Steven Snowden

Shovelhead

For Baritone Saxophone
and Electronics

Shovelhead

Commissioned by Matthew Miracle

Program Notes:

The Shovelhead is a notoriously cantankerous, but much beloved V-twin motorcycle engine manufactured from 1966 to 1984 by the Harley Davidson Motor Company. The name was derived from the way in which the engine's rocker boxes resemble the inverted heads of coal shovels. Though prone to oil leaks, hard-starting and over heating, this engine defined the unique Harley sound that many love (or hate) today. Thanks to my friend, Amber Alarcón and my Harley, Fricka for providing all of the source material upon which this piece is based.

-Steven Snowden

Technical Requirements:

This piece employs live audio processing techniques via the Max/MSP programming language. The included program files can be executed with Max/MSP Runtime, which can be installed from the included disk or downloaded for free at http://cycling74.com/downloads/

Required equipment:
1 microphone
1 mic stand (unless a clip-on instrument mic is used)
1 Mac or PC with Max/MSP Runtime installed
1 digital audio interface with at least 1 mic preamp (either usb or firewire)
1 set of headphones
1 pair of loudspeakers (powerful enough to compete with the live performer at high dynamic levels)
Cables and power supplies to connect and run all of the above items
For technical support, feel free to contact me at stevensnowden@gmail.com

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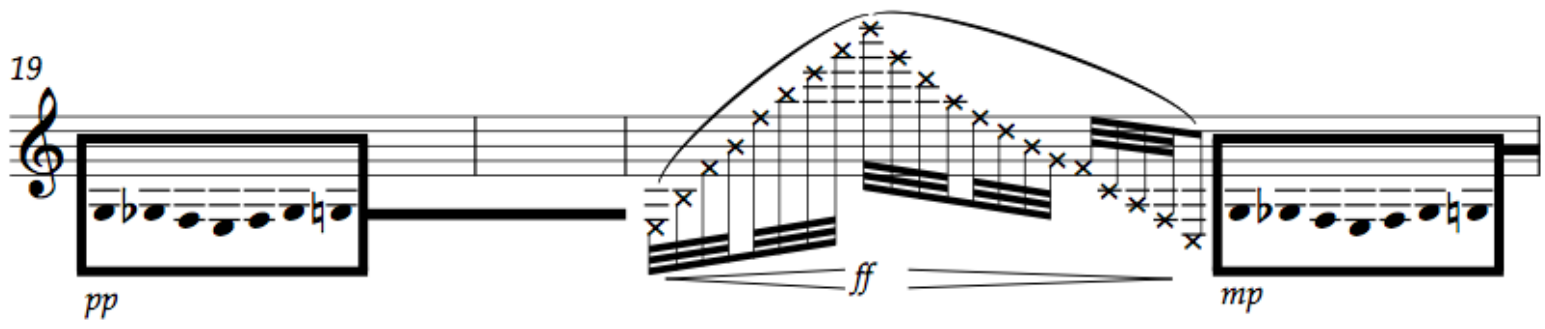
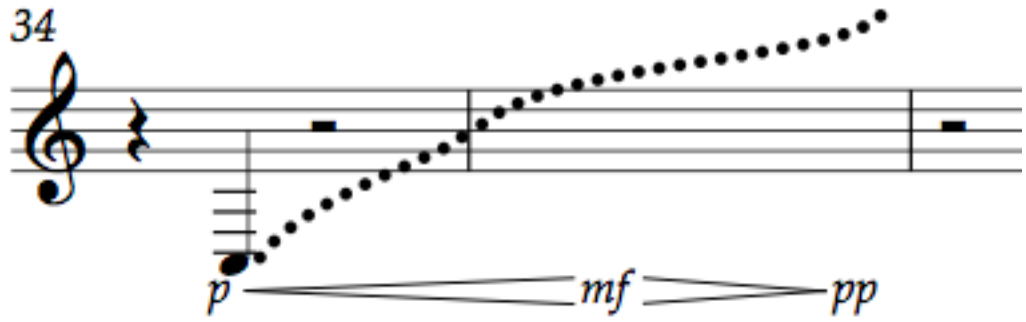
Performance/notation:

Box notation with X notehead swells –



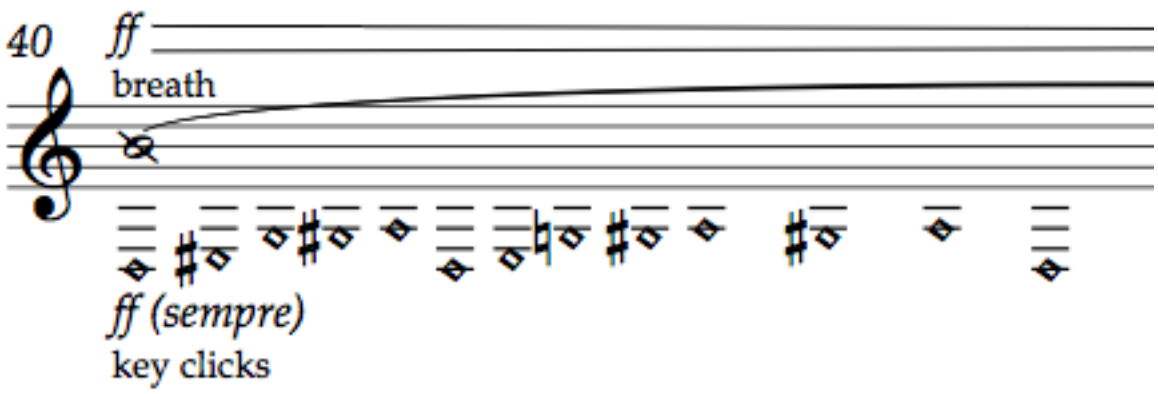
The pitches contained within the box are to be rapidly repeated, imitating the sound of an idling Harley. The x note heads indicate approximate pitches and should be played very aggressively. If the *amplitude envelope trigger* unit is set correctly, the peak of each swell will trigger a short clip of a revving Harley.

Low harmonic gliss –



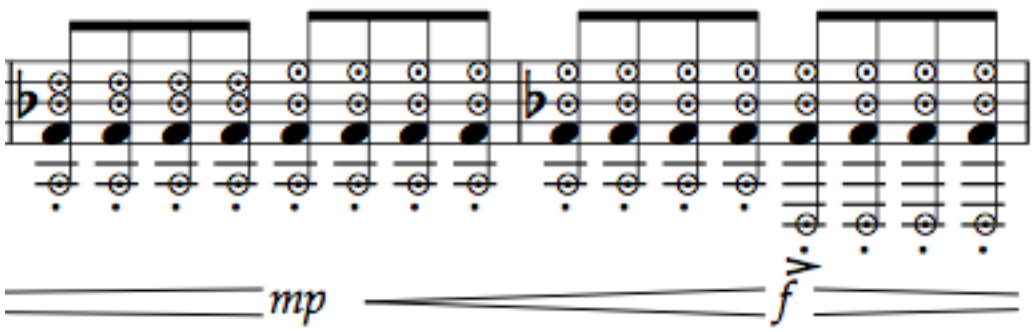
This effect is achieved by applying slight pressure to the reed and adjusting the shape of the oral cavity so that partials above the fingered fundamental pitch are produced, generating an ascending moan/scream. The dotted line indicates a general contour of movement through the harmonic series, but the player can treat this as loose guideline and can take liberties with the rate of ascent and pitch level.

Breath sounds and key clicks –



This effect simply requires the player to breath through their instrument while clattering their keys at a rate roughly corresponding with the spacing of the provided note heads.

Harmonizer –



Normal note heads indicate the pitches to be played, while circular empty note heads indicate the pitches that are produced by the harmonizer.

Live Audio Processing:

This piece utilizes a fixed audio track as well as live audio processing. These live processing techniques include:

Reverb – The amount of reverb (wet to dry mix) can be adjusted according to the acoustics of the performance space.

Fixed rate delay lines – Employed from measure 69-178. The volume of each individual delay line can be adjusted.

Variable rate delay lines – Employed from measures 32-67. This type of delay produces a "glitch" sounding effect and is less predictable result than the fixed rate delay. It will also produce some subtle pitch shifting.

Overdrive – Employed in measures 4-9, 179-195 and 211-228. Much like overdrive effects used for electric guitar, this effect distorts the sound of the live bass clarinet in order to make it more gritty and aggressive. The degree of overdrive employed in this piece can be controlled from the patch.

Amplitude Envelope Sample Trigger – Employed from measures 10-27. This unit tracks the performer's incoming amplitude and triggers four different revving Harley samples once he or she exceeds a specified amplitude threshold. The performer can set this threshold level before performance by utilizing the *amplitude threshold tester*. To access this feature, click on the "open amplitude threshold tester" button in the Shovelhead patch.

Real-Time fft Harmonizer – Employed at various points from measures 70-169. This unit receives the player's incoming audio signal, and shifts the pitch of that signal in three additional independent voices according to preprogrammed harmonies.

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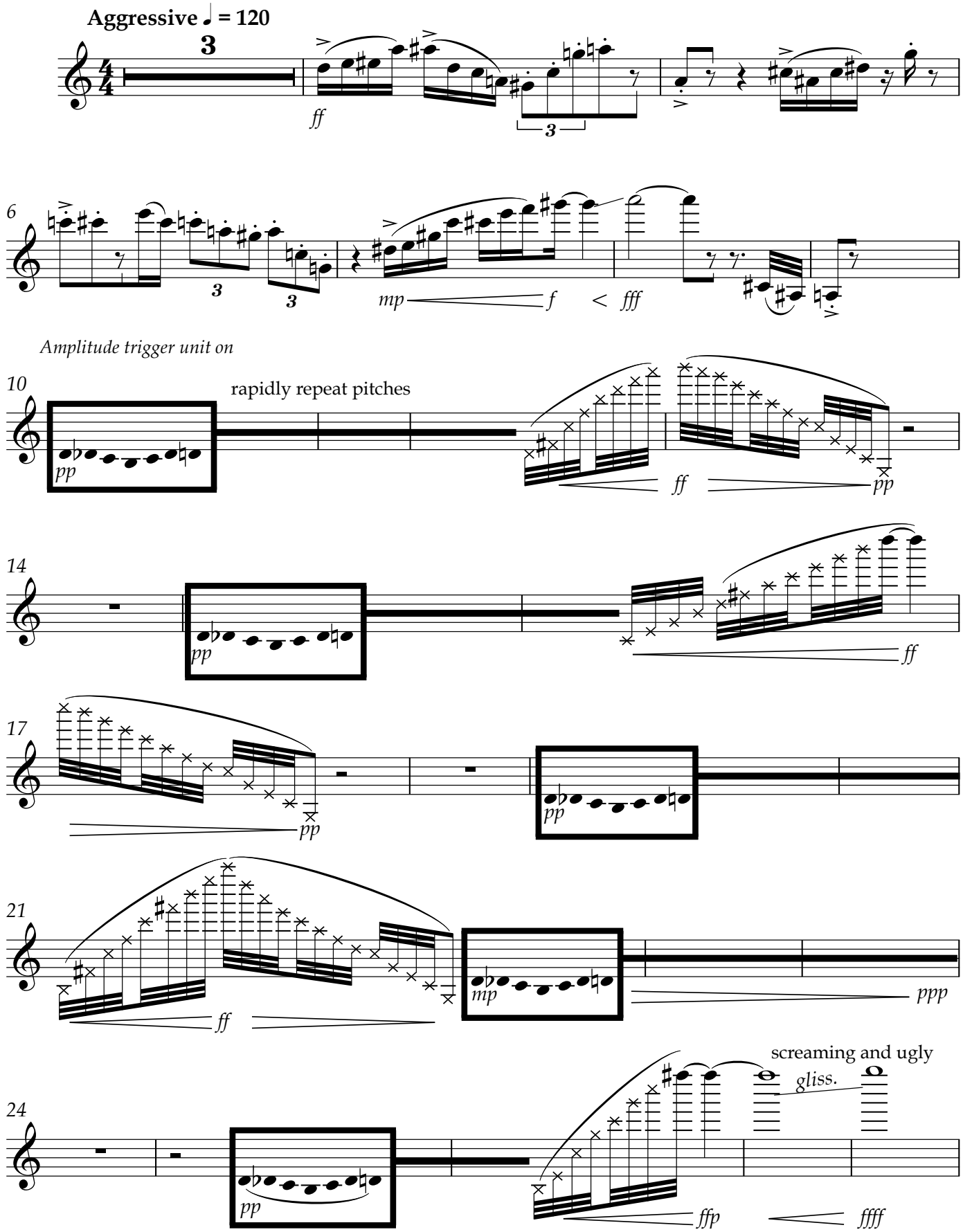


Suddenly mysterious

Baritone Saxophone

29

Amplitude trigger unit off

2

*low C gliss effect

Variable rate delay lines fade in

pp < fp < mp < fp f p

35

mf pp mf pp

40

breath

ff (sempre) (ff)

key clicks

43

2

ppp mf ppp

50

52

mp ppp f p mf mp ppp

56

3 3

pp < p pp ppp mp pp

61

< mp p mp > pp < p < mf

68

Delay lines switch to fixed rates

mf

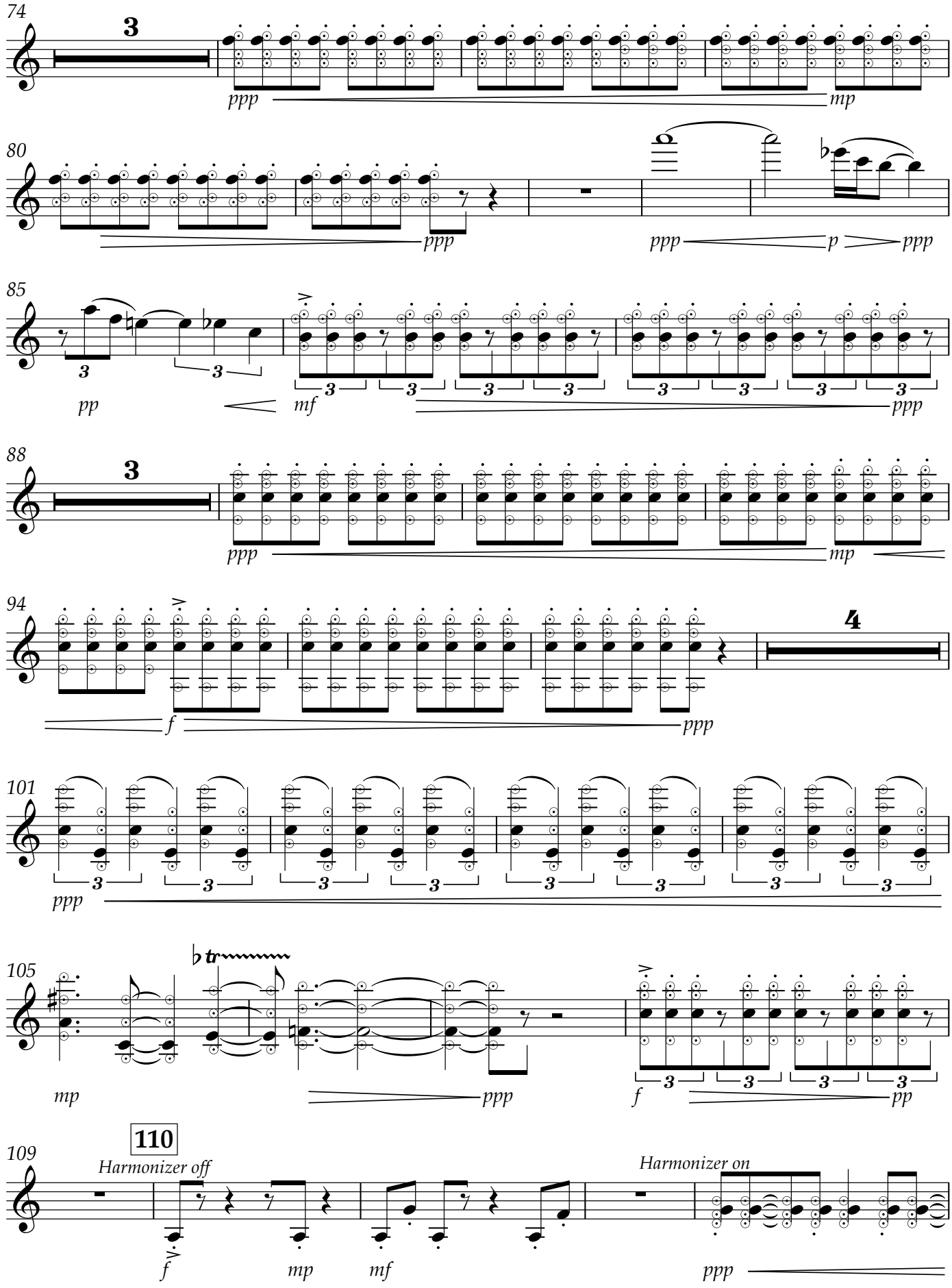
Harmonizer on

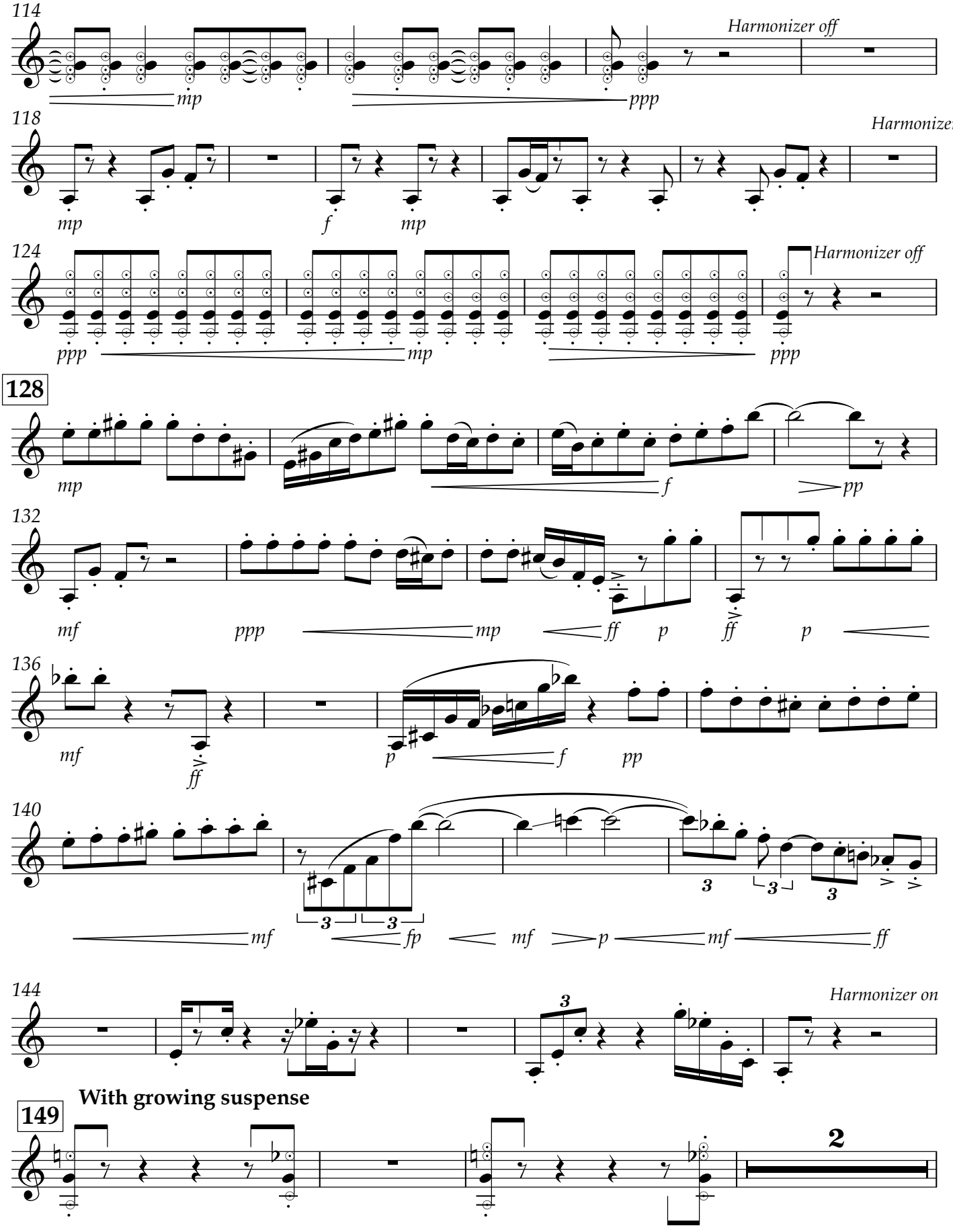
70 **Tranquil, but with anticipation**

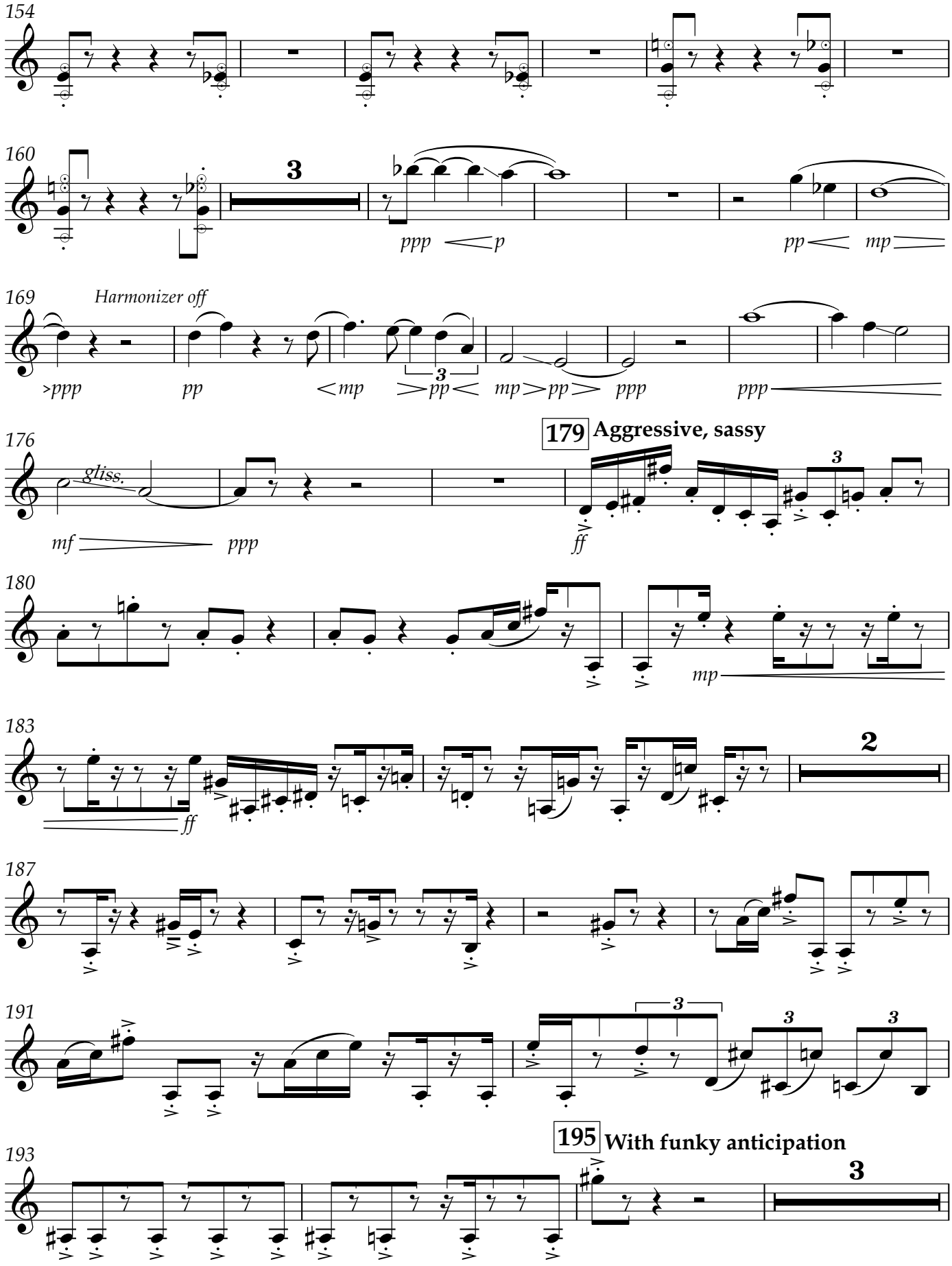
ppp

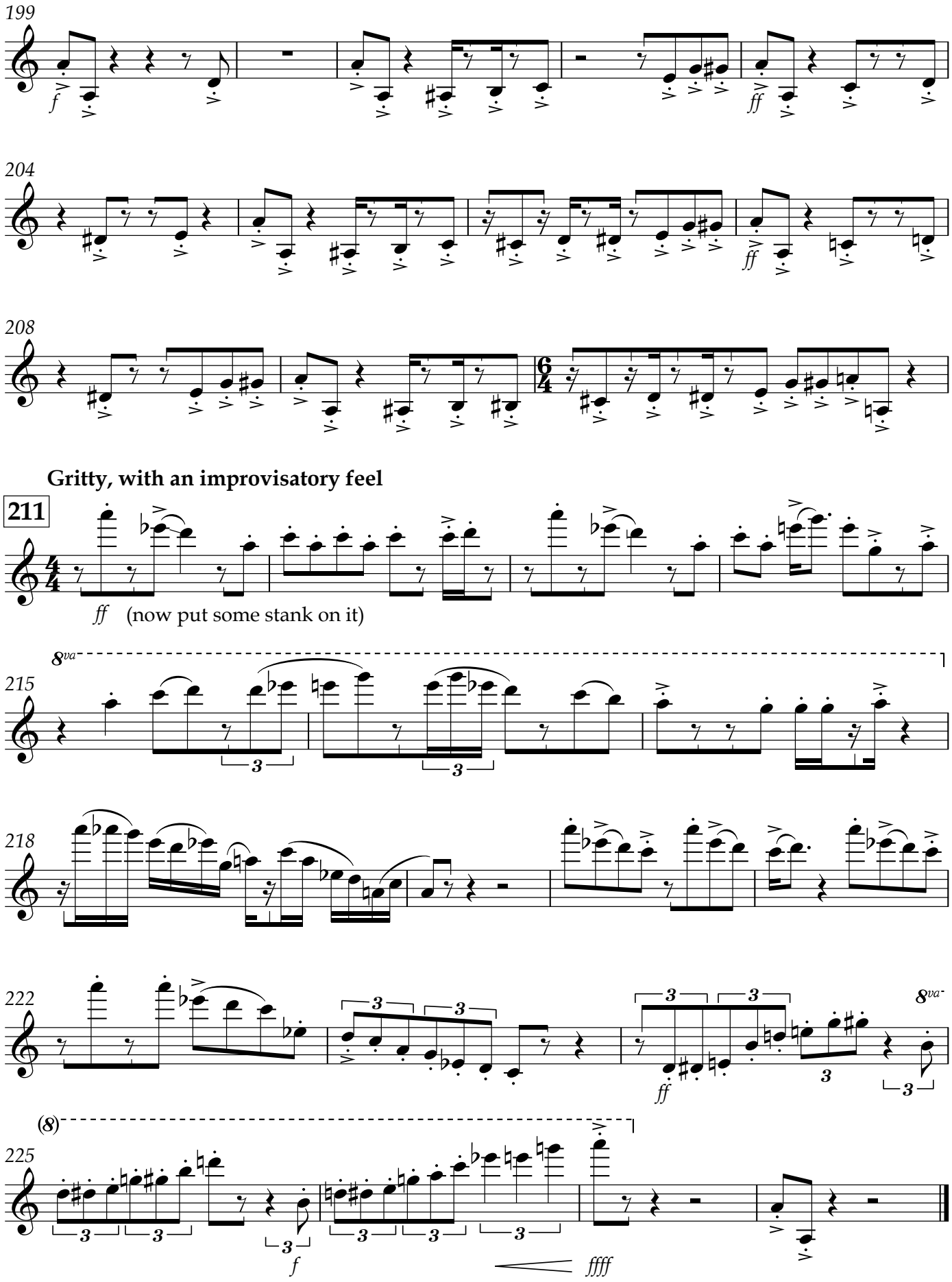
71

p ppp


74
3
ppp
mp
80
ppp
ppp
p
ppp
85
pp
mf
ppp
88
3
ppp
mp
94
4
f
ppp
101
ppp
105
mp
ppp
f
pp
109
110
Harmonizer off
f
mp
mf
Harmonizer on
ppp


114
Harmonizer off
mp
ppp
118
Harmonizer on
mp
f
mp
124
Harmonizer off
ppp
mp
ppp
128
mp
f
pp
132
mf
ppp
mp
ff
p
ff
p
136
mf
ff
p
f
pp
140
mf
fp
mf
p
mf
ff
144
Harmonizer on
With growing suspense
149
2


154
160
3
ppp
p
pp
mp
169
Harmonizer off
>ppp
pp
<mp
3
>pp<
mp>pp>
ppp
ppp
176
gliss.
mf
ppp
179
Aggressive, sassy
ff
180
mp
183
2
ff
187
191
3
3
3
193
195
With funky anticipation
3


199
f
ff
204
ff
208
Gritty, with an improvisatory feel
211
ff
(now put some stank on it)
8va
215
3
3
218
222
3
3
3
3
ff
8va
(8)
225
3
3
3
3
3
3
3
f
ffff