Ethereal Presence

for Cyberinet

Matthew A. Bardin

2023

MaB Music

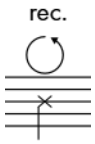
On the Cyberinet:
The Cyberinet is an electronic enhancement to the standard B-flat clarinet. By replacing the barrel with the Cyberinet, the performer and compsoer gain access to an integrated collection of sensors that collect various performance data. This data can be wirelessly transmitted to a computer for electronic processing and software control. An ever-growing list of optional expansions is also available to be connected to the Cyberinet to allow for the performer to customize the instrument ot their performance needs.
The complete list of hardware needed for this composition is:

- The Cyberinet
- Microphone
- Audio Interface
- Computer running the Max patch available here: matthewbardin.com/ethereal

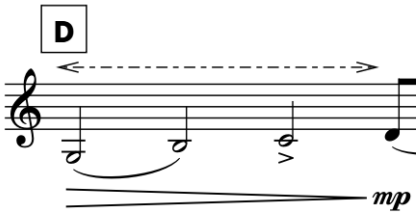
On Notation:
This score uses largely traditional notation. Fermatas and long rests can be held for any duration. Half rests and shorter should be played in tempo.
Double Bar lines indicate different sections of the work and do not imply a pause as the rests do.
Dashed bar lines are provided to help with counting various sections, but may be ignored by the performer if desired.

Specific performance gestures are used in order to control the software portion of this composition. These gestures are used to control and alternate between two different effects applied to the accompanying sound, and are represented with three different symbols.

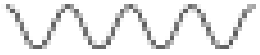
This symbol circular indicates making a quick, counterclockwise rotation of the instrument with the wrist. The general position of the instrument should not change, as the rotation axis is Cyberinet itself. Thisis the only required symbol for the performance as it is used to switch between effects. The remaining two symbols are suggested, but not required.



This dotted line symbol is used to indicate a realatively slow, exaggerated, horizontal bell movement. This gesture is used to control the filtered noise effect as discussed in "On Software". When the movement is to the left, the filtered noise range expands, and then decreases when movment is to the right.



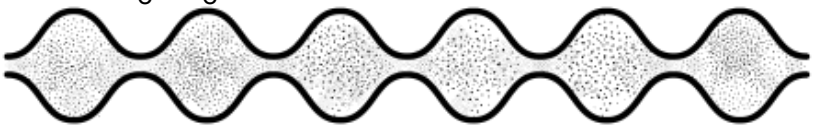
This swooping symbol indicates a repeating vertical movement. Horizontal movements are not measured when swapping to this state (see circular symbol for switch) horizontal movements are not measured, but are reccommended to create a more natural movement. This gesture increases the harmonization pitch of the second synthesizer when rising, and decreases it when moving downwards. The movement should occur for the duration of the symbol.



The symbols below indicate speeding up or slowing down the vertical geasture respectively.

In order to incidate which effect state the performer is in, the following symbols are utilized at the beginning of each system. H indicates horizontal movements being measured, while V indicates vertical movements being measured

In addition to notation the gestures, the approximate effect is notated on the second staff in the score.
This symbol represents the fluctuating range of the filtered noise.



This symbol represents the raising and lowering pitch of the FM Synthesizer.

On Software:
The Max patch for this composition can be downloaded at *matthewbaridn.com/ethereal*. The movement sensors are utilized for collecting data to control two synthesizers within the Max environment. The computer running this patch should be connected to an output speaker loud enough to match volume with the Soloist.

The first synthesizer generates backing through filtered noise. The range of frequencies allowed through the filter are determined by horizontal directional movement. These frequencies produce a textural background.

The second synthesizer produces A single through FM synthesis. The specific pitch is determined throug a microhpne placed in front of the performer to detect the pitch they are playing in real time. That value is then scaled based on the vertical position of the instrument. This tone is intednded to accompany the soloist as a secondary voice.

Because the performer will perform at differing tempi and styles, they will have unique movements to be picked up by the Cyberinet. This will result in an ethereal accompaniment that is unique to every performance.

Program Note:
It is impossible to do anything in a complete vacuum. Others affect you, you affect others. Living with this is part of the human condition.

Performance Notes:
Tempi are all approximate The performer can perform the piece at any desired tempo. Accelerando and Rallentando should still happen at the indicated places, but the amount can vary. The goal is a uniquely paced performance; no two should be identical. The performer shoudl experiment with the max patch to find a balance of synthesizer changes that they feel comfortable with, but in general, should have exagerated performance movements to help with the syntesizer automation.

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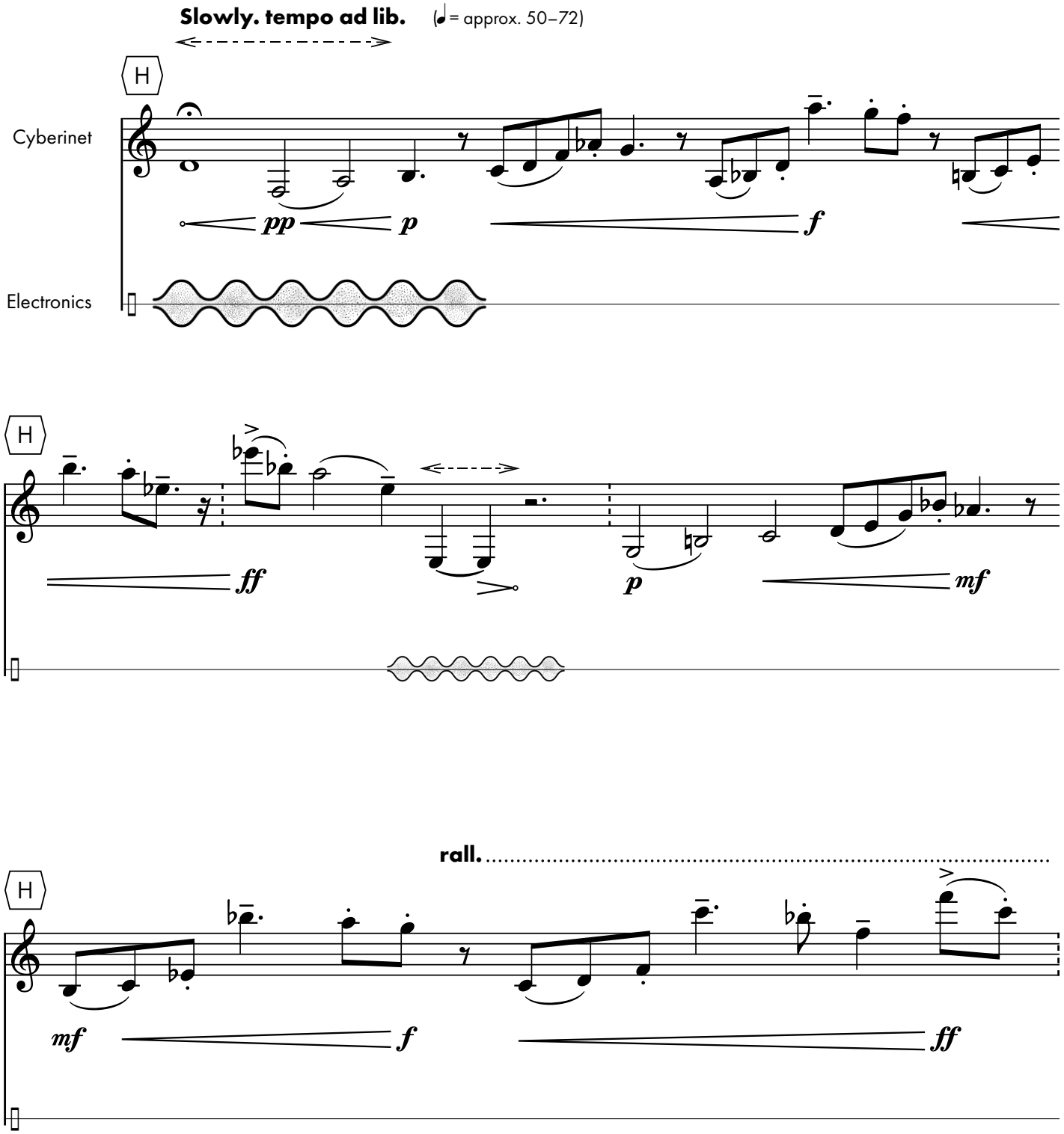
Matthew A. Bardin (2023)



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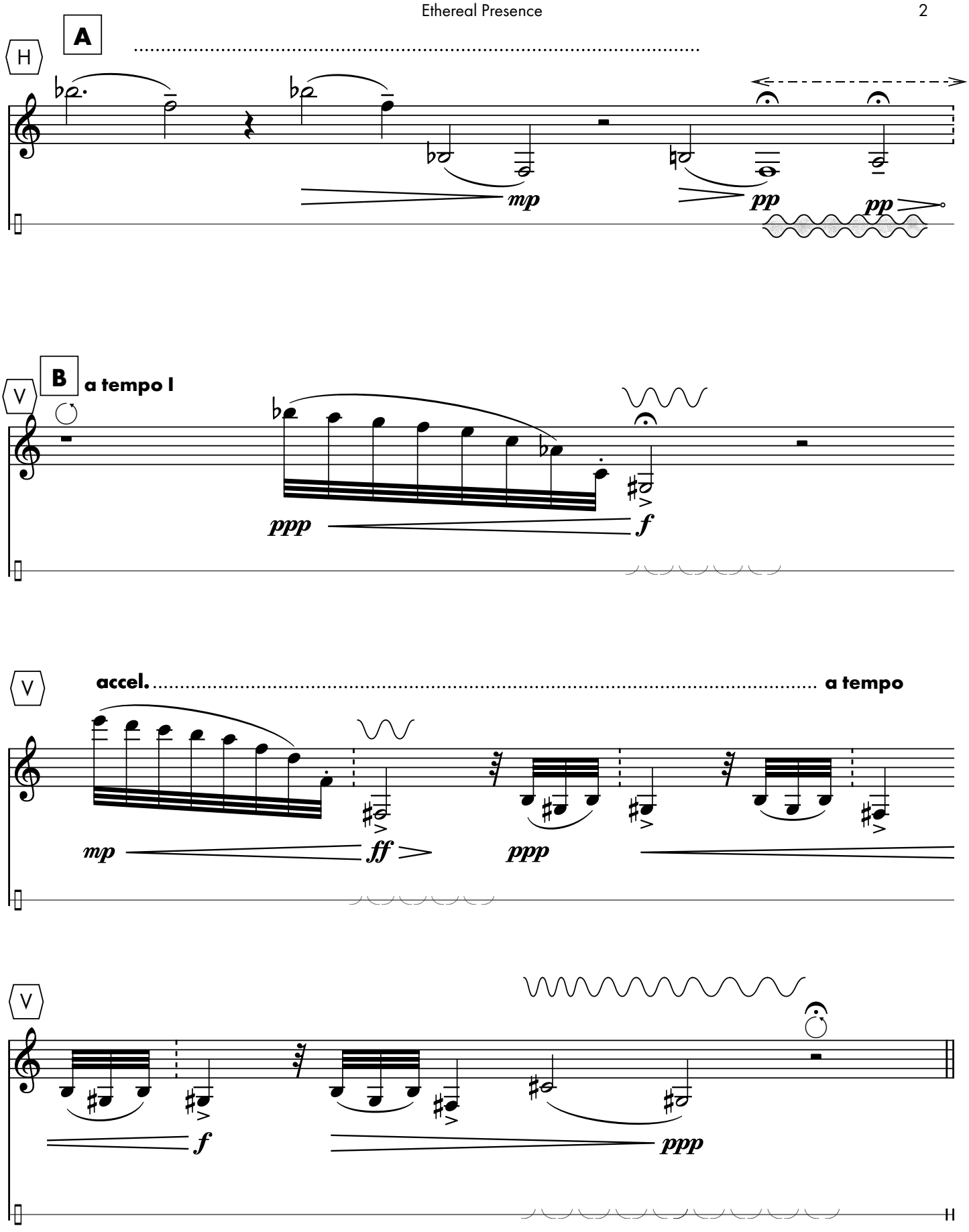
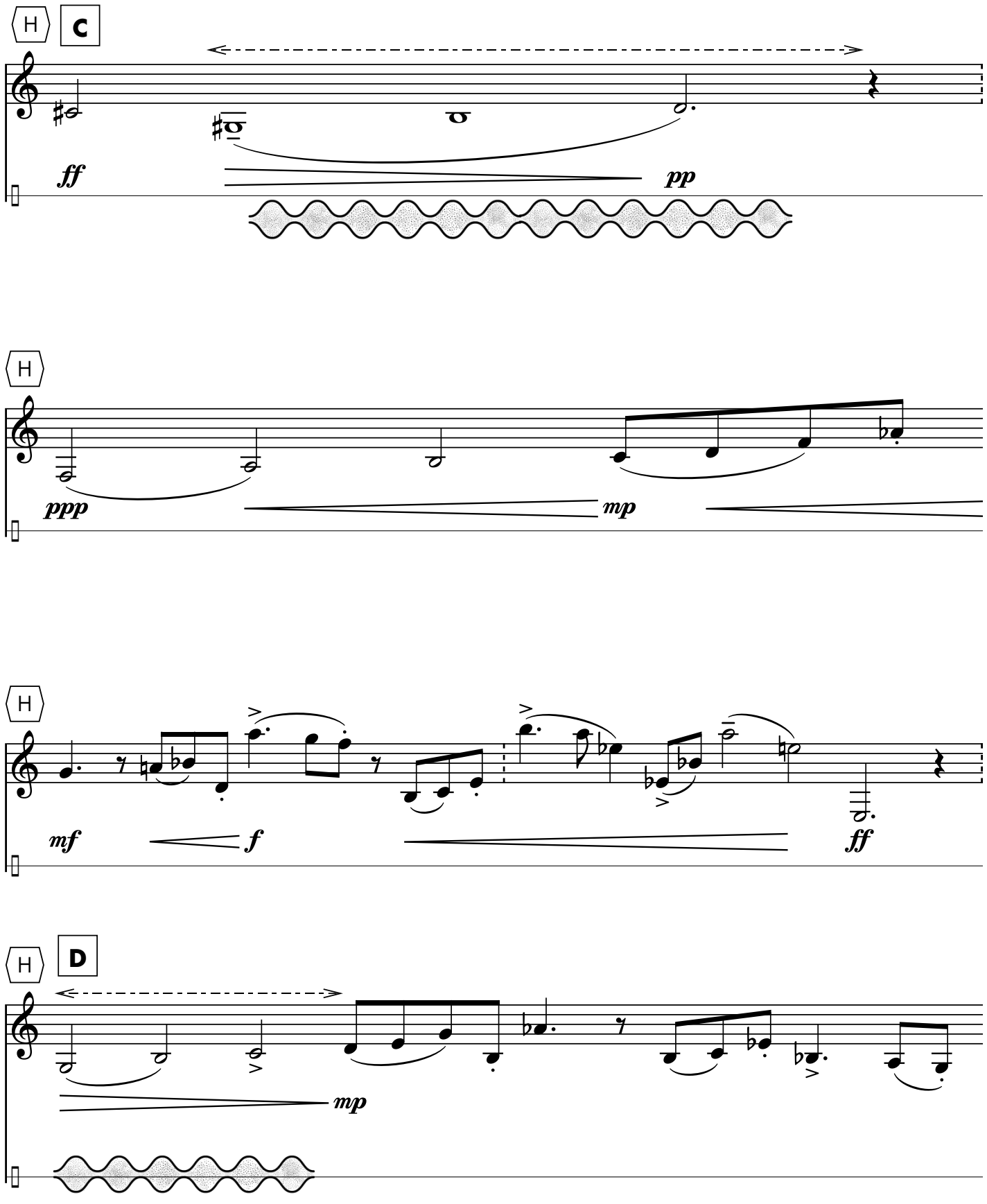
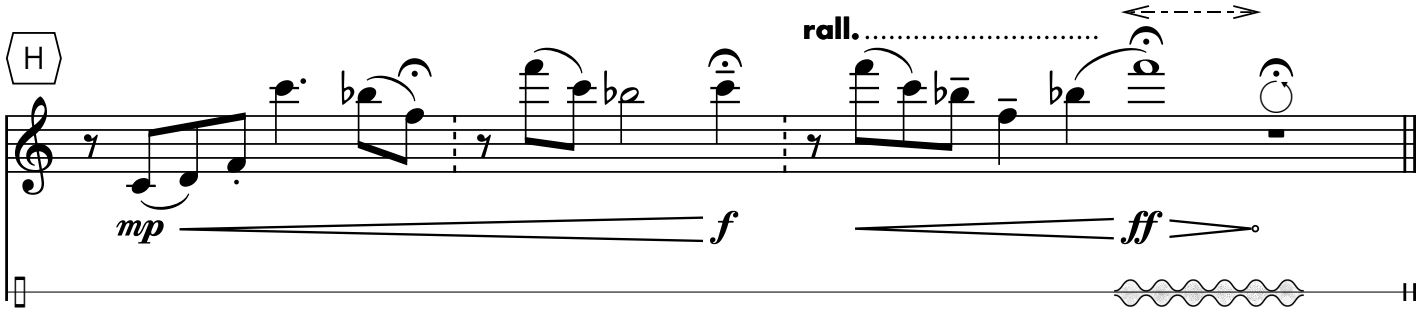
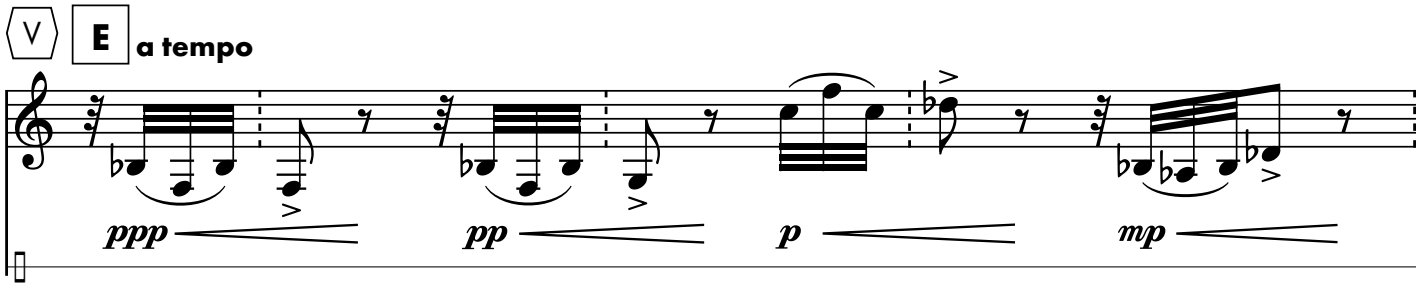
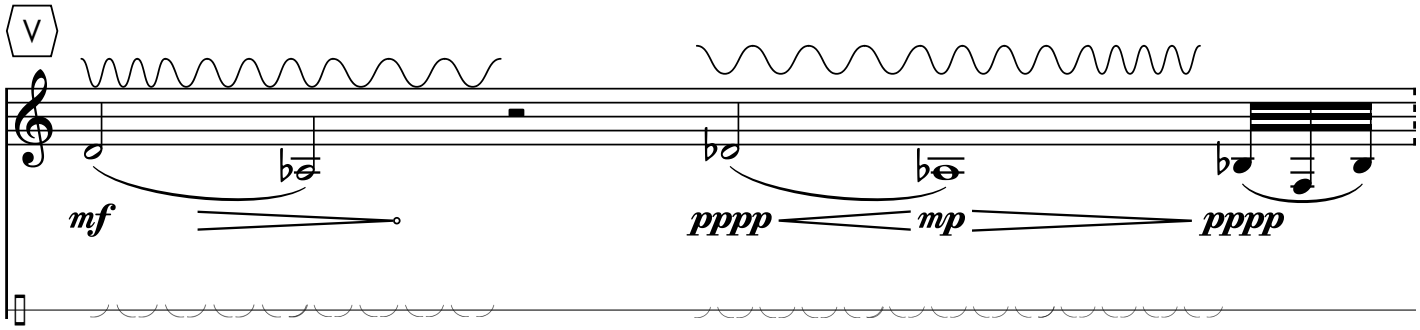
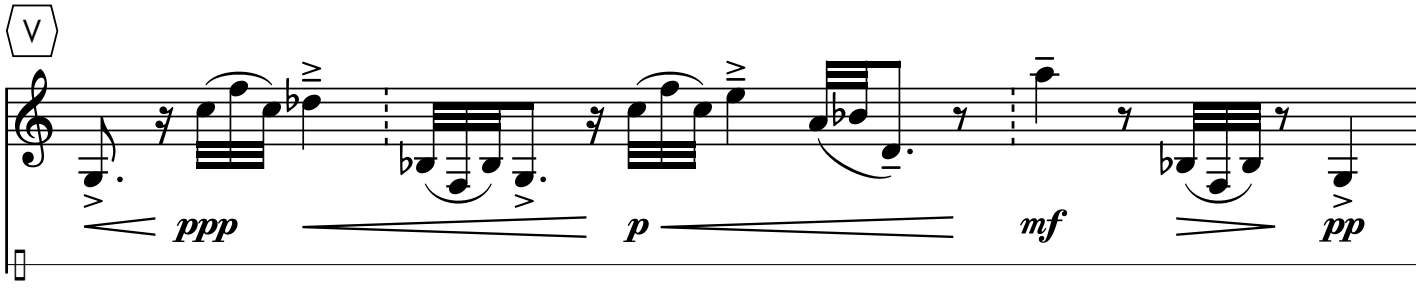

A
H
mp
pp
pp
B
a tempo I
V
ppp
f
V
accel.
a tempo
mp
ff
ppp
V
f
ppp

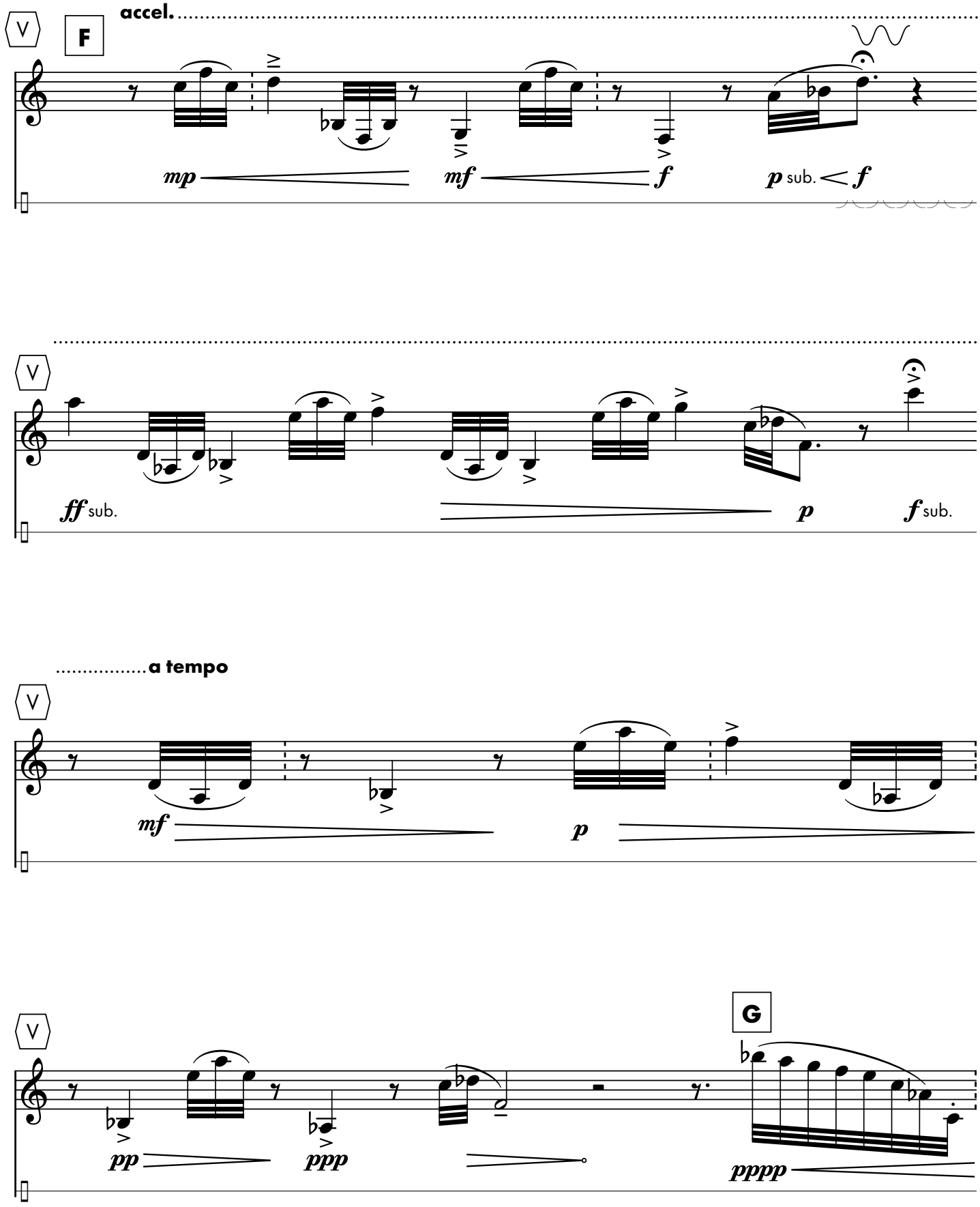

H
C
ff
pp
H
ppp
mp
H
mf
f
ff
H
D
mp

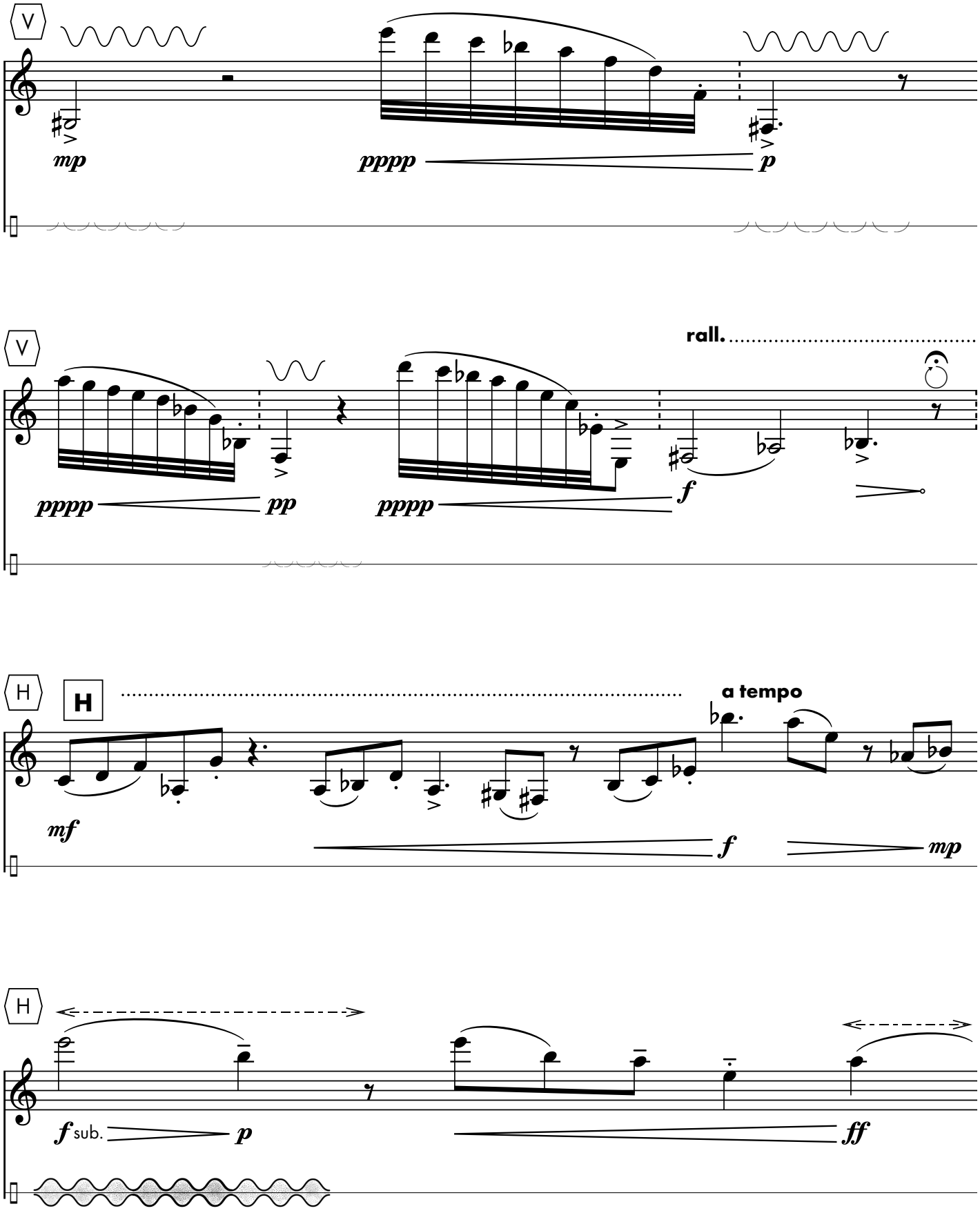

H
rall.
mp
f
ff

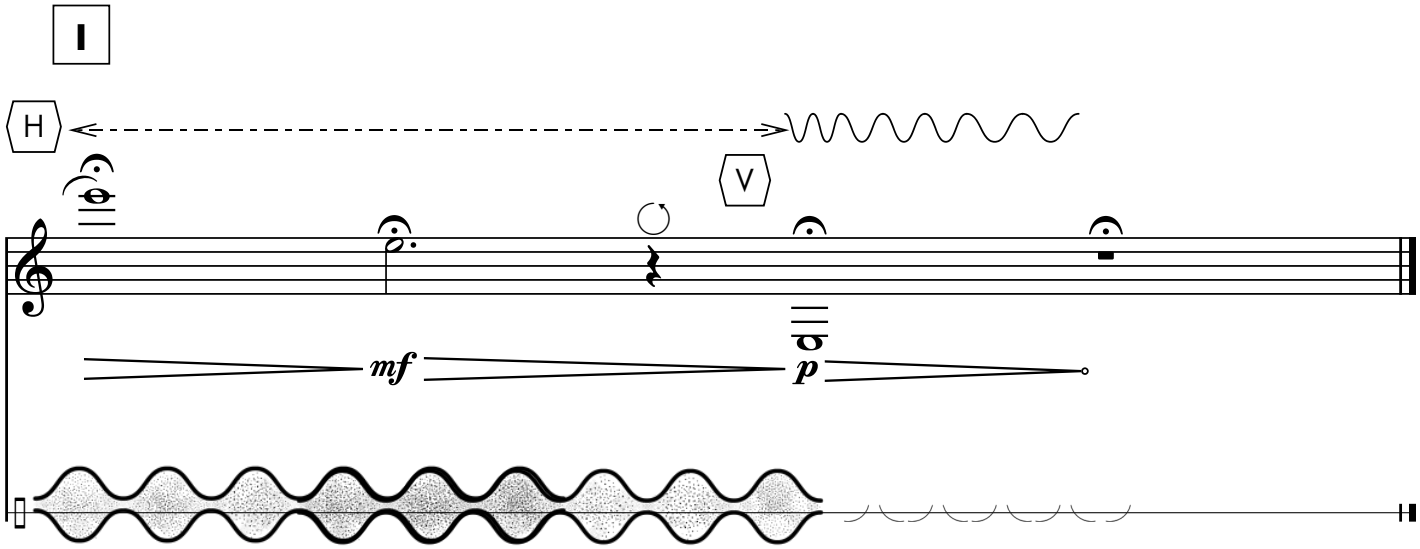

V
E
a tempo
ppp
pp
p
mp


V
mf
pppp
mp
pppp


V
ppp
p
mf
pp


V
F
accel.
mp
mf
f
p sub.
f
V
ff sub.
p
f sub.
a tempo
V
mf
p
V
pp
ppp
G
pppp


V
mp
pppp
p
V
rall.
pppp
pp
pppp
f
H
H
a tempo
mf
f
mp
H
f sub.
p
ff


I
H
V
mf
p