Duo for Tenor Steel Pan & Computer

by Cort Lippe

2011

Written for Kenyon Williams

Commissioned by Kenyon Williams with a grant from the Minnesota State Arts Board.

Kenyon Williams was a fiscal year 2010 recipient of an Artist Initiative Grant from the Minnesota State Arts Board. This composition was funded, in part, by the Minnesota Arts and Cultural Heritage Fund as appropriated by the Minnesota State Legislature with funds from the vote of the people of Minnesota on November 4, 2008.

Performance Notes

Tempo
There are no *accelerandi* or *ritardandi* markings in the score. Performers may speed up and slow down phrases ad libitum, as a function of their expressive interpretation of the score, but any changes in tempo should not cause excessive de-synchronization between the performer and the computer. (Particularly, if the performer is using the auto-advance function in the software.) Computer events move along at a regular rate of every 20 seconds (one event per every 10 measures). Synchronization between the performer and the computer is necessary, but the performer can be a beat or two ahead of or behind the event markers in the score since precise synchronization is not absolutely necessary.

(event marker)

Tremolo
The 3-lined tremolo sign found over notes is an ad libitum *interpretive* sign. A performer may choose to *either play or not play* a tremolo where the sign is found. If the performer decides to play a tremolo, the *duration* of the tremolo is ad libitum during the duration of the note and the rest(s) that follow the note. (So the performer is invited to continue the tremolo through the rests if desired.) In addition, the player may (1) alter dynamics (*crescendi* and *decrescendi*) ad libitum during the tremolo, (2) stop and start the tremolo, (3) strike the note, let it sustain, and start the tremolo later, or (4) any combination of the above. Finally, if the tremolo sign is found over a dyad, the performer can choose to play a tremolo between the two notes of the dyad, or play a tremolo using only one of the notes of the dyad. Whether or not the performer chooses to play a tremolo, the *total time* of the note duration plus the following rest(s) duration should be respected.


(tremolo sign)

Accidentals
There are no natural signs in this score. Every accidental refers *only to the note it precedes* and any note tied to that note. Accidentals *do not carry through the measure,* nor do they carry through what appear to be repeated notes (unless, of course, the repeated notes have the same accidental marking as the initial appearance of the note).

Dynamics
There are very few *crescendi* and *decrescendi* in the score. Dynamics range from ***ppp*** to ***fff***. Notes with the dynamic of ***fff*** should be played as accented notes and are identical to notes with the sign >. In some fast passages, the dynamics change for almost every note, which may appear somewhat impractical. Nevertheless, an effort should be made to, at least, *approximate* the notated dynamics in these passages. In general, dynamics change abruptly and should be viewed as a kind of non-rhythmic "syncopation".

Ad Libitum Playing
Starting during Event 21 (measure 207), *ad libitum* performance indications are introduced. The *ad libitum* directions are clearly indicated in the score. Briefly explained, a group of pitches is presented in a box to be played in the spirit of a short, bracketed example containing groups of grace notes. The energy and speed of playing should be high. While the rhythms are relatively regular, and the pitch groups are relatively small, every effort should be made to avoid too much repetitiveness in the phrases. (Unexpected dynamic changes should be the norm.) In addition to the boxed pitches, there are also circled pitches, with directions to begin avoiding the indicated pitches gradually over time.

Cort Lippe

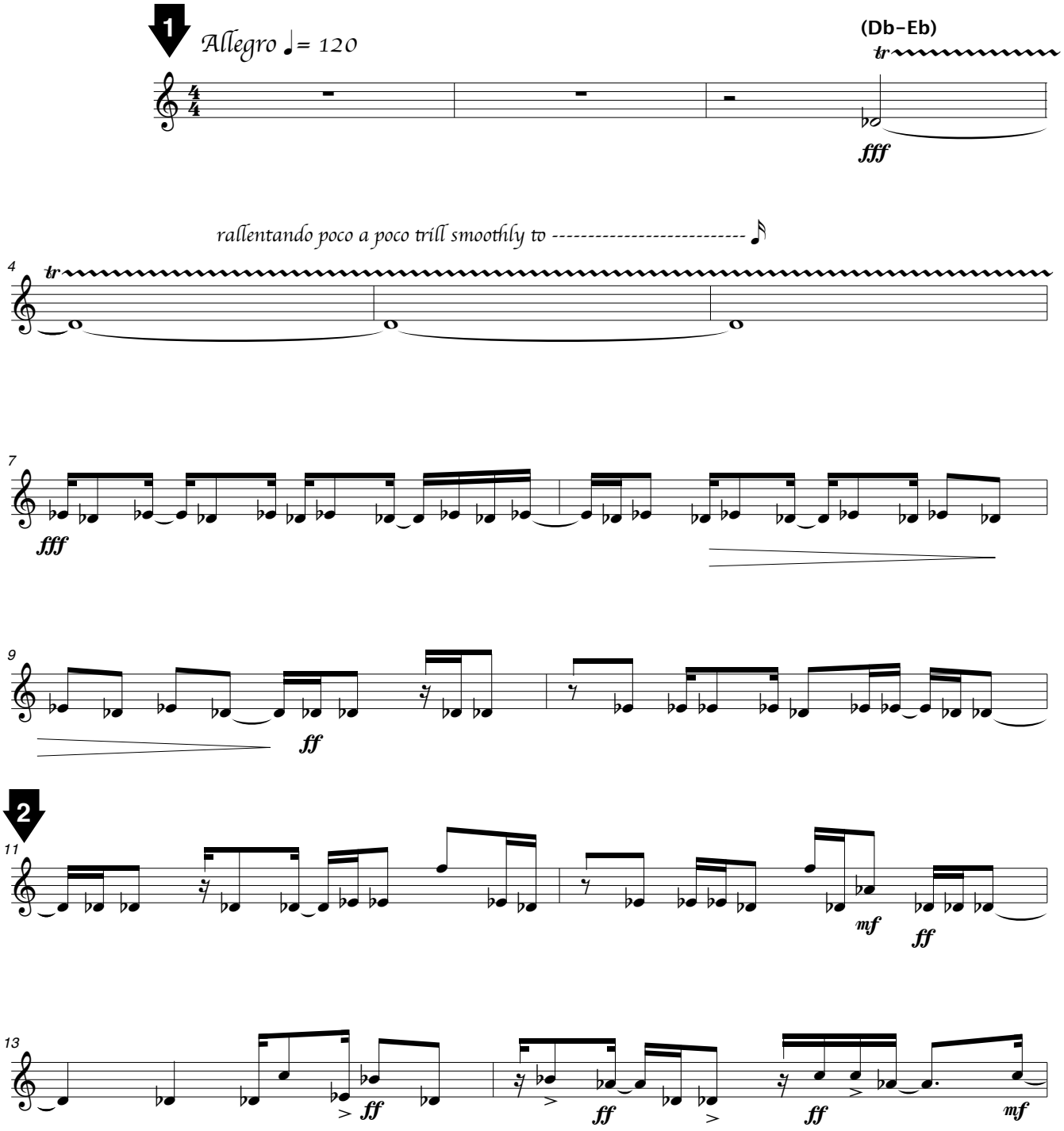
Program Notes

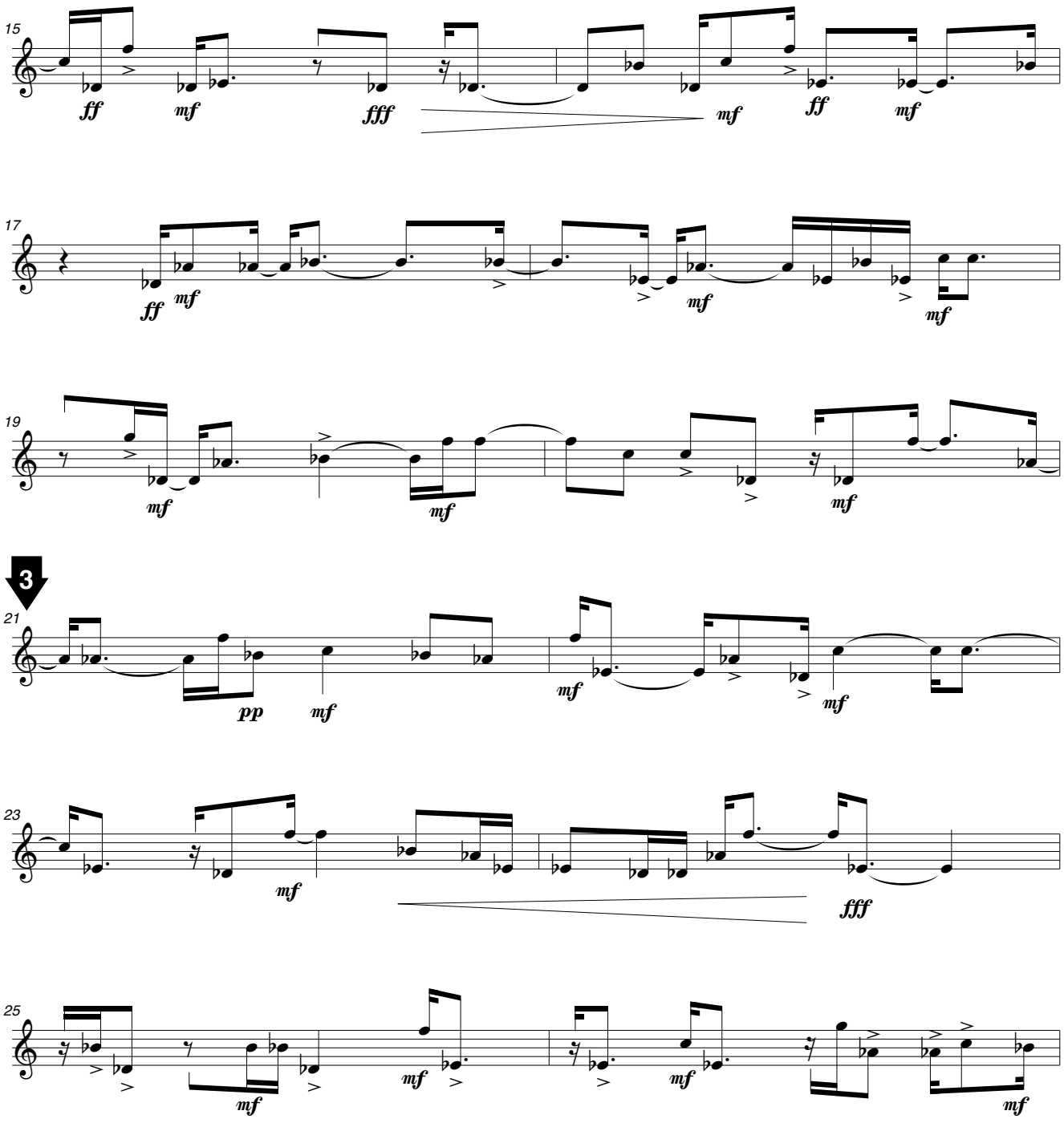
Duo for Tenor Steel Pan and Computer (2011) was commissioned and premiered by the percussionist and virtuoso steel pan player Kenyon Williams, who was a fiscal year 2010 recipient of an Artist Initiative Grant from the Minnesota State Arts Board. The composition was funded, in part, by the Minnesota Arts and Cultural Heritage Fund as appropriated by the Minnesota State Legislature with funds from the vote of the people of Minnesota on November 4, 2008.

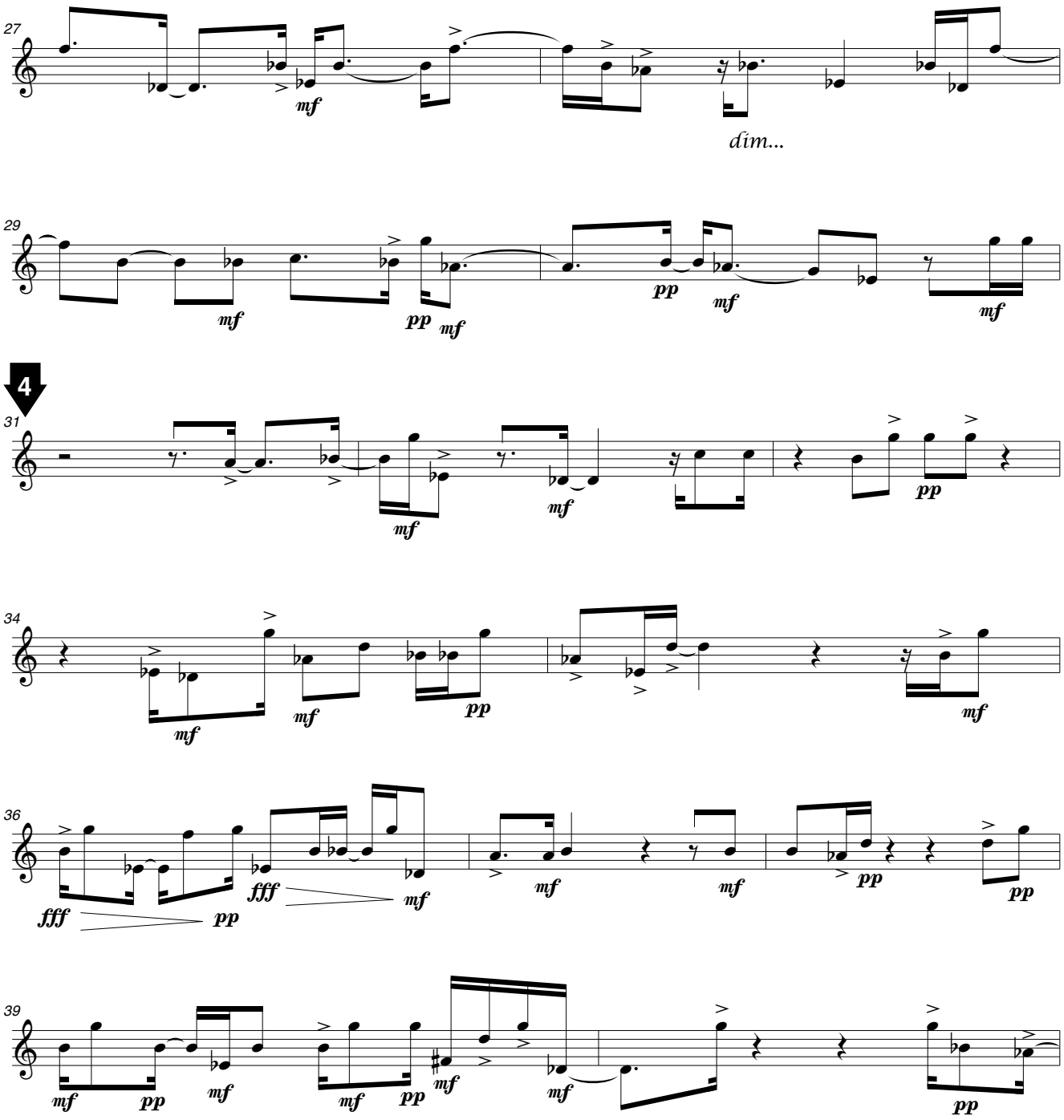
The computer part was created at the Hiller Computer Music Studios of the University at Buffalo, New York, using the software Max/MSP. The digital synthesis algorithms focus on various kinds of analysis/resynthesis, along with delay/feedback, spatialization, frequency shifting, frequency modulation synthesis, harmonization, and sample playback. Technically, the computer tracks parameters of the pan performance using Miller Puckette's *sigmund~* object, which does an analysis of the incoming pan signal and gives out information as to when the pan is struck, how loud it is struck, and the pitch and timbre of each strike (including details about relative loudness across the frequency range in 40 independent frequency bands).

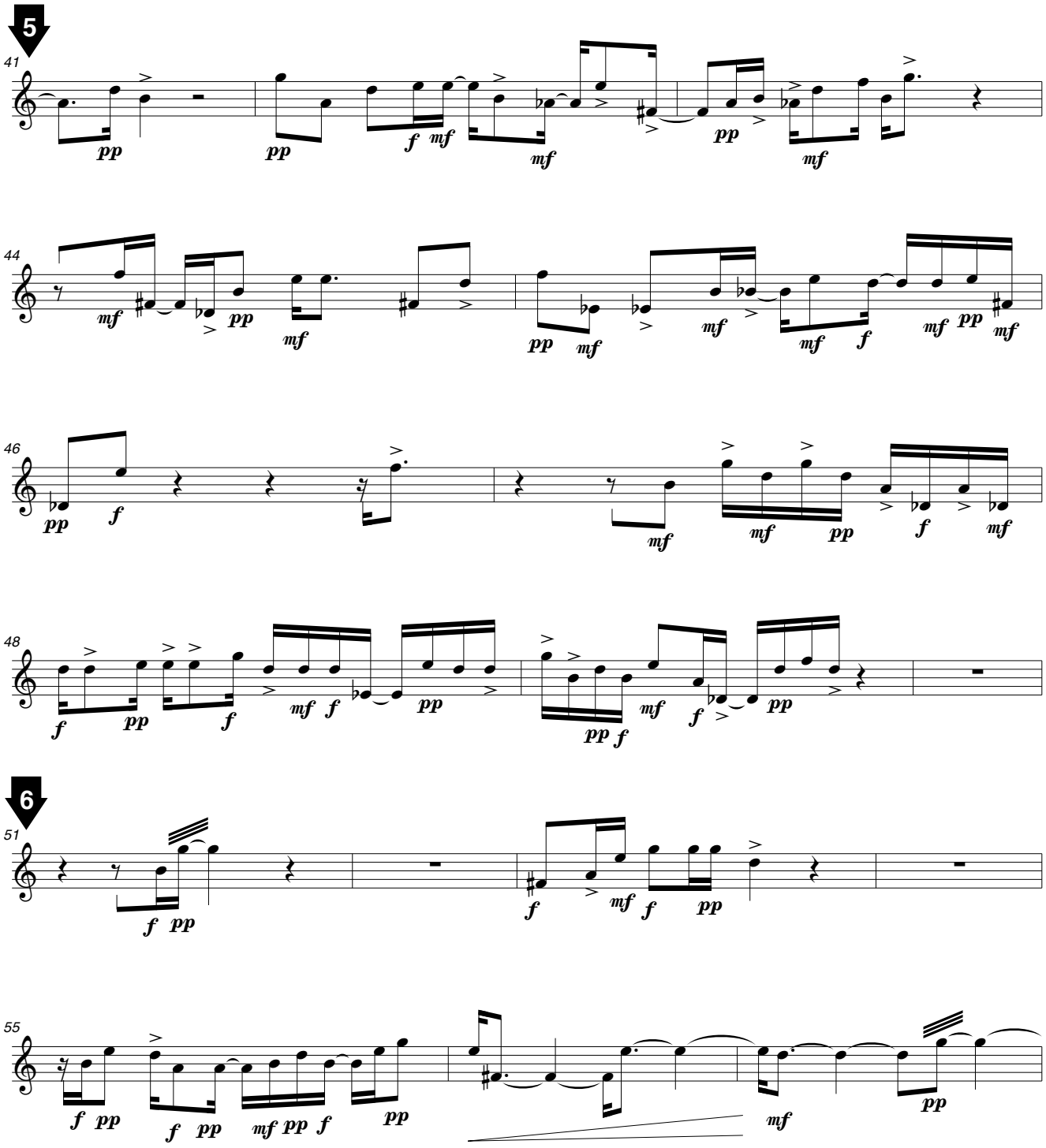
All this information, from larger scale rhythmic and phrase tracking of pitches and attacks, down to micro-level frequency band information, is used to continuously influence and manipulate the computer sound output by directly affecting digital synthesis and compositional algorithms in real-time, giving the performer an active role in shaping all of the computer output. The intent is to create a certain degree of intimacy and interactivity between the performer and the computer, in which the performer has the potential to influence the computer output based on aspects of the musical expressivity of his/her interpretation of the score. The instrument/computer relationship moves on a continuum between the poles of an extended solo and a duo. Musically, the computer part is at times not separate from the pan part, and serves to amplify the pan in multiple dimensions and directions; while at the other extreme of the continuum, the computer part has its own independent musical voice. These solo/duo relationships exist simultaneously; yet have a certain level of musical and technical ambiguity. Much like chamber music playing, in which individual expressivity sometimes is meant to serve the whole and at other times has a fundamental individual influence on the entire ensemble; the musical relationships between the performer and computer are fundamental to the musical results.

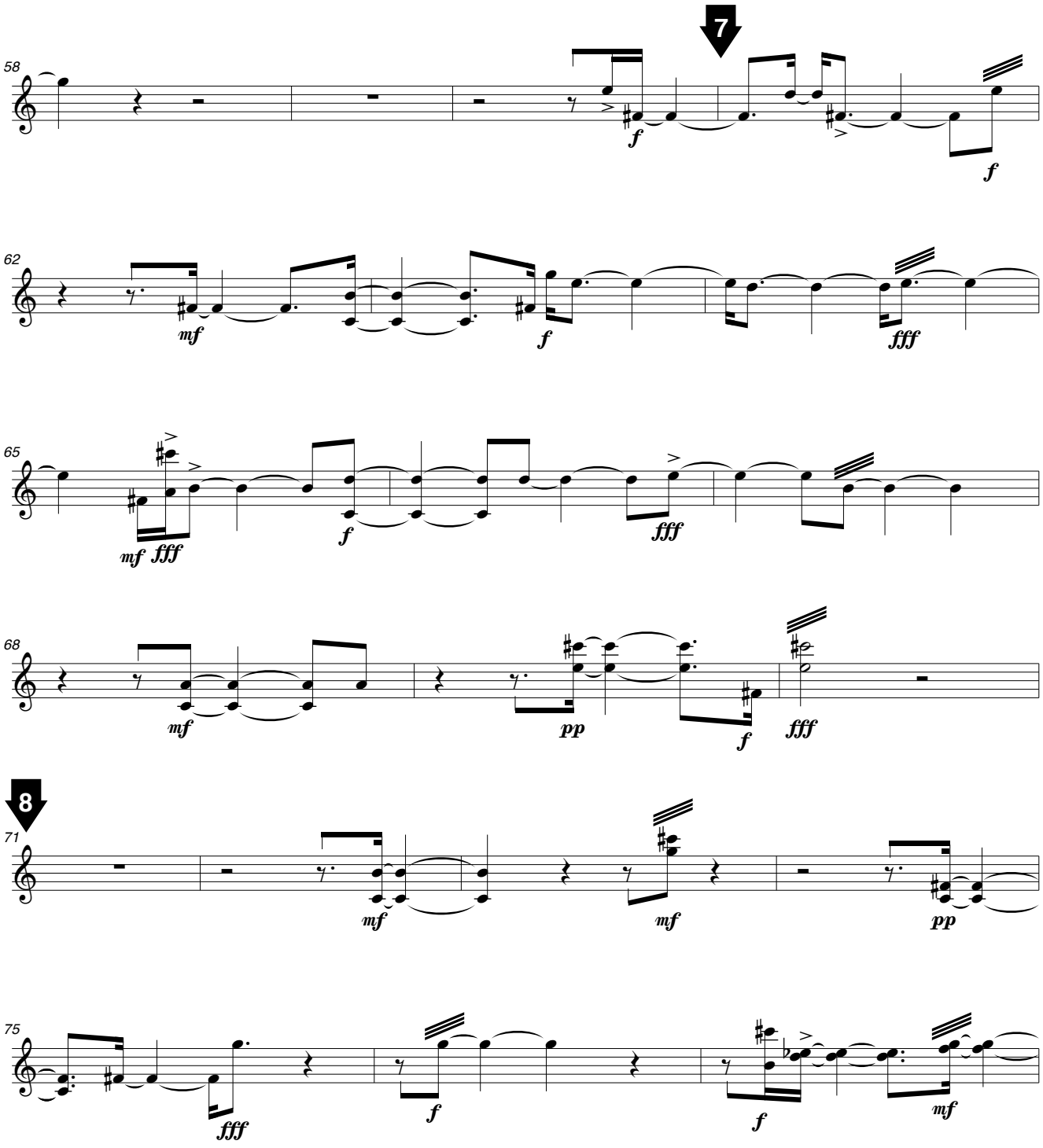
Duo for Tenor Steel Pan and Computer is recorded by Kenyon Williams on his 2013 CD *Homage*, made possible as part of his 2010 Artist Initiative Grant.

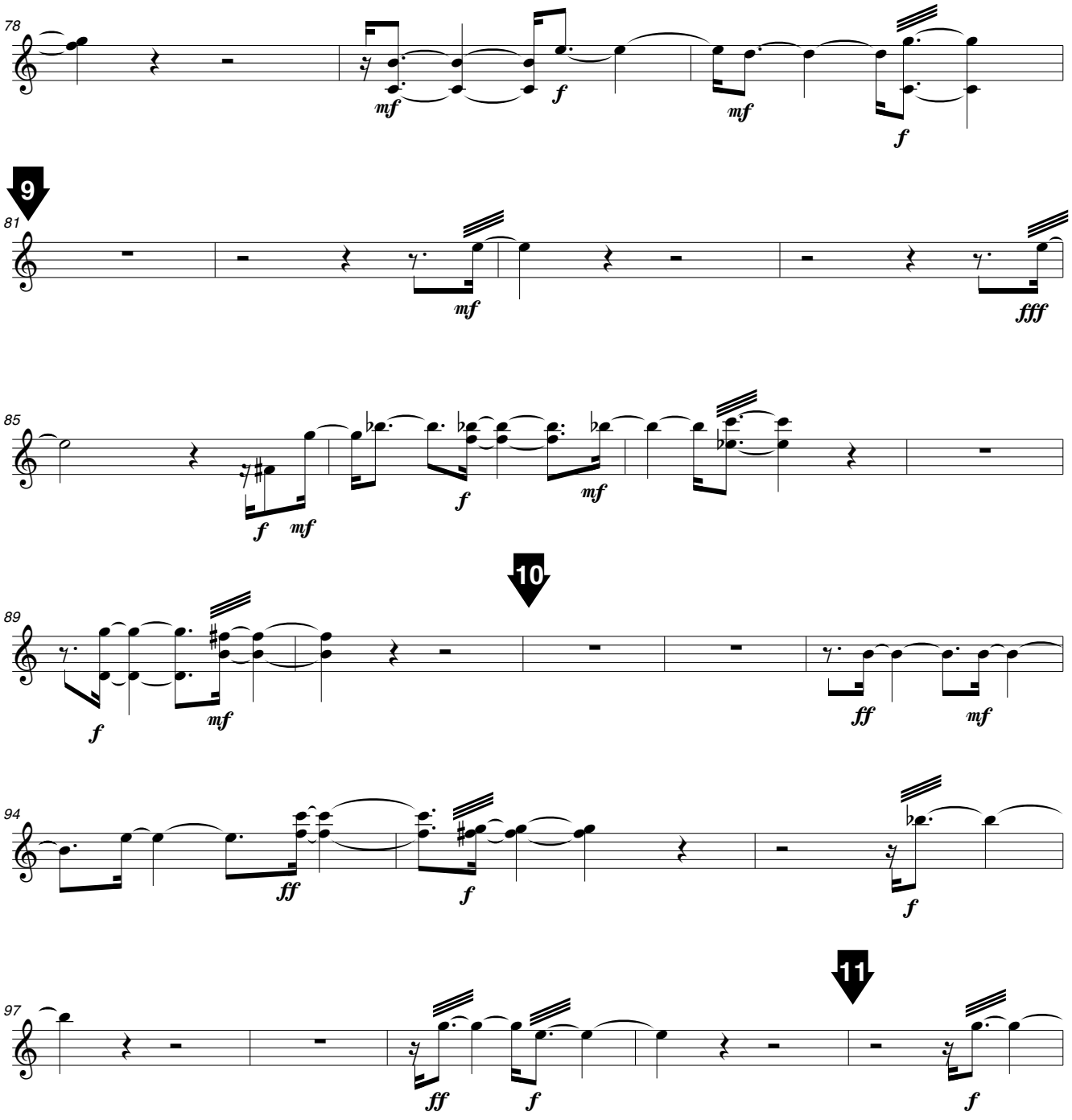

1
Allegro ♩= 120
(Db–Eb)
tr
fff
rallentando poco a poco trill smoothly to
4
tr
7
fff
9
ff
2
11
mf
ff
13
ff
ff
ff
mf

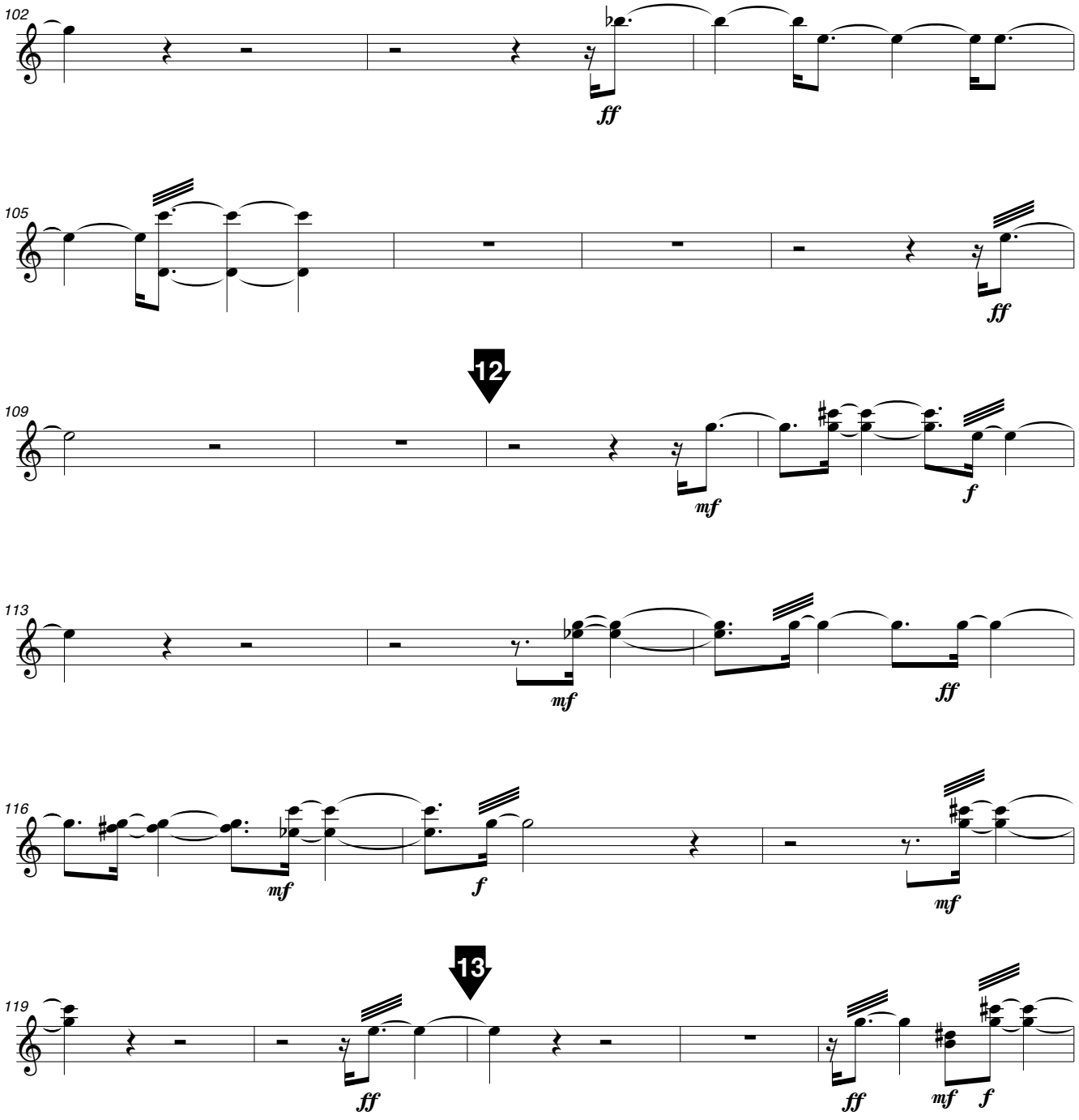

15
ff
mf
fff
mf
ff
mf
17
ff
mf
mf
mf
19
mf
mf
mf
3
21
pp
mf
mf
mf
23
mf
fff
25
mf
mf
mf
mf

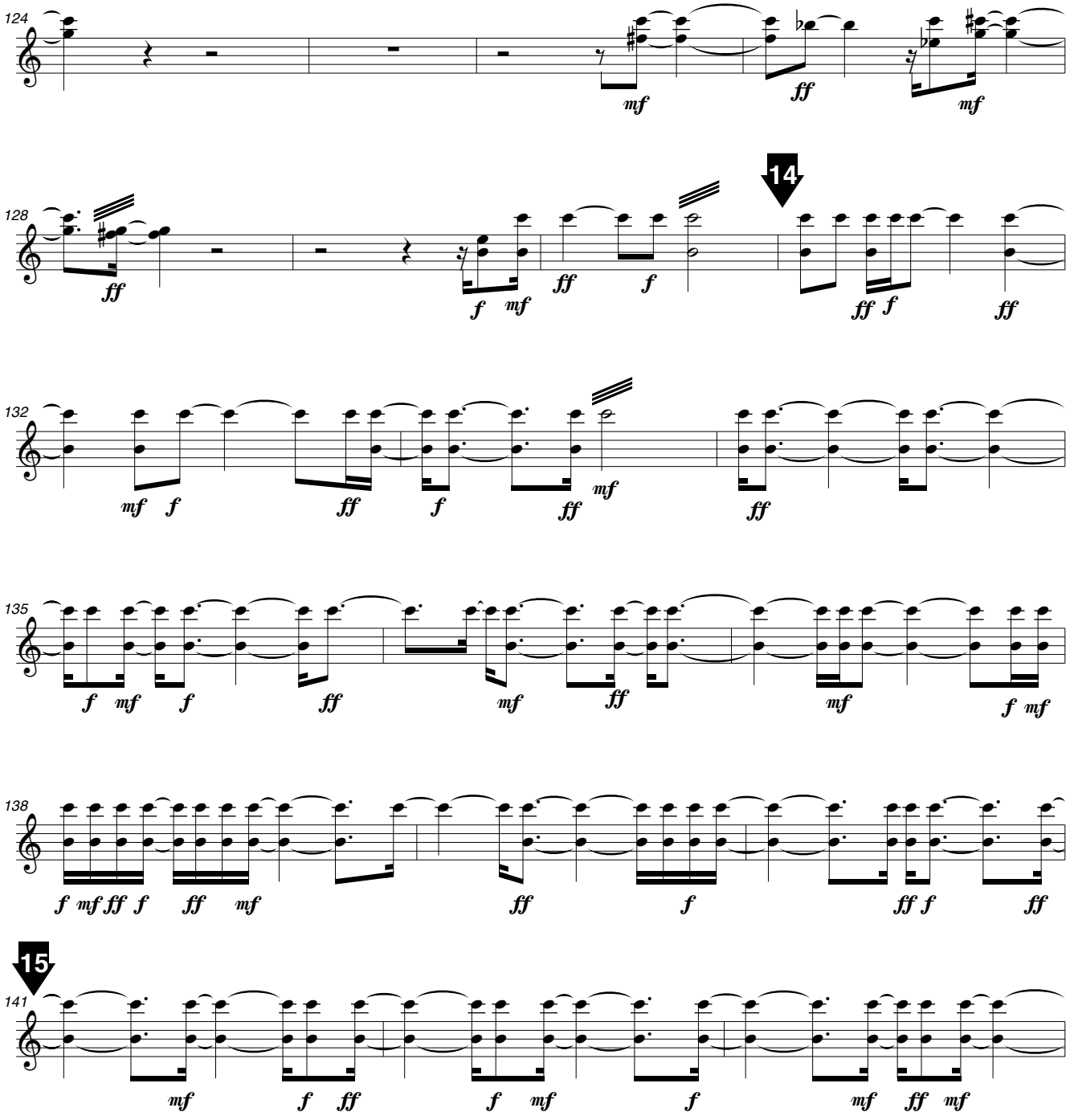

27
mf
dim...
29
mf
pp
mf
pp
mf
4
31
mf
mf
pp
34
mf
mf
pp
mf
36
fff
pp
fff
mf
mf
mf
pp
pp
39
mf
pp
mf
mf
pp
mf
mf
pp

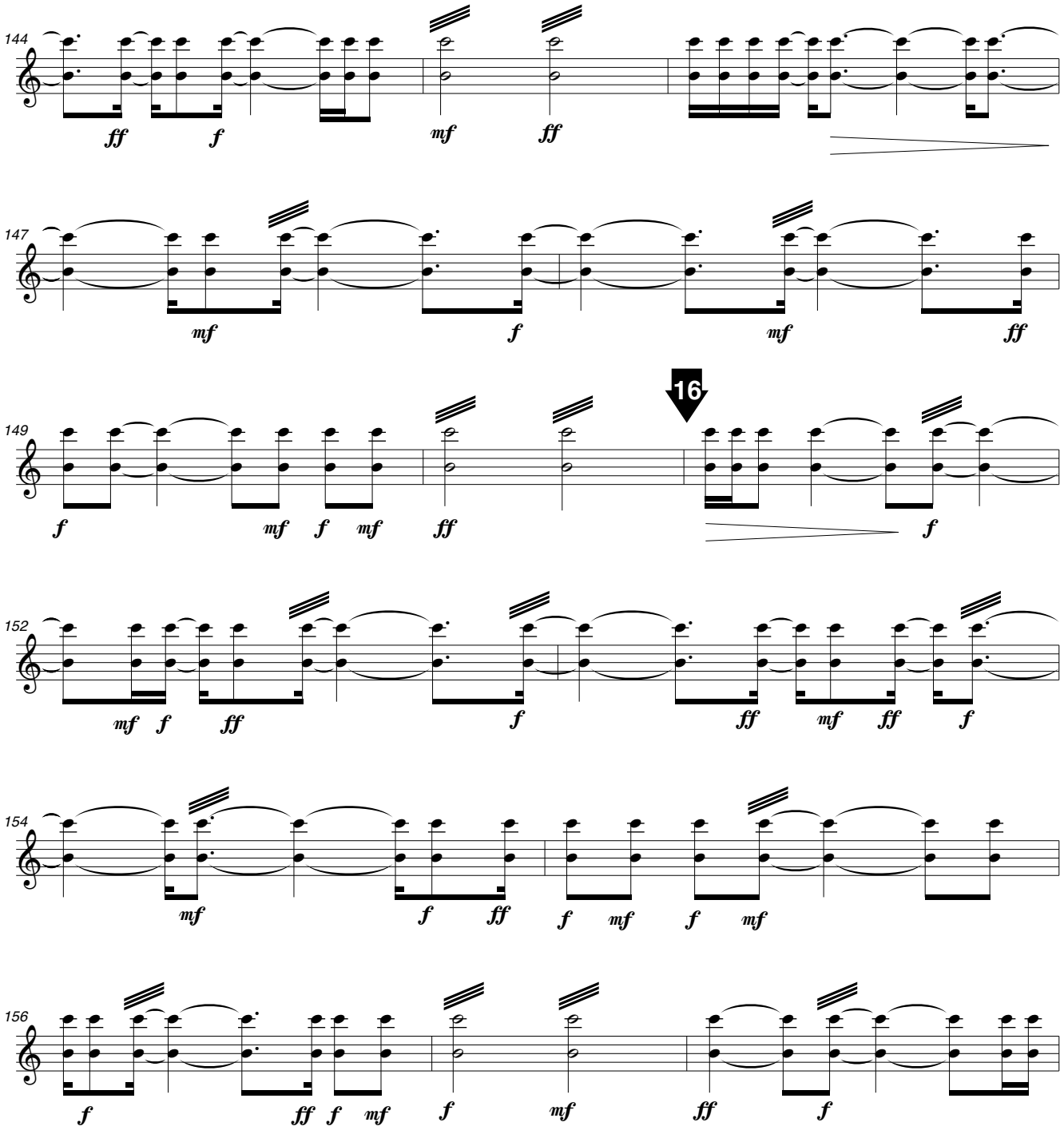

5
41
pp
pp
f mf
mf
pp
mf
44
mf
pp
mf
pp mf
mf
mf f
mf pp mf
46
pp f
mf
mf pp
f
mf
48
f pp
f
mf f
pp
pp f
mf
f
pp
6
51
f pp
f
mf
f
pp
55
f pp
f pp
mf pp f
pp
mf
pp

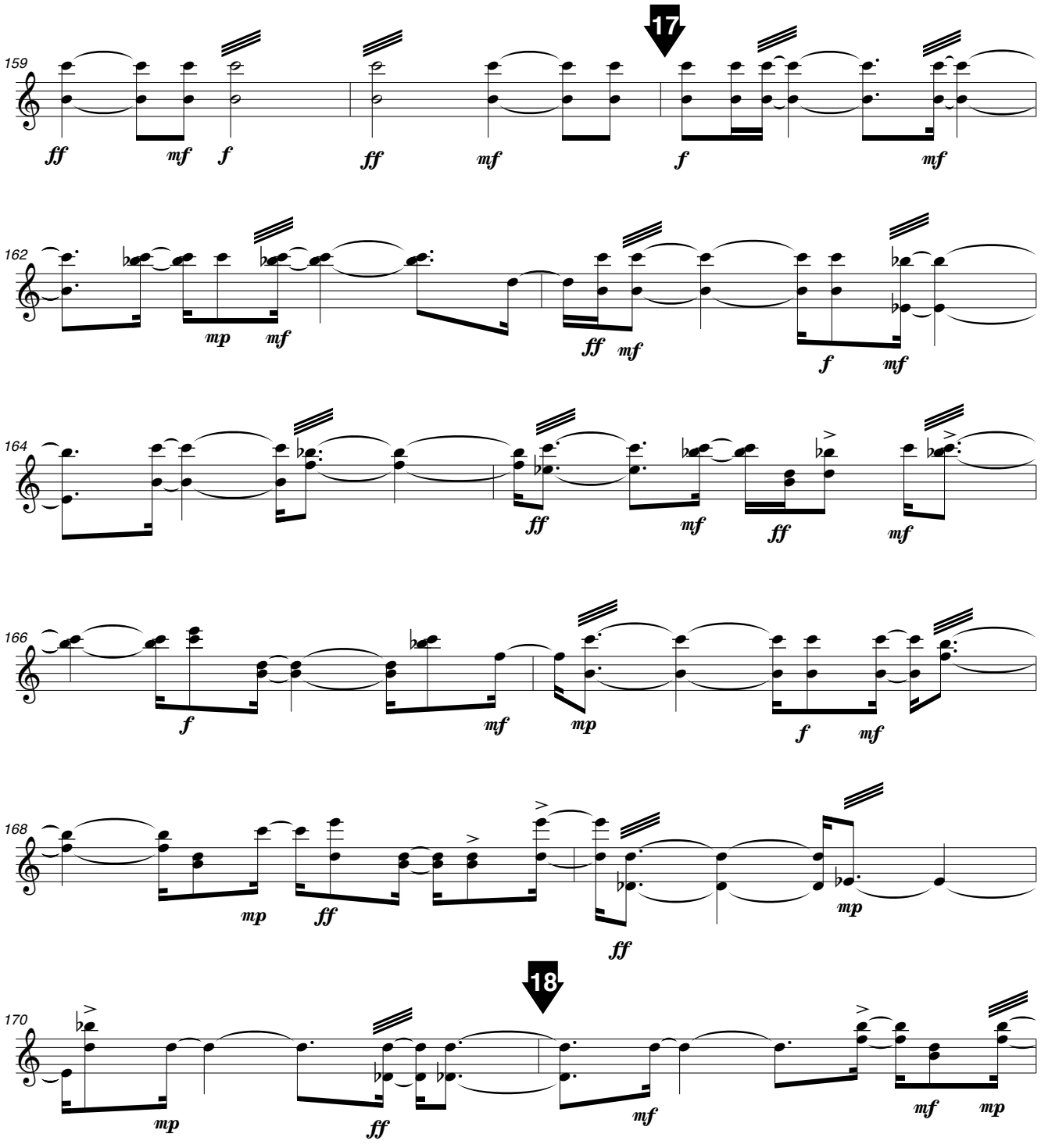

7
58
f
f
62
mf
f
fff
65
mf fff
f
fff
68
mf
pp
f
fff
8
71
mf
mf
pp
75
fff
f
f
mf

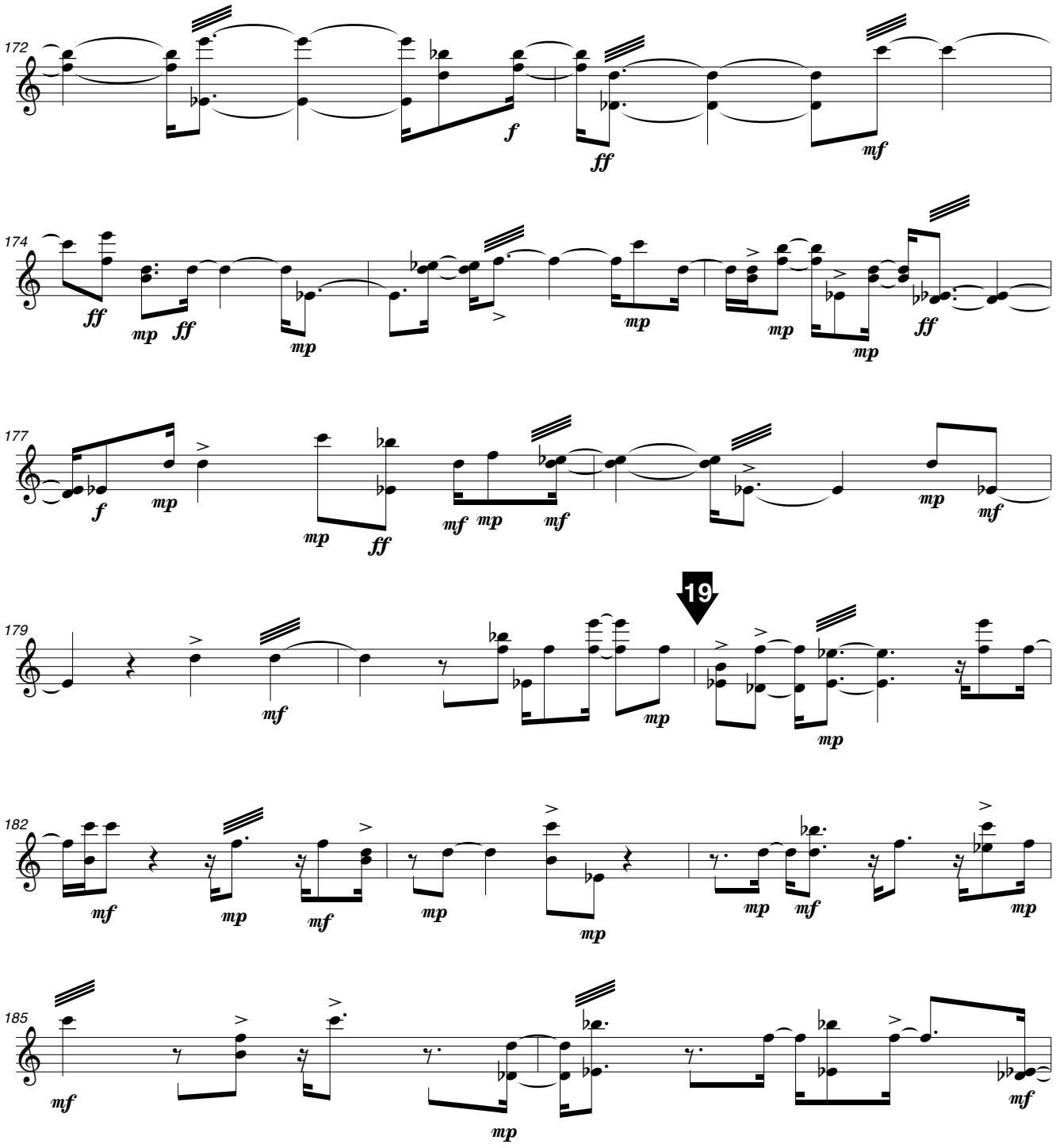

78
mf
f
mf
f
9
81
mf
fff
85
f
mf
f
mf
10
89
f
mf
ff
mf
94
ff
f
f
11
97
ff
f
f

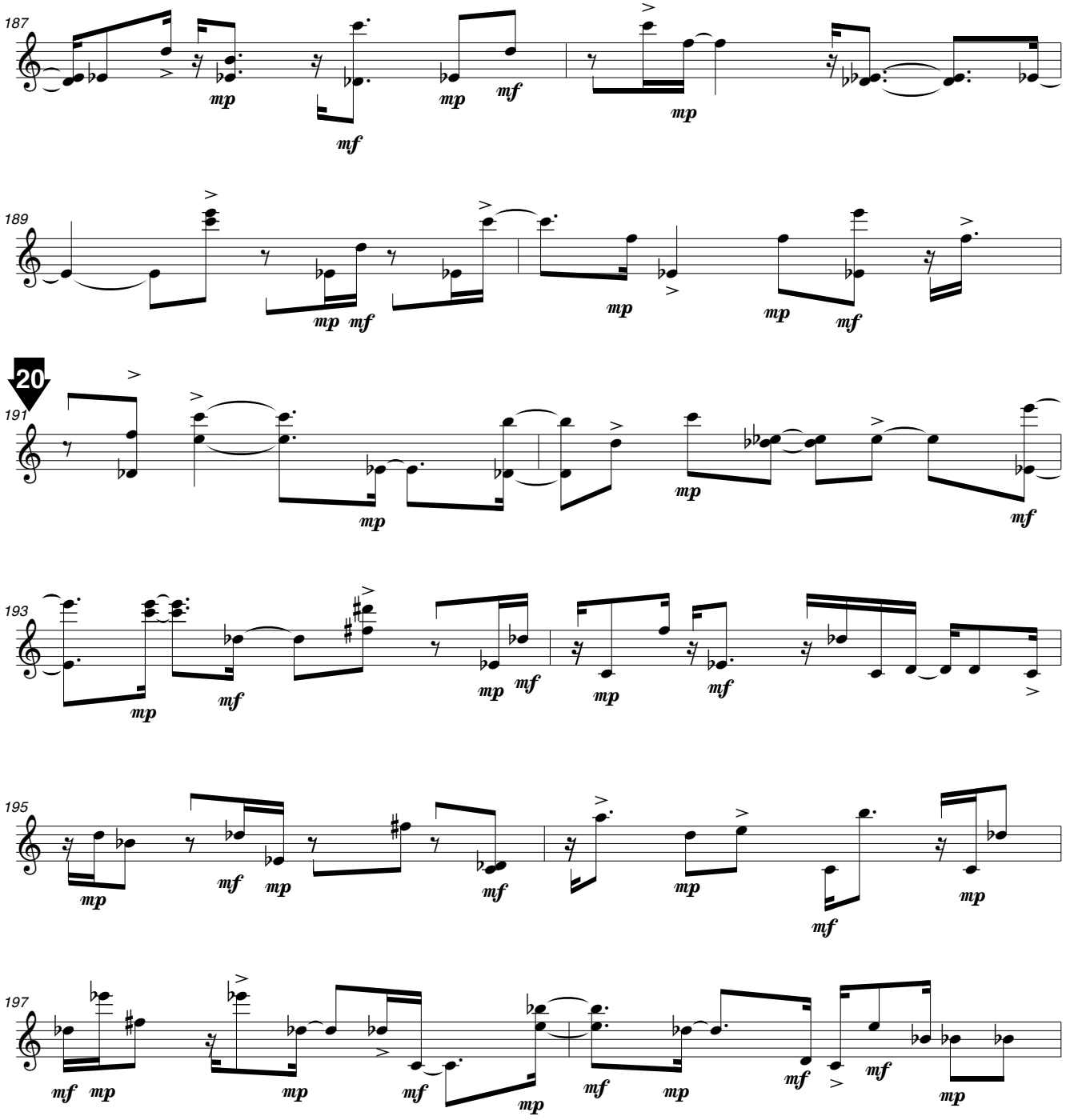

102
ff
105
ff
12
109
mf
f
113
mf
ff
116
mf
f
mf
13
119
ff
ff
mf
f

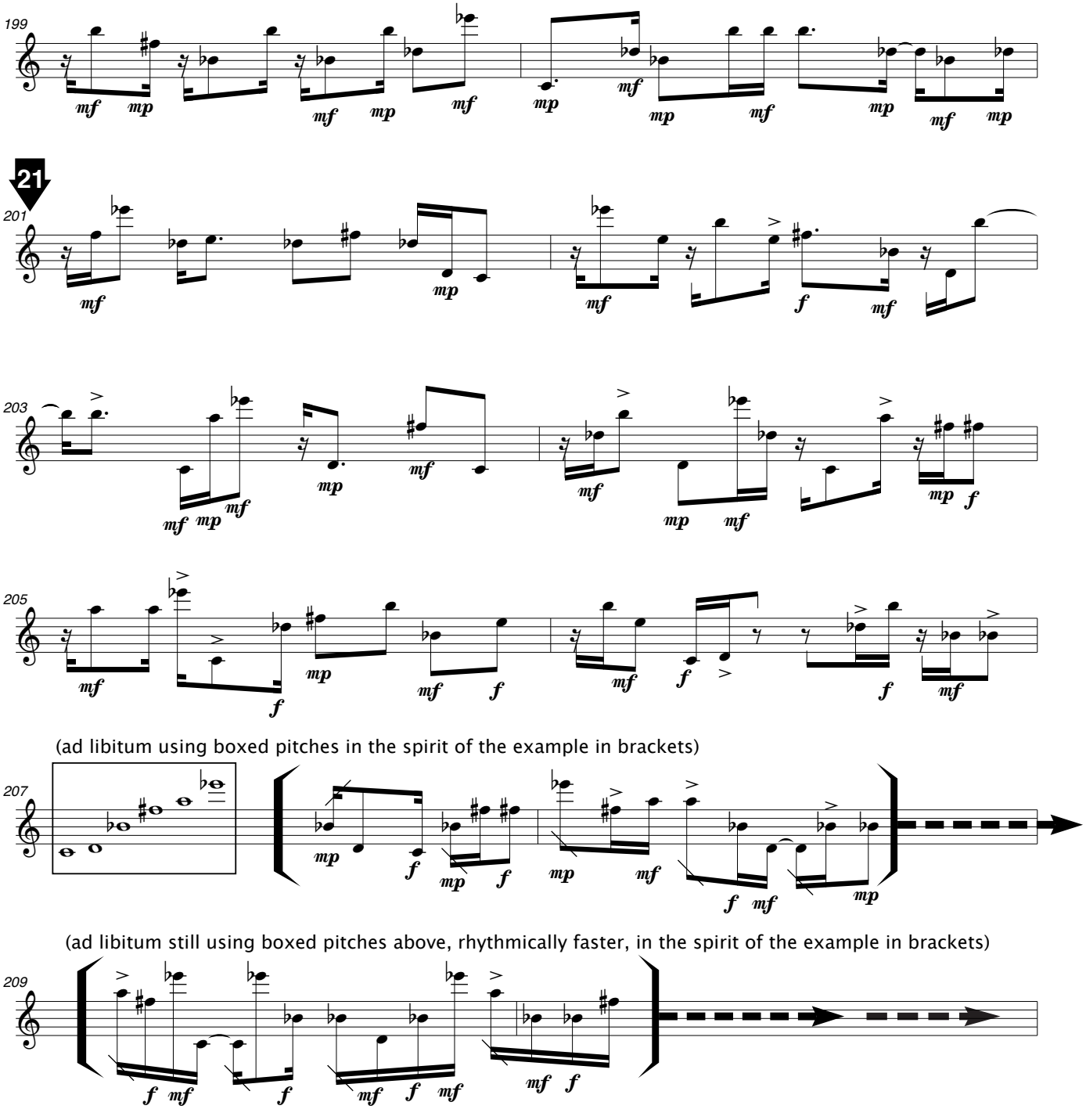

124
mf
ff
mf
128
14
ff
f mf
ff f
ff f
ff
132
mf f
ff
f
ff
mf
ff
135
f mf f
ff
mf
ff
mf
f mf
138
f mf ff f
ff mf
ff
f
ff f
ff
15
141
mf
f ff
f mf
f
mf
ff mf

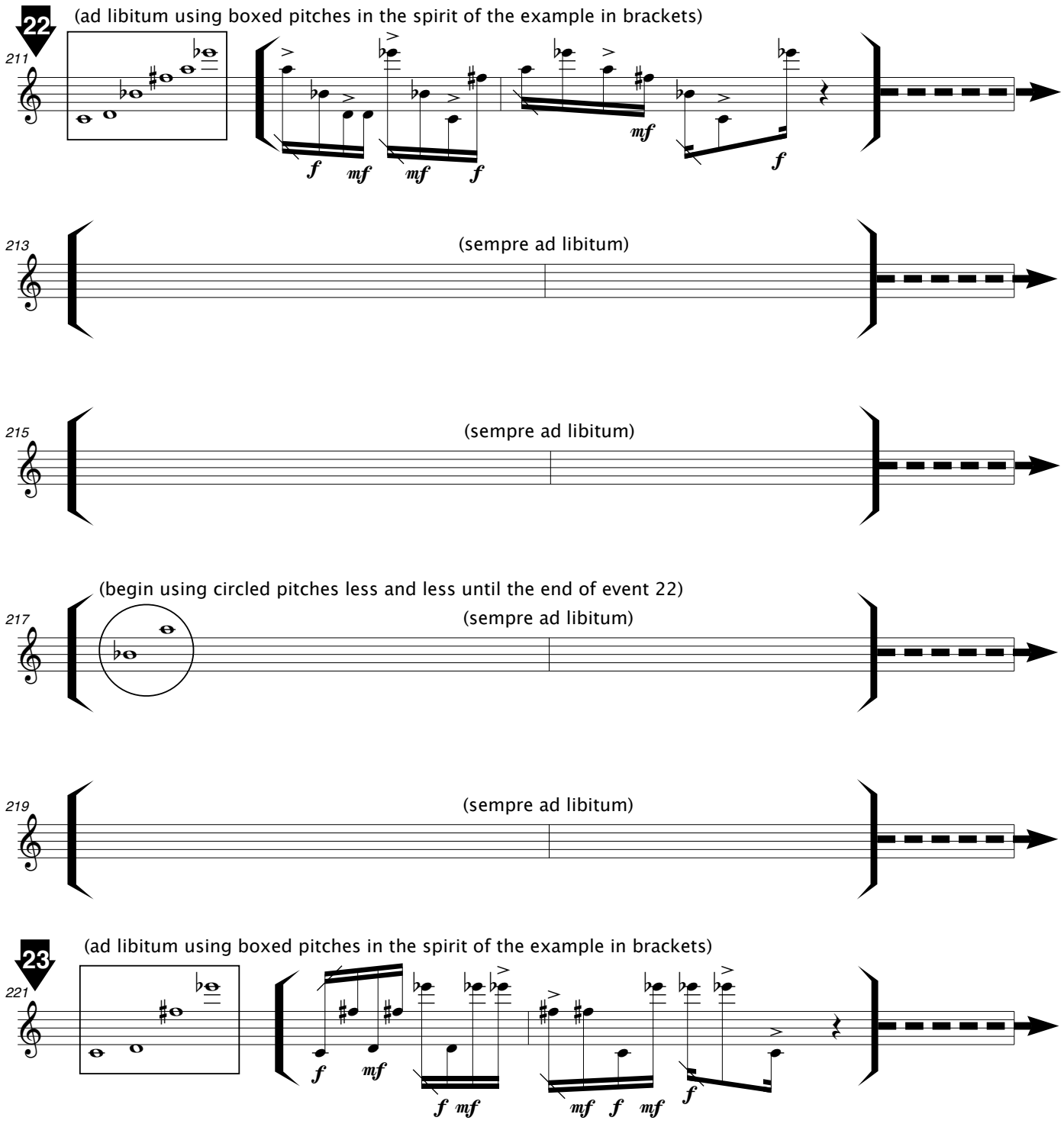

144
ff f mf ff
147
mf f mf ff
149
f mf f mf ff
16
f
152
mf f ff f ff mf ff f
154
mf f ff f mf f mf
156
f ff f mf f mf ff f

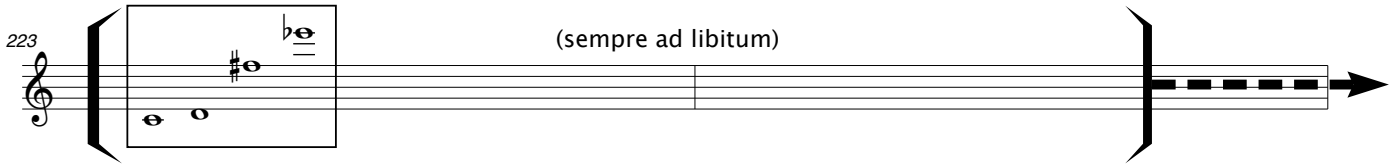

17
159
ff
mf
f
ff
mf
f
mf
162
mp
mf
ff
mf
f
mf
164
ff
mf
ff
mf
166
f
mf
mp
f
mf
168
mp
ff
ff
mp
18
170
mp
ff
mf
mf
mp

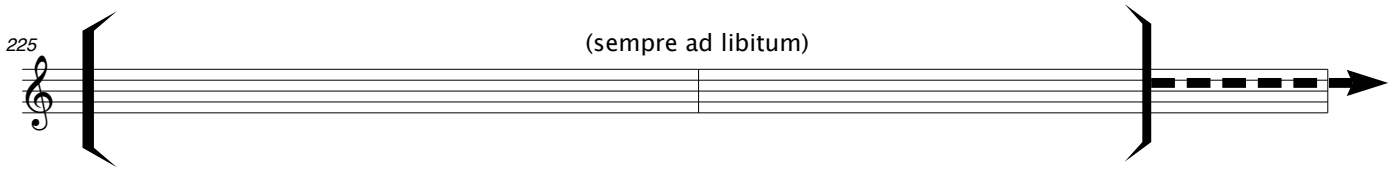

172
174
177
19
179
182
185


187
189
20
191
193
195
197

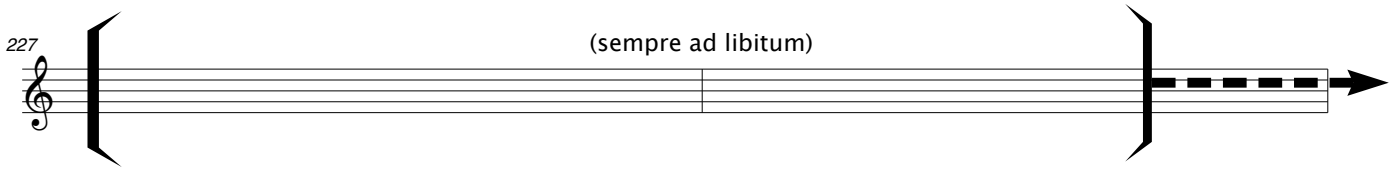

199
21
201
203
205
(ad libitum using boxed pitches in the spirit of the example in brackets)
207
(ad libitum still using boxed pitches above, rhythmically faster, in the spirit of the example in brackets)
209

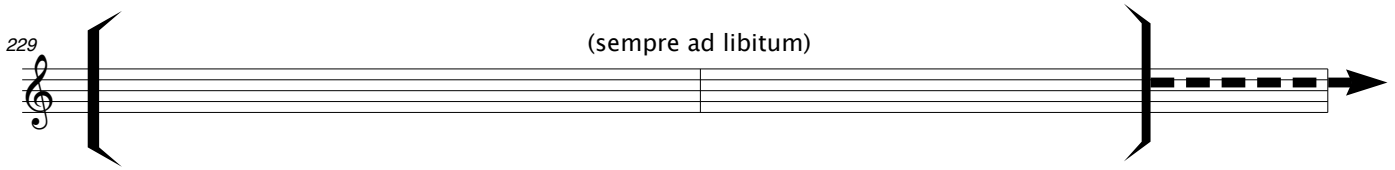

22
(ad libitum using boxed pitches in the spirit of the example in brackets)
211
f mf mf f
mf
f
213
(sempre ad libitum)
215
(sempre ad libitum)
(begin using circled pitches less and less until the end of event 22)
217
(sempre ad libitum)
219
(sempre ad libitum)
23
(ad libitum using boxed pitches in the spirit of the example in brackets)
221
f mf
f mf
mf f mf
f

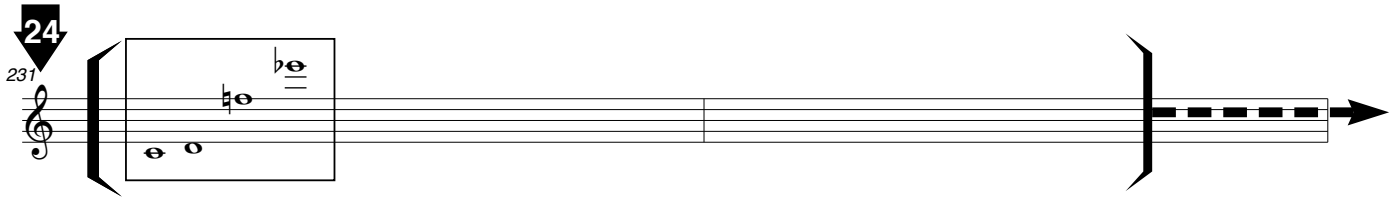




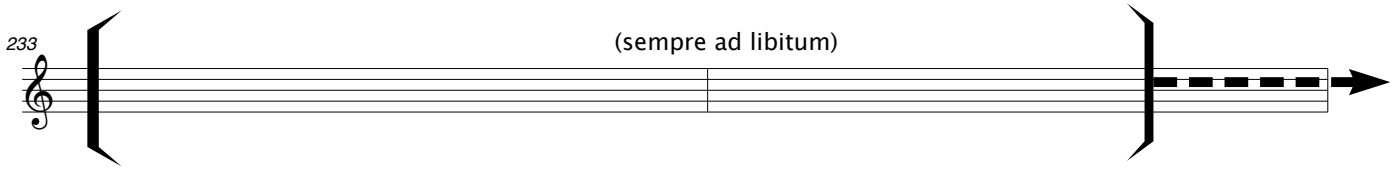
(little by little, rests between fast passages can become more frequent--but not longer--until the end of event 23)

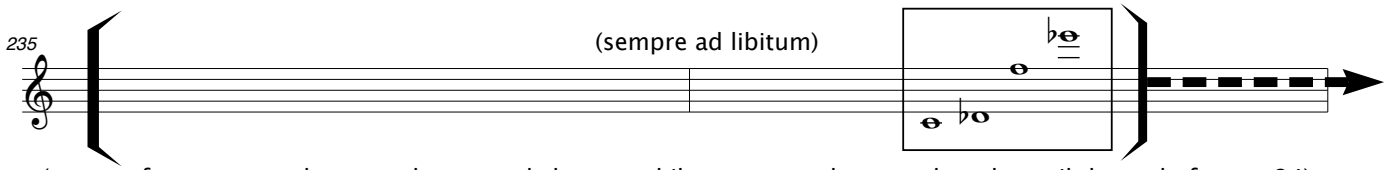




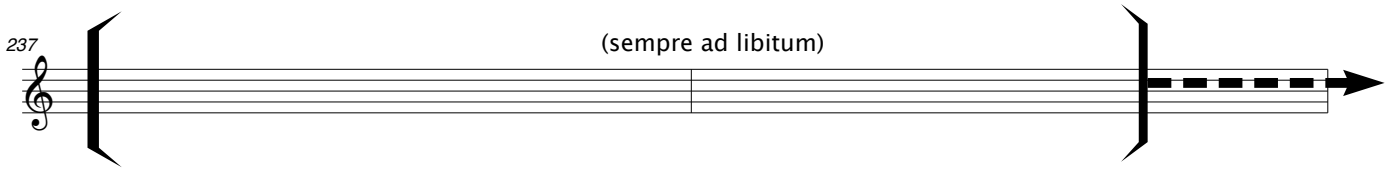


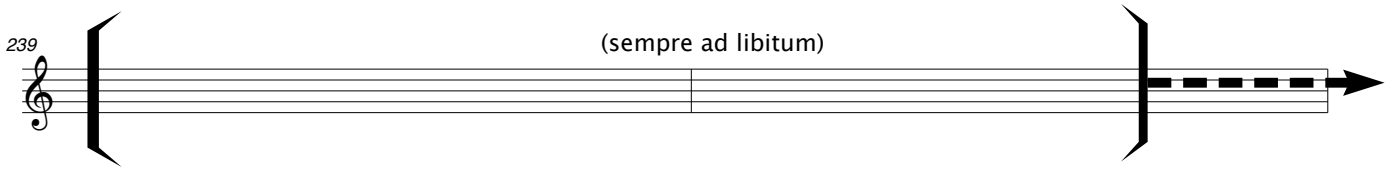
(little by little, fast passages become shorter and shorter, while rests stay the same length, until the end of event 24)

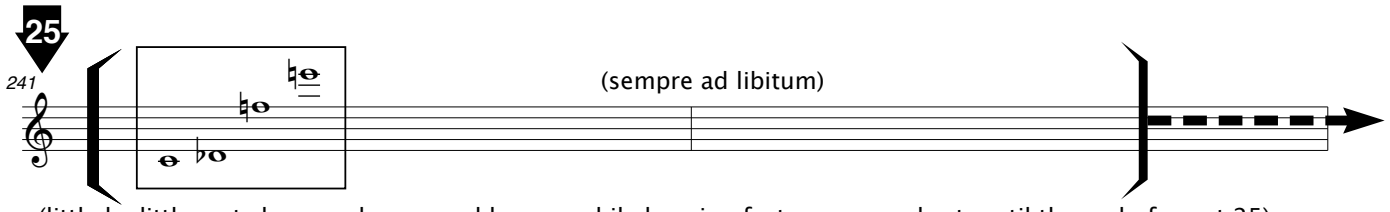




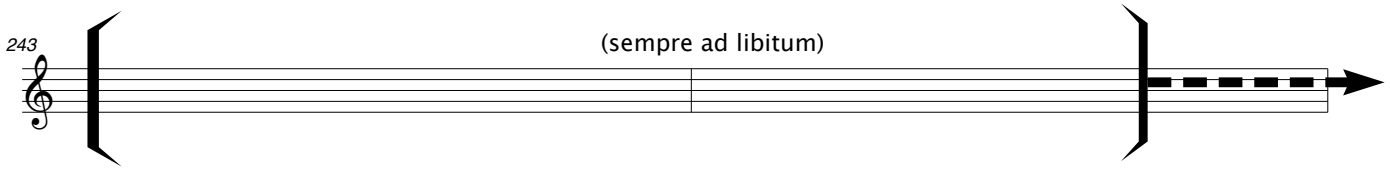
(sempre fast passages become shorter and shorter, while rests stay the same length, until the end of event 24)

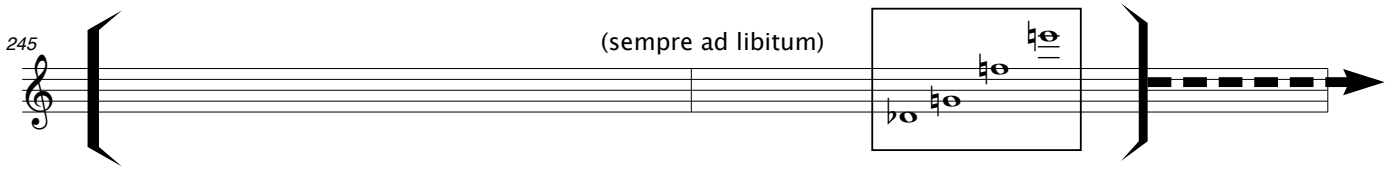


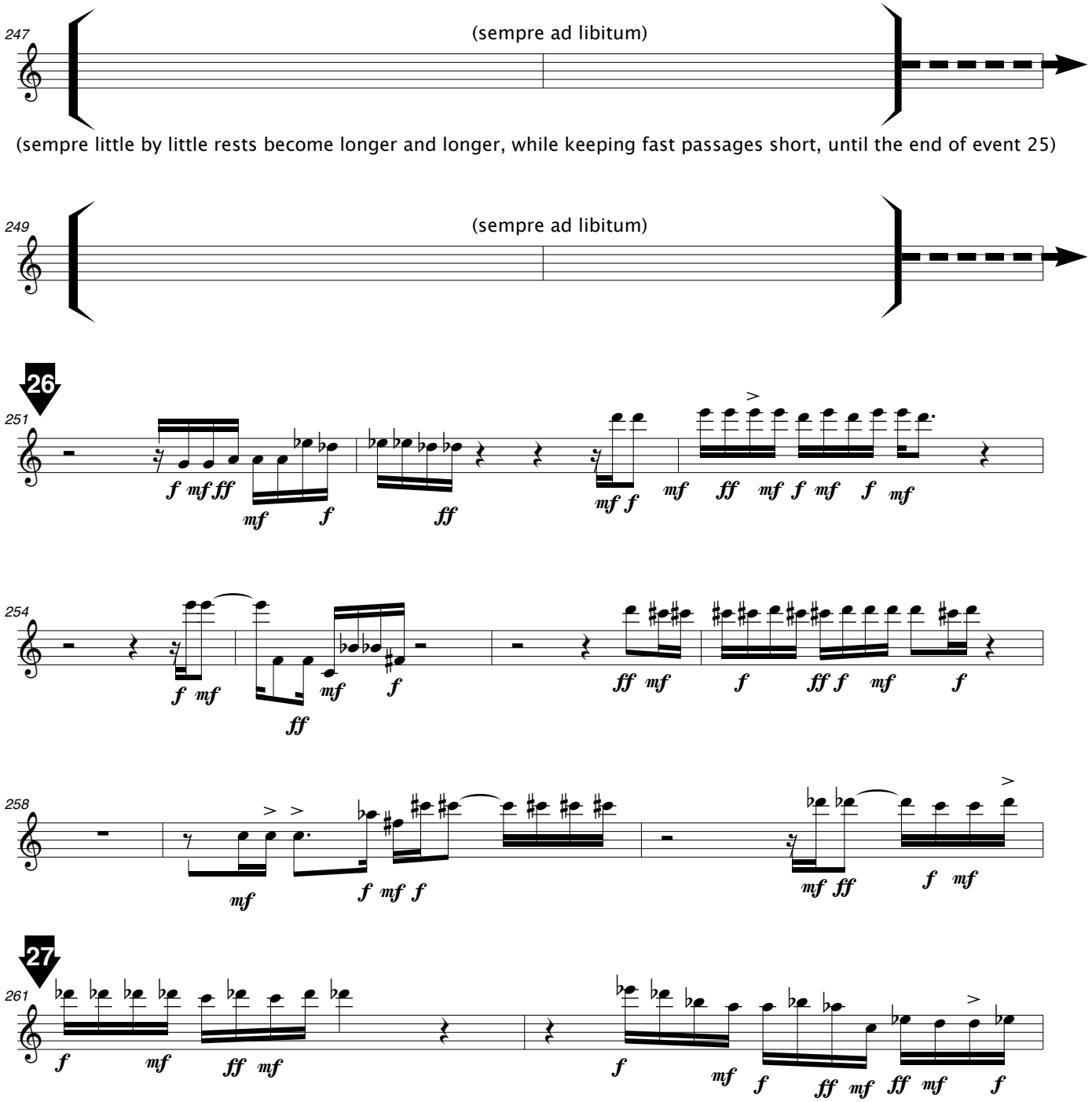


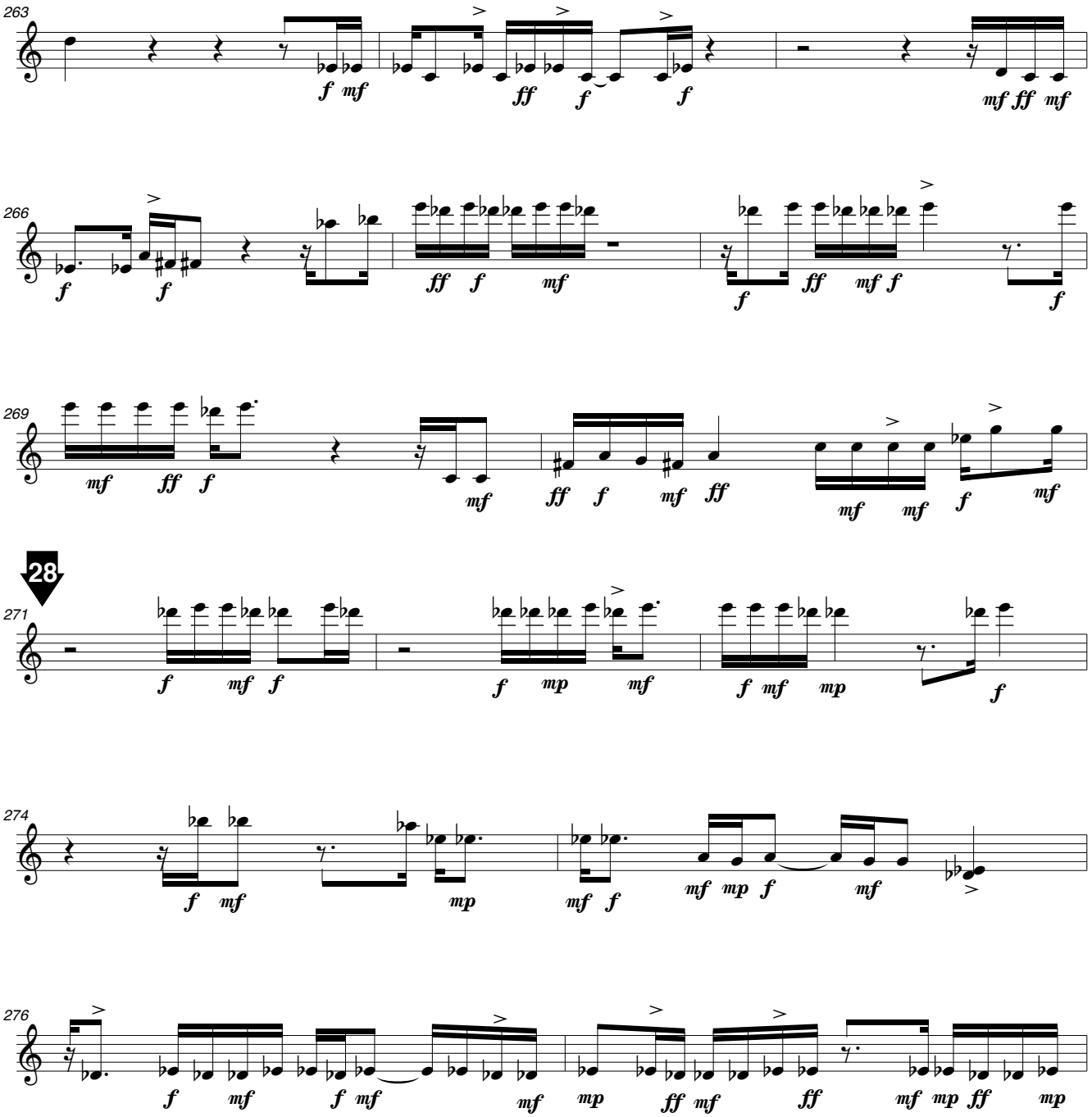


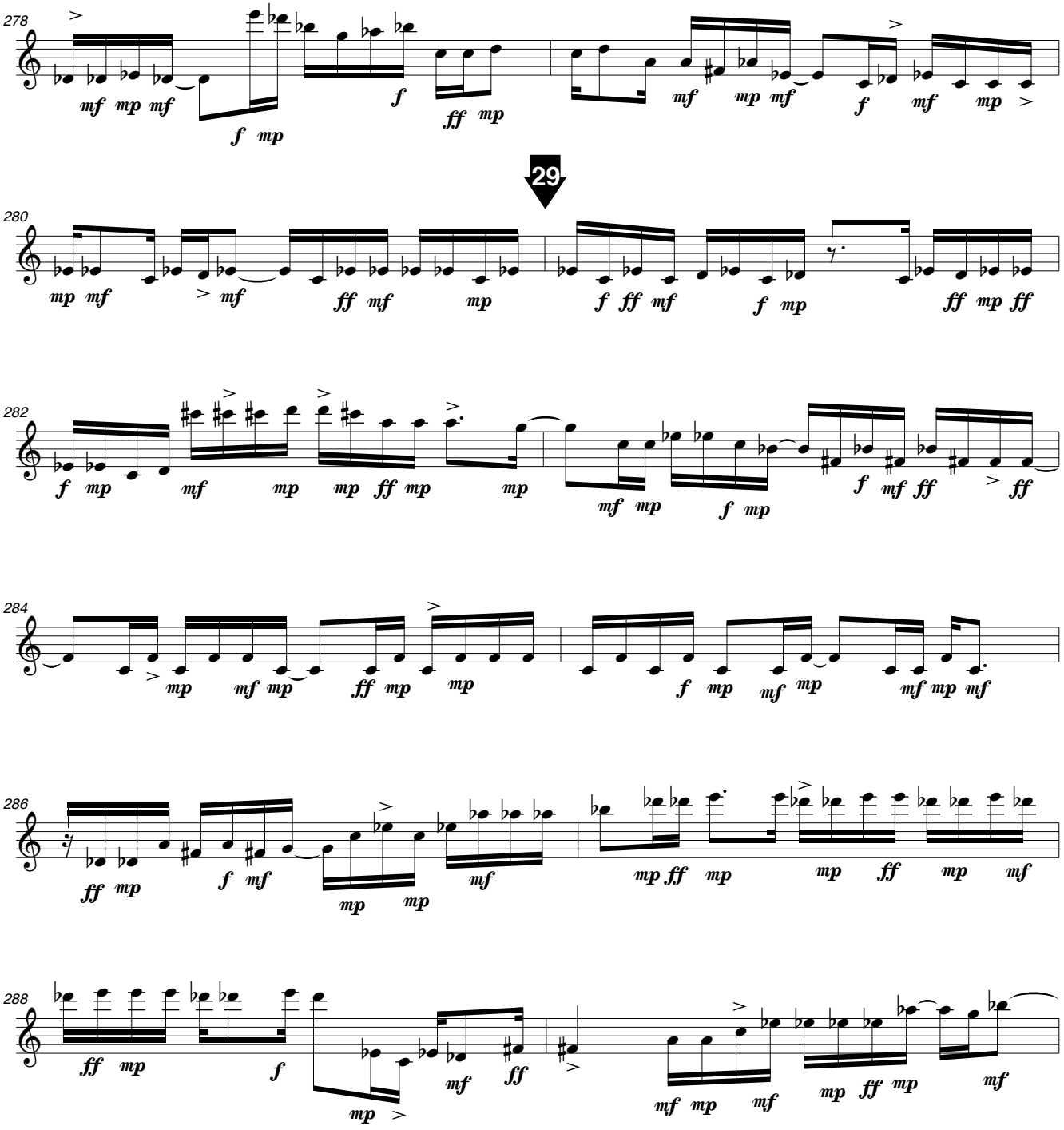
(little by little rests become longer and longer, while keeping fast passages short, until the end of event 25)






247
(sempre ad libitum)
(sempre little by little rests become longer and longer, while keeping fast passages short, until the end of event 25)
249
(sempre ad libitum)
26
251
27
261


263
f mf
ff f f
mf ff mf
266
f f
ff f mf
f ff mf f f
269
mf ff f
mf
ff f mf ff
mf mf f mf
28
271
f mf f
f mp mf
f mf mp f
274
f mf
mp
mf f
mf mp f mf
276
f mf f mf mf
mp ff mf ff
mf mp ff mp


278
mf mp mf
f mp
f
ff mp
mf
mp mf
f
mf
mp
29
280
mp mf
mf
ff mf
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f ff mf
f mp
ff mp ff
282
f mp
mf
mp
mp ff mp
mp
mf mp
f mp
f mf ff
ff
284
mp
mf mp
ff mp
mp
f mp
mf
mp
mf mp mf
286
ff mp
f mf
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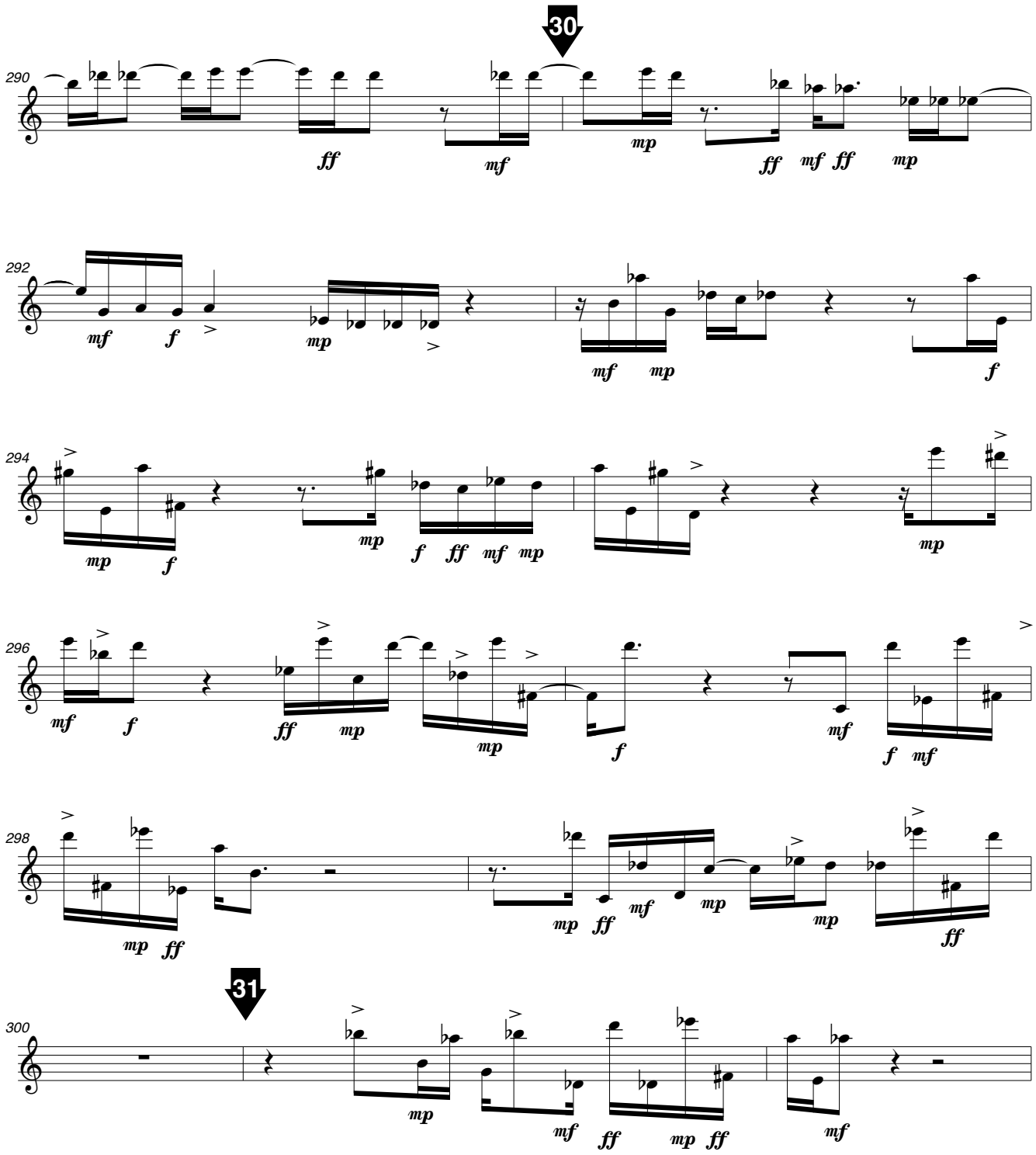
f
mp
mf
ff
mf mp
mf
mp ff mp
mf


30
290
ff
mf
mp
ff
mf
ff
mp
292
mf
f
mp
mf
mp
f
294
mp
f
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f
ff
mf
mp
mp
296
mf
f
ff
mp
mp
f
mf
f
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mp
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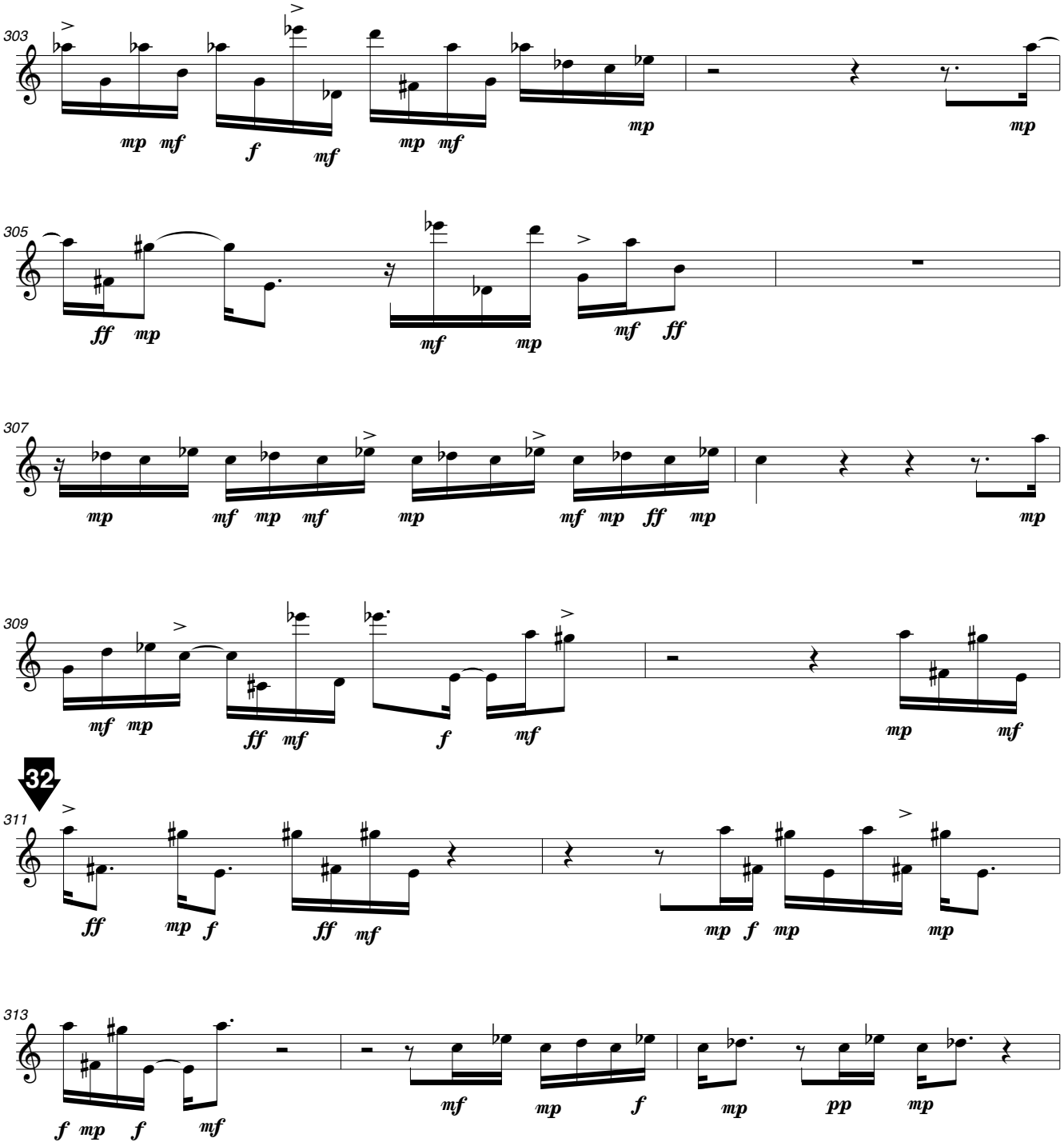
mp
mp
ff
31
300
mp
mf
ff
mp
ff
mf


303
mp mf
f
mf
mp mf
mp
mp
305
ff mp
mf
mp
mf ff
307
mp
mf mp mf
mp
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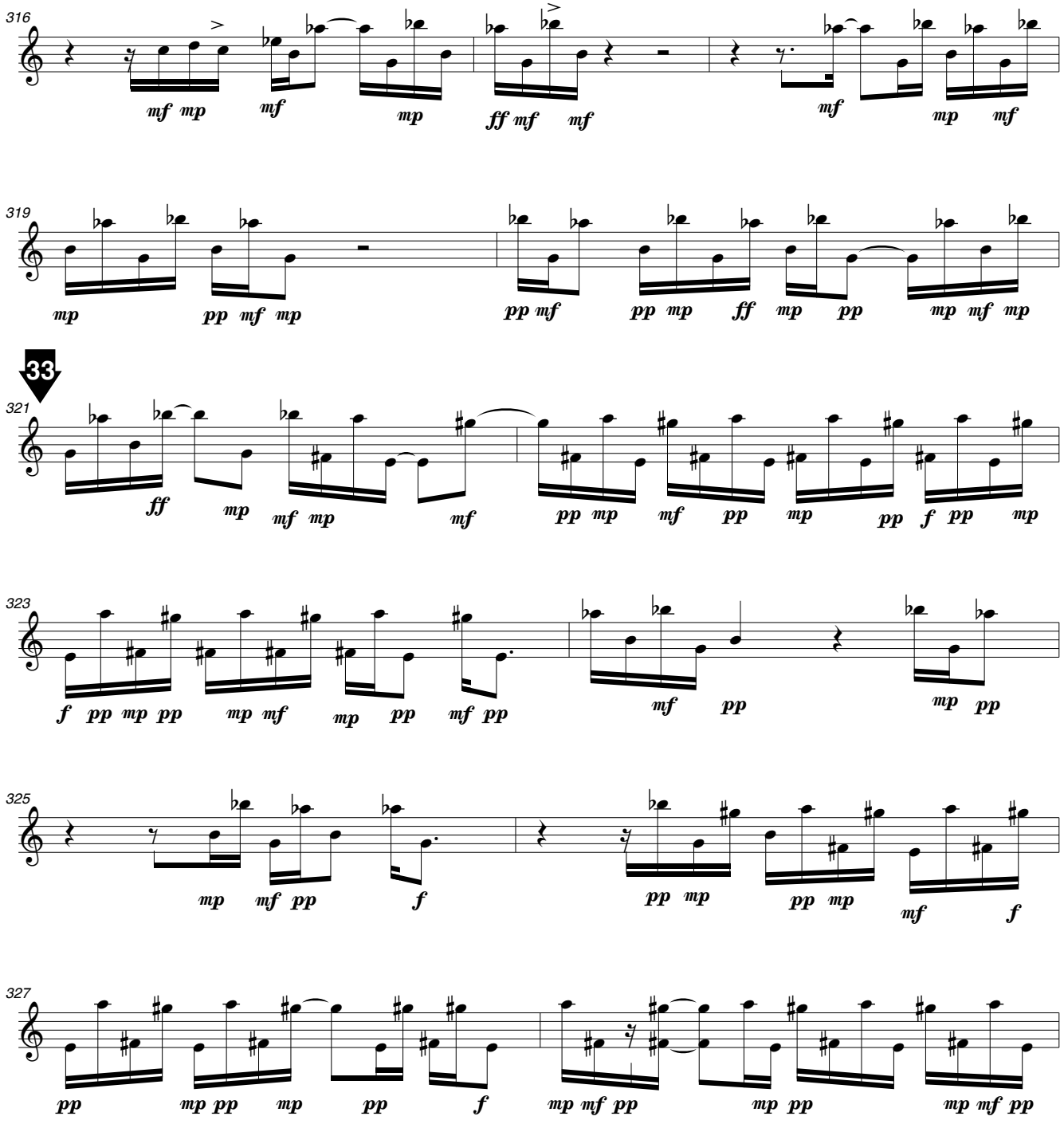
mp
309
mf mp
ff mf
f
mf
mp
mf
32
311
ff
mp f
ff mf
mp f mp
mp
313
f mp f
mf
mf
mp
f
mp
pp
mp


316
mf mp
mf
mp
ff mf
mf
mf
mp mf
319
mp
pp mf mp
pp mf
pp mp
ff
mp
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33
321
ff
mp
mf mp
mf
pp mp
mf
pp
mp
pp
f pp
mp
323
f pp mp pp
mp mf
mp
pp
mf pp
mf
pp
mp pp
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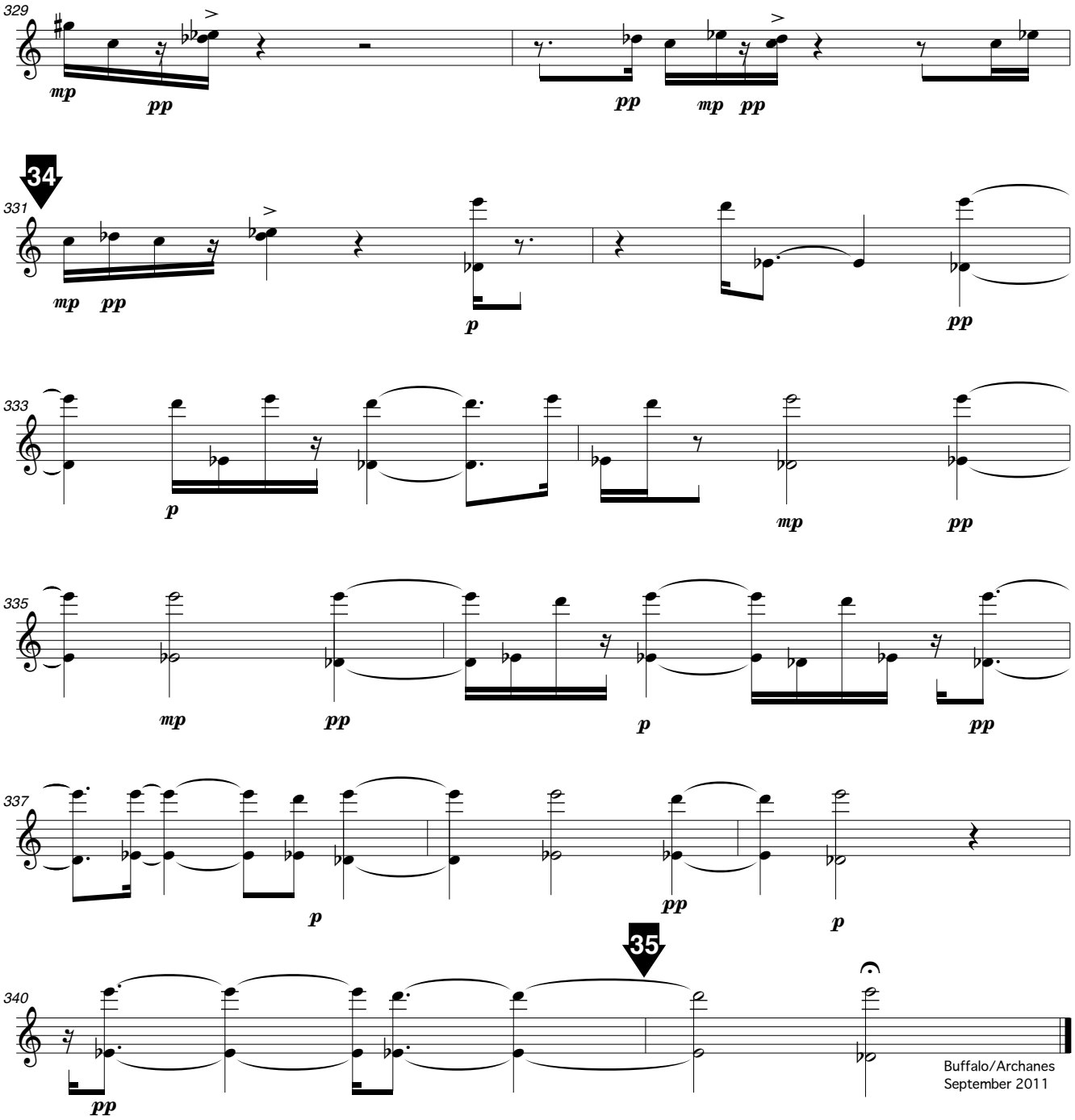
mp pp
mp mf pp


329
mp
pp
pp
mp pp
34
331
mp pp
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pp
333
p
mp
pp
335
mp
pp
p
pp
337
p
pp
p
35
340
pp
Buffalo/Archanes
September 2011