Time's Arrow

Michael Alcorn

Commissioned by the Belfast Music Society for the Fine Arts Brass Ensemble

PROGRAMME NOTE

Time's Arrow

As with many of my recent pieces, this work draws its inspiration from a concept in science. 'Time's Arrow' is a phrase coined by the British astronomer Arthur Eddington in 1928 to describe the effect of time, forwards and backwards, on physical processes. He noted that the one-way property of time, which has no analogy in space, is found in physics only when observing changes in degrees of randomness in a given system (otherwise known as 'entropy'). All other physical processes are, in theory, 'time symmetric' - in other words, they are the same both forwards and backwards.

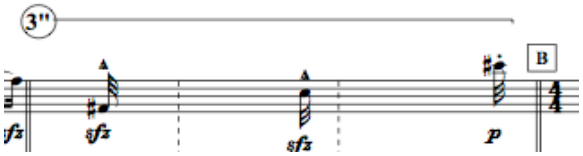
Our consciousness, on the other hand, has an acute awareness of the direction of time, as Eddington knew. In terms of human experience (such as the performance of a piece of music) time is irreversible. The arrow of time points from past to future, and the experience of events (or music) unfolding makes no sense at all if it is reversed. To some extent, the process of writing a piece allows the composer to step outside this notion of time and to define relationships that refer both forwards and backwards within the timeline of the music.

The 'arrow of time' has been applied to thermodynamics, particle physics, cosmology, acoustics, and many other disciplines. Just as these fields of scientific research look at disparate states and the processes that affect them over time (order versus randomness, heat versus cold, energy versus inertia), my piece explores contrasting musical states where strictly notated rhythms are juxtaposed with more freely improvised sections of music, where order and randomness of pitch co-exist.

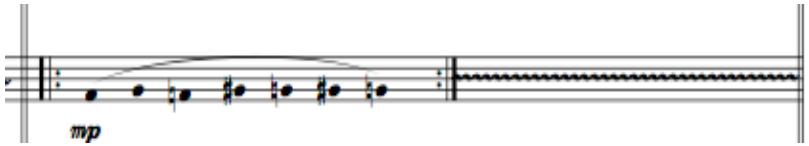
The piece was commissioned by the Belfast Music Society for the Fine Arts Brass Ensemble with support from the Arts Council of Northern Ireland.

PERFORMANCE INSTRUCTIONS

The piece uses both conventional and non-conventional methods of delineating time (using time signatures and using passes of relatively free rhythmic notation). The passages of free rhythmic notation are all indicated with a double bar (marking the beginning and ending of each time block. In addition, a circle and a line at the start of each free time passage indicates the approximate duration of the section or segment. In all cases, a member of the quintet should be responsible for indicating these cues.



Dotted lines indicate segments of approx 1 sec. Players should interprete the location of the notes relative to these one-second frames and interact with the other players in the ensemble. A sense of improvisation is important in these passages.



In the latter stages of the piece, cells of pitches are indicated within repeat signs. Players should improvise rhythmically using these pitches in a style that integrates with the soundworld of the piece.

The wiggly line after the repeat indicates that the player should continue with this material until the next cue. At that point they should complete the phrase, fragment of gesture before moving on.

The end of the work employs mouthpiece pops and some air sounds. Again these should be performed in a way which is in keeping with the soundworld of the piece.

An additional background soundscape is to be included in the performance of the piece. These sounds are triggered via a footpedal at key points in the piece by a member of the quintet.

Additional comment for the quintet:

The piece is supposed to represent a flow of energy from the strictly notated fanfare-like passages at the start to a more improvised and freely organised music at the end of the work. The incoropration of the freer style of music is meant to reflect the degrees of randomness indicated in the programme note.

The score is transposed for B♭ trumpets and horn

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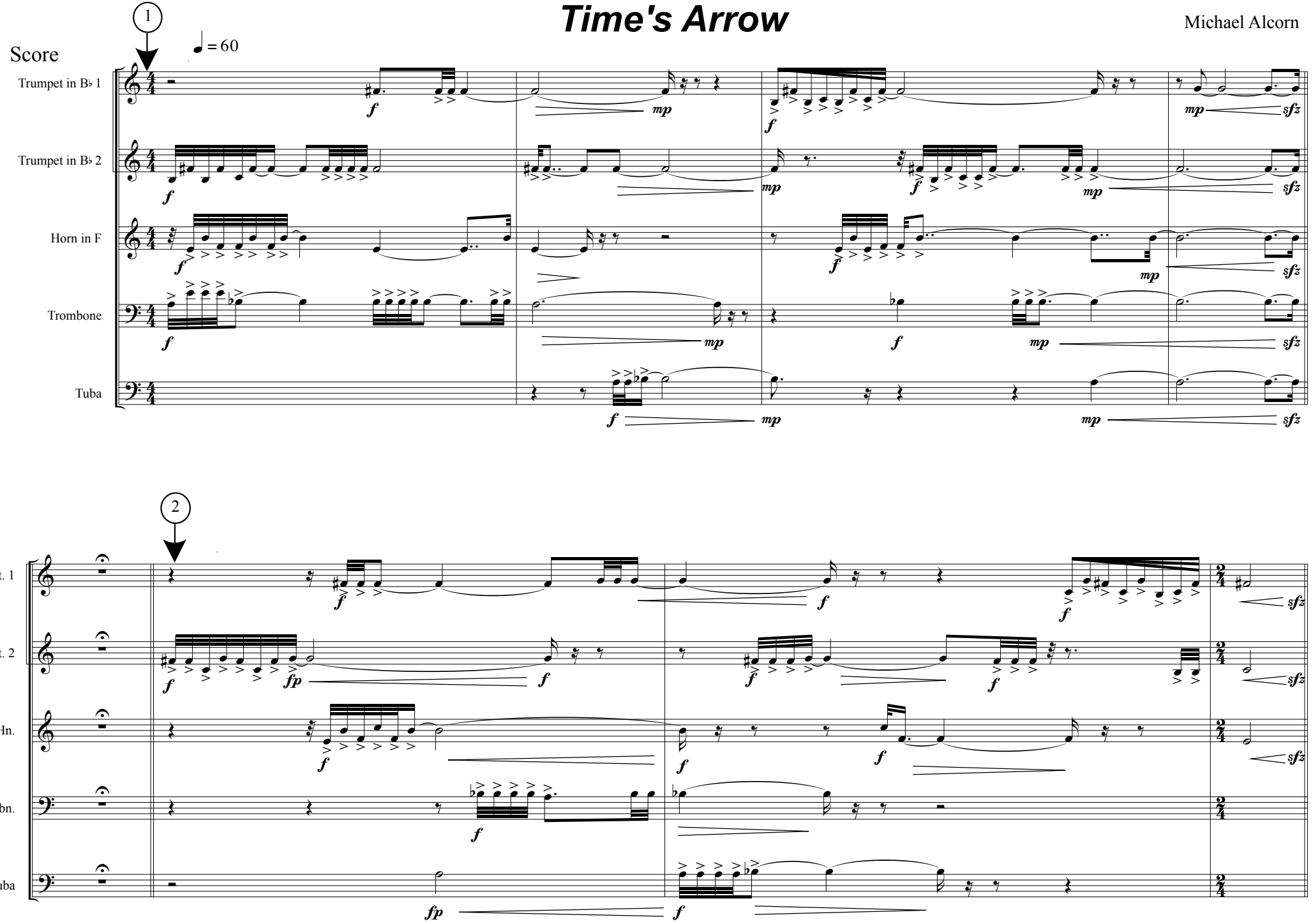
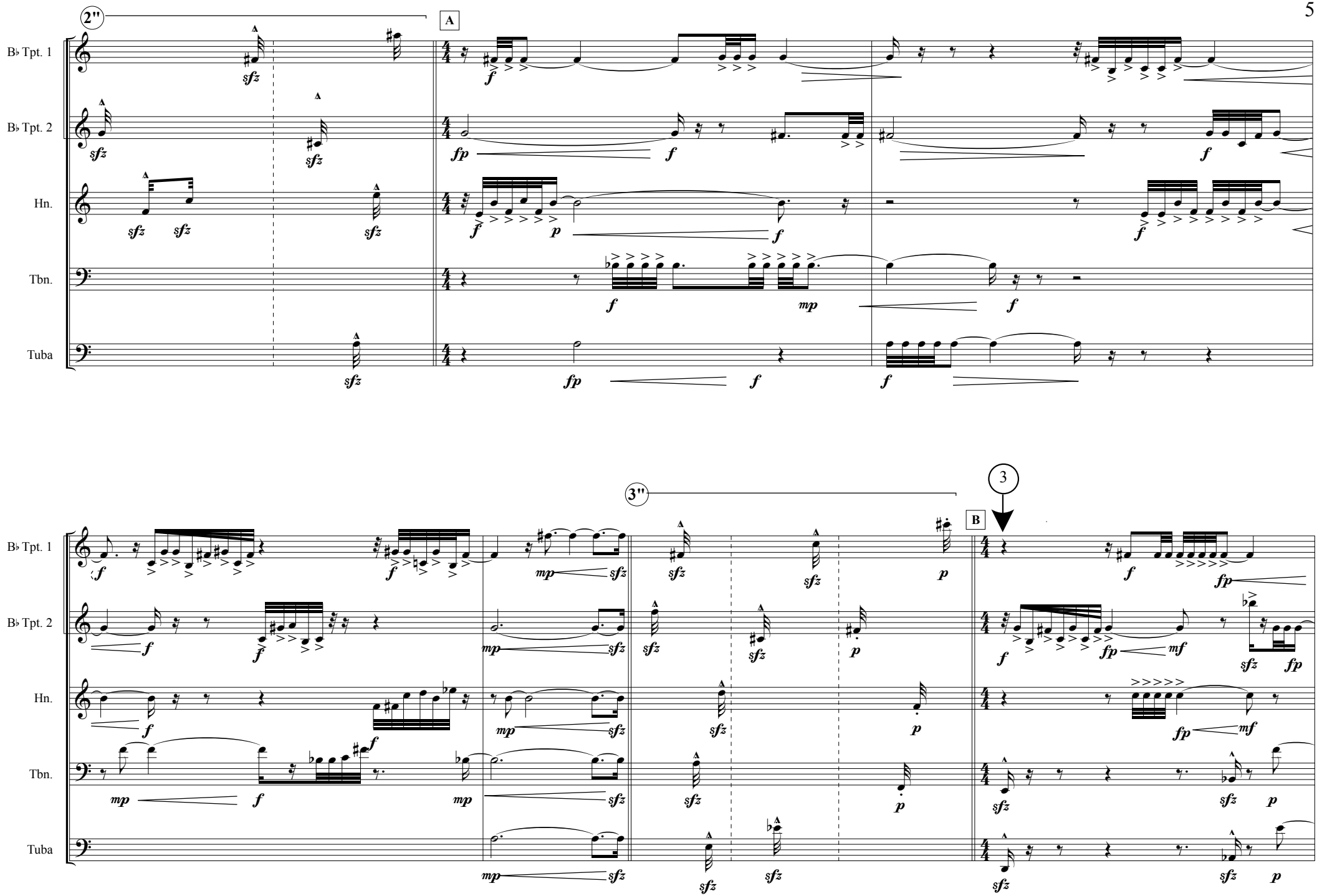
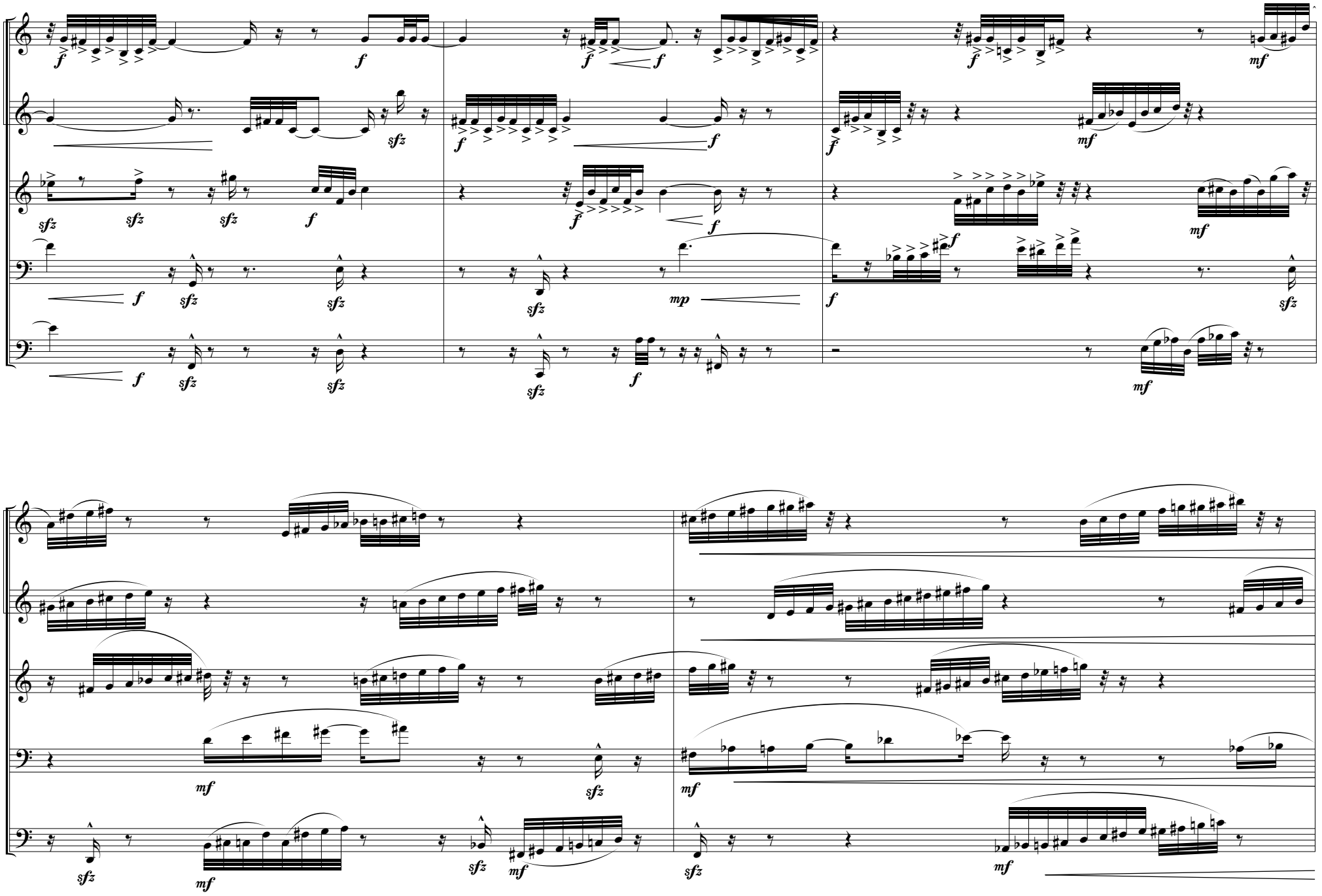
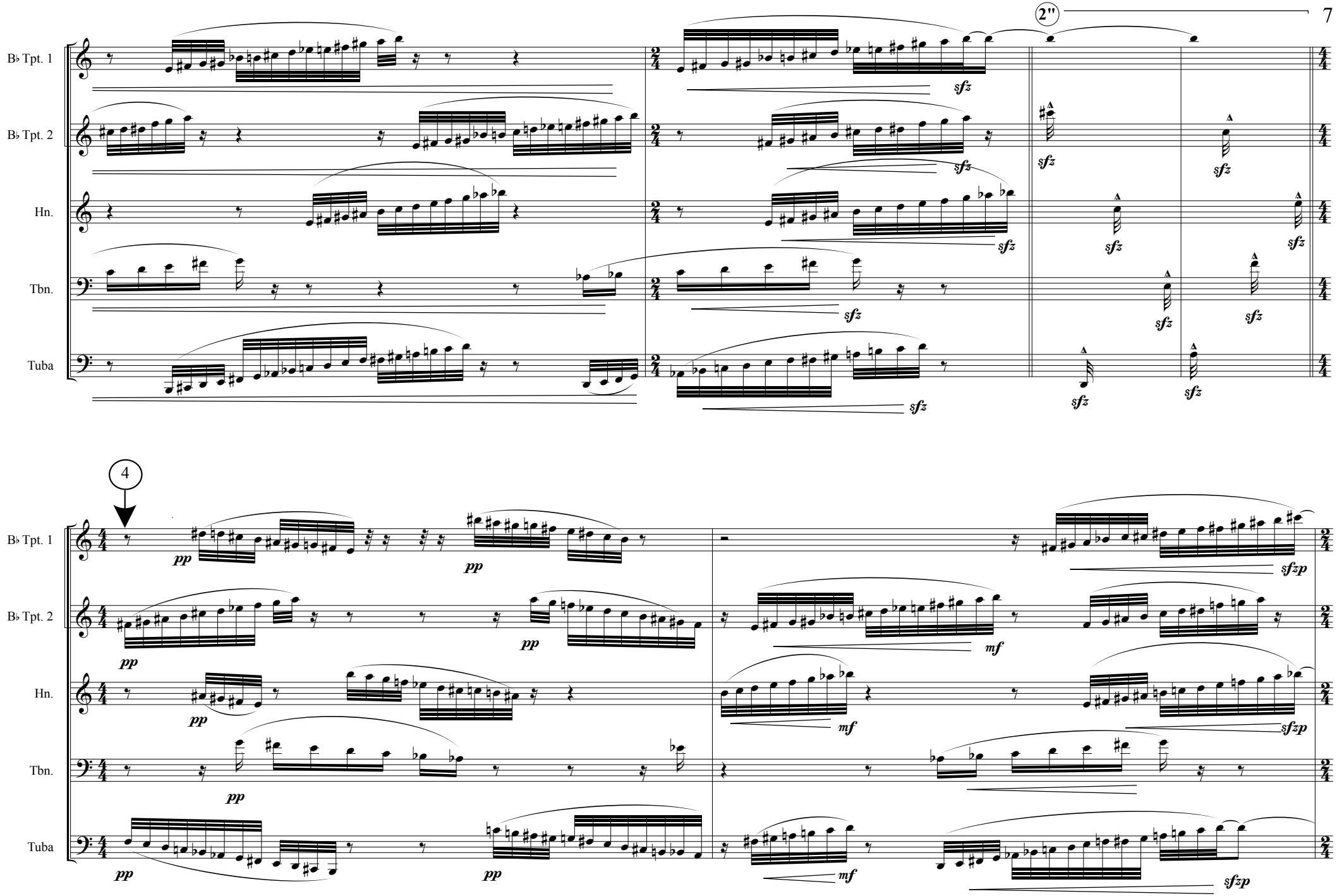
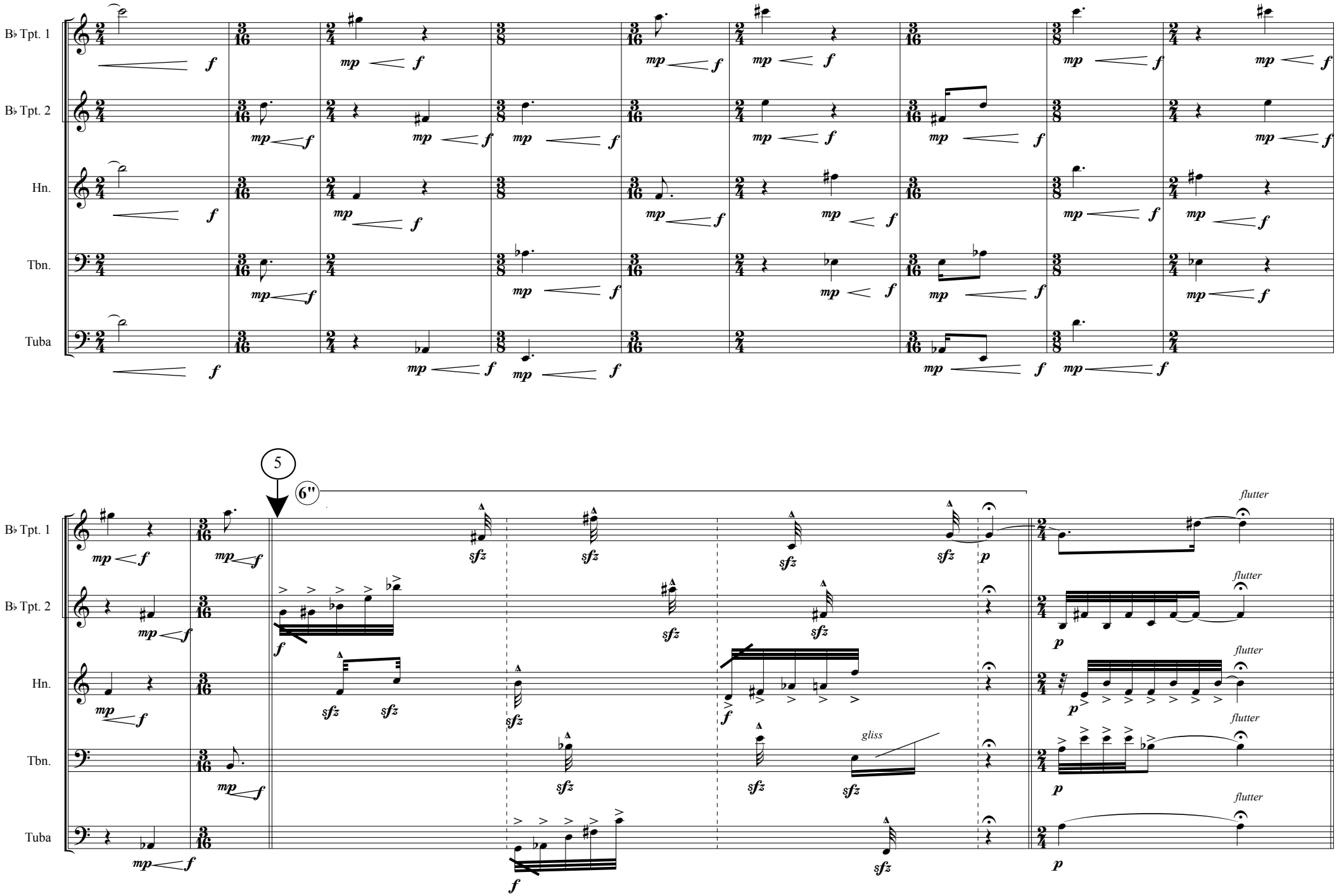
Score

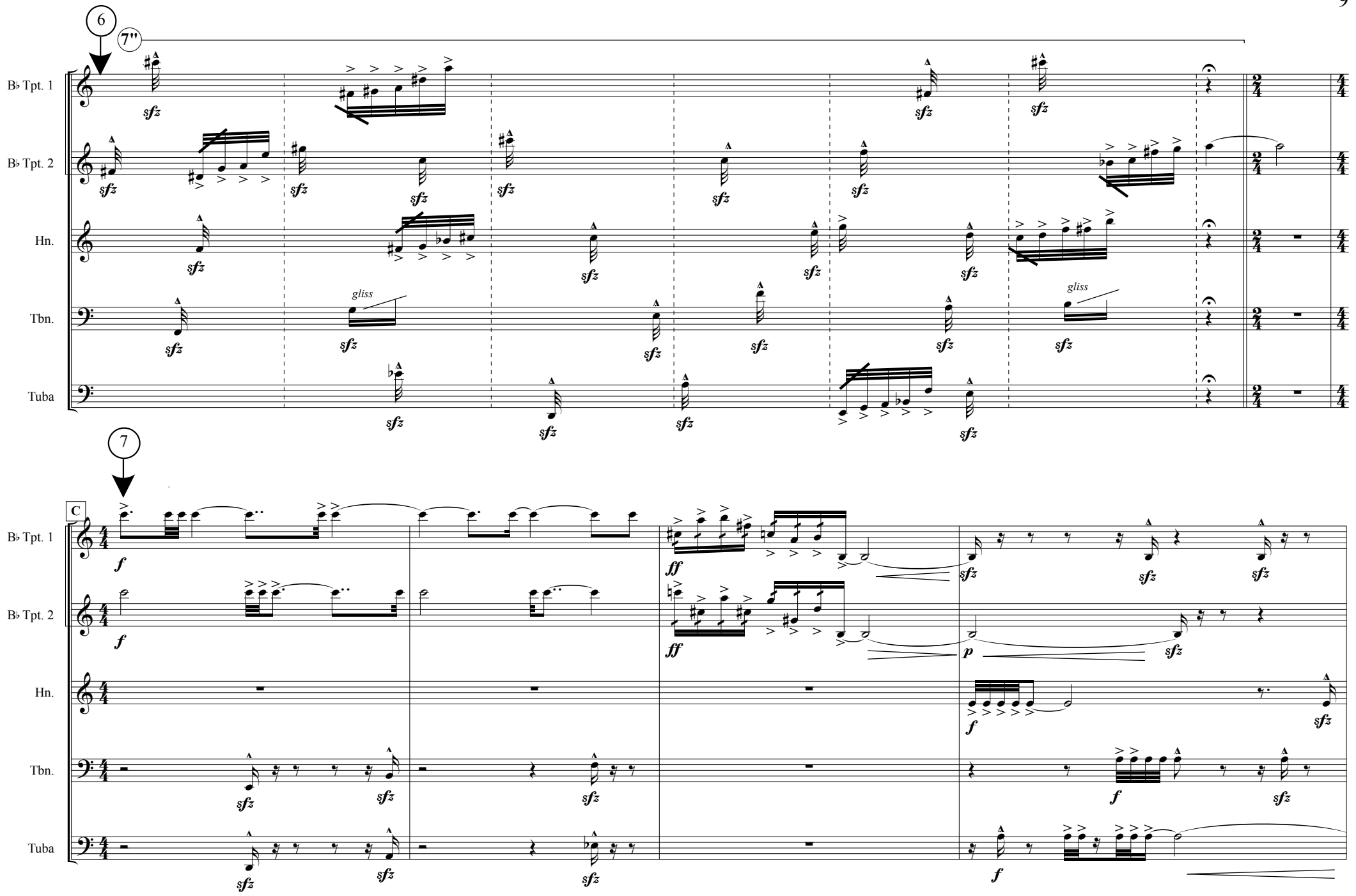


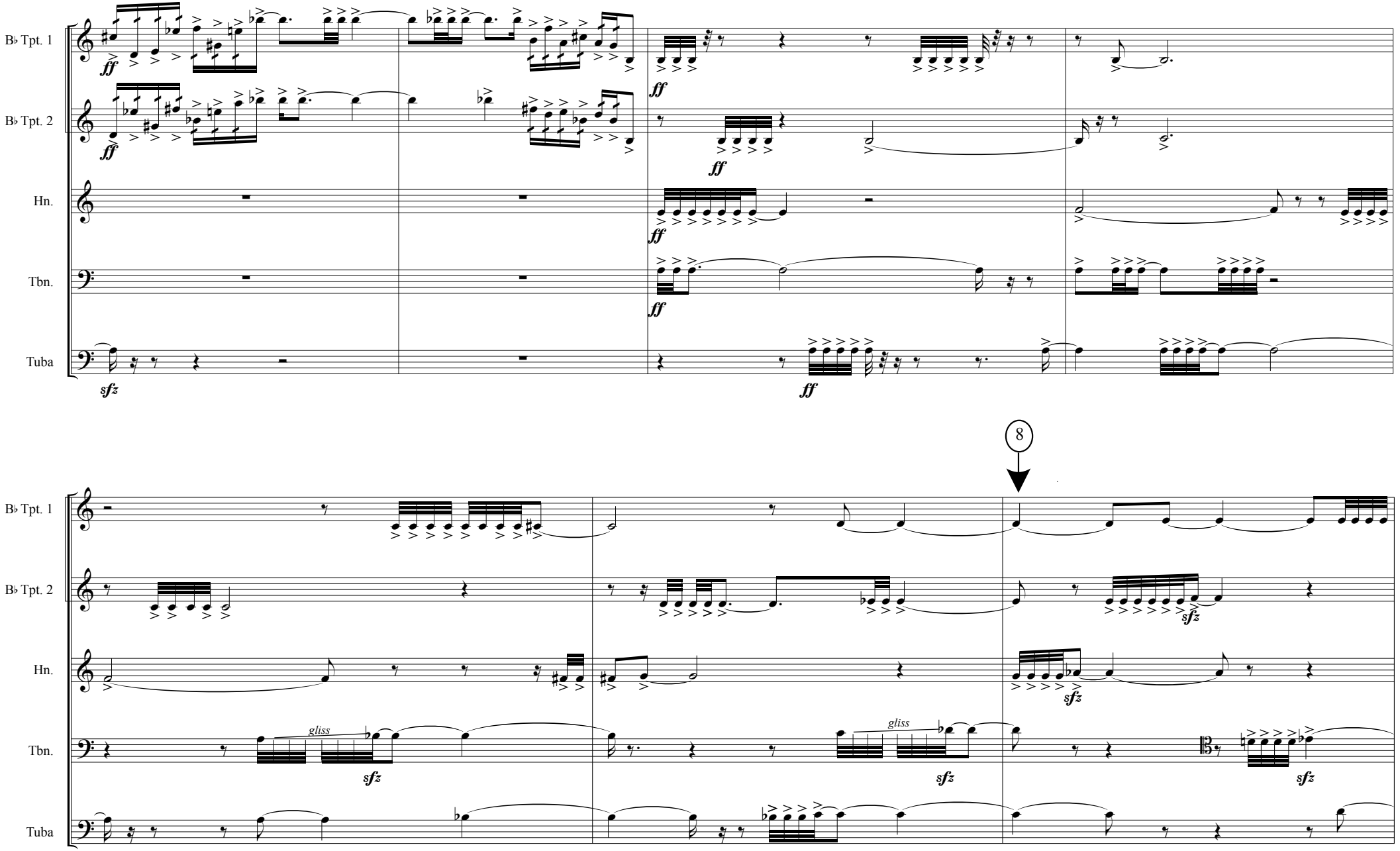

2"
A
3"
3
B
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba

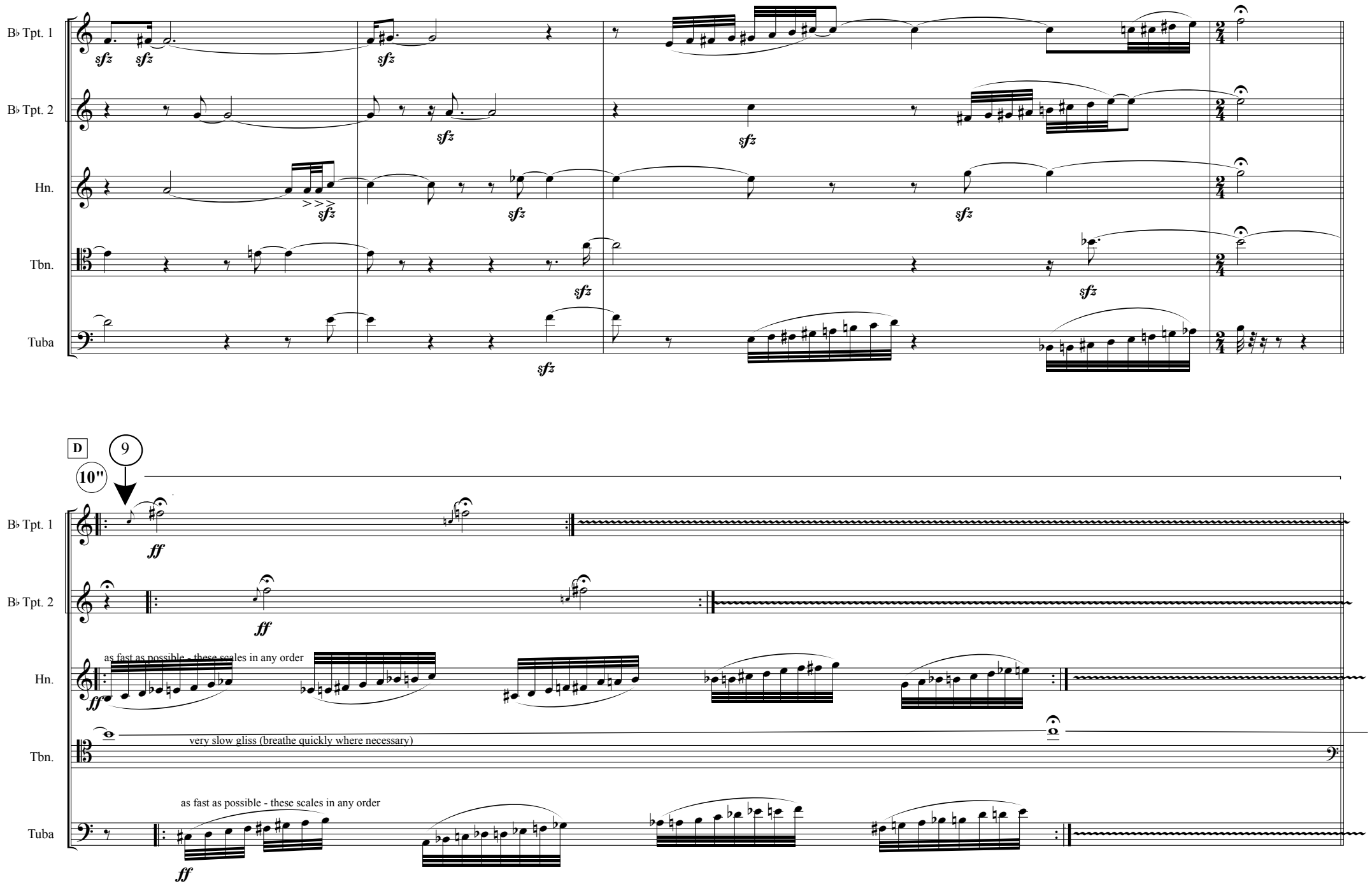

B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba


2"
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
sfz
4
pp
mf
sfzp


B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
5
6"
gliss
flutter


6
7"
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
gliss
7
C


B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
ff
sfz
8
gliss


B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
sfz
D
9
10"
ff
as fast as possible - these scales in any order
very slow gliss (breathe quickly where necessary)

10

8"

B♭ Tpt. 1

B♭ Tpt. 2

Hn.

Tbn.

Tuba

as fast as possible - these scales in any order

ff

f

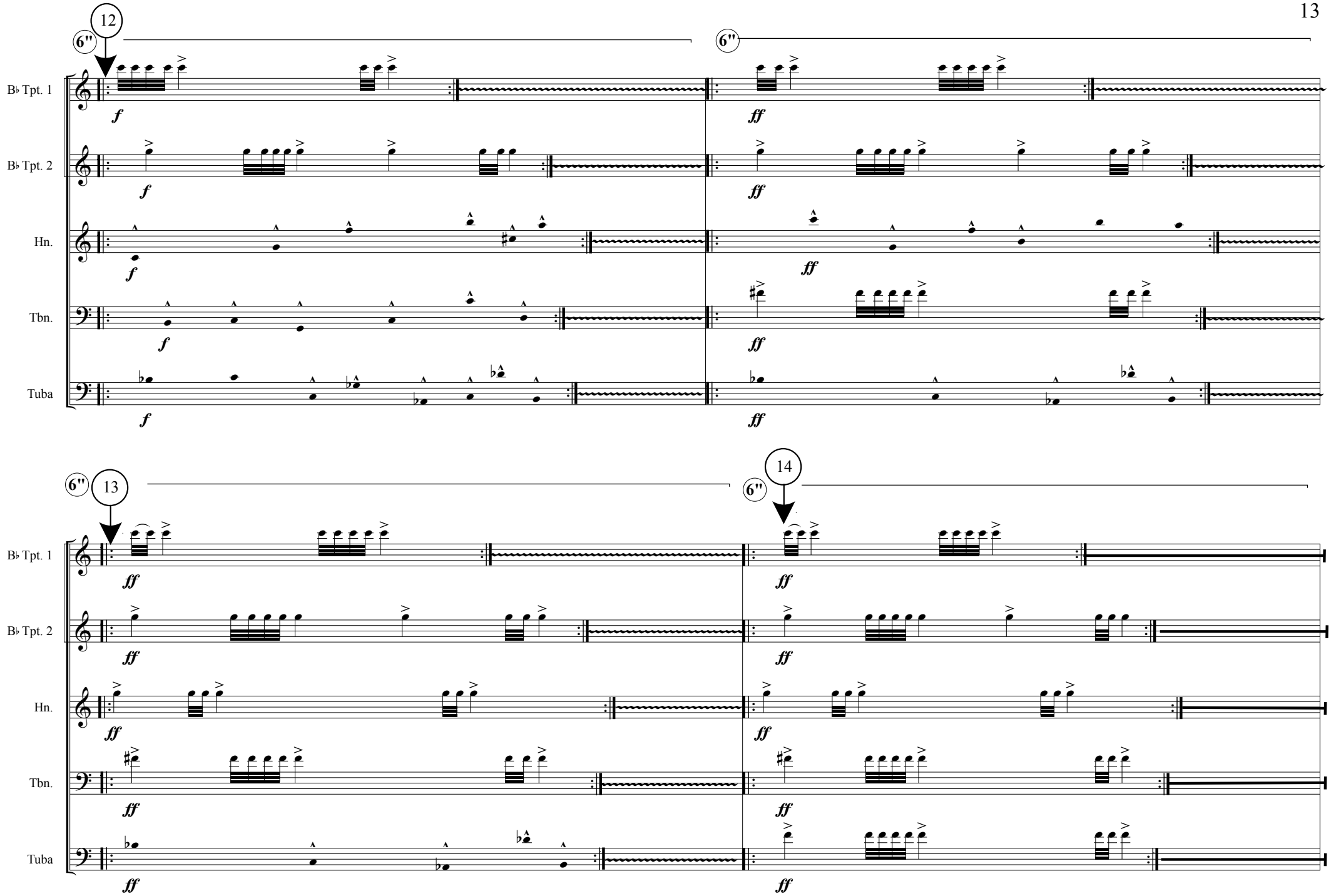
(randomly mix *ff* and *p*)

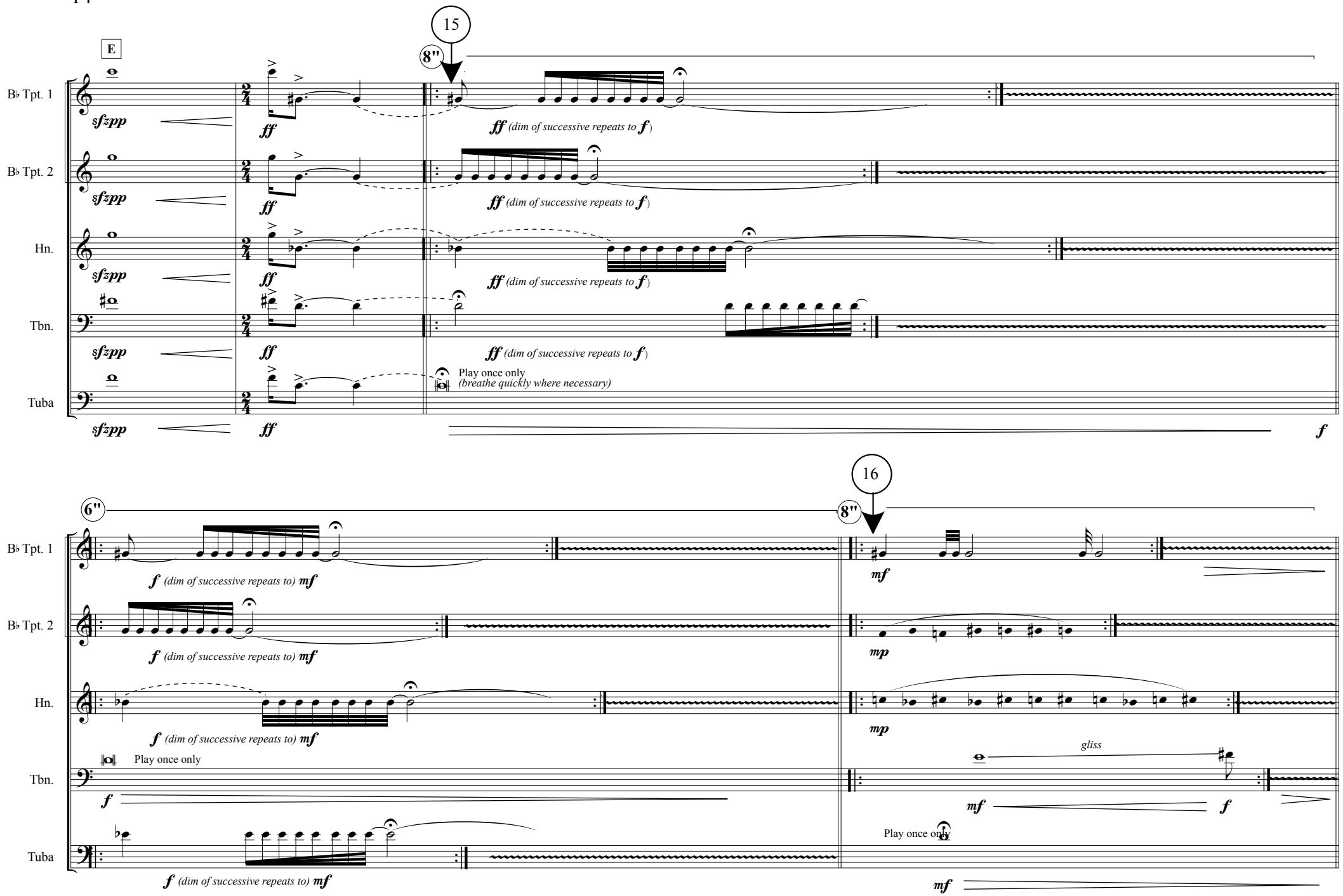
8"

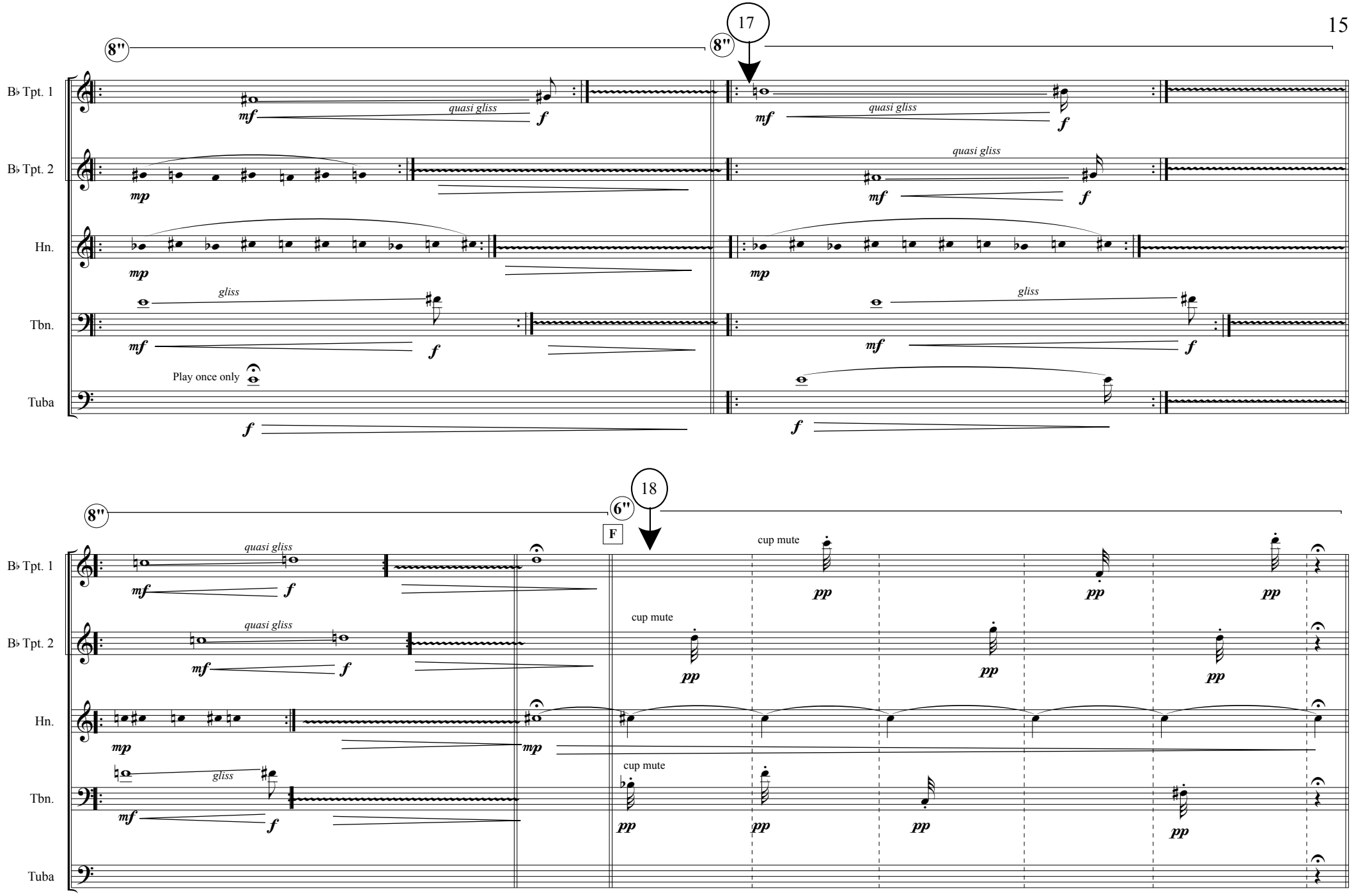
11

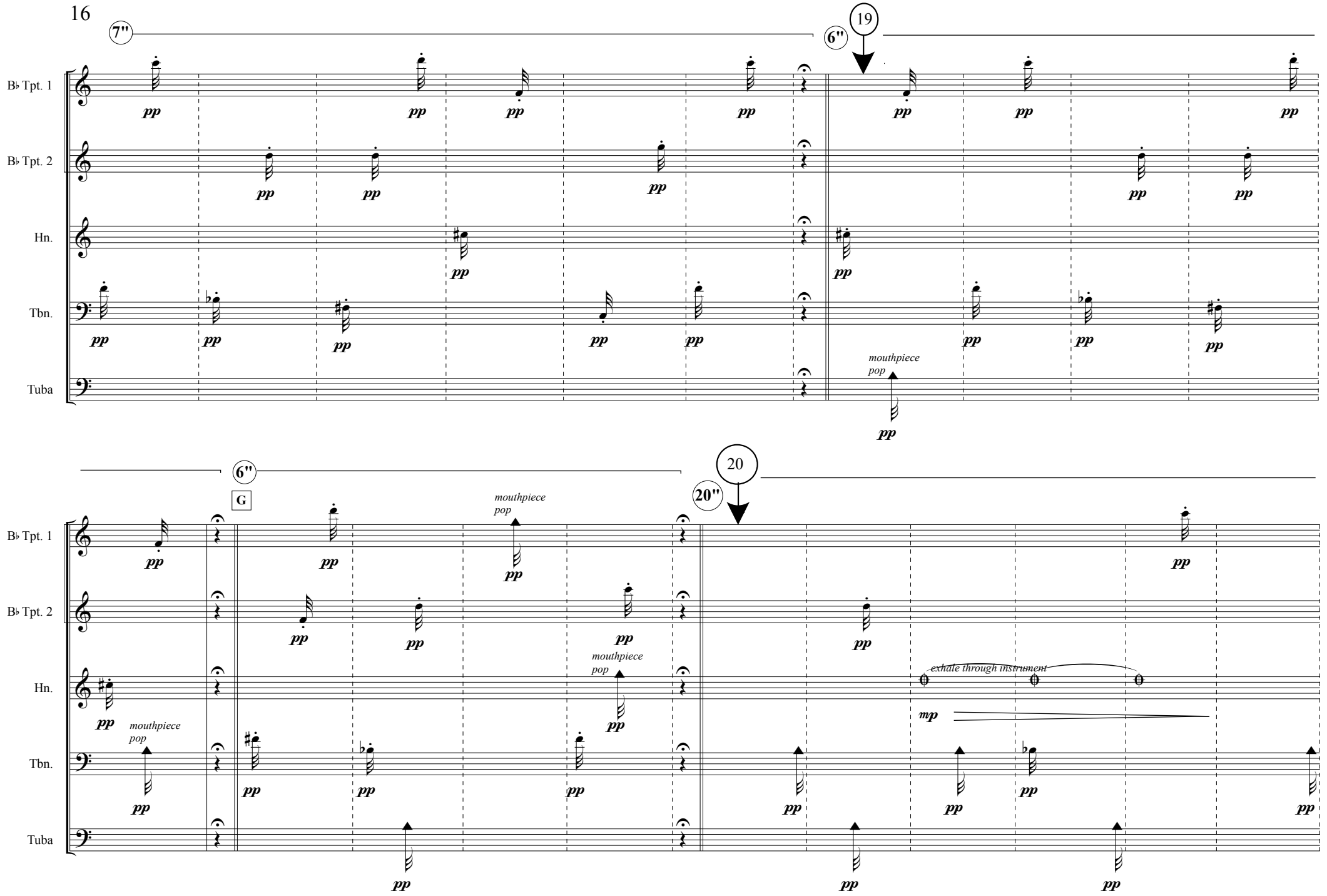
8"

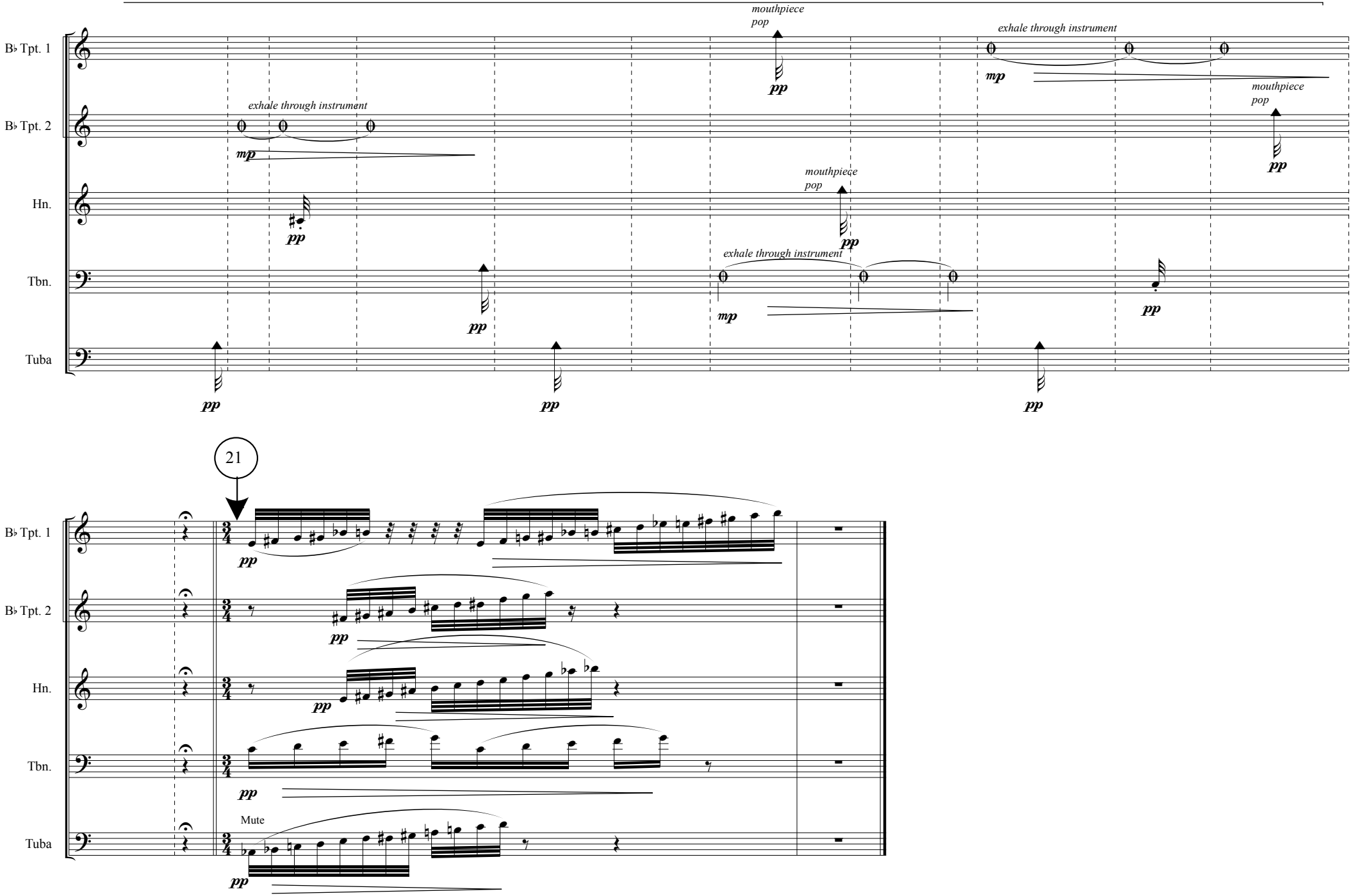
8"


12
6"
6"
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
f
ff
13
14


15
E
8"
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
sfzpp
ff
ff (dim of successive repeats to f)
Play once only
(breathe quickly where necessary)
f
16
6"
8"
f (dim of successive repeats to) mf
mf
mp
Play once only
gliss
mf
f


17
8"
8"
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
quasi gliss
gliss
Play once only
18
6"
F
cup mute


7"
19
6"
B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
pp
mouthpiece pop
6"
G
20
20"
exhale through instrument
mp


B♭ Tpt. 1
B♭ Tpt. 2
Hn.
Tbn.
Tuba
mouthpiece pop
exhale through instrument
mp
pp
21
Mute