Gabriel Mălăncioiu

Shùdi

for flute and live-electronics

Program note

Shùdi is the name of a flute used in Ancient China. The connections of this piece with an archaic musical culture are suggested by the extreme limitation of the pitches used in some sections as well as by the usage of the natural sounds from the harmonic series. The bridge to our times is realized by the electronic component, used to enhance some psychoacoustical effects. One of the main idea of using electronics in that piece is to achieve an effect called "binaural beat", known for centuries by the ancient buddhist monks and rediscovered in our times by scientific researchers. Binaural beats are apparent sounds, the perception of which arises in the brain for specific physical stimuli. The effect on the brainwaves depends on the difference in frequencies of each tone, for example, if 400 Hz was played in one ear and 410 in the other, then the binaural beat would have a frequency of 10 Hz.
The boxed numbers which appear under the flute part are the electronical events generated using a Max Msp patch. Each event will be released by pressing the Space bar.

1	binaural beat using the following frequency shift: left – 5 Hz, right +5 Hz
2	stop event 1
3	binaural beat using the following frequency shift: left +10 Hz, right -10 Hz
4	stop event 3
5	cloud of sounds follow the given melodic contour
6	stop event 5
7	add a tremolo effect, with a little delay
8	stop event 7
9	create sound waves and add distorsion, imposing the tempo on the flute player
10	fade out event 9

The contrasting, darker side of the piece is enhanced by the electronic events 5 and 9

Installation instructions

1. - getting Max/MSP
You can find MaxMSP from the website.
Go to: http://www.cycling74.com/downloads and download Max/MSP Runtime for Windows
2. - install Max/MSP
after you have downloaded the application, click on the installer and follow the on-screen instructions.
3. – copy the max patch to your computer
COPY the folder called "Shudi Patch Folder" onto your hard drive.
DO NOT attempt to run the patch off of the CD. You must run the patch from your own hard drive.
4. – start MaxMSP Runtime (or Max MSP)
5. – load the patch
go to FILE/OPEN in MaxMSP Runtime and OPEN "shudi.maxpat"
located in the "Shudi Patch Folder" folder.

Two speakers and a microphone are requiered.

Shùdi

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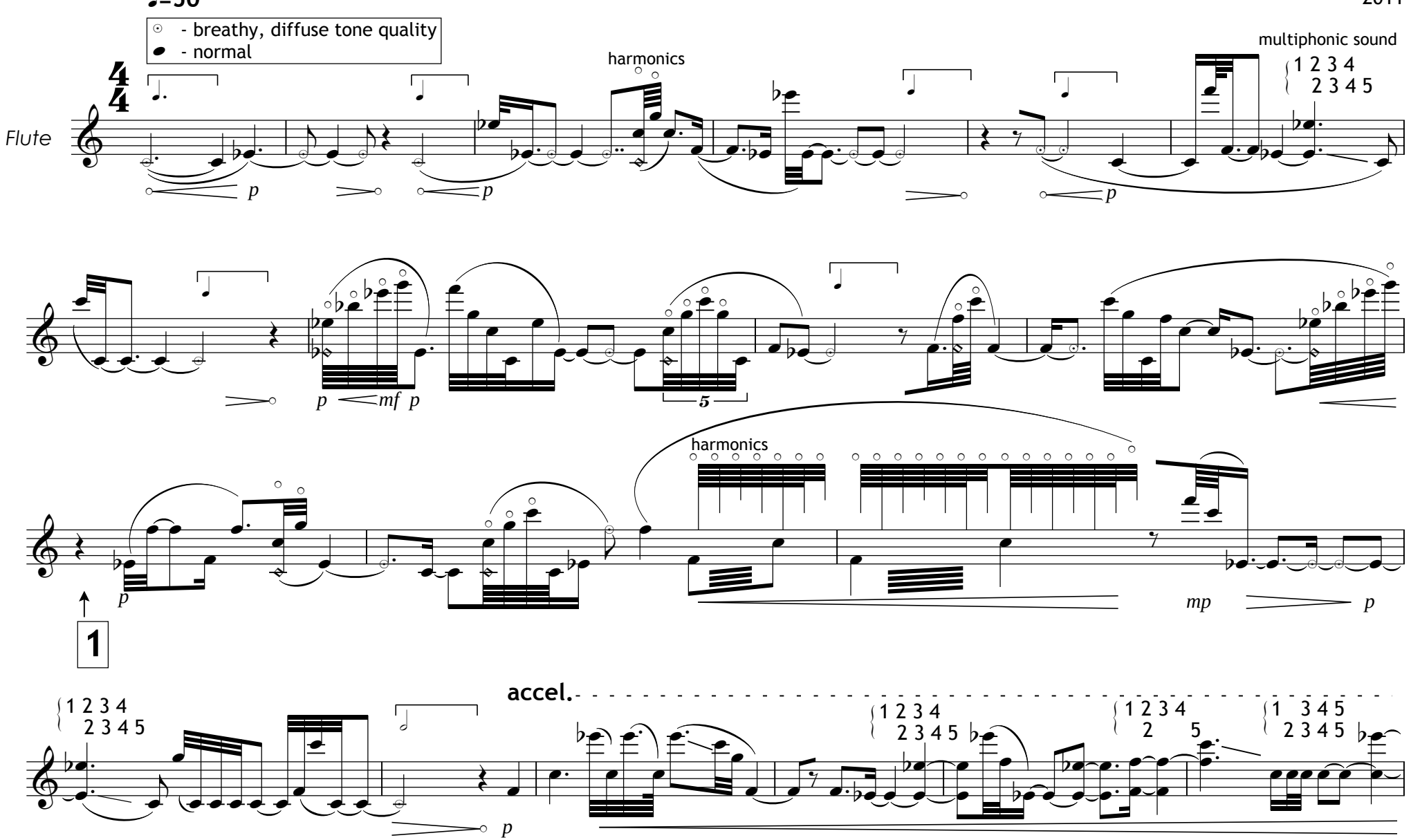
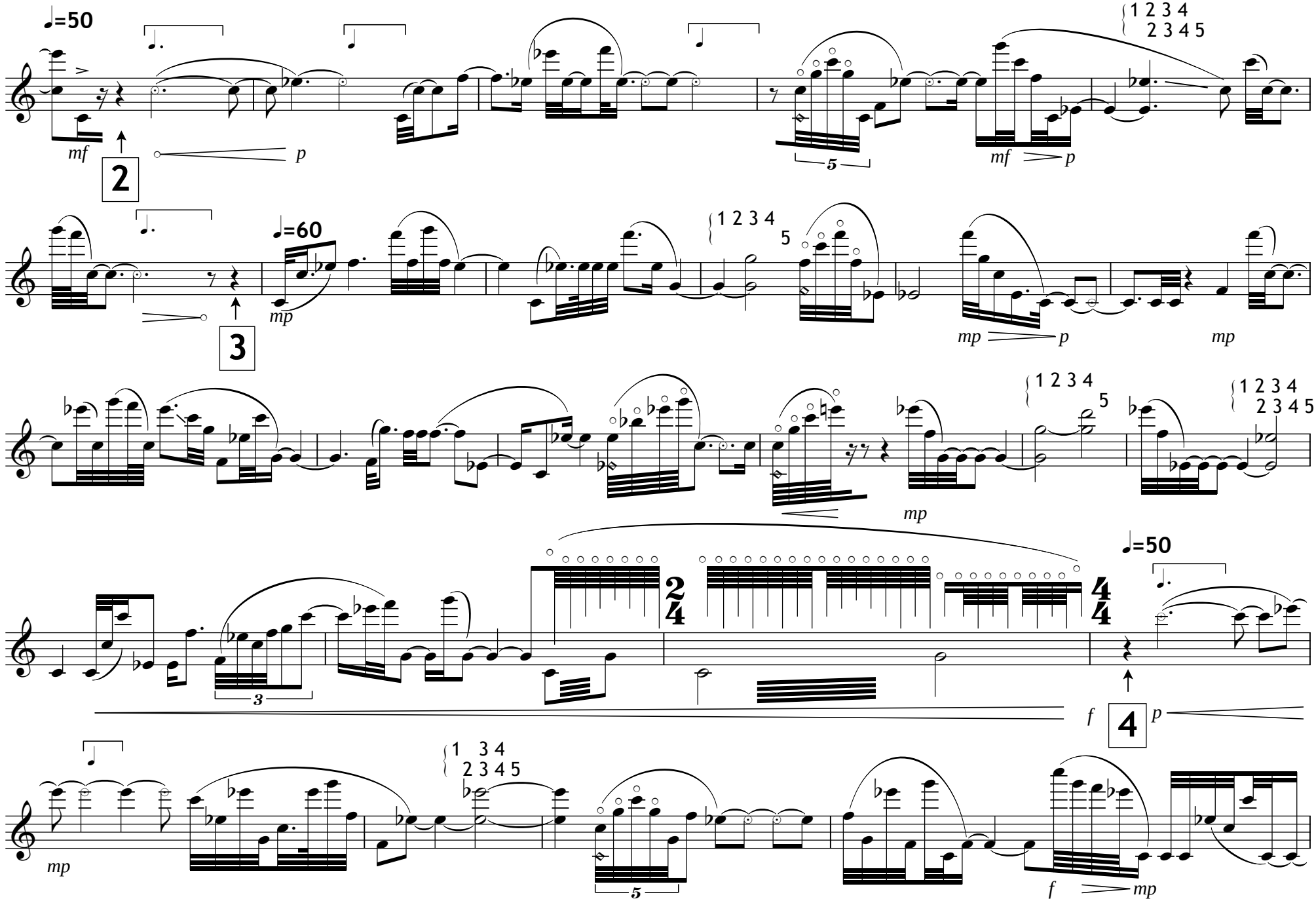
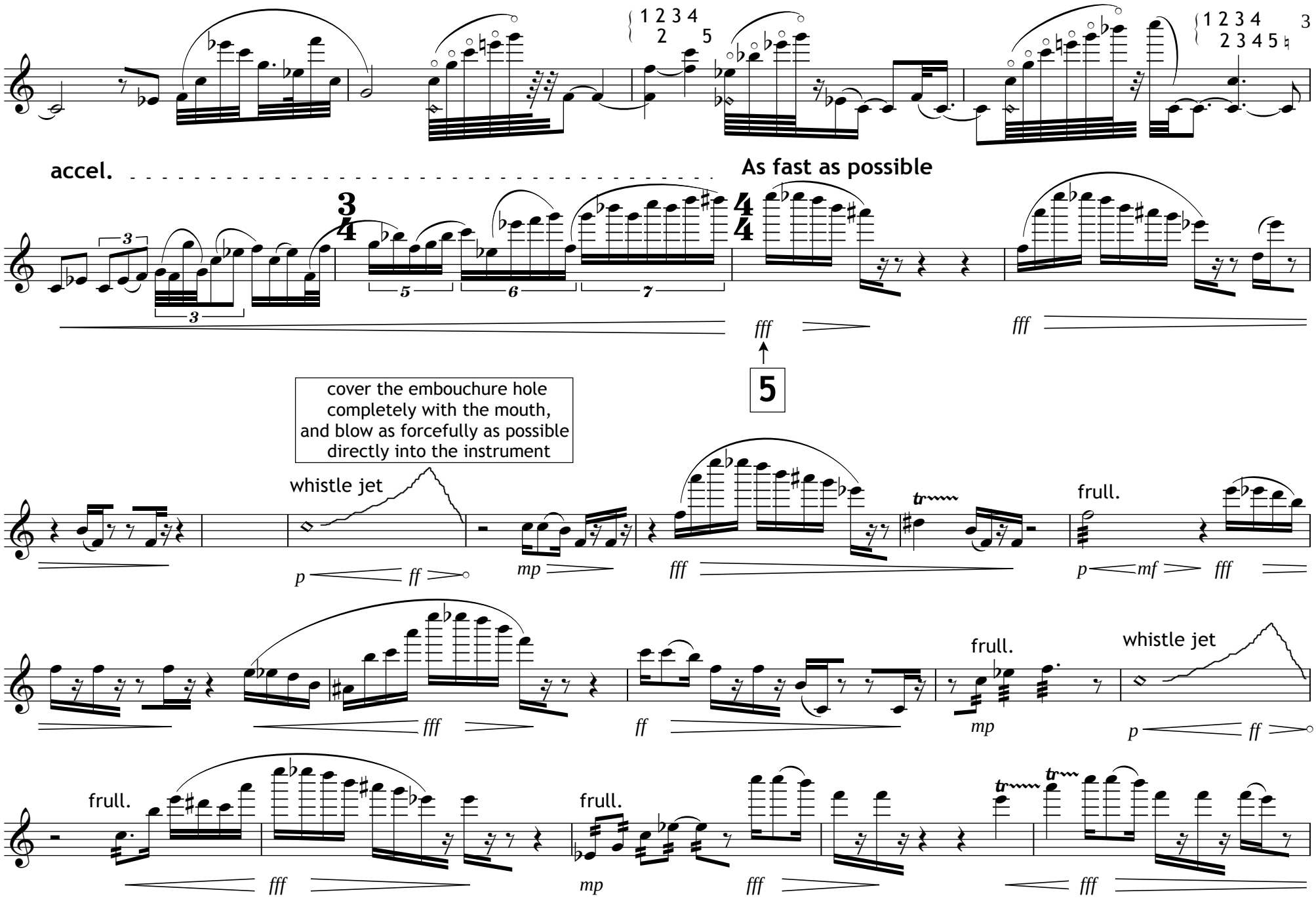
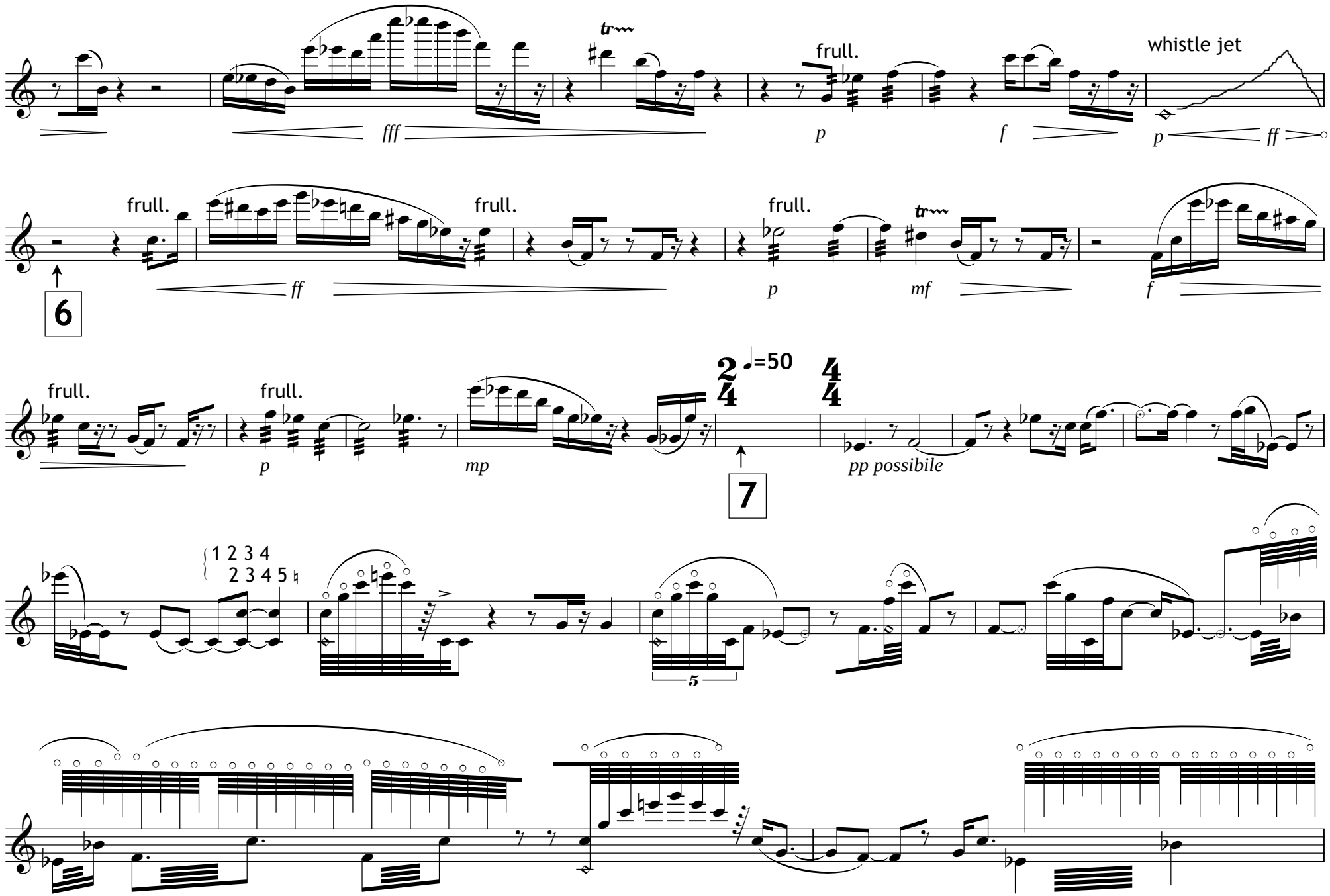
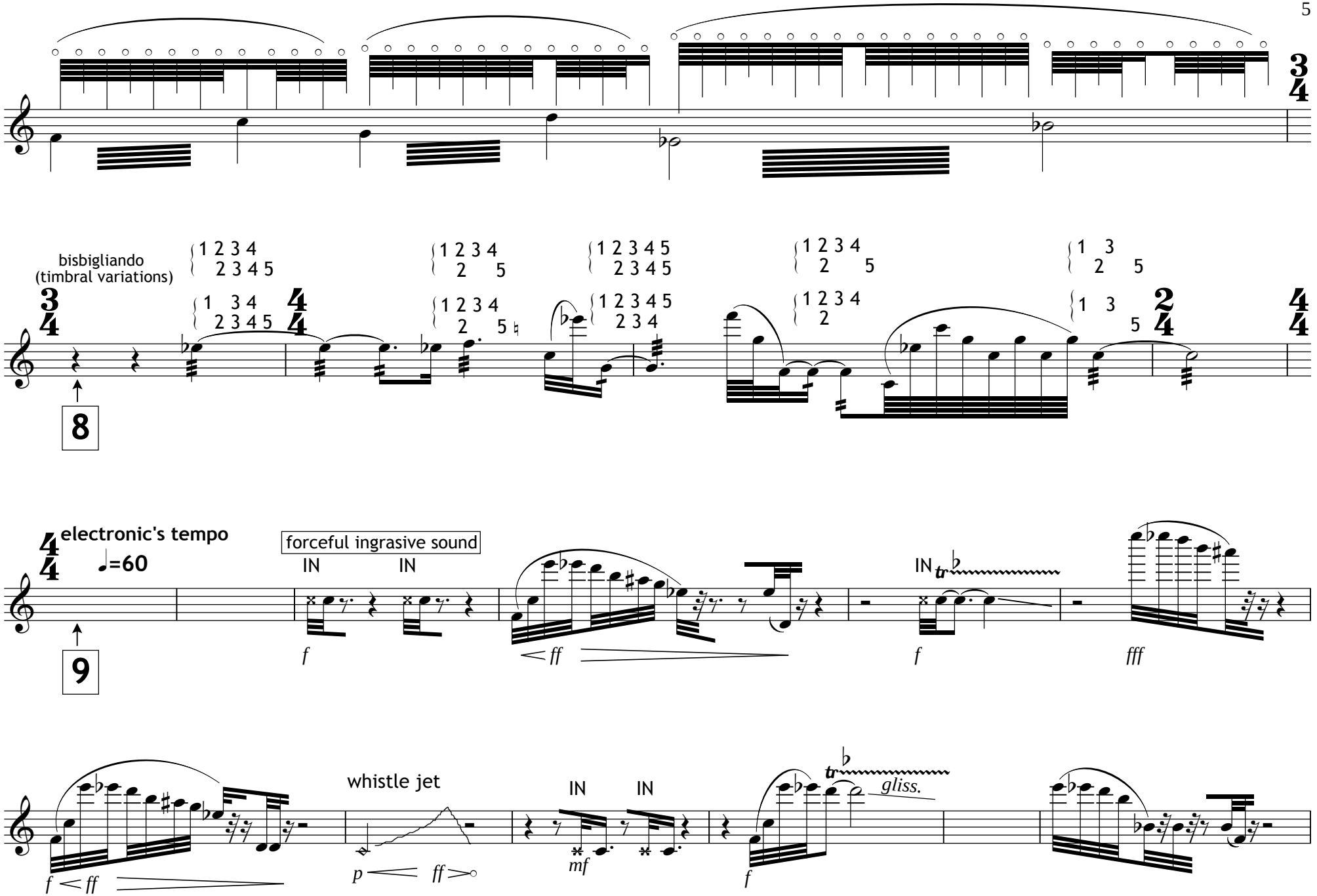
2011

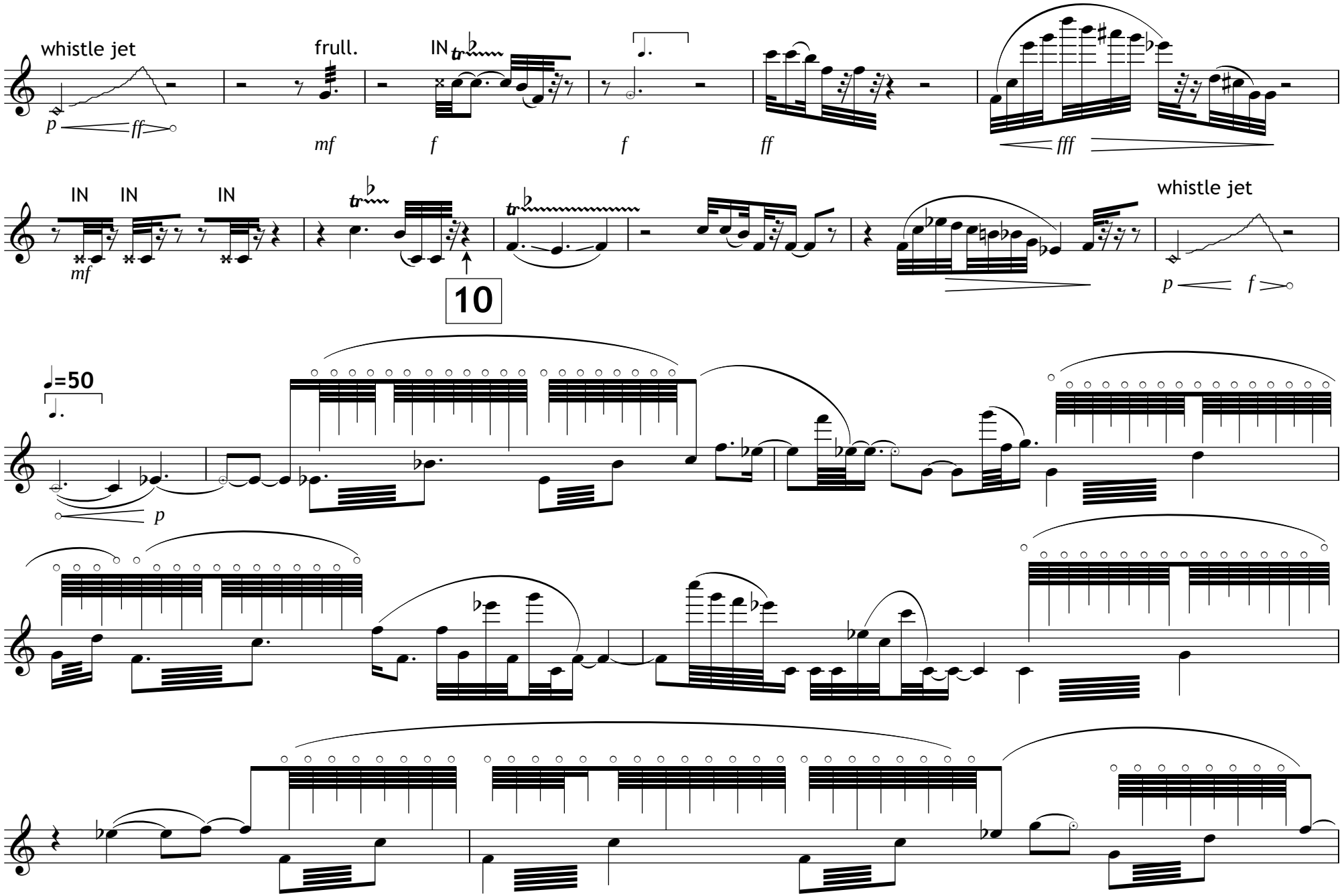



♩=50
mf
p
2
1 2 3 4
2 3 4 5
5
mf
p
♩=60
mp
3
1 2 3 4
5
mp
p
mp
1 2 3 4
5
1 2 3 4
2 3 4 5
mp
3
2
4
4
♩=50
f
4
p
1 3 4
2 3 4 5
5
mp
f
mp


1 2 3 4
2 5
1 2 3 4
2 3 4 5
3
accel.
As fast as possible
fff
fff
5
cover the embouchure hole
completely with the mouth,
and blow as forcefully as possible
directly into the instrument
whistle jet
p
ff
mp
fff
frull.
p
mf
fff
fff
ff
frull.
mp
whistle jet
p
ff
frull.
fff
frull.
mp
fff
fff


frull.
whistle jet
fff
p
f
p
ff
frull.
frull.
frull.
frull.
ff
p
mf
f
6
frull.
frull.
p
mp
2/4
♩=50
4/4
pp possibile
7
1 2 3 4
2 3 4 5
5


bisbigliando
(timbral variations)
8
electronic's tempo
♩=60
9
forceful ingrasive sound
IN
IN
whistle jet
gliss.
mf


whistle jet
frull.
IN
IN
IN
IN
whistle jet
10
♩=50