Jon D. Nelson

Three Acoustic Ecosystems

For chamber sextet with live electronics

Duration: 13.5 mins

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INSTRUMENTATION:

Flute – Clarinet – Violin – Viola – Cello – Piano

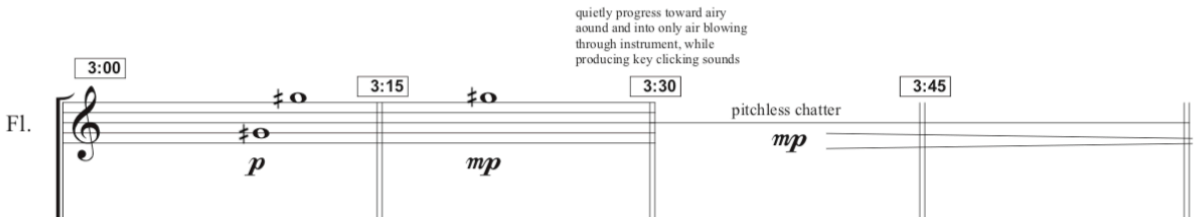
Most of the piece is communicated using 15-second 'cells', which denote exactly one minute of music per page and invite a great deal of freedom / improvisation from each player. The first two pages are an exception to this, where music is more traditionally notated at 60 beat per minute, although time-code is still given above each bar. This will be explained in more detail below.

UNDERSTANDING THE LIVE ELECTRONICS PROCESSING

Throughout most of the piece, the ensemble will be feeding an electronic process, which colorfully extends all input sound for approximately 60 seconds. The piano remains somewhat independent and never feeds the electronics, but each other instrument does. In order to input sound, each instrument (except the piano) will have a microphone, which should capture a rather "close" sound of its respective instrument as to minimize the potential for feedback issues.

Throughout the performance, the performers are guided by a time-code display. In a live performance, preparatory time-code begins at [-0:40], and the piece begins at [-0:32]. The live electronics will take effect at time-code [0:00].

At certain points throughout the piece, players will become disconnected from the electronics processing. The score indicates points at which specific players become disconnected and reconnected with the live electronics using a single-line staff to signify disconnection. During these periods, players are granted the greatest level of freedom to produce a wider variety of sounds, which could include any extended techniques that the player sees appropriate for the piece, although some specific techniques are suggested on the score. An example of electronics disconnection is shown below:



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HOW TO INTERPRET CELLS:

All notes appearing within one 15 second cell must sound within the timeframe they are given, but the player is free to choose which order the notes occur and to generate textures involving the written notes. For example, players could: erratically "flicker" between two notes at a time or simply play the notes as long tones. More details will be given regarding how to decide the appropriate treatment for any cell.

Players may stutter on one note at times, but all notes within each cell must occur at least once within the 15-second timeframe.

Do not slide between notes, as it is important that only the notes written are fed into the electronic processes.

I have to acknowledge it's true that there are deliberate quirks in the exact placement of note-heads within these 15-second cells. I only place the note-heads relatively to others as basic possibilities for how specific notes and contours may become more prevalent within the cell. However, the player's freedom to choose the exact order, placement, and textural nature of note patterns within each cell is of greater importance.

The RH of the piano should imitate the behavior of wind chimes using the given notes, though the more subdued interpretations should be quite sparse, while the indications of brightness should involve more active, pointillistic wind chime effects.

The LH piano cells are notated differently with compressed tremolo lines to indicate that, the two foundational pitches should only alternate, whereas other cells throughout the score give the player freedom to repeat and rearrange the order of notes. The pianist should still erratically vary the duration / speed of alternation responsively to the ensemble sound.

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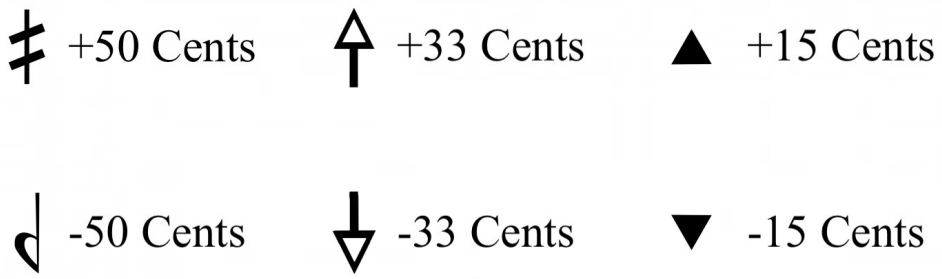
UNDERSTANDING THE PRECISE PITCHES WRITTEN:

This piece utilizes microtonal harmony. The following symbols are used to prescribe the pitch adjustments of notes that occur throughout the score:



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DYNAMICS:

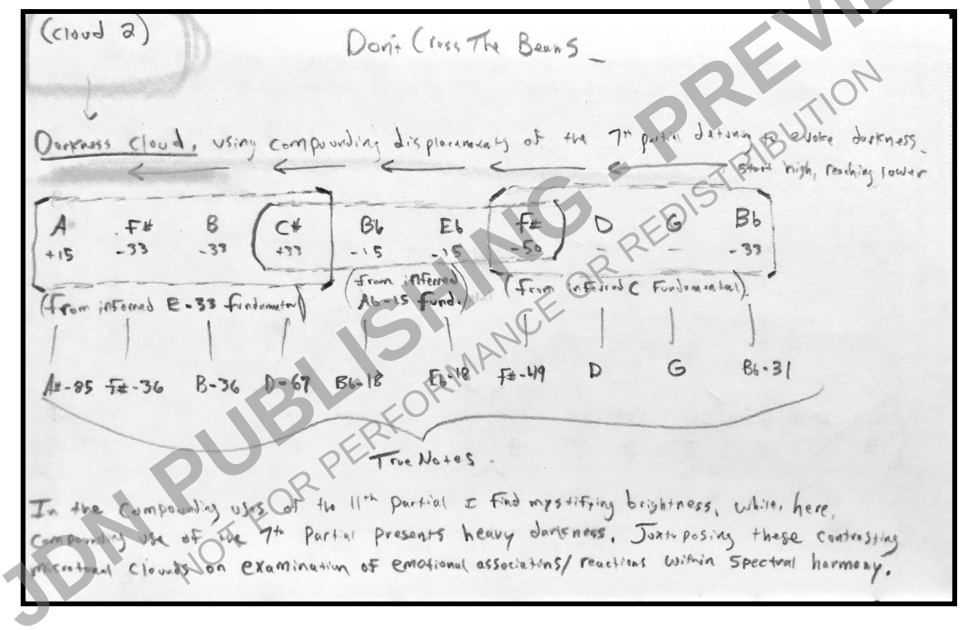
In this piece, DYNAMICS are more an indication of sonic quality than of amplitude. Cells marked with PPP ask for the most subdued and gentle approach to realizing the written pitches: probably long tones, subtle onsets to notes and "niente" releases. Progressing through the range, higher dynamic markings ask for gradually brighter and more pointillistic textures through to F, which, in this piece, indicates the maximum point of density, brightness, flourish, etc.

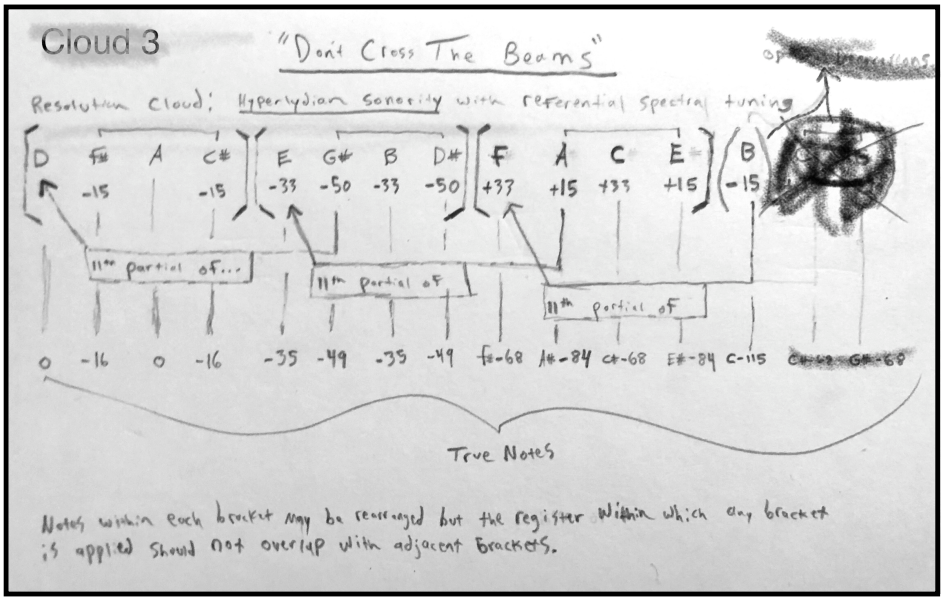
EMOTIONAL INTENT:

The piece is primarily divided into three "clouds" of spectral harmony:

Cloud 1: Balance – Cloud 2: Darkness, Malice – Cloud 3: Brightness, Fascination

With the juxtaposition of clouds 2 and 3, I am looking to demonstrate stark emotional contrast within spectral harmony. The handwritten sketches below provide insight into how these 2nd and 3rd clouds of harmony were developed:





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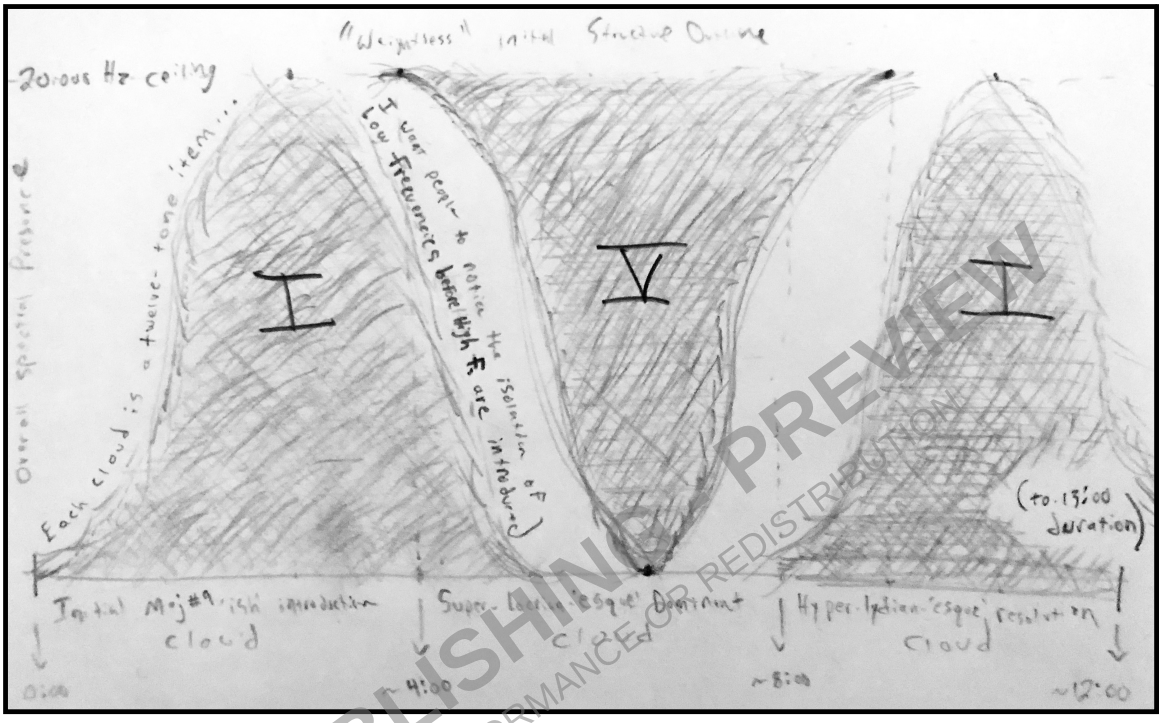
FORM:

The following hand-drawn sketch provides insight to the way in which the three clouds of harmony occur during this piece, particularly with regard to the frequency content of the electrons process. The Y axis denotes spectral presence, with the top of the graph showing the highest frequencies audible, and the X Axis denotes time - the 13 minutes of electronics activity that unfold.



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PROVISION OF SCORES:

Seeing as this is a highly interactive piece asking the players to make significant decisions regarding when and what they play, each player will read from a full score, so as to ensure each player understands what the others are seeing during a performance.

EXTENDED TECHNIQUES:

For the most part, players are largely free to apply extended techniques that they feel may be appropriate. However, it is important that the pitches written appear clearly without too much inharmonicity, as the electronic elements of the piece depend on the input of these pitches. As stated earlier, players have a great deal more freedom when disconnected from the electronics to improvise and explore extended, pitchless sounds. At times the score suggests “silent fingering”. This indication suggests strong tapping from the LH to generate randomized sound from the strings contacting the neck without use of the bow.

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PIANO TUNING:

The chart to the right lists all of the tuning adjustments needed for the pianist to participate in the harmony used in this piece (in +/- cents, assuming 100 cents/semitone):

Greyed-out keys are not used in this piece.

If it is not feasible to re-tune an acoustic piano, a re-tuned virtual piano can be provided to the player in the form of a .nki file, playing in Native Instruments' Kontakt Player.

While the other players are given symbols to approximate needed pitch to within a few cents, the piano tuning does expose the exact intended pitch for any note in the piece. Thus, players will often be able to listen and match pitch to the piano to aid in achieving the intended sonorities.

Piano Tuning Adjustments Needed

	A0		G2		F4	-49	Eb6
	Bb0		Ab2		Gb4	16	E6
	B0	0	A2	-35	G4	32	F6
	C1	***-85***	Bb2	-49	Ab4	-49	Gb6
	Db1		B2		A4	0	G6
0	D1	0	C3	-18	Bb4	32	Ab6
	Eb1		Db3	-35	B4	16	A6
	E1	0	D3	***-149***	C5	17	Bb6
0	F1		Eb3		Db5	**-131**	B6
	Gb1		E3	-35	D5	32	C7
	G1	-31	F3	-49	Eb5	**-110**	Db7
	Ab1	-16	Gb3	-118	E5	-17	D7
0	A1	***-133***	G3	32	F5	32	Eb7
	Bb1		Ab3	-49	Gb5	16	E7
	B1	-16	A3	**-110**	G5		F7
0	C2		Bb3	-49	Ab5	33	Gb7
	Db2	-33	B3	16	A5	16	G7
0	D2	-31	C4		Bb5		Ab7
	Eb2	-16	Db4	-49	B5		A7
	E2	***-67***	D4	32	C6		Bb7
0	F2	***84***	Eb4	**133**	Db6	-17	B7
	Gb2	-35	E4	0	D6		C8

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With any questions regarding this piece, don't hesitate to get in touch via e-mail!

jdnelsonmusic@gmail.com

Nelson is able to provide the necessary equipment and software files needed to execute the live-processing electronics element of this piece.

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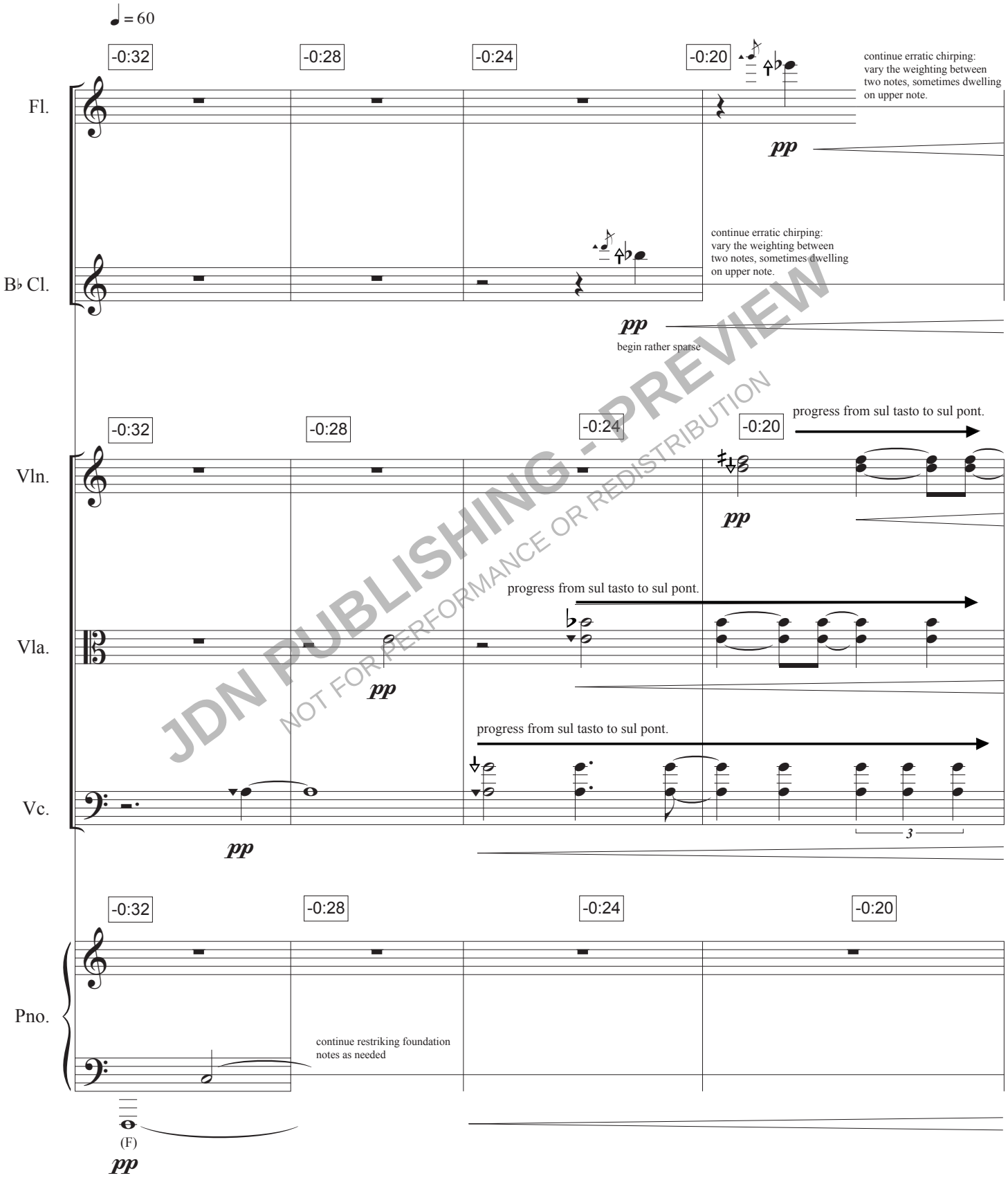

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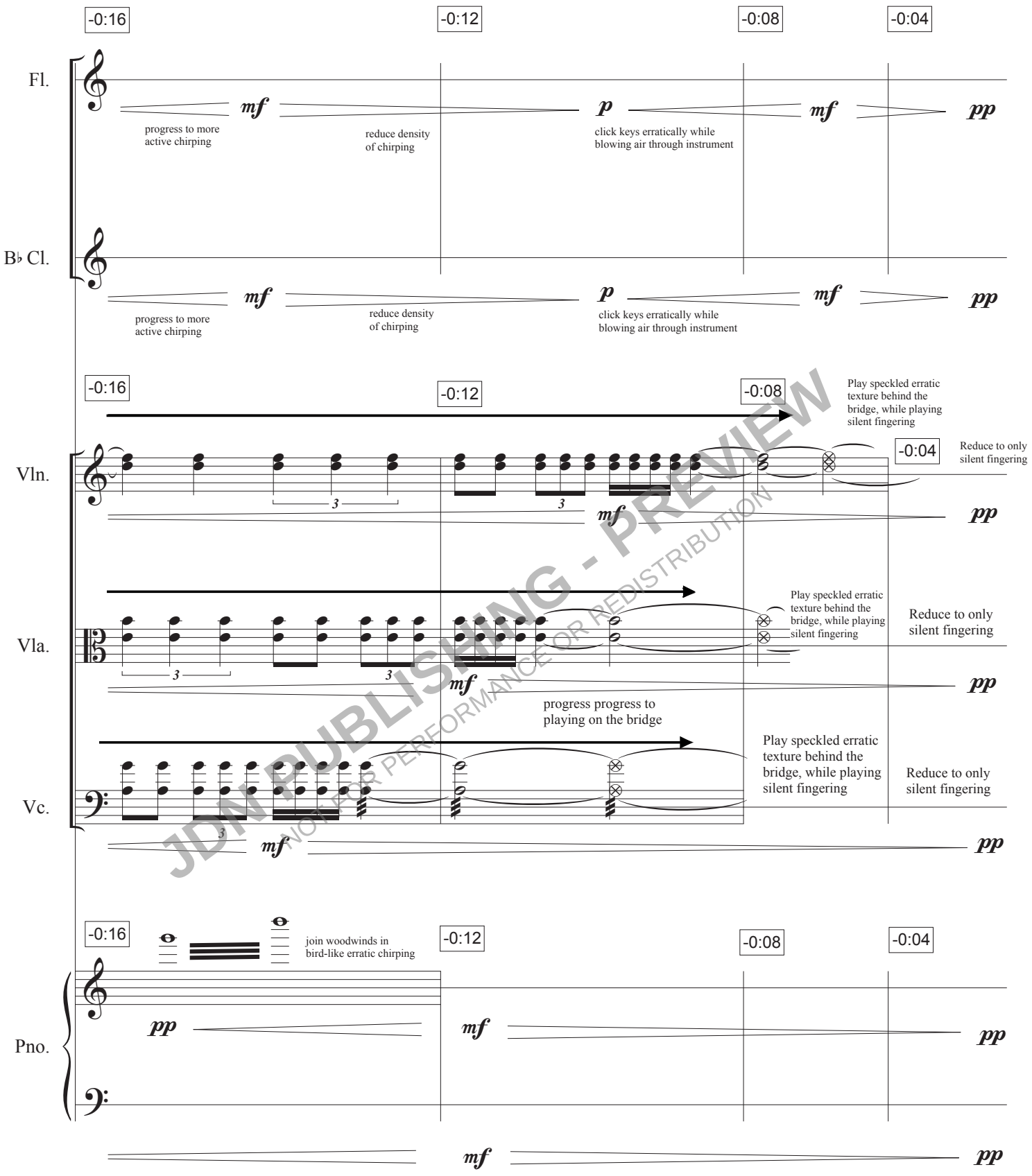

Collective effect should be suggestive of the constant richness and interaction of a natural ecosystem, such as a wetland

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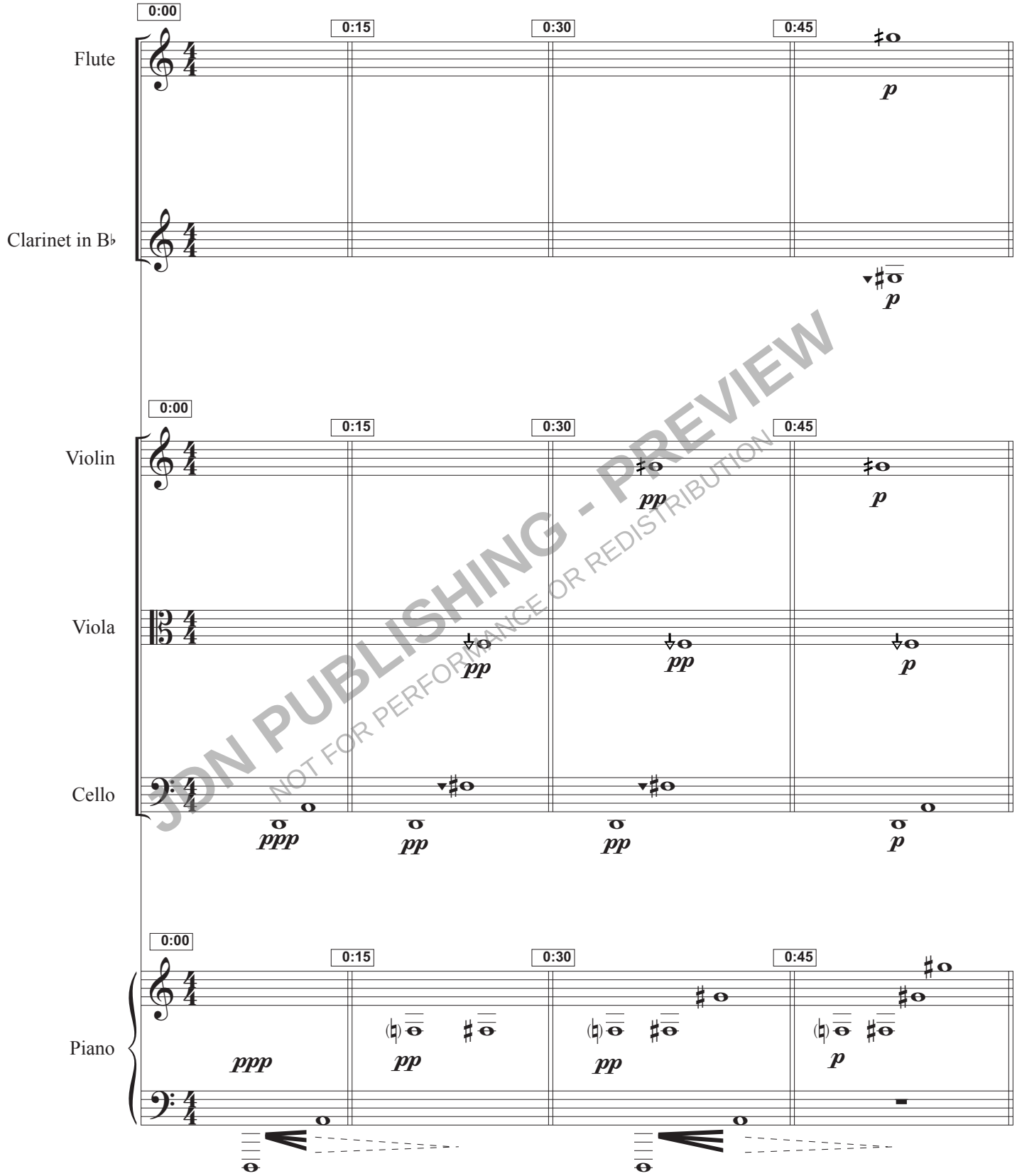
Begin cell-based interpretation:

Initiate live electronics processing



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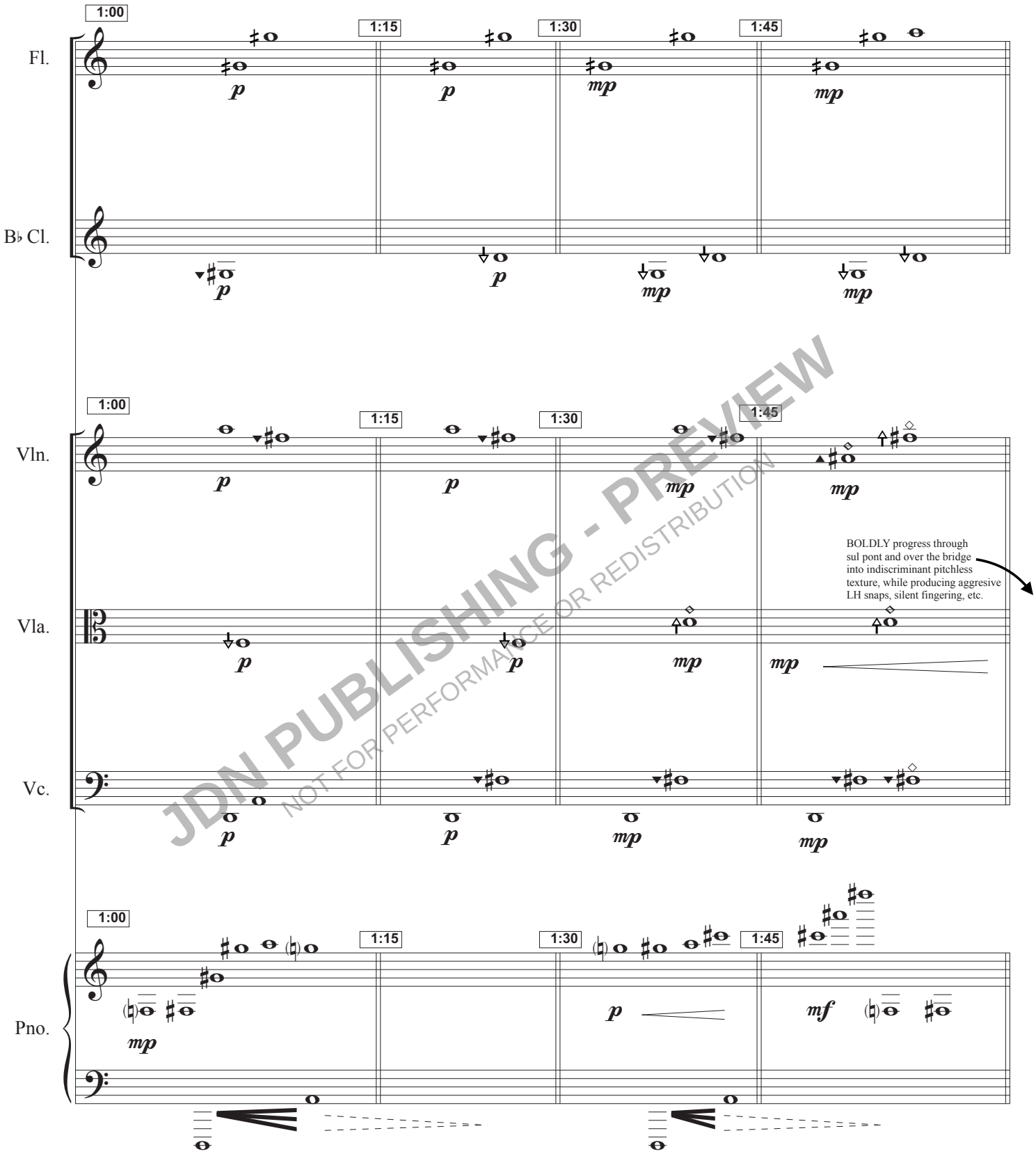

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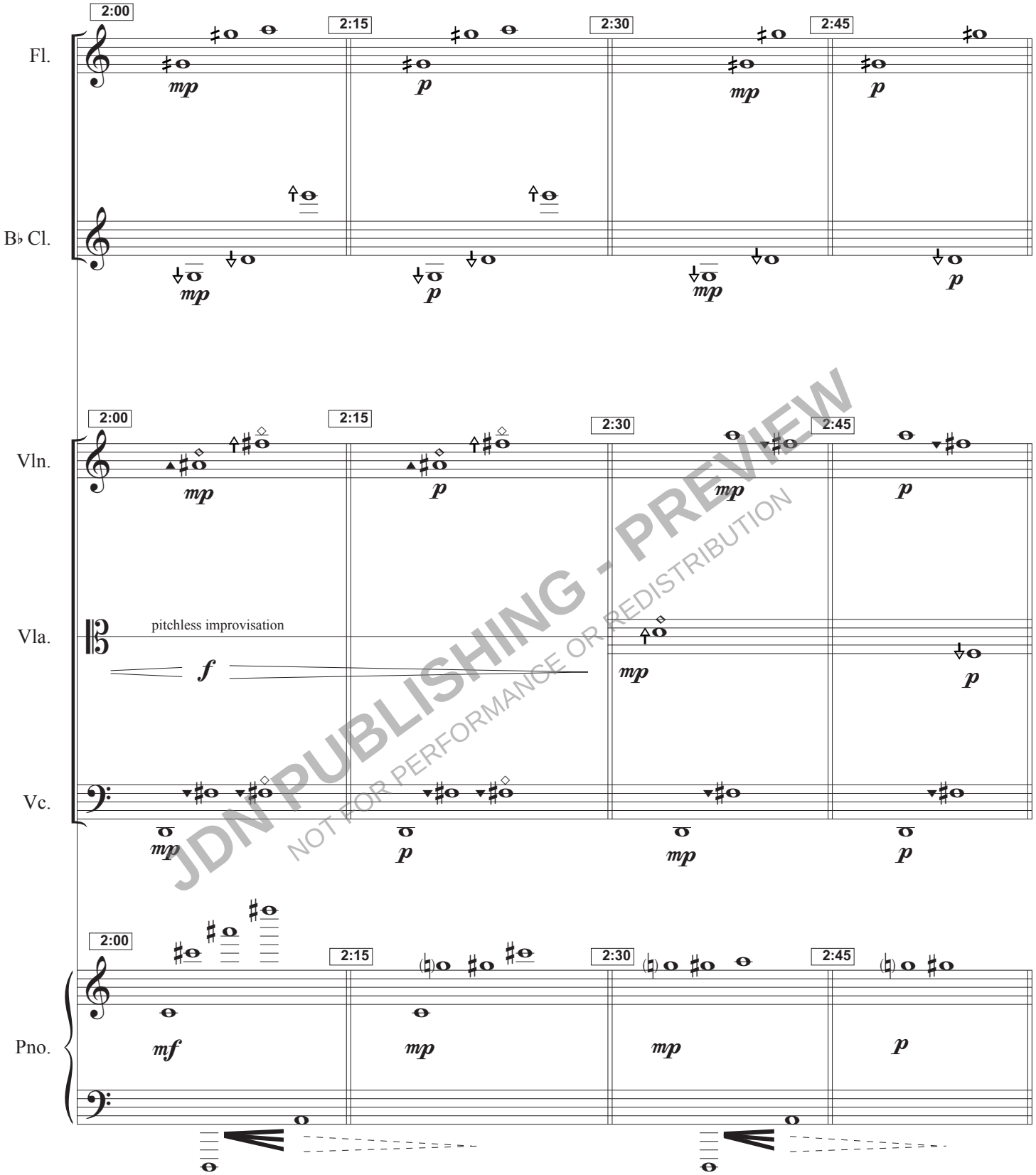

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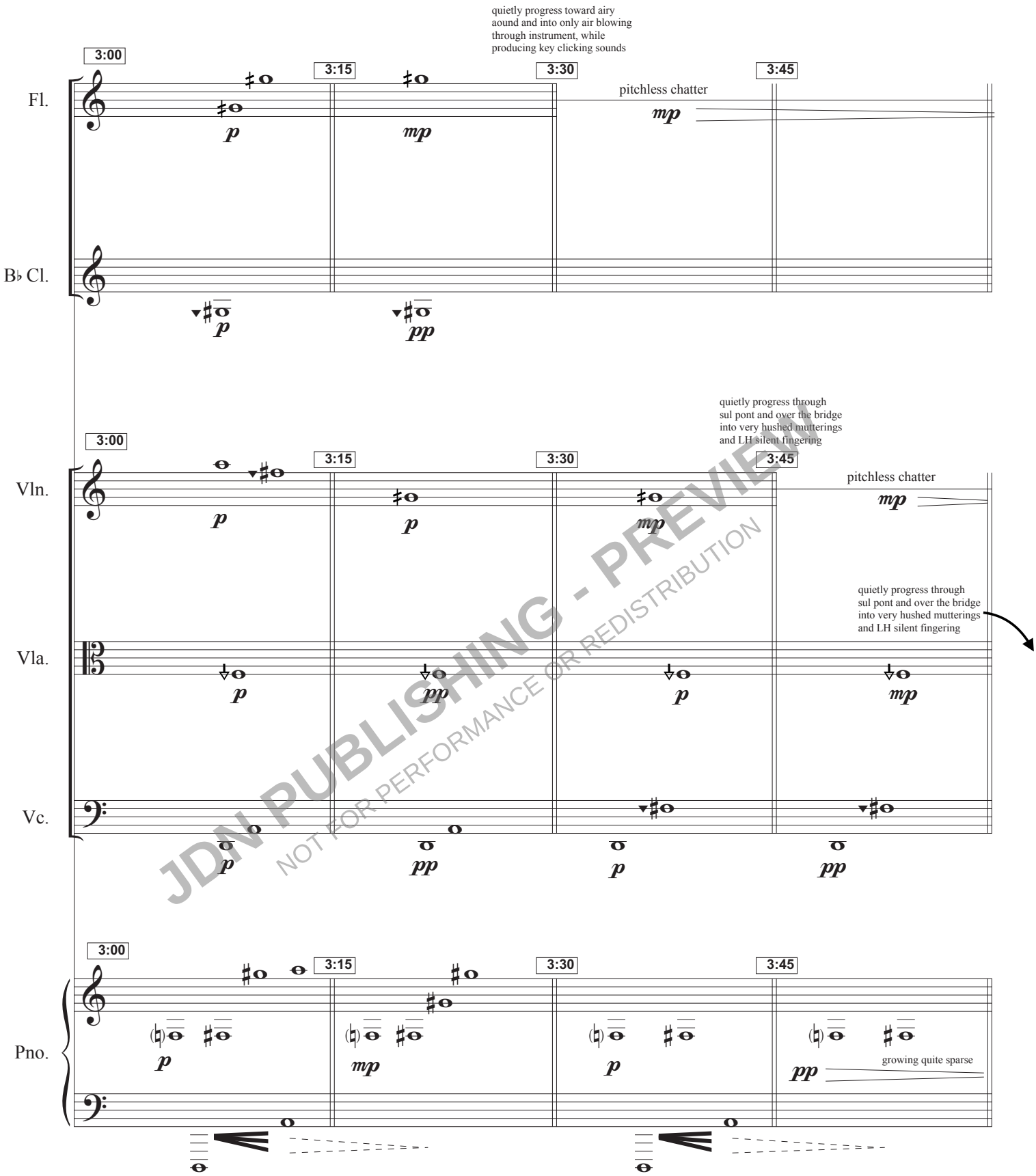

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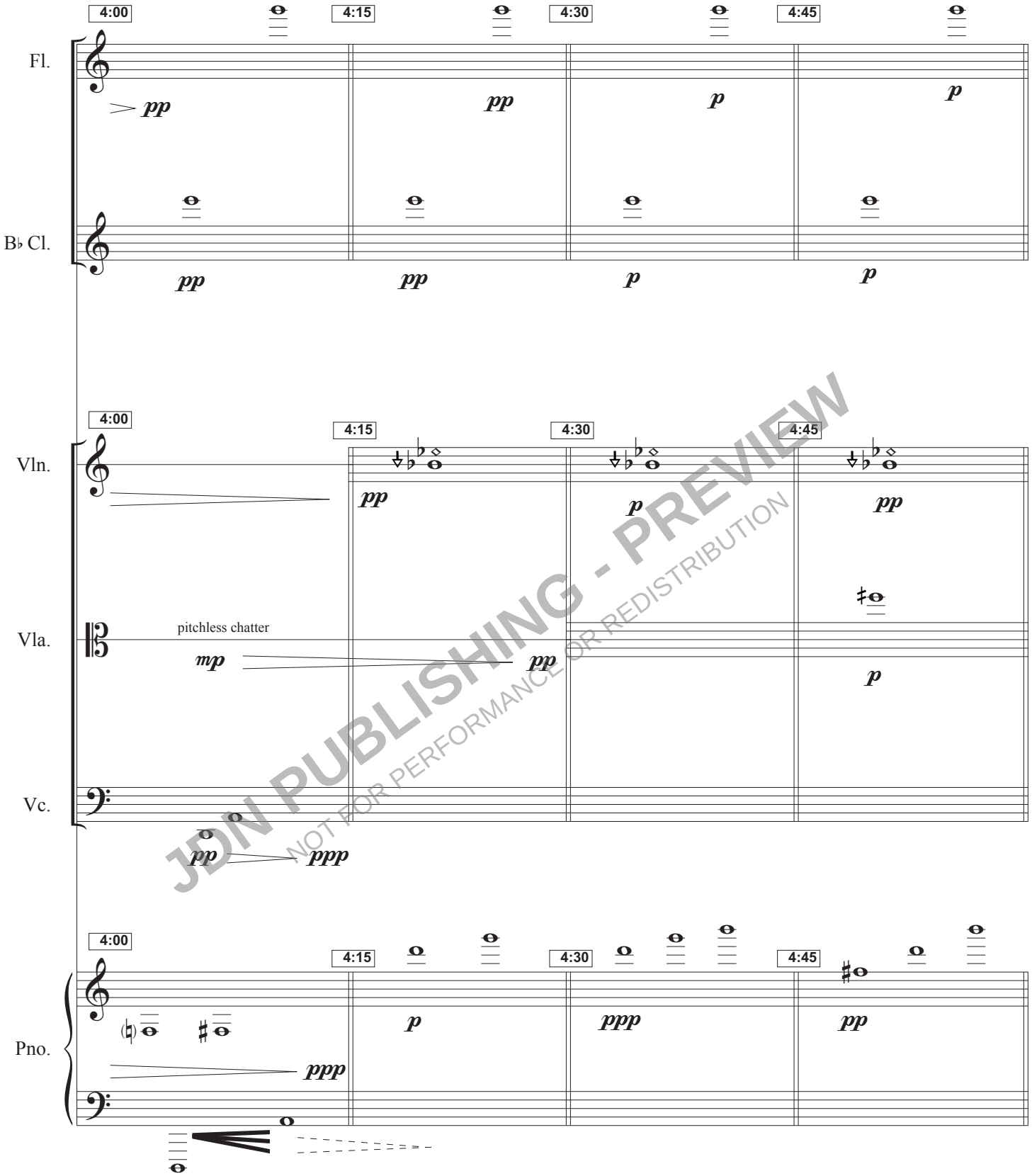

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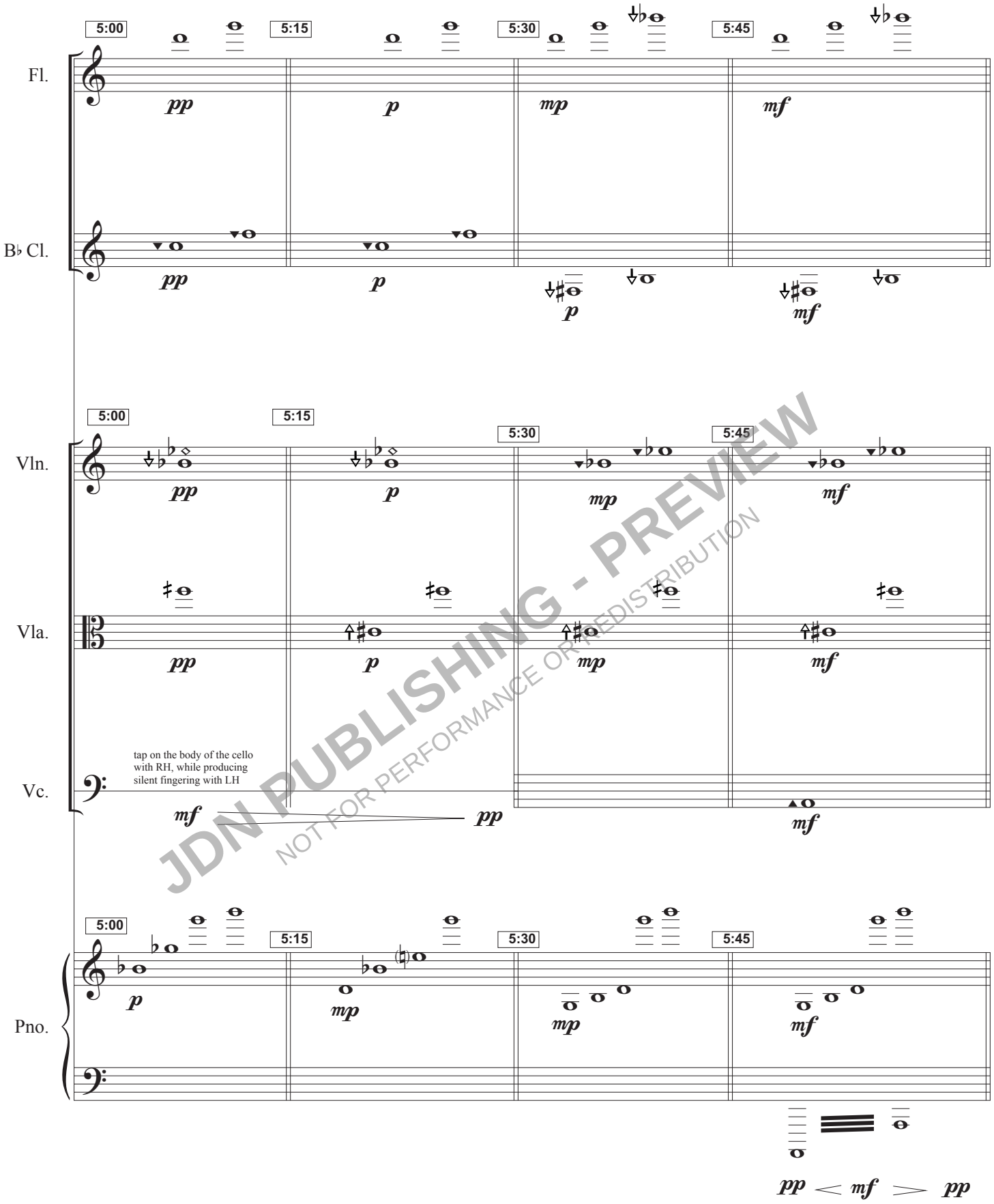

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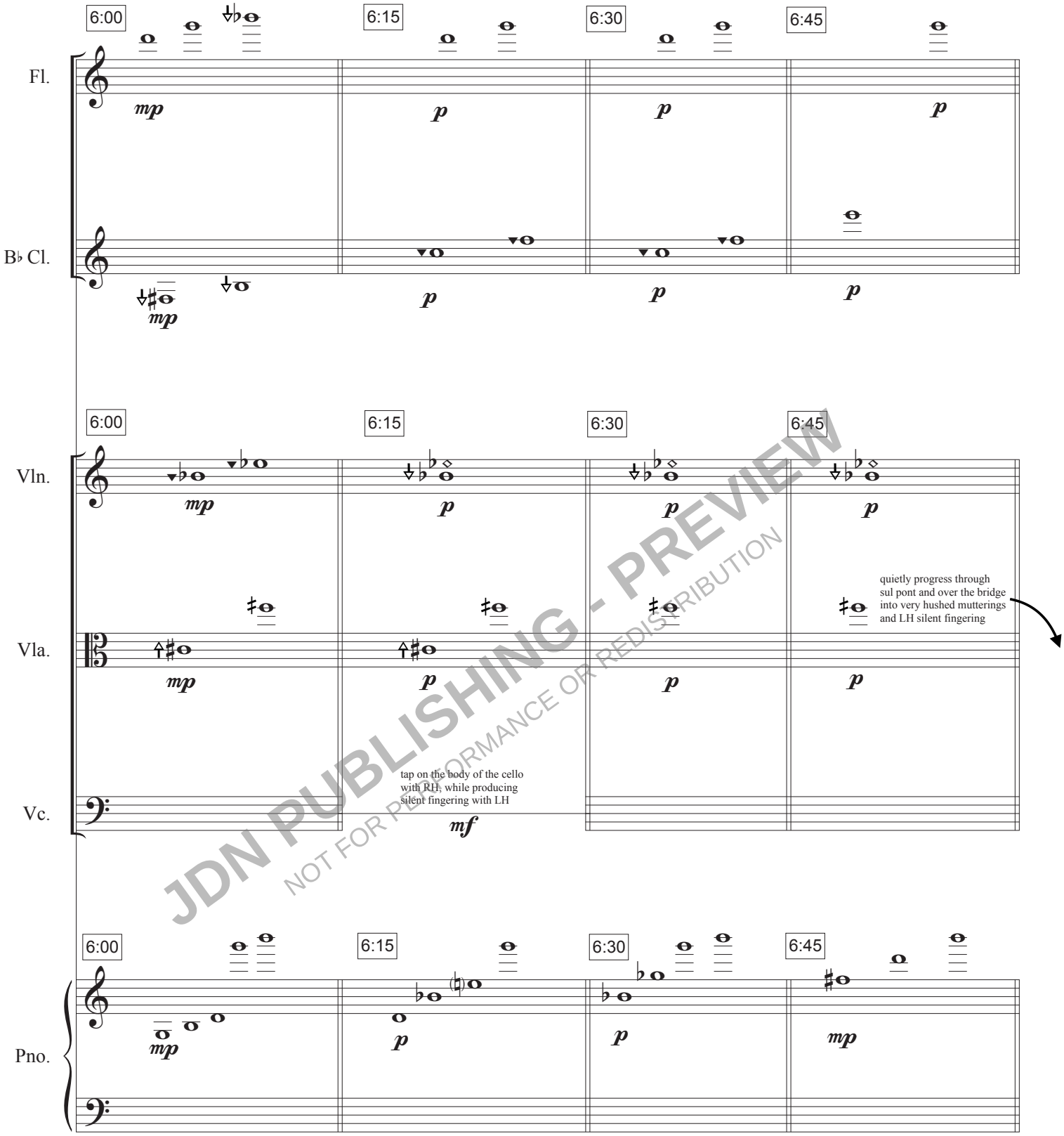

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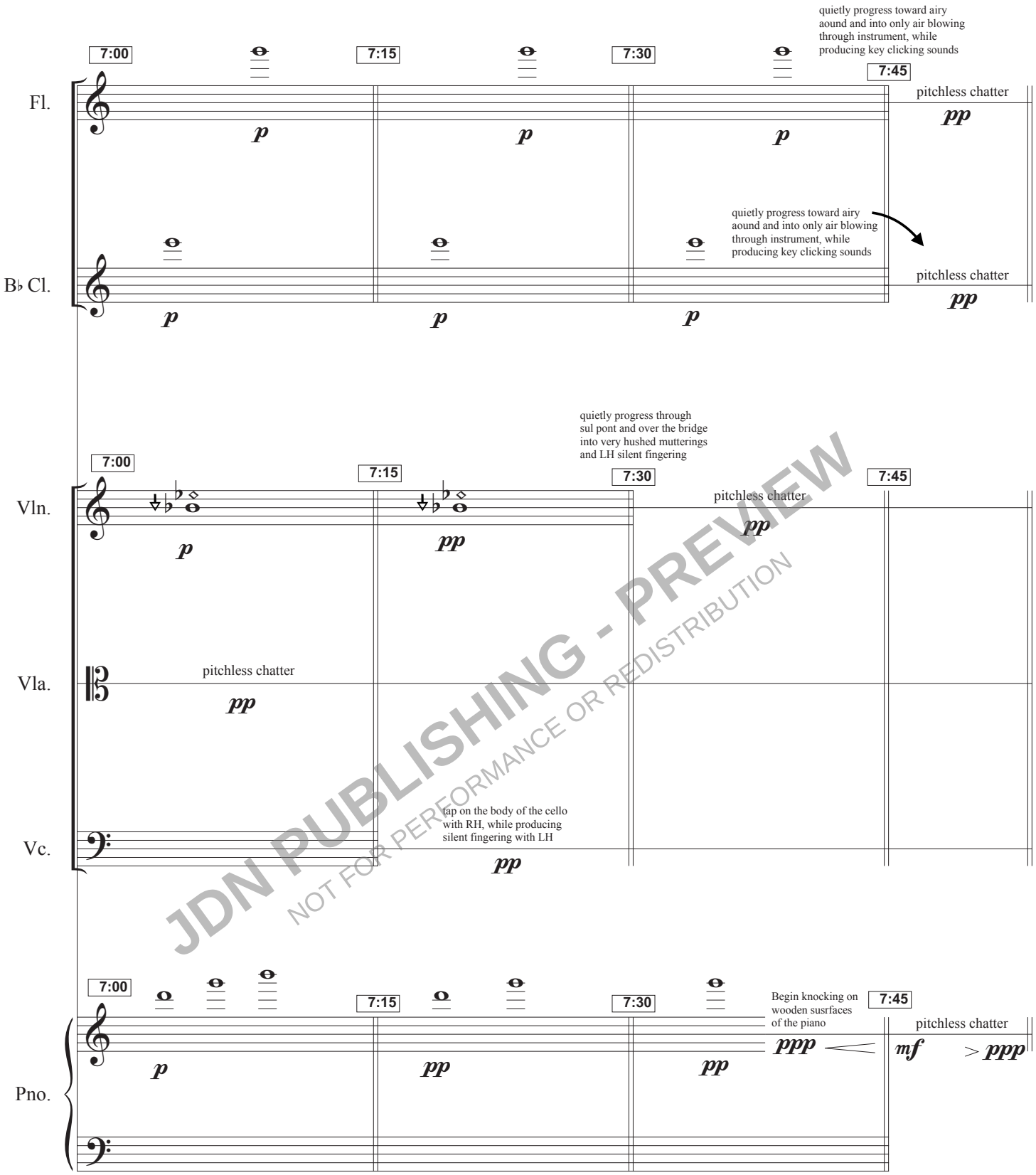

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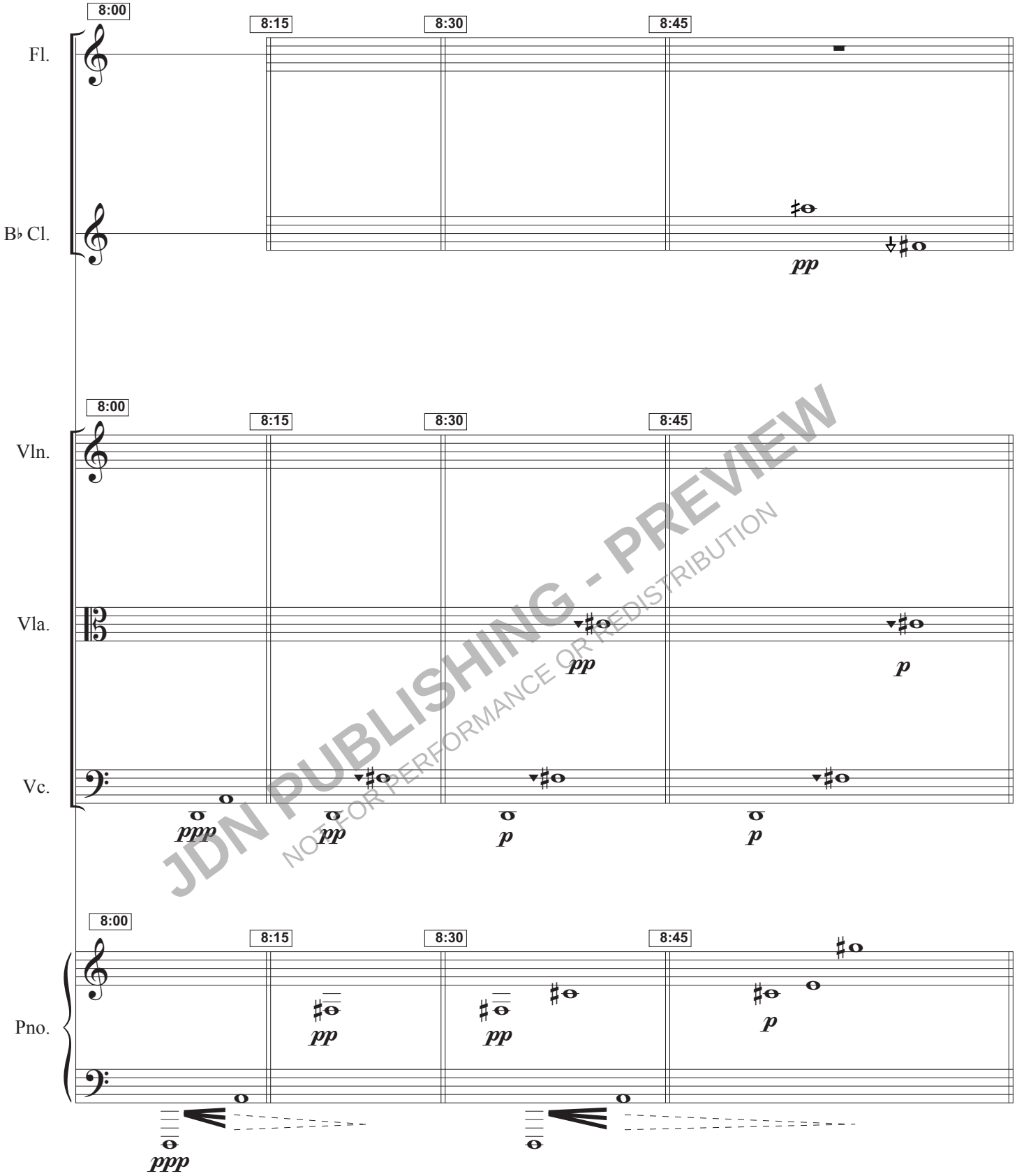

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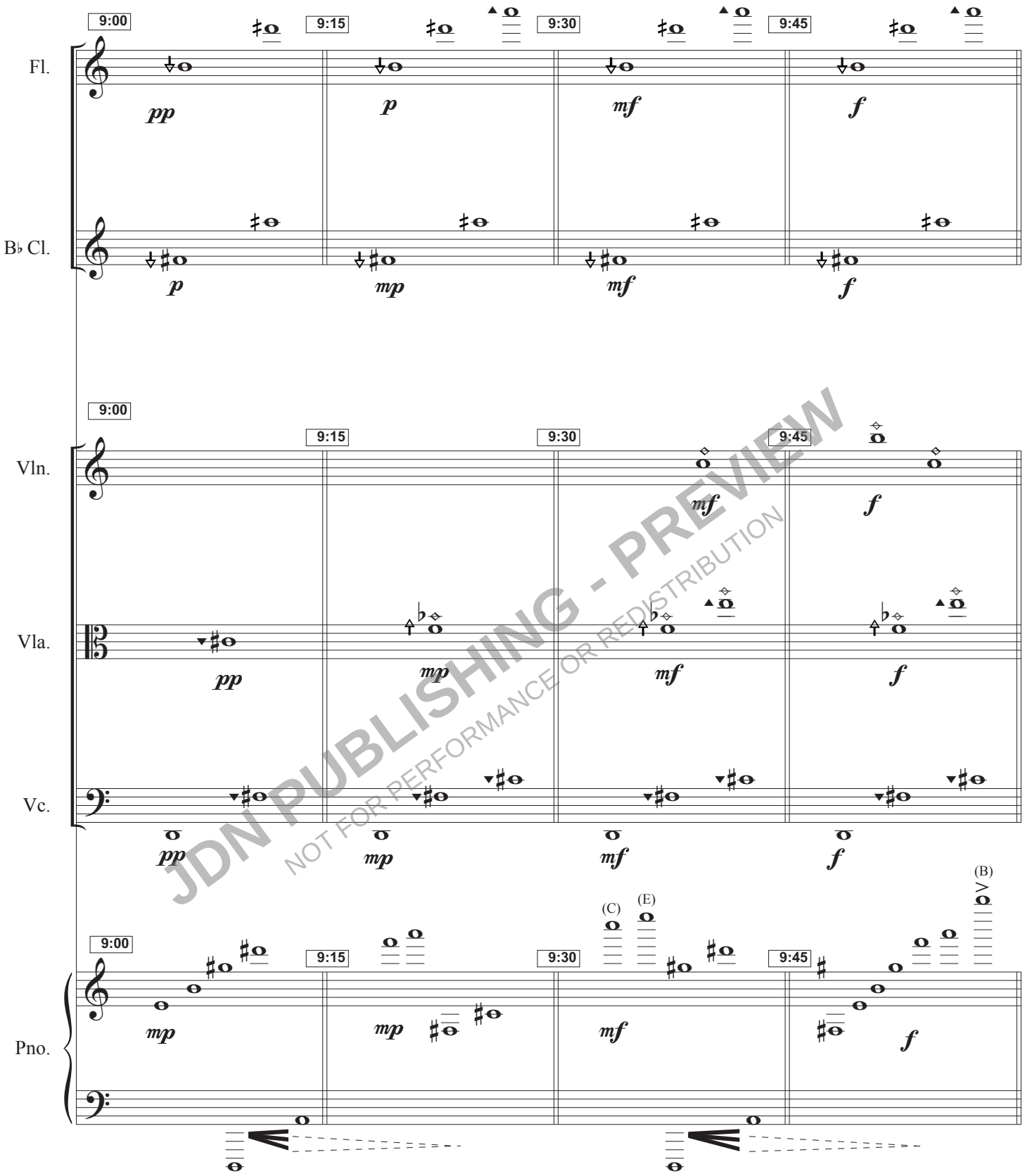

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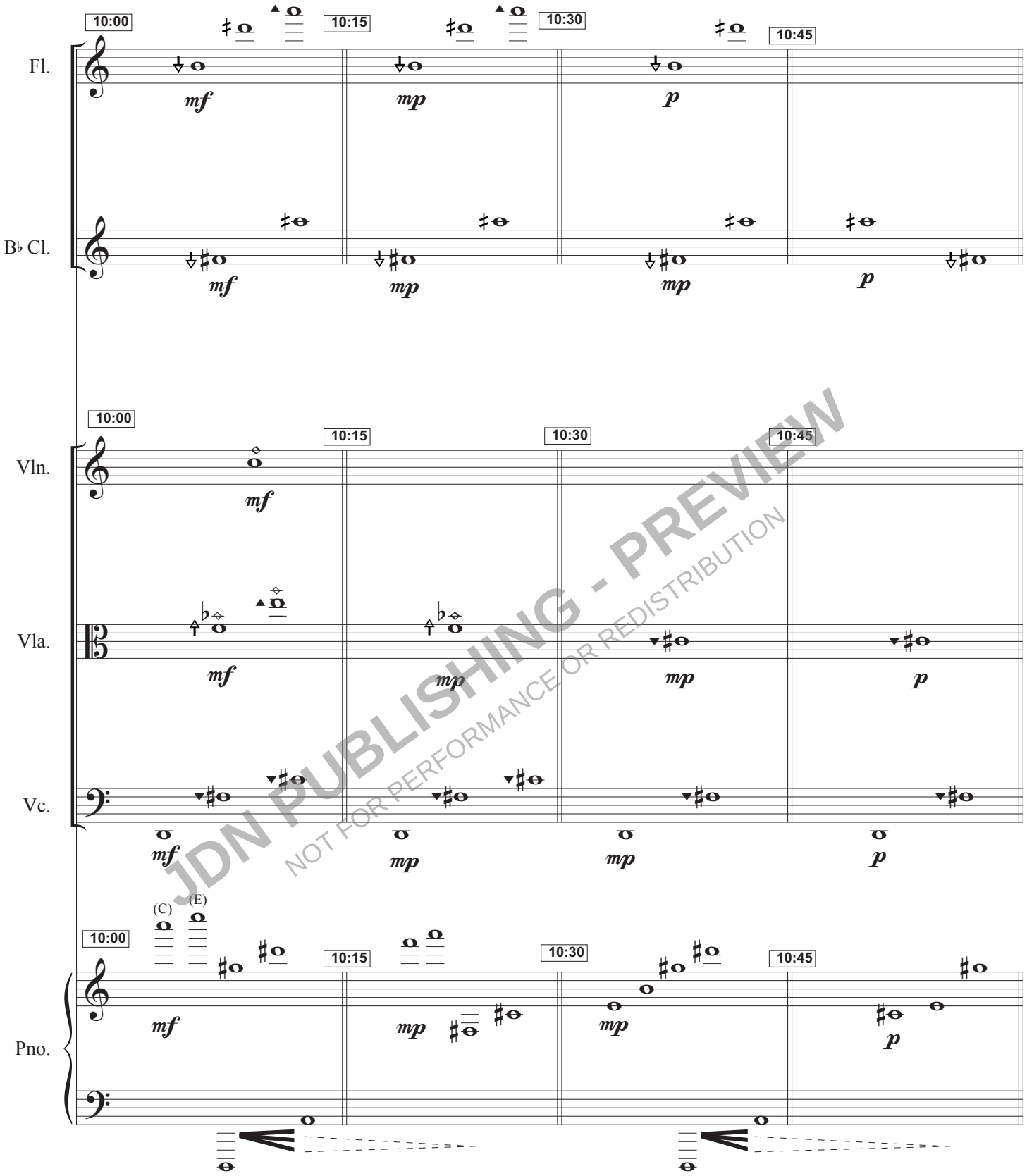

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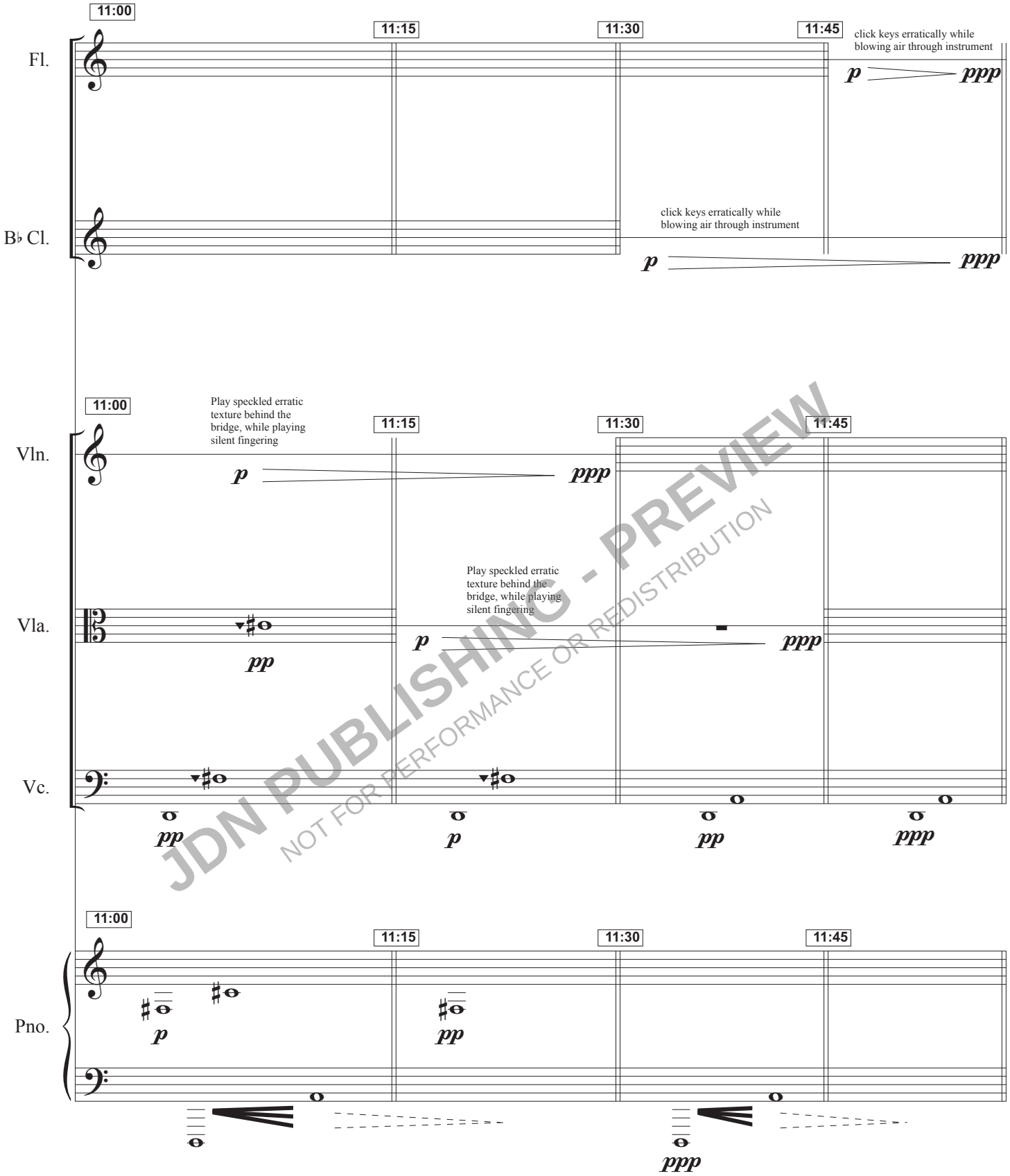

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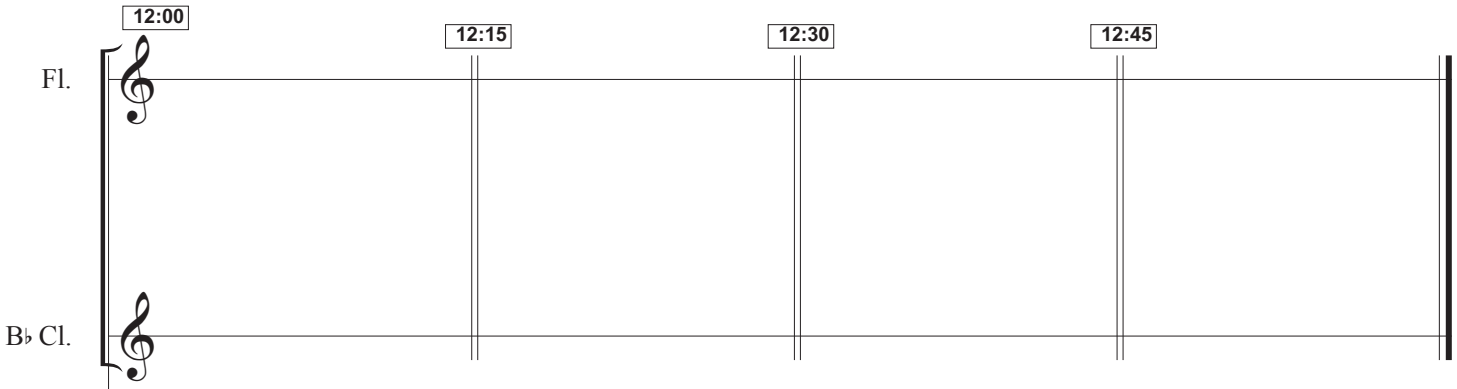
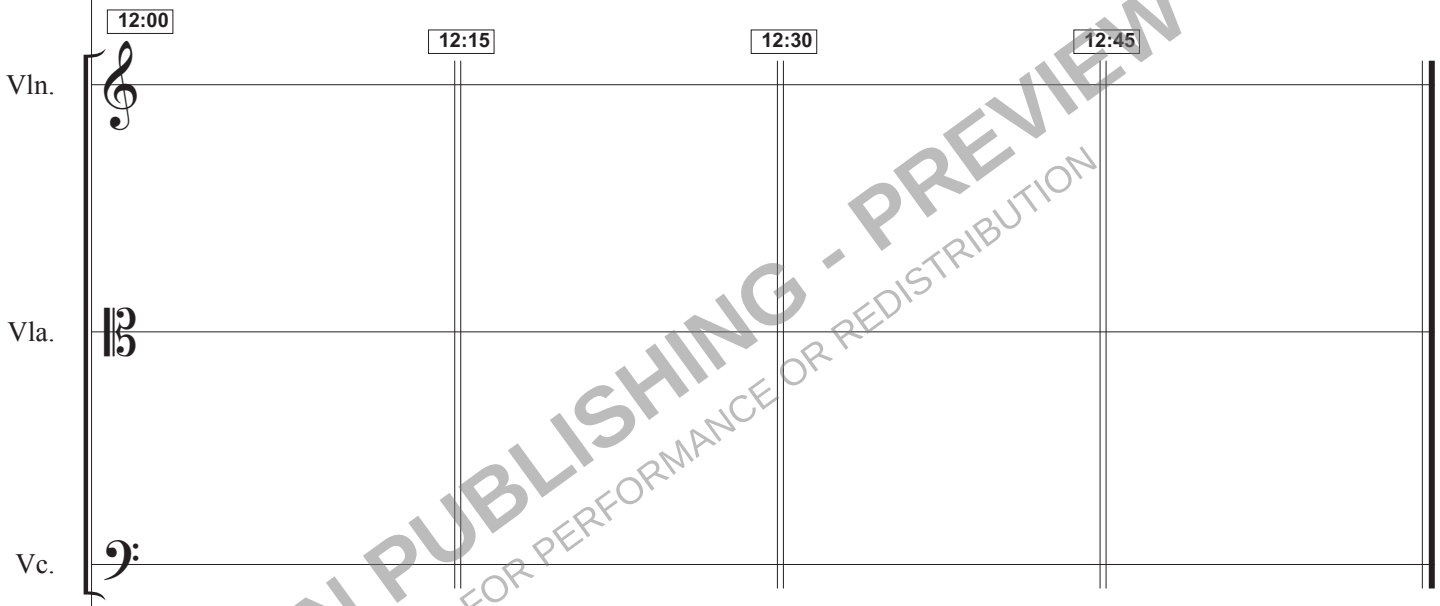


Electronics process will play out for one minute, fading to nothing...



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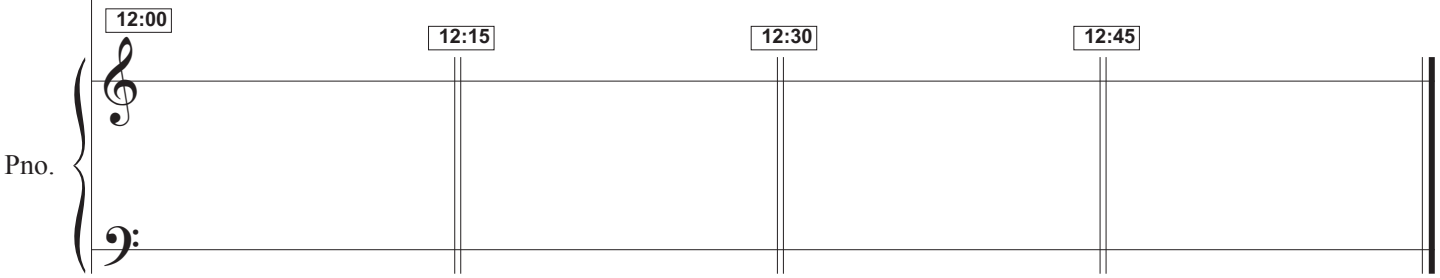

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