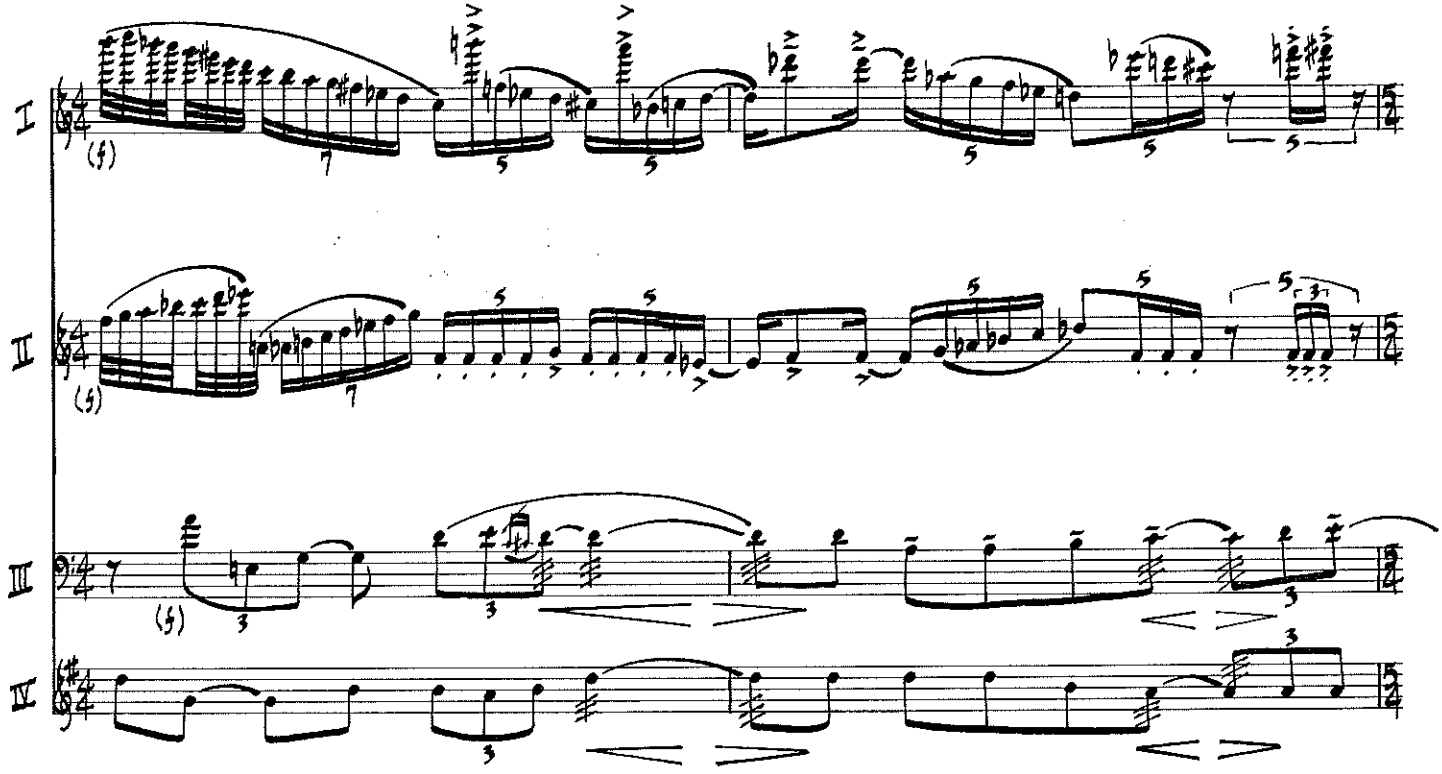

I
II
III
IV
ossia
sub. ff
sub. ff
sub. ff
mf
ff
mf
ff
mf
ff

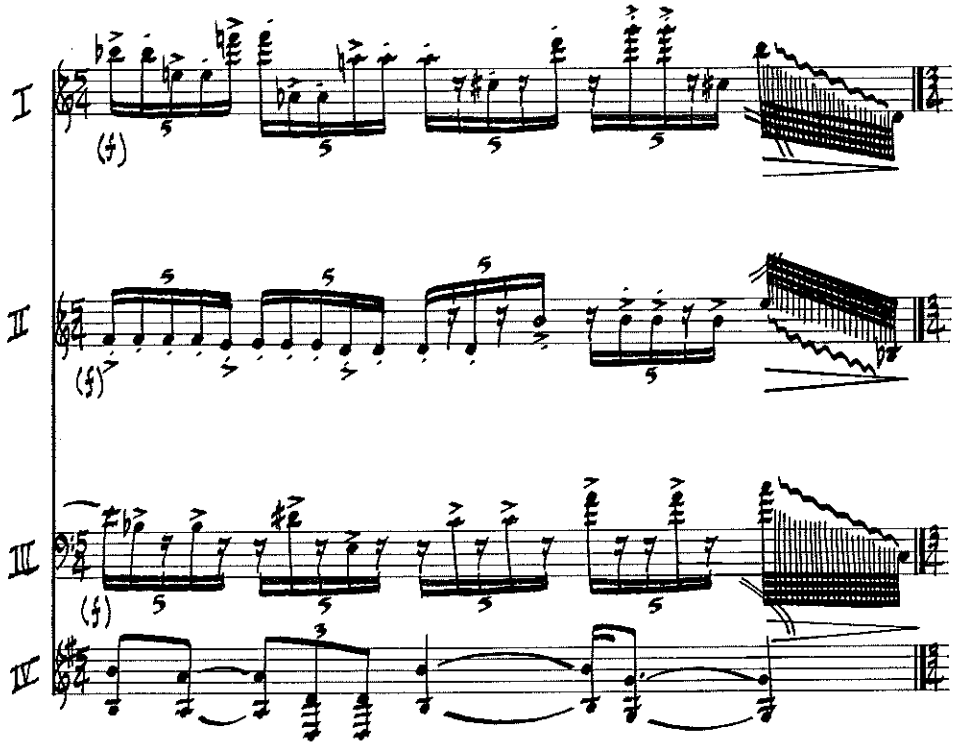

VII.
ossia
I
II
III
IV



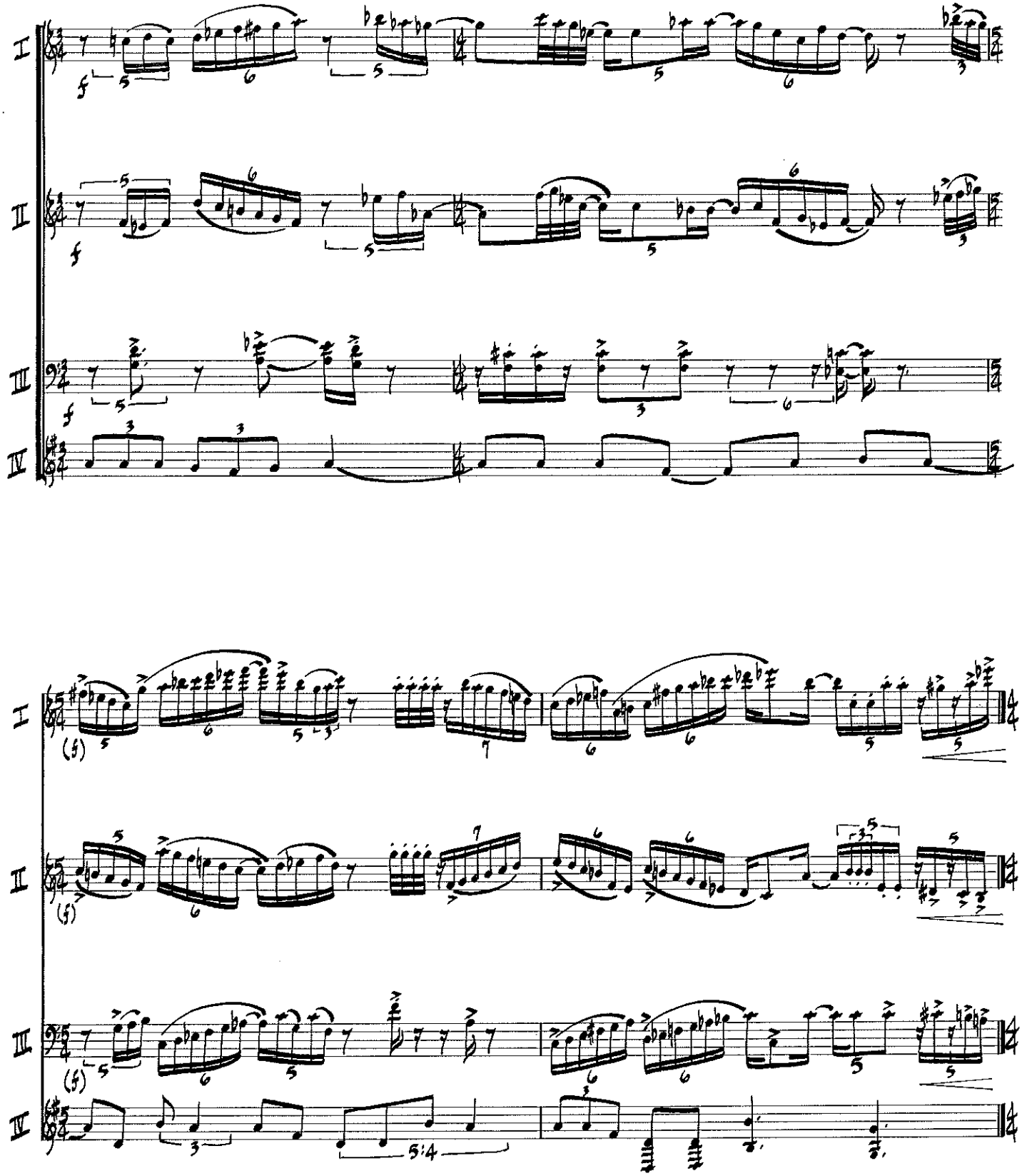

VIII.



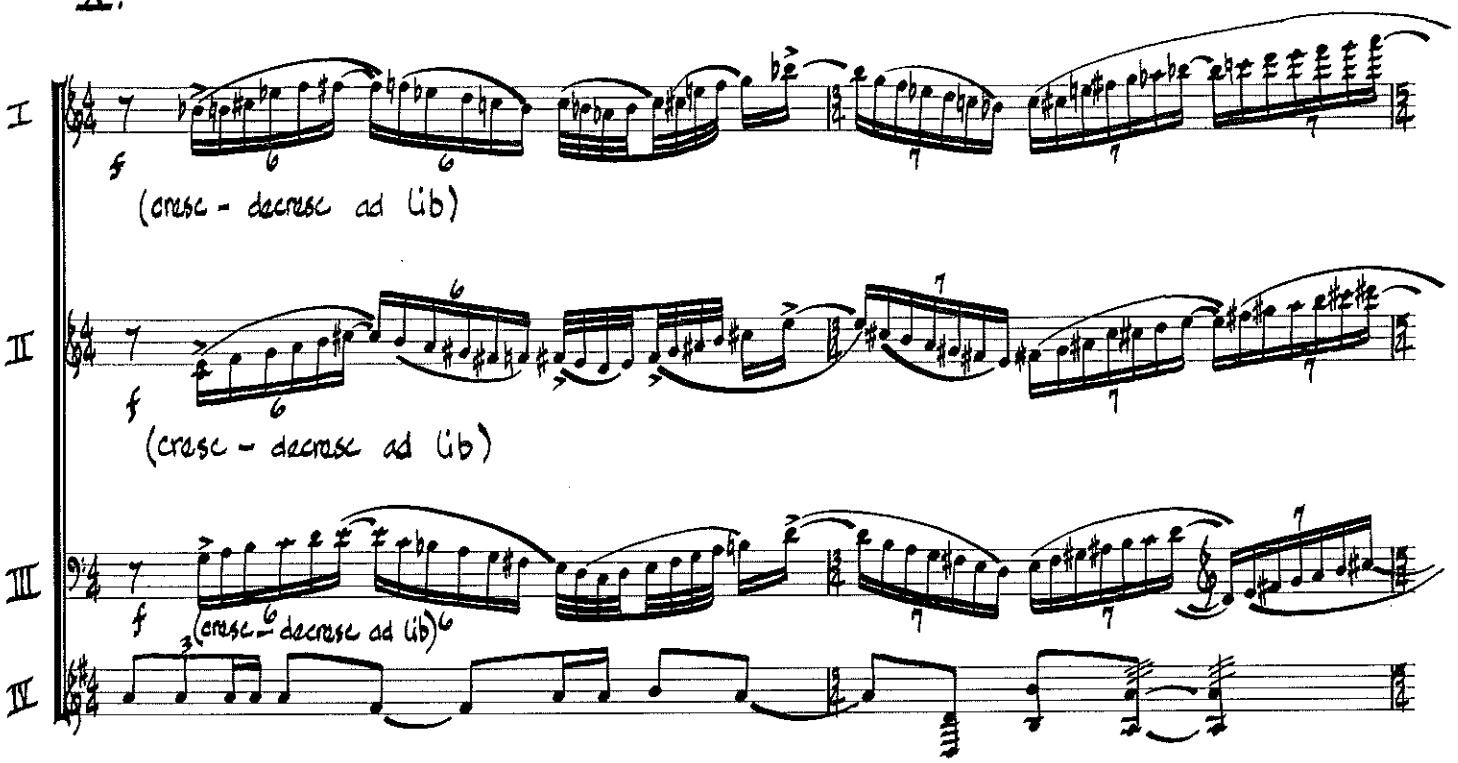

I
II
III
IV

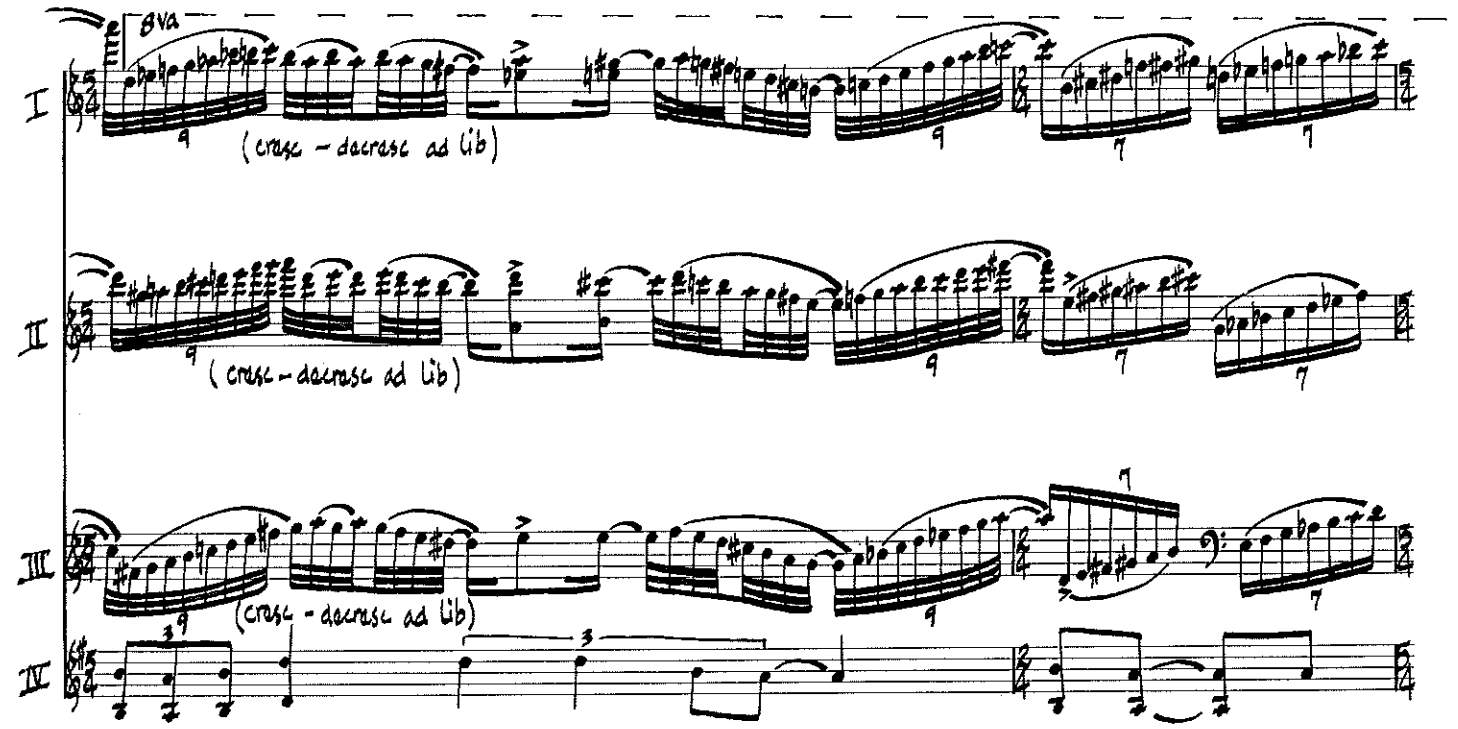

I
II
III
IV

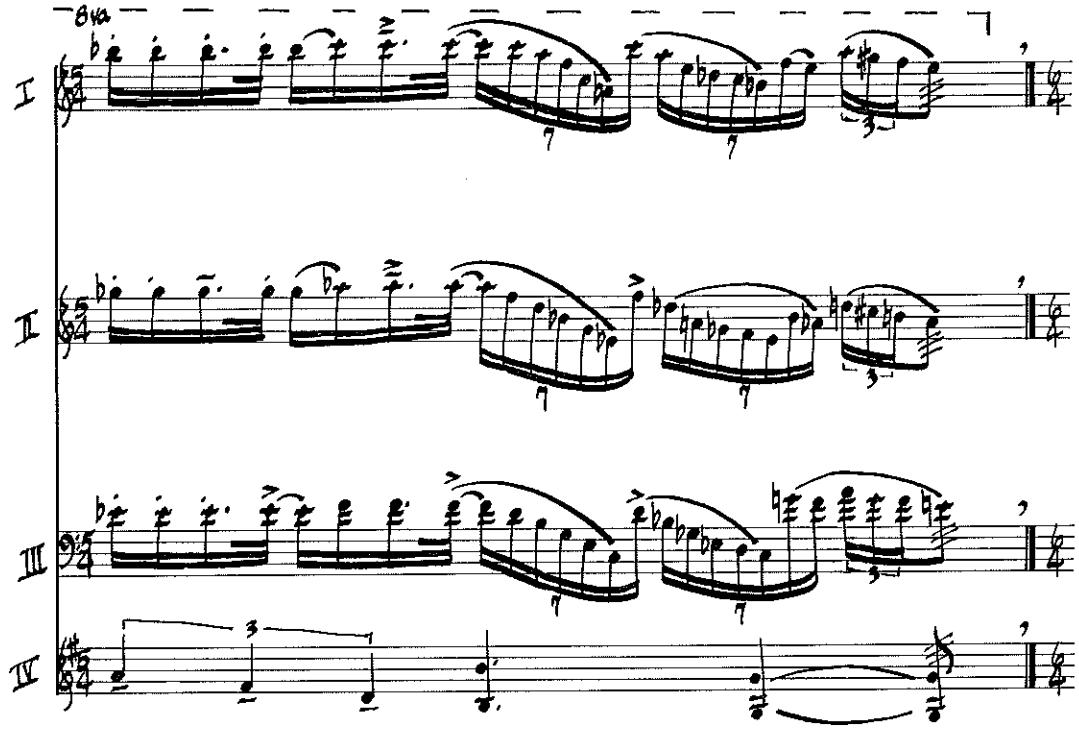
## IX.



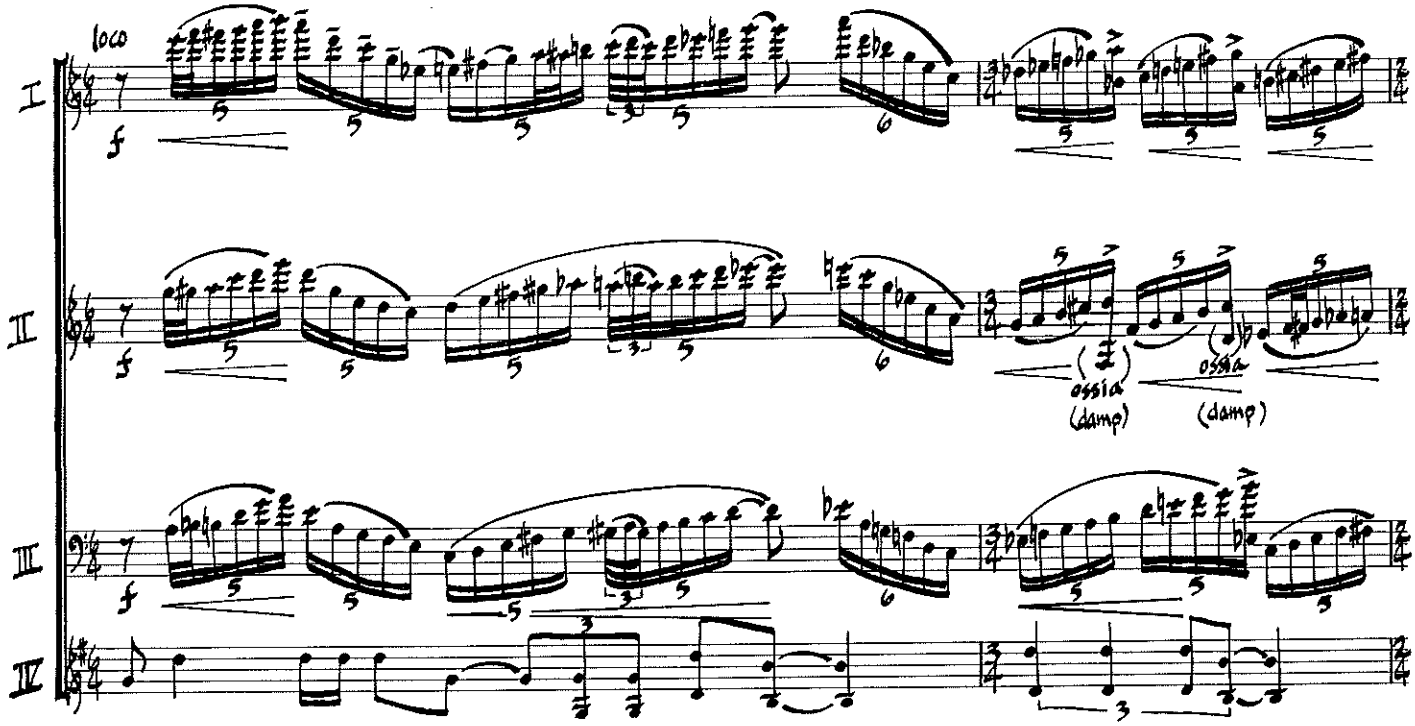
X.


I
II
III
IV
f
(cresc - decresc ad lib)
(cresc - decresc ad lib)
(cresc - decresc ad lib)


8va
I
II
III
IV
(cresc - decresc ad lib)
(cresc - decresc ad lib)
(cresc - decresc ad lib)

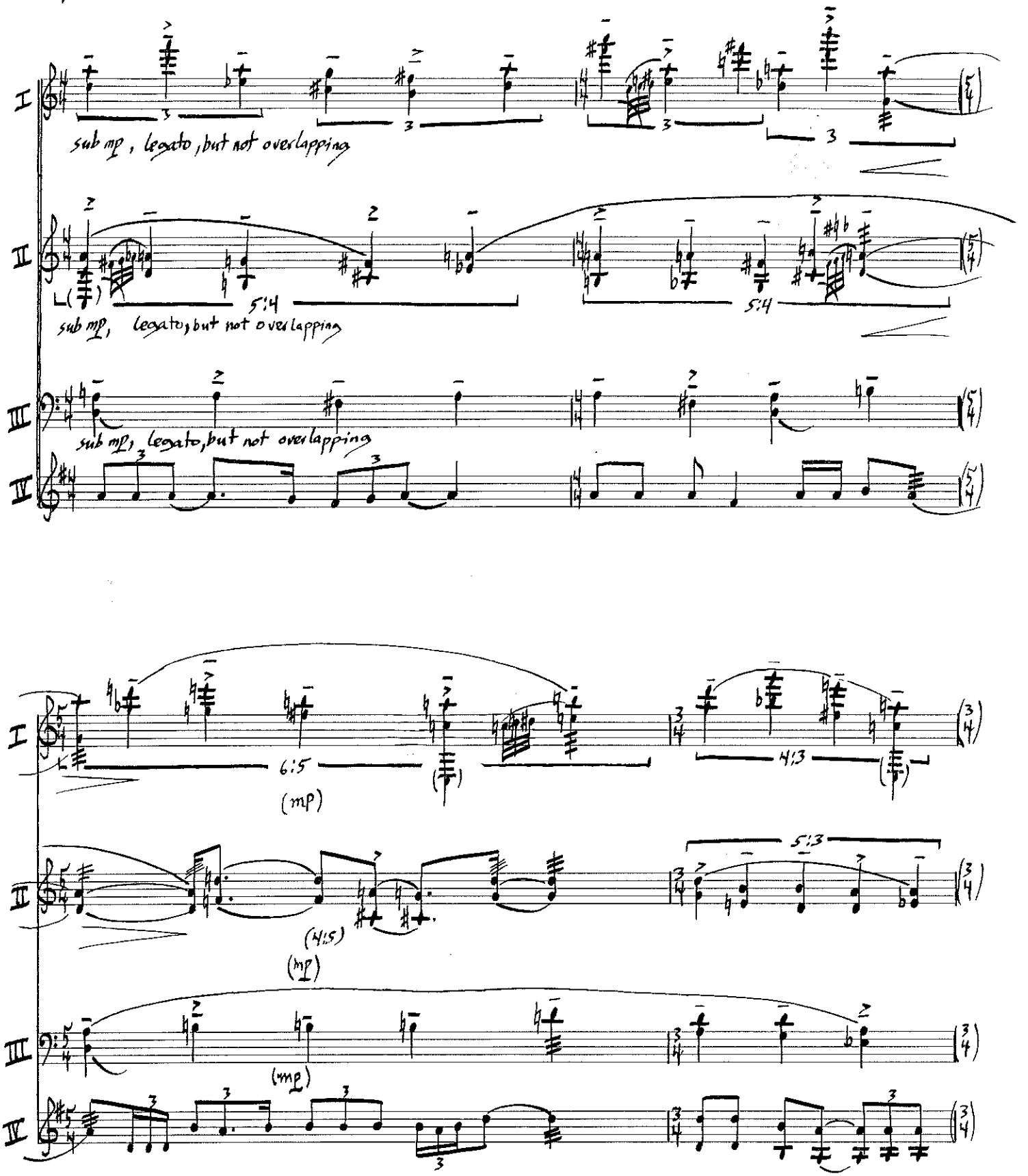


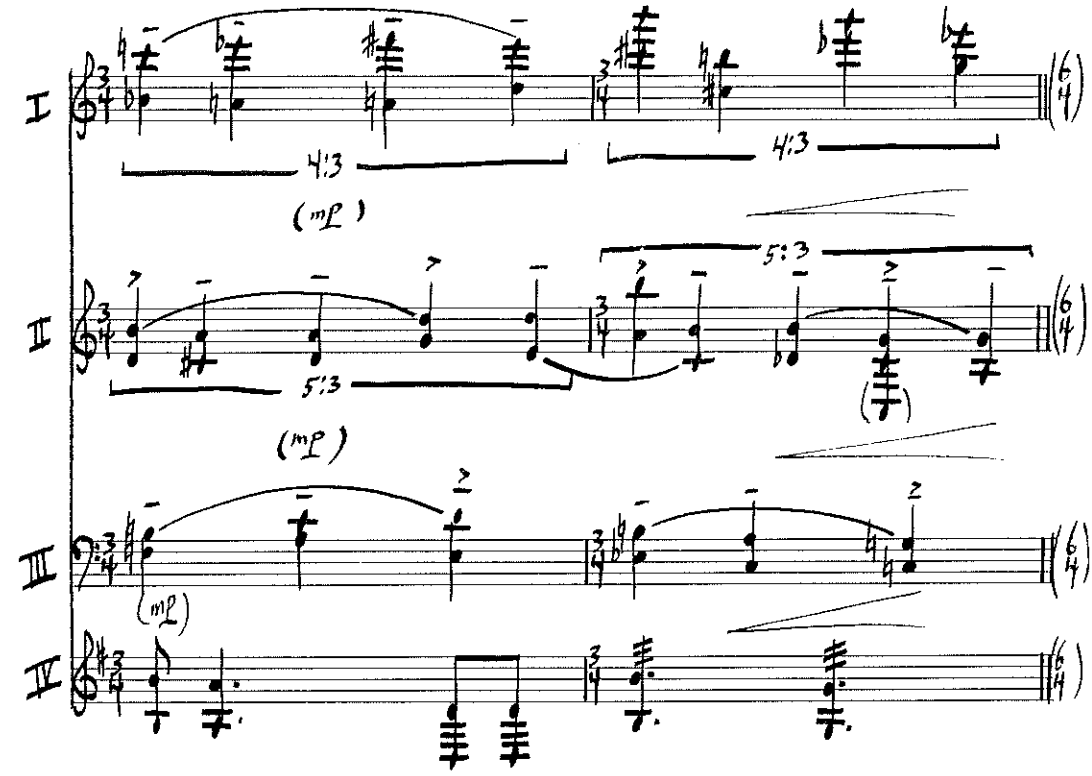

## XI.



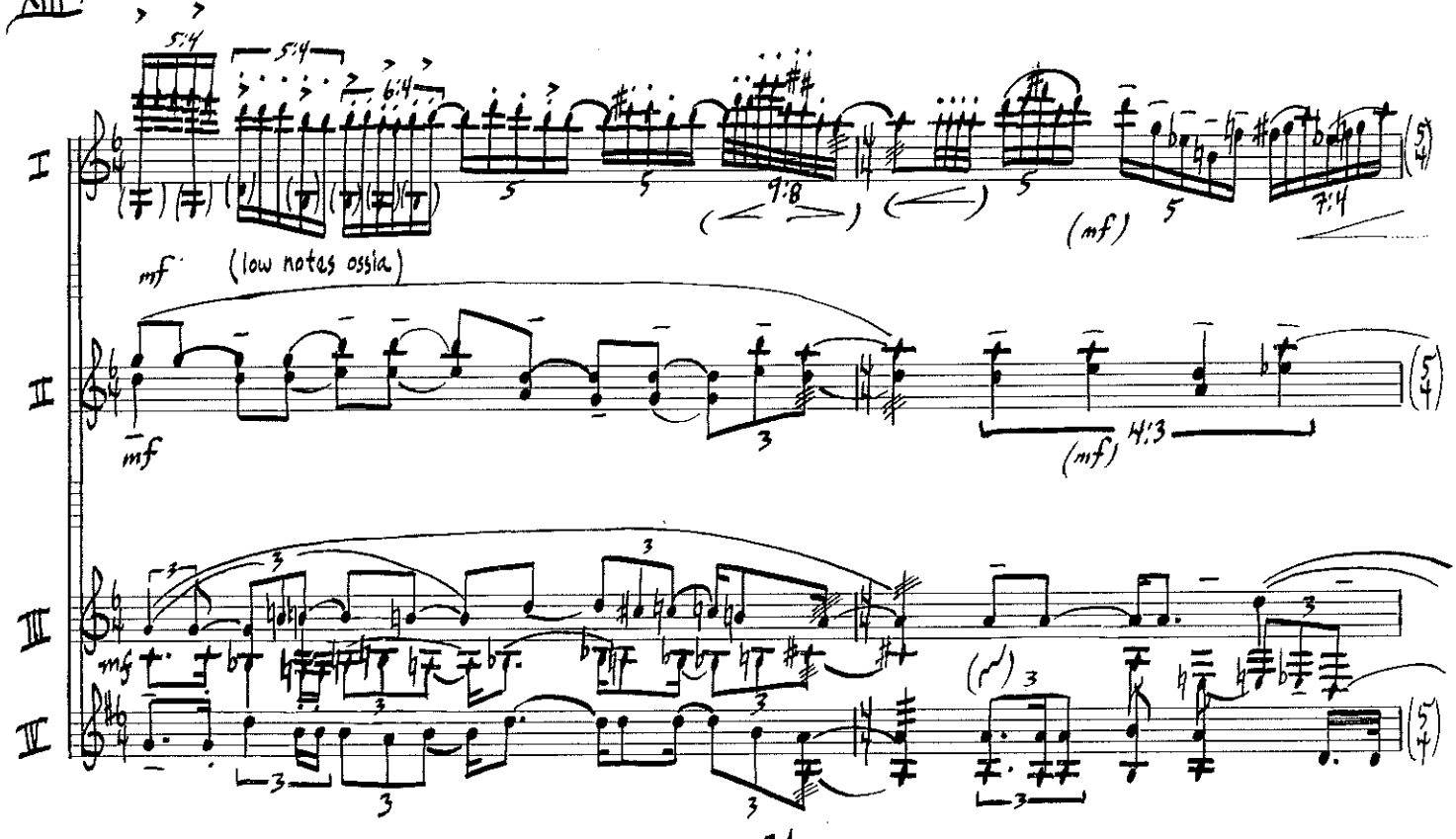
I
(f)
II
ossia (damp) (f)
III
(f)
IV
I
(f)
fff
II
(f)
fff
III
(f)
fff
IV
attacca

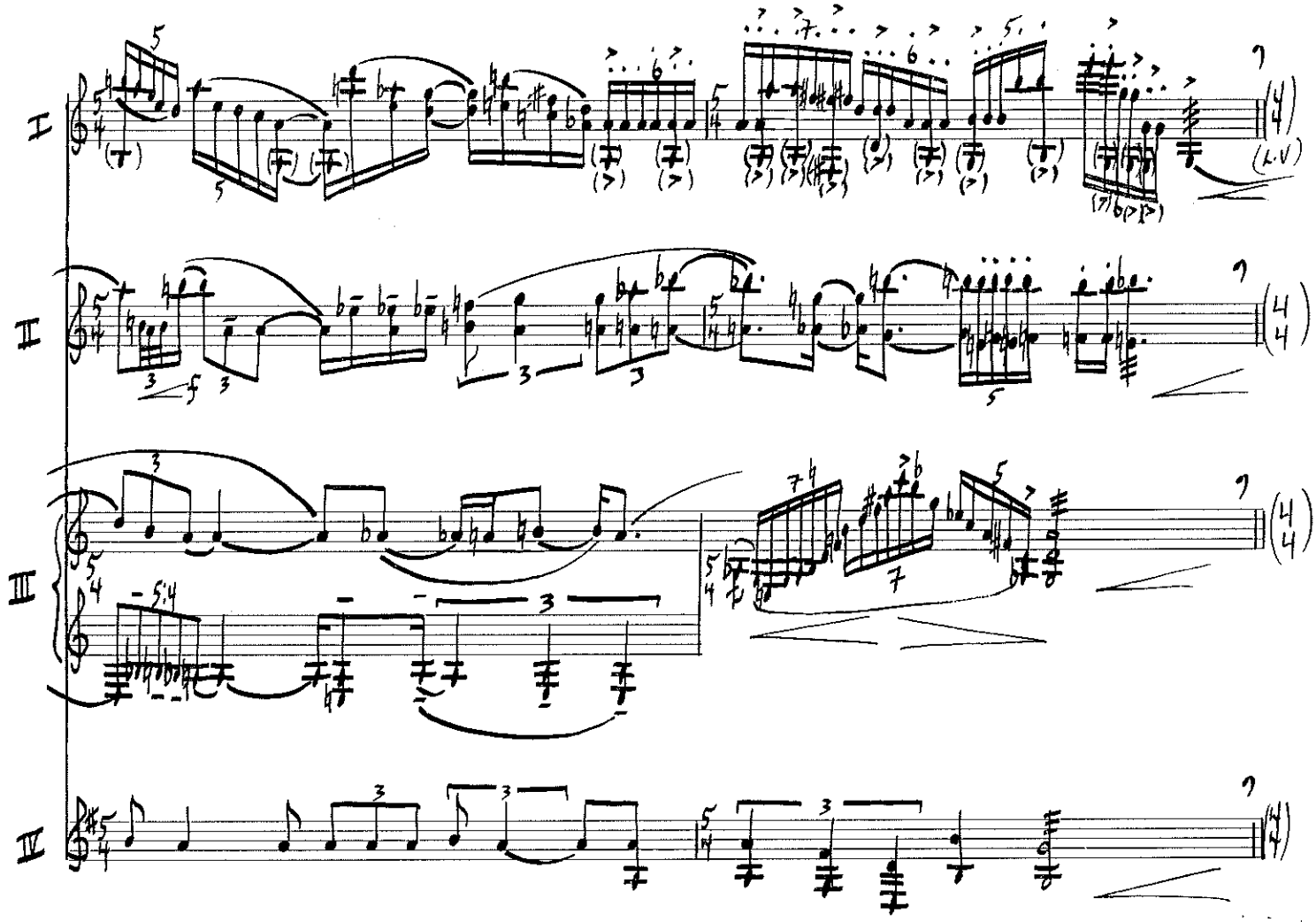
XII.


I
II
III
IV
sub mp, legato, but not overlapping
5:4
sub mp, legato, but not overlapping
sub mp, legato, but not overlapping
6:5
(mp)
4:3
5:3
(4:5)
(mp)
(mp)


I
II
III
IV
4:3
4:3
(mp)
5:3
5:3
(mp)
(mp)

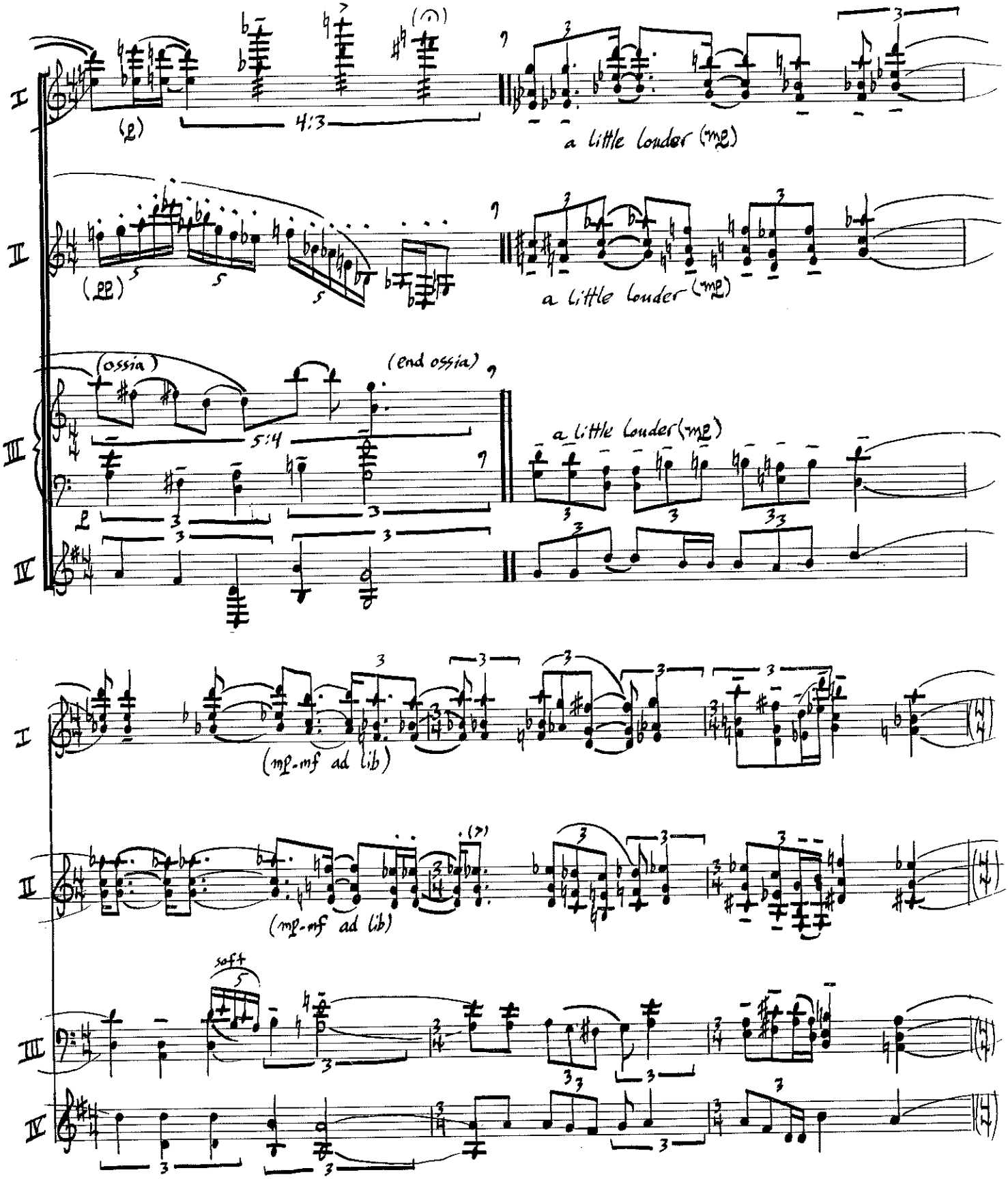
XIII.

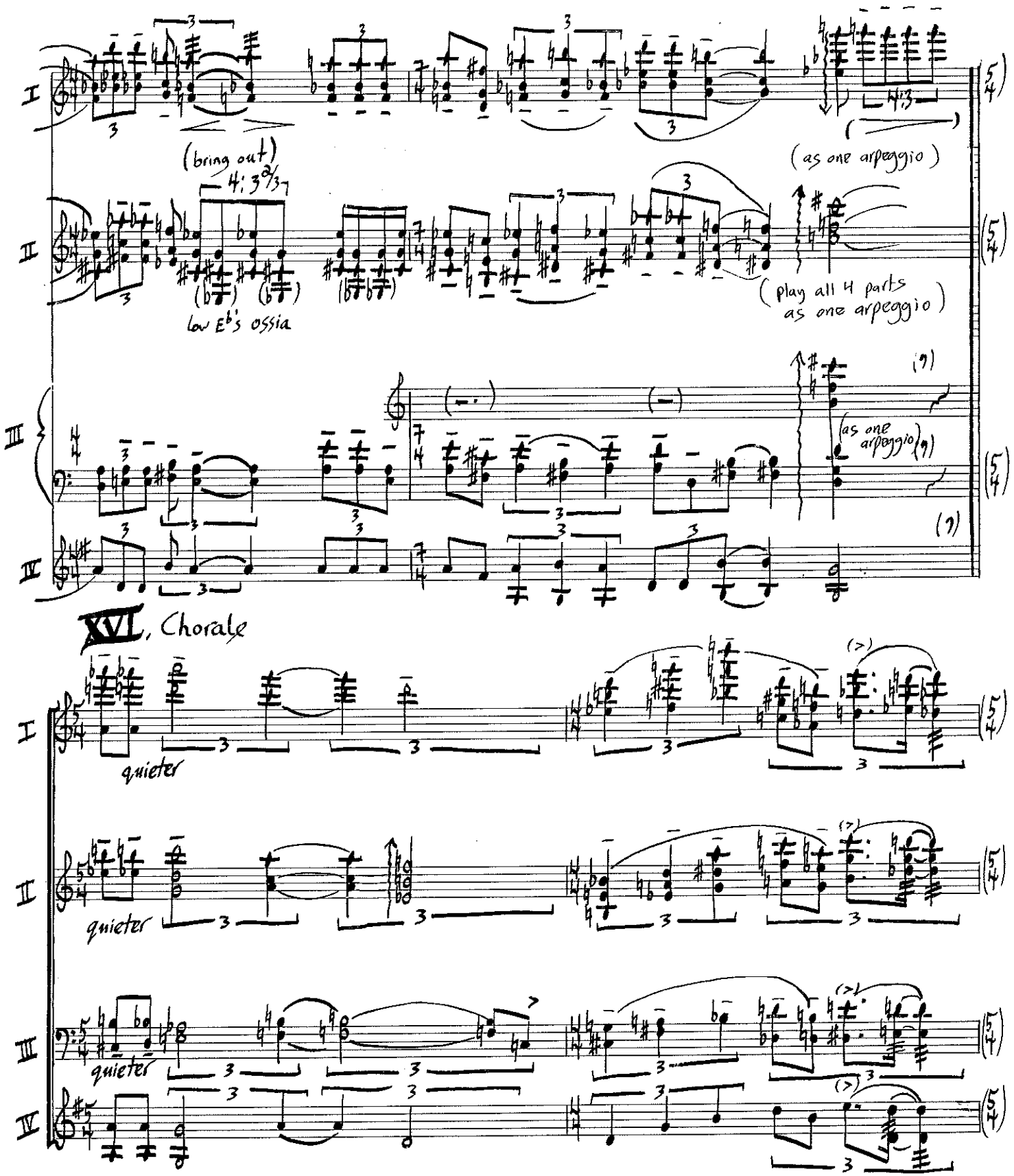

I
II
III
IV
5:4
5:4
6:4
9:8
(mf)
7:4
mf
(low notes ossia)
mf
(mf)
4:3
mf
(mf)

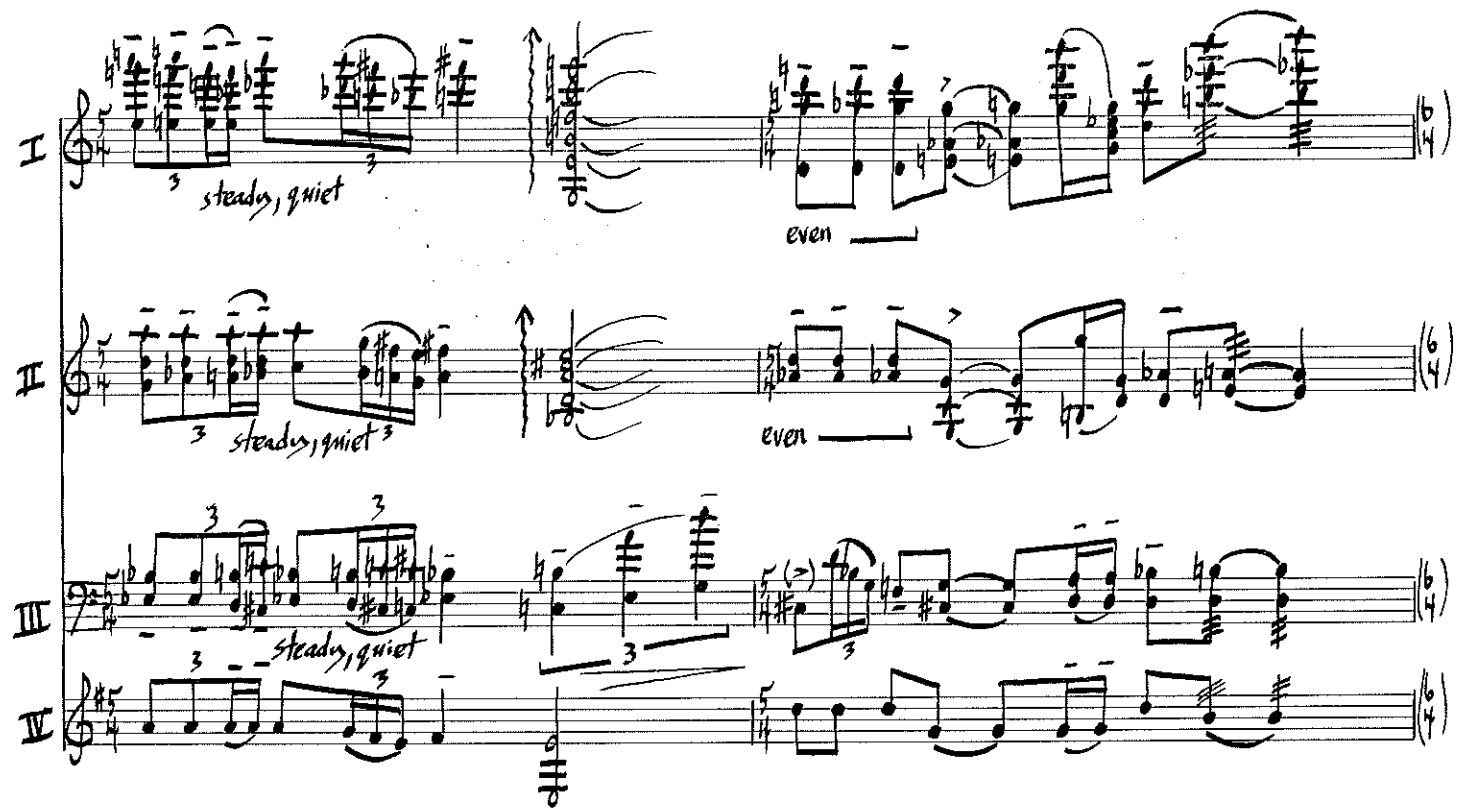

I
II
III
IV

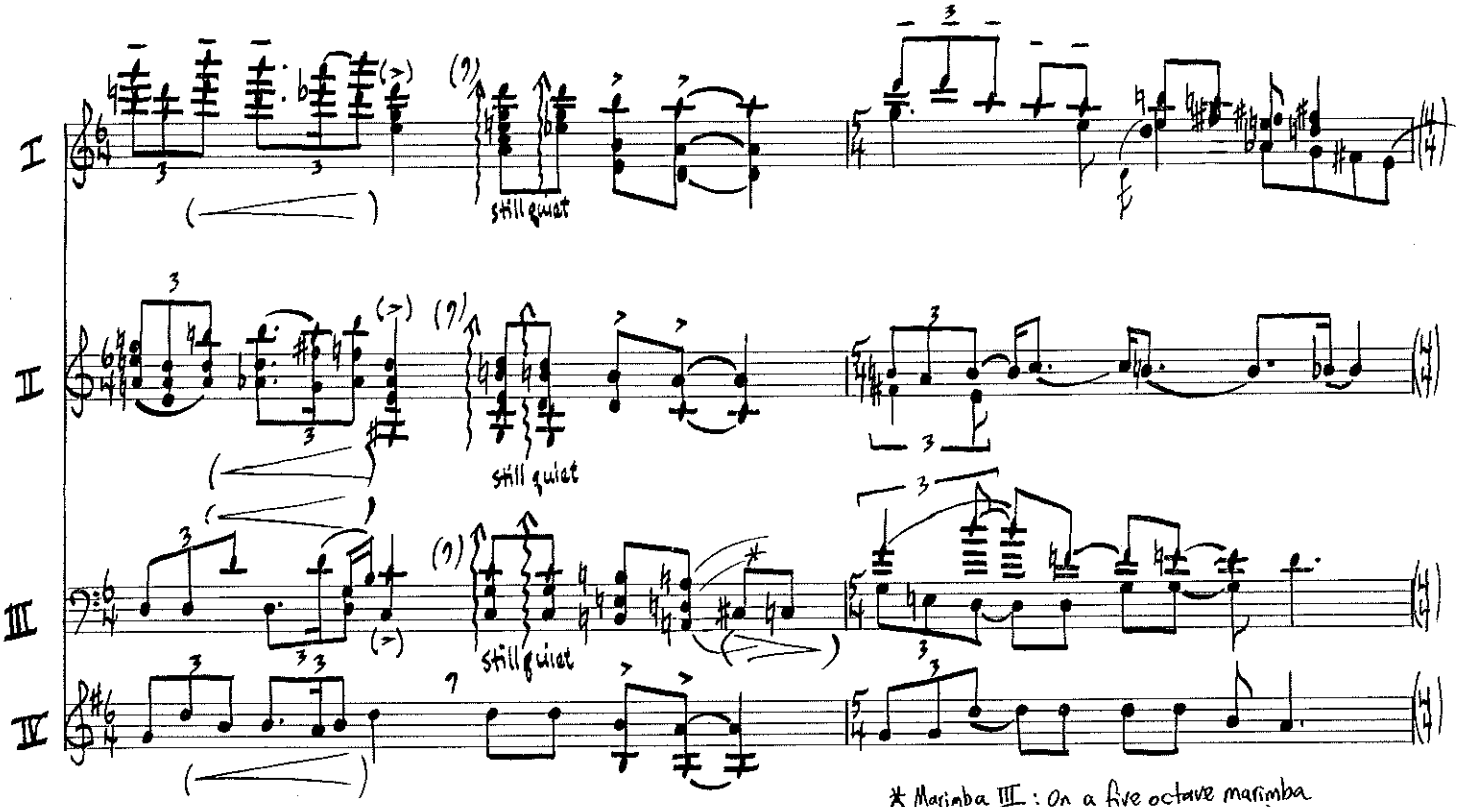
XIV.
I
II
III
IV
p
slightly articulated
(still p)
(p)
louder
4:3
pp
slightly articulated
add treble clef, ossia:
(ossia)
5:3

# XV. Chorale

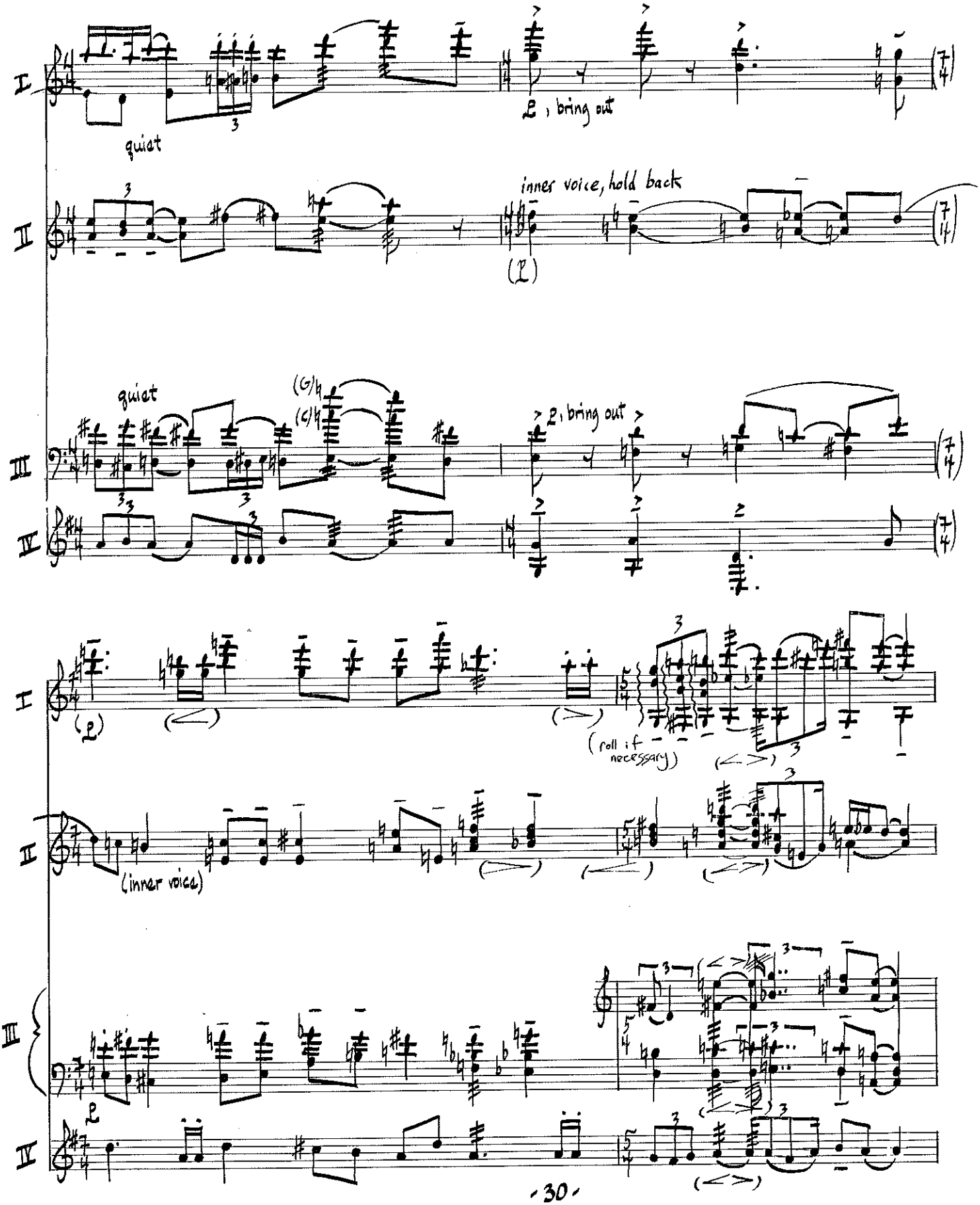

I
II
III
IV
(2)
4:3
a little louder (mp)
(22)
a little louder (mp)
(ossia)
(end ossia)
5:4
a little louder (mp)
(mp-mf ad lib)
(mp-mf ad lib)
soft

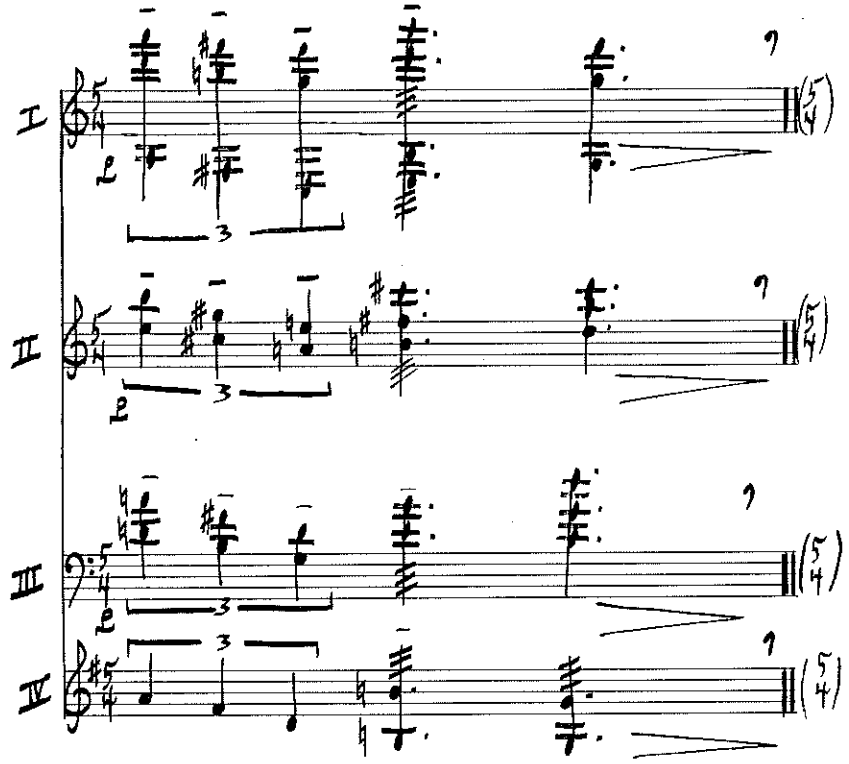

I
II
III
IV
(bring out)
4: 3 2/3 7
low Eb's ossia
(as one arpeggio)
(play all 4 parts as one arpeggio)
(as one arpeggio)
XVI, Chorale
quieter
quieter
quieter

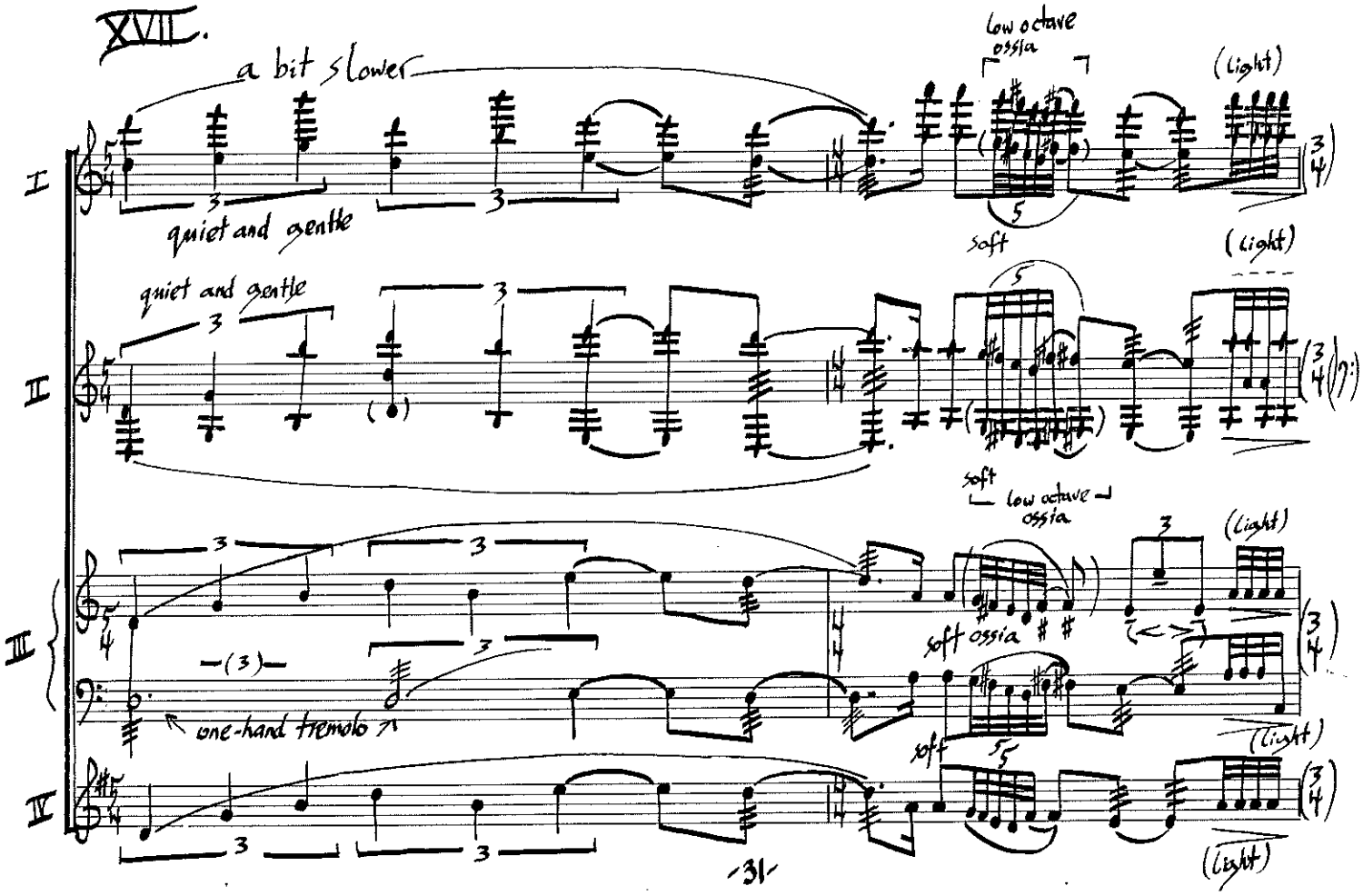


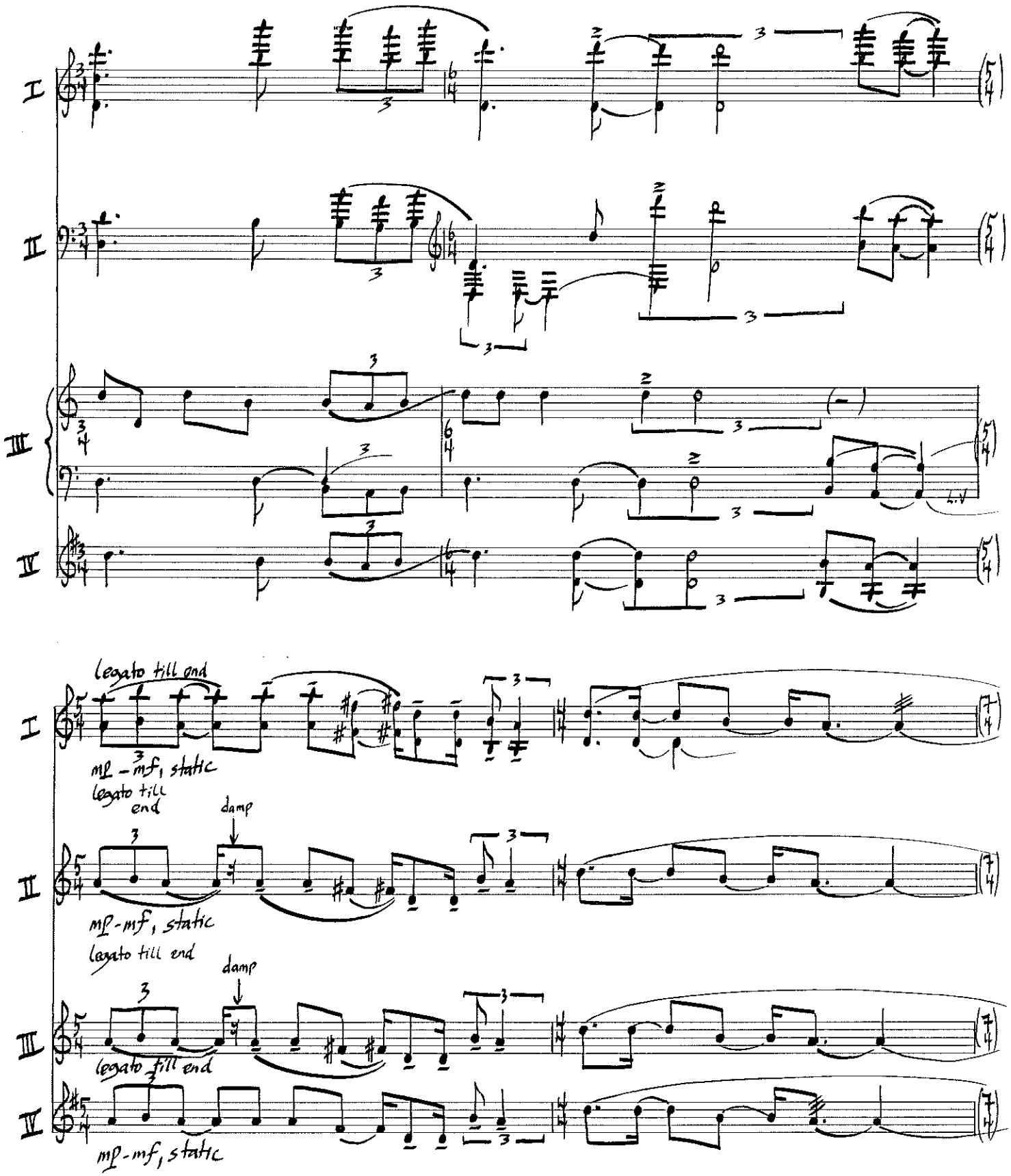



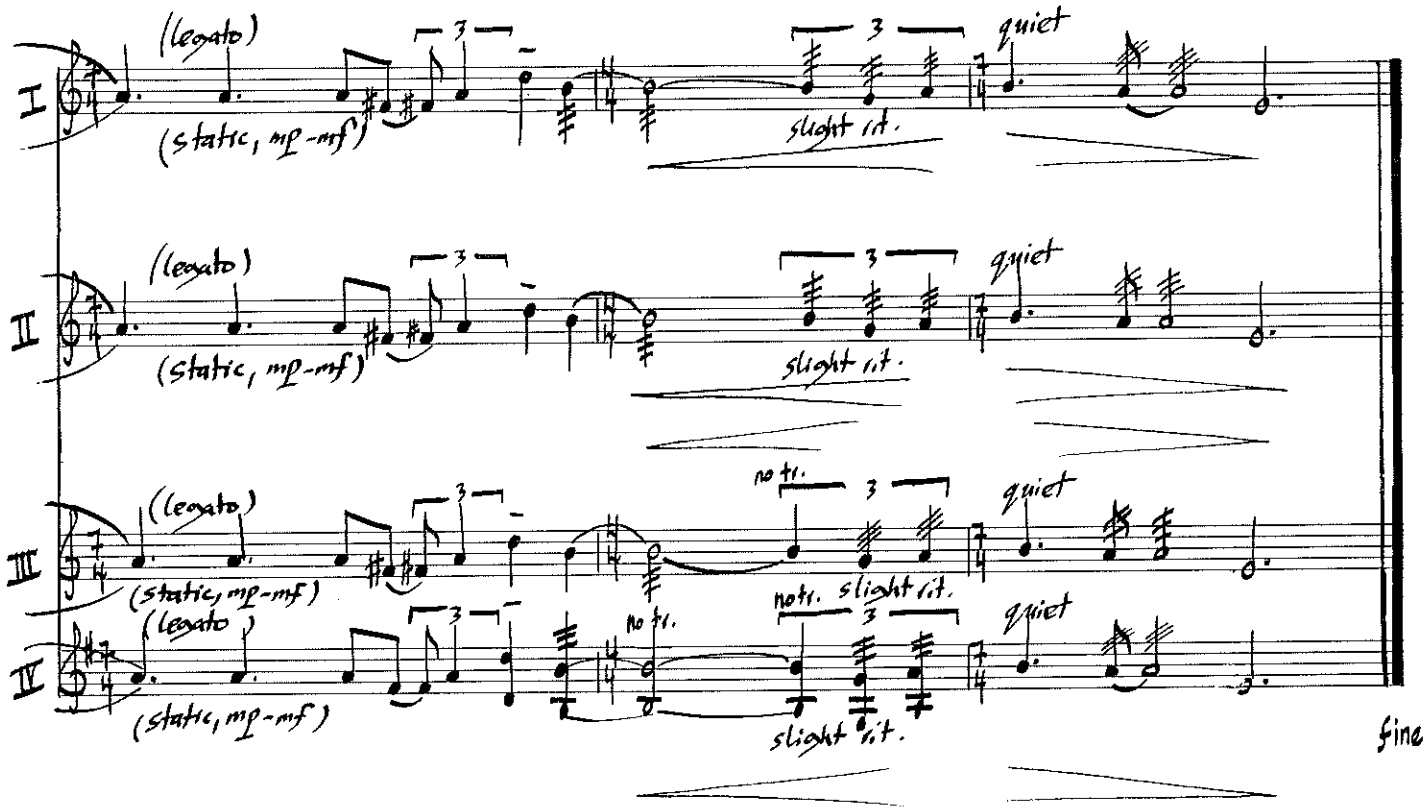

* Marimba III: On a five octave marimba these two notes should be doubled at the lower octave.


I
II
III
IV
quiet
2, bring out
inner voice, hold back
(2)
quiet
2, bring out
(2)
(roll if necessary)
(inner voice)
2




XVII.
a bit slower
quiet and gentle
low octave ossia
(light)
soft
quiet and gentle
(light)
soft
low octave ossia
soft ossia
(light)
one-hand tremolo
soft
(light)
(light)


I
II
III
IV
l.v
legato till end
mp – mf, static
legato till end
damp
mp-mf, static
legato till end
damp
legato till end
mp-mf, static


I
II
III
IV
(legato)
(static, mp-mf)
slight rit.
quiet
no tr.
fine