Israel Neuman

Proof of Knowledge

for flute electronics and video

2013

Program Notes

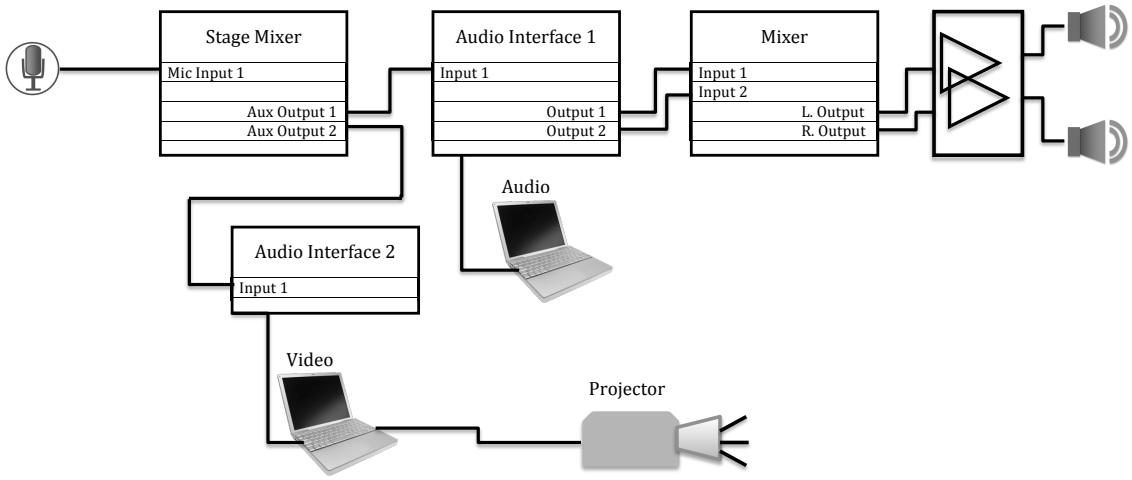
A machine 'knows something', if this something can be computed, given the machine as an input. (“Proof of Knowledge,” in Wikipedia)

The performance of the computer in Proof of Knowledge for flute, electronics and video is governed by a dynamic control system. This system is based on a schema and an algorithm of structural mapping between a mass-spring network and live electronics. The mapping is based on the pitch organization of the flute part.
The synchronization between the flute and the electronics in this piece is a product of the cause-and-effect relations between the flute and the physical model. This synchronization is achieved by a time-base comparison between the live signal

The video recording of this composition is available through the link:
http://youtu.be/VwqQ42t3ULs

Technical Notes

The equipment required for the performance of *Proof of Knowledge* (2012) for flute video and live electronics includes: two computers with the Max/MSP/Jitter 5 software (or a later version); two compatible audio interface devices, each with at least one input channel and two output channels; two mixers with two or more input channels and Left/Right output channels; one microphone; two speakers with amplification; and a stage projector. The equipment setup is specified in the following diagram:



The electronics part of *Proof of Knowledge* was composed in Max/MSP/Jitter 5 (or a later version). It requires the physical modeling package pmpd-for-max available as open source at: http://drpichon.free.fr/pmpd
It also requires the external objects **liveGranul~**, and **SynGranul~** available as open source at: http://dvlpt.gmem.free.fr/web/static.php?page=max_externals.

The files required for the performance of electronics part of *Proof of Knowledge* are located in the folder ProofOfKnowledgeMax and should be kept there at all times. Moving files out of this folder may cause Max/MSP patches to fail. Following the equipment setup, to start the performance, launch Max/MSP on both computers. Open the file ProofAudio.maxpat on the audio computer and the file ProofVideo.maxpat on the video computer. Resize patch windows, jitter windows and buffer windows as needed on both computers. Click the on/off toggles or type A on both computers to start the performance.

Proof of Knowledge

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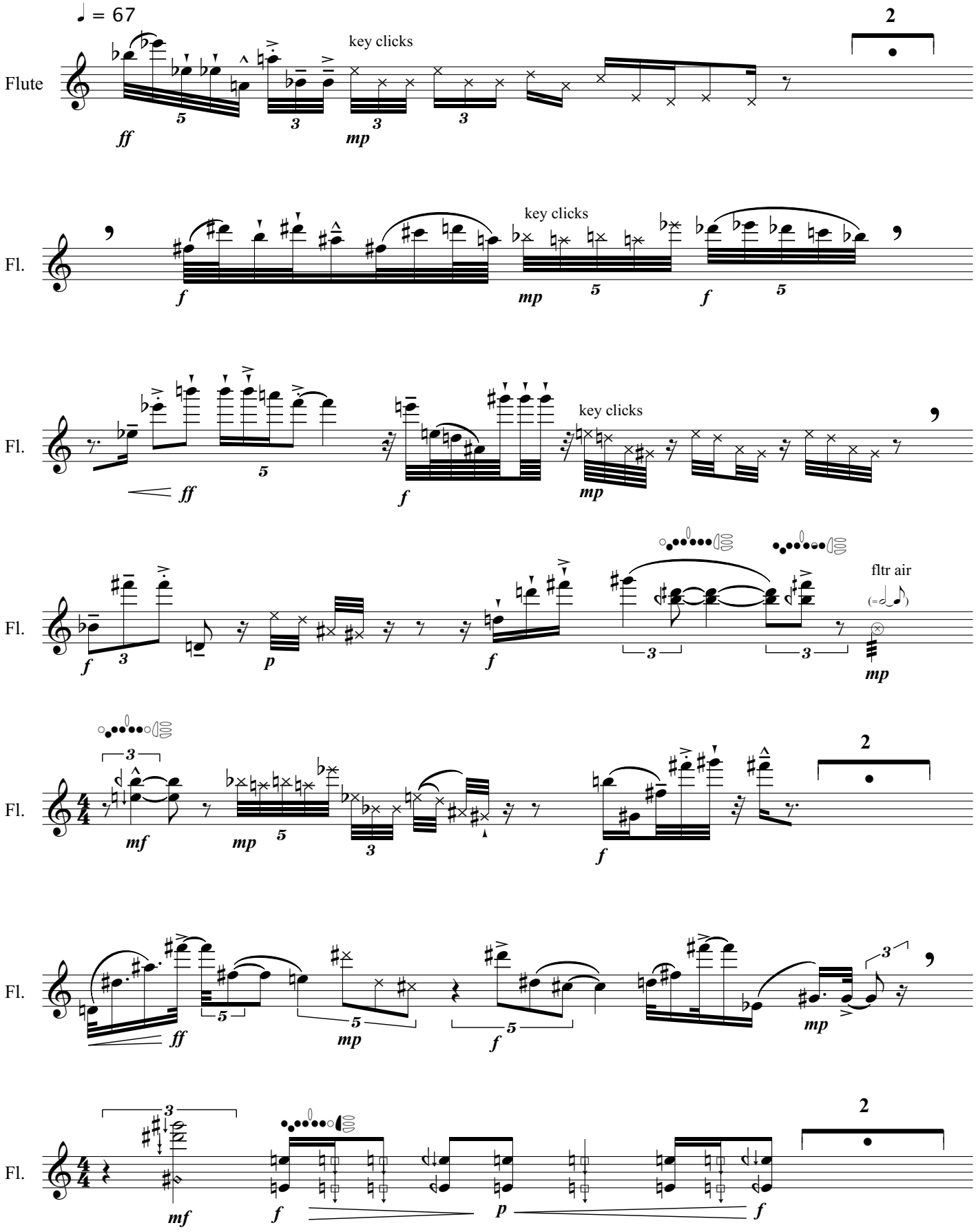

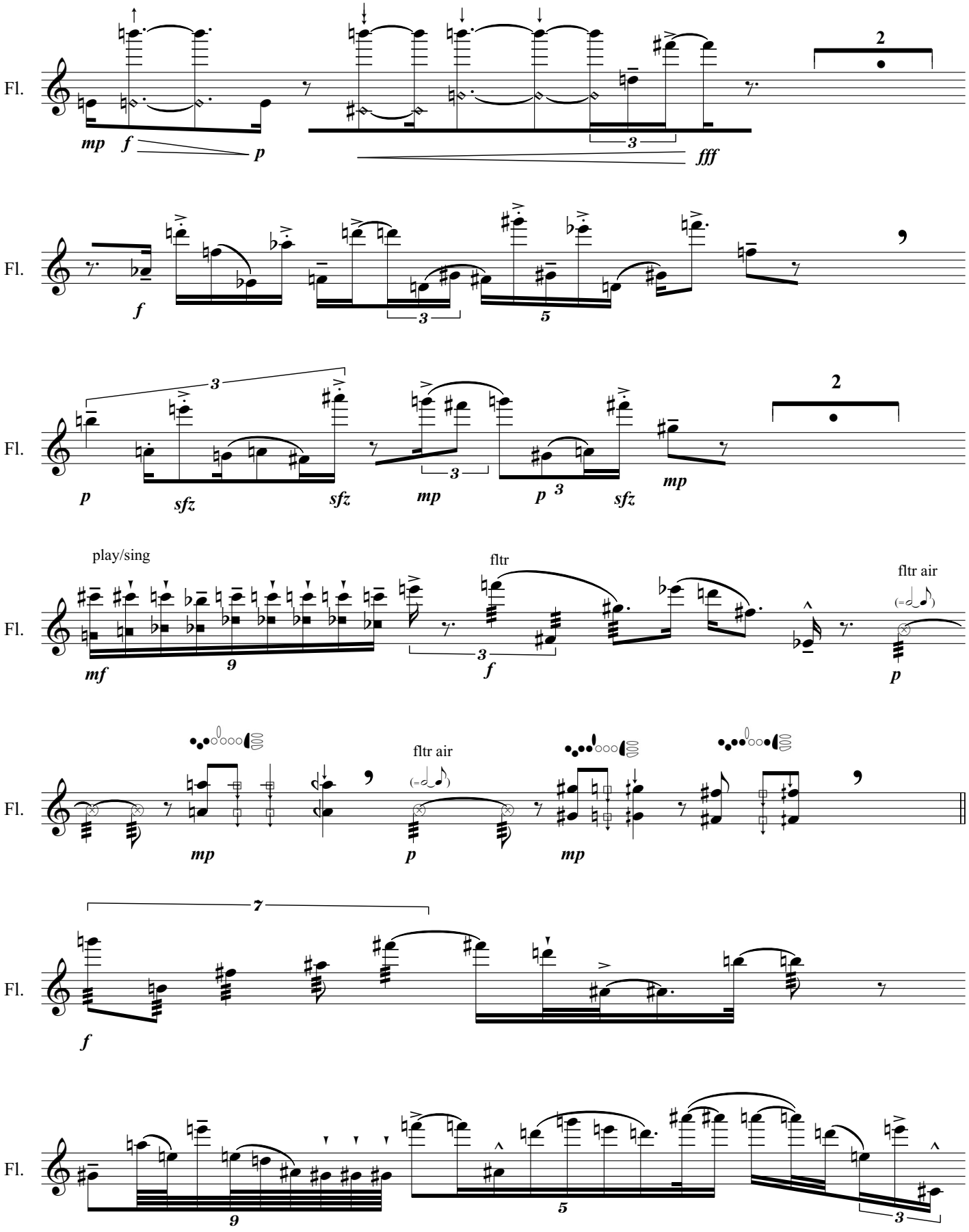
Fl.
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sfz
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Fl.
play/sing
mf
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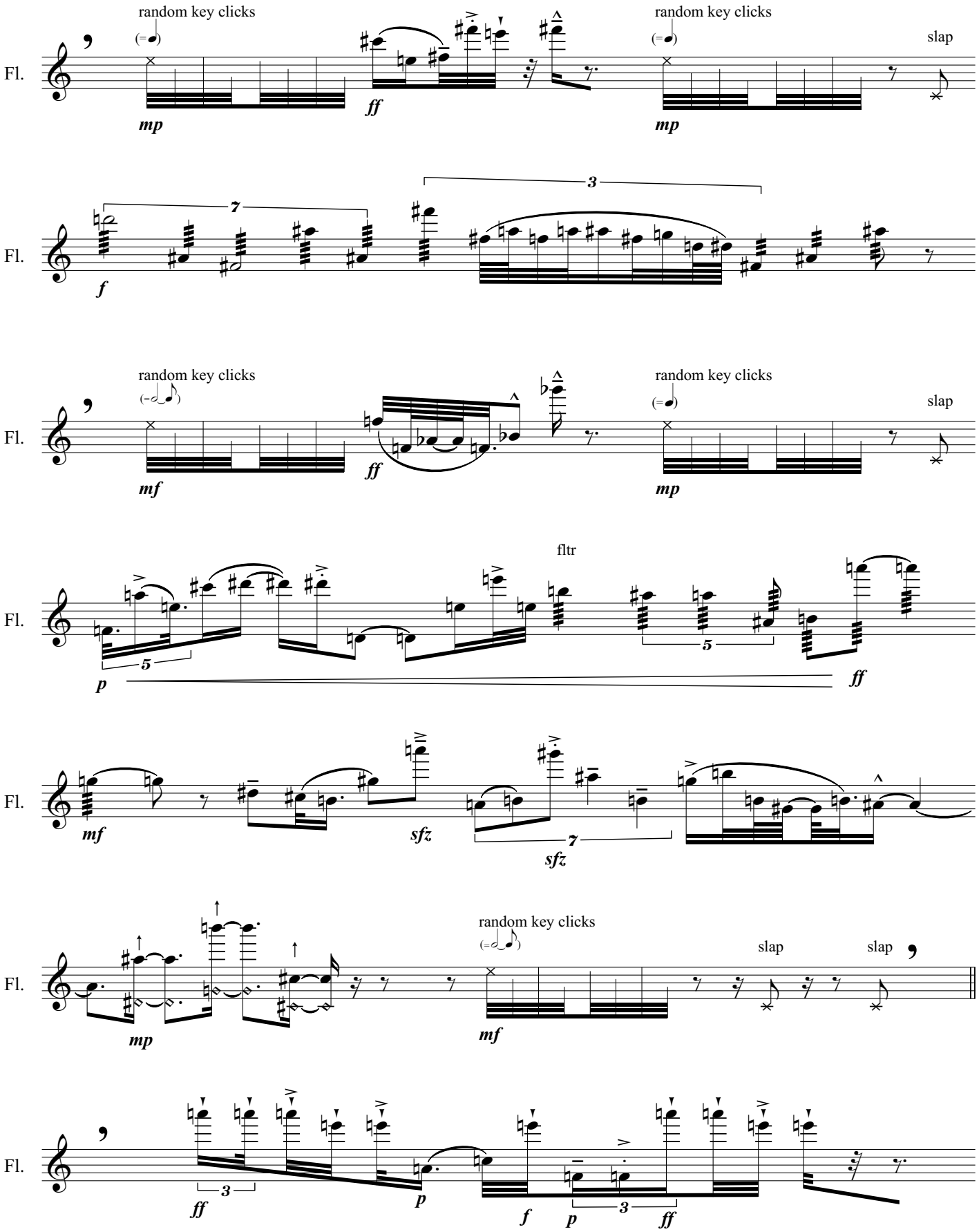
random key clicks
random key clicks
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random key clicks
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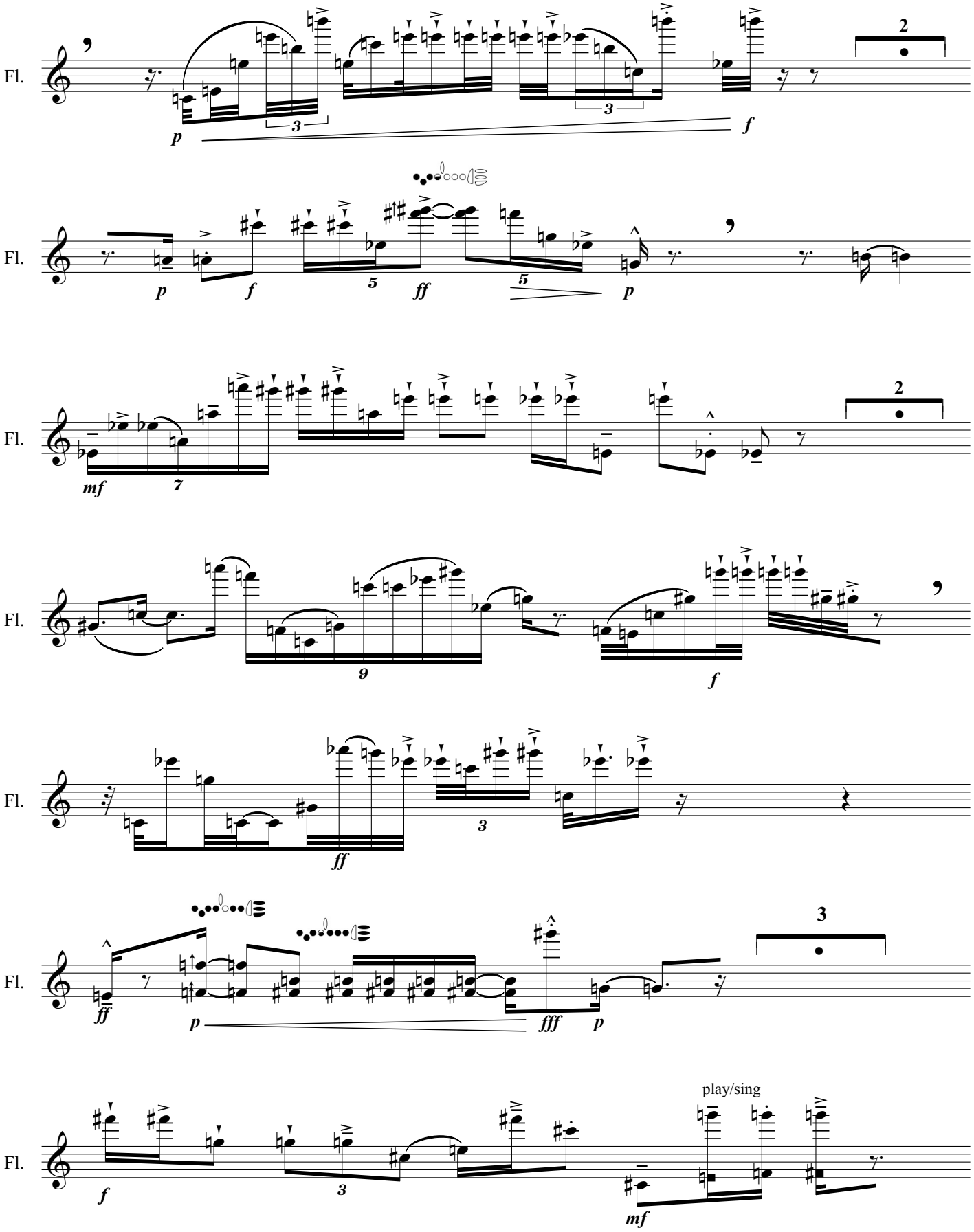
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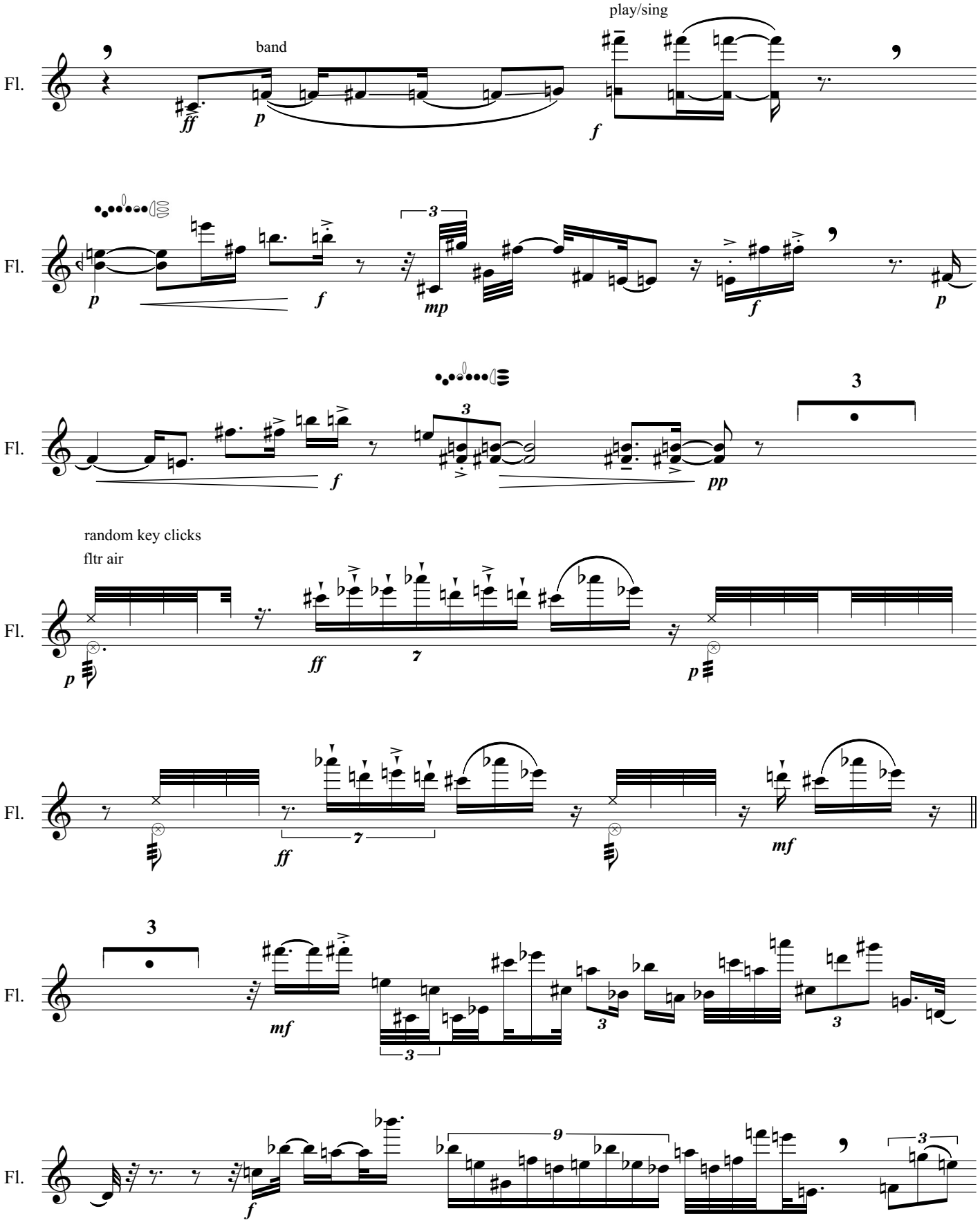
play/sing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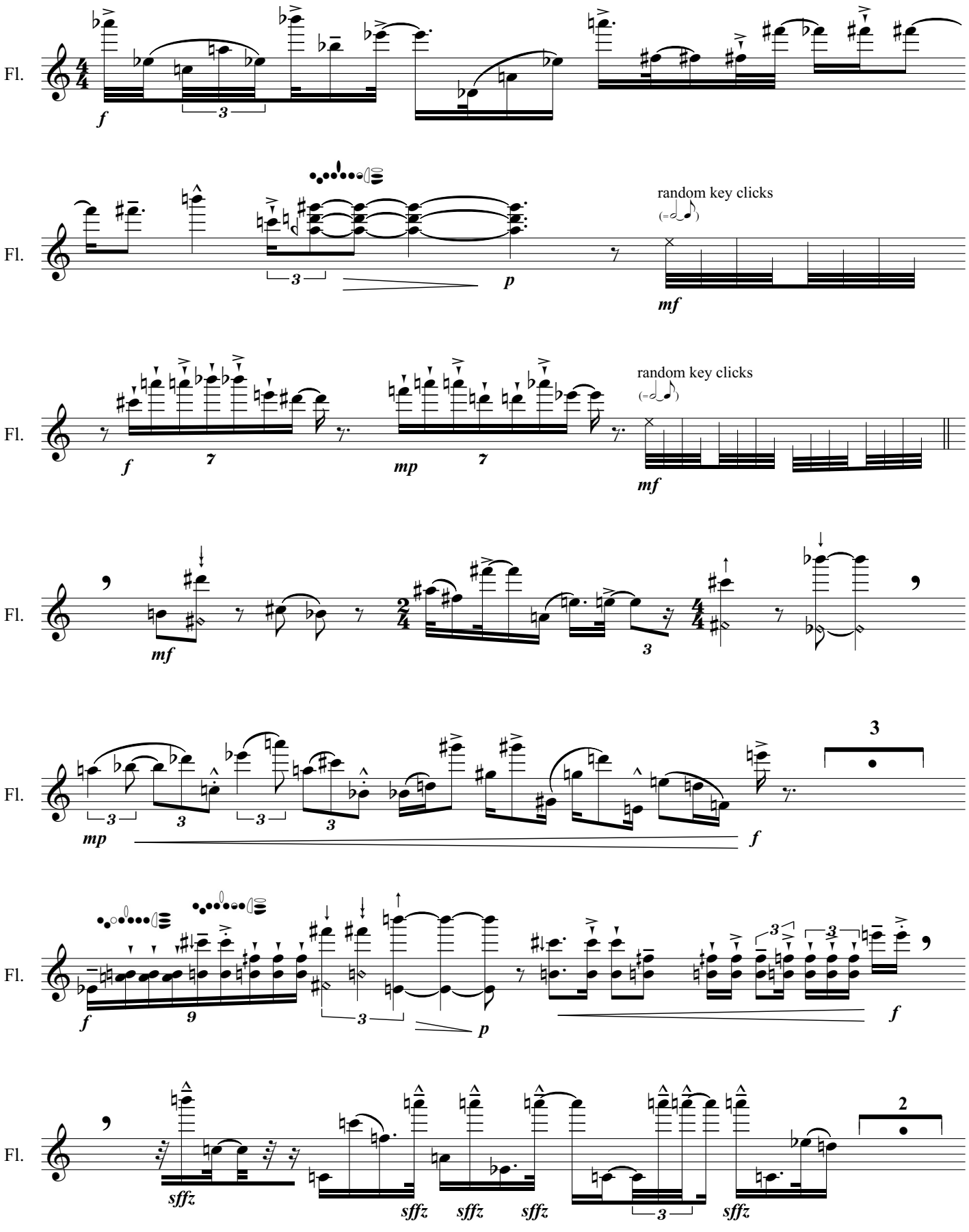
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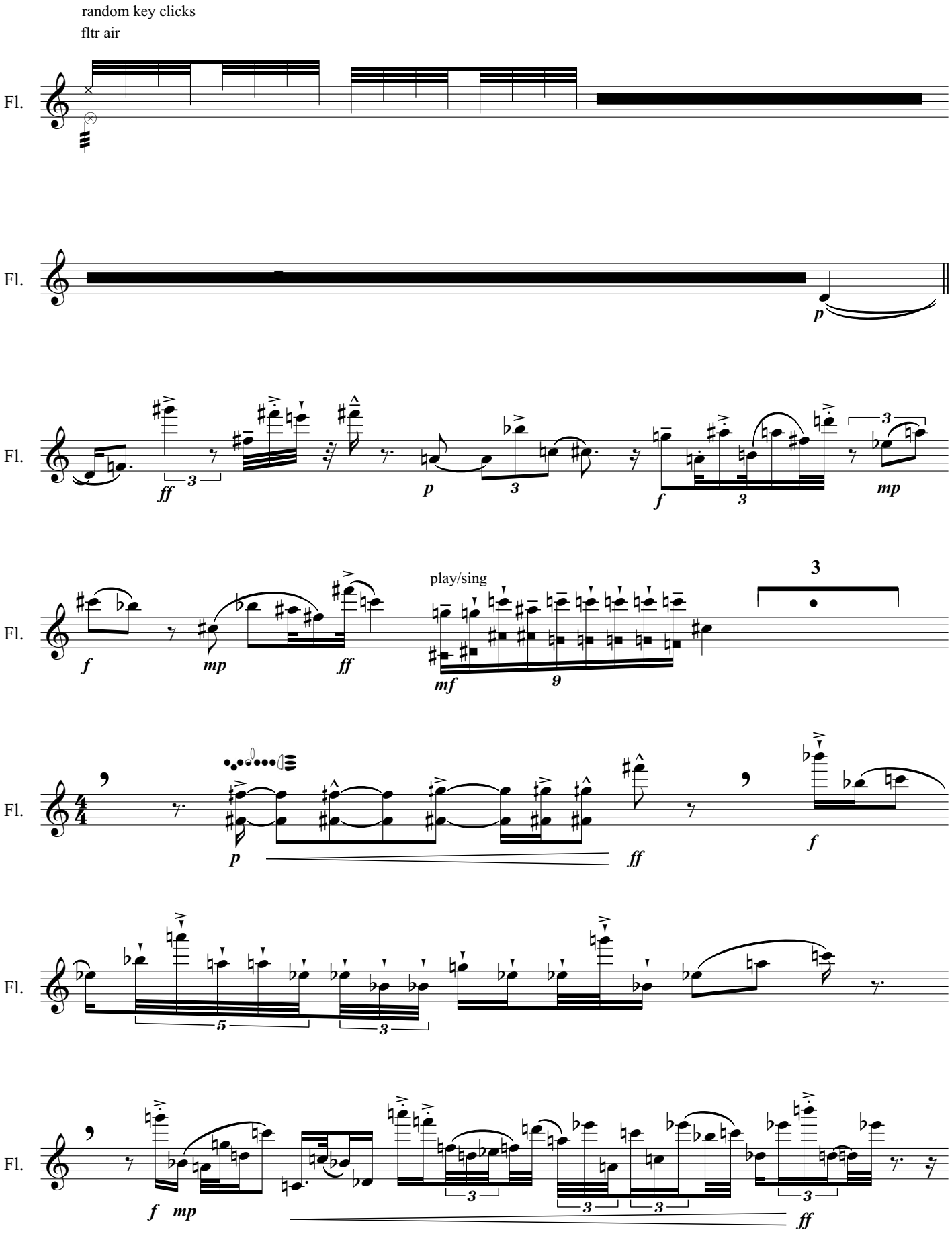
random key clicks
random key clicks


random key clicks
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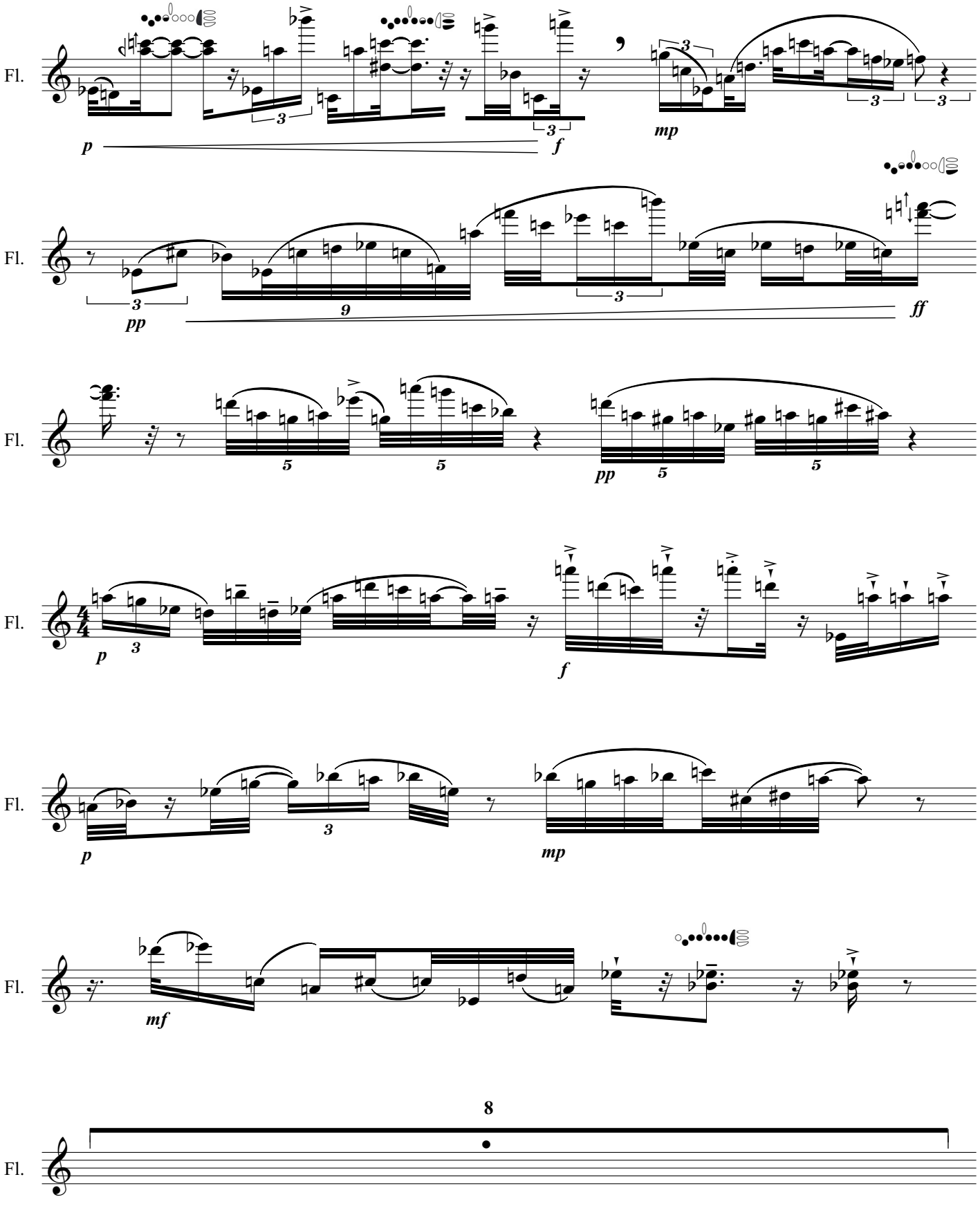
play/sing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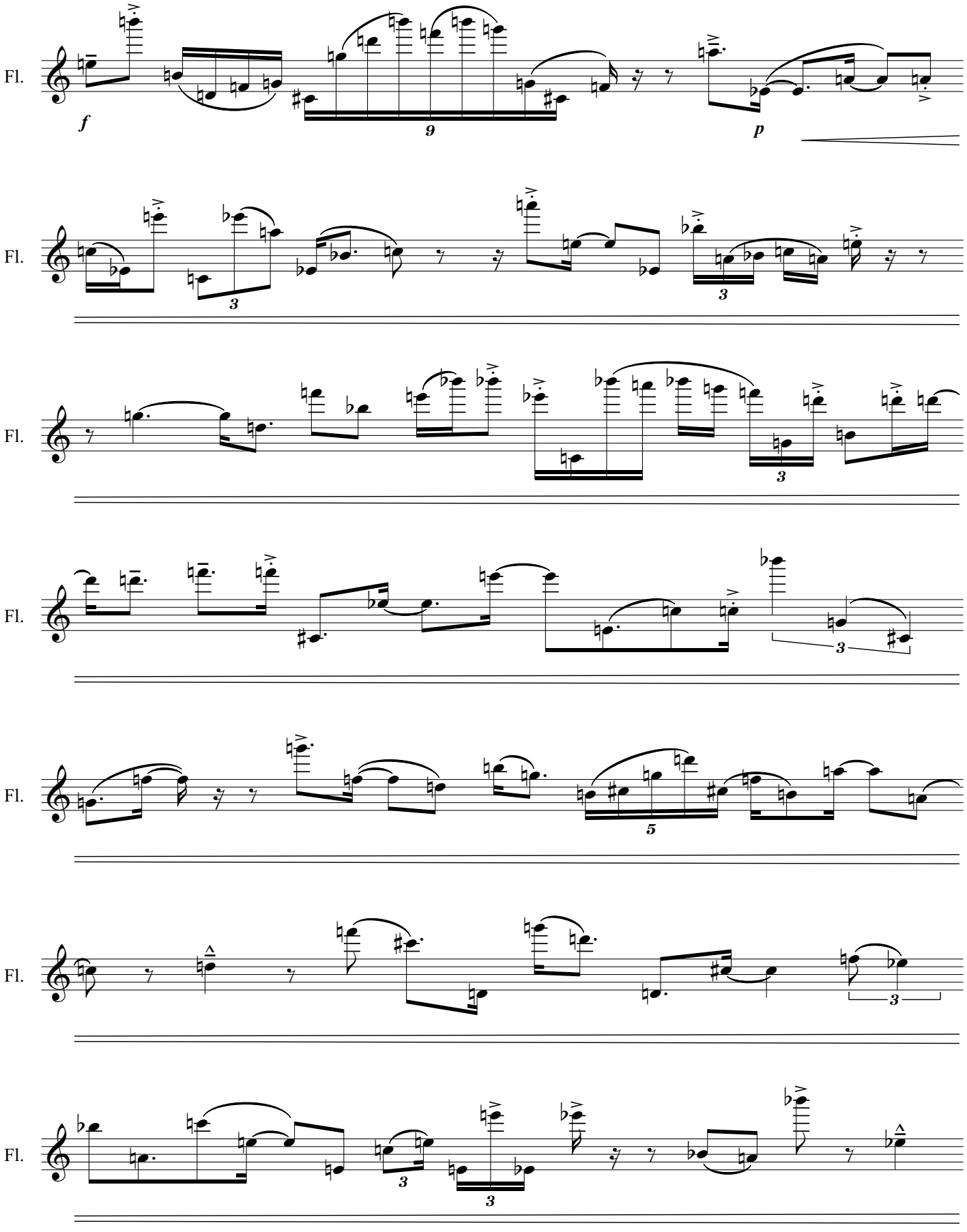
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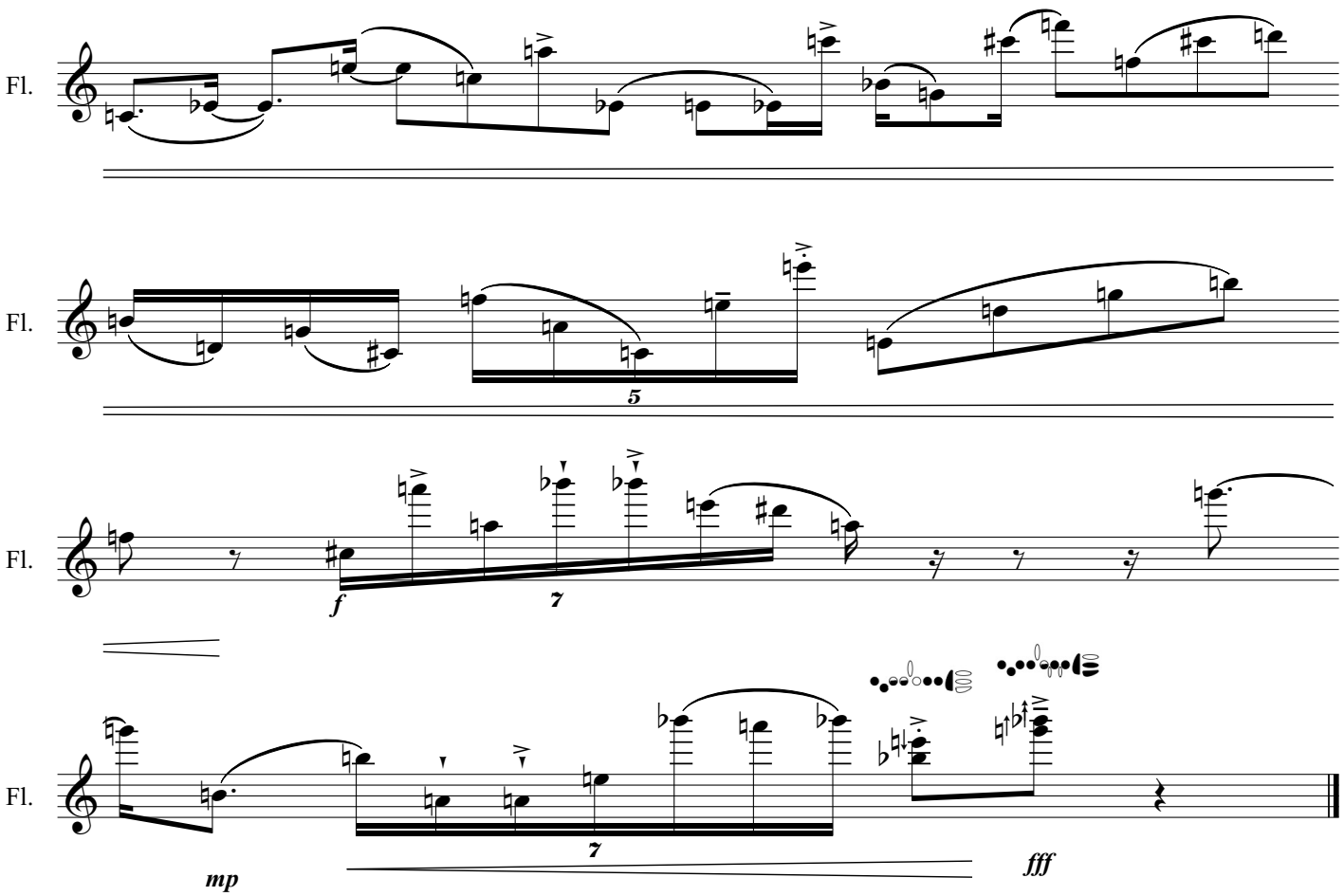
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