TWISTER

by Lois V Vierk and Anita Feldman

Solo Tap Dancer on Tap Dance Instrument (patented)

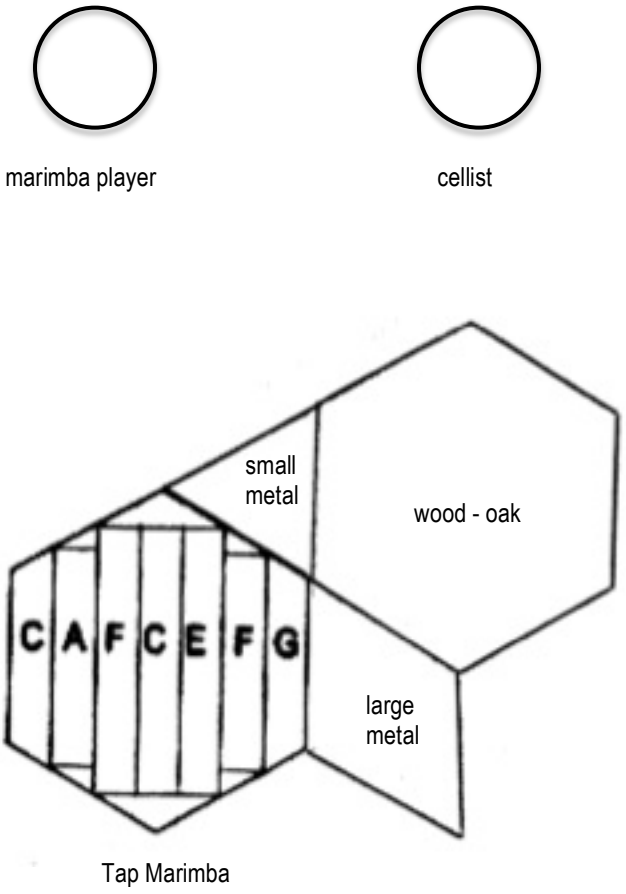
Cellist

Marimba Player

Composer and choreographer commission fees for *Twister* were made possible by a grant from Meet The Composer's Composer/ Choreographer Project, a national program funded by the Ford Foundation and The Pew Charitable Trust.

Twister Stage Diagram

(upstage)



(downstage)

(audience)

Twister Stage Diagram Explanation

All tap sounds are danced on the Tap Dance Instrument (patented), which is set out on the stage on top of a rug and whose modules are configured for this piece as shown on the *Twister* Stage Diagram. (For information about the invention of Tap Dance Instrument by Anita Feldman and Daniel Schmidt and its construction by Schmidt, see Anita Feldman's article for the February 1989 issue of the International Tap Association Newsletter, "The Tap Dance Instrument", which is included in this score.) Tap Dance Instrument is a multi-timbre modular tap dance floor consisting of six platforms, each about 9 inches off the ground. Three of the modules are shaped as hexagons of approximately 5 feet across. They are made of different woods and constructed ingeniously in varying ways, so that they have individual resonances and timbres. The other hexagonal module has 7 pitched keys to dance on and is called the "Tap Marimba". Two of the modules are smaller and are topped with metal. The modules can be arranged on the stage in any configuration as required for different pieces. *Twister* uses only 4 of the 6 modules -- Tap Marimba, oak wood module, and the two metal modules.

A description of all six modules is given here.

The "wood - graduated resonance" module was built so that the tapping surface is completely physically supported on one end but not on the opposing end. (Early on, dancers were calling it the "diving board".) The musical result is a graduated resonance across the surface. This means that when a dancer taps continuously with the same force from the totally supported end across to the other end, there is built-in crescendo. Decrescendo occurs naturally when the dancer taps the same but moves in the opposite direction across the platform.

The "wood - fir" module emphasizes low-pitched frequencies in the tapping sound.

The "wood - oak" module brings out all frequencies in the tap sounds, including the highs. This produces a clean, clear tapping sound, such as what is expected from a traditional quality tap dance floor.

The "Tap Marimba" has 7 pitched keys. There are a few alternate keys as well, so that various tunings are possible. The *Hexa* tuning is given in this score, and the dancers play tunes and melodic patterns with their feet. In addition, in the middle section of *Hexa,* the percussionist plays one of the larger alternate keys with a wooden beater.

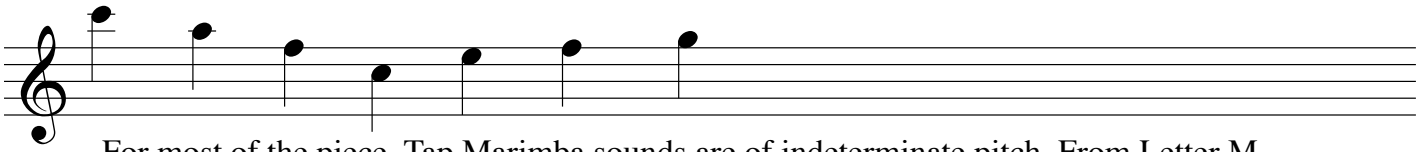
The remaining two platforms, labeled "small metal" (which is triangular) and "large metal" (diamond-shaped), are smaller in size than the other floor modules. They are topped with thick brass slabs and ring like bells, one higher pitched and the other lower.

Each of the Tap Dance Instrument platforms has an enclosed chamber underneath the dancing surface. These chambers are ideal places for insertion of microphones for sound reinforcement, to make even nuanced and soft foot sounds clear and audible to the audience. Tap sounds as well as cello and marimba sounds are carefully miked and mixed in performance.

Tap Dance

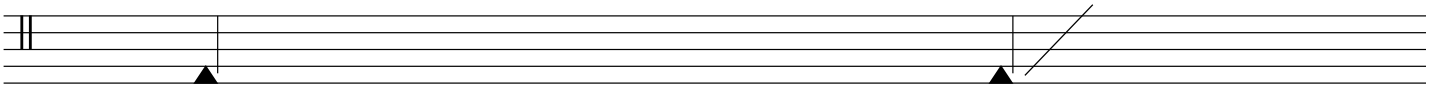
All tap sounds are danced on the Tap Dance Instrument. Please see *Twister* Stage Diagram and *Twister* Stage Diagram Explanation. This piece uses 4 of the 6 modules of Tap Dance Instrument--the oak wood module, the Tap Marimba, the small metal and the large metal module. Each Tap Dance Instrument floor module is to be miked underneath, which is to enable even small sounds made by the foot to be clearly audible.

Tap Marimba pitches, from Audience left to Audience right, sounding an octave lower than notated. (The upper octave notation was used for the sake of clarity in the score):



For most of the piece, Tap Marimba sounds are of indeterminate pitch. From Letter M to the end, Tap Marimba pitches are specified.

Measures 1-296:

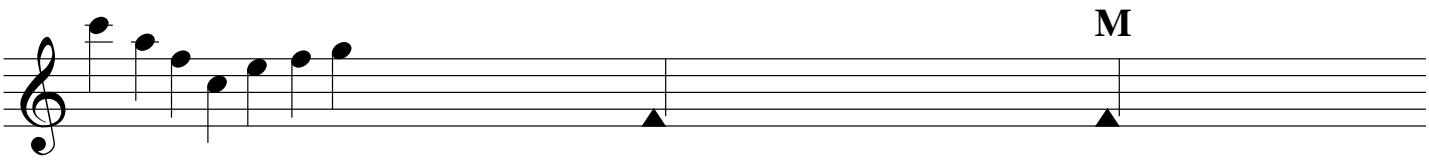


All tap sounds in these measures, danced on all floor modules, are notated in this way. The notes danced on Tap Marimba in these measures are of indeterminate pitch.

Refer to *Twister* video.

In Letter H and Letter I, some notes have "glissando" lines. These sounds are to be made by scraping tap shoe across the oak wood floor module. Use entire note value for the "glisss".

Measure 297-end:



In these measures, all Tap Marimba sounds are notated with regular noteheads in treble clef. All Tap Marimba pitches are specified.

This notation is for tap sounds on floor modules other than Tap Marimba.

The "M" means "metal" and is added onto a few notes as cues for the ensemble. There are many more sounds danced on metal floor modules than those marked with "M".

Cello and Marimba

See *Twister* Stage Diagram for location of instruments on the stage.

Both cello and marimba must be close-miked for sound reinforcement. The amplified cello, marimba and tap dance sounds must be mixed carefully during performance by a sound engineer.

Cello should play more accented than usual to blend with marimba and tap dance.

Instrumental parts were made for 8.5 X 14 inch paper.
Cello page 1 is on the left and page turns are after even-numbered pages.
Marimba page 1 is on the right and page turns are after odd-numbered pages.

For questions about the score, contact
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www.loisvvierk.com

Tech

A high-quality stereo sound system is required.

Cello and marimba must be close-miked. Two mikes are needed for the marimba.

Tap Dance Instrument must be miked:

> *Twister* uses 4 modules of Tap Dance Instrument. These 4 platforms are each about 6 inches off the floor, ranging in size from about 2'X2' to 6'X6', for the tap dancer to dance on. The 4 platforms are called 1) wood - oak 2) Tap Marimba 3) small metal and 4) large metal. Each platform must be miked from inside. Here are the suggested mikes:
>
> 1) wood - oak -- PZM.
> 2) Tap Marimba - - two AKG 451's or 460's, with cartioid capsule.
> Pan Tap Marimba sound so it moves across the stage from left to right as the dancer moves.
> 3) small metal -- one dynamic cartioid or AKG 451 padded down.
> 4) large metal -- one dynamic cartioid or AKG 451 padded down.
>
> Use foam or mike mice to mount mikes inside Tap Dance Instrument.

Sound engineer must carefully mix *Twister* in performance.

The Tap Dance Instrument™

by Anita Feldman

Since I started making tap dances in 1983, my major focus has been to compose the tap along with the music, in collaboration with new music composers, so the music and tap are equal partners. I found, however, as we performed around the country that even the most expert sound technician could not amplify the taps as well as they could amplify other instrumentation. This problem was exacerbated by the varying qualities of the floors: amplification of dead, monotonous sound *still* sounded dead and monotonous.

Soon after I began choreographing tap, I had the idea that a floor made of various woods, and perhaps metals, would be extremely interesting. I particularly wanted to produce a sound that would ring, to contrast it to the percussive tap sound. Three National Endowment for the Arts applications later, I got funding to proceed on this rough idea.

During the first six months I spoke with numerous sound experts about the project including: Arthur Stidfole, director of *Good Sound Foundation*; Larry Polansky, Dean Drummond, and Stuart Smith, composers; and Bart Hopkin, editor of *Experimental Musical Instruments*. After studying electronic and acoustic sound production, I decided I wanted to design an acoustic musical instrument that would not only expand the kind of timbres I could play with my feet, but would also be beautifully resonant. After a thorough search I chose (and was chosen by) an adventuresome and brilliant instrument-maker from Berkeley, California, named Daniel Schmidt. In one phone conversation with him my vague ideas started to take shape.

He decided the instrument would be visually beautiful if the parts were hexagonally shaped. Having never made a hexagonal instrument before meant he would have to do a lot of creative experimentation to discover how best to produce sound from a hexagonal surface. The freer a surface is to vibrate, the more resonant the sound. To lift a surface off the floor and support it without limiting the vibration, it must be supported at specific points that do not vibrate when the surface is struck. One of the many problems we had to solve was to determine where those points would be on a hexagon.

Before I got to California, Daniel built numerous hexagons out of different woods and in different thicknesses. I tapped on each of them with varying supports underneath. We quickly discovered that the way the surface was supported greatly influenced the sound quality, perhaps even more than the type of material. Moving the support an inch one way or the other completely changed the sound.

We chose the supports to magnify the natural qualities of the woods. For instance, oak tended to give a good variation between the highs of the toe and the lows of the heel. It had somewhat of a tight, non-pitched sound. To accentuate the qualities, we decided to put support all around the edge of the instrument, lessening its vibration. Fir is a softer wood, and therefore more resonant. To enhance that, we supported the fir so it could freely vibrate.

Through experimentation, we designed three contrasting wood hexagons: one made out of oak, and two made out of fir. We then started to experiment with metal. I wanted to keep the floor as

light-weight as possible. So we began with the lightest metal, aluminum. Unfortunately it made a dull, uninteresting sound. Daniel had some samples of brass and I, without much enthusiasm (a one foot square piece of brass weighs about seventy pounds), started to tap on it. It was beautiful! It had a rich, tonal, ringing quality with numerous overtones when I was not standing on it, and a contrasting metallic percussive sound when I was. We decided to make two brass modules, one a triangle, one a parallelogram. We had one more module to design and neither of us knew what we wanted.

Daniel brought out some small rectangles of spruce for me to try. Dancing on them created specific pitches and had a wonderful quality of sound, similar to slit drums. I fell in love with dancing on them. A more percussive, less tonal effect came from standing on the same key as I was playing, and a resonant pitch resulted from playing a key I wasn't standing on. There was a full range of possible subtle control with this instrument, and it became the last module of The Tap Dance Instrument (TDI)™.

The design work was complete, but the nitty-gritty work began. During experimentation, the surfaces were loosely resting on the supports. Daniel had to attach the supports to the surfaces without changing the sound qualities. Even more vital, each module needed to withstand up to four hundred pounds of weight (three dancers) and years of abrasive tapping without cracking or tipping over. He also chose the tuning for the marimba and the wood finish. His final job was to design and build the packing crates.

Daniel did an amazing job solving these problems. I, in collaboration with composer Lois V. Vierk, choreographed and composed the first dance for the TDI™ in the spring of 1988. "Hexa," a quartet for myself, David Parker, Rhonda Price, and percussionist Gary Schall, premiered at the American Dance Festival in June 1988. After months of rehearsal, six air freights, and four performances, the instrument is a little worse for wear, but sounding as wonderful as ever.

The instrument can be used acoustically since it is designed to project the sound. It can also be very easily amplified with PZM microphones placed in each module. Because the sounds are varied and tonal, and because the instrument can be so well amplified, the TDI™ will open up new realms for the use of electronics and midi-processing with tap dancing.

Although TDI™ solved my original sound dilemmas, it created new practical difficulties: many performance spaces don't have the sophisticated sound systems we require; transporting the instrument is an expensive project; and now I have storage requirements, as well as rehearsal requirements.

However, TDI™ is extraordinarily rich with a broad range of creative possibilities. And far outweighing my worries about these new practical problems, is my excitement about where The Tap Dance Instrument™ will take us.

Photo: Daniel Brelin

Rhonda Price, Anita Feldman, and David Parker in *Hexa* by Anita Feldman and Lois V. Vierk. Tap Dance Instrument by A. Feldman and Daniel Schmidt

TWISTER (1993)
by Lois V Vierk and Anita Feldman

Twister is one of six music/tap dance works co-created by tap dance choreographer Anita Feldman and composer Lois V Vierk during the 1980s and 90s and is one of a number of works that Feldman created with various composers for her Tap Dance Instrument (patented). It had long been Feldman's belief that music made by the feet was equal to music made by musical instruments. Desiring to dance on an instrument that would allow the dancers' feet to make resonant and varied music in any performance situation, she joined forces with San Francisco instrument builder Daniel Schmidt to design the modular and portable Tap Dance Instrument, which was then constructed by Schmidt in 1987. The Tap Dance Instrument consists of six platforms, each about 9 inches off the ground. They can be arranged in any desired configuration. Three of the modules are hexagons of approximately 5 feet across, made of different woods and constructed in varying ways, so that they have individual resonances and timbres. A fourth platform is the "Tap Marimba" with 7 pitched keys. These large wooden keys can be replaced with alternates, so a number of tunings are possible. The remaining two platforms are smaller and are topped with thick brass slabs. They ring like bells, one higher pitched and the other lower. *Twister* uses 4 of the 6 floor modules, namely the wooden oak module, the Tap Marimba, and the two brass-topped modules.

Twister originated from the artists' desire to make a piece that would feature a solo dancer's virtuoso tapping ability. The work combines tap, cello and marimba to create sounds and movements inspired by wind -- from gentle breezes to twisting tornadoes.

Feldman and Vierk worked together on all major aspects of the work. They experimented with different tapping techniques on each of the Tap Dance Instrument floor modules. They developed sound materials and phrases together, and these later turned into larger sections and then into the entire piece. The cello and marimba parts were composed to intertwine with the tap dance part.

Composer and choreographer commission fees for *Twister* were made possible by a grant from Meet The Composer's Composer/ Choreographer Project, a national program funded by the Ford Foundation and The Pew Charitable Trust.

The premiere of *Twister* was at a music concert presented at Merkin Hall in New York City by the ISCM (International Society of Contemporary Music) on March 18, 1993. Anita Feldman Tap (Anita Feldman's dance company) performed *Twister* many times after that, at both dance and music venues. Performance highlights include New York City venues Town Hall, Woodpeckers Tap Dance Center, The Kitchen, and radio WNYC-fm, as well as at Dance Place in Washington DC. The piece was performed in Germany at Podewil concert hall in Berlin, Theaterhaus in Frankfurt, Galerie Rose in Hamburg and Pro Musica Nova Festival, Radio Bremen.

Over the years *Twister* has been danced by Anita Feldman and by Rhonda Price. Cellists have included Ted Mook, Mark Stewart and Bruce Wang. Marimba players have included Tigger Benford, Michael Lipsey, Gary Schall and Thad Wheeler. Costume design is by Denise Mitchell. Lighting design is by Sarah Sidman.

Anita Feldman dances *Twister* on Tap Dance Instrument.

Photo by Tom Caravaglia.

Rhonda Price dances *Twister* on Tap Dance Instrument.

Photo by Tom Caravaglia.

Photo by Tom Caravaglia (c) 1994

Anita Feldman and Lois V Vierk with Tap Dance Instrument (patented)

TWISTER

by Lois V Vierk and Anita Feldman

♩≈104

1

NON VIBRATO - entire piece

Cello

Tap

Hard yarn

Marimba

gliss.

8

Vcl.

Tap

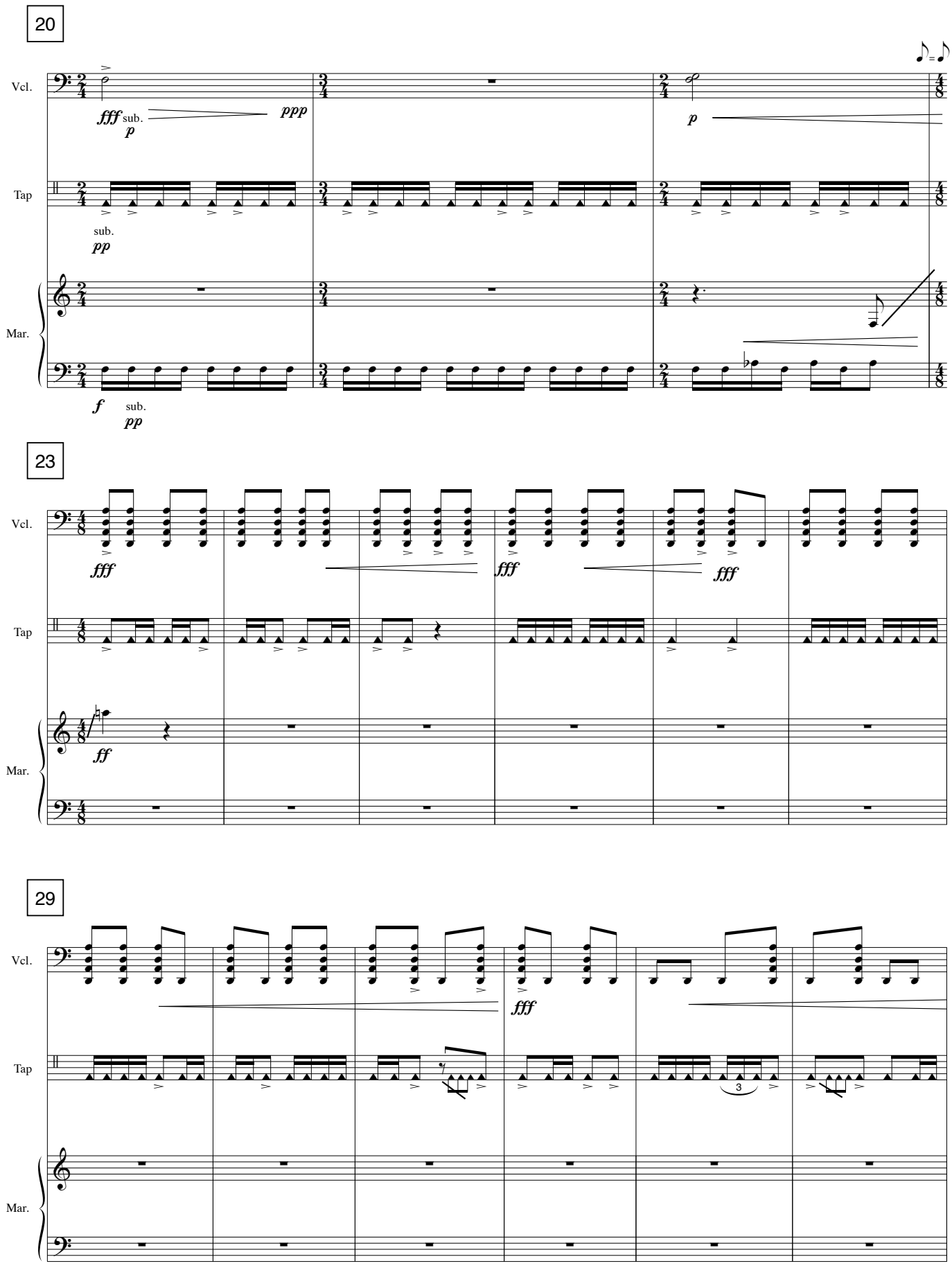
Mar.

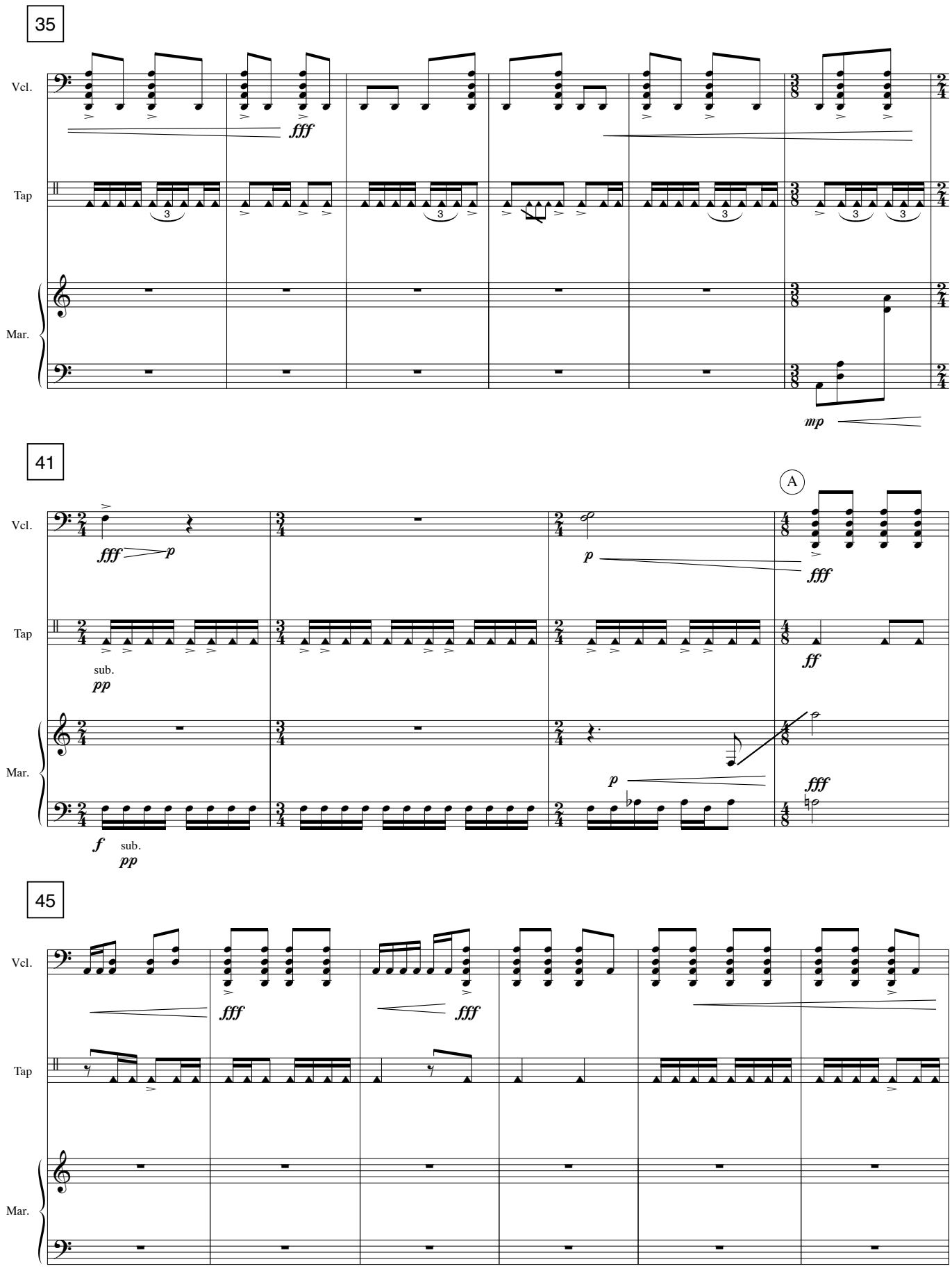
14

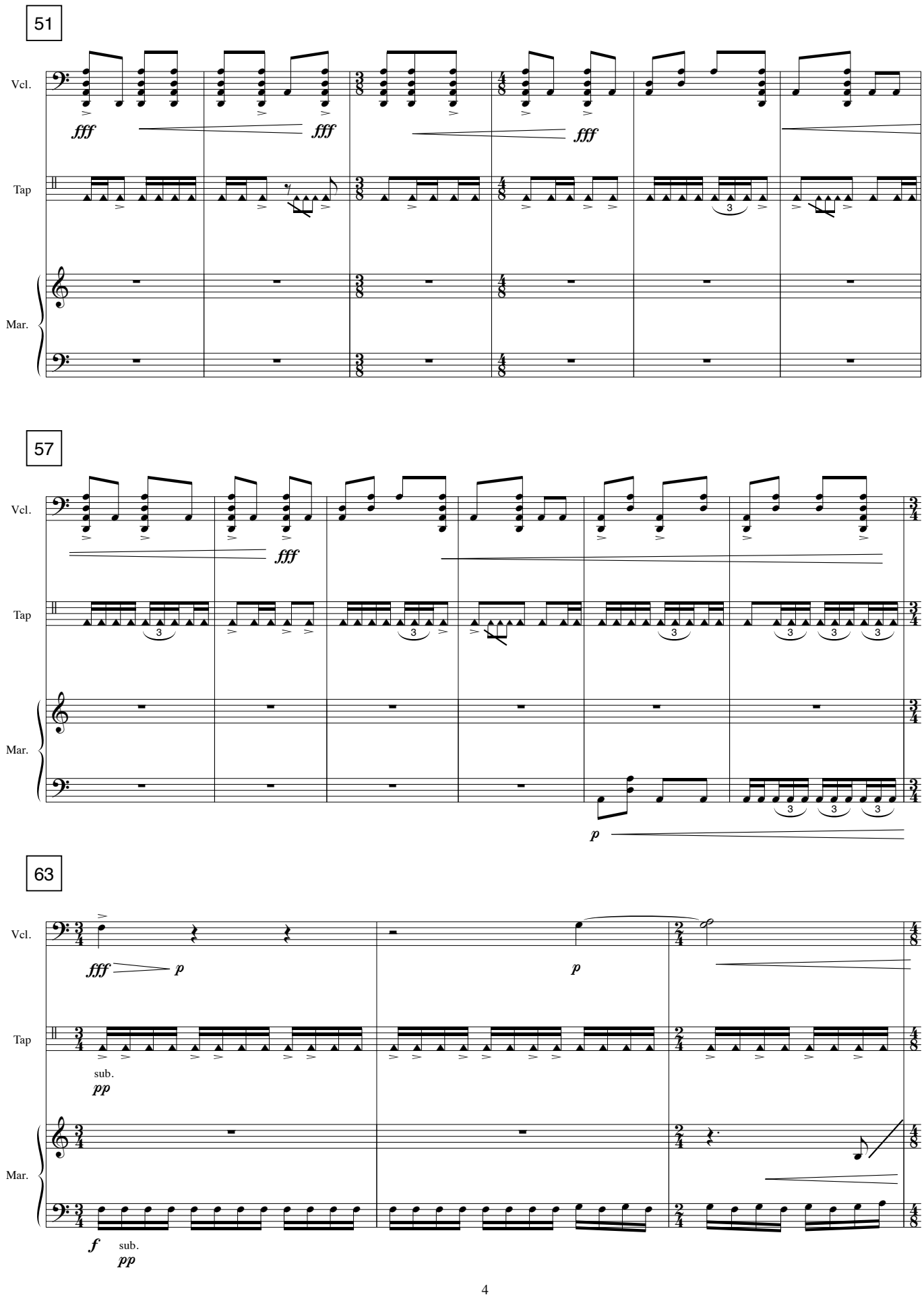
Vcl.

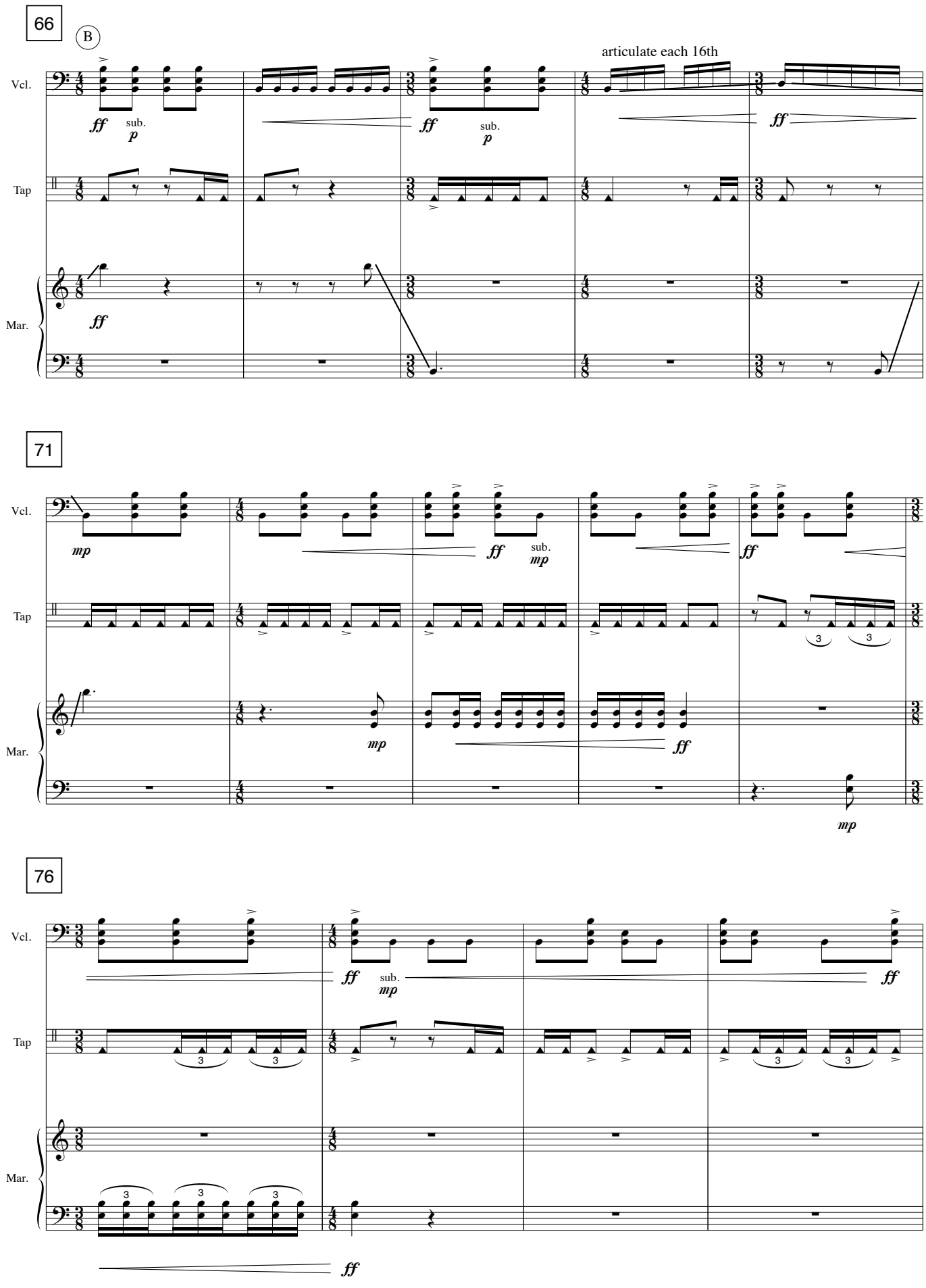
Tap

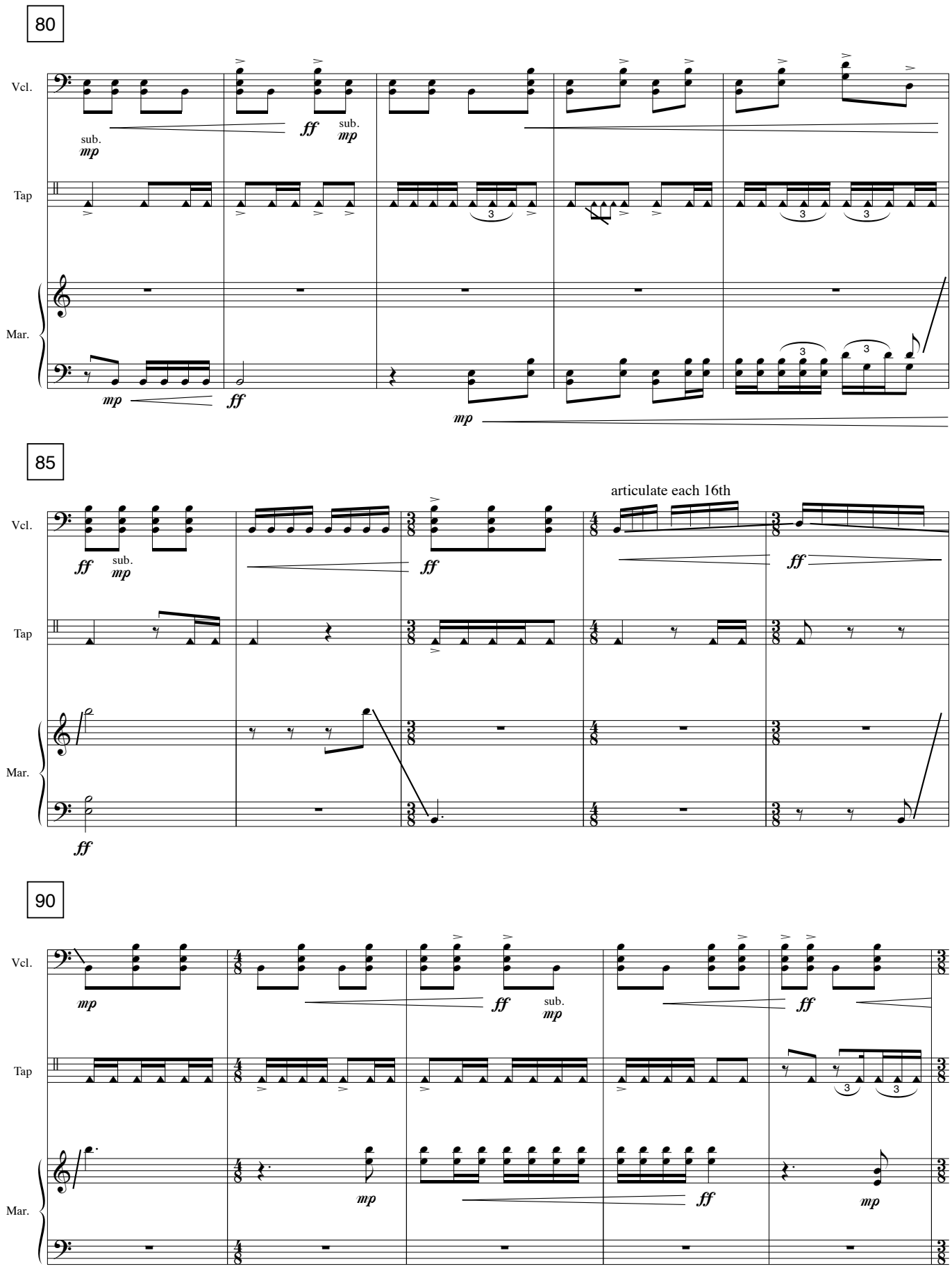
Mar.

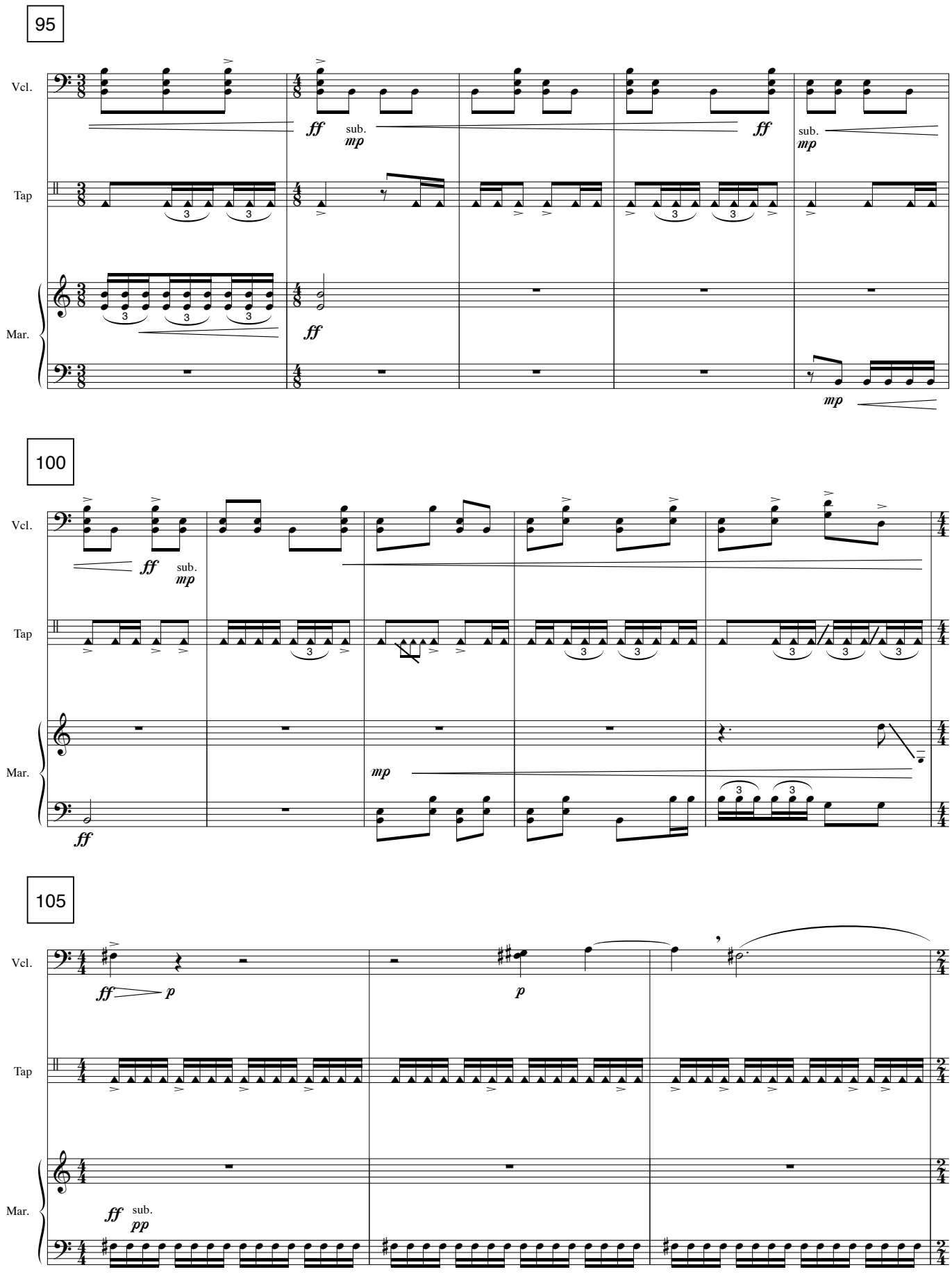

20
Vcl.
fff sub.
p
ppp
p
Tap
sub.
pp
Mar.
f
sub.
pp
23
Vcl.
fff
fff
fff
Tap
Mar.
ff
29
Vcl.
fff
Tap
3
Mar.

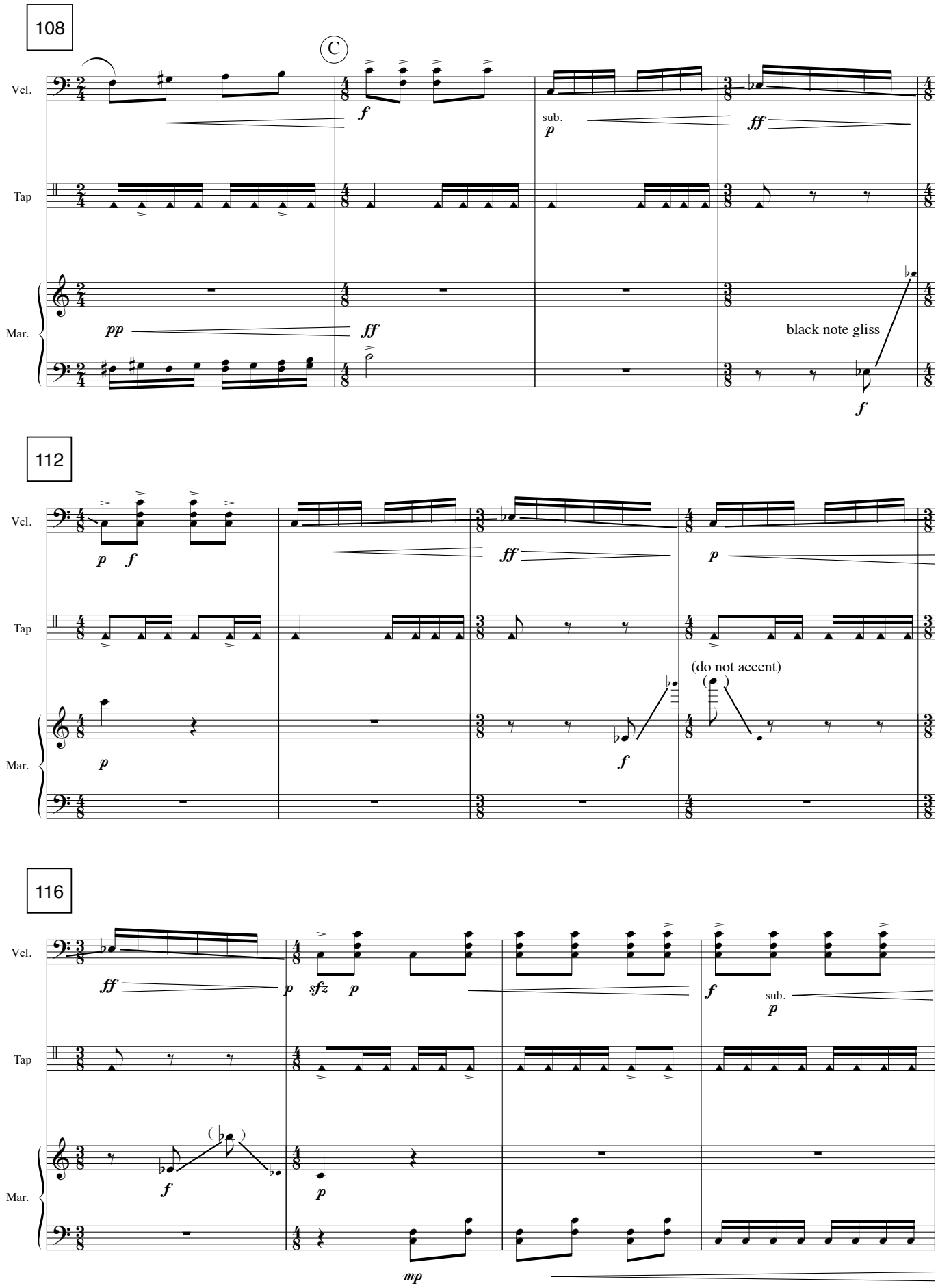

35
Vcl.
Tap
Mar.
fff
mp
41
A
Vcl.
Tap
Mar.
fff
p
fff
p
ff
p
fff
f
sub.
pp
sub.
pp
45
Vcl.
Tap
Mar.
fff
fff


51
Vcl.
fff
fff
fff
Tap
3
Mar.
57
Vcl.
fff
Tap
3
Mar.
p
63
Vcl.
fff
p
p
Tap
sub.
pp
Mar.
f
sub.
pp

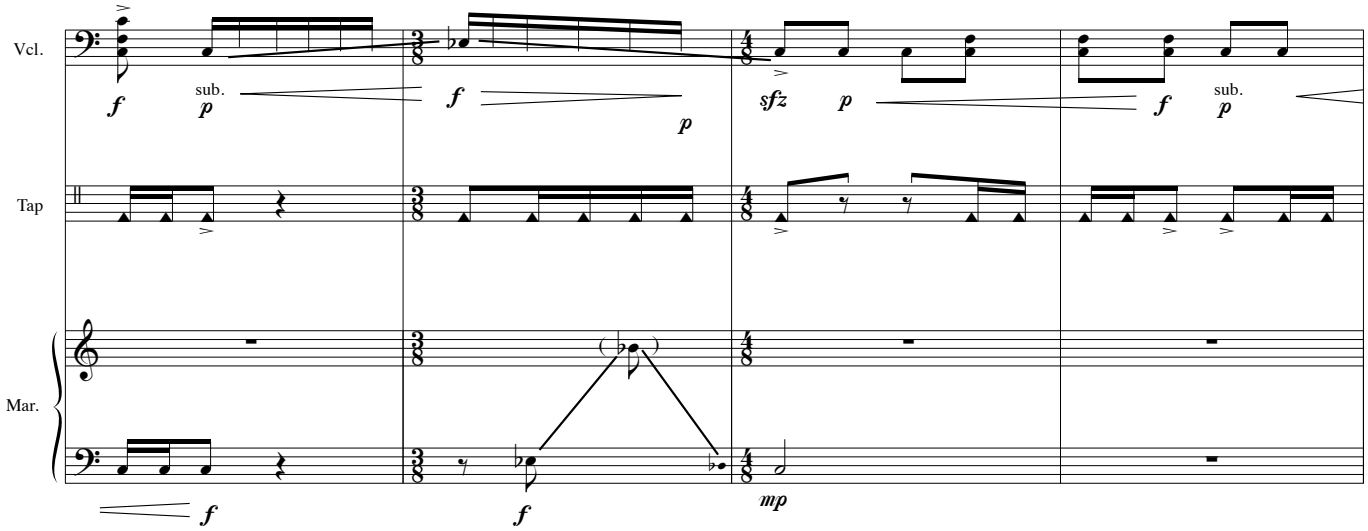

66
B
articulate each 16th
Vcl.
Tap
Mar.
ff
sub.
p
71
mp
sub.
mp
3
76


80
Vcl.
sub.
mp
ff
sub.
mp
Tap
3
Mar.
mp
ff
mp
85
articulate each 16th
Vcl.
ff
sub.
mp
ff
ff
Tap
Mar.
ff
90
Vcl.
mp
ff
sub.
mp
ff
Tap
3
3
Mar.
mp
ff
mp

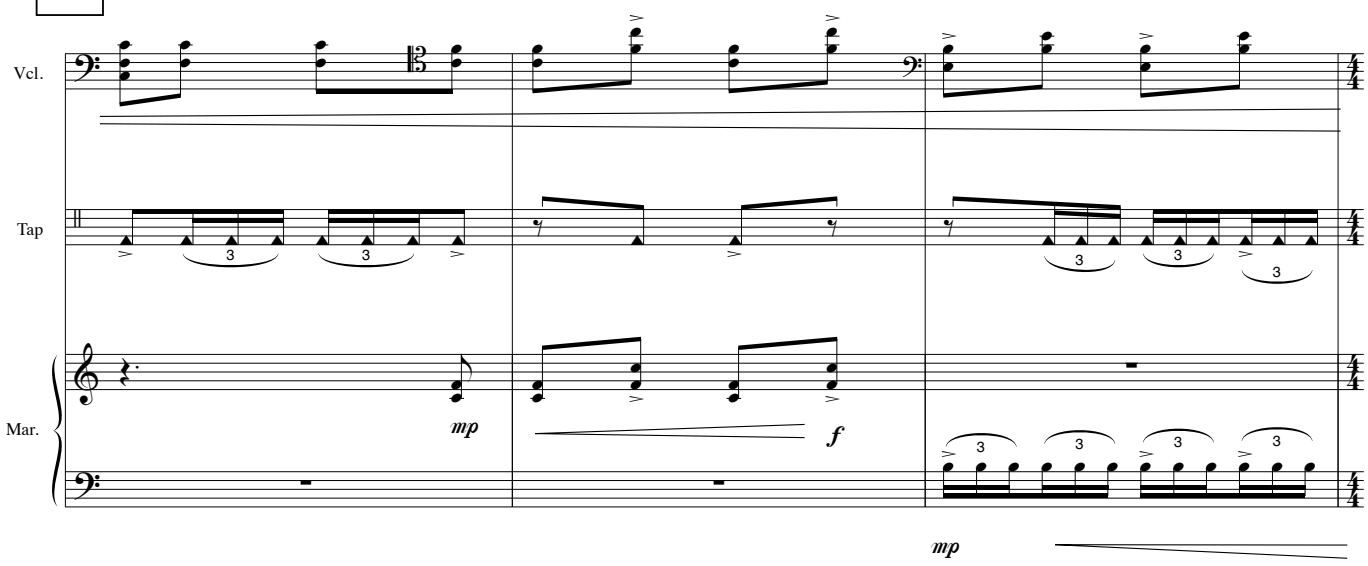

95
Vcl.
Tap
Mar.
ff
sub.
mp
100
105
pp
p


108
C
Vcl.
Tap
Mar.
f
sub.
p
ff
pp
ff
black note gliss
f
112
Vcl.
Tap
Mar.
p
f
ff
p
p
f
(do not accent)
116
Vcl.
Tap
Mar.
ff
p
sfz
p
f
sub.
p
f
p
mp

120



124



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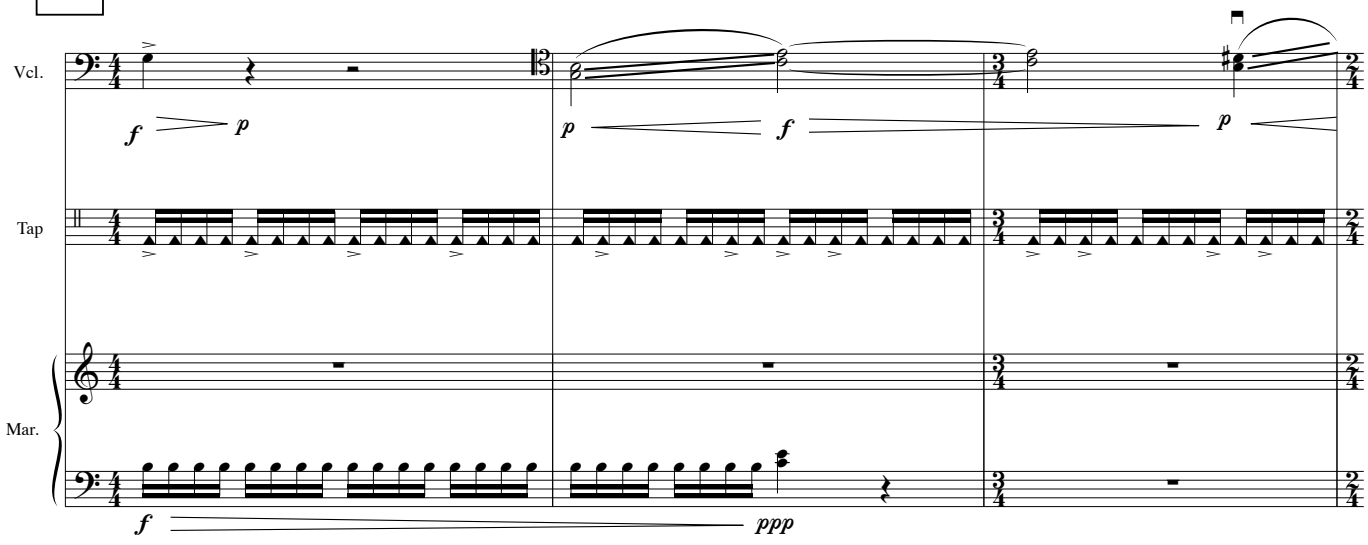
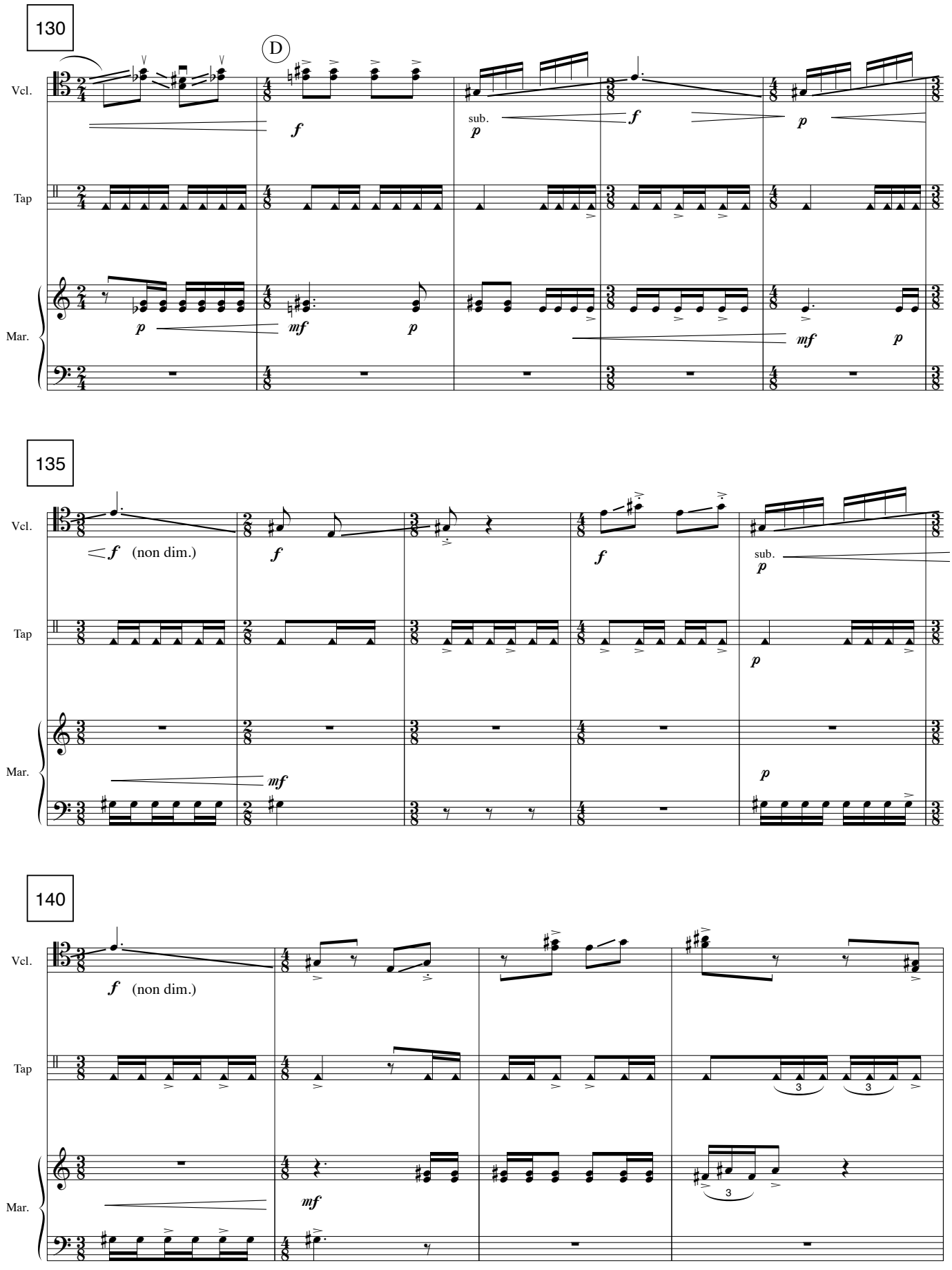
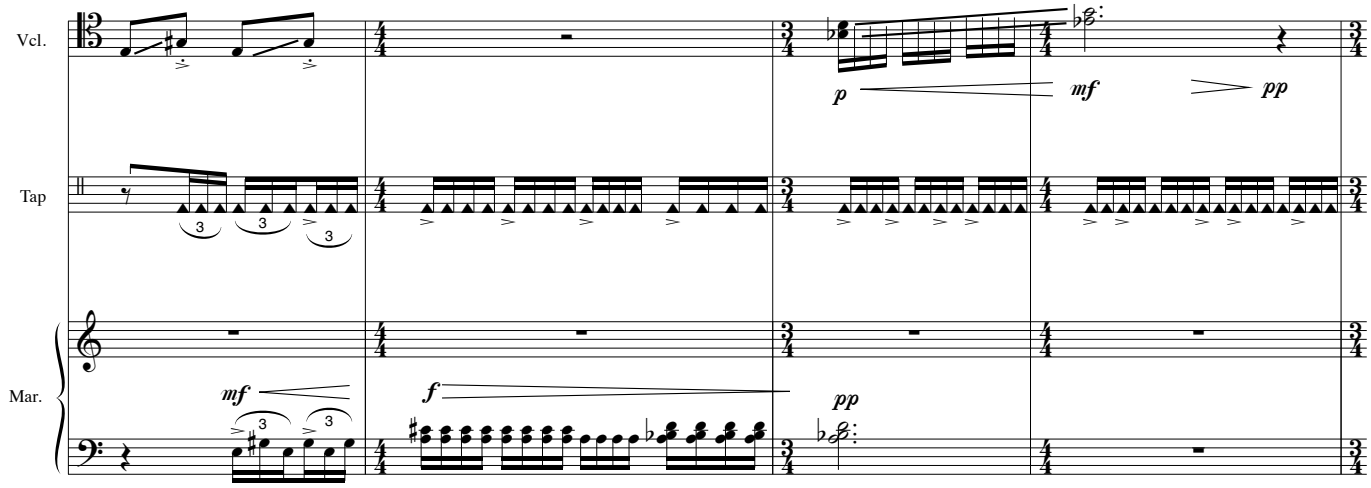
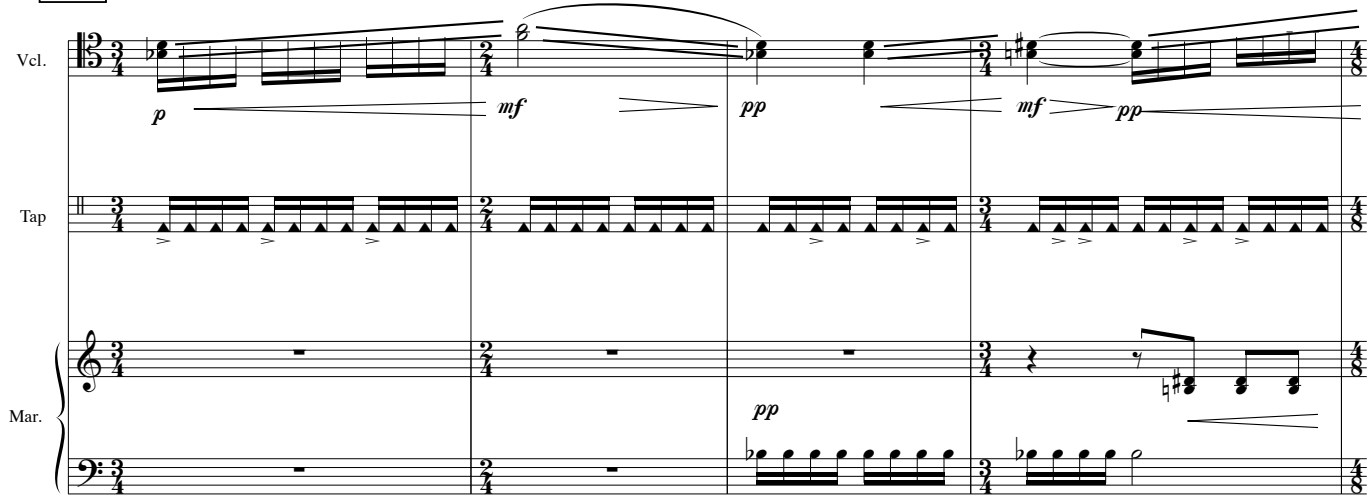



130
D
Vcl.
Tap
Mar.
f
sub.
p
f
p
p
mf
p
mf
p
135
Vcl.
Tap
Mar.
f (non dim.)
f
f
sub.
p
p
mf
p
140
Vcl.
Tap
Mar.
f (non dim.)
mf
3
3
3

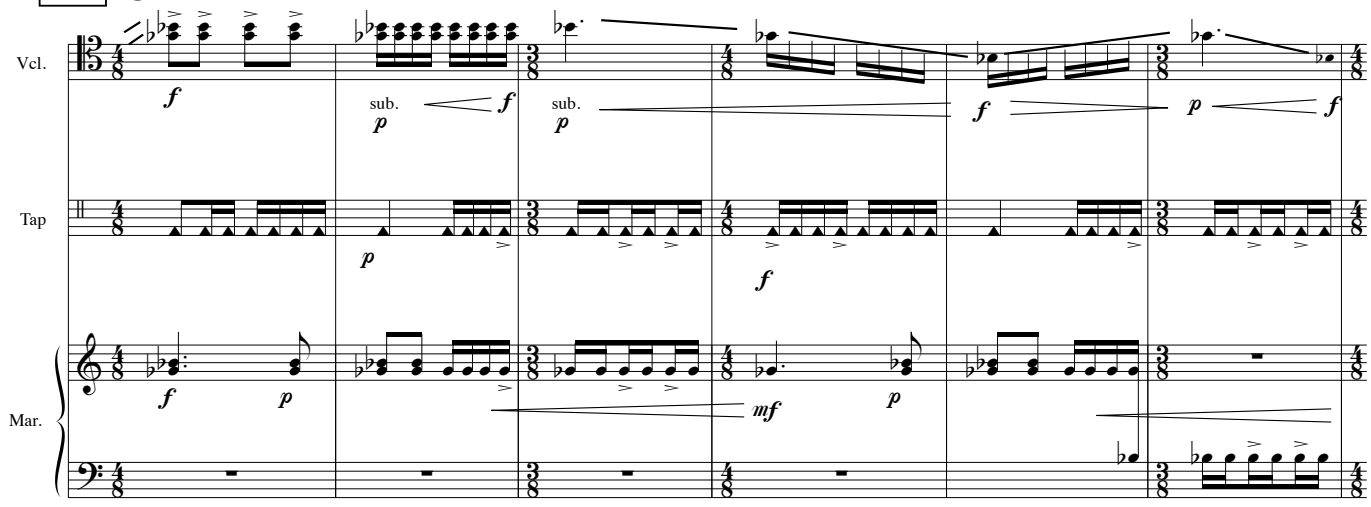
144

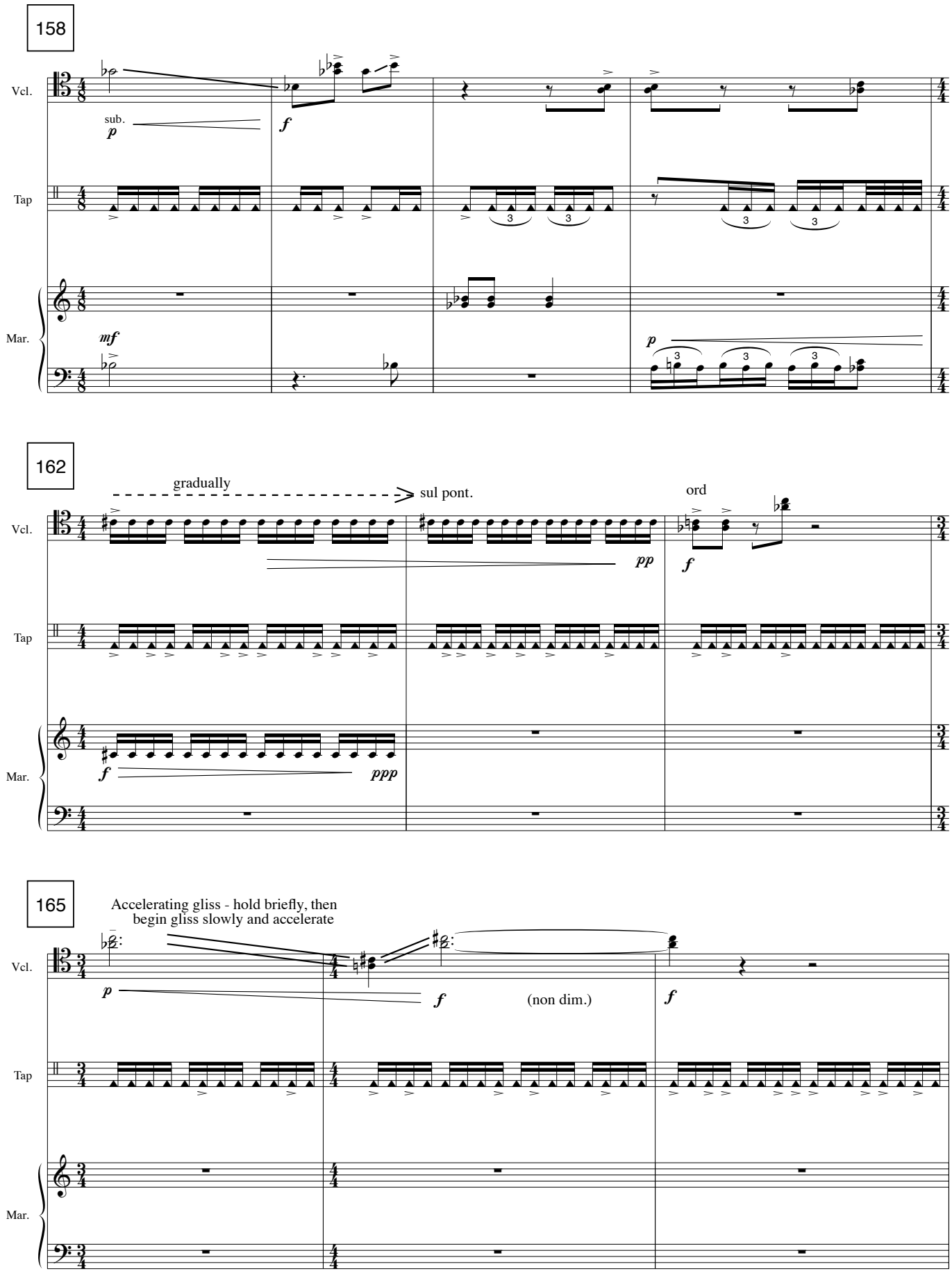

Vcl.
Tap
Mar.
p
mf
pp
mf
f
pp

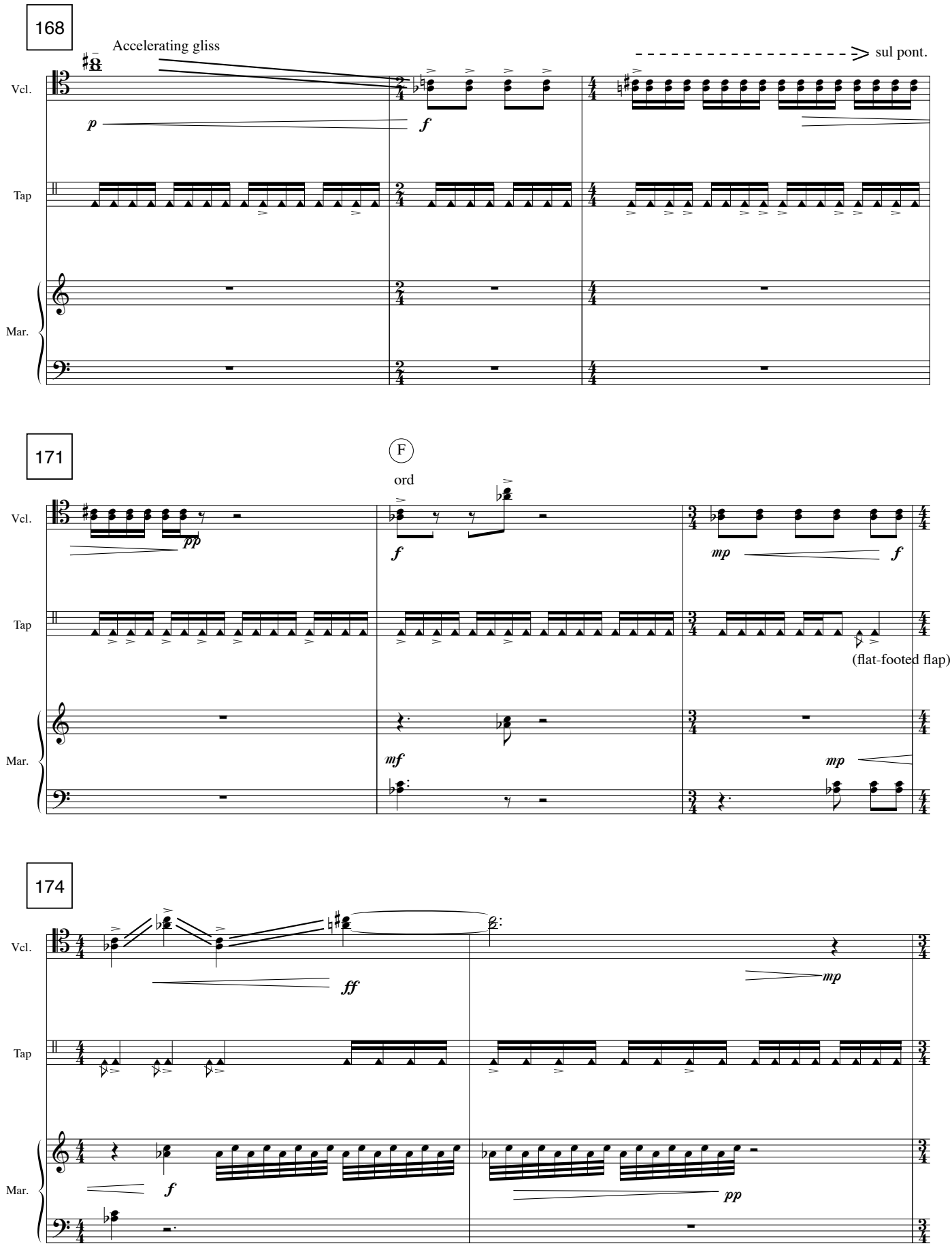
148

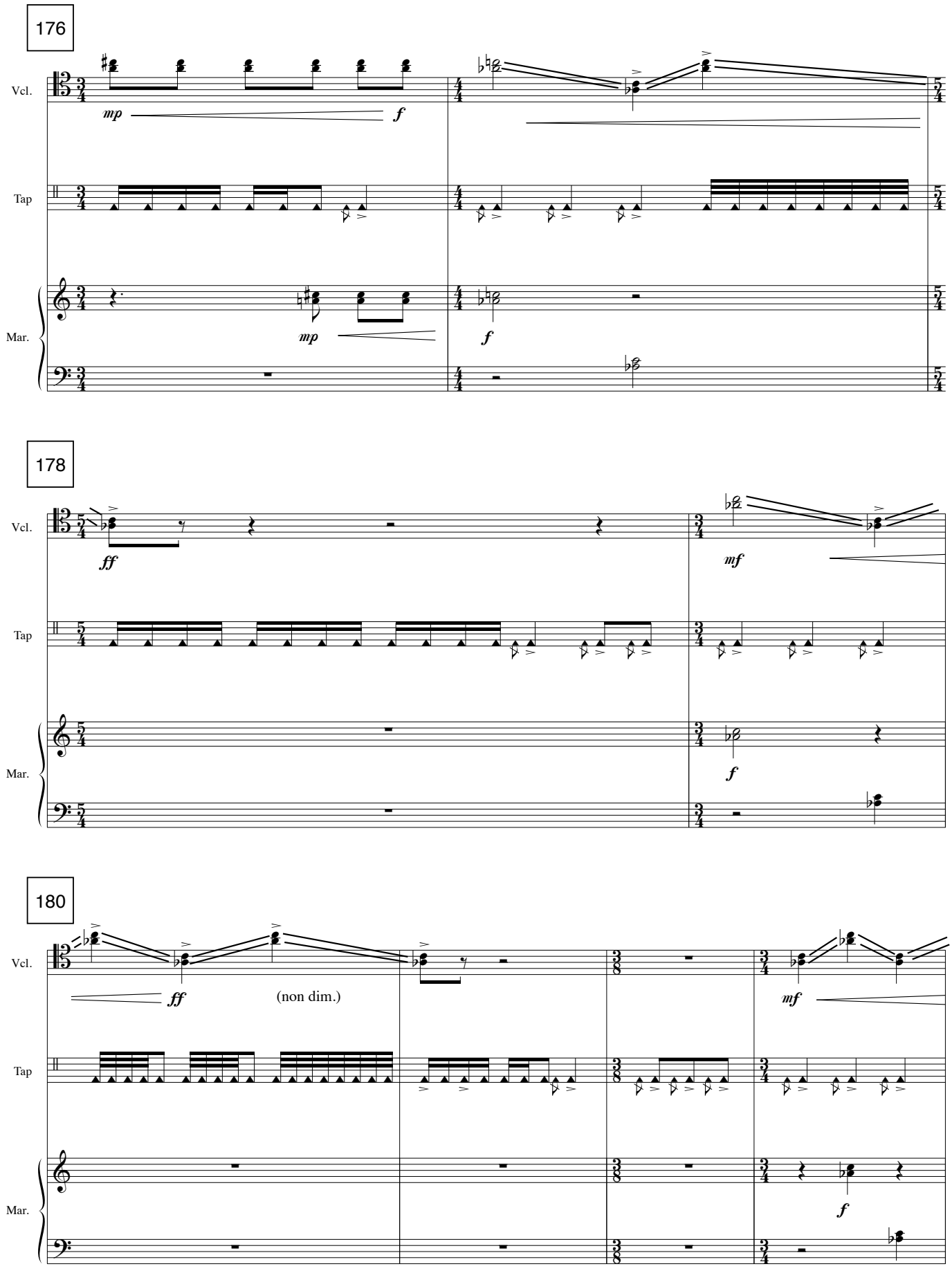

Vcl.
Tap
Mar.
p
mf
pp
mf
pp
pp

152 (E)

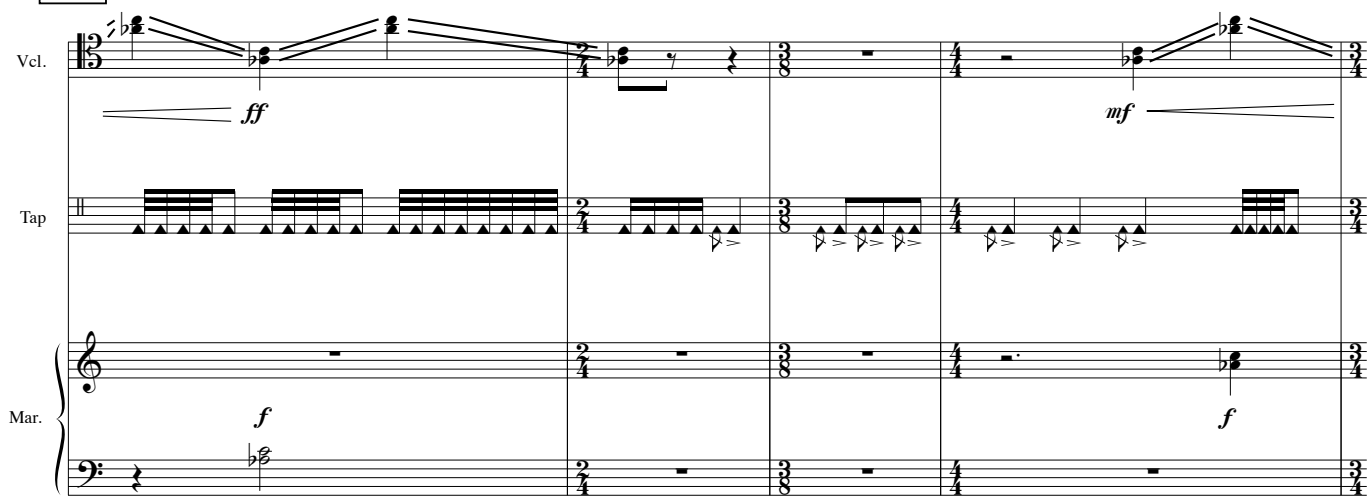

Vcl.
Tap
Mar.
f
sub. p
f
sub. p
f
p
f
p
f
f
p
mf
p


158
Vcl.
sub.
p
f
Tap
Mar.
mf
p
162
gradually
sul pont.
ord
pp
f
ppp
165
Accelerating gliss - hold briefly, then
begin gliss slowly and accelerate
(non dim.)


168
Accelerating gliss
sul pont.
Vcl.
Tap
Mar.
p
f
171
F
ord
pp
f
mp
f
(flat-footed flap)
mf
mp
174
ff
mp
f
pp


176
Vcl.
Tap
Mar.
mp
f
mp
f
178
Vcl.
Tap
Mar.
ff
mf
f
180
Vcl.
Tap
Mar.
ff
(non dim.)
mf
f

184



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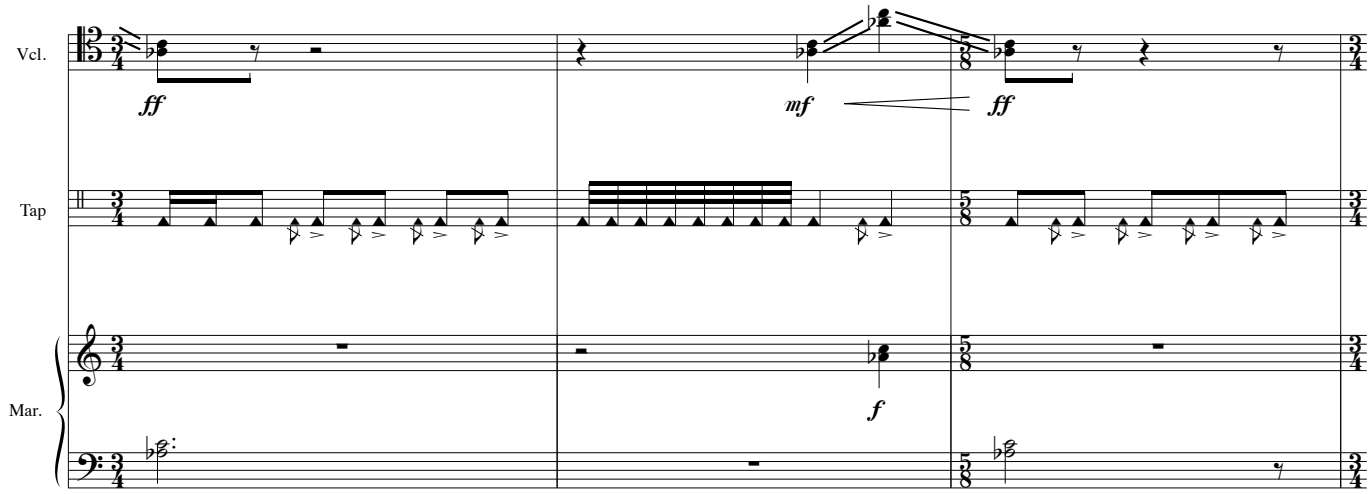
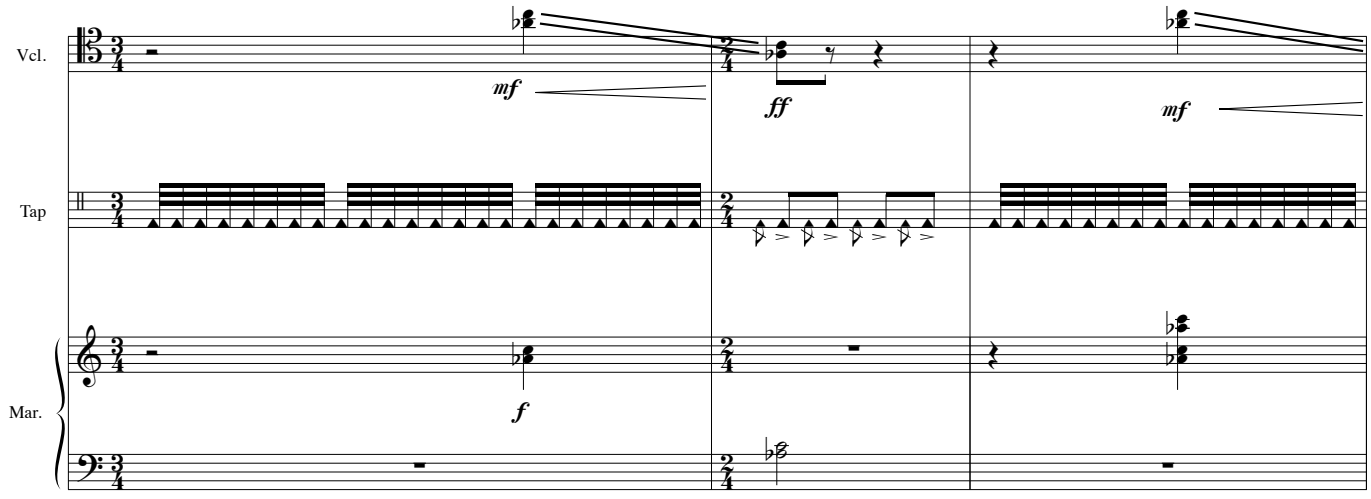
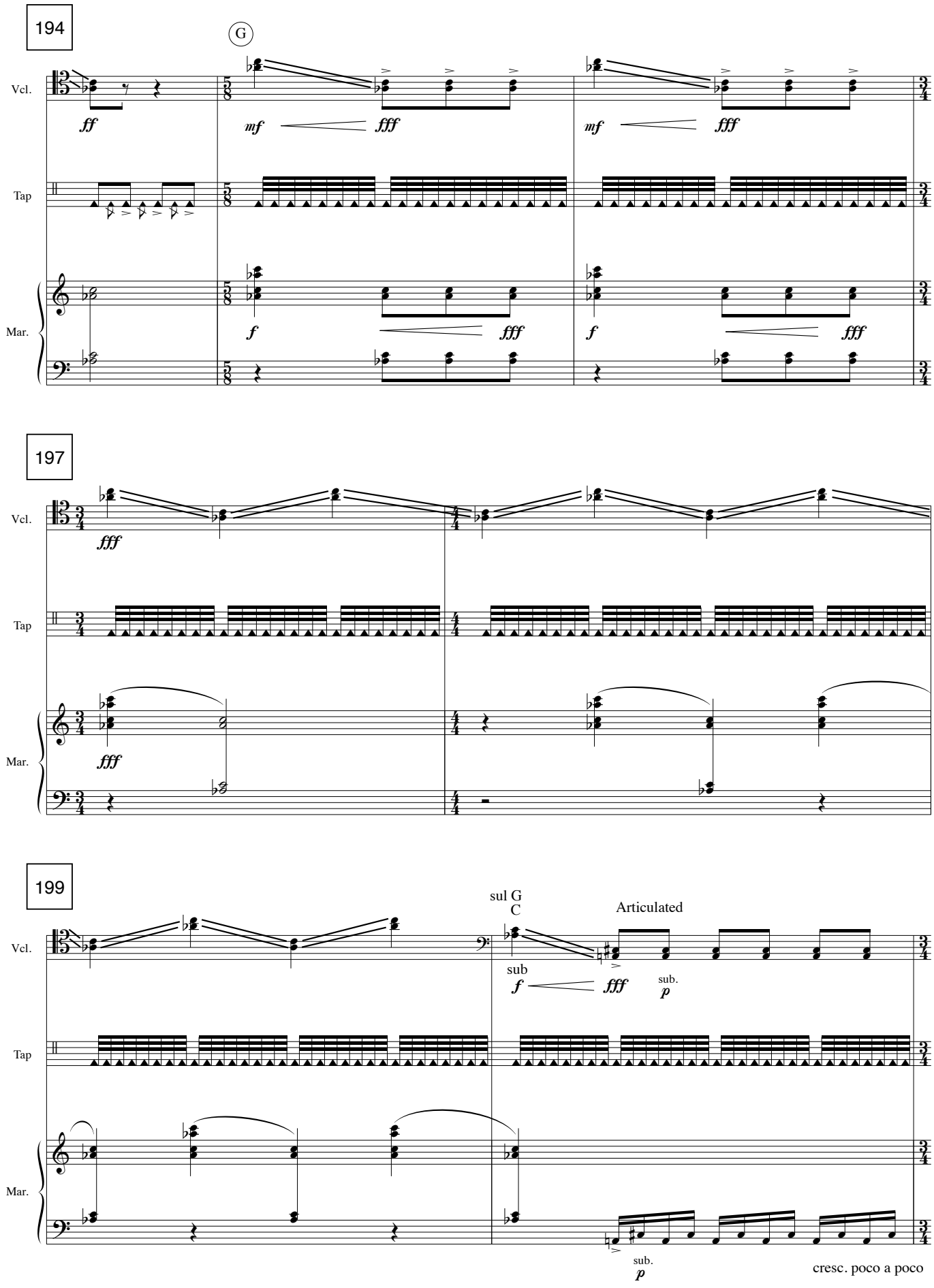
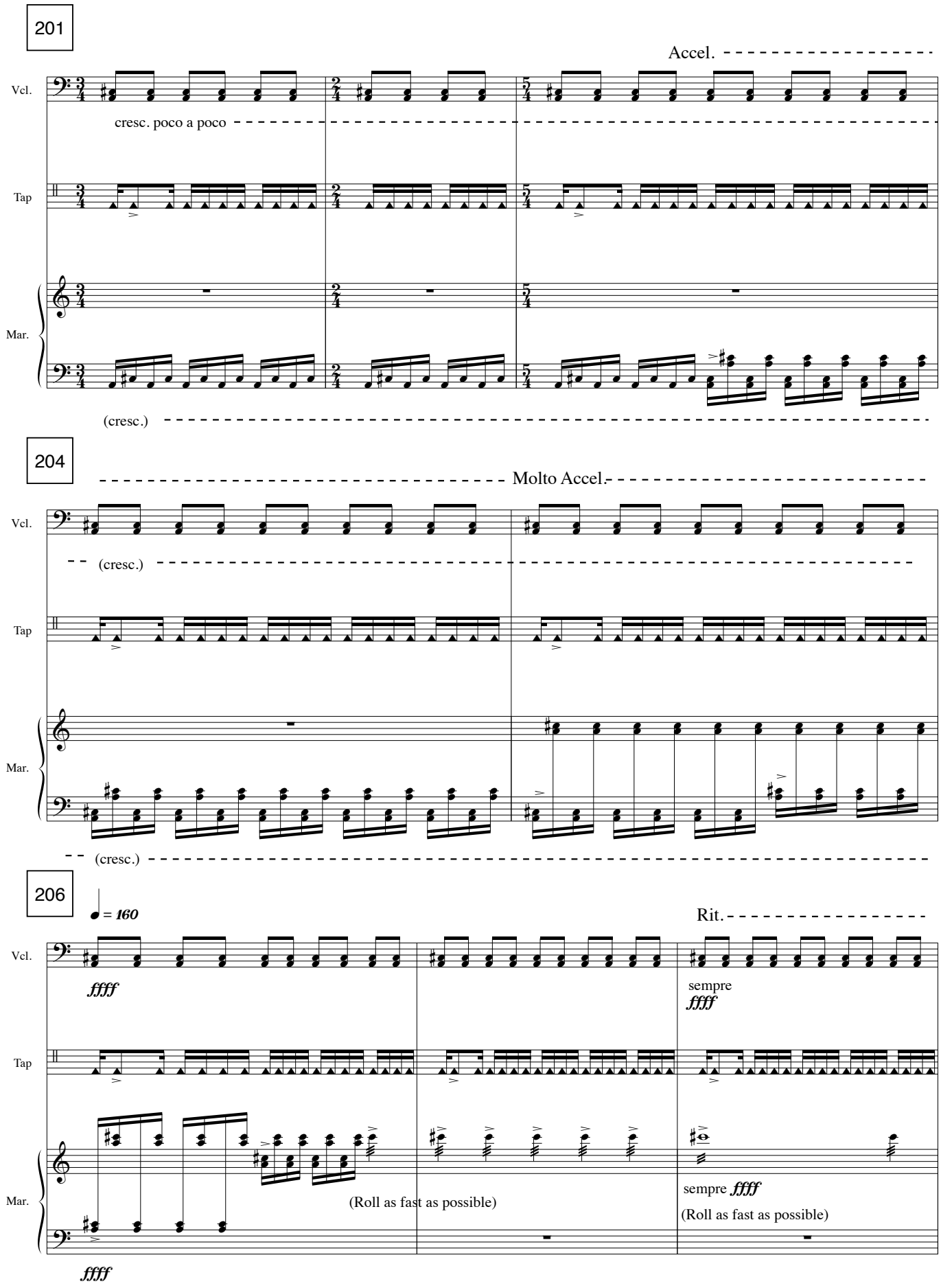
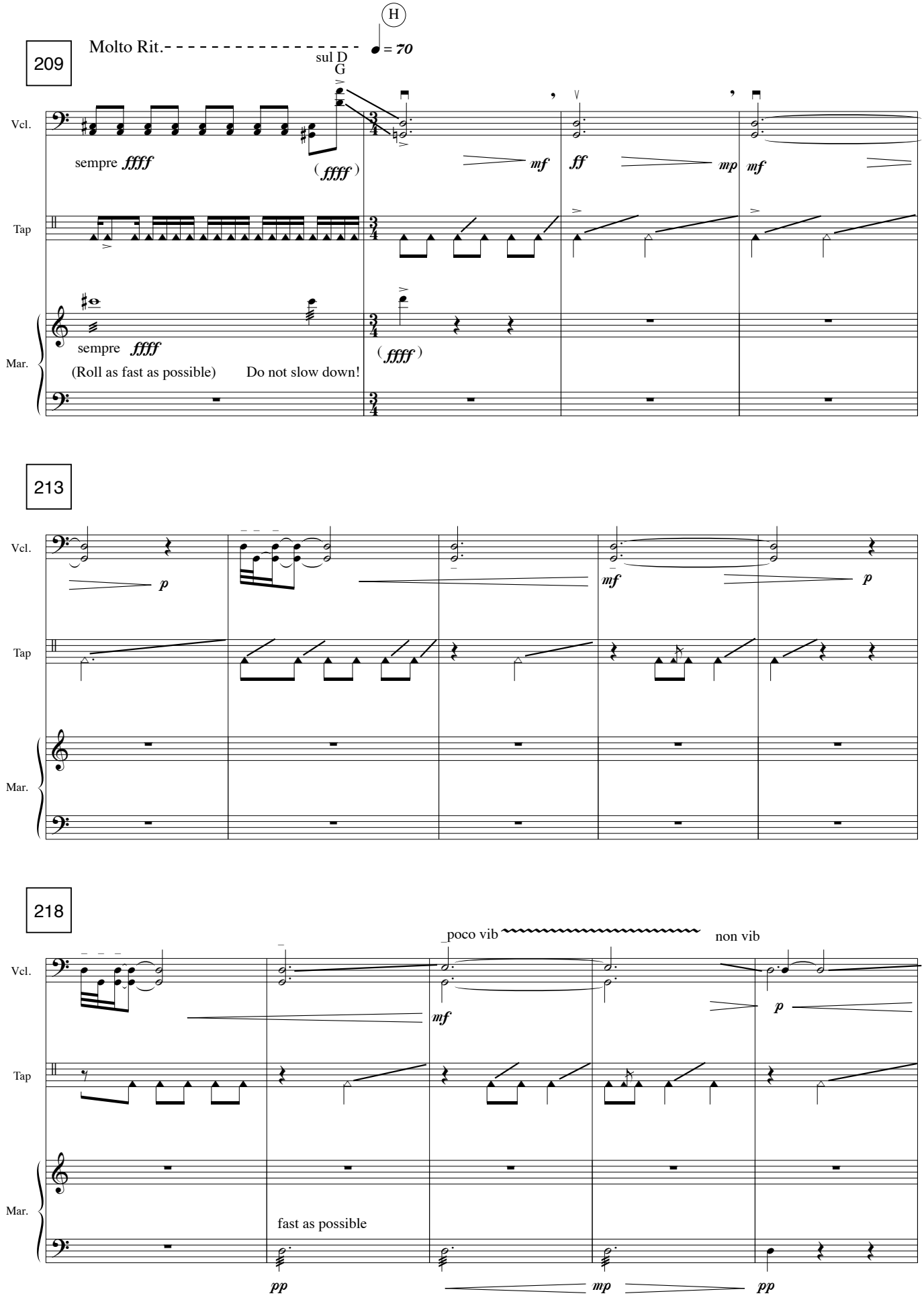


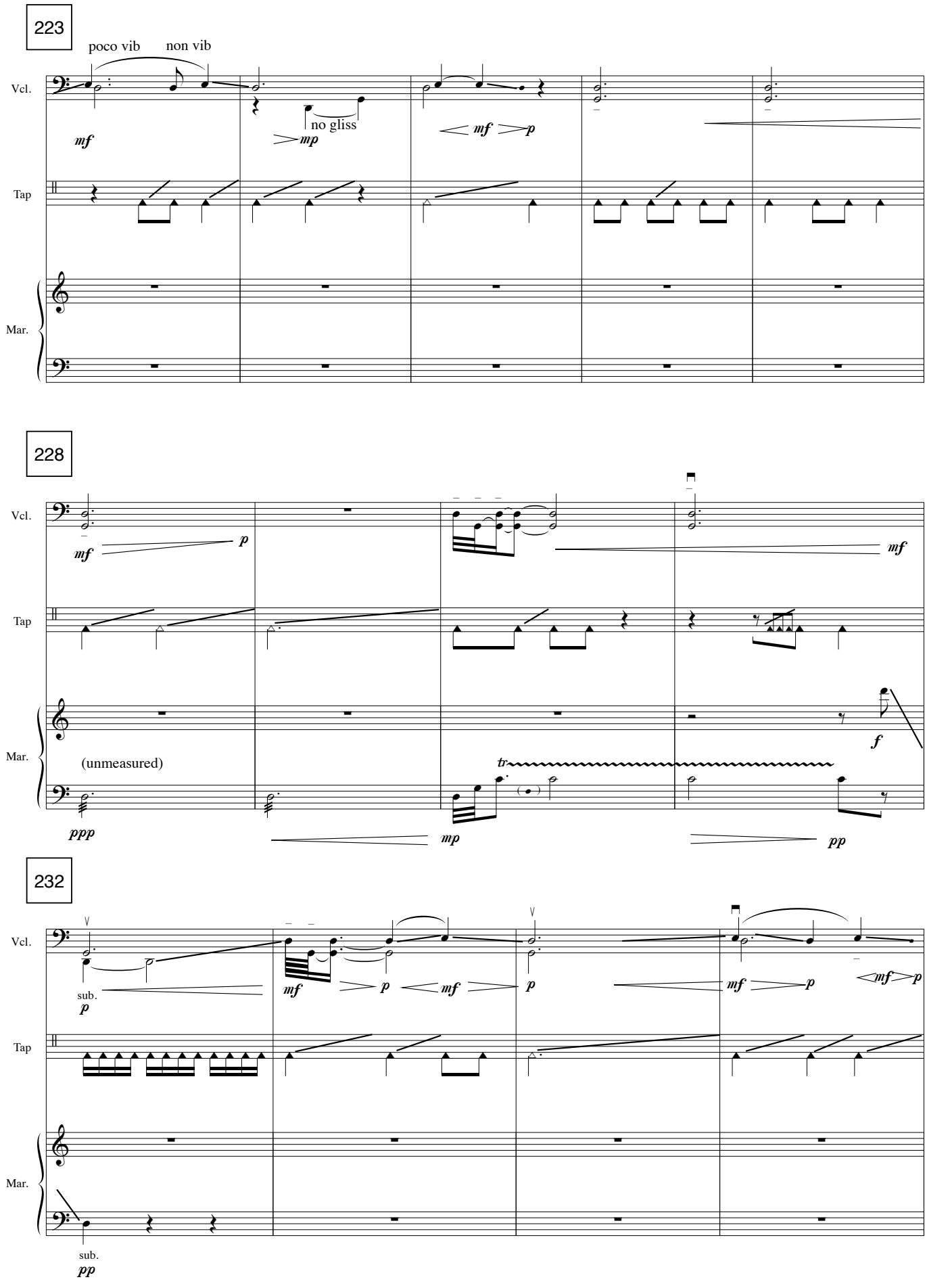
191

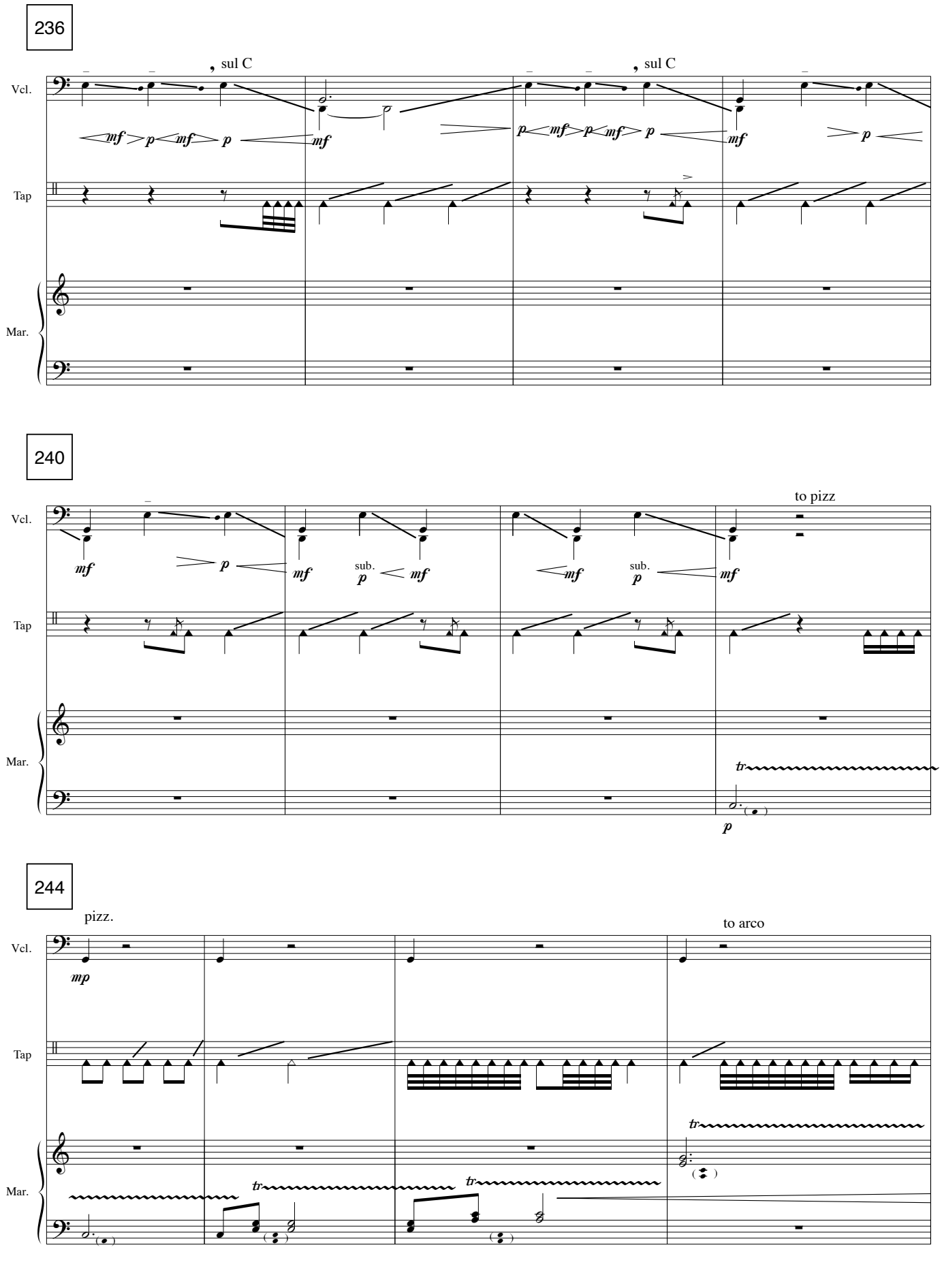


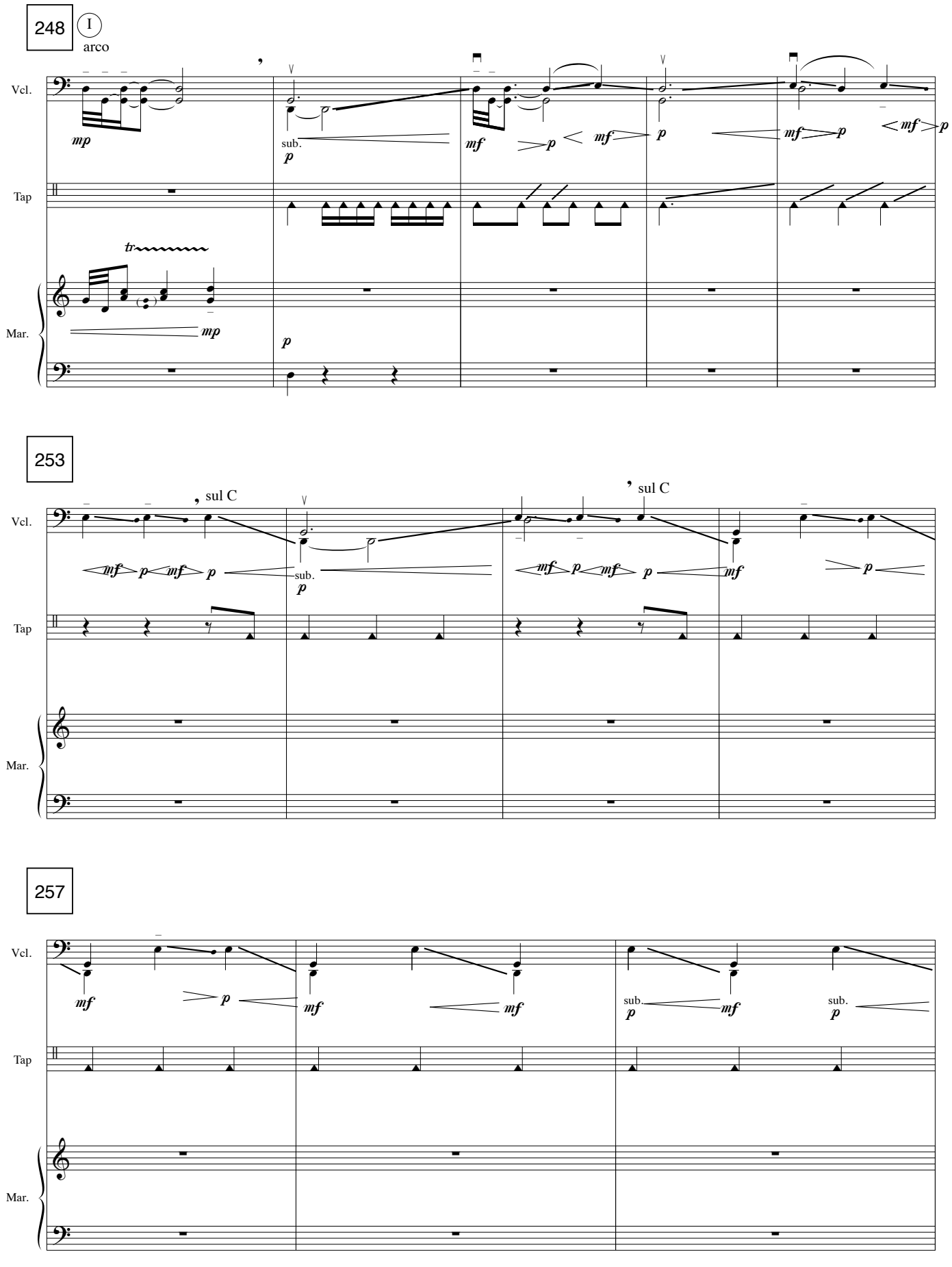

194
G
Vcl.
Tap
Mar.
ff
mf
fff
mf
fff
f
fff
f
fff
197
Vcl.
Tap
Mar.
fff
fff
199
Vcl.
Tap
Mar.
sul G
C
Articulated
sub
f
fff
sub.
p
sub.
p
cresc. poco a poco

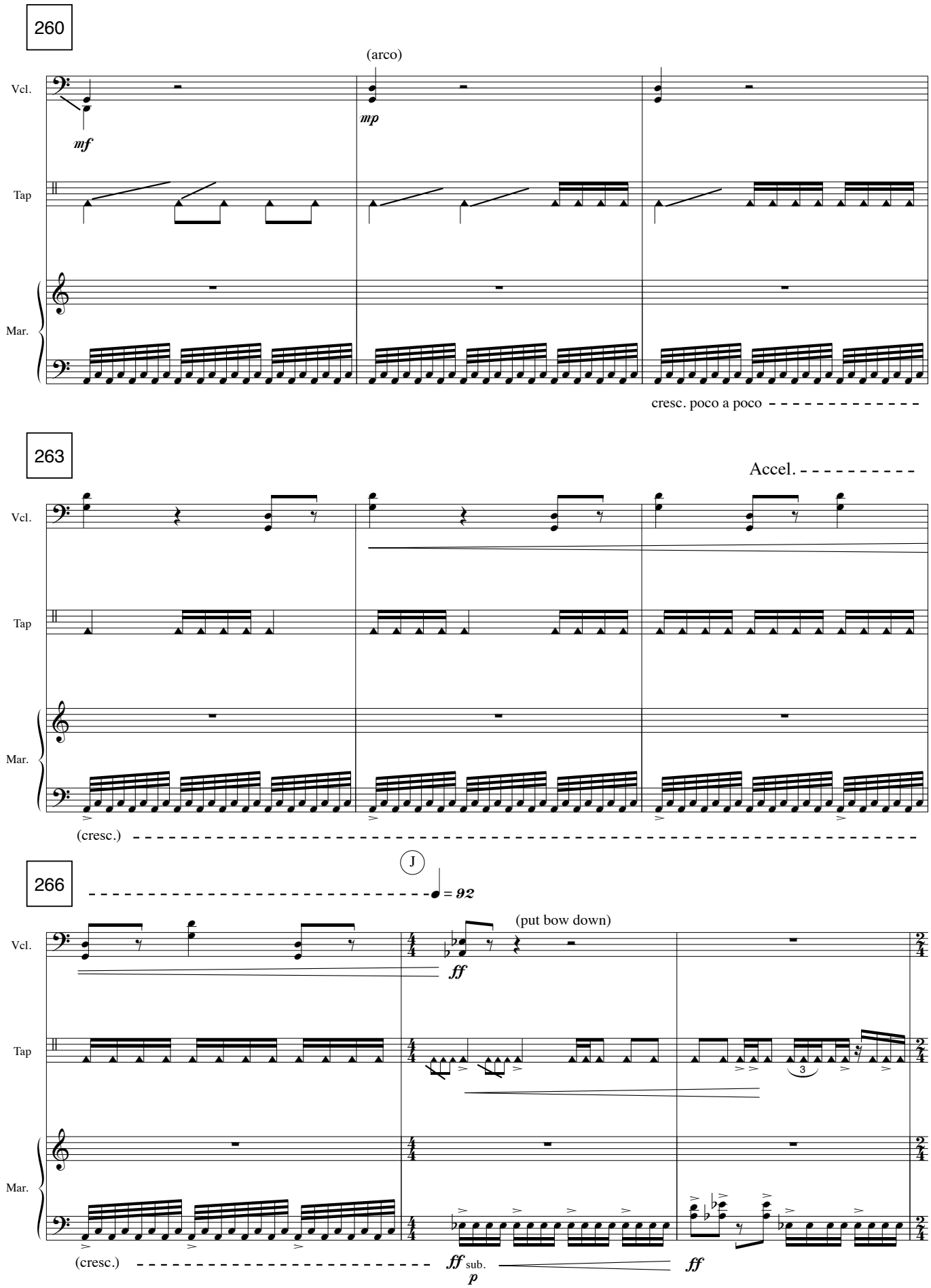

201
Accel.
Vcl.
cresc. poco a poco
Tap
Mar.
(cresc.)
204
Molto Accel.
Vcl.
(cresc.)
Tap
Mar.
(cresc.)
206
♩ = 160
Rit.
Vcl.
ffff
sempre
ffff
Tap
Mar.
(Roll as fast as possible)
sempre ffff
(Roll as fast as possible)
ffff


H
209
Molto Rit.
♩ = 70
sul D
G
Vcl.
sempre fffff
(fffff)
mf
ff
mp
mf
Tap
Mar.
sempre fffff
(fffff)
(Roll as fast as possible)
Do not slow down!
213
Vcl.
p
mf
p
Tap
Mar.
218
poco vib
non vib
Vcl.
mf
p
Tap
Mar.
fast as possible
pp
mp
pp

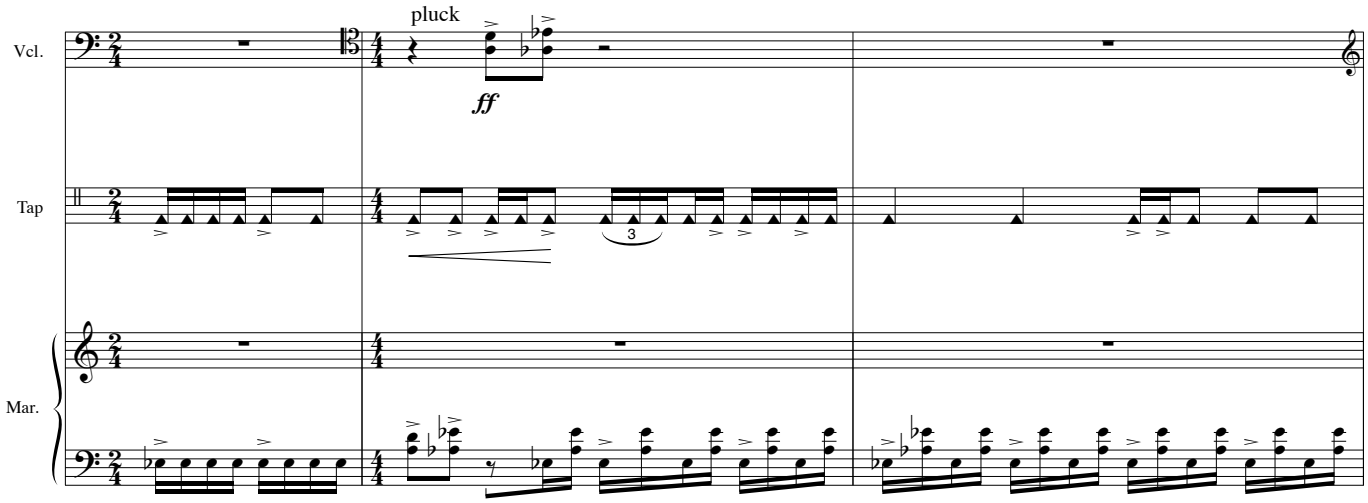

223
poco vib
non vib
Vcl.
mf
no gliss
mp
mf
p
Tap
Mar.
228
Vcl.
mf
p
mf
Tap
(unmeasured)
tr
f
ppp
mp
pp
Mar.
232
Vcl.
sub.
p
mf
p
mf
p
mf
p
mf
p
Tap
Mar.
sub.
pp


236
, sul C
, sul C
Vcl.
Tap
Mar.
240
to pizz
sub.
sub.
tr
244
pizz.
to arco
mp

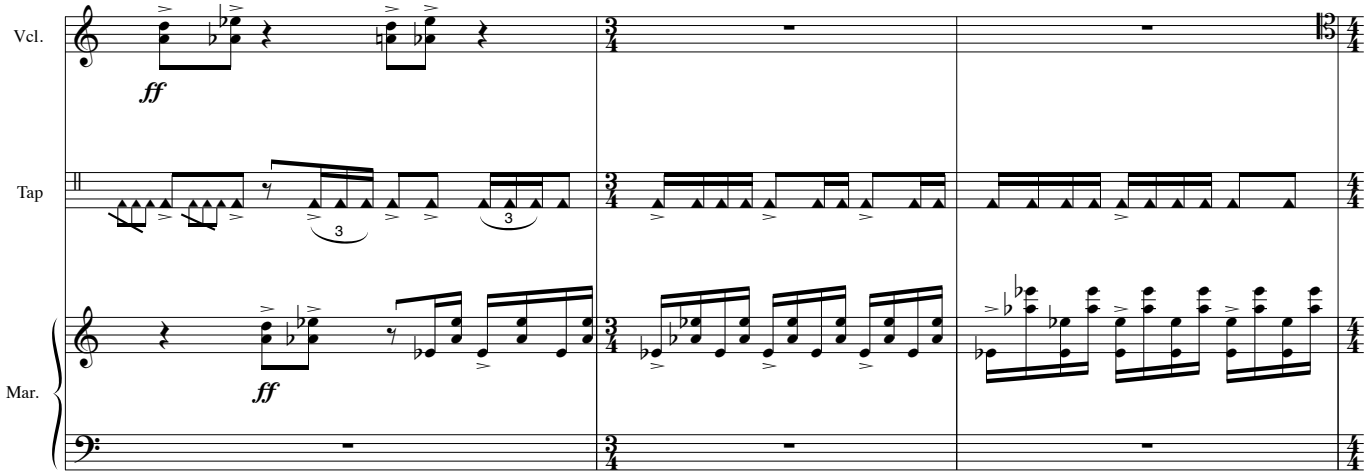

248
I
arco
Vcl.
Tap
Mar.
mp
sub.
p
mf
p
mf
p
mf
p
mf
p
tr
mp
p
253
sul C
sul C
Vcl.
Tap
Mar.
mf
p
mf
p
sub.
p
mf
p
mf
p
mf
p
257
Vcl.
Tap
Mar.
mf
p
mf
mf
sub.
p
mf
sub.
p


260
(arco)
Vcl.
mf
mp
Tap
Mar.
cresc. poco a poco
263
Accel.
Vcl.
Tap
Mar.
(cresc.)
J
266
= 92
(put bow down)
Vcl.
ff
Tap
3
Mar.
(cresc.)
ff sub.
p
ff

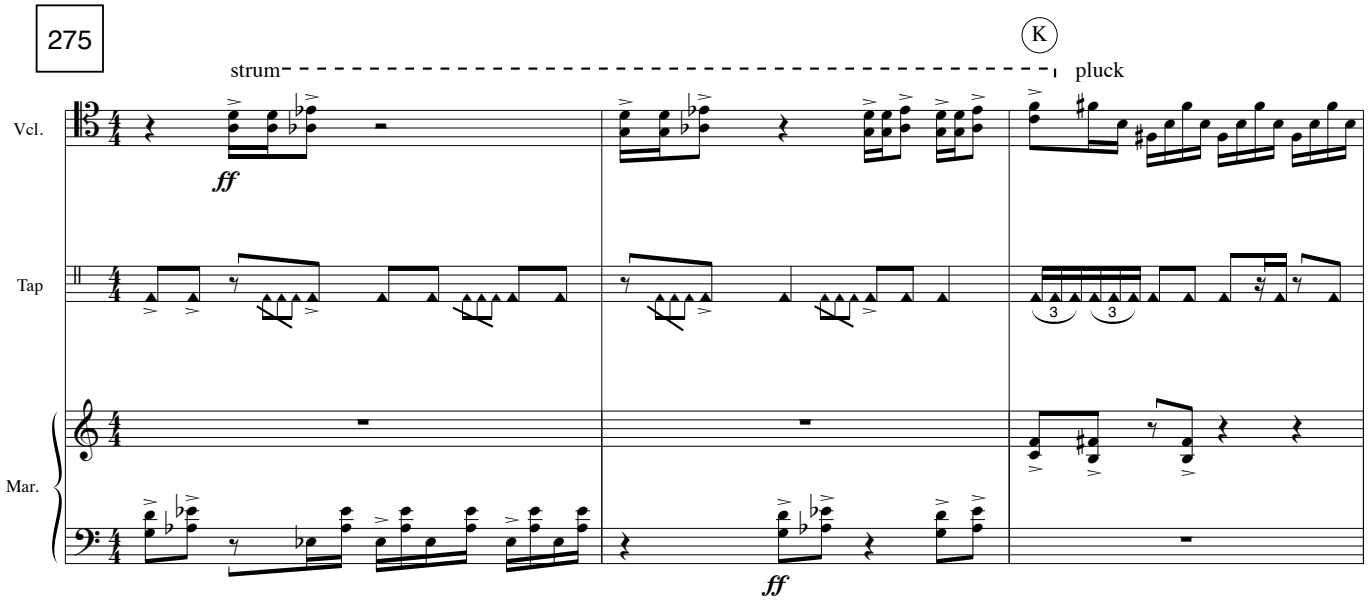
269

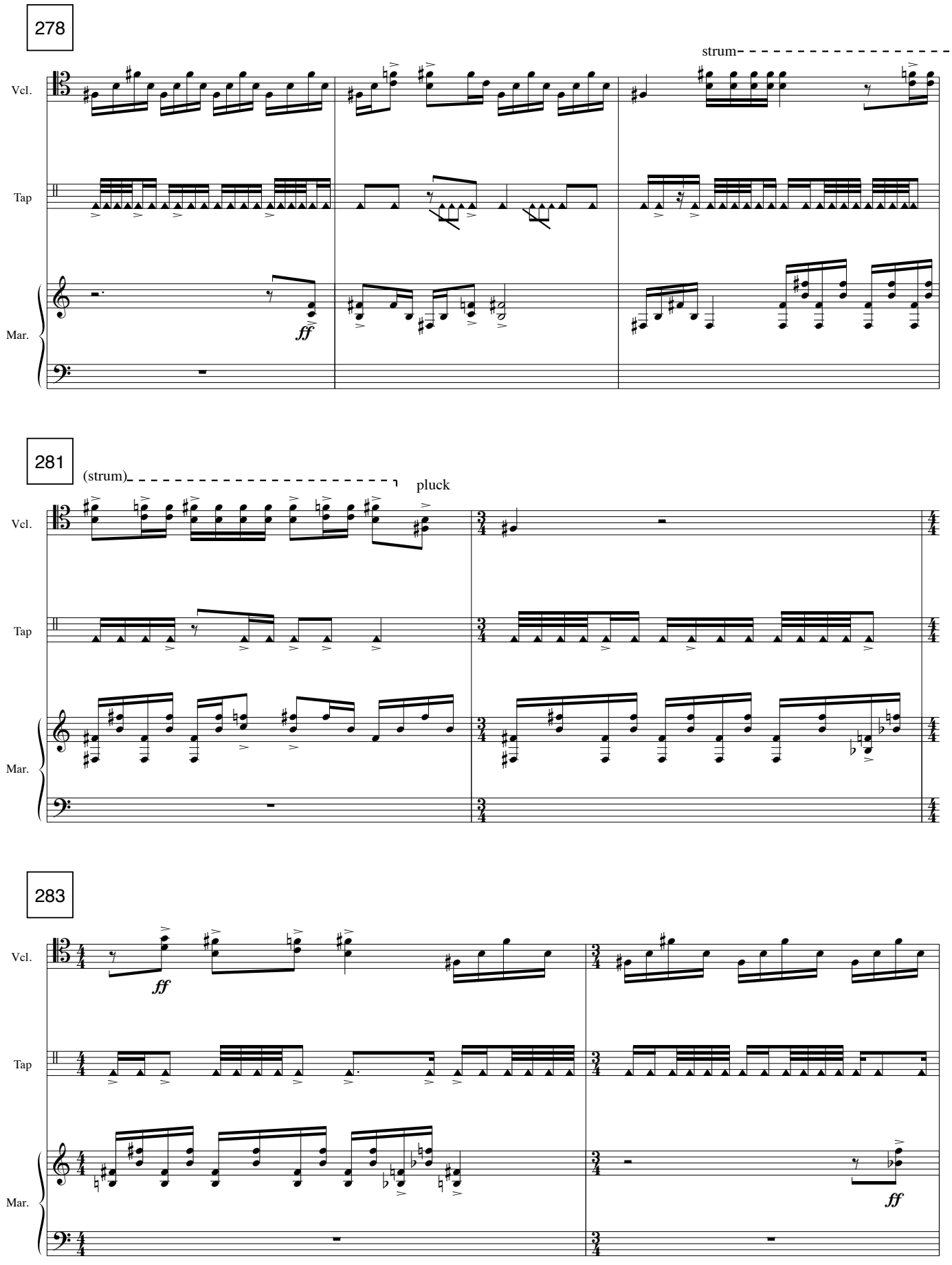


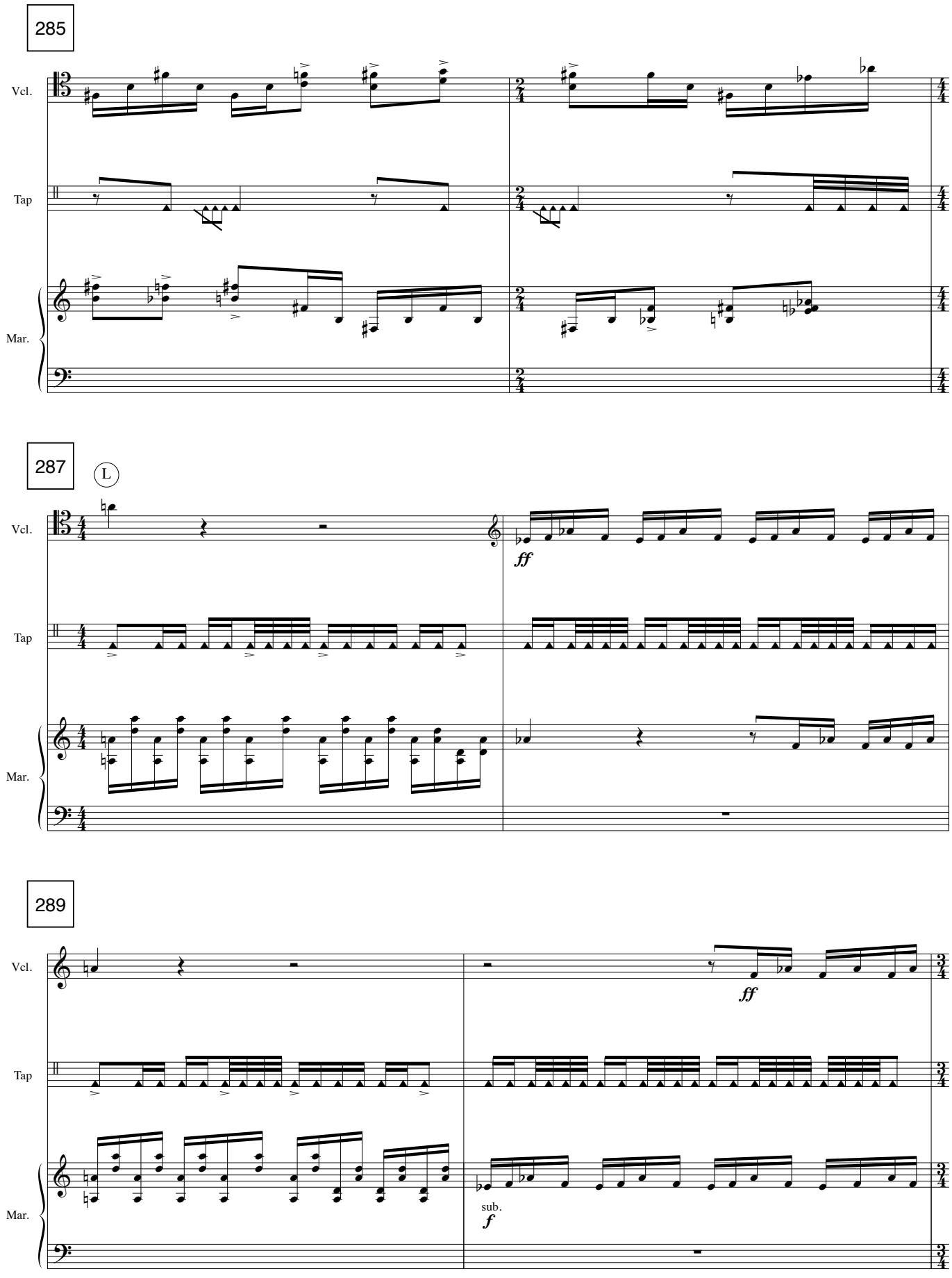
272

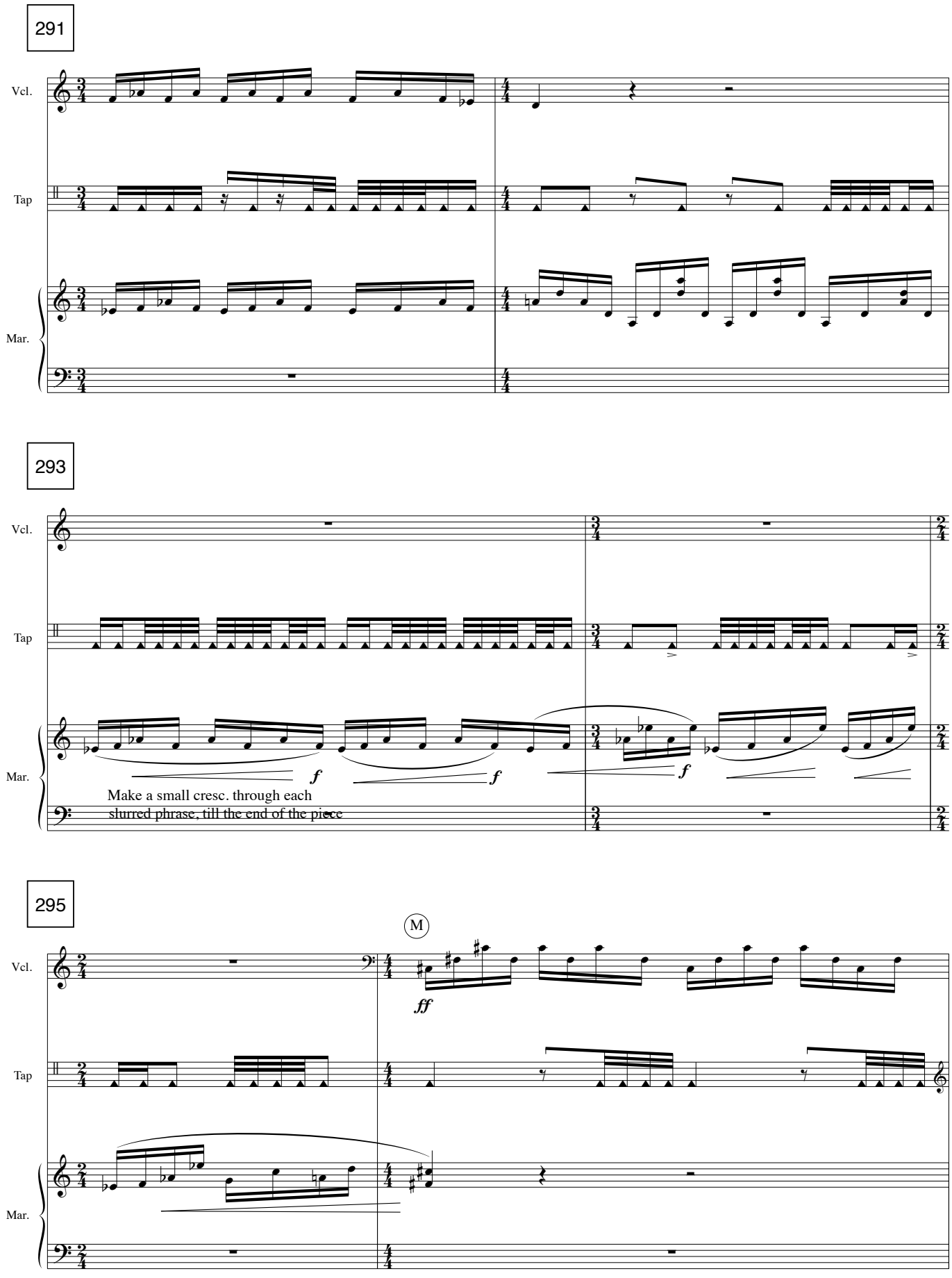


275

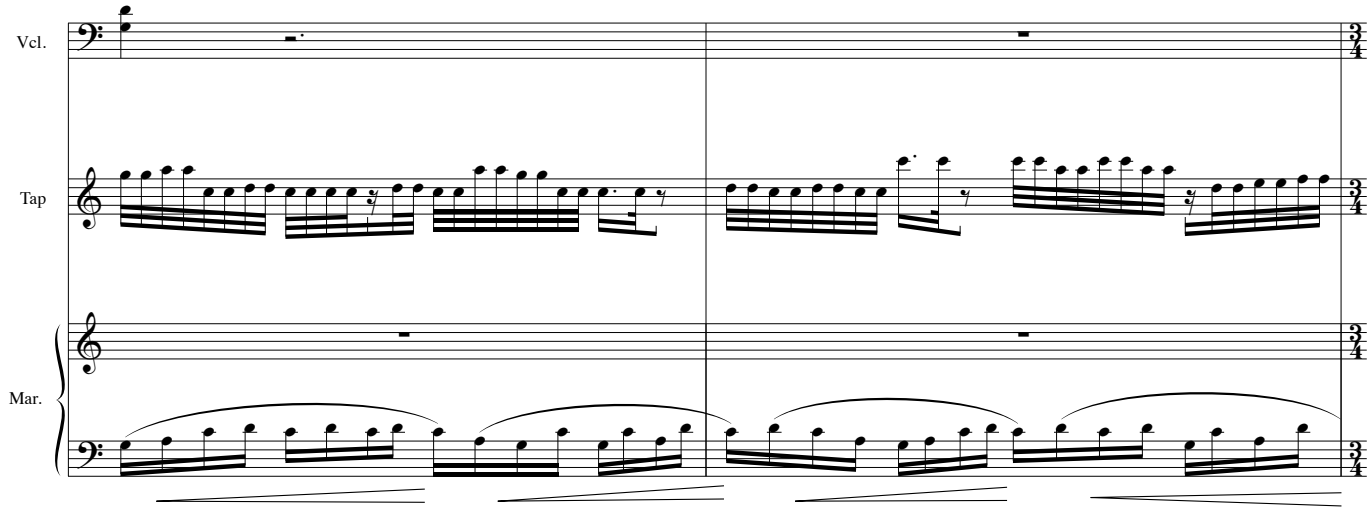



278
strum
Vcl.
Tap
Mar.
ff
281
(strum)
pluck
Vcl.
Tap
Mar.
283
Vcl.
ff
Tap
Mar.
ff

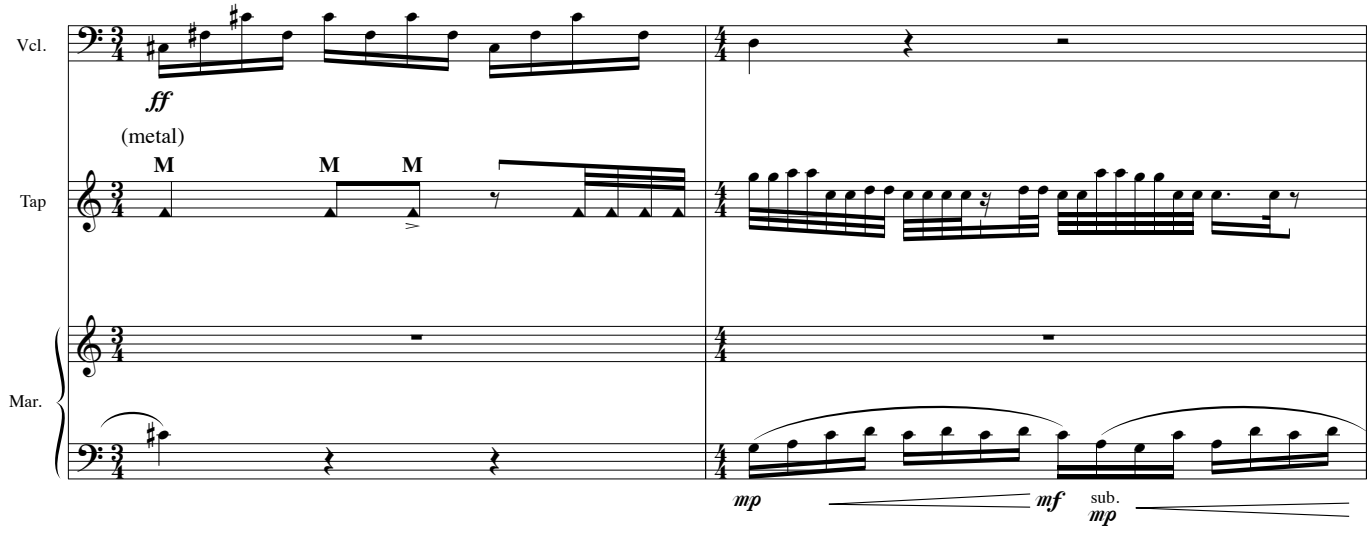

285
Vcl.
Tap
Mar.
287
L
Vcl.
ff
Tap
Mar.
289
Vcl.
ff
Tap
Mar.
sub.
f


291
Vcl.
Tap
Mar.
293
Vcl.
Tap
Mar.
f
f
f
Make a small cresc. through each
slurred phrase, till the end of the piece
295
M
Vcl.
ff
Tap
Mar.

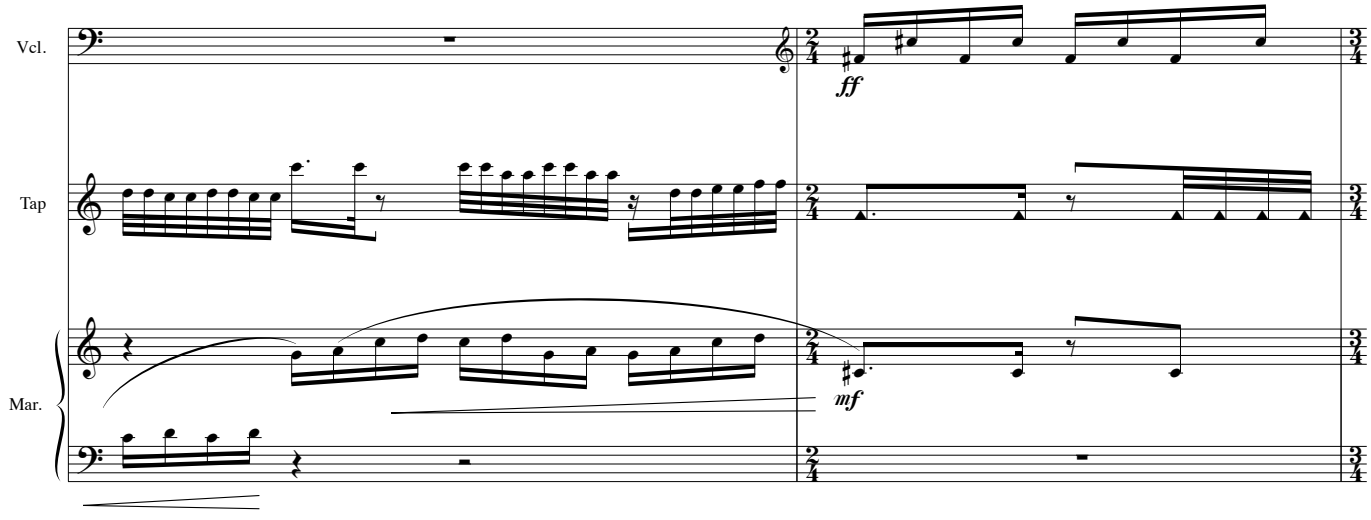
297


Vcl.
Tap
Mar.

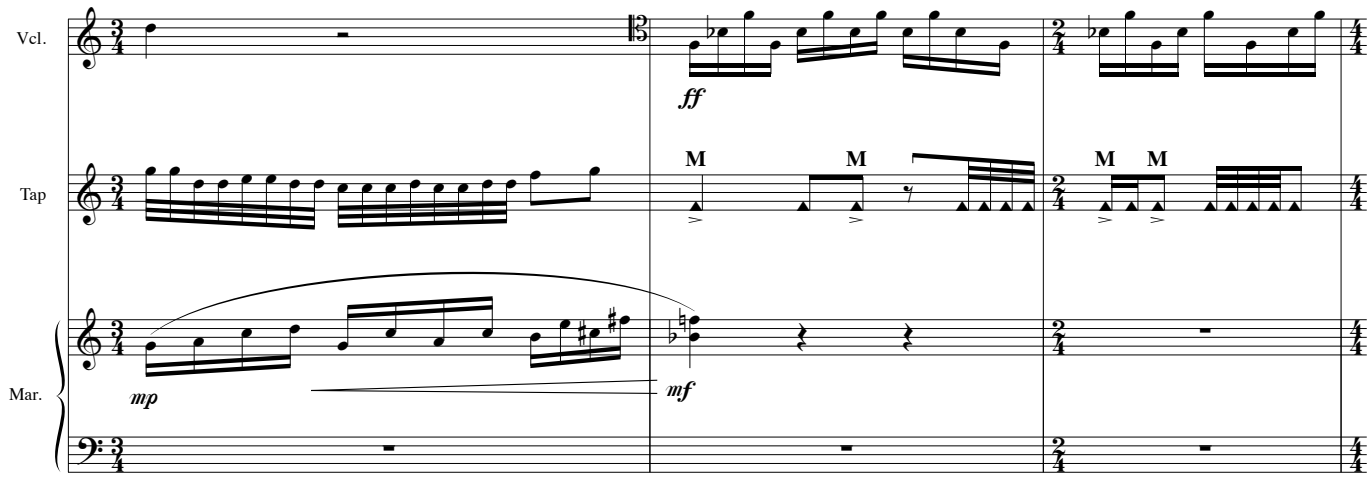
299


Vcl.
ff
(metal)
M
M
M
Tap
Mar.
mp
mf
sub.
mp

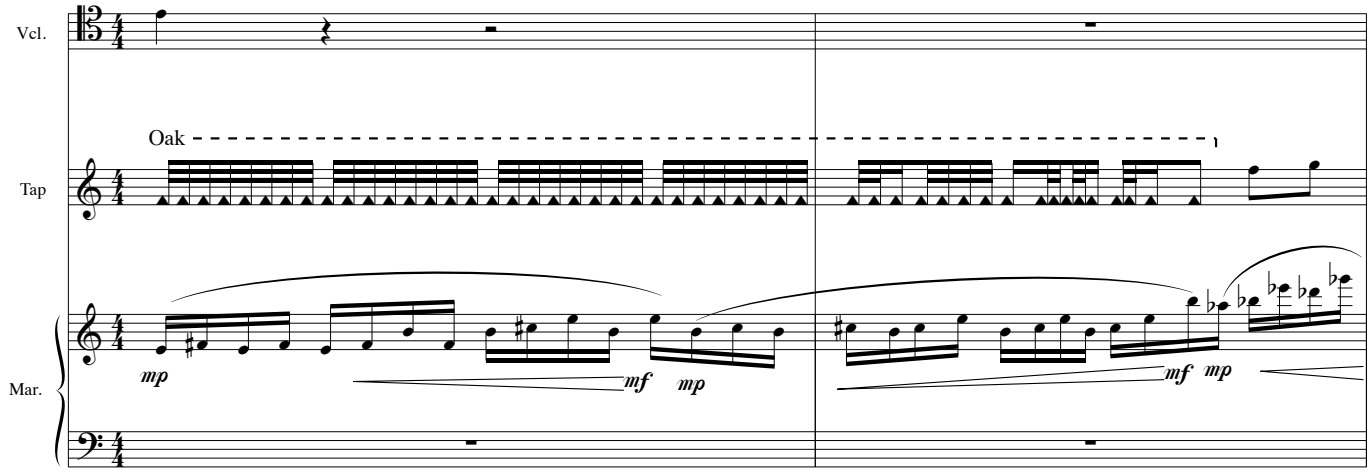
301


Vcl.
ff
Tap
Mar.
mf

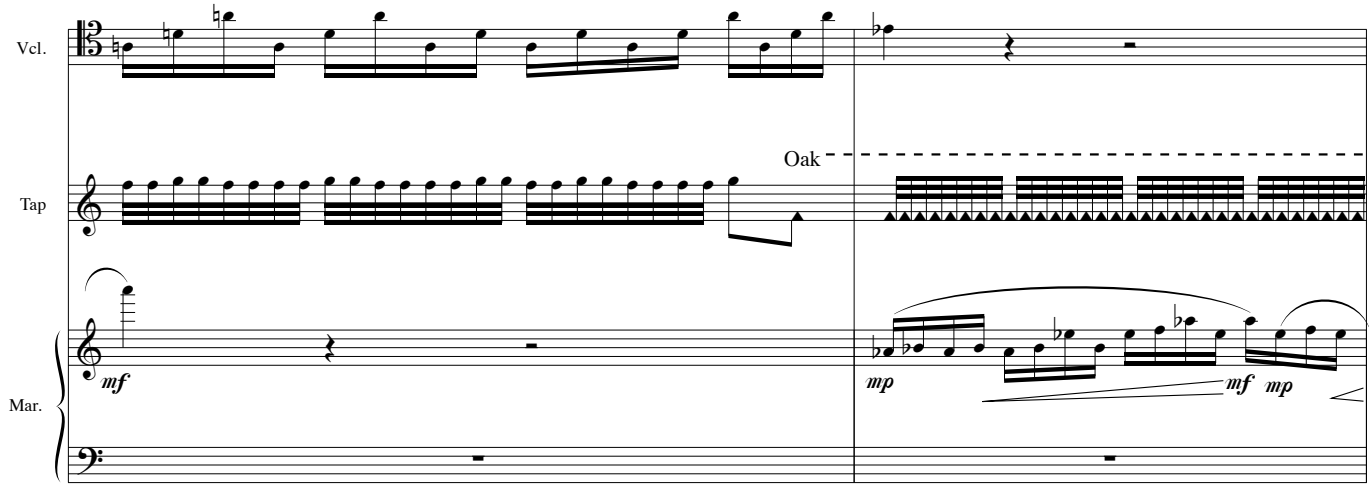
303

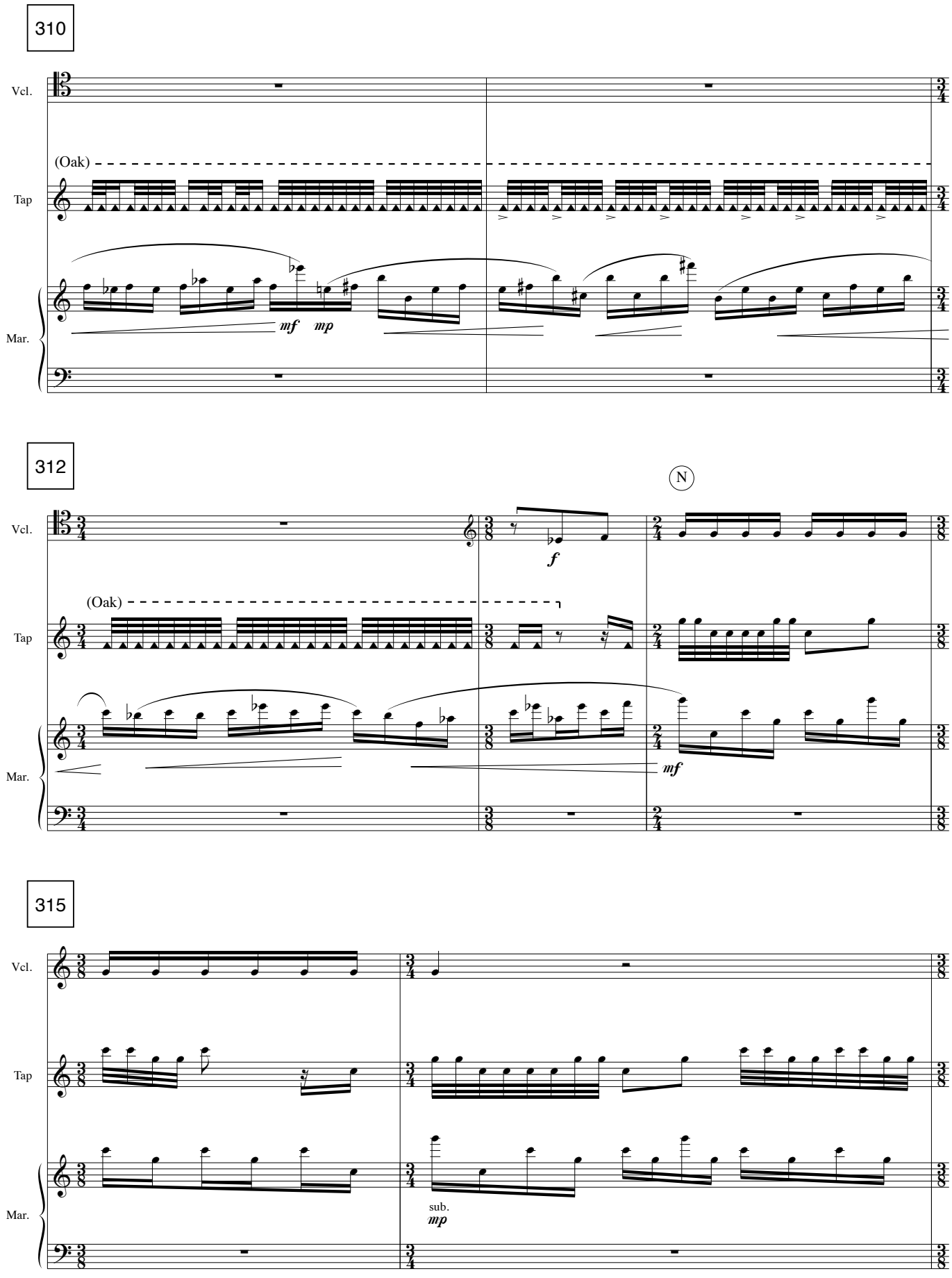

Vcl.
Tap
Mar.
ff
M
M
M
M
mp
mf

306

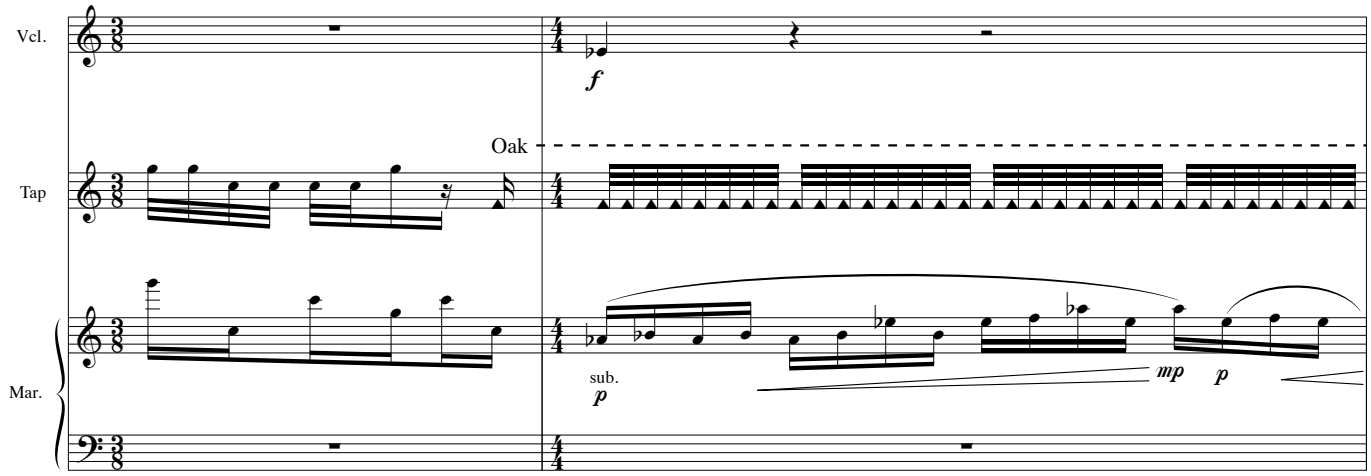

Vcl.
Oak
Tap
Mar.
mp
mf
mp
mf
mp

308

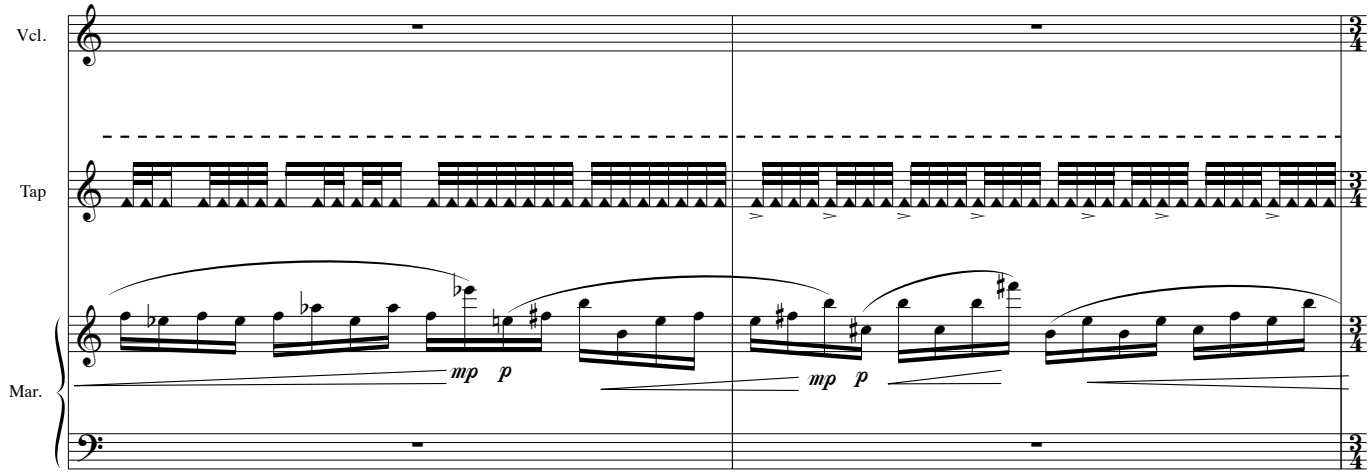

Vcl.
Oak
Tap
Mar.
mf
mp
mf
mp


310
Vcl.
(Oak)
Tap
Mar.
mf
mp
312
N
f
mf
315
sub.
mp

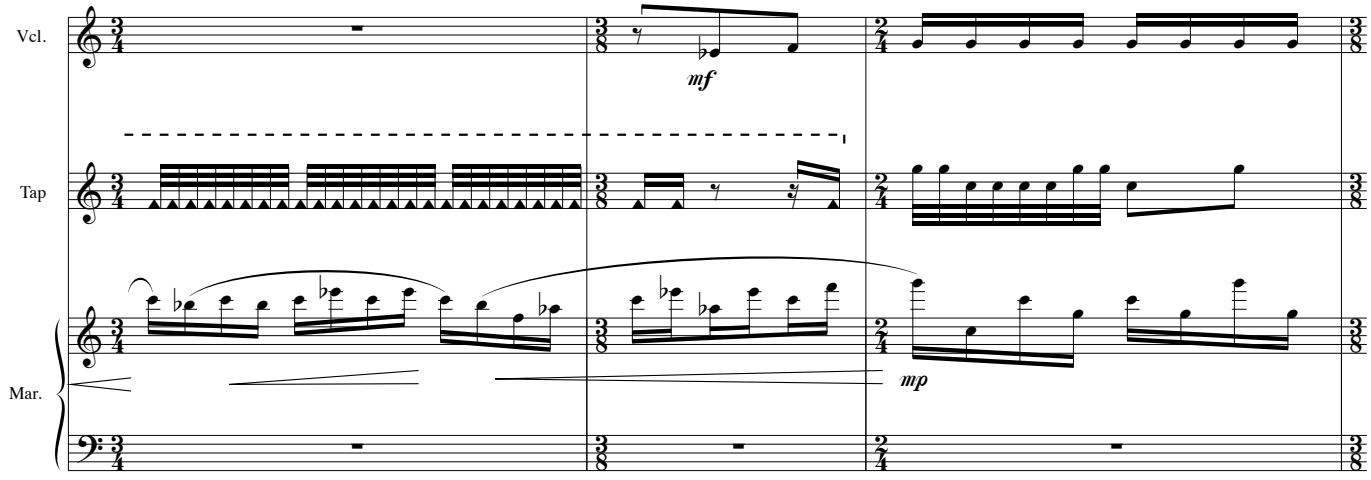
317



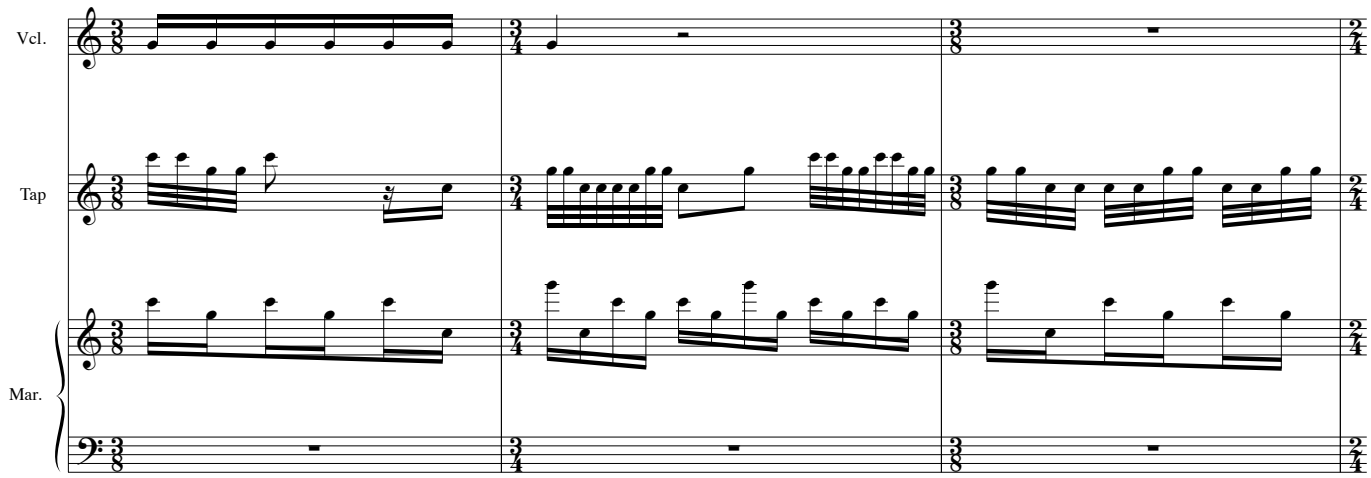
319



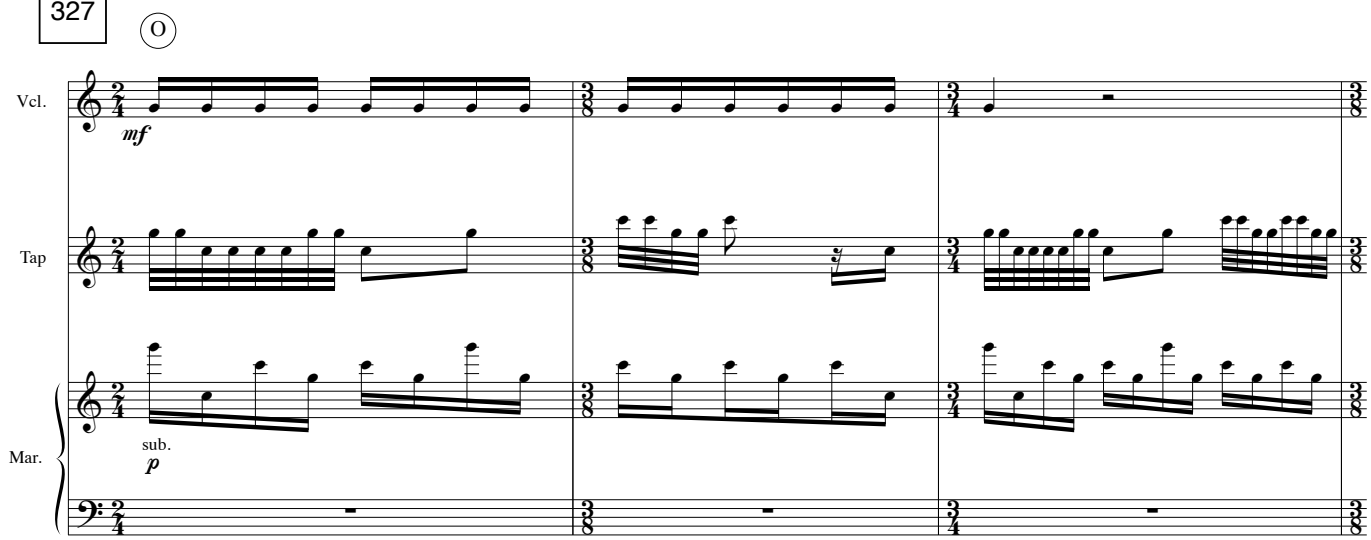
321



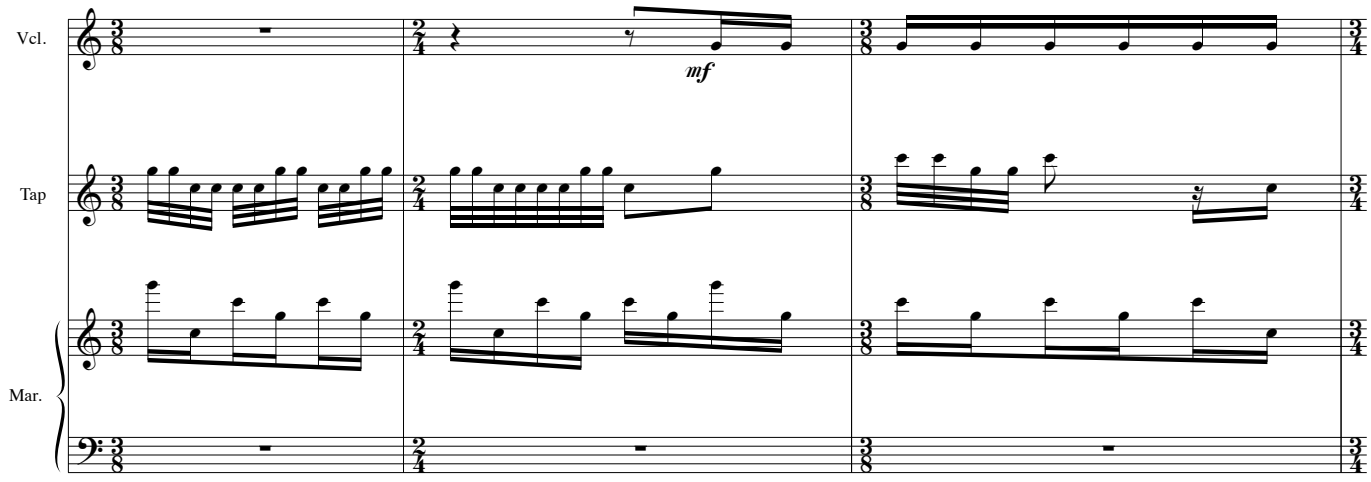
324



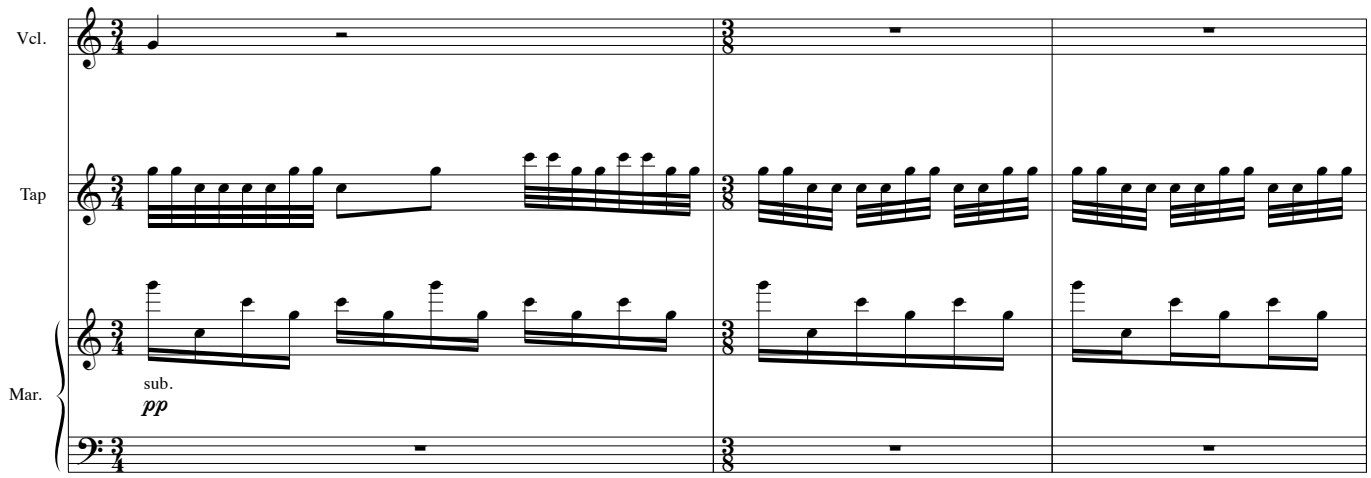
327



330



333



336

NON RIT.!