Linear Techniques

Linear Progressions and Prolongations

Melody and Harmony

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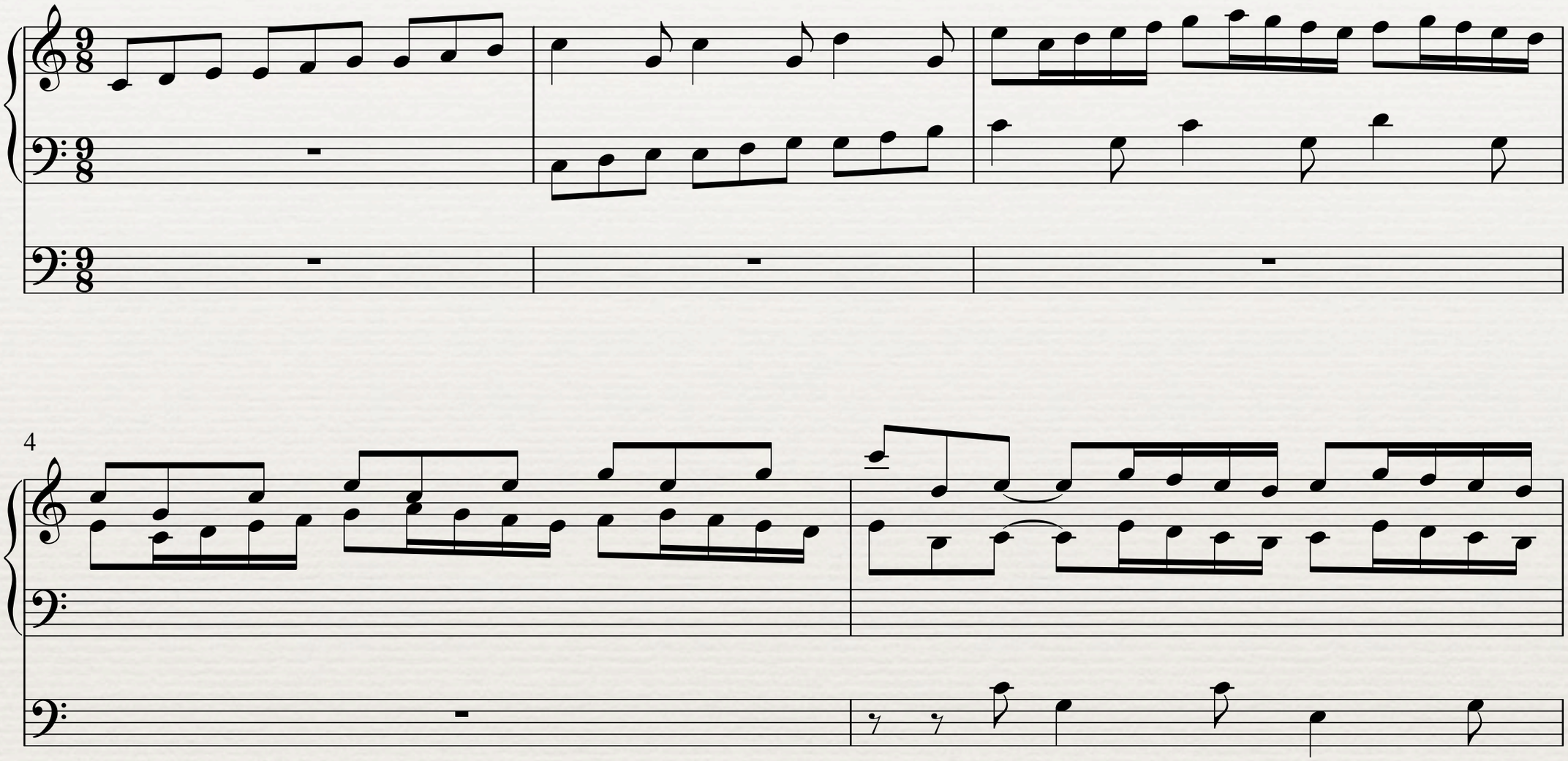
- The melodic and harmonic components of music are separate, but they are closely interrelated.
- How they work together is the topic of *linear progressions*.

Bach: Organ Prelude in C Major



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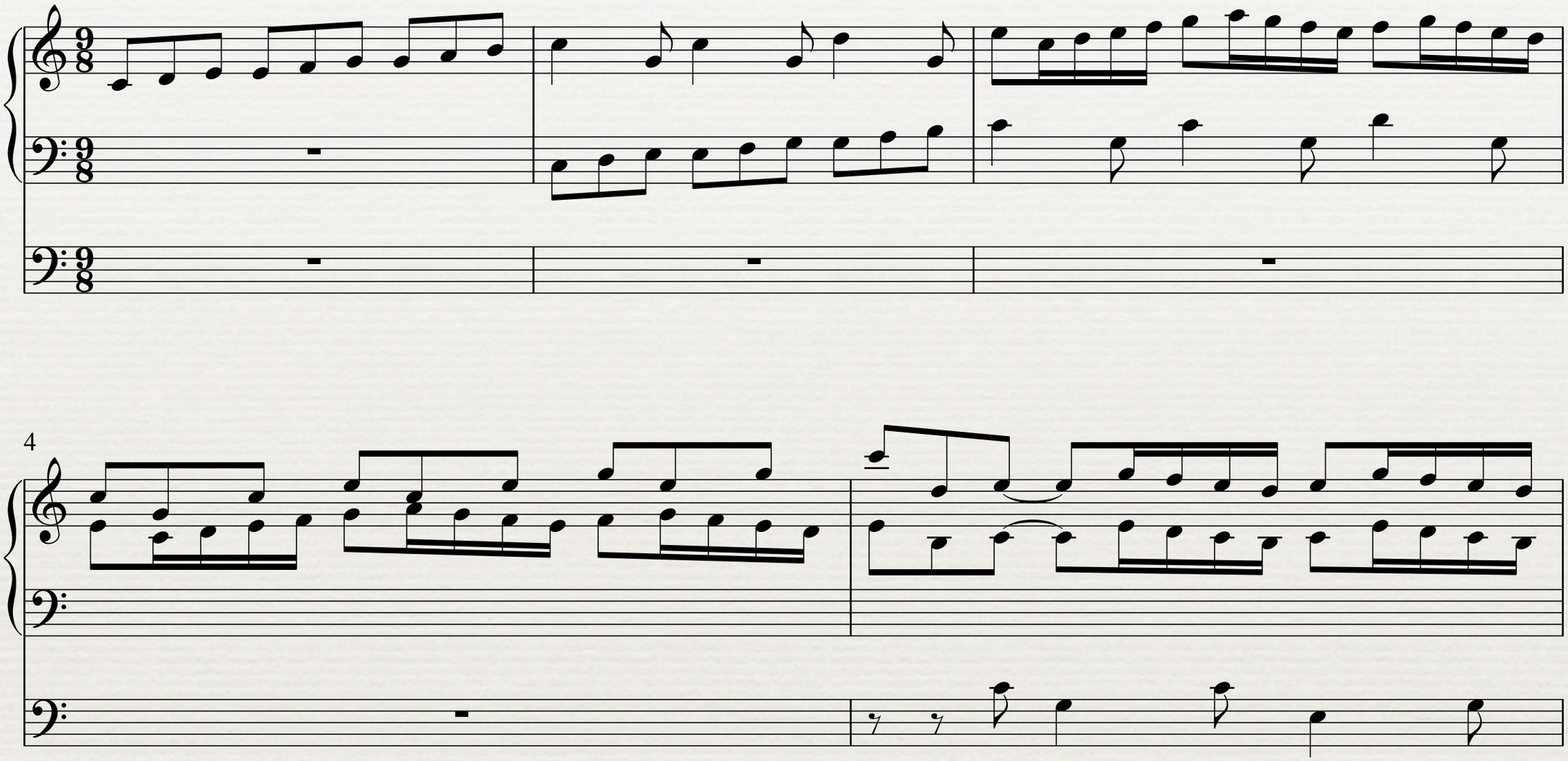

- The first measure outlines a C Major scale

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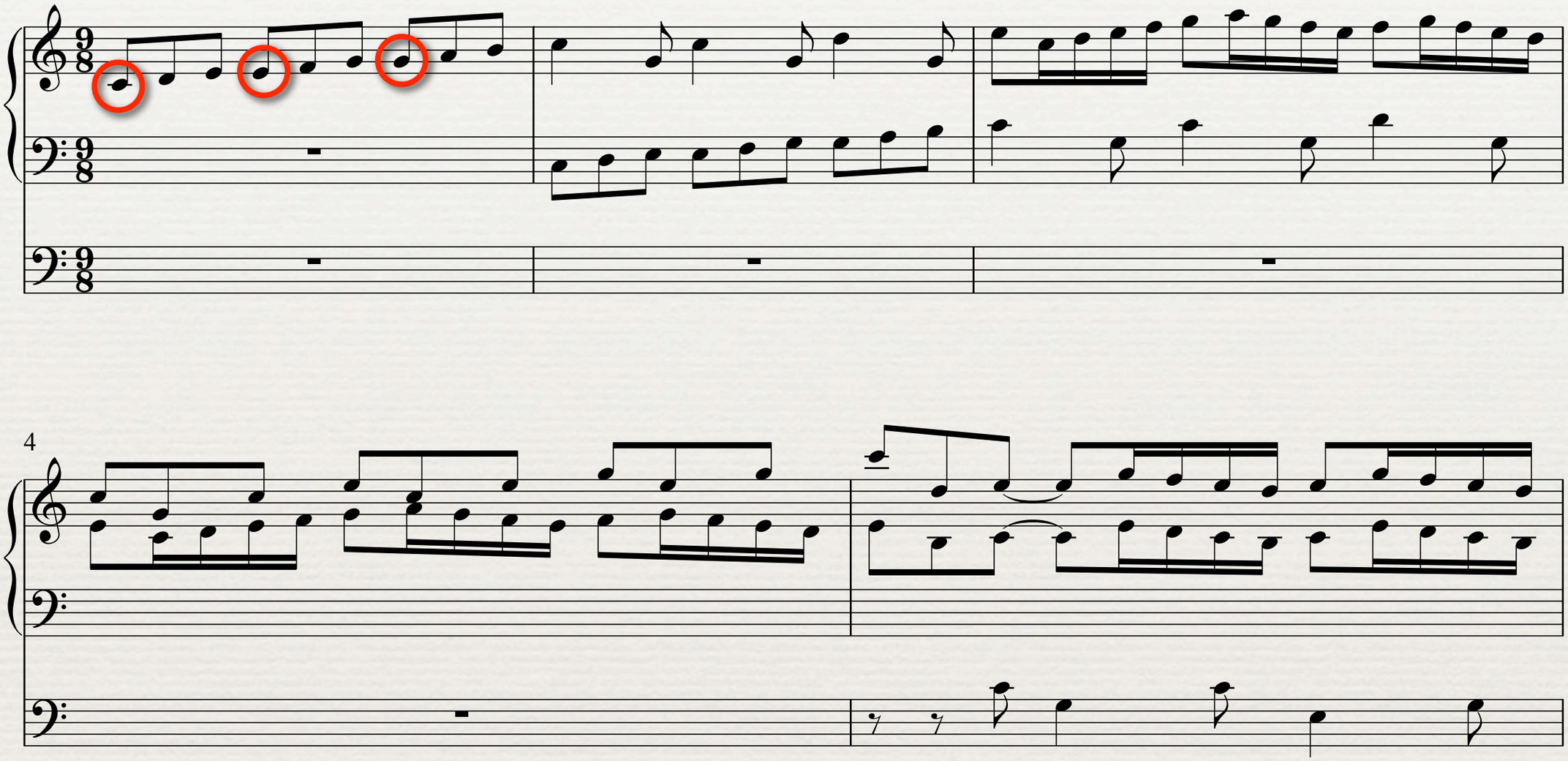

- The first measure outlines a C Major scale
- Bach's grouping of the pitches, and their metric placement, leads us to hearing the notes outlining the tonic triad more prominently than the others.

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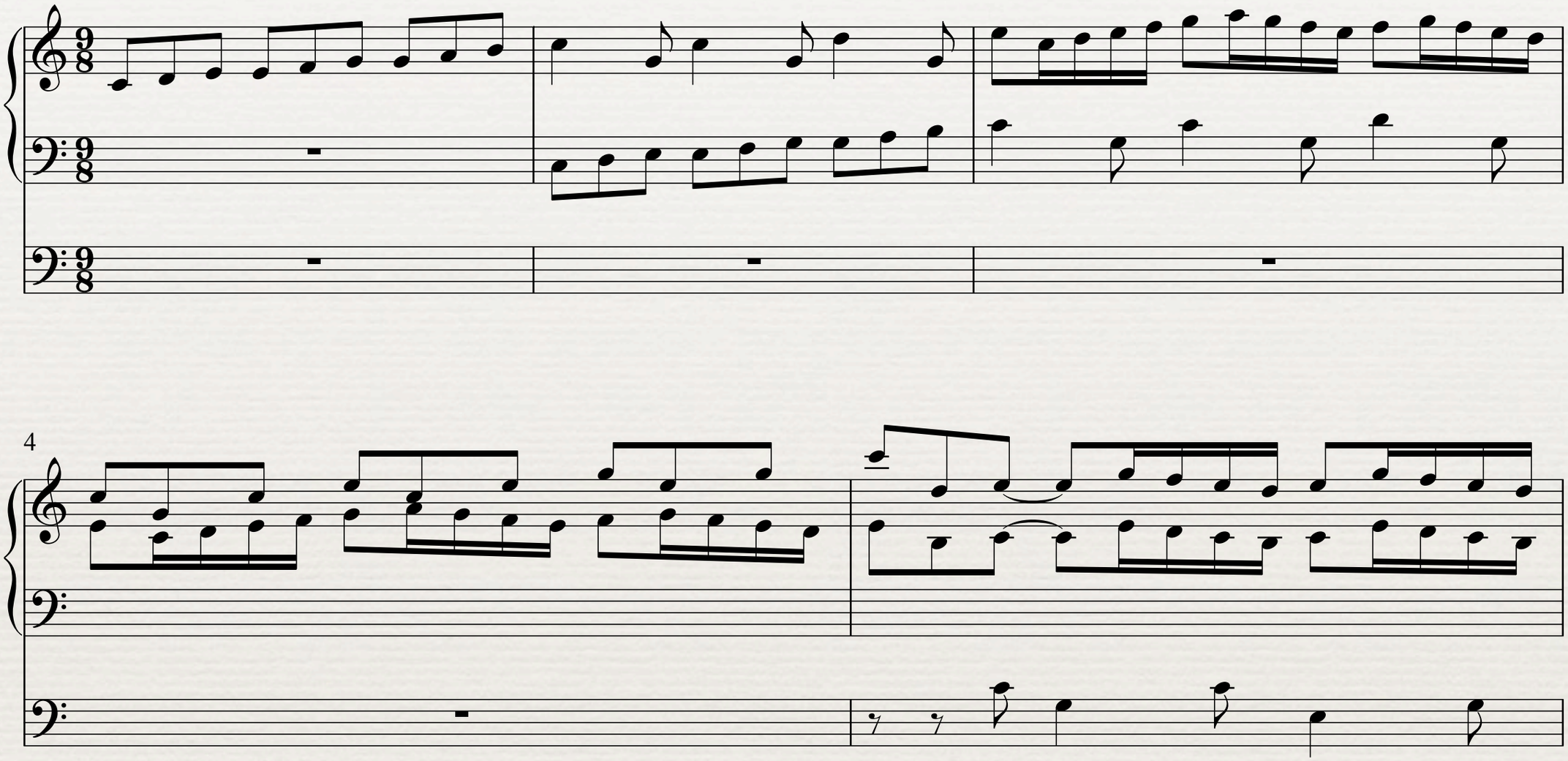

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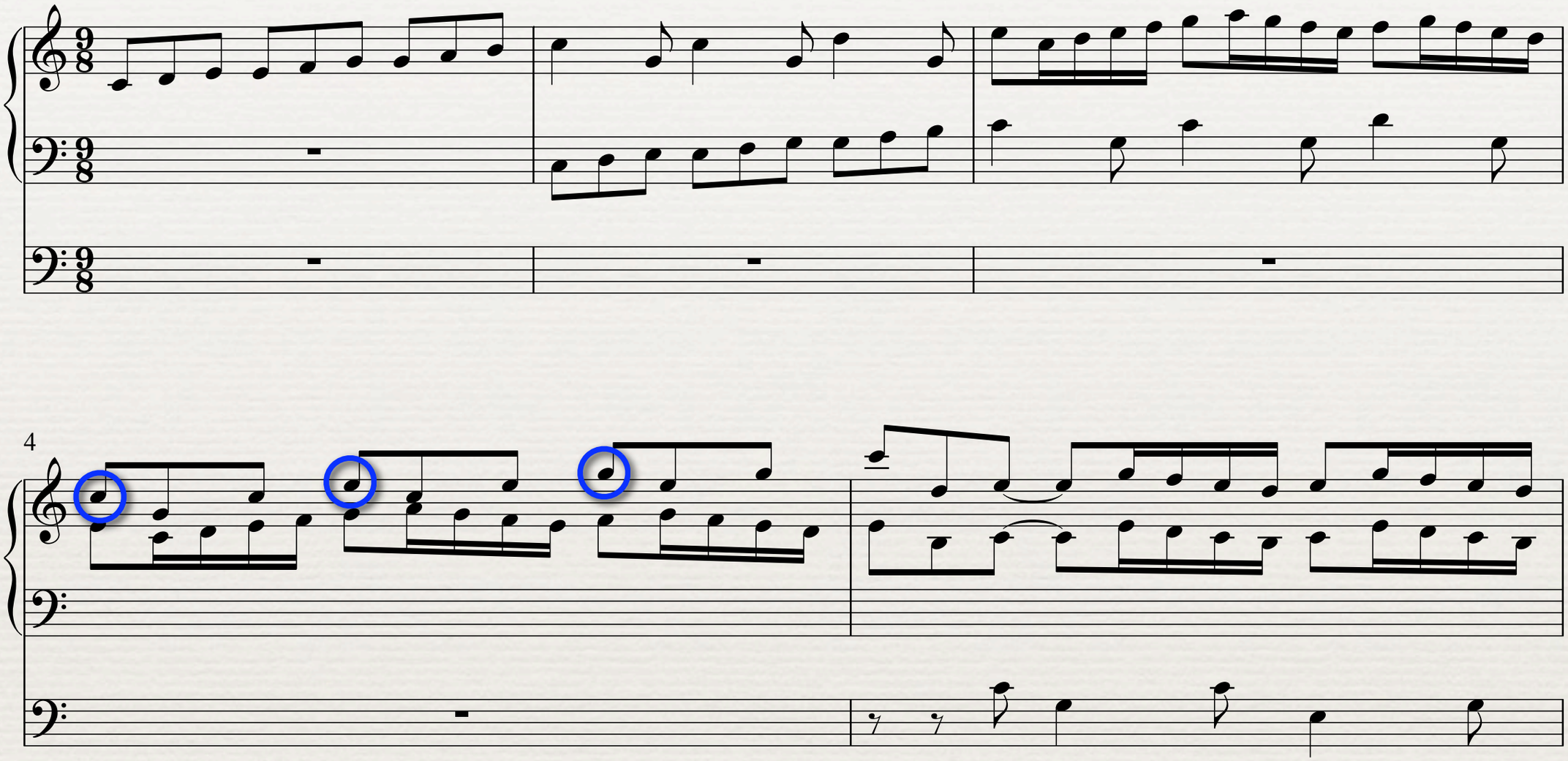

- Bar 4's upper voice also outlines the tonic triad.

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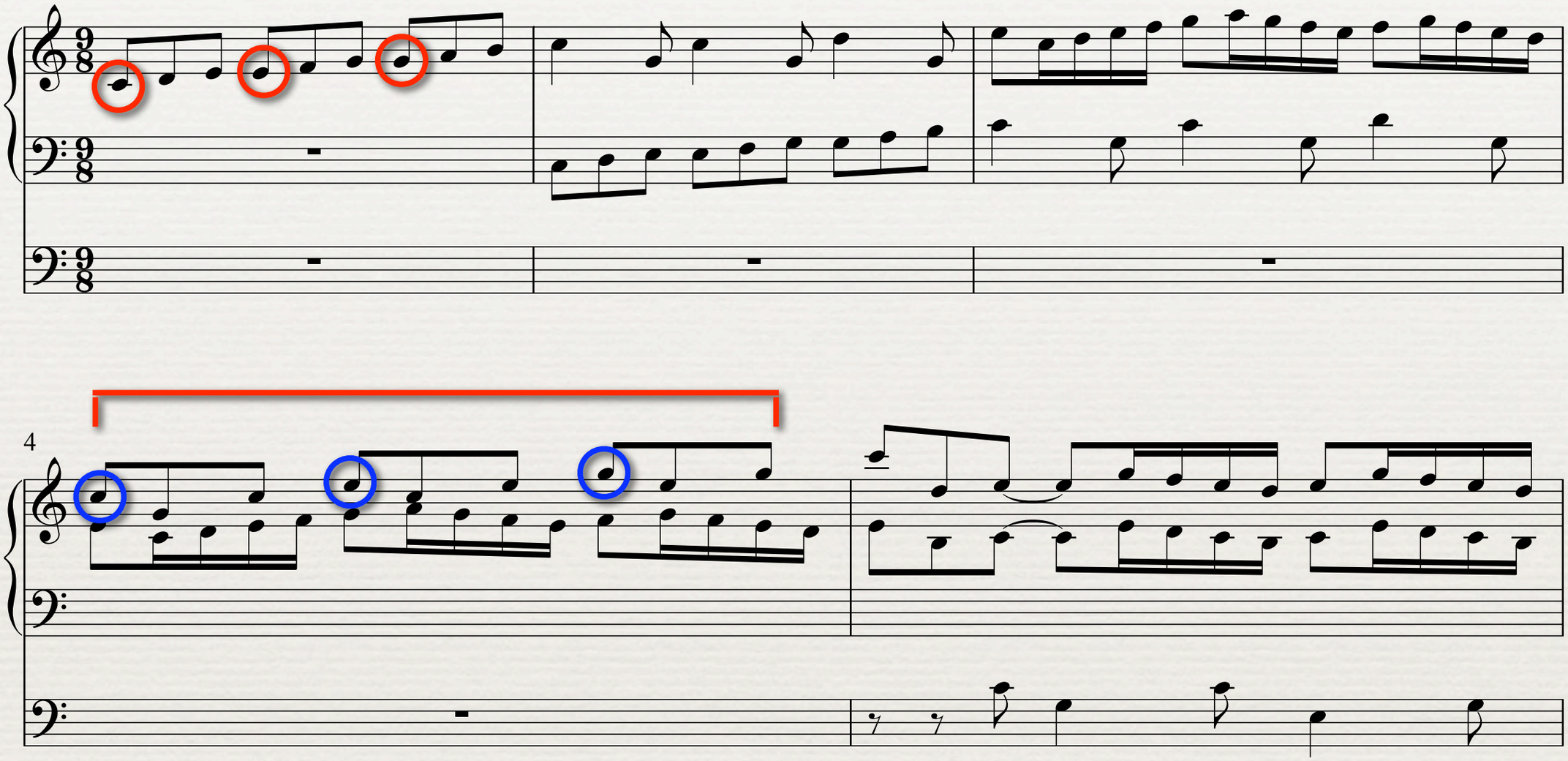

- Bar 4's upper voice also outlines the tonic triad.
- In fact, bar 4 is really a variation of bar 1, transposed up an octave

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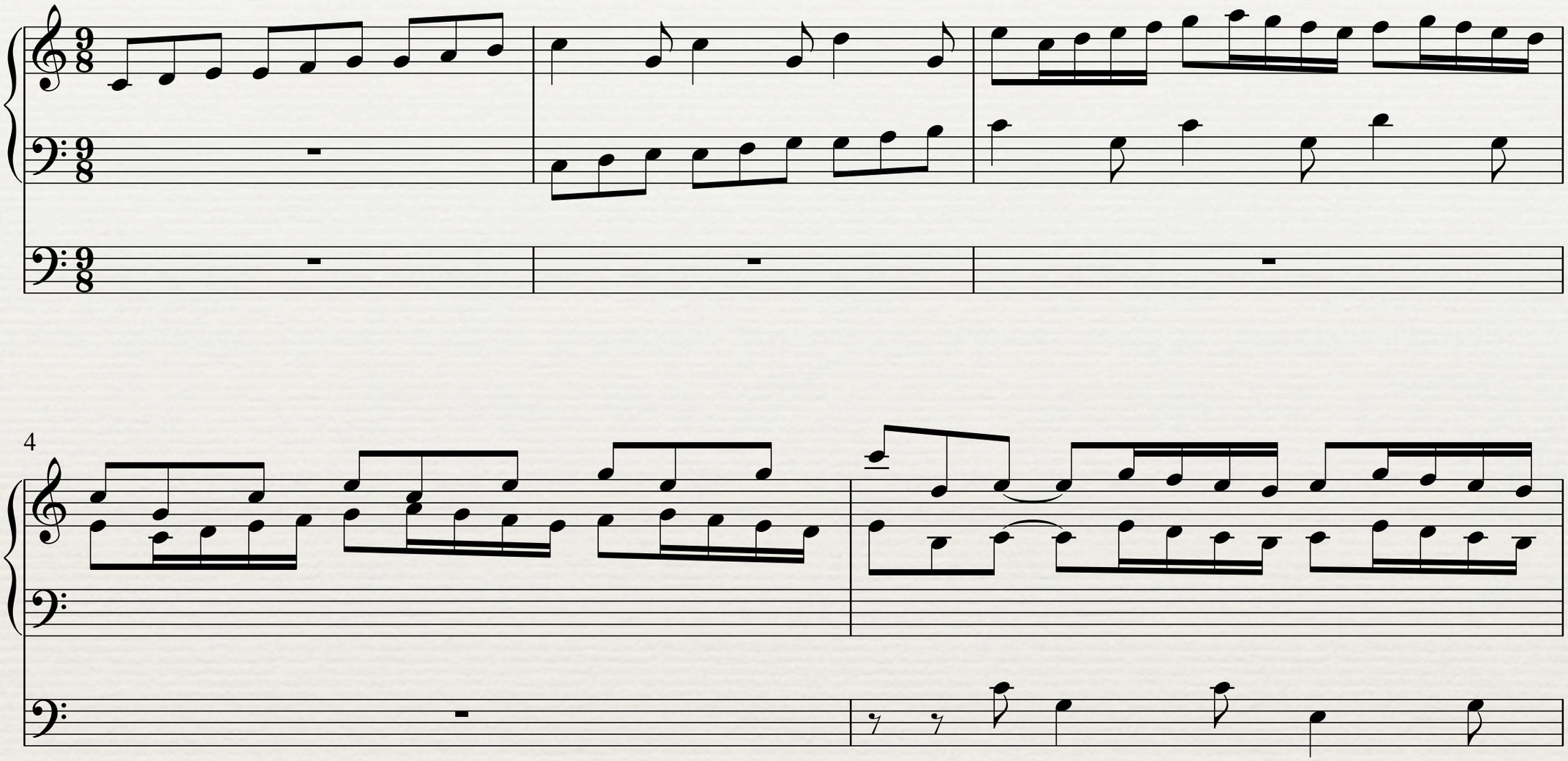

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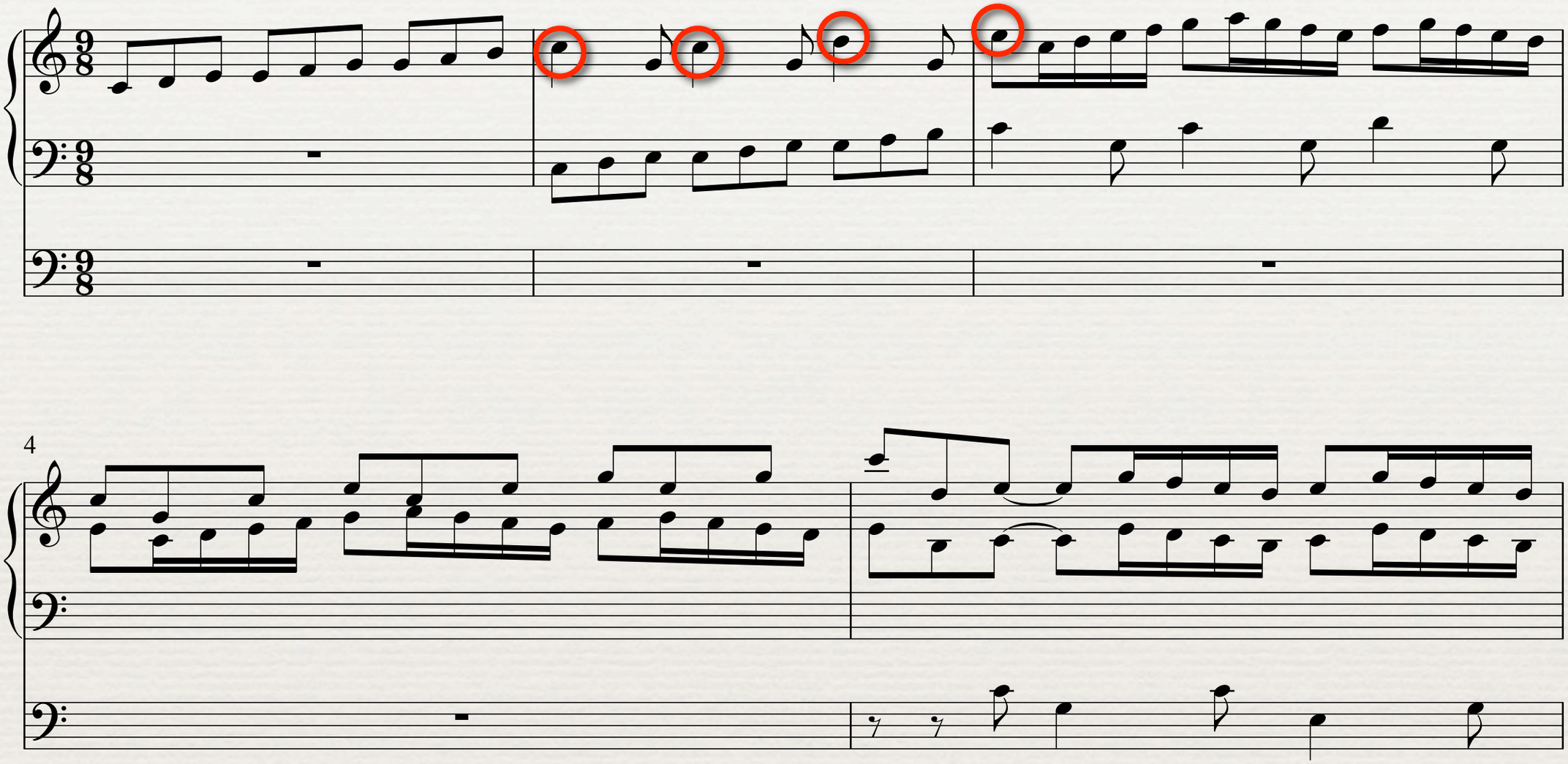
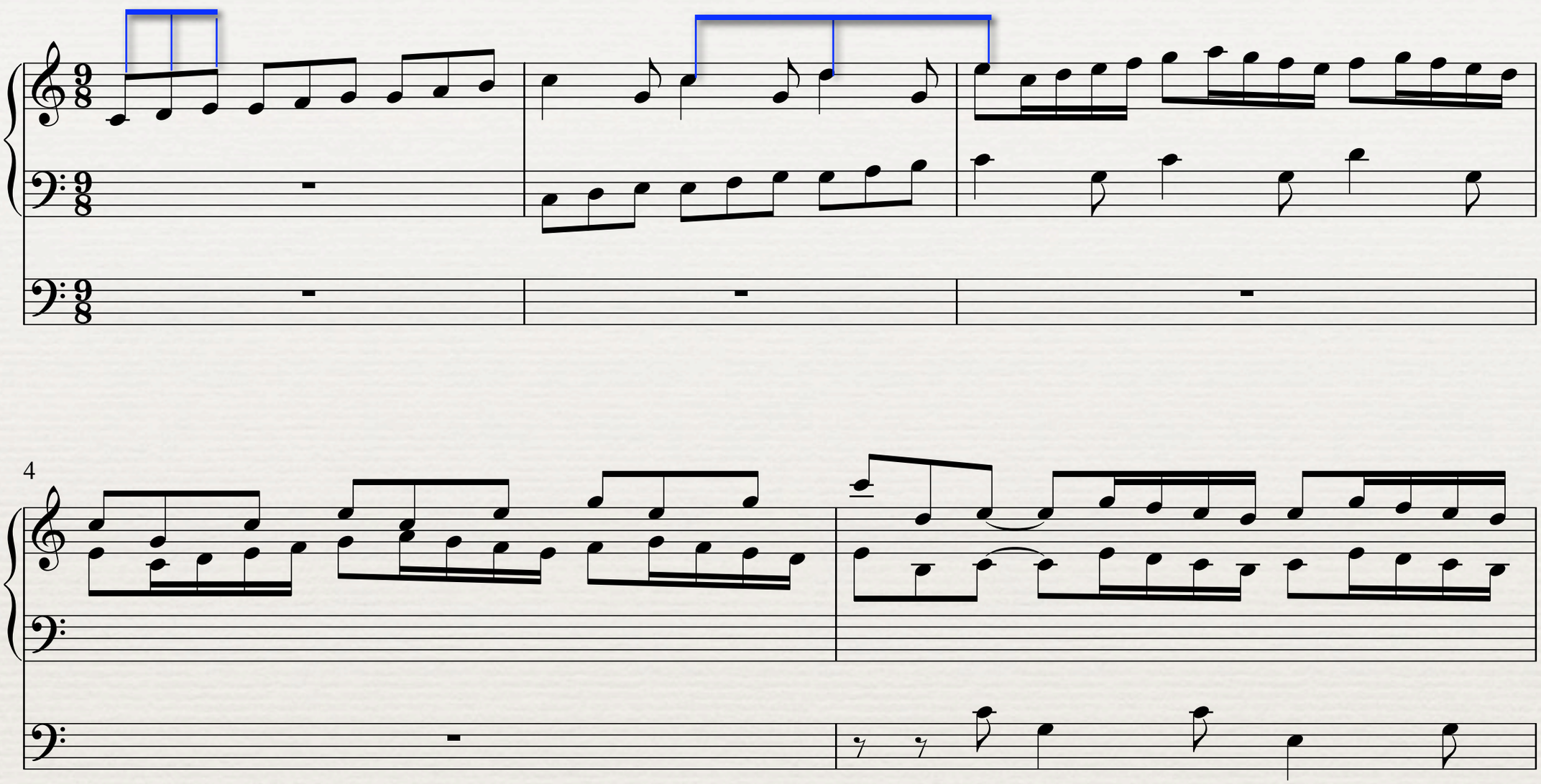


- In bar 2, connecting the notes on the beats (as opposed to the afterbeats) reveals a stepwise line

Bach: Organ Prelude in C Major



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- This stepwise line from beat 2 to the downbeat of beat 1 of the next measure, is an augmented version of the first three notes

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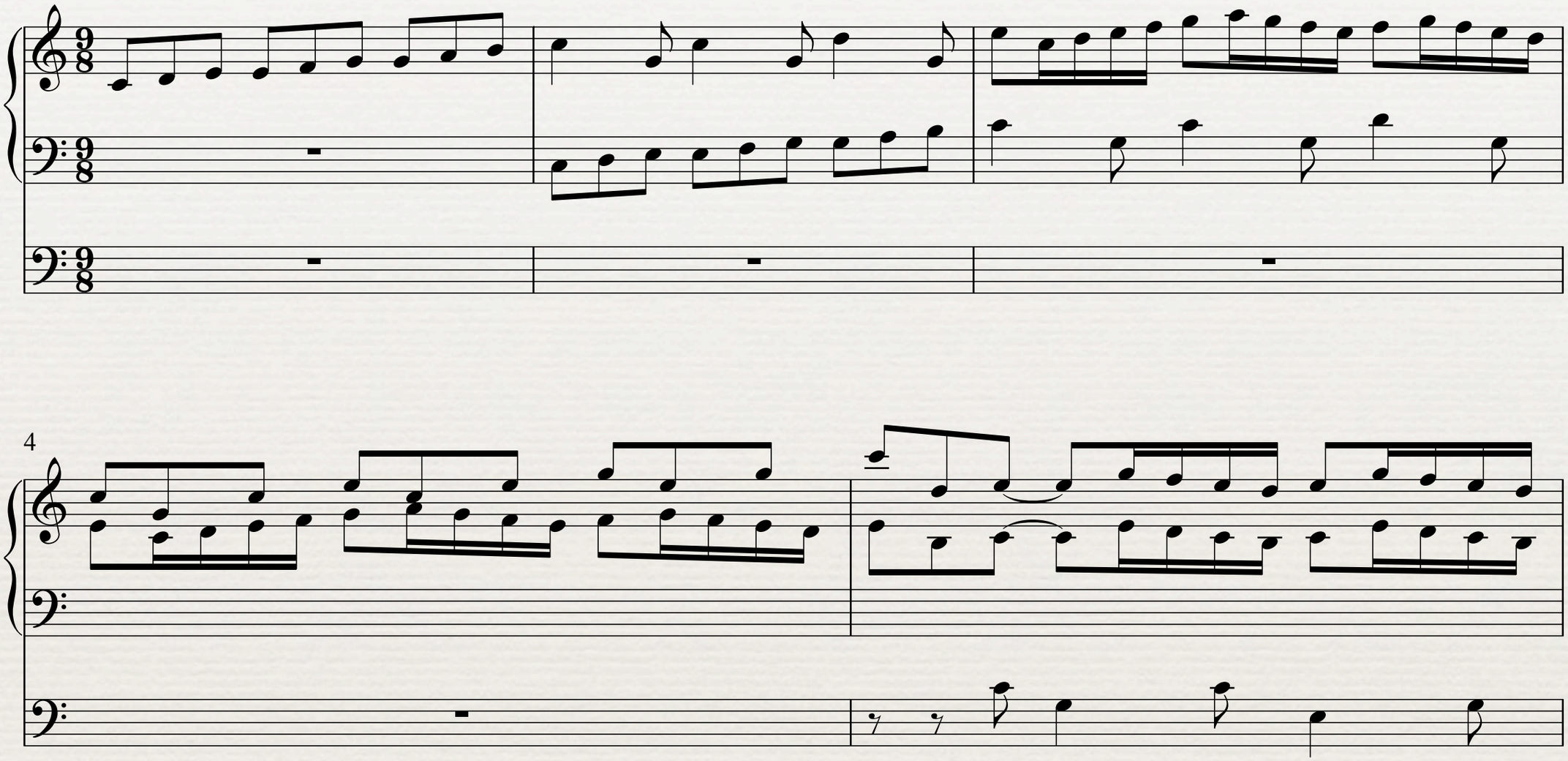

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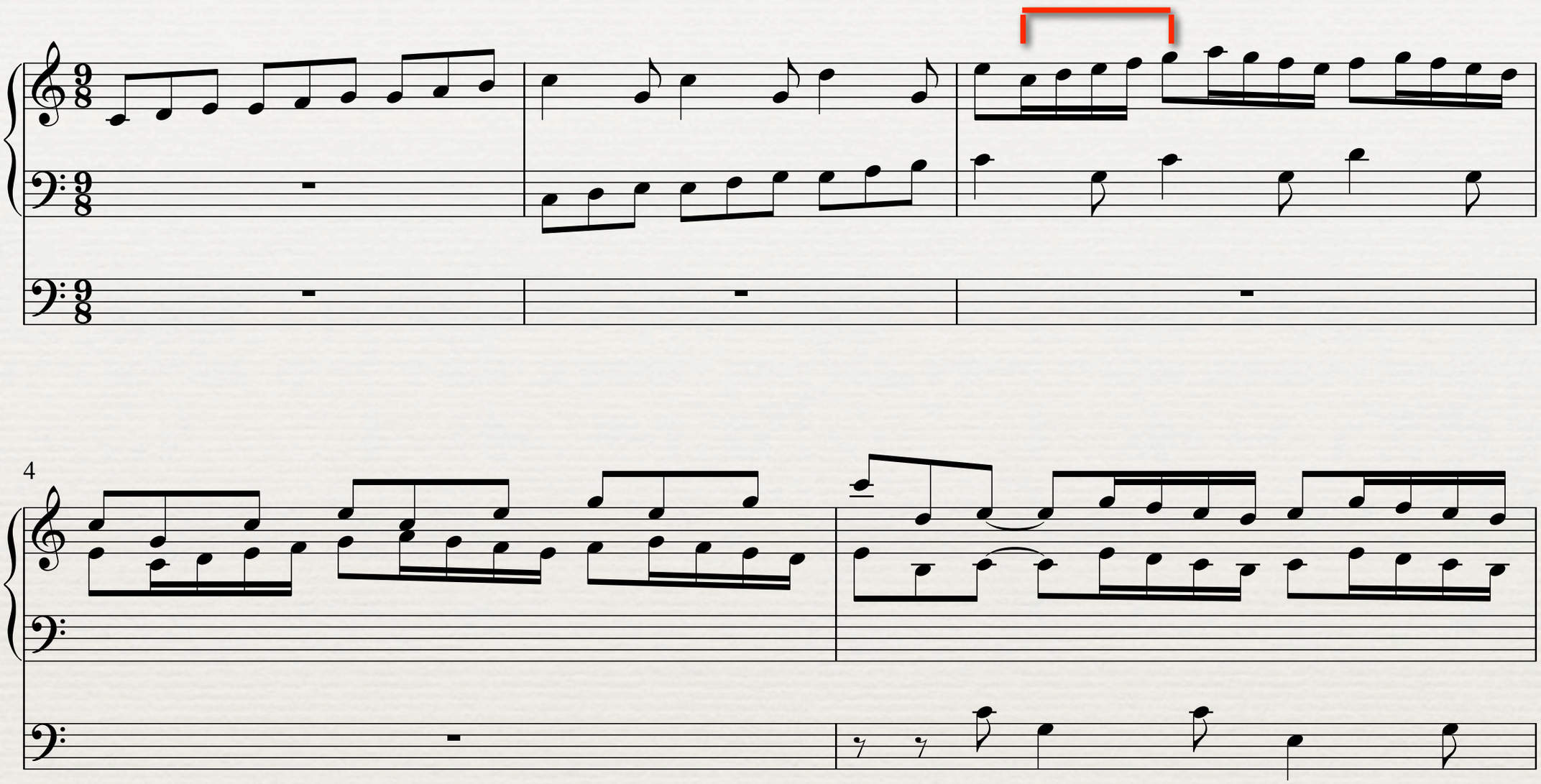

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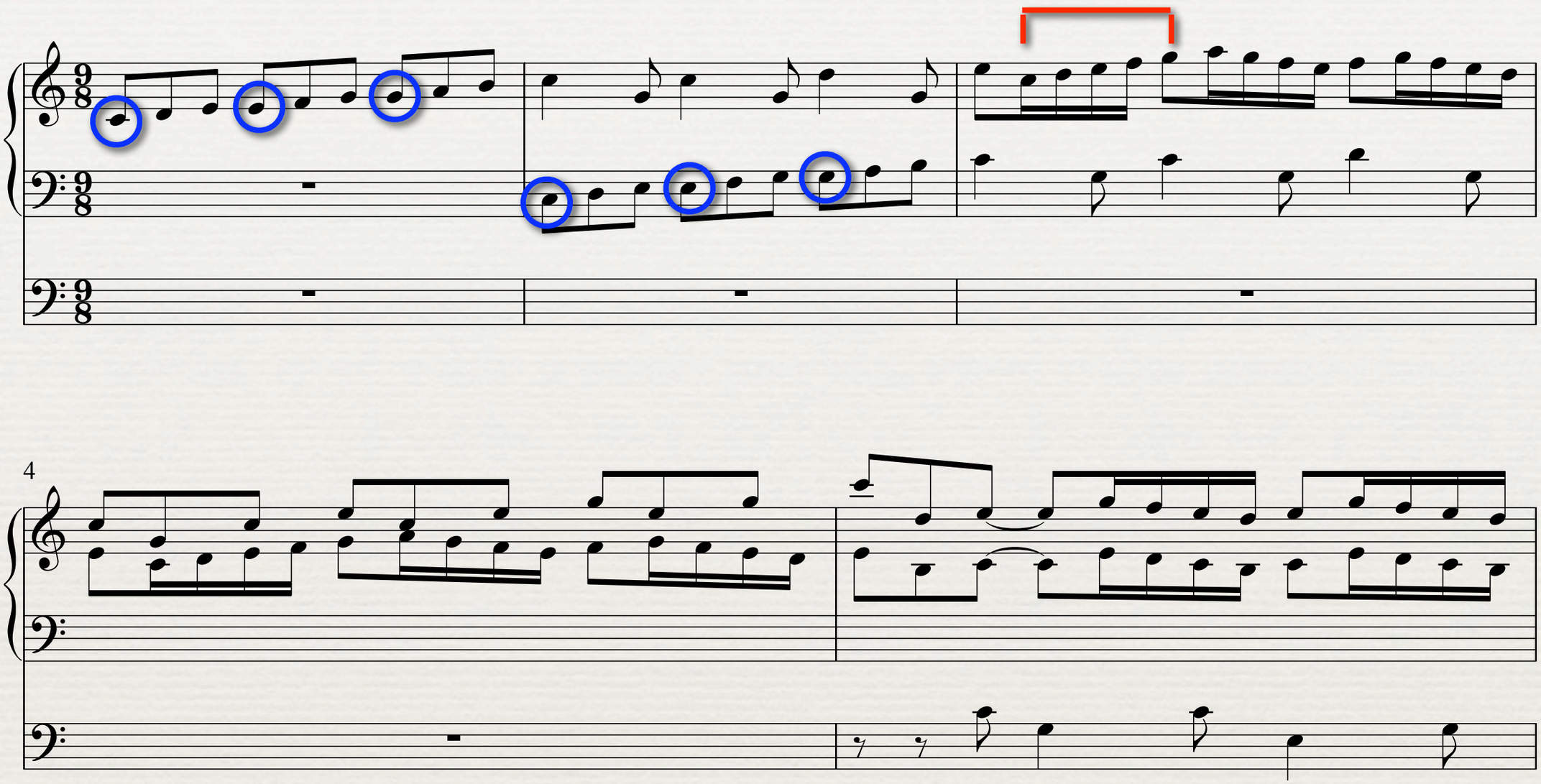

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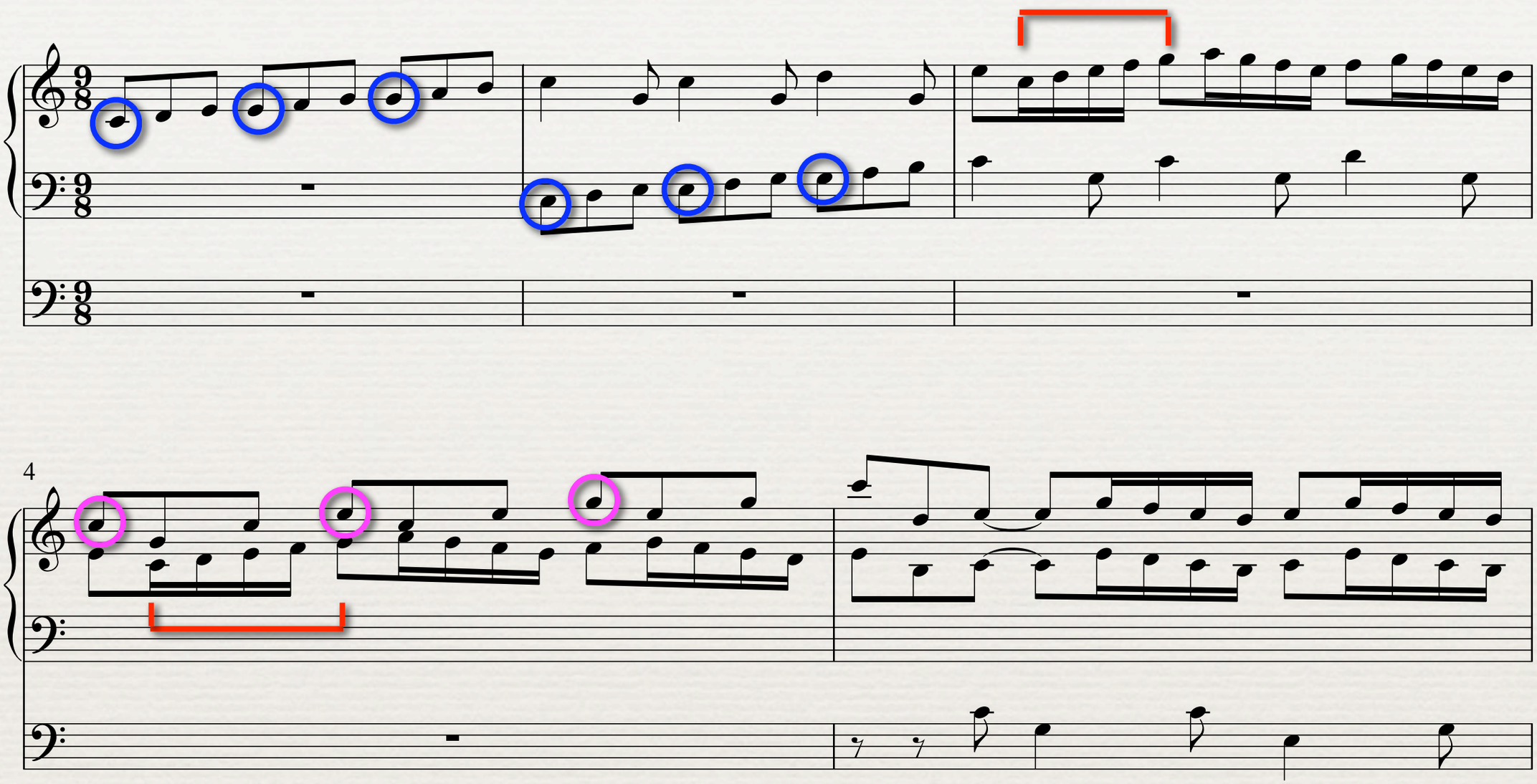
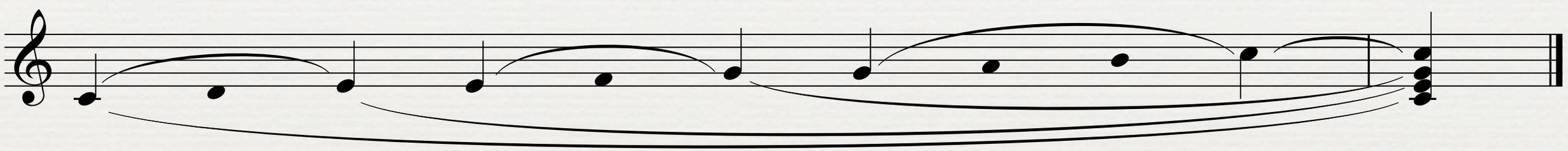


- In bar 3, the tonic triad is again outlined—this time from ^1 to ^5, and including all passing tones
- This helps to refer back to both bars 1 and 2
- As well as connect to the bar 4, which contains a canonic copy of the figure

Tonic Triad and Octaves



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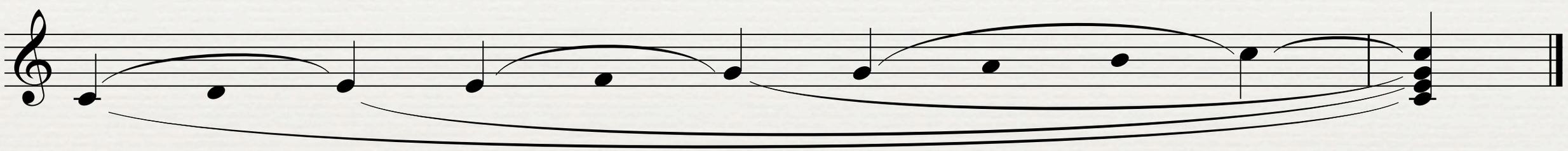

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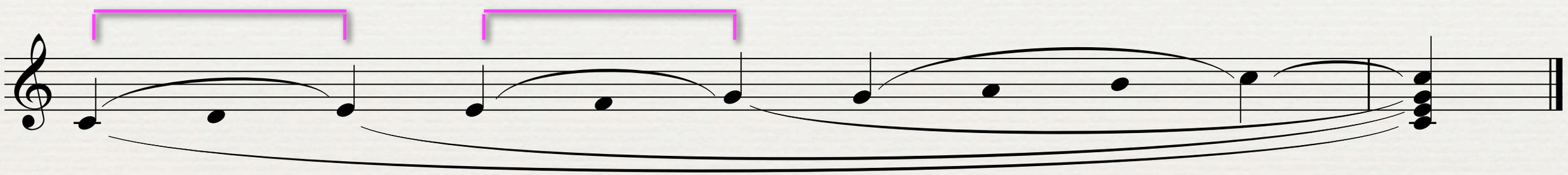

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  - Two instances of thirds

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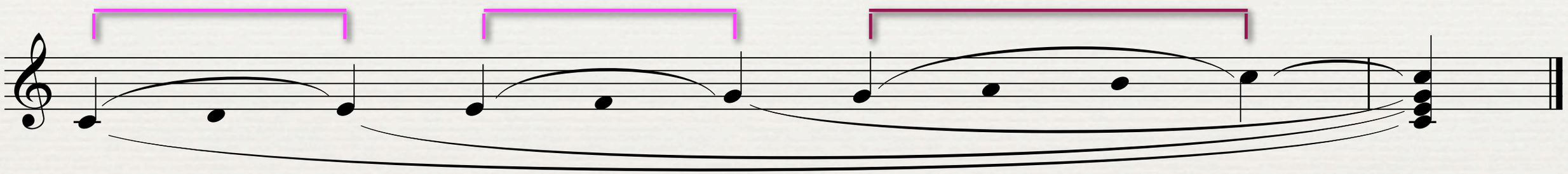

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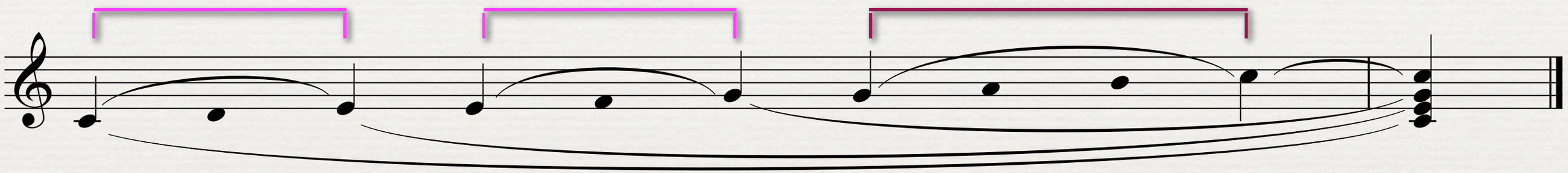

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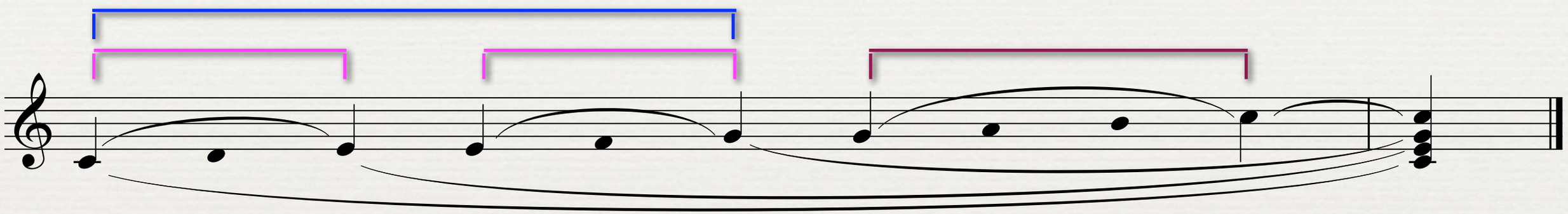

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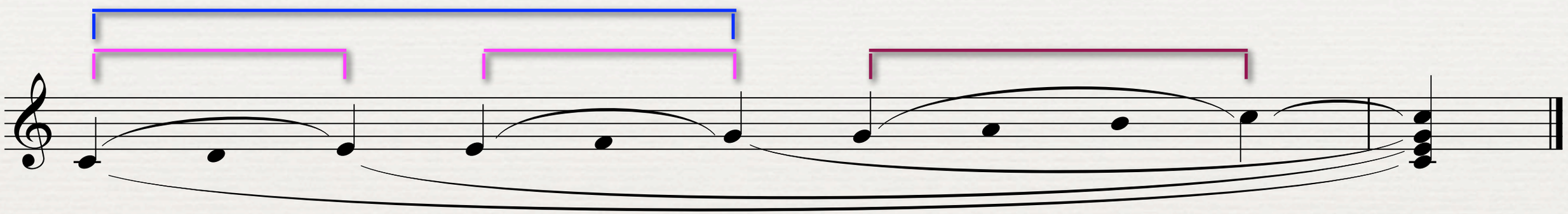

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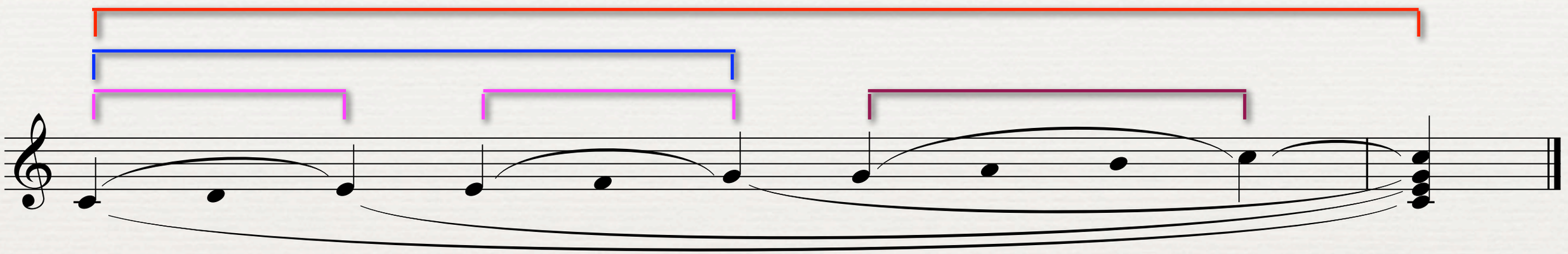

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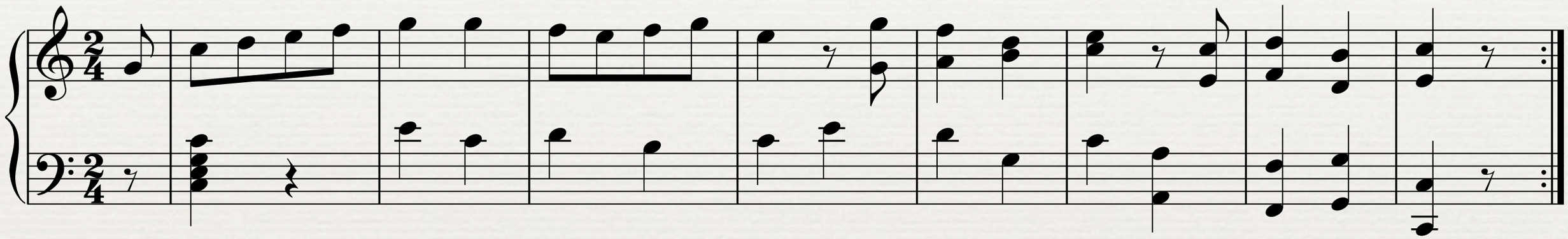
Mozart: "Lison dormait", K. 264



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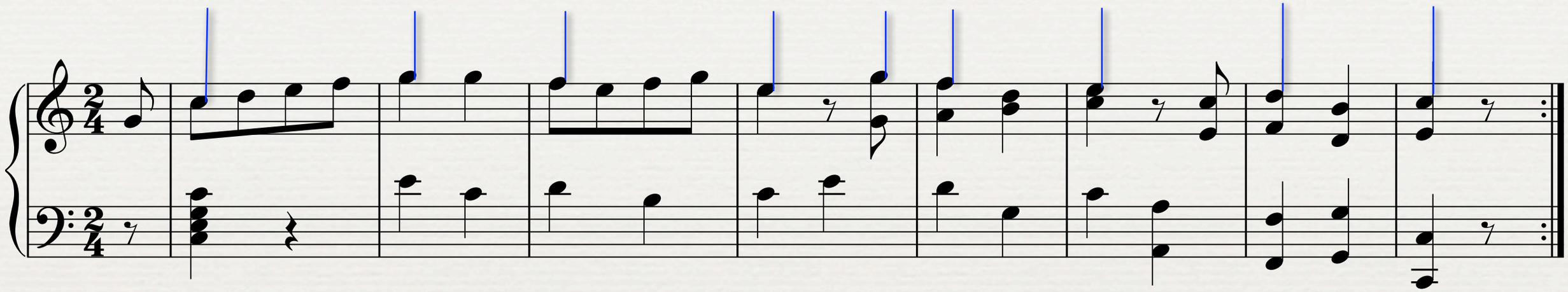

- Begin by identifying the primary melodic tones (extra stems are added)

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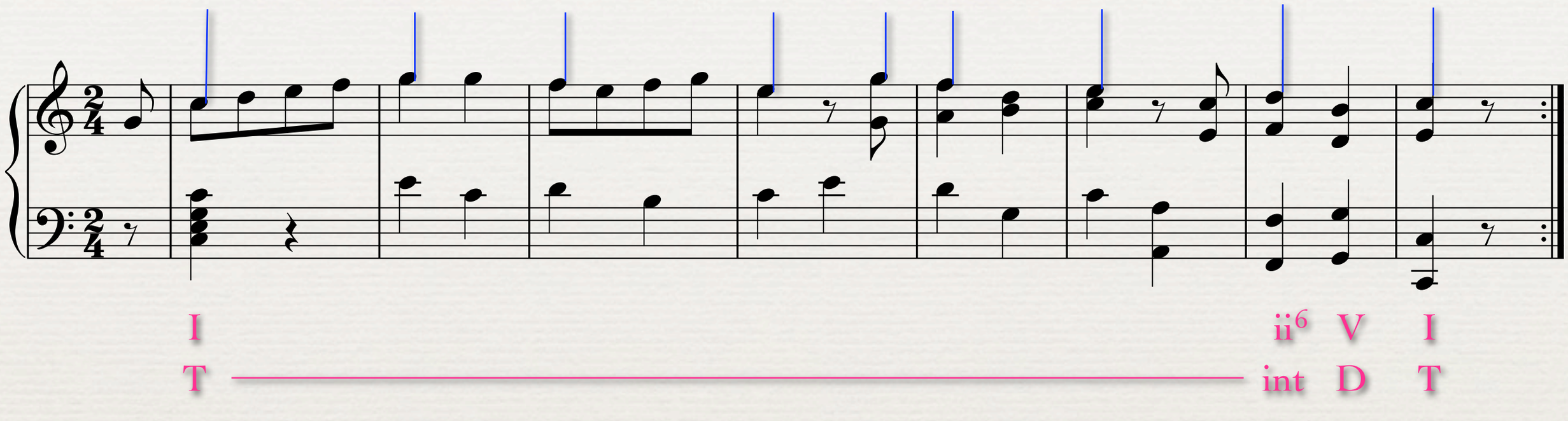

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- Go through the harmony and identify T, int, and D

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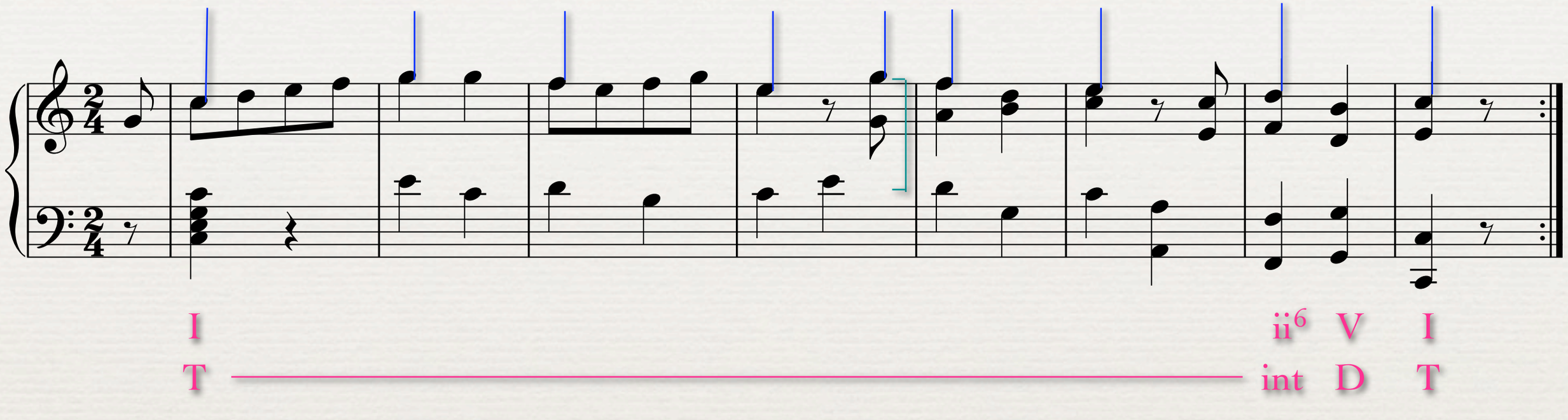

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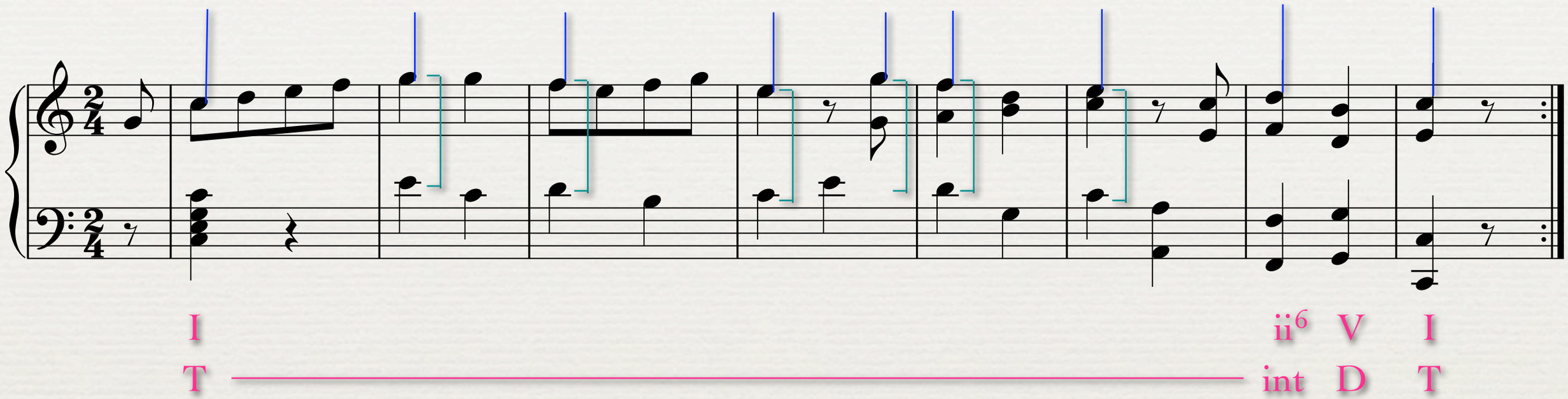

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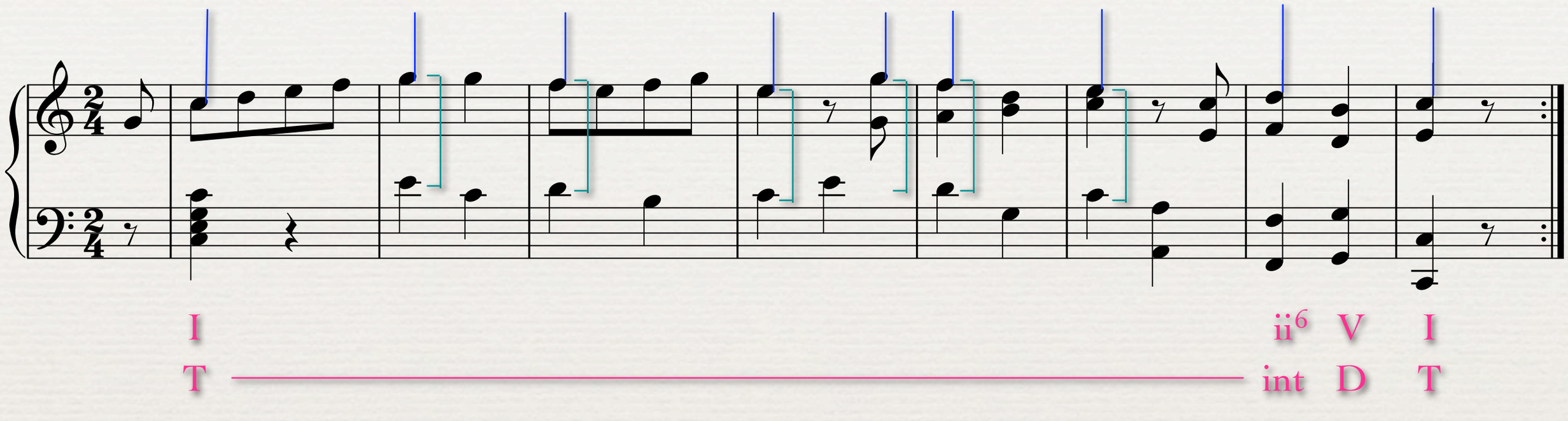

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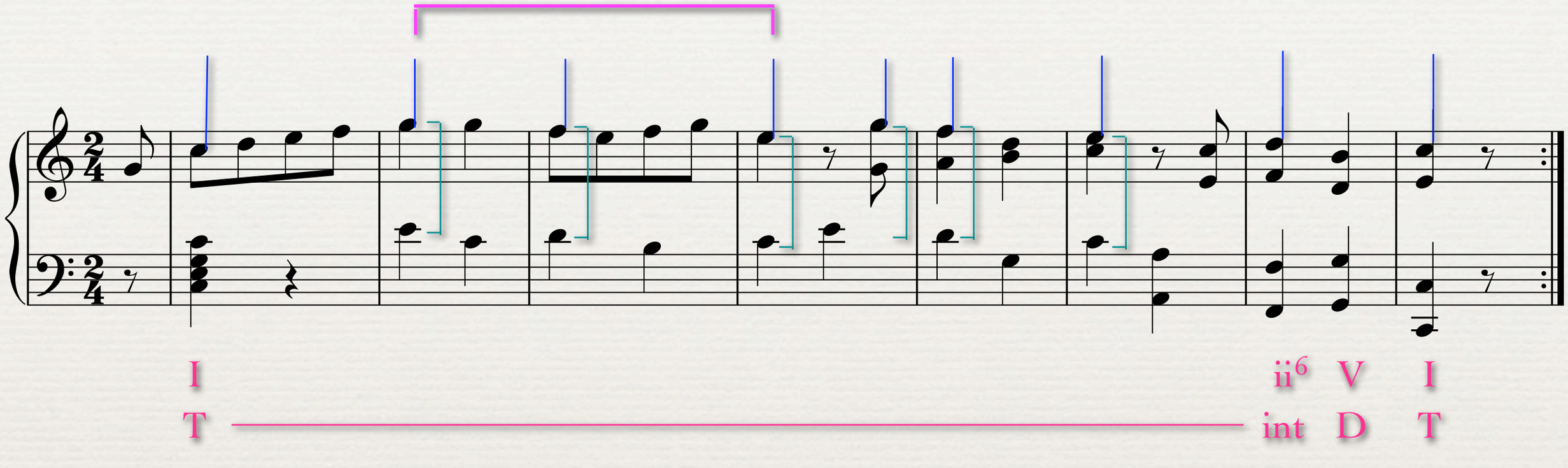

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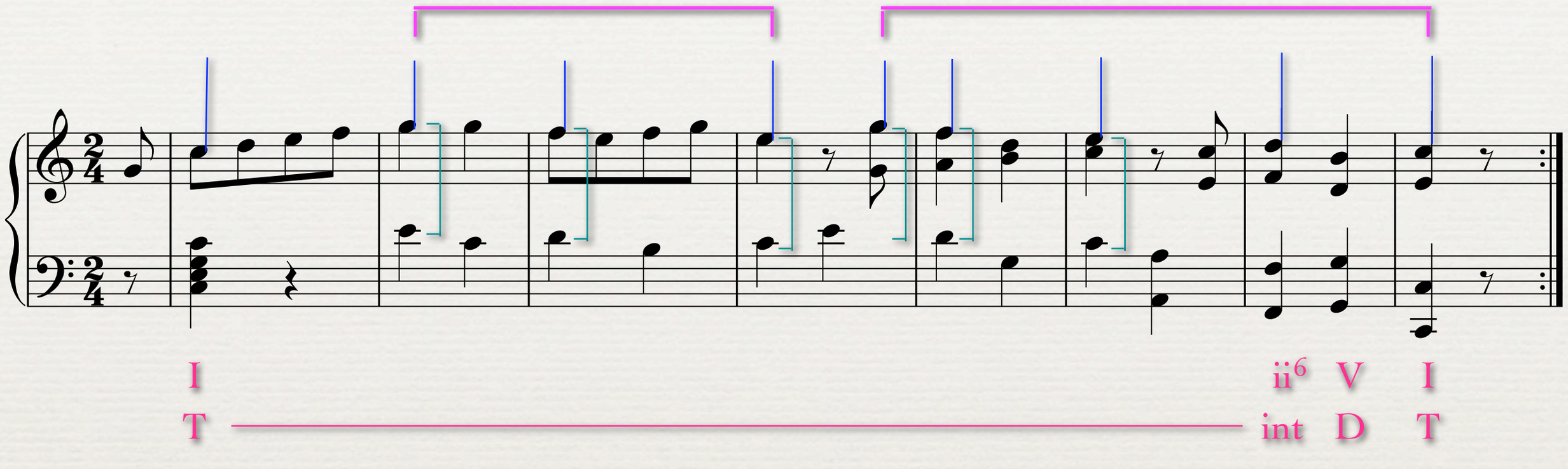

- Note the way that ^5-^4-^3 is so strongly supported by tenths in the bass
- The line is heard twice:
  - Bars 2 - 4, stopping on ^3
  - Bars 5 - 8, concluding the melodic line

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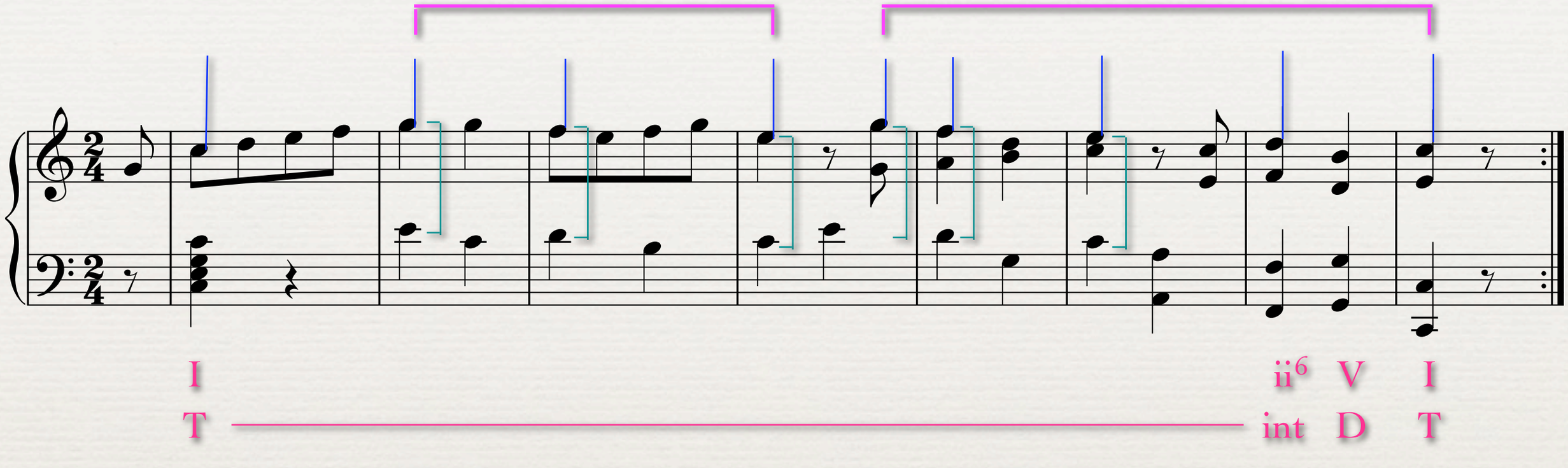

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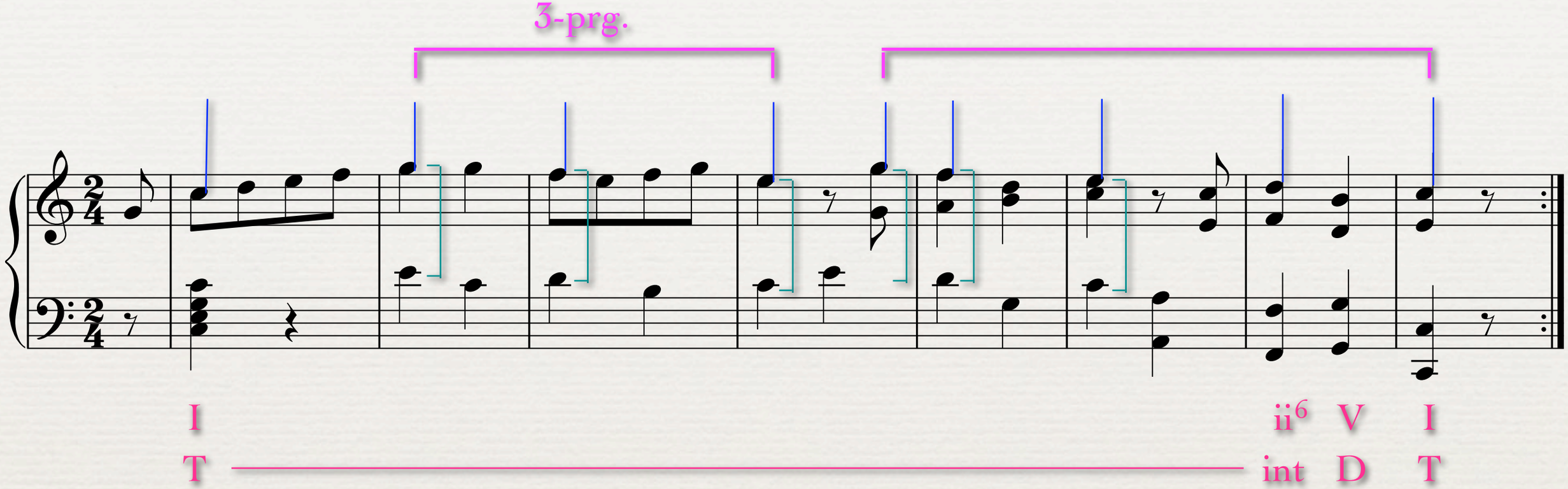

- Bars 2 - 4 form a descending *thirds progression* (3-prg.)

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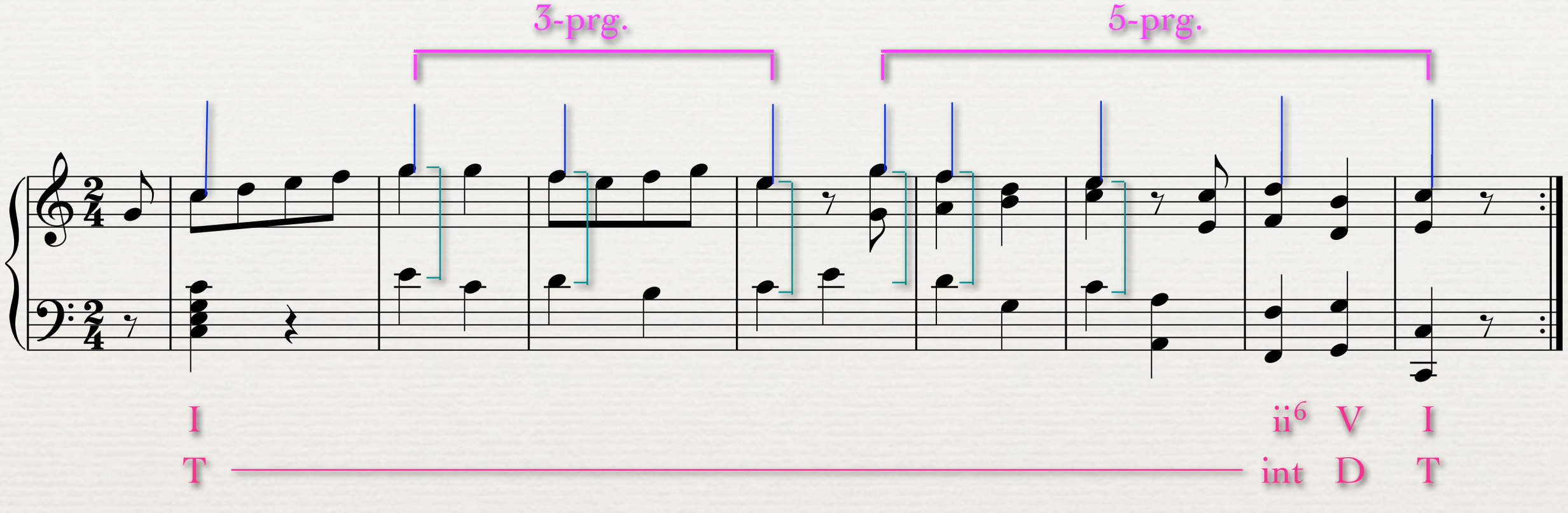

- Bars 2 - 4 form a descending *thirds progression* (3-prg.)
- Bars 5 - 8 form a descending *fifths progression* (5-prg.)

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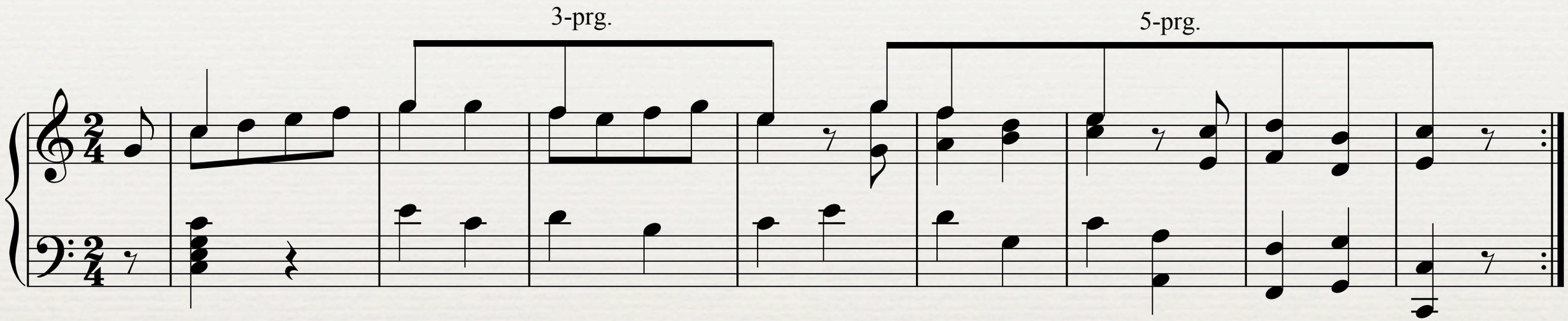

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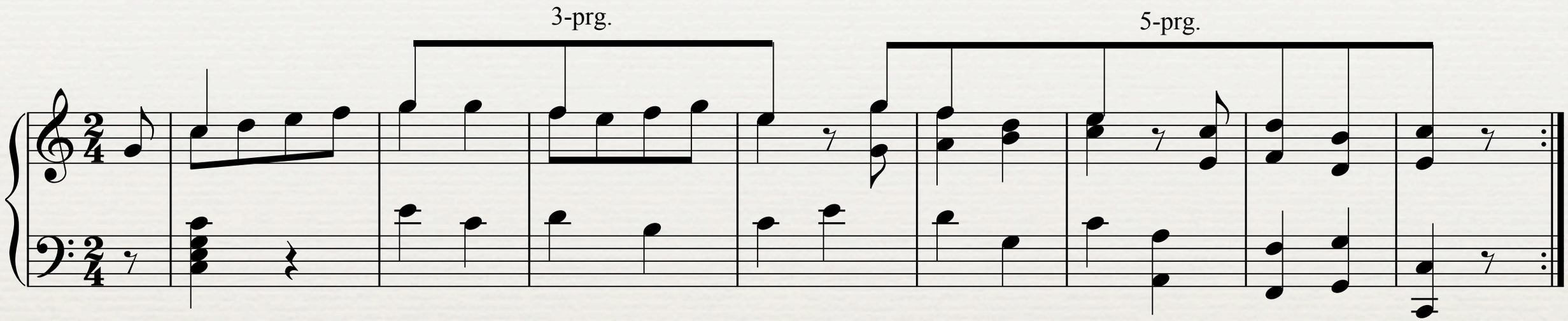

- The two linear progressions are here shown as "foreground" interpretation—i.e., a way of showing the progression while maintaining most, if not all, of the surface elements of the music.

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- The word has various meanings:
  - "Pulling"
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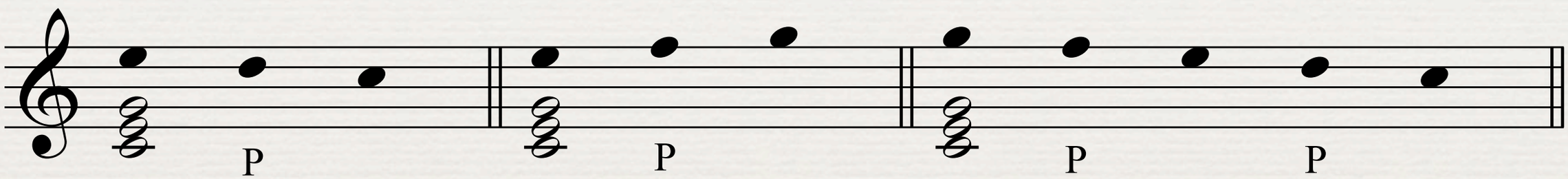
- Thus the term suggests something dynamic, of motion towards a goal.
- Because the first and last tones belong either to the same harmony or to closely related ones, *an inner affinity connects the first tone to the last*.

Basic Linear Progressions



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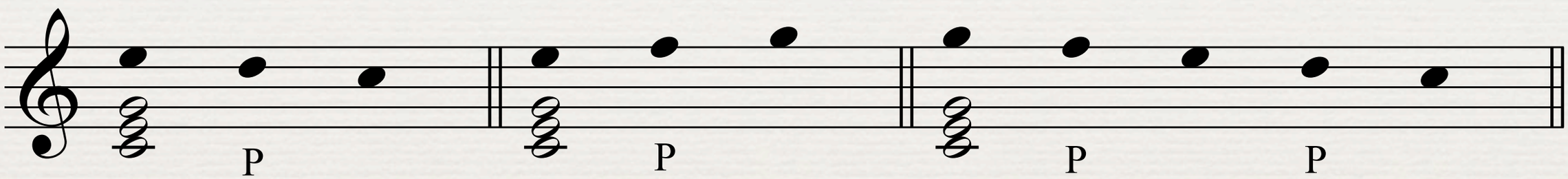

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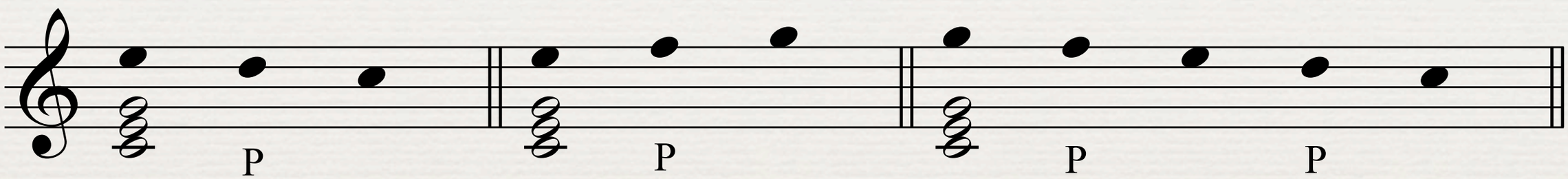
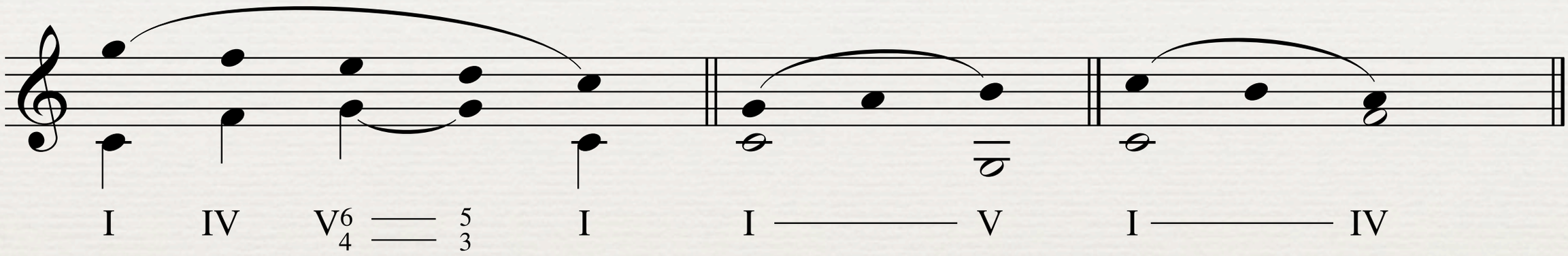


- Each of these progressions horizontalizes the tonic triad in one way or another
- The third horizontalizes the complete tonic triad

Harmonized Linear Progressions



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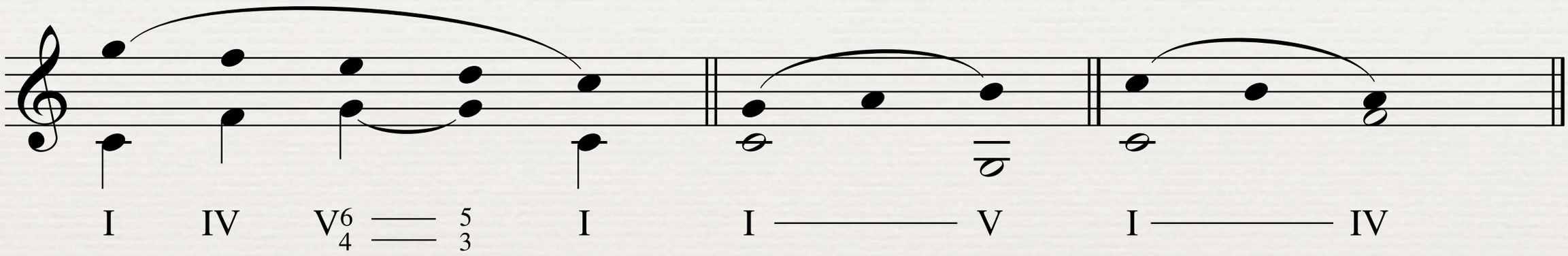

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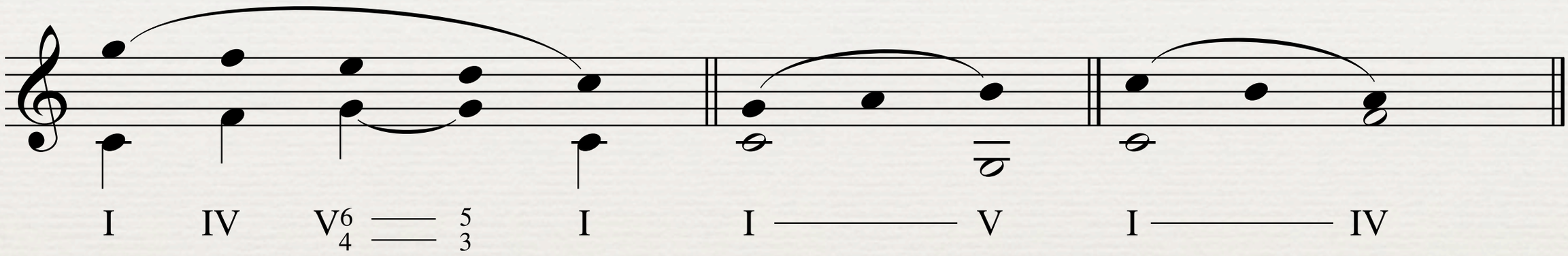
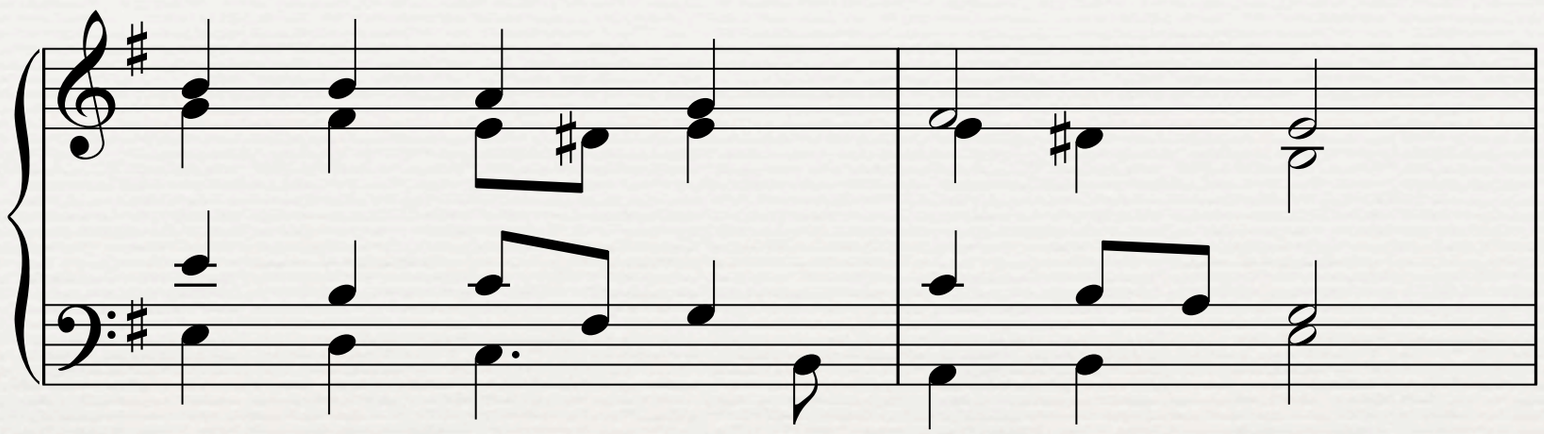


- The 5-prg. harmonizes the tonic triad—beginning and ending on I—but demonstrates how a simple progression can really be a prolongation of a single triad
- The other two progressions show how motion from one chord to another can be achieved

Bach: "Jesu, meine Freude"



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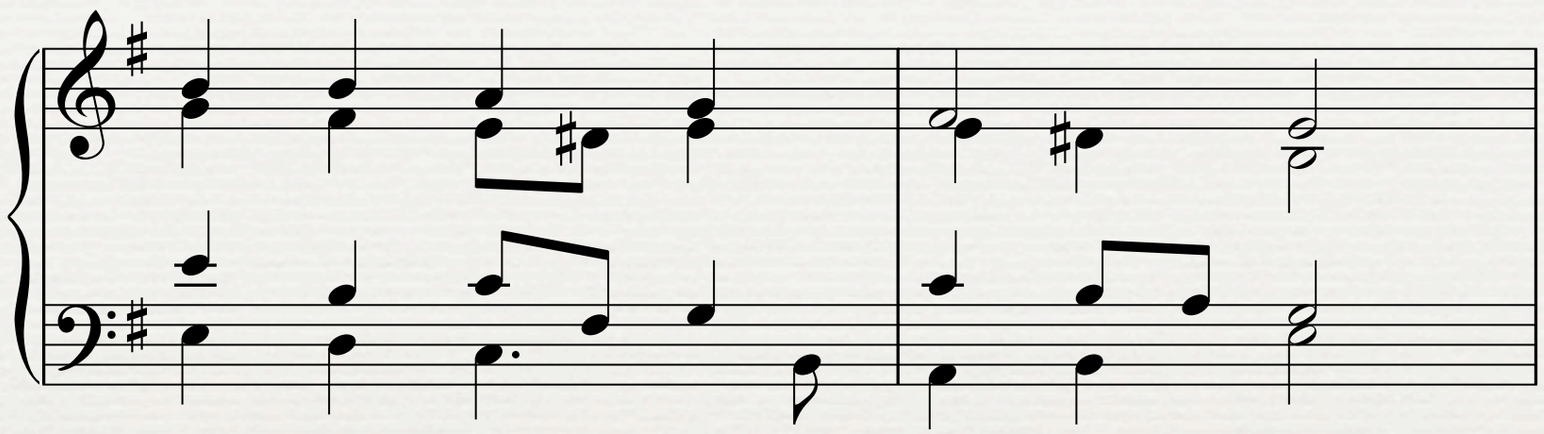
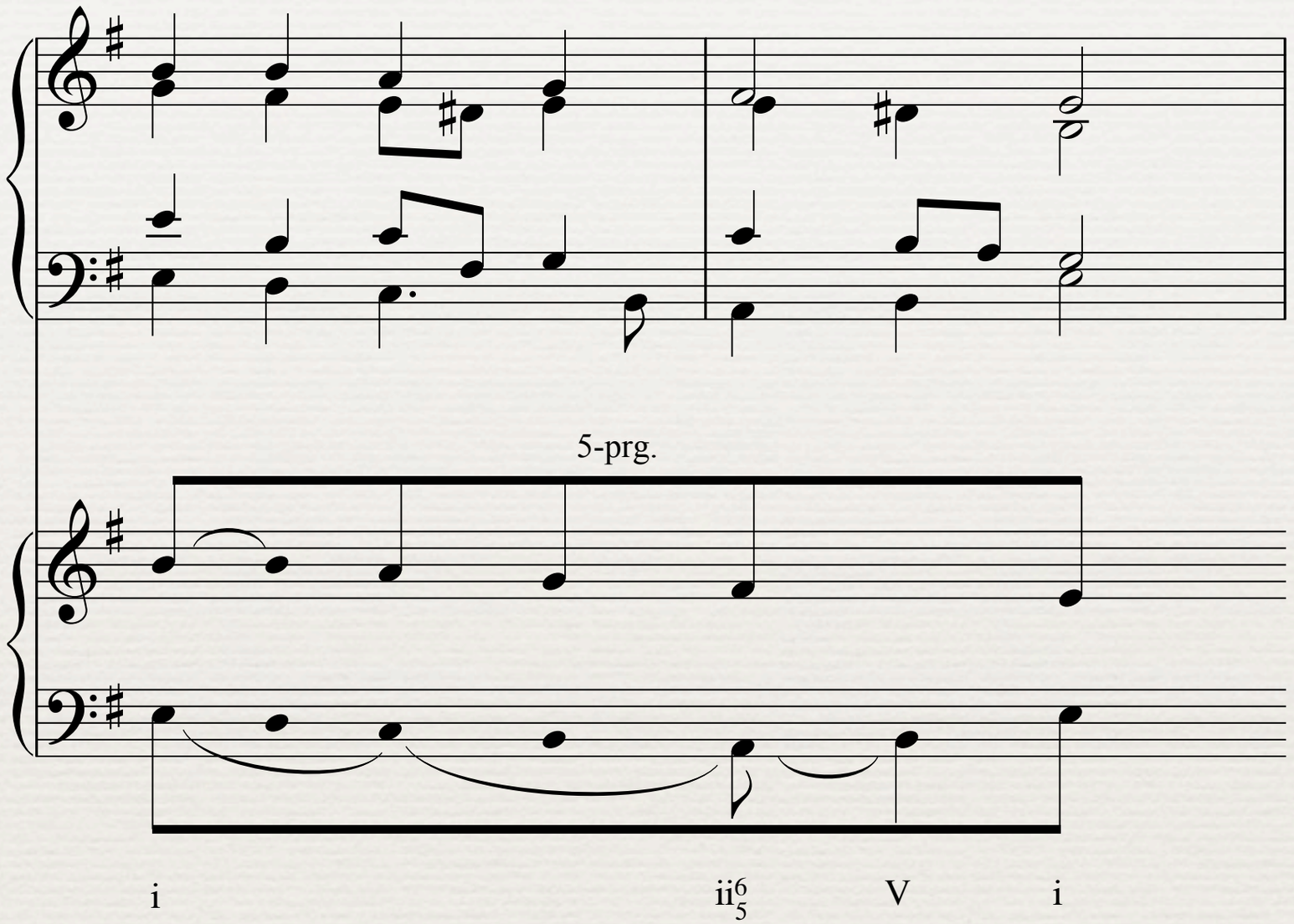


- Examine both the melody and the harmonic motion to understand the nature of the unfolding tonic triad

Bach: "Jesu, meine Freude"



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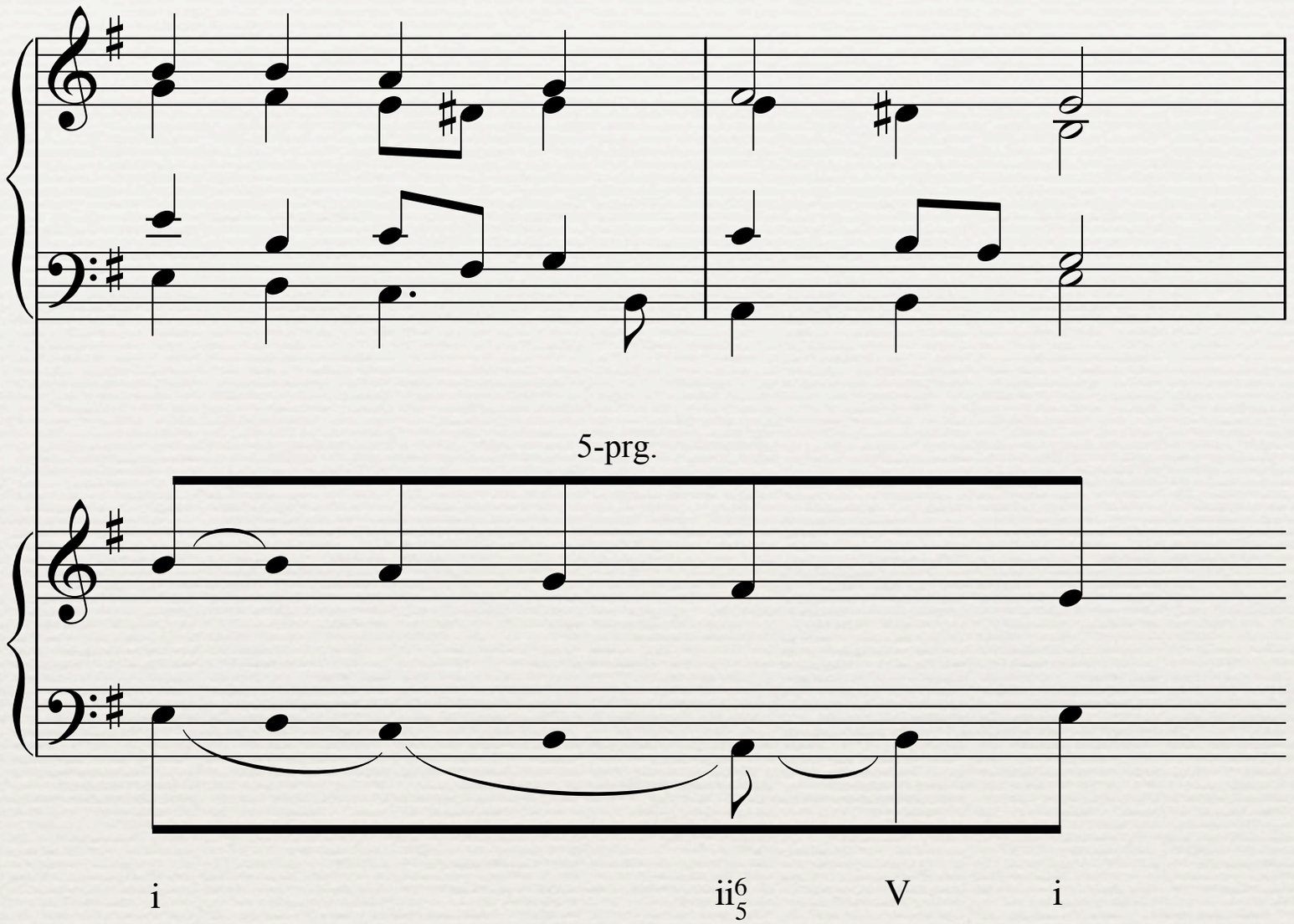
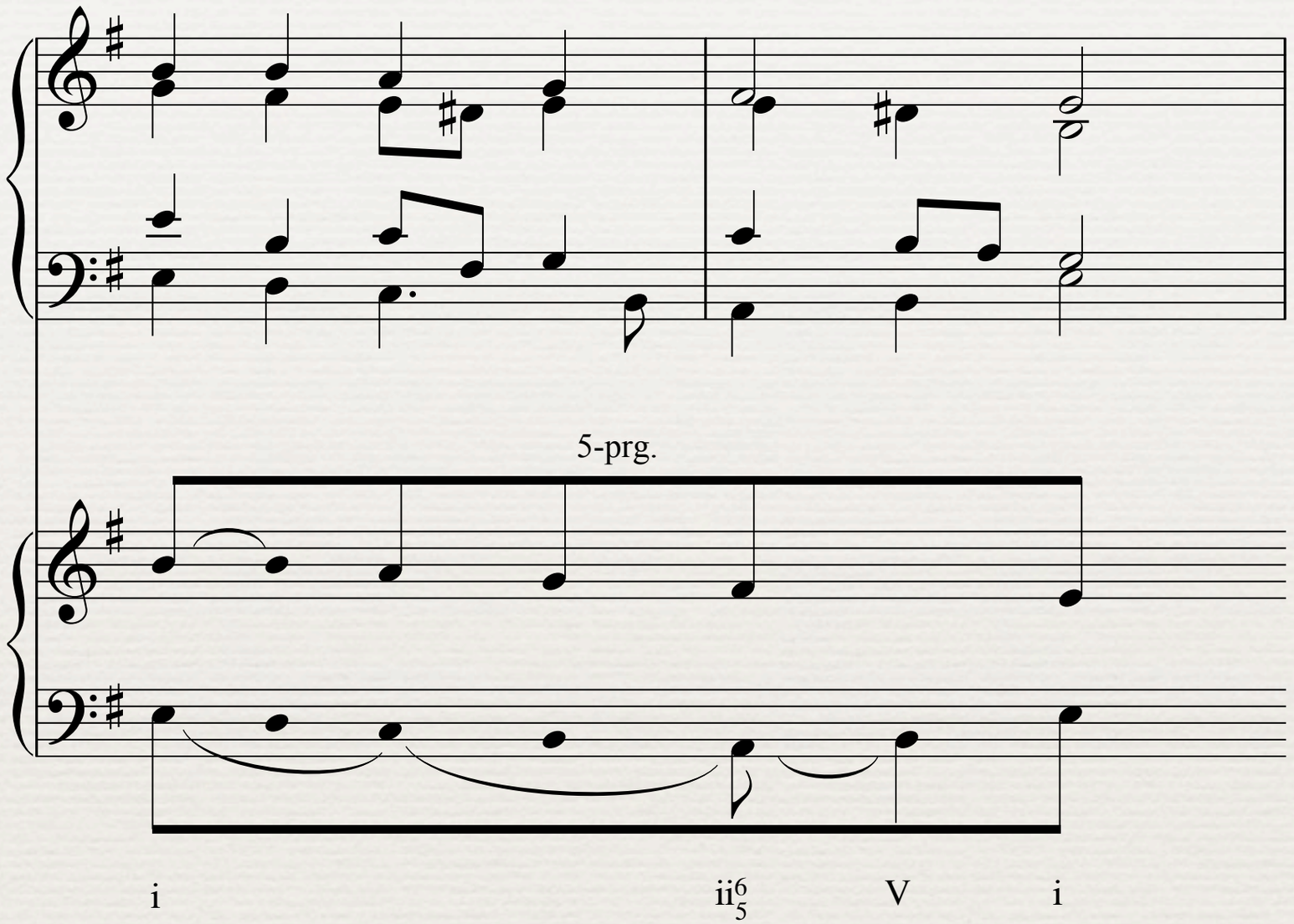


- A foreground analysis of the phrase

Bach: "Jesu, meine Freude"



- A foreground analysis of the phrase
  - The 5-prg. is indicated by a beam

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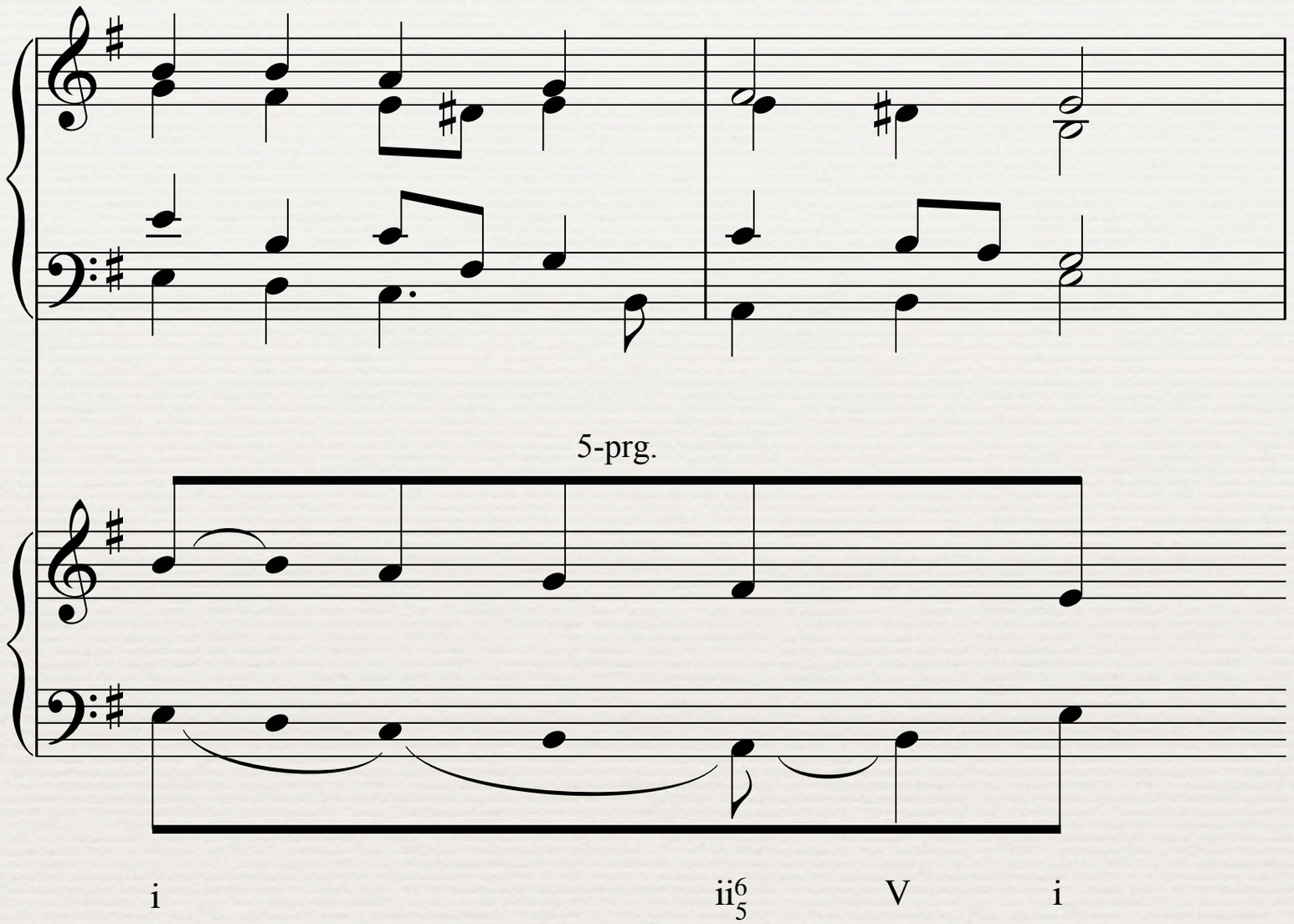

- A foreground analysis of the phrase
  - The 5-prg. is indicated by a beam
  - The bass displays the motion from i-V-i, (T-D-T)

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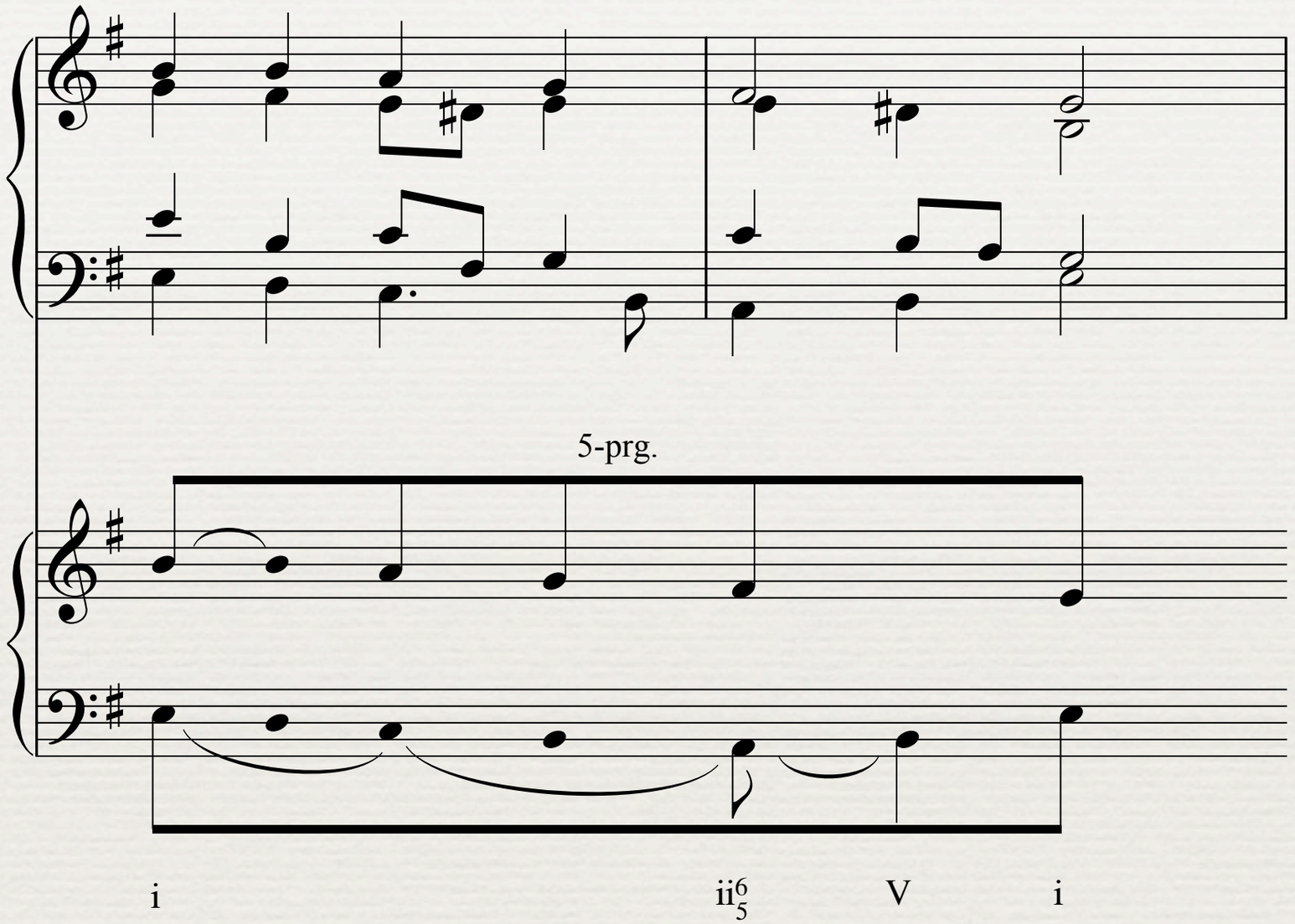
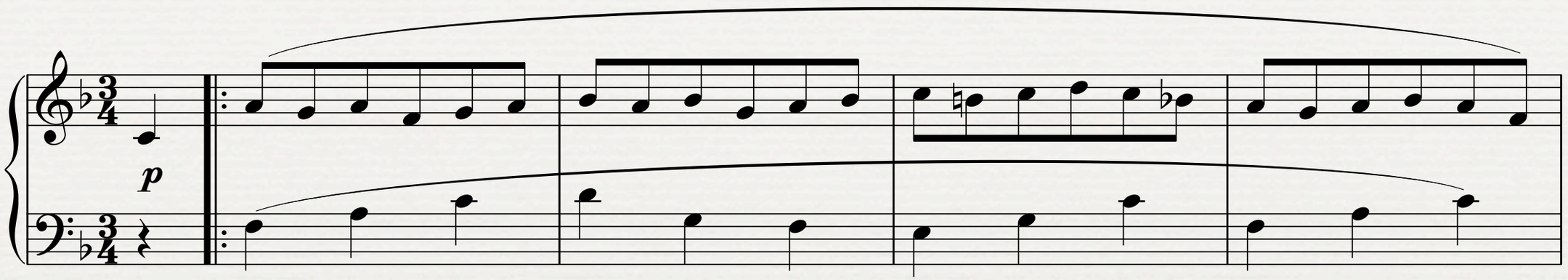
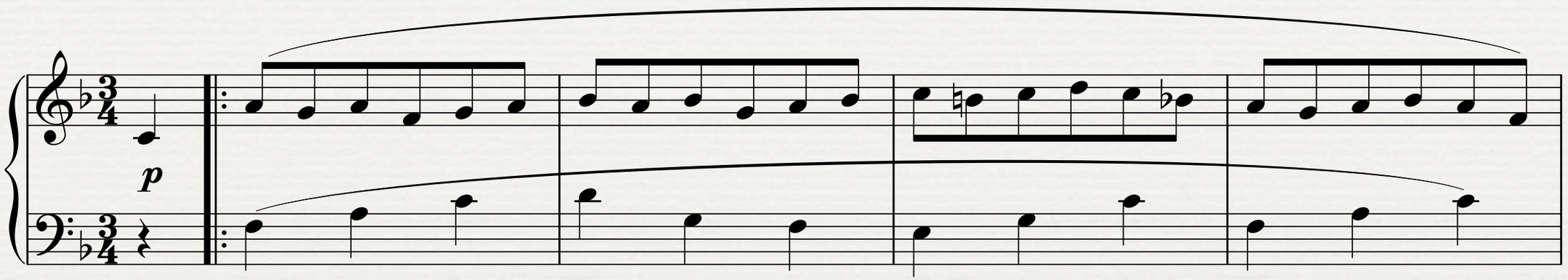


- A foreground analysis of the phrase
  - The 5-prg. is indicated by a beam
  - The bass displays the motion from i-V-i, (T-D-T)
  - The int harmony ii65 is shown with a flag, indicating its close relationship to V

Beethoven: Sonata Op. 2 No. 1, III

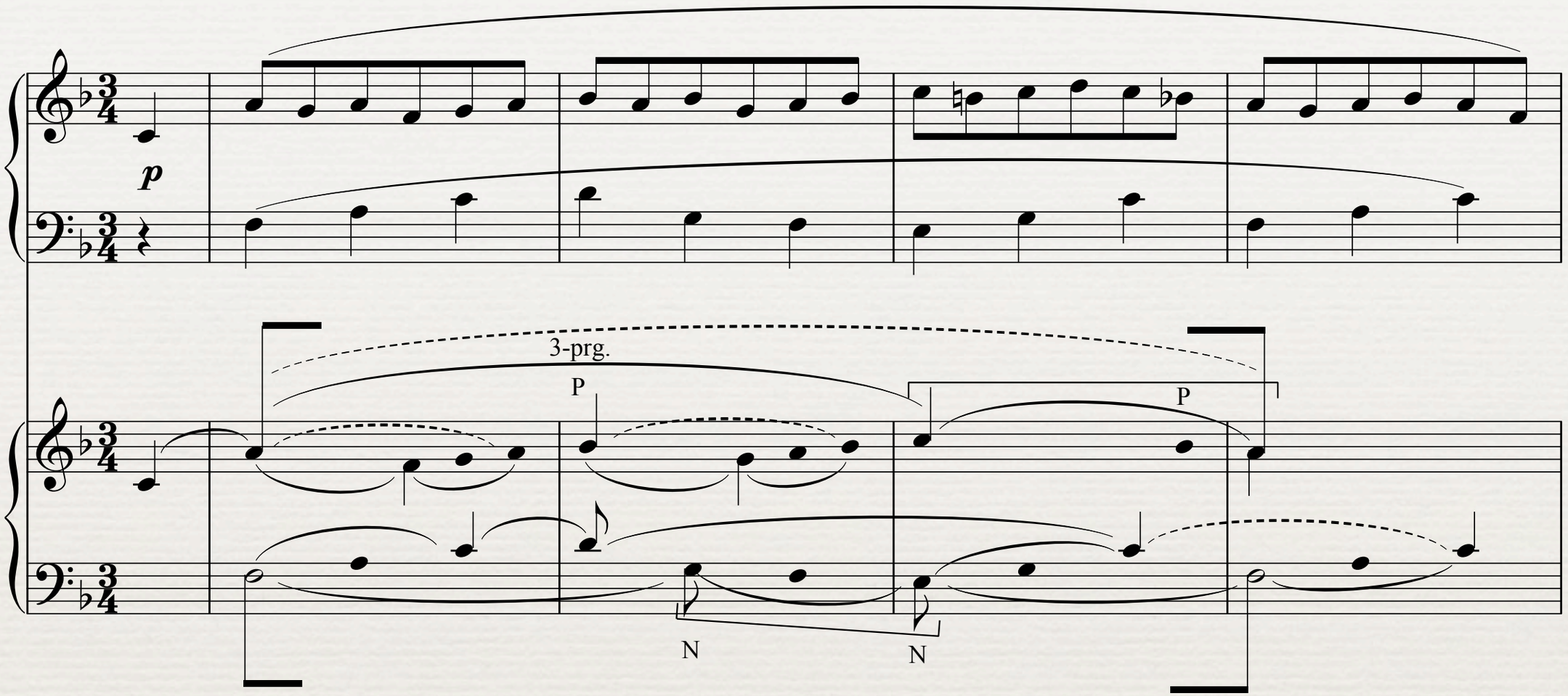


Beethoven: Sonata Op. 2 No. 1, III

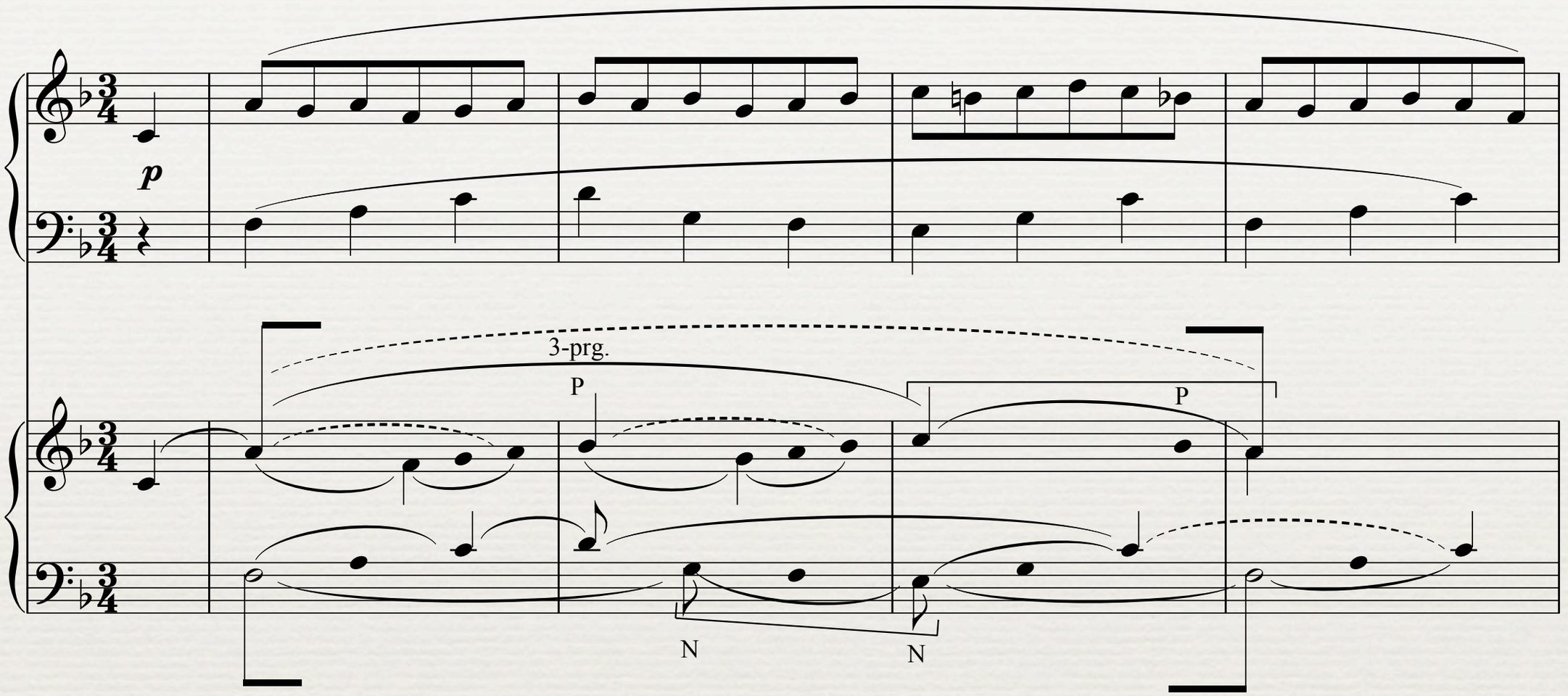


- Without much in the way of initial analysis, it's easy enough to spot that there's an arch shape in the overall melodic structure

Beethoven: Sonata Op. 2 No. 1, III

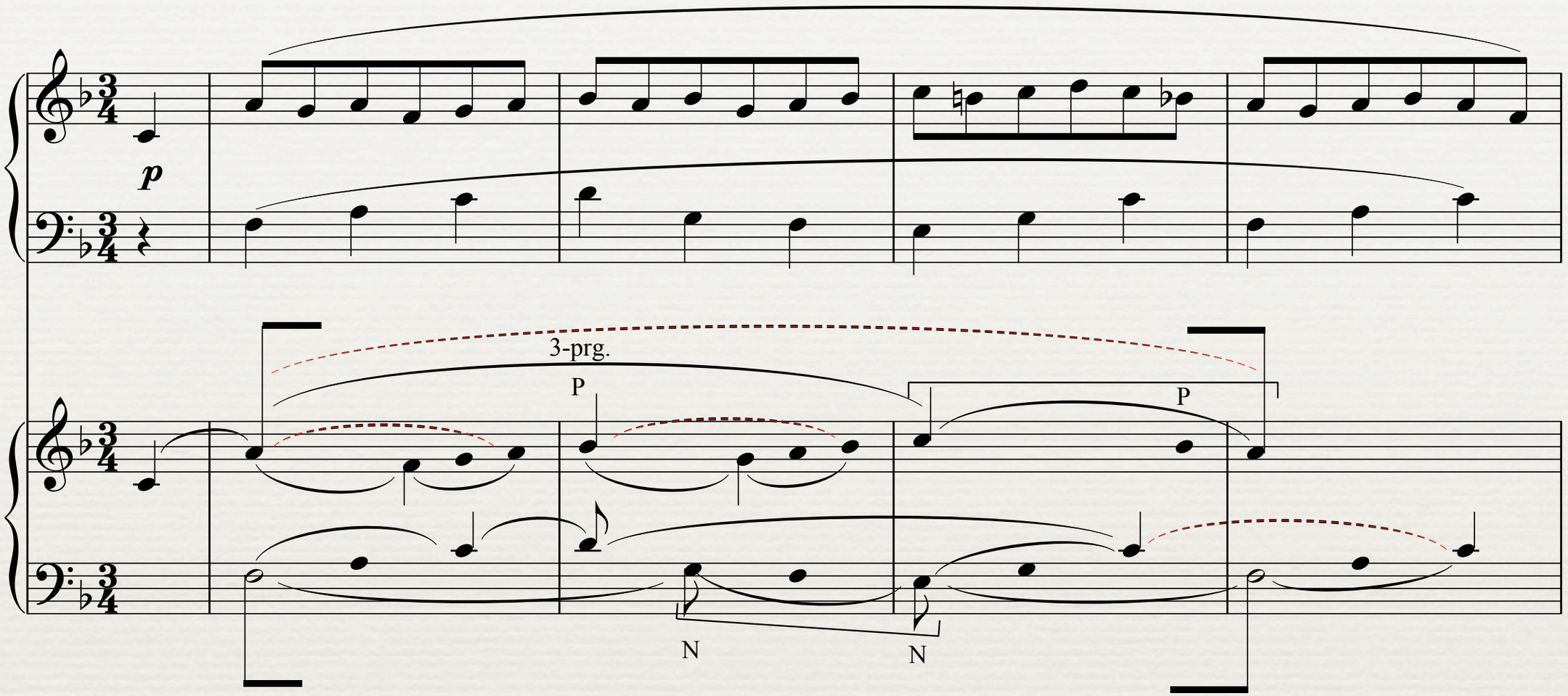


Beethoven: Sonata Op. 2 No. 1, III

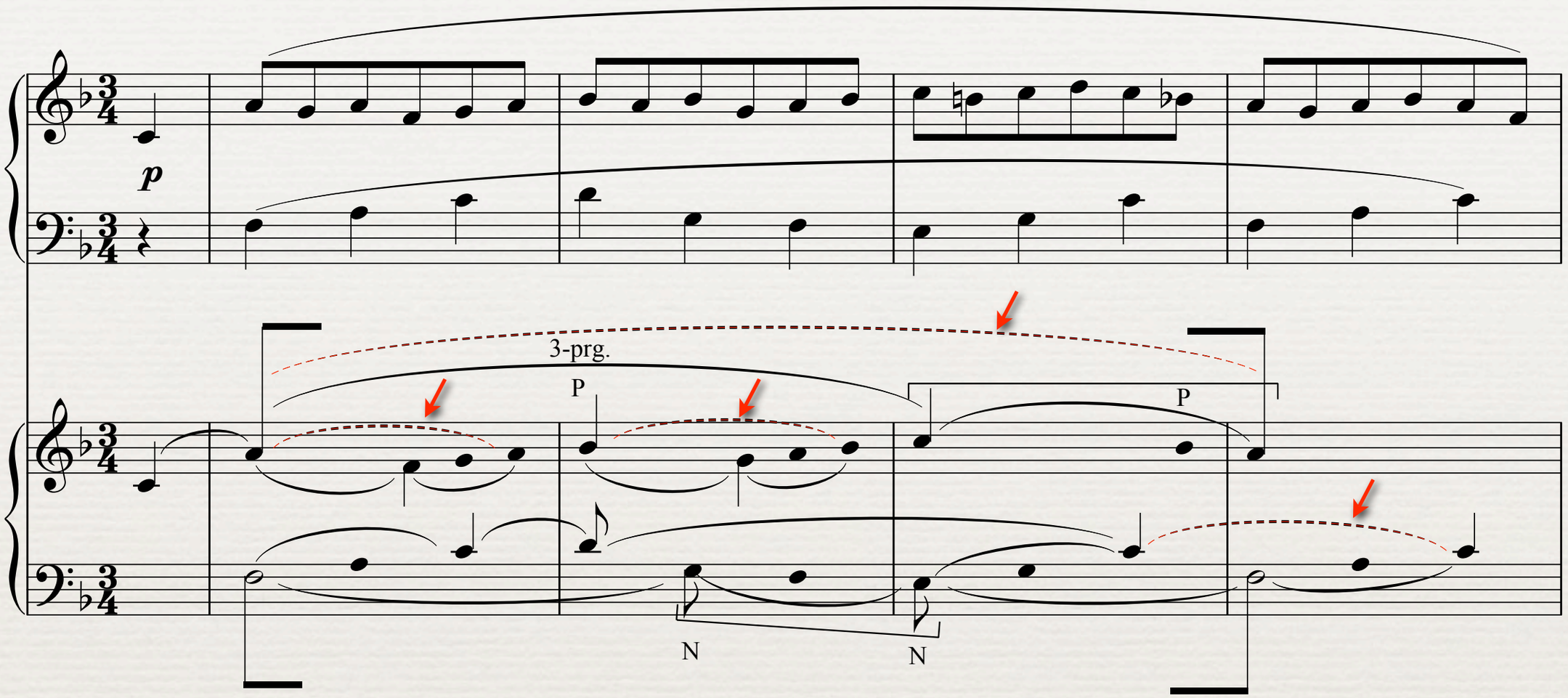


- The foreground analysis employs various elements of graphic analytical notation

Beethoven: Sonata Op. 2 No. 1, III

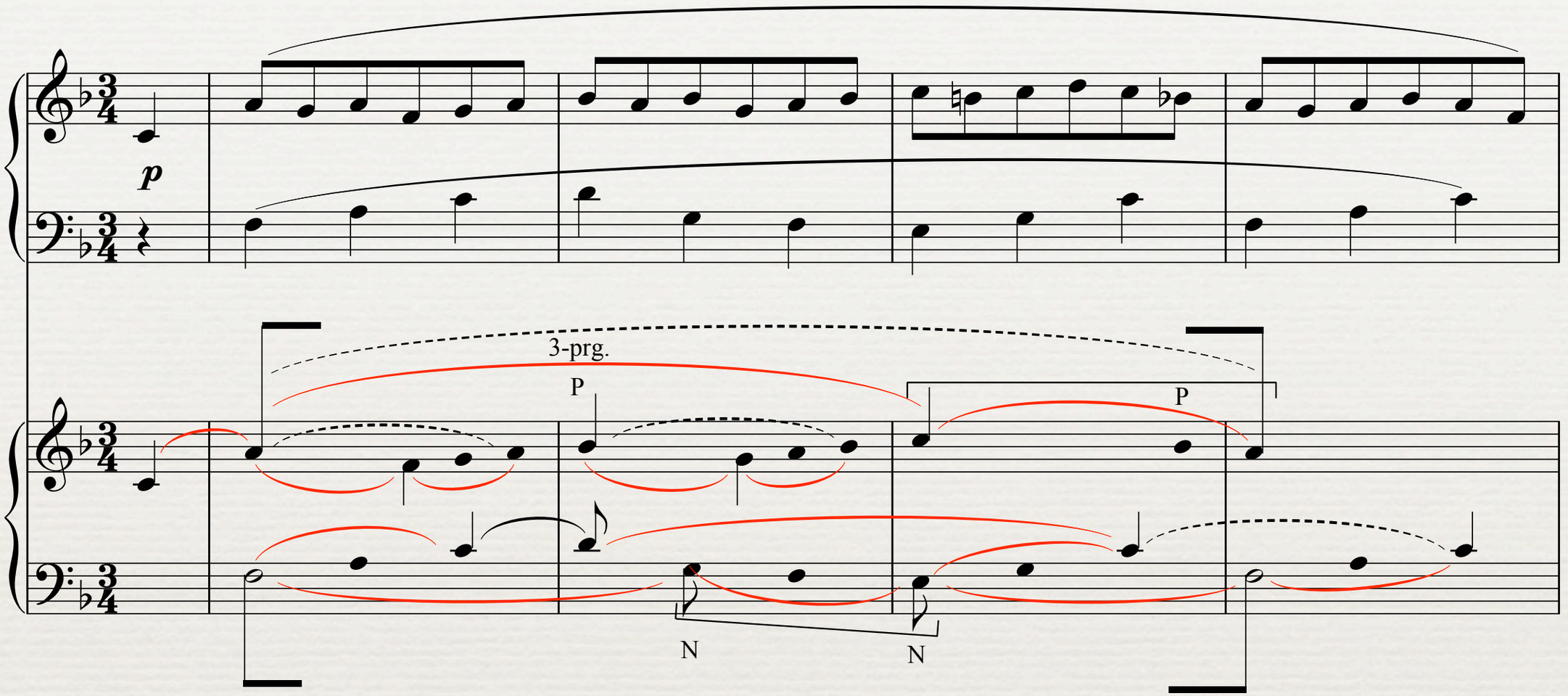


Beethoven: Sonata Op. 2 No. 1, III

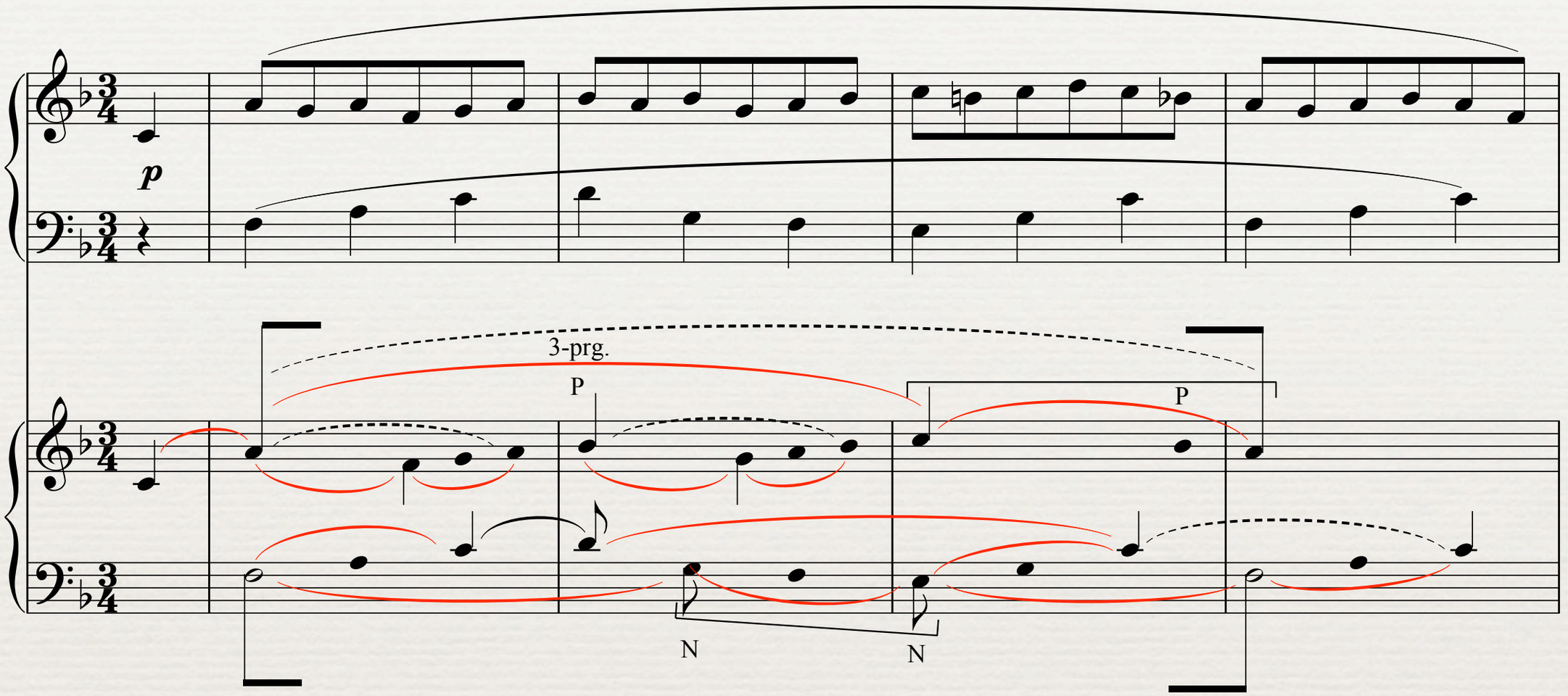


- Dotted slurs indicate the retension of a single tone over a longer span

Beethoven: Sonata Op. 2 No. 1, III

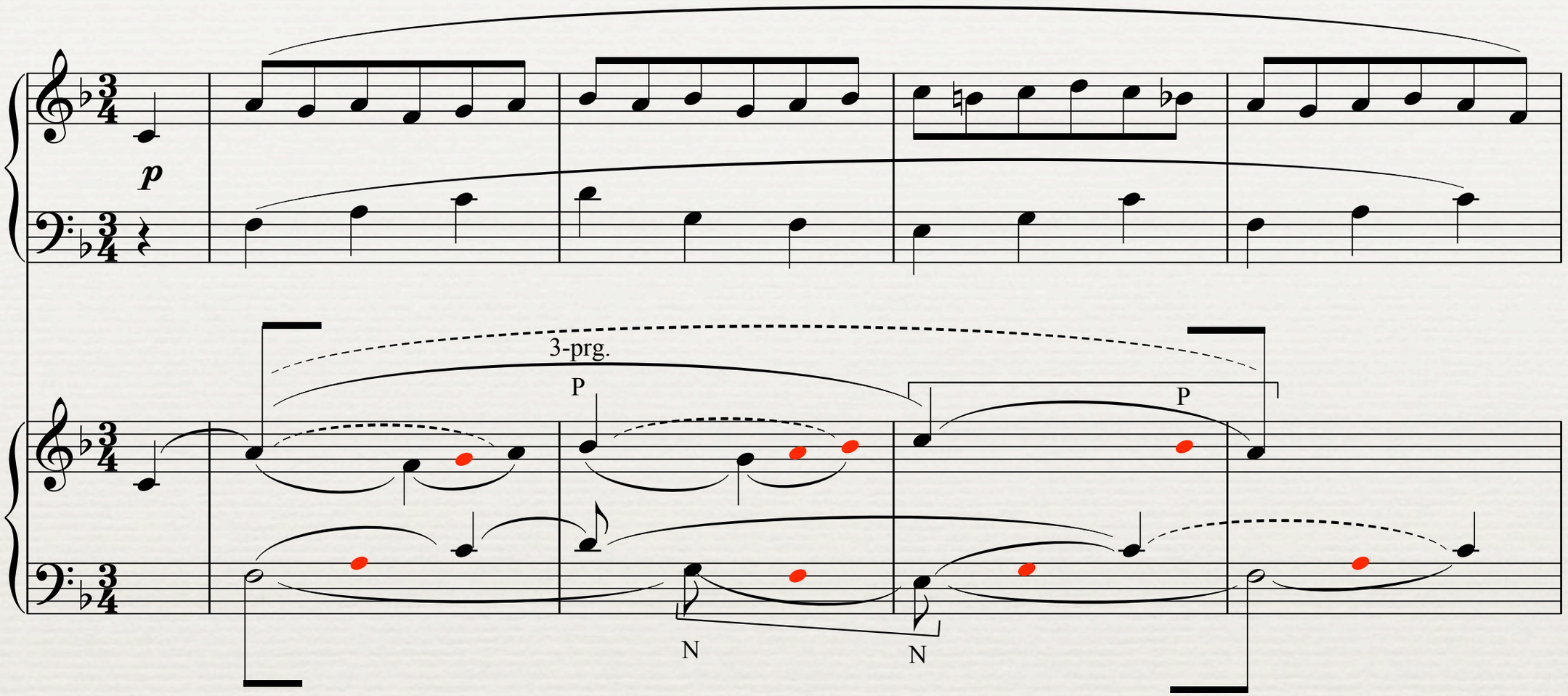


Beethoven: Sonata Op. 2 No. 1, III

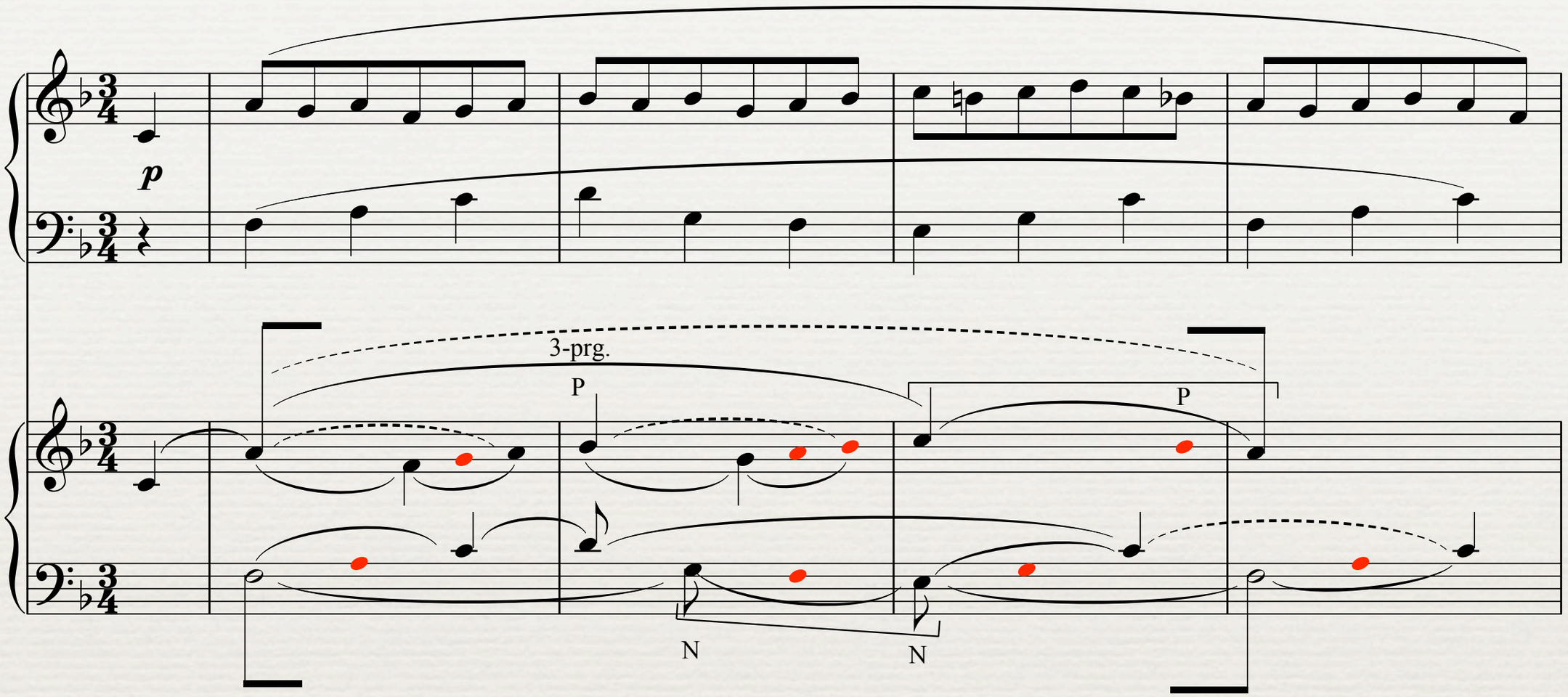


- Solid slurs indicate motions among different tones—i.e., they show connections that might not be otherwise visible

Beethoven: Sonata Op. 2 No. 1, III

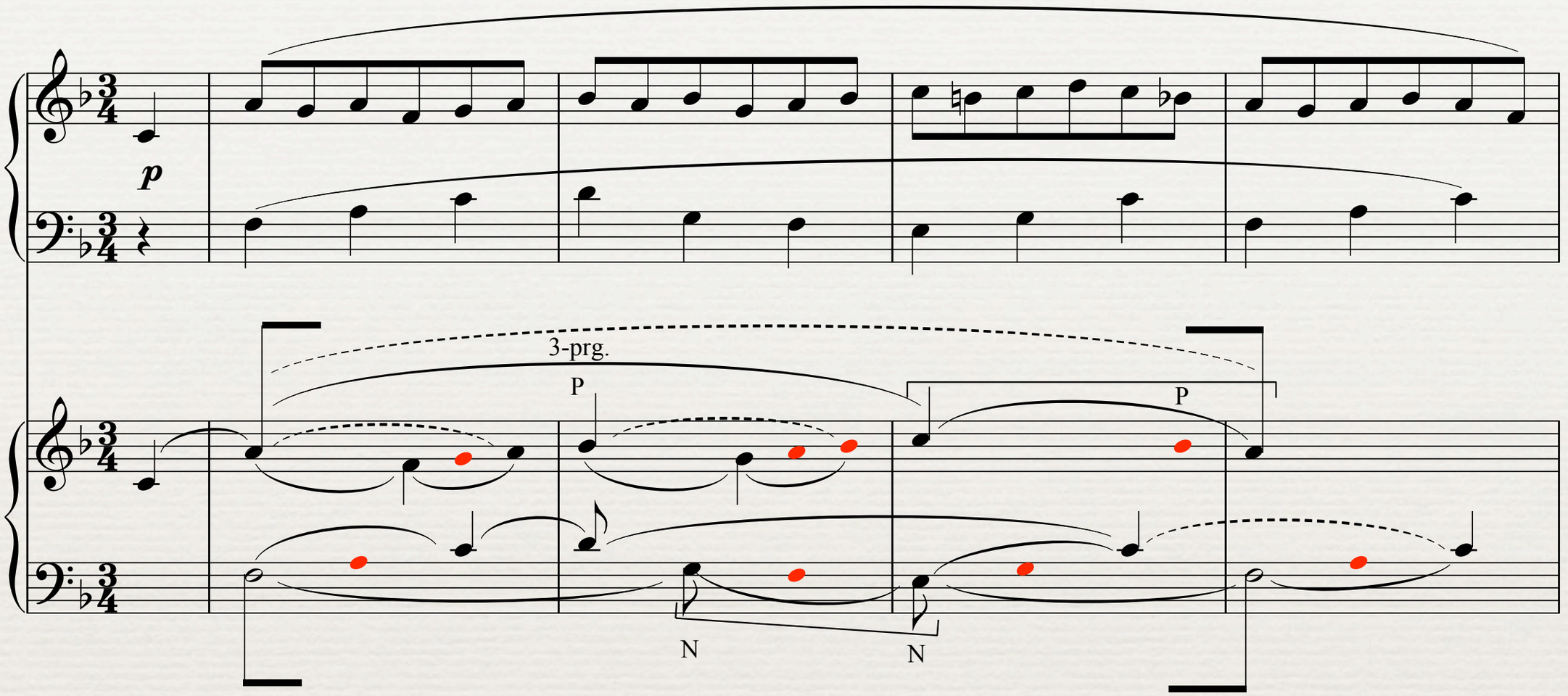


Beethoven: Sonata Op. 2 No. 1, III



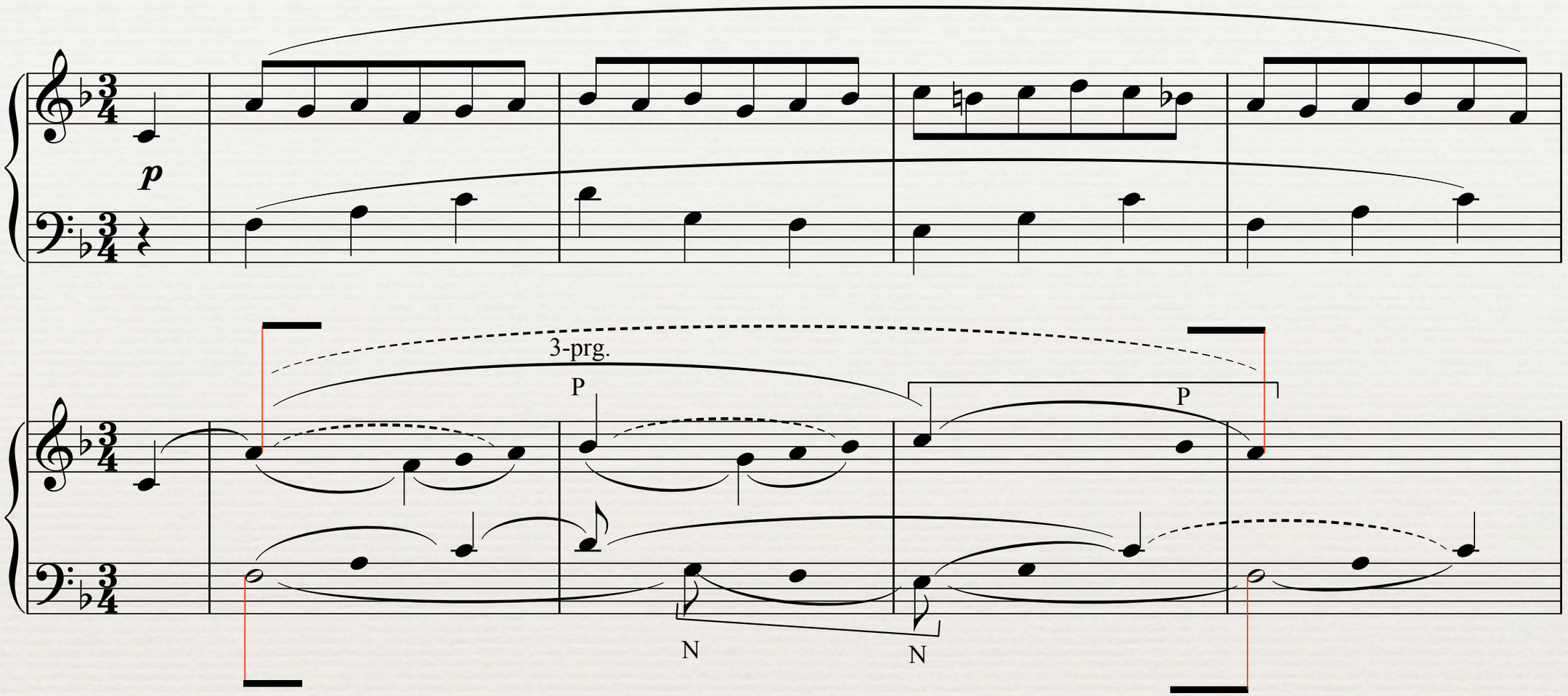
- Unstemmed noteheads indicate tones of lesser priority—usually those that are passing tones within a short figure, or consonant skips also within a short figure

Beethoven: Sonata Op. 2 No. 1, III

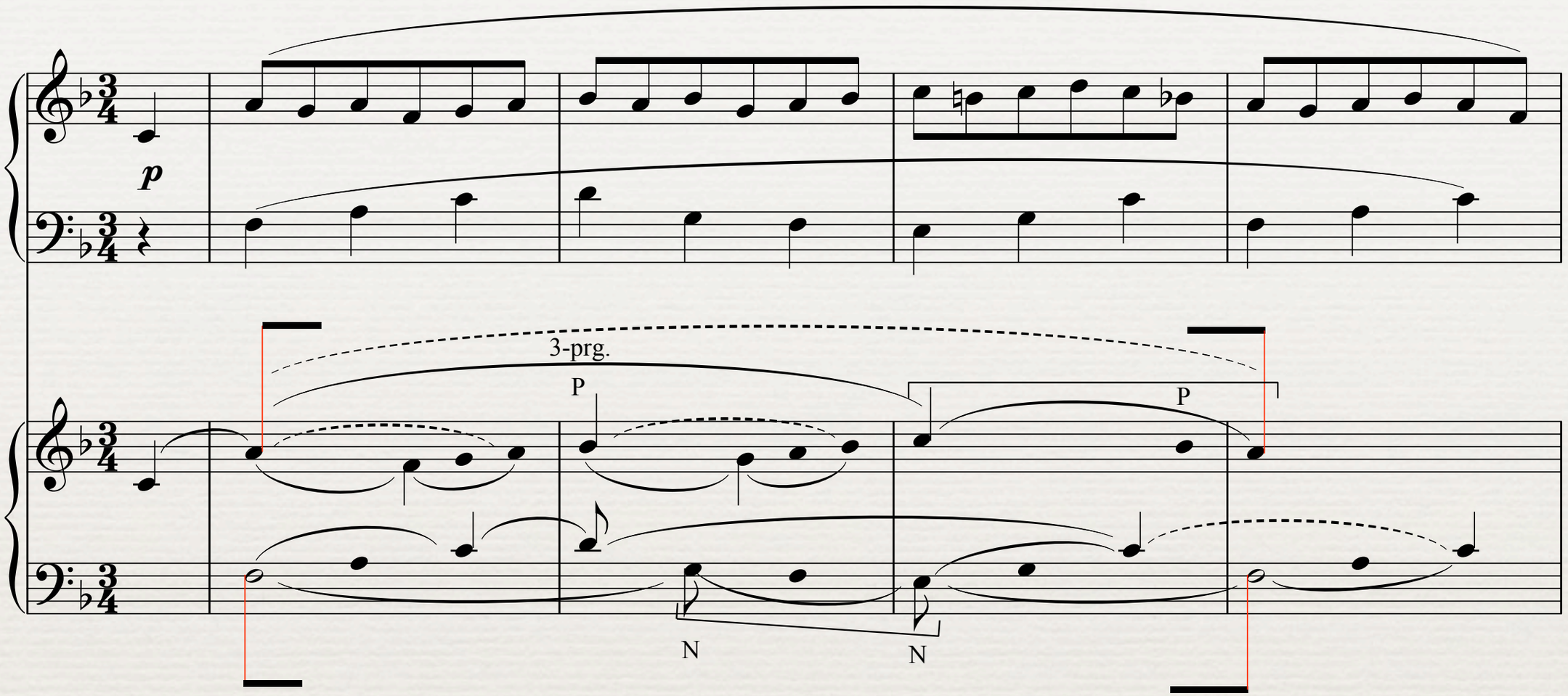


- Unstemmed noteheads indicate tones of lesser priority—usually those that are passing tones within a short figure, or consonant skips also within a short figure
- Note that some melodic motions have already been reduced out of the analysis (such as the neighbor tones at he beginning of each measure.)

Beethoven: Sonata Op. 2 No. 1, III

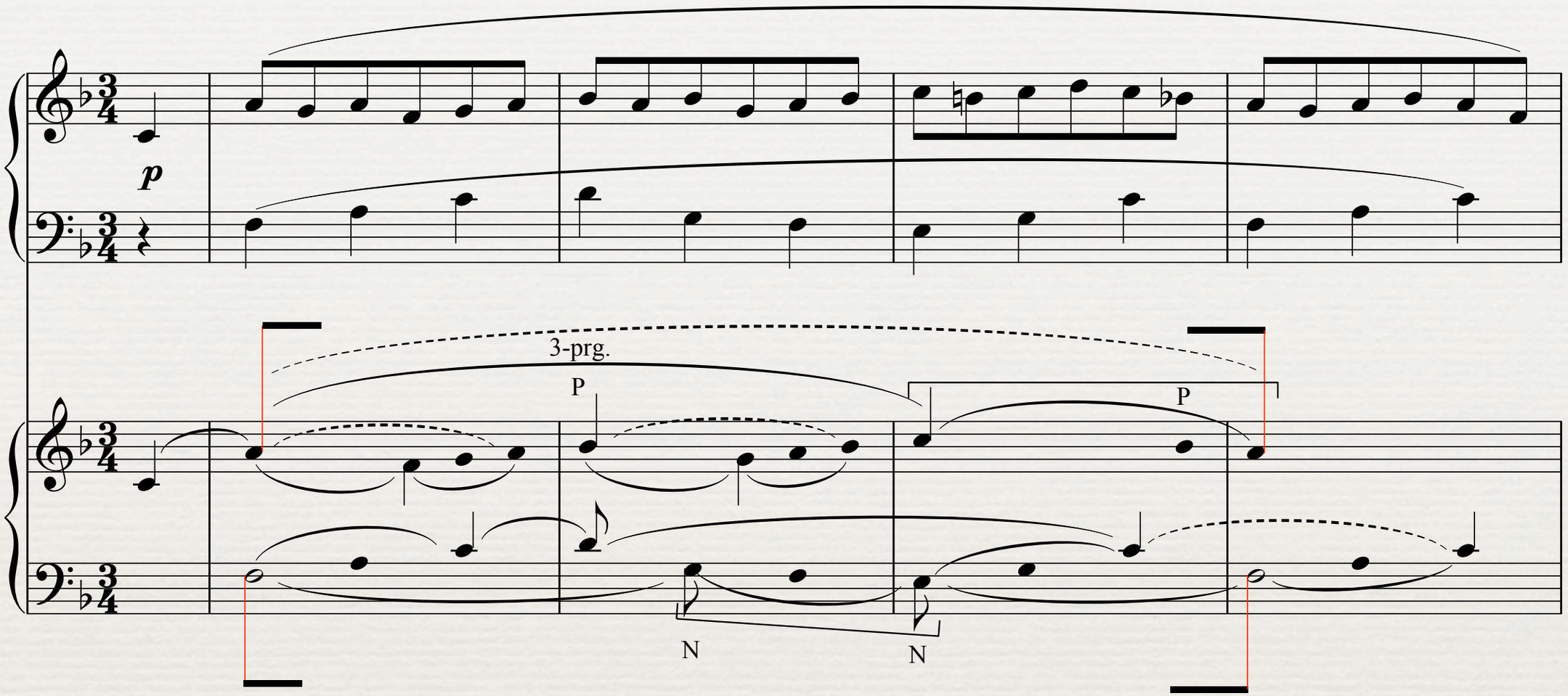


Beethoven: Sonata Op. 2 No. 1, III



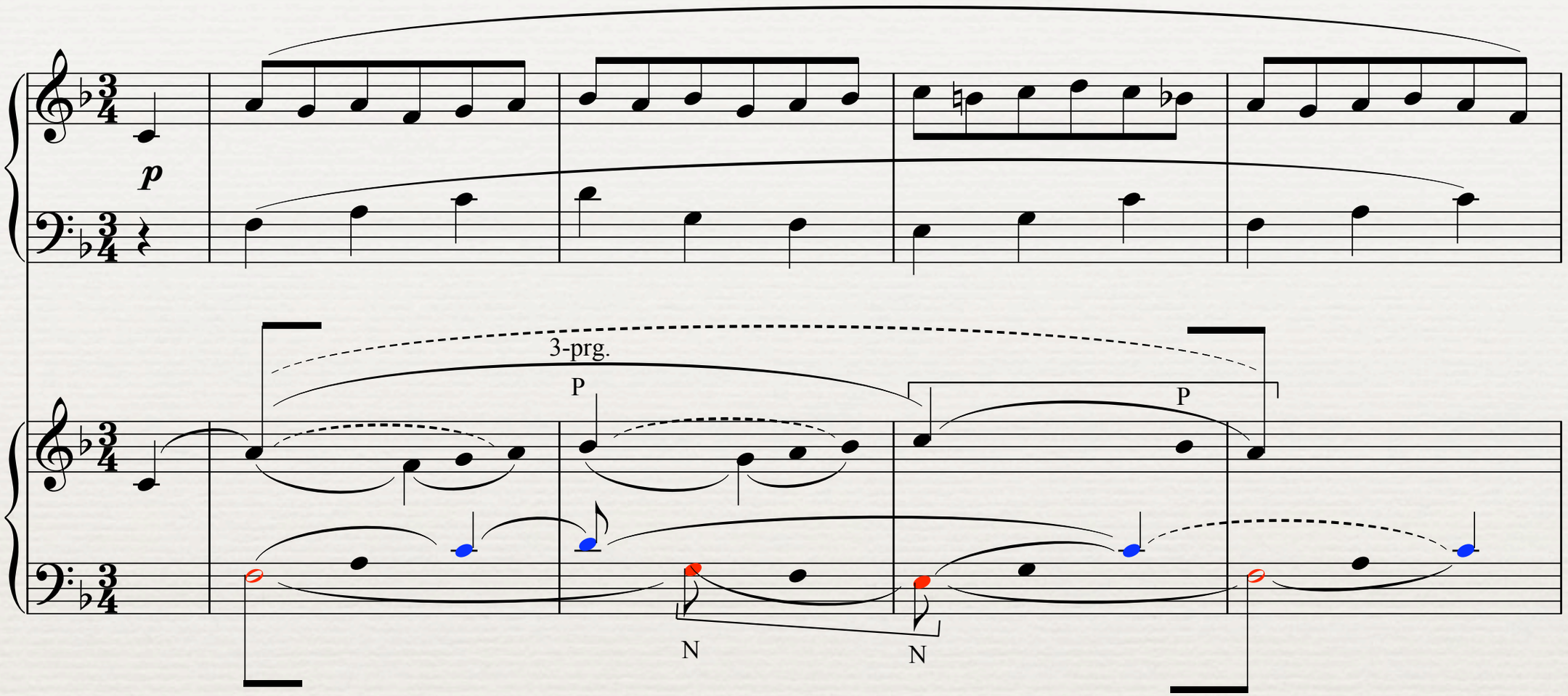
- Among stemmed notes, the length of the stem indicates relative priority

Beethoven: Sonata Op. 2 No. 1, III

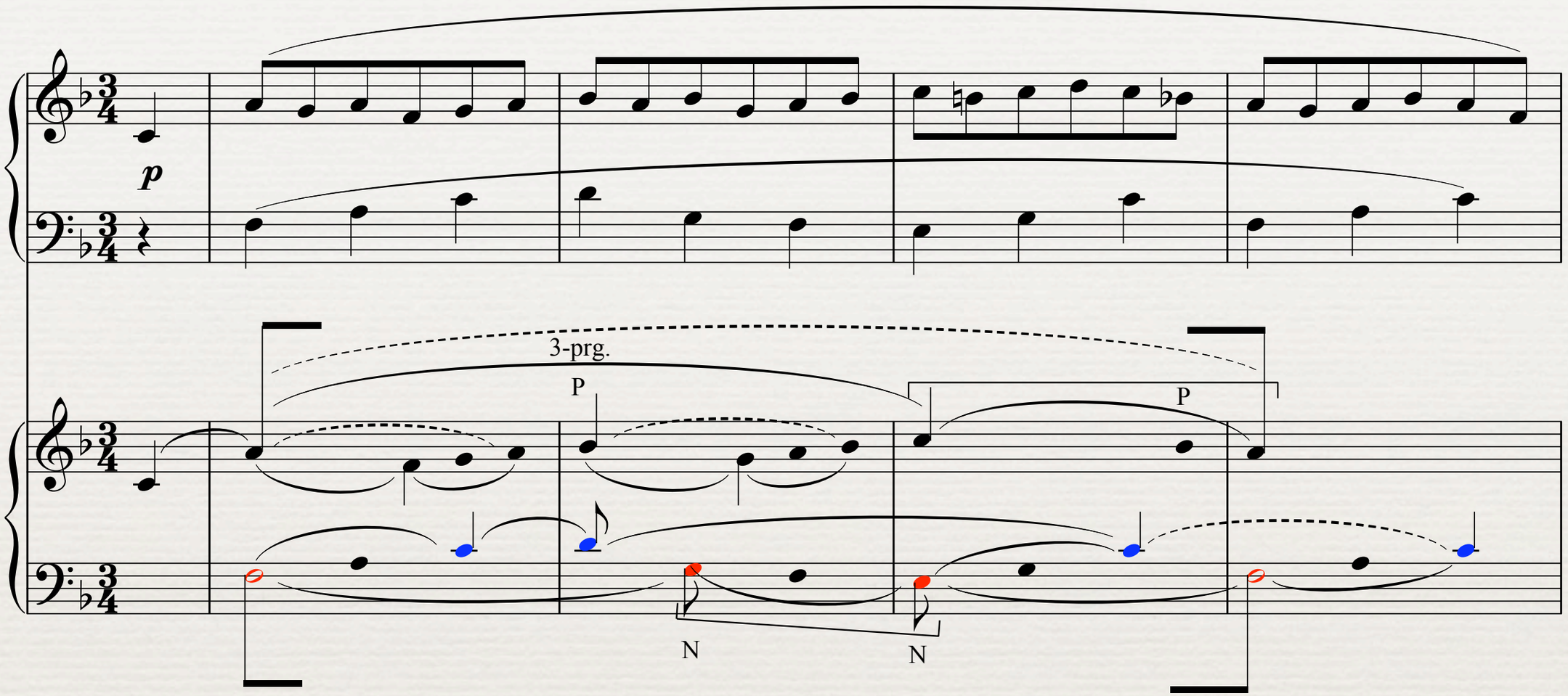


- Among stemmed notes, the length of the stem indicates relative priority
  - The longest stemmed notes are the most fundamental

Beethoven: Sonata Op. 2 No. 1, III

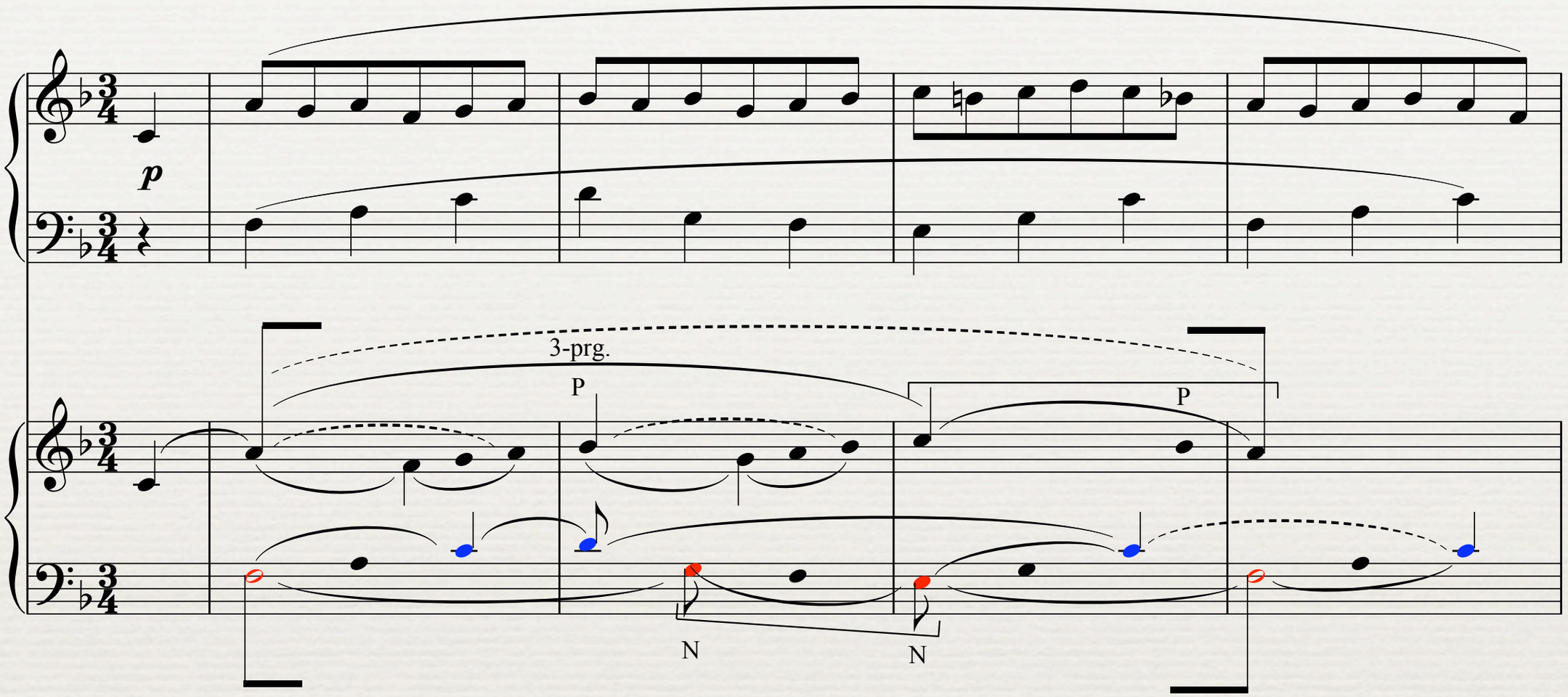


Beethoven: Sonata Op. 2 No. 1, III



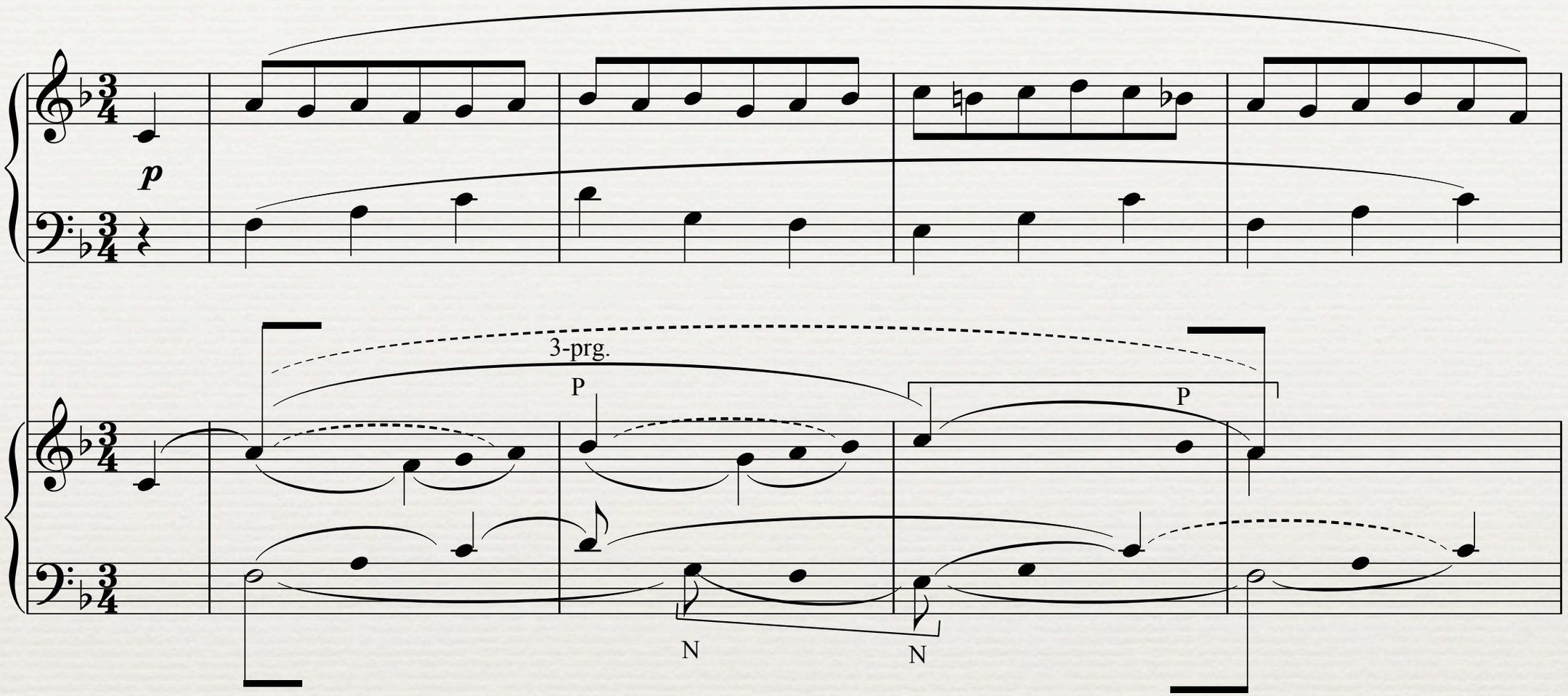
- Stem direction indicates polyphonic voices

Beethoven: Sonata Op. 2 No. 1, III

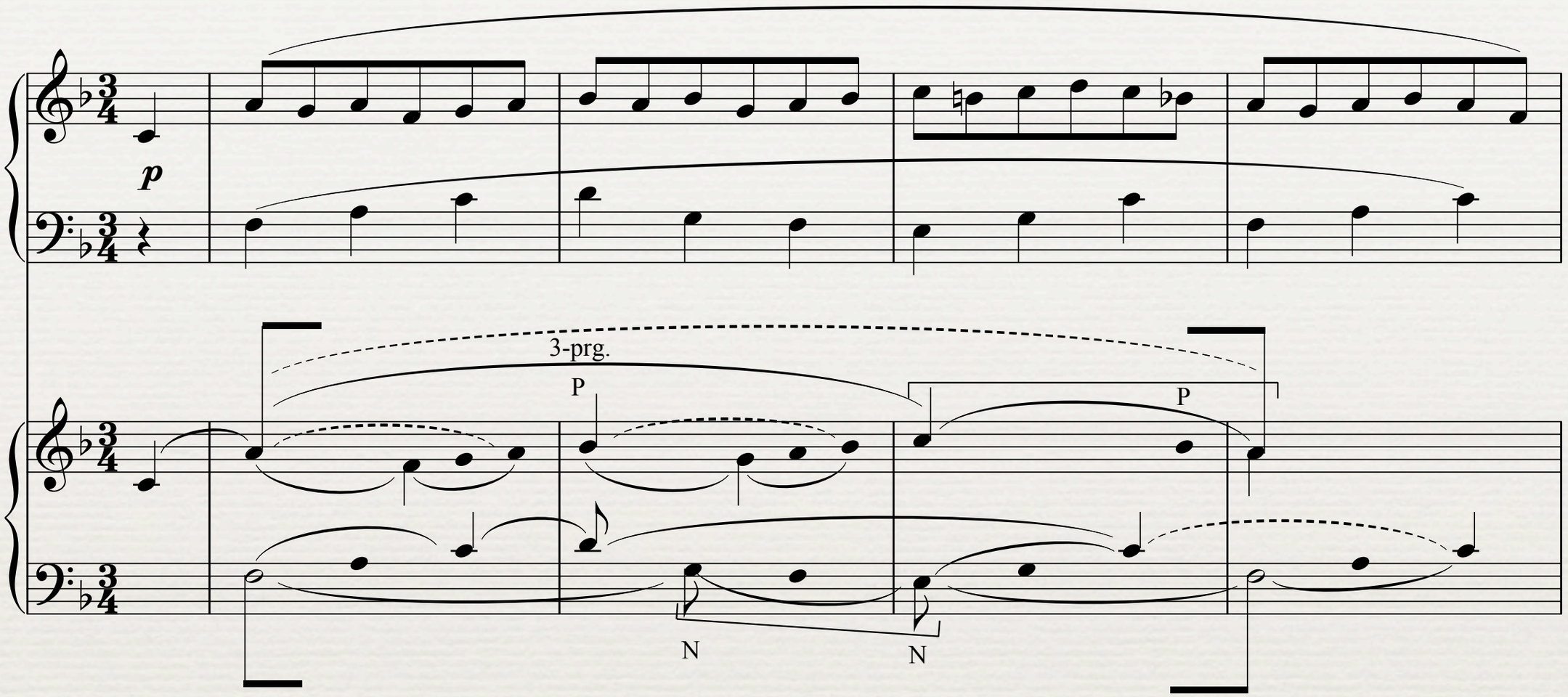


- Stem direction indicates polyphonic voices
  - The LH part has two voices—the blue notes indicate the "tenor", whereas the red notes indicate the "bass"

Beethoven: Sonata Op. 2 No. 1, III

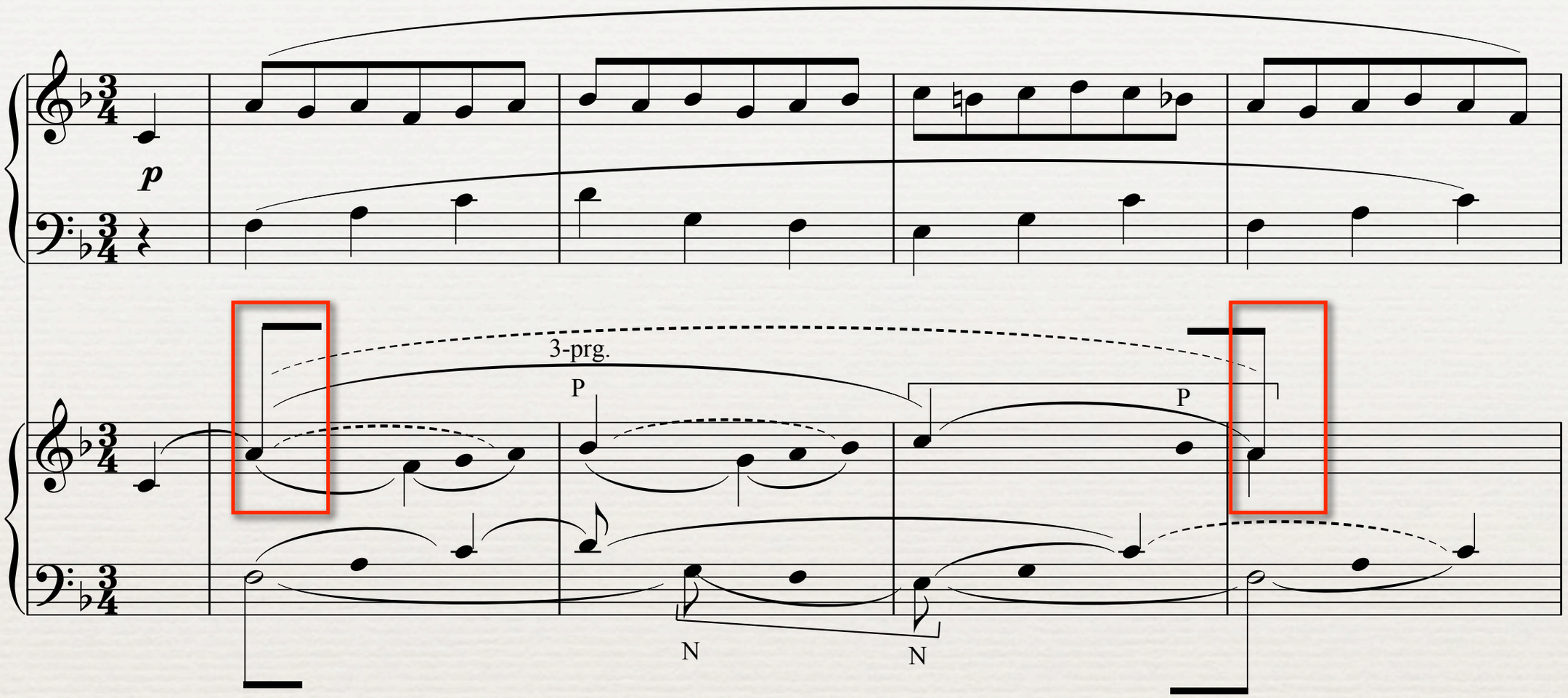


Beethoven: Sonata Op. 2 No. 1, III



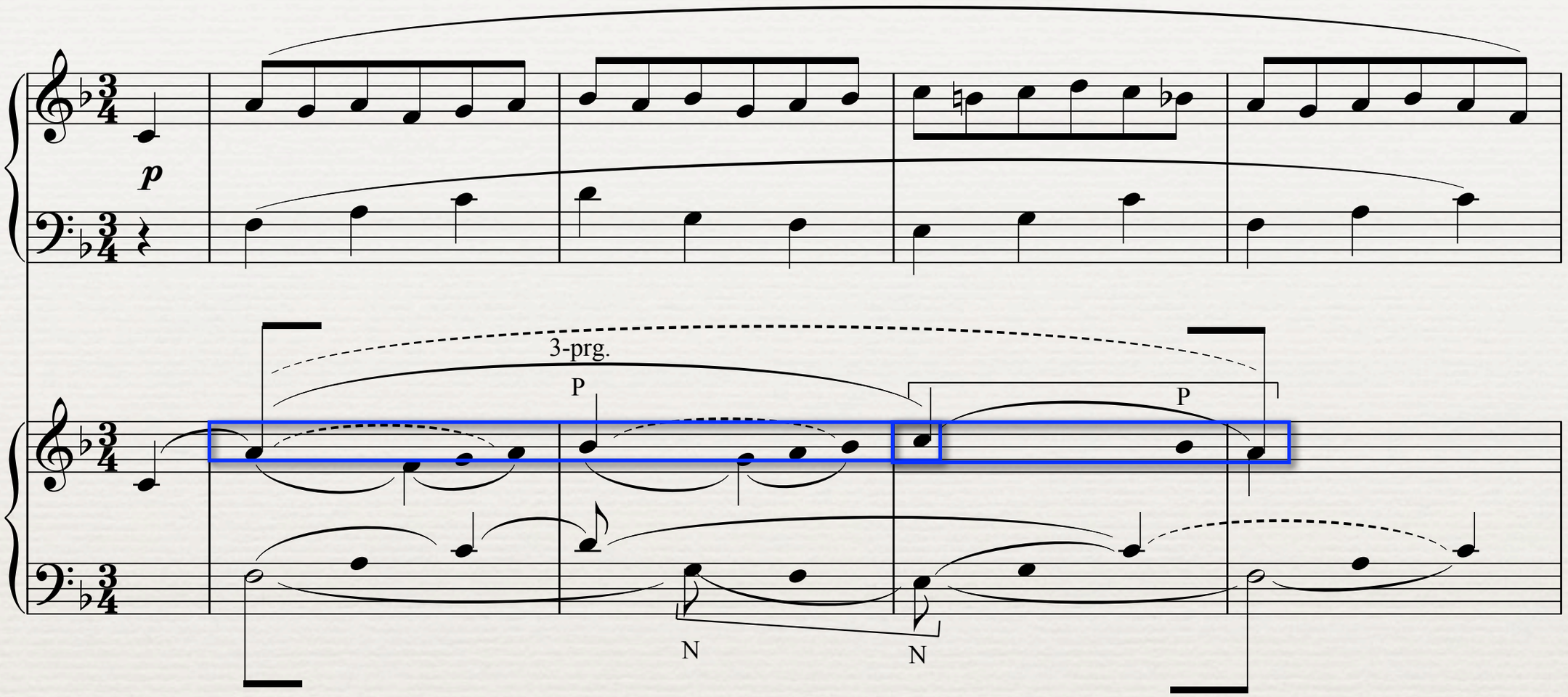
- There are several levels of structure in the top voice:

Beethoven: Sonata Op. 2 No. 1, III



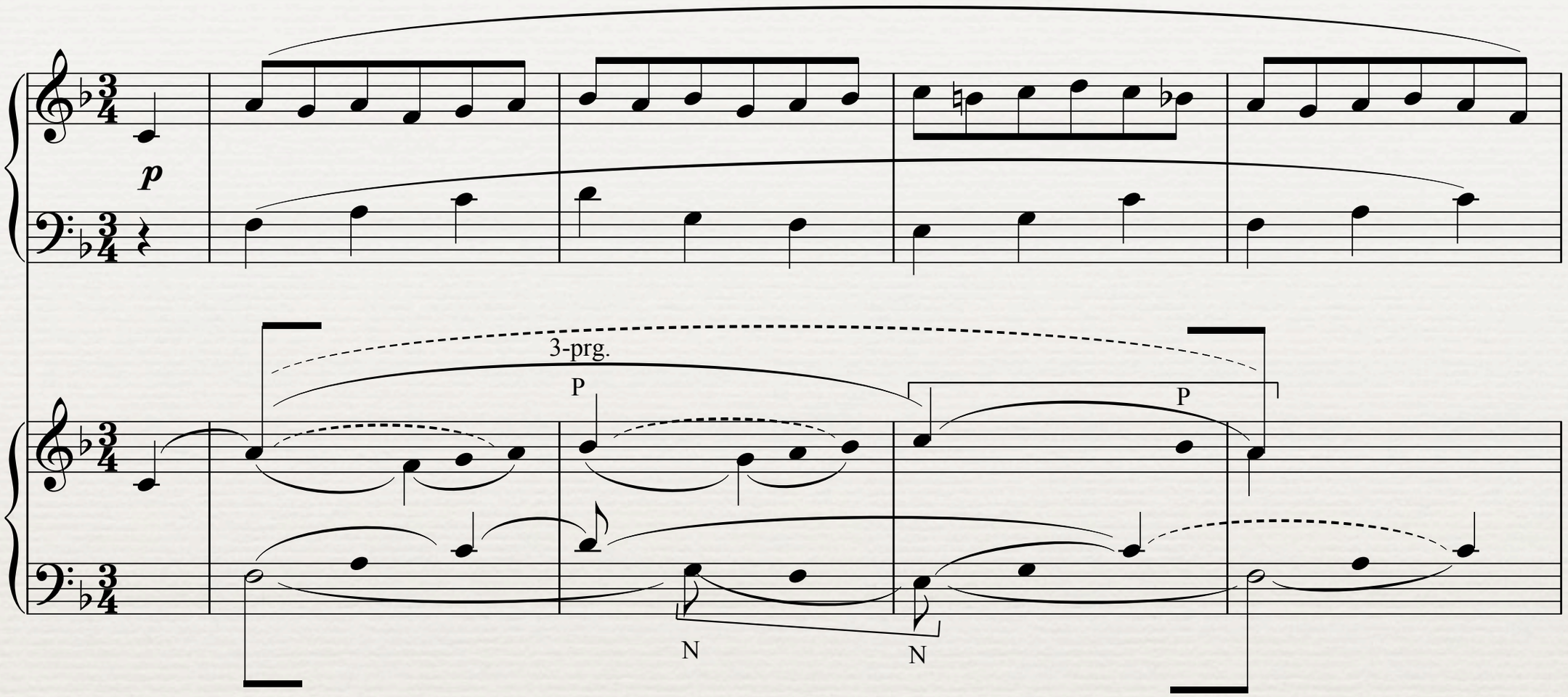
- There are several levels of structure in the top voice:
  - The prolongation of 'A'

Beethoven: Sonata Op. 2 No. 1, III



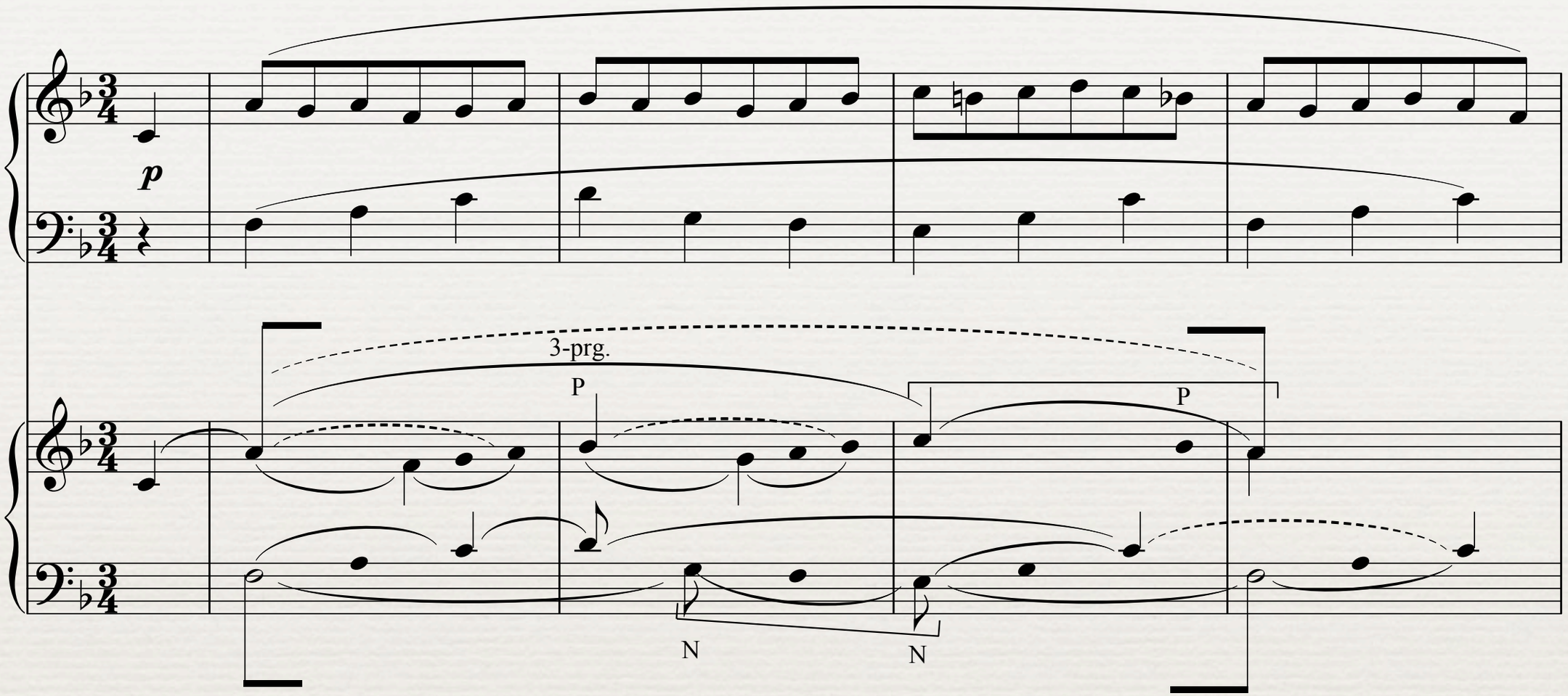
- There are several levels of structure in the top voice:
  - The prolongation of 'A'
  - Linear progressions rising to and falling from 'C'

Beethoven: Sonata Op. 2 No. 1, III

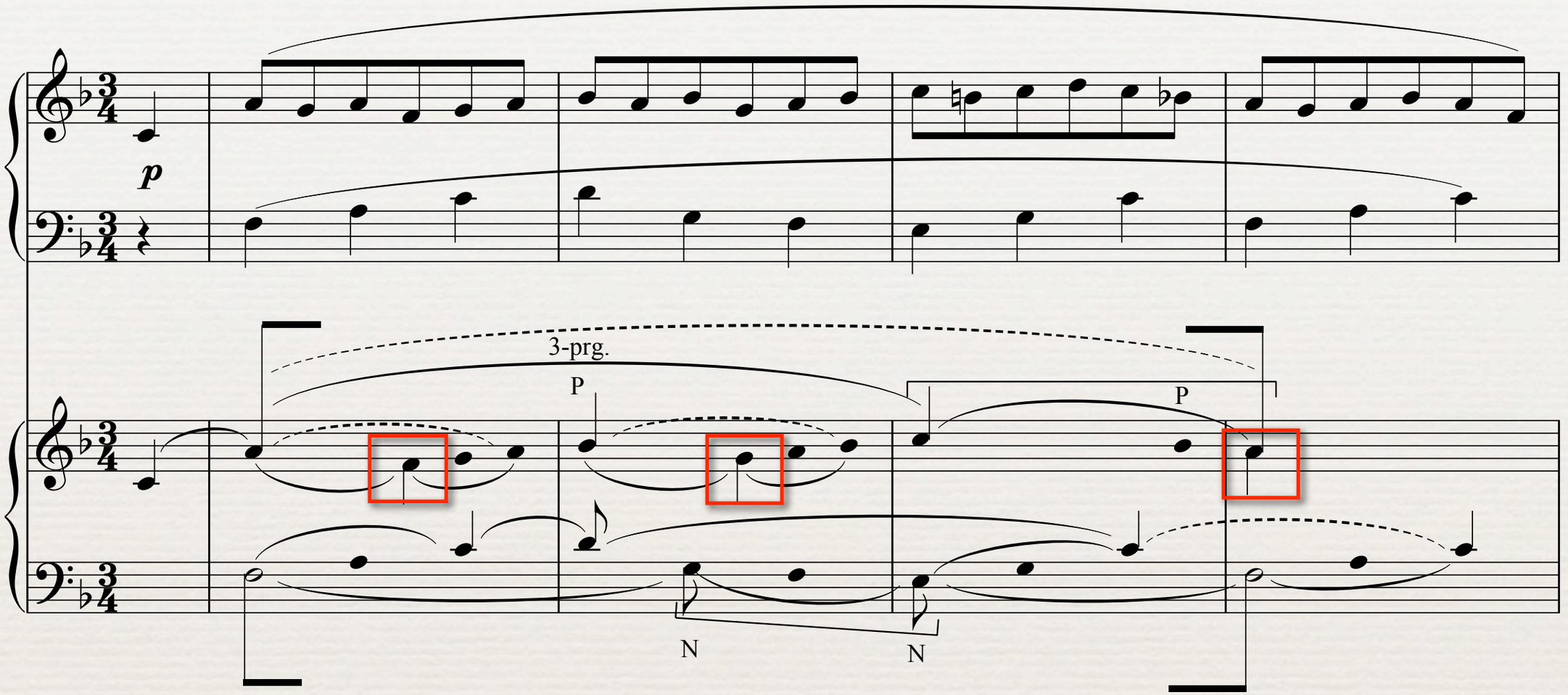


- There are several levels of structure in the top voice:
  - The prolongation of 'A'
  - Linear progressions rising to and falling from 'C'
  - Various tones of figurations that embellish these progressions

Beethoven: Sonata Op. 2 No. 1, III

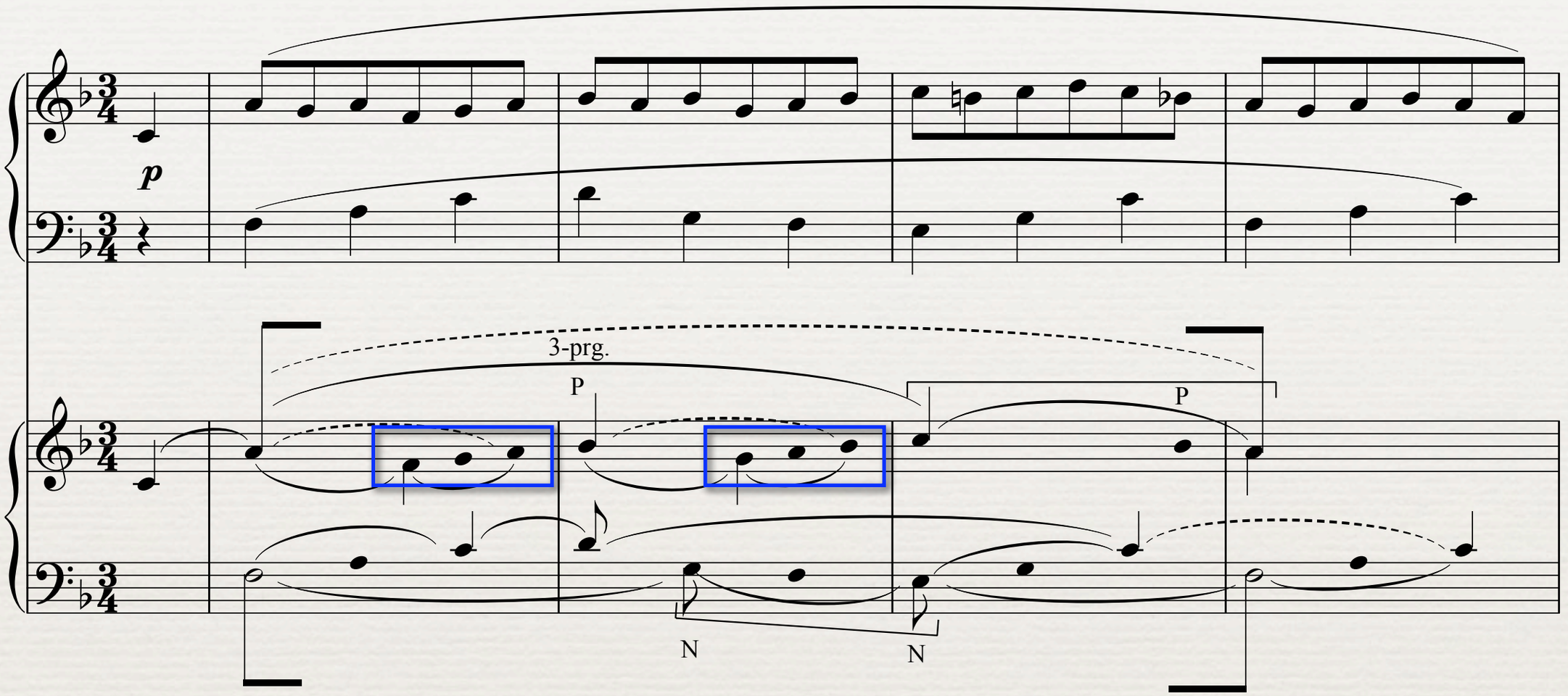


Beethoven: Sonata Op. 2 No. 1, III



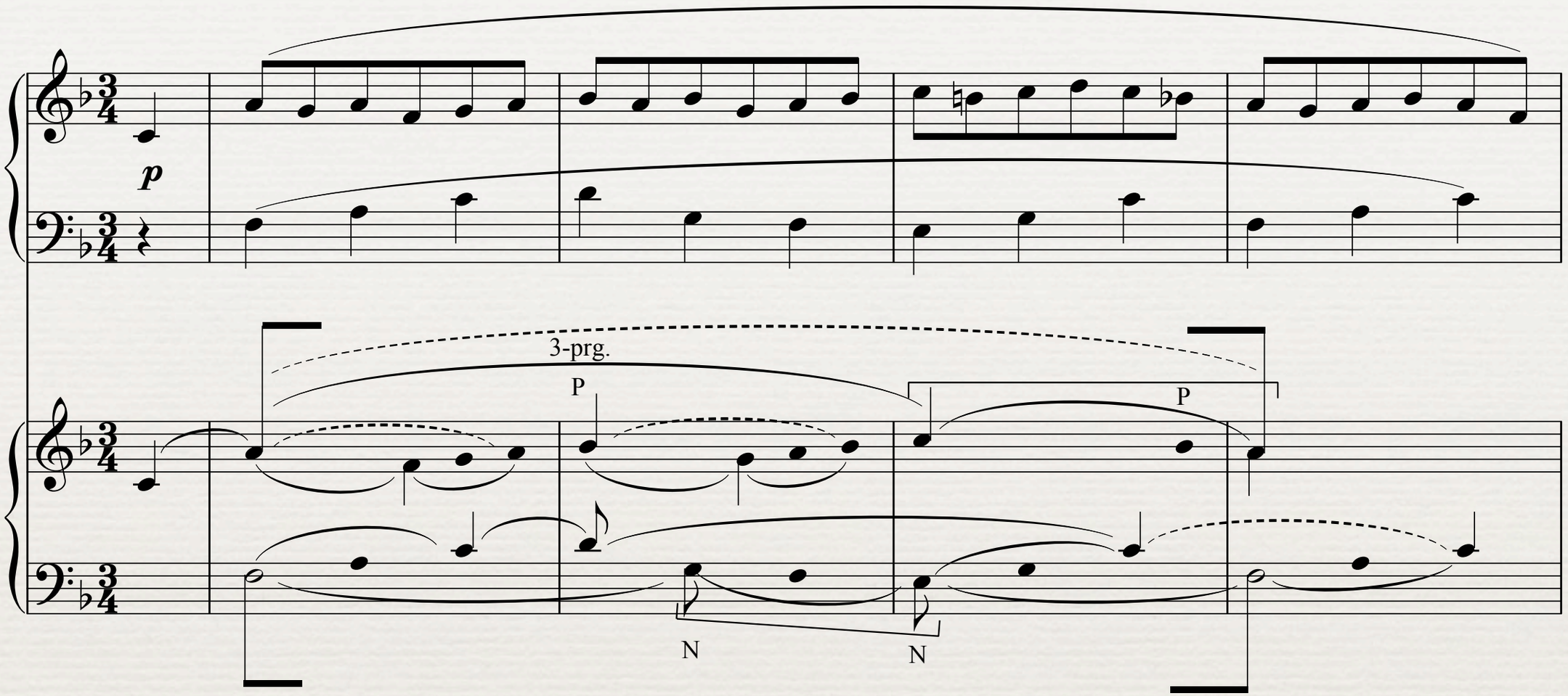
- Also note that there is an "alto" voice in the RH part, which outlines a 3-prg. from F to A

Beethoven: Sonata Op. 2 No. 1, III

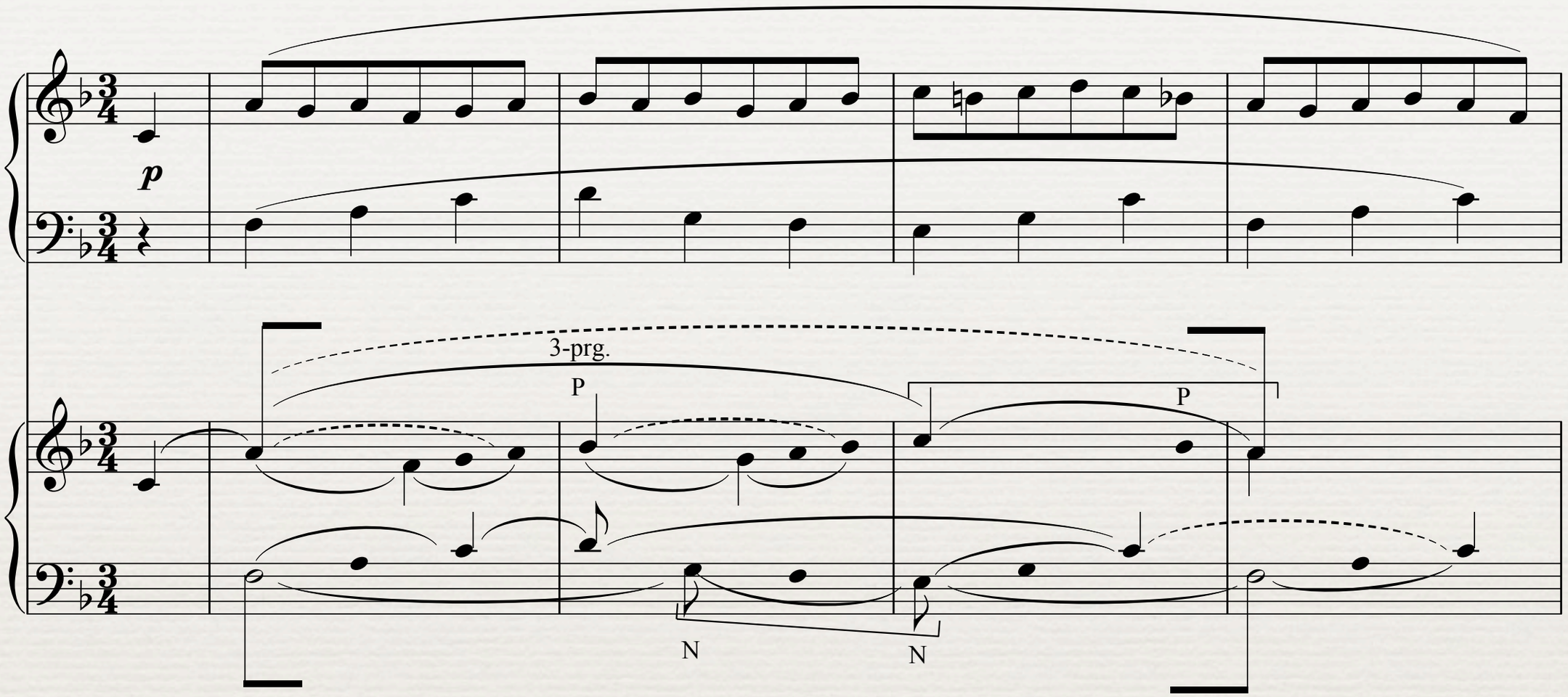


- Also note that there is an "alto" voice in the RH part, which outlines a 3-prg. from F to A
- Smaller 3-prgs. foreshadow the larger 3-prg from bars 1 - 3

Beethoven: Sonata Op. 2 No. 1, III

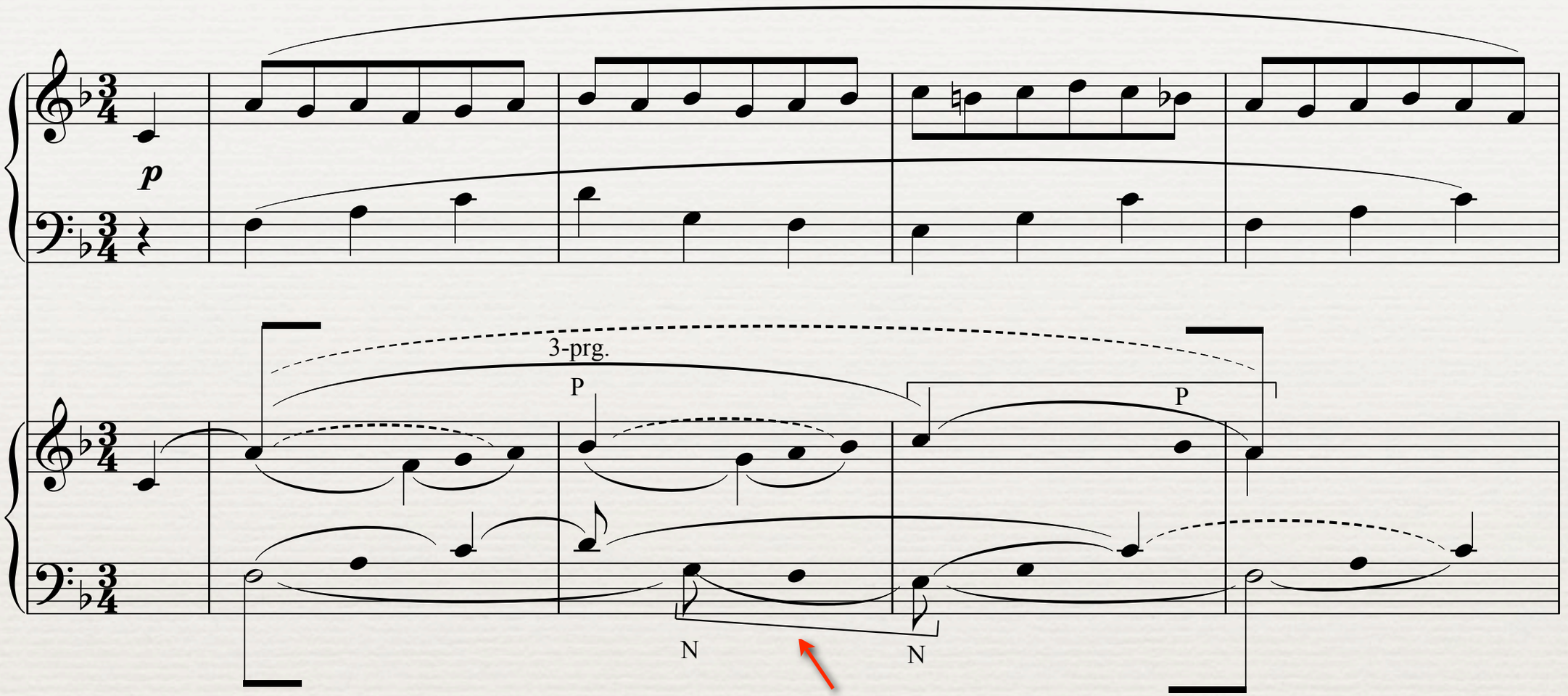


Beethoven: Sonata Op. 2 No. 1, III



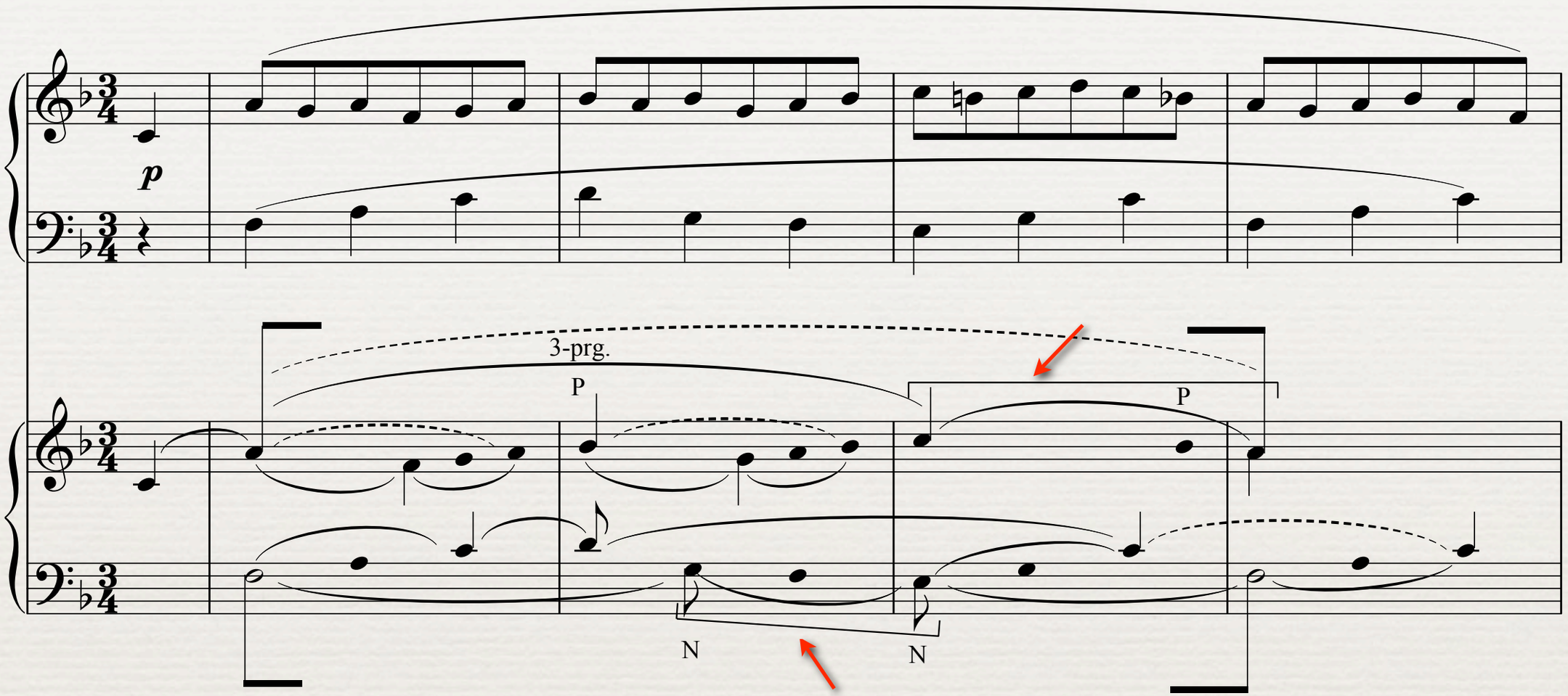
- A pair of brackets indicate a *motivic parallelism* that reflects the 3-prgs found throughout the piece

Beethoven: Sonata Op. 2 No. 1, III



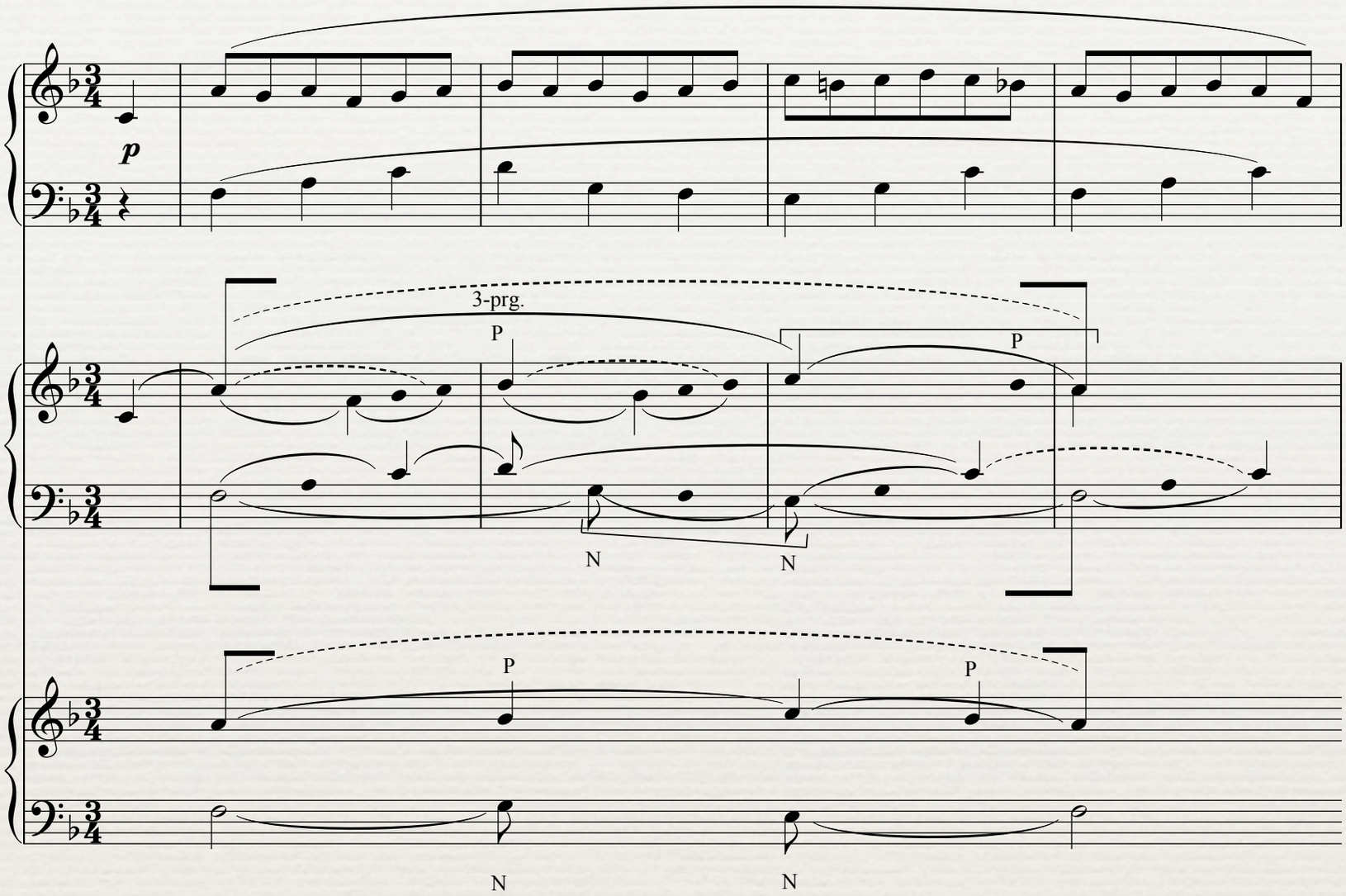
- A pair of brackets indicate a *motivic parallelism* that reflects the 3-prgs found throughout the piece
  - LH: from G-E passing through F

Beethoven: Sonata Op. 2 No. 1, III

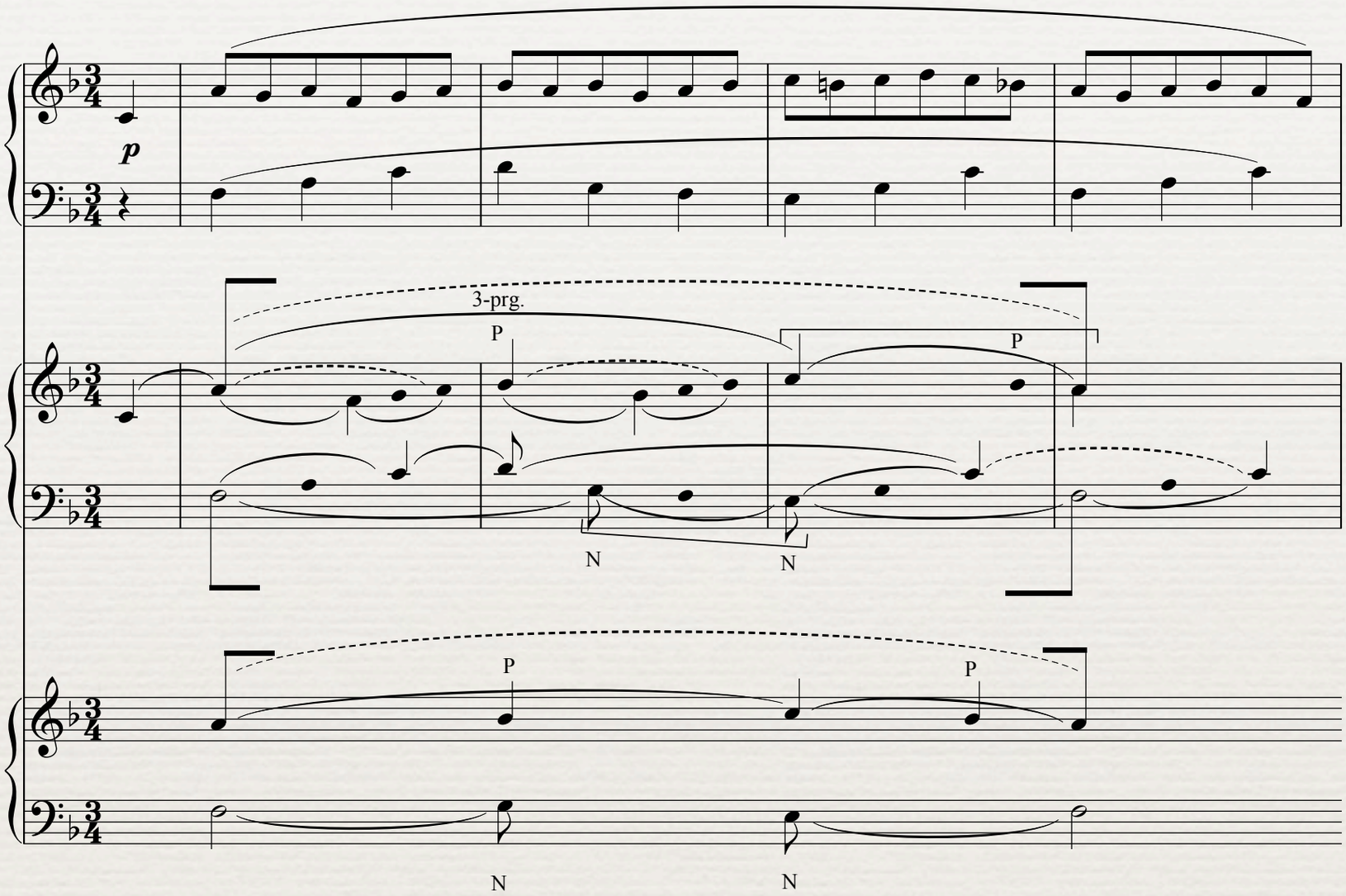


- A pair of brackets indicate a *motivic parallelism* that reflects the 3-prgs found throughout the piece
  - LH: from G-E passing through F
  - RH: from C-A passing through B-flat

Beethoven: Sonata Op. 2 No. 1, III

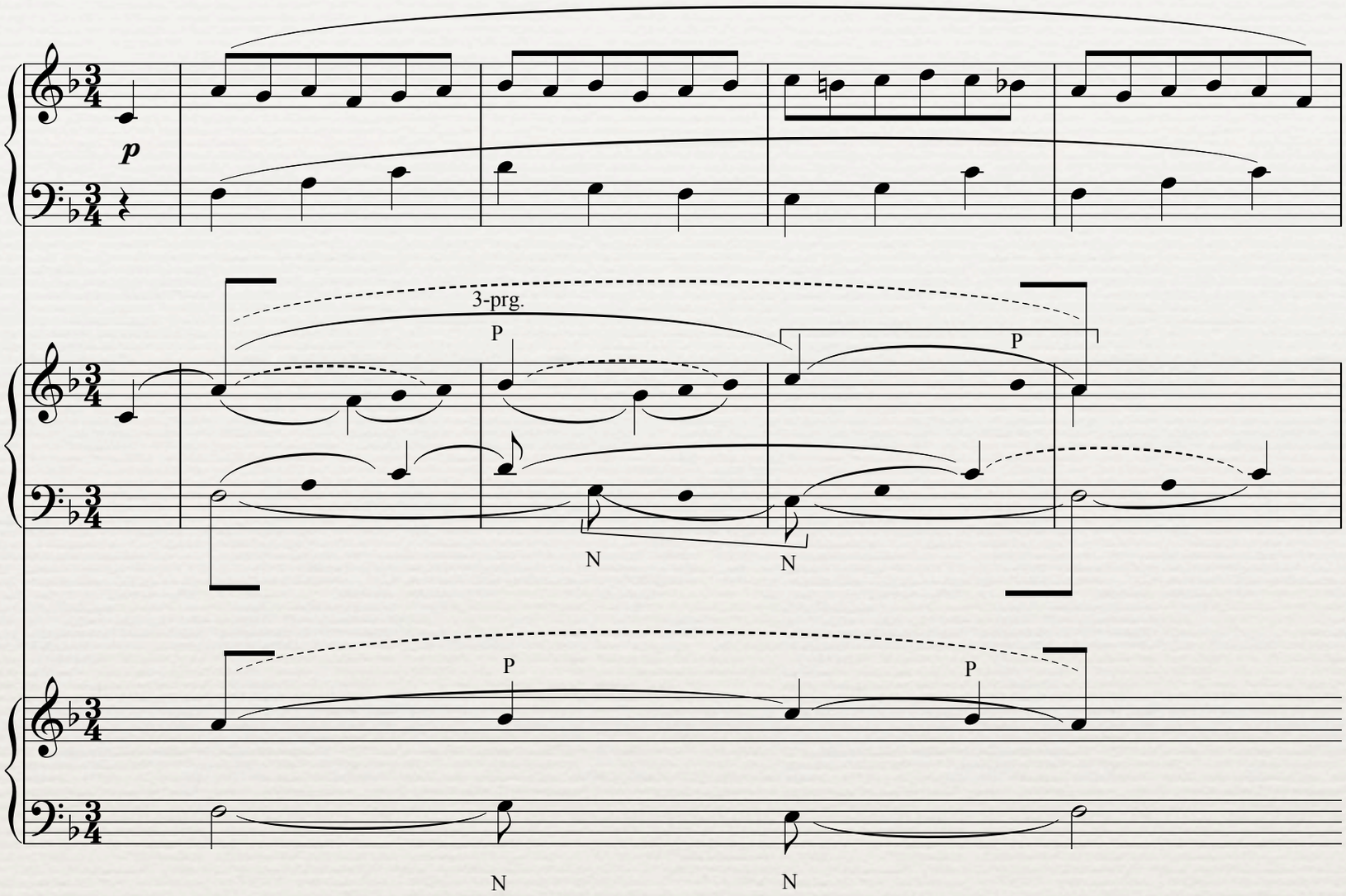


Beethoven: Sonata Op. 2 No. 1, III



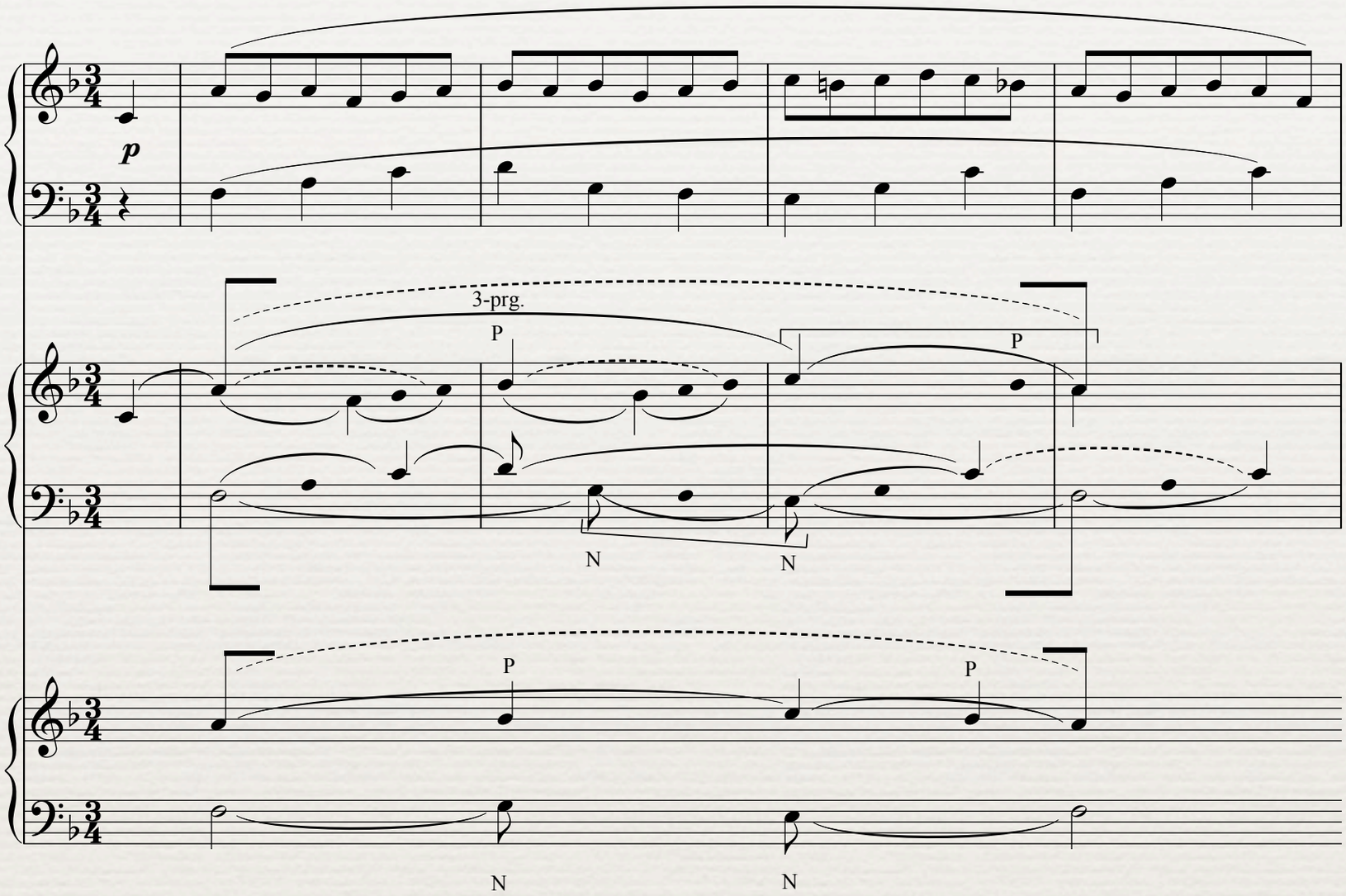
- An analysis with a further level of reduction:

Beethoven: Sonata Op. 2 No. 1, III



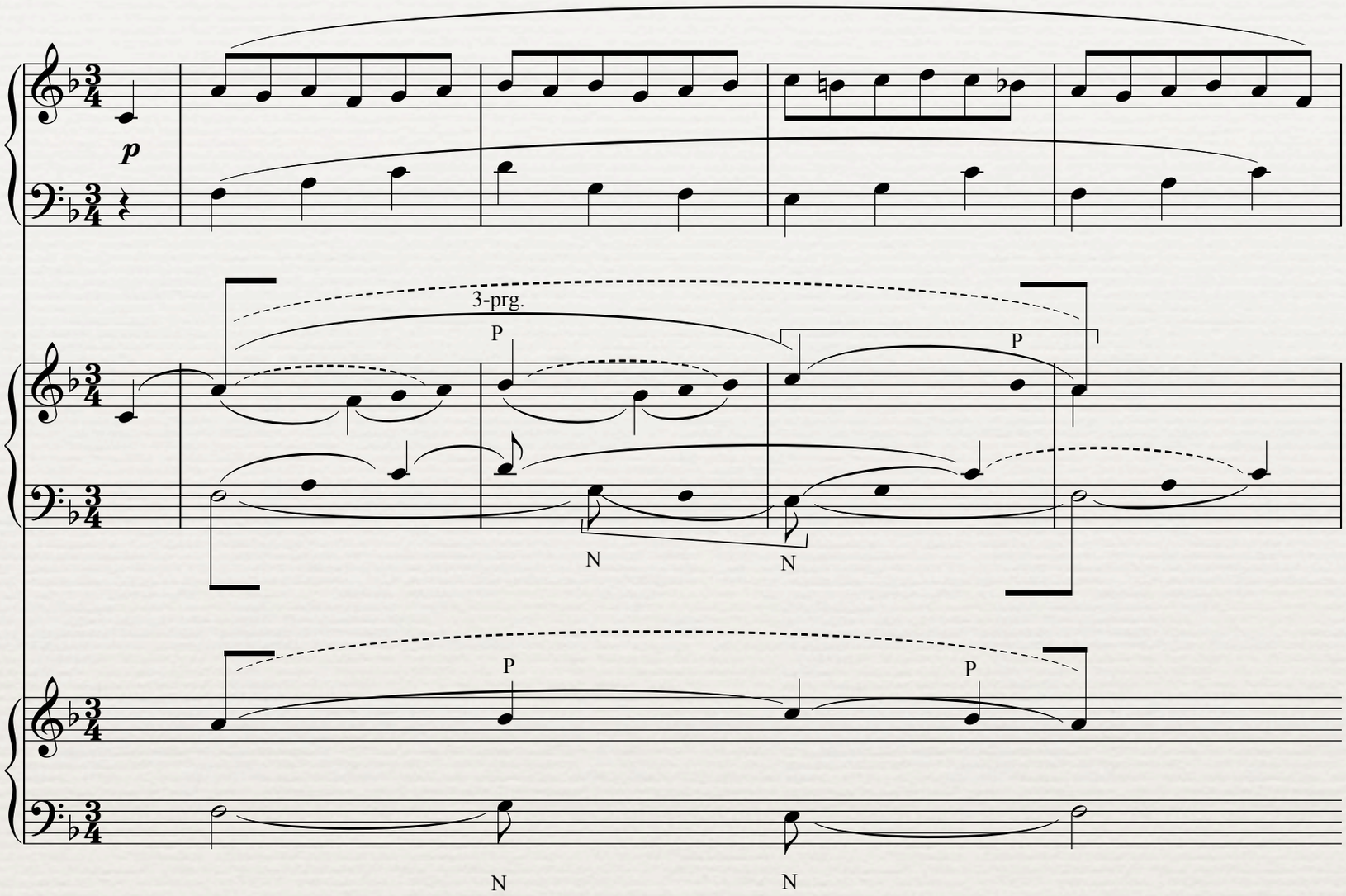
- An analysis with a further level of reduction:
  - Lesser notes (such as unstemmed notes) are removed

Beethoven: Sonata Op. 2 No. 1, III



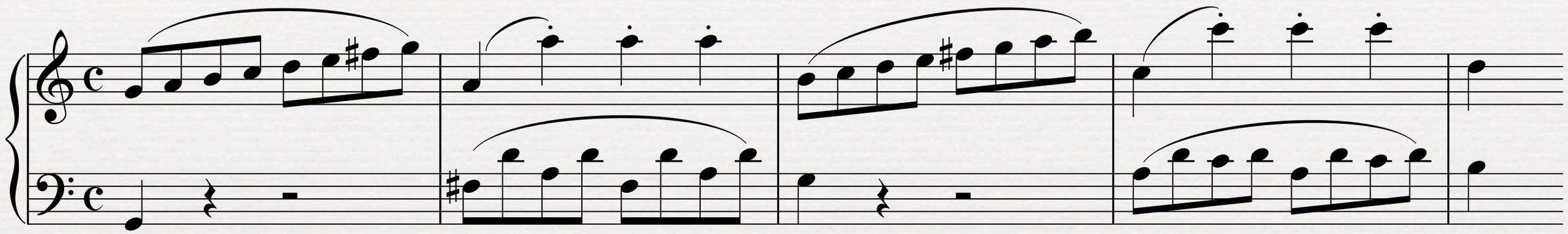
- An analysis with a further level of reduction:
  - Lesser notes (such as unstemmed notes) are removed
  - Extra voices ("alto" and "tenor") are removed

Beethoven: Sonata Op. 2 No. 1, III

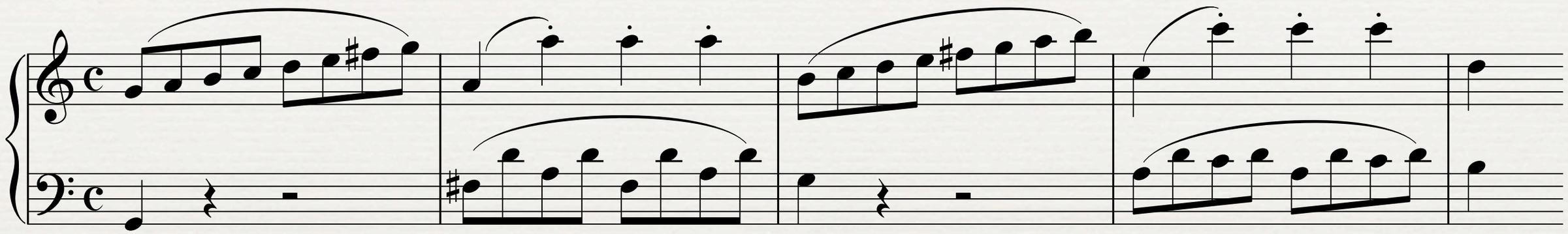


- An analysis with a further level of reduction:
  - Lesser notes (such as unstemmed notes) are removed
  - Extra voices ("alto" and "tenor") are removed
- The 3-prgs in the RH are set on a tonic in the LH prolonged by two incomplete neighbors.

Clementi: Sonatina in C Major

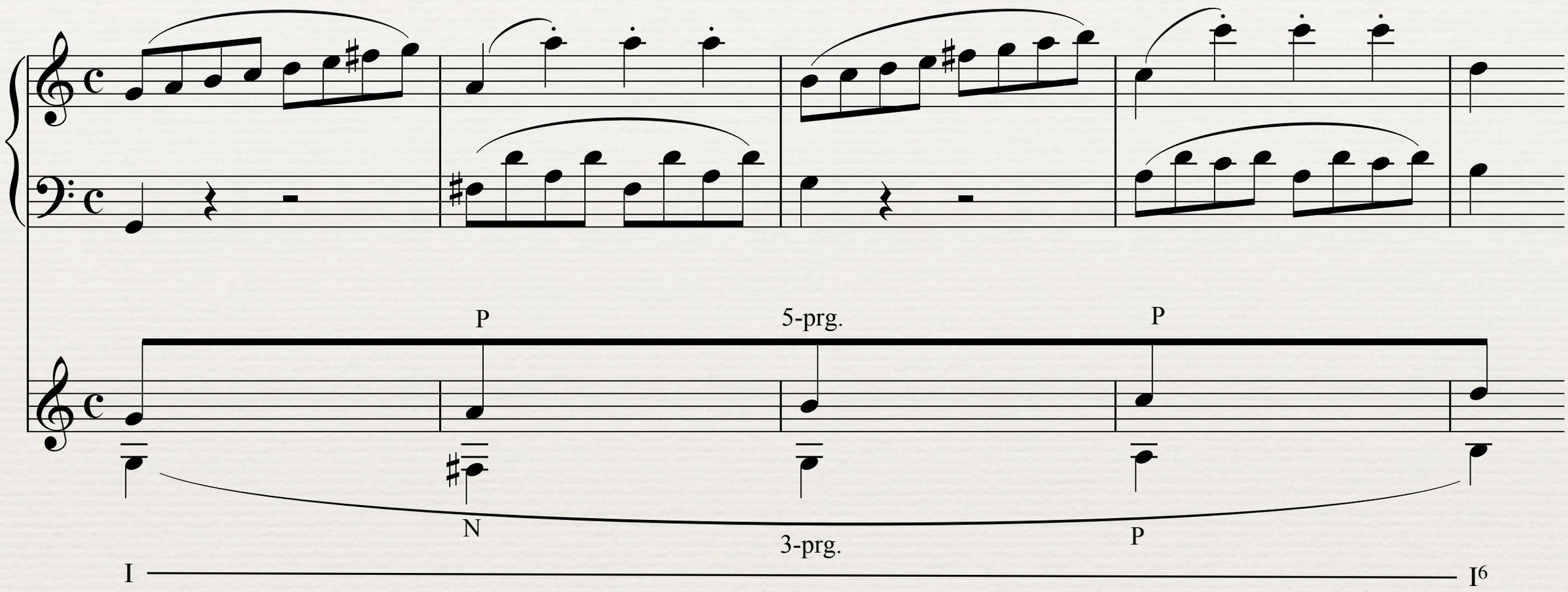


Clementi: Sonatina in C Major

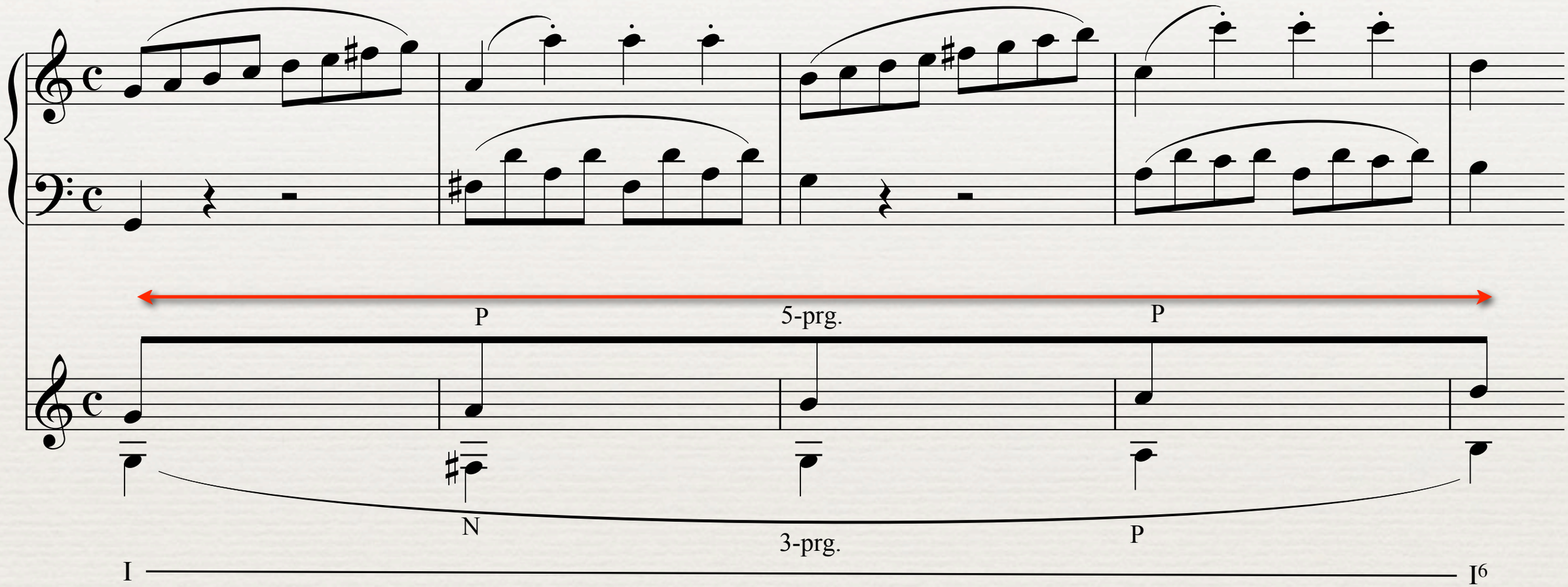


- This short passage will demonstrate a form of a linear progression that prolongs an underlying chord.

Clementi: C Major Sonatina

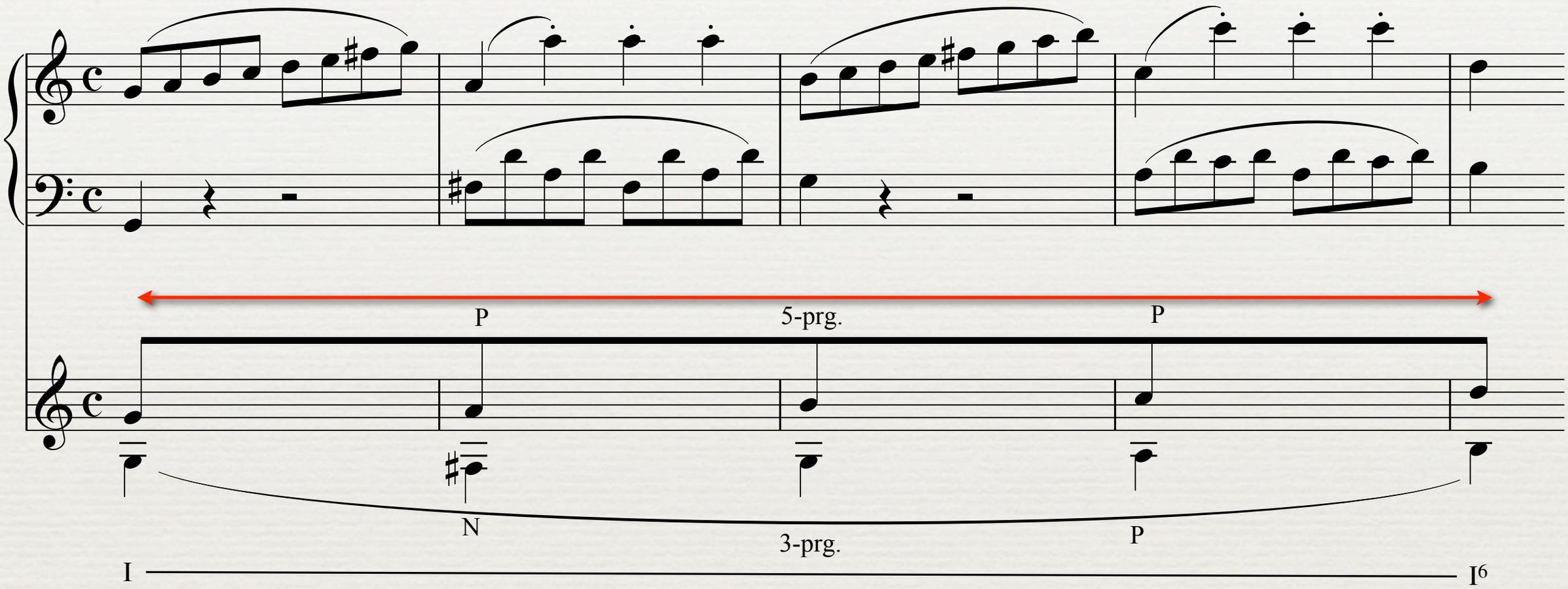


Clementi: C Major Sonatina



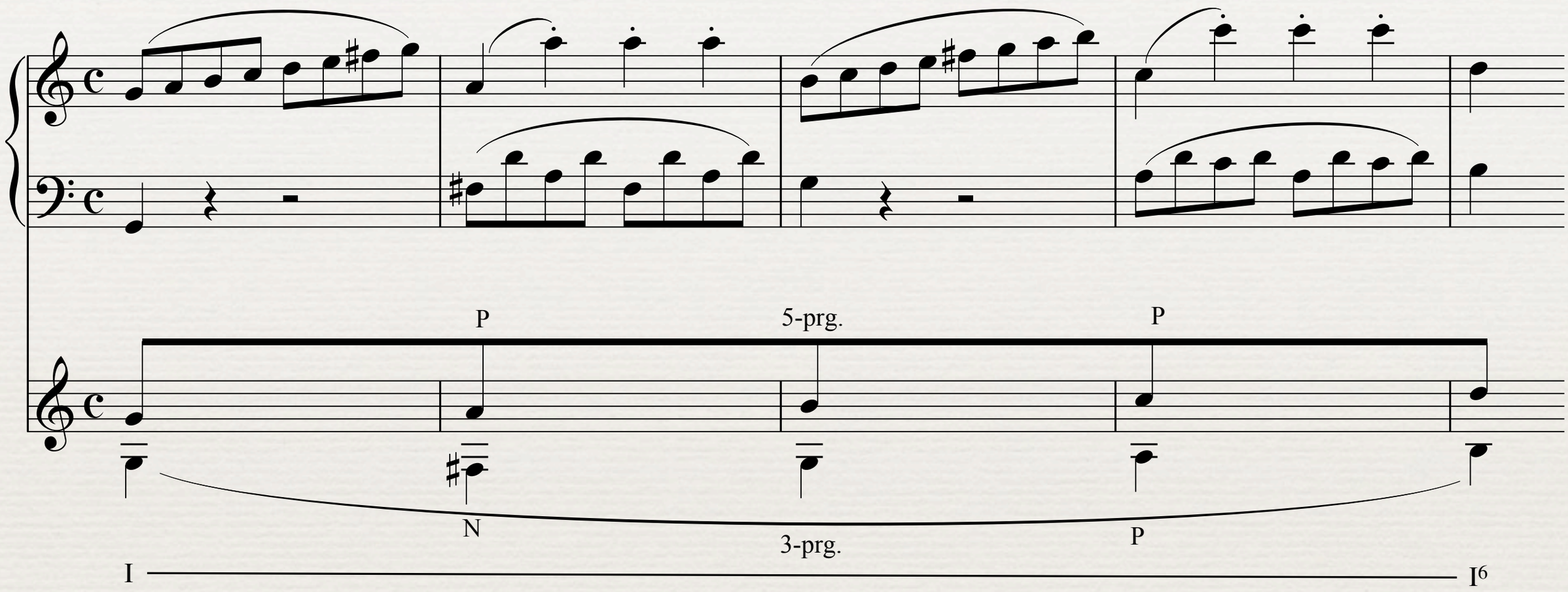
- Melodic span is G-D, the boundary of the G Major harmony that governs this passage.

Clementi: C Major Sonatina

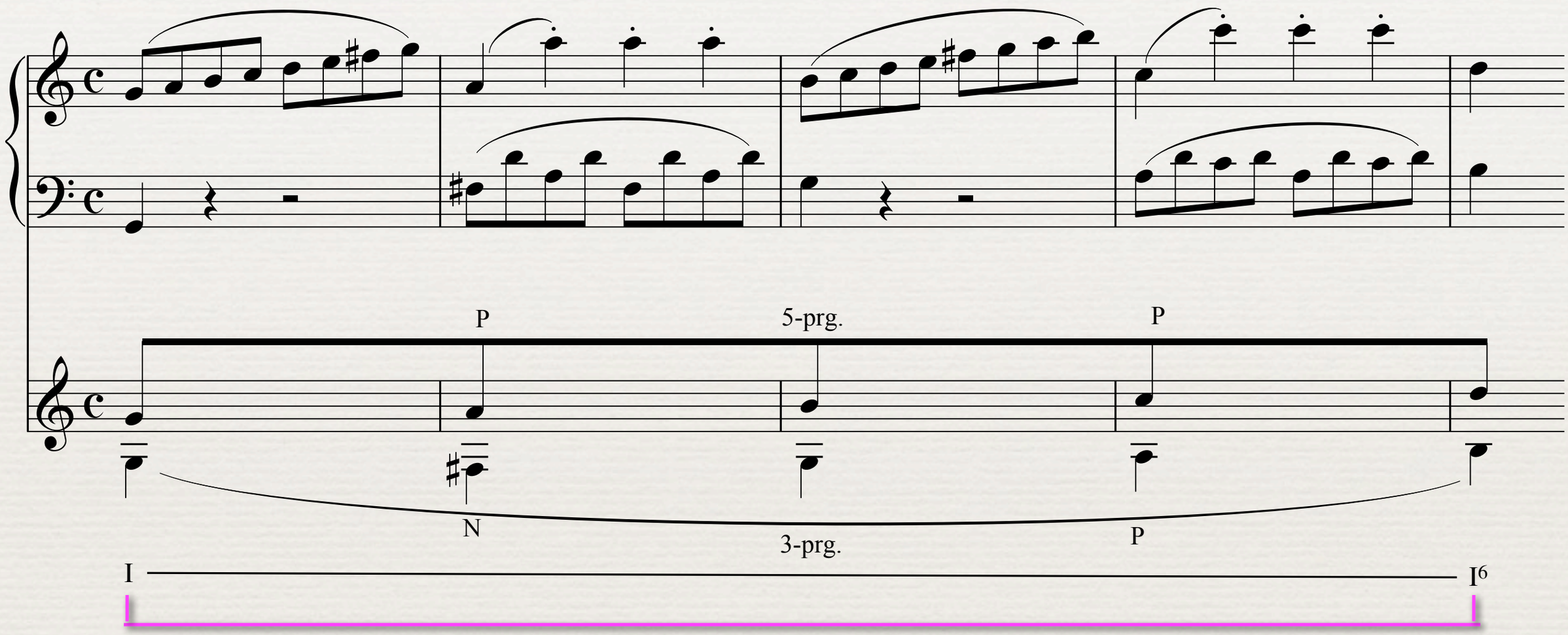


- Melodic span is G-D, the boundary of the G Major harmony that governs this passage.
- This is a particularly clear example of how a triad may be expressed in the horizontal (temporal) dimension with passing tones.

Clementi: C Major Sonatina

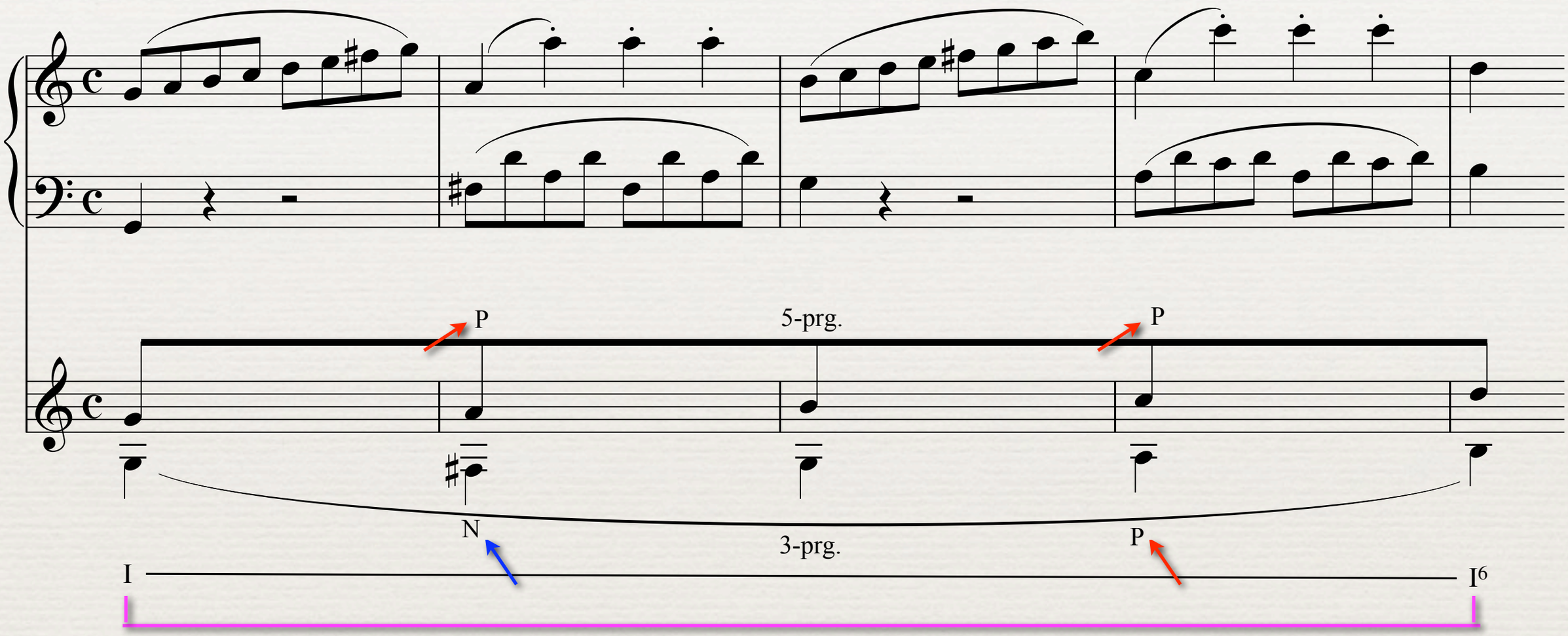


Clementi: C Major Sonatina



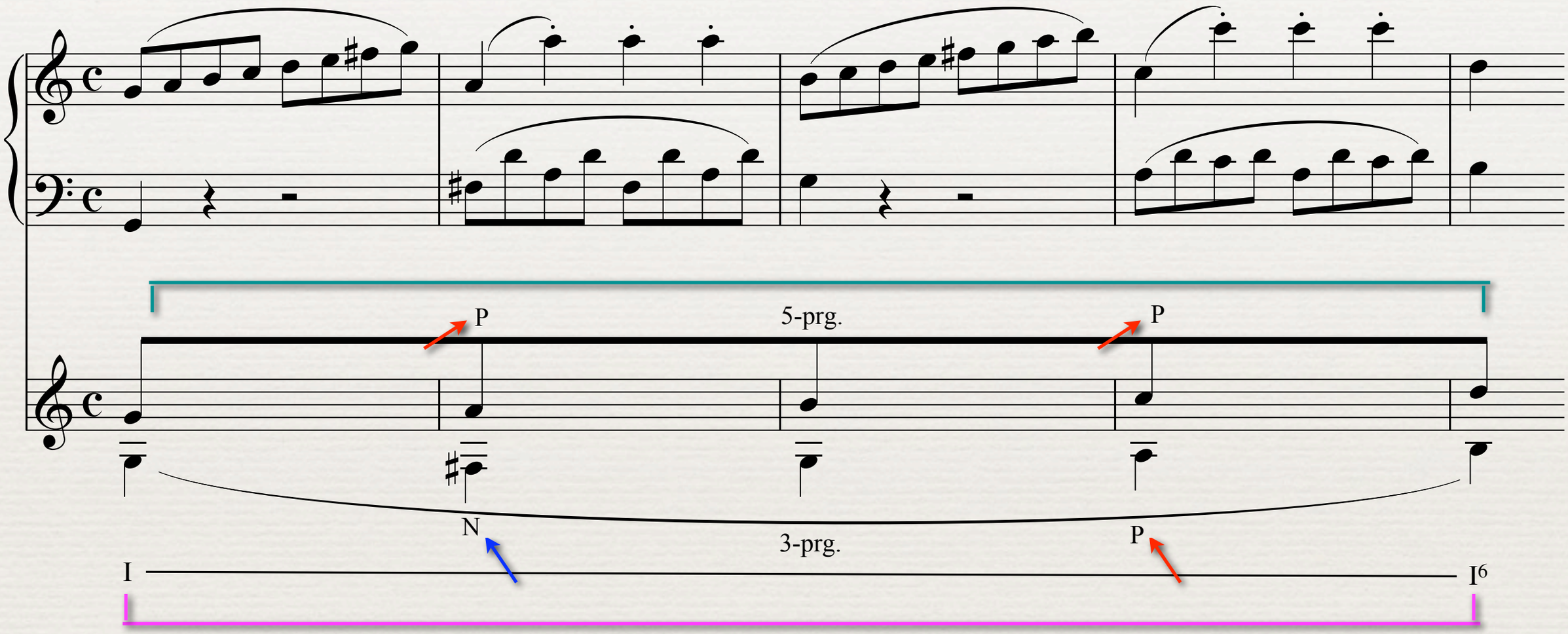
- The bass motion is from I to I6

Clementi: C Major Sonatina



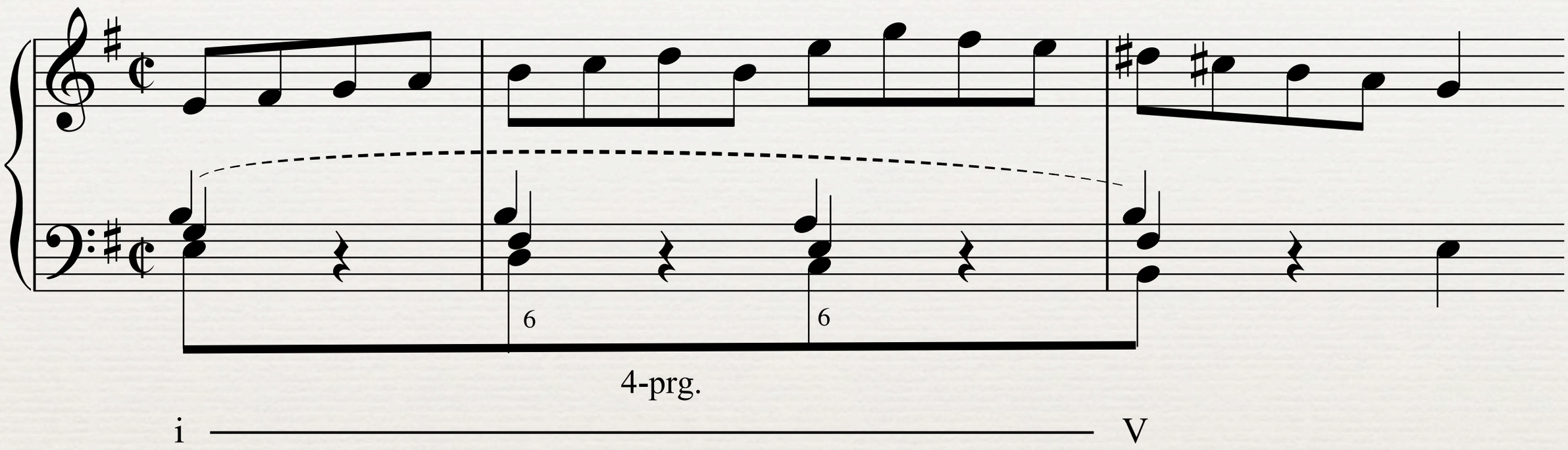
- The bass motion is from I to I6
  - Neighbor and passing tones embellish a 3-prg.

Clementi: C Major Sonatina

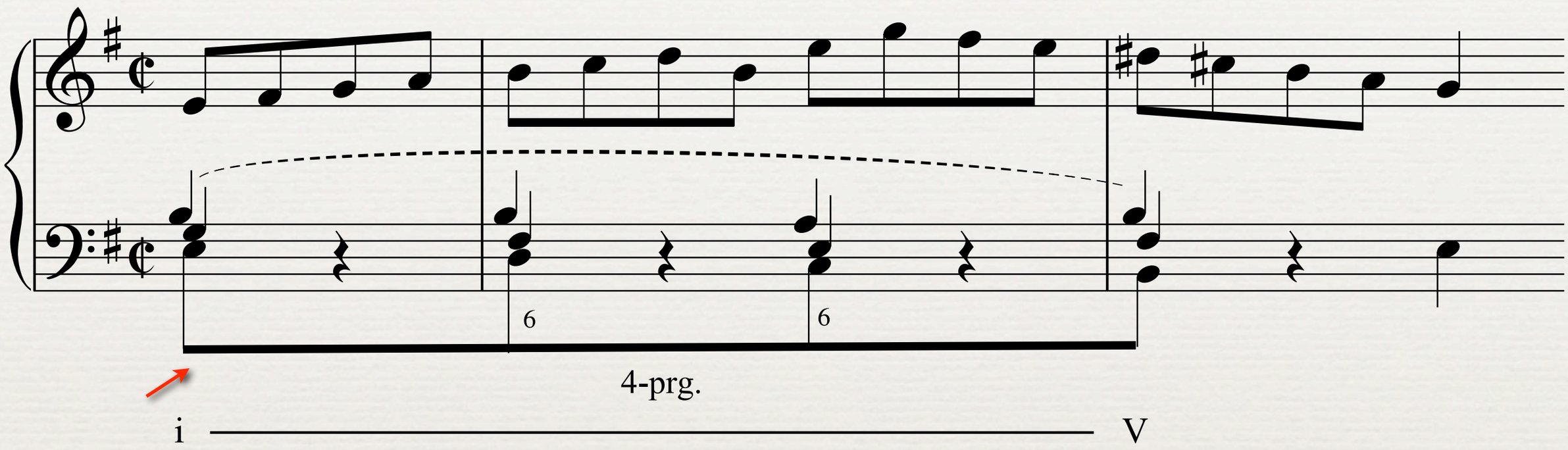


- The bass motion is from I to I6
  - Neighbor and passing tones embellish a 3-prg.
- That bass motion supports a 5-prg. in the melody

Bach: Partita No. 6, Air

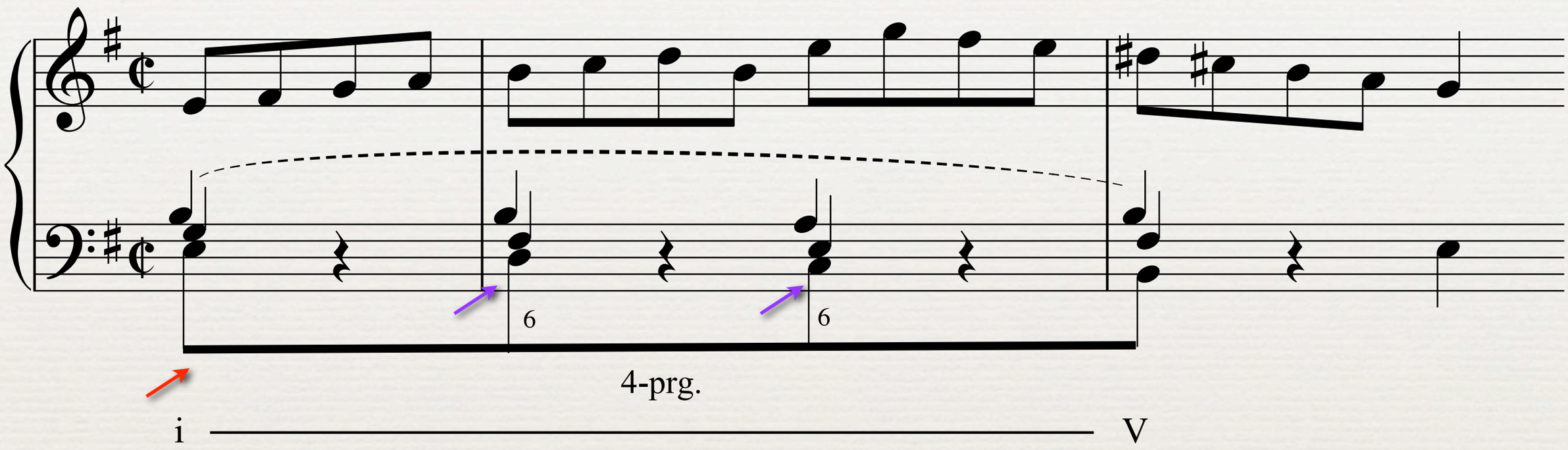


Bach: Partita No. 6, Air



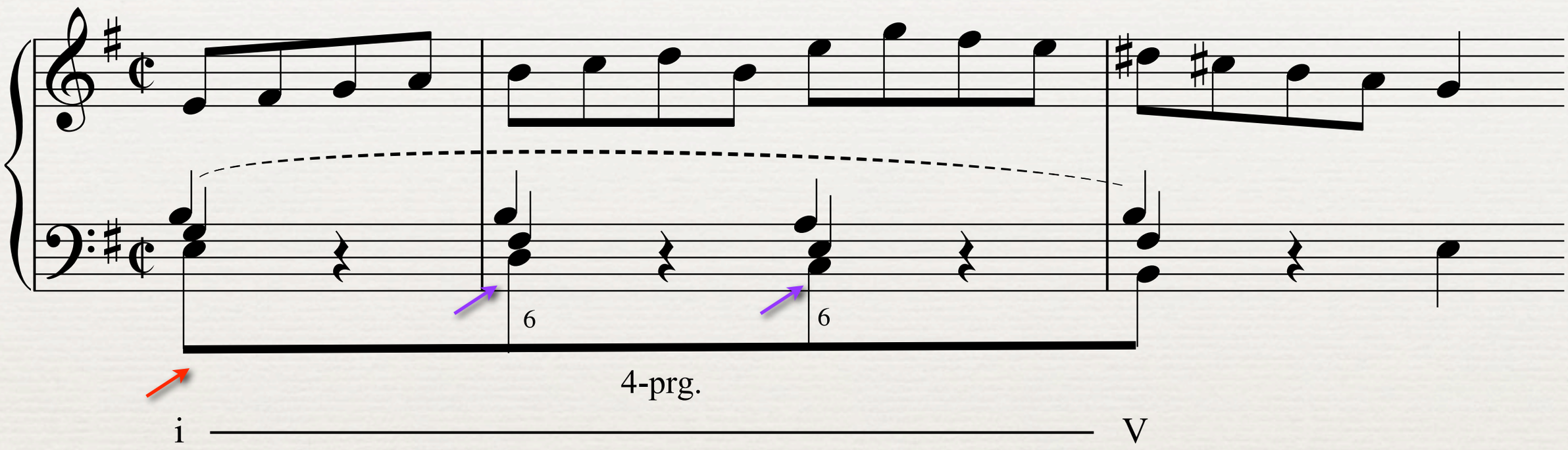
- A descending 4-prg. moves from i to V

Bach: Partita No. 6, Air



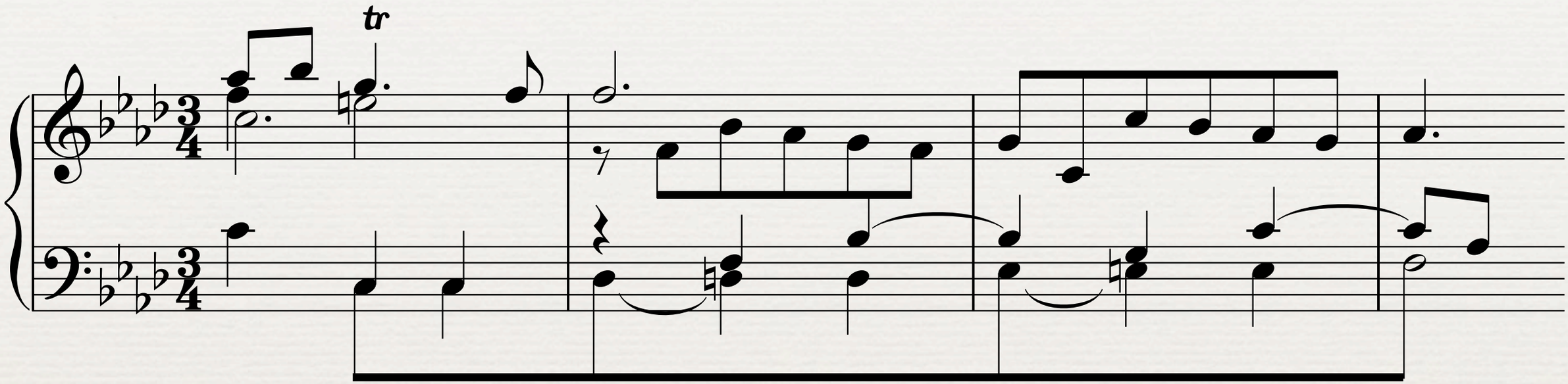
- A descending 4-prg. moves from i to V
  - The intervening v6 and IV6 chords are contrapuntal—passing tones in the bass.

Bach: Partita No. 6, Air



- A descending 4-prg. moves from i to V
  - The intervening v6 and IV6 chords are contrapuntal—passing tones in the bass.
  - The descending fourth is an inversion of an ascending fifth.

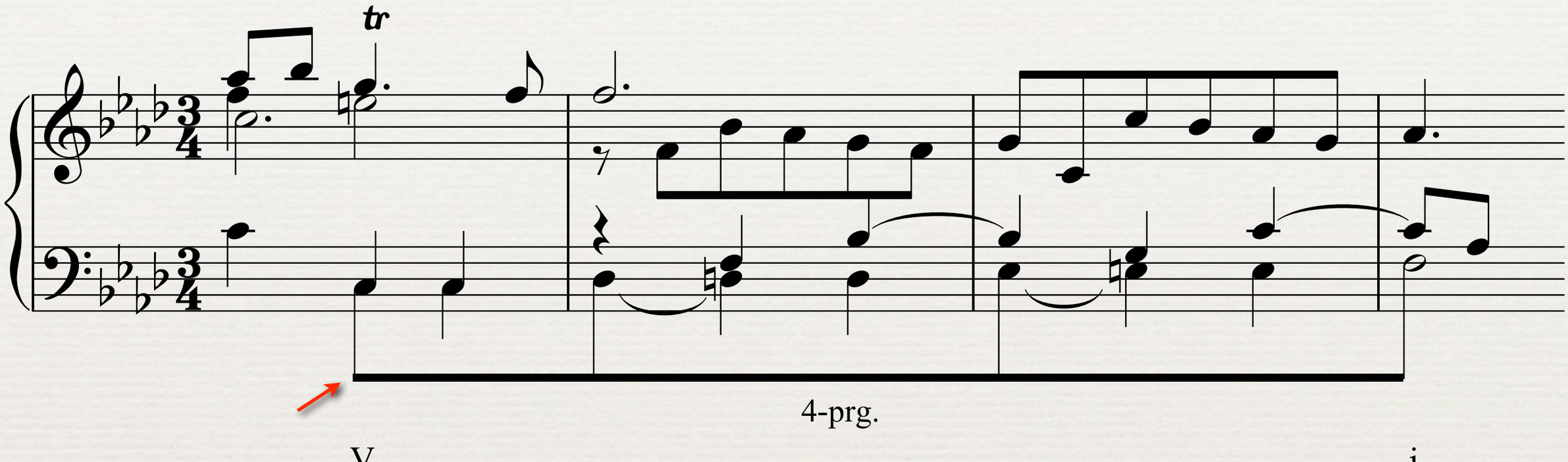
Handel: Keyboard Suite No. 8, Courante



4-prg.

V i

Handel: Keyboard Suite No. 8, Courante



- This ascending 4-prg. connects V to i

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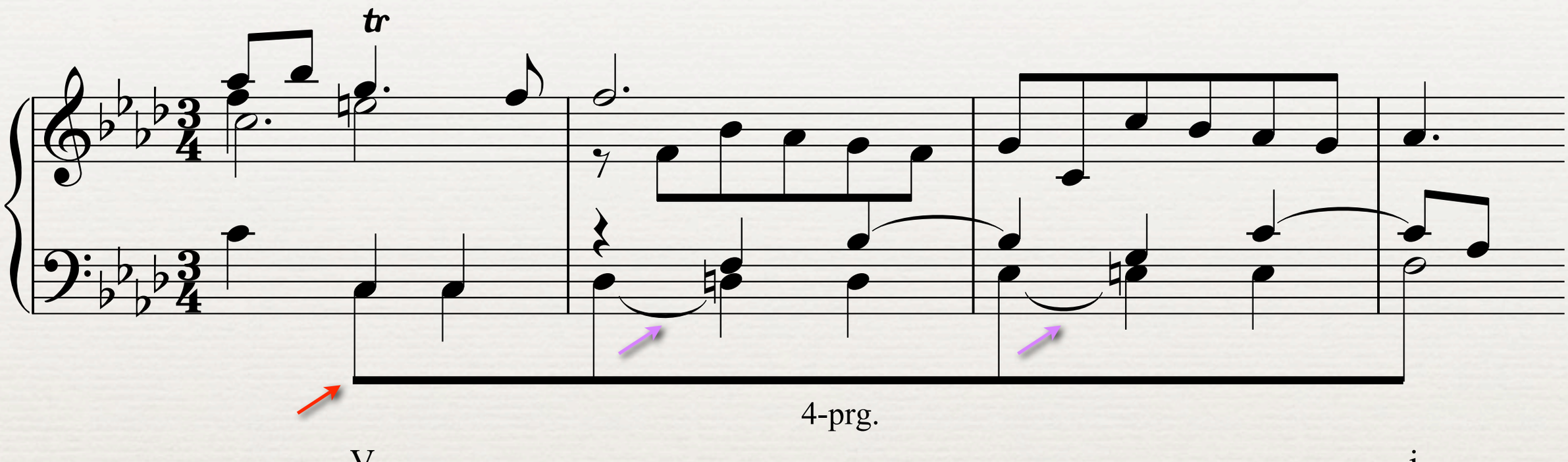
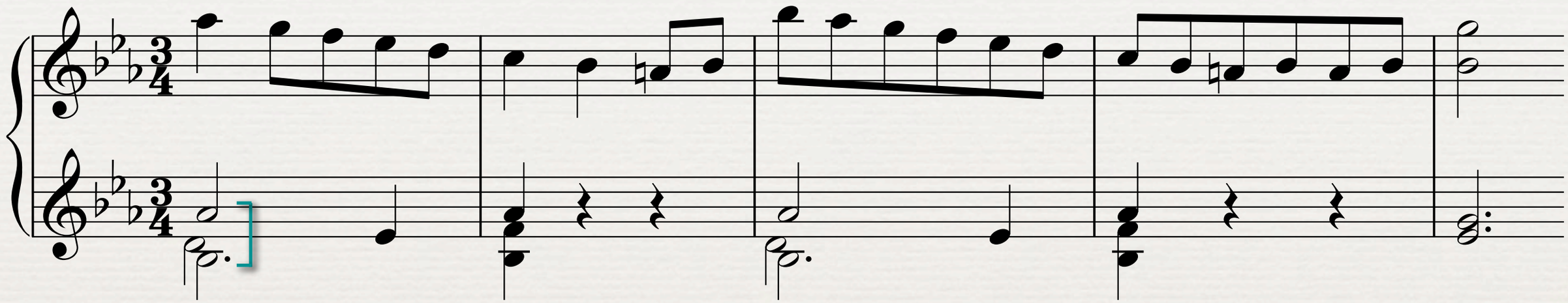
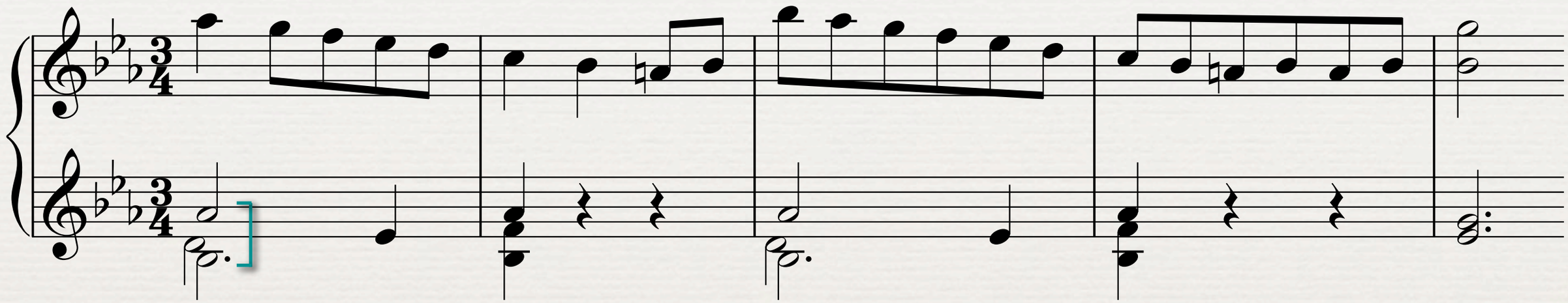


- This ascending 4-prg. connects V to i
- It incorporates some chromatic motions (raised ^6 and ^7) which have been indicated with slurs—the fundamental motion is as beamed

Beethoven: Bagatelle, Op. 119 No. 1

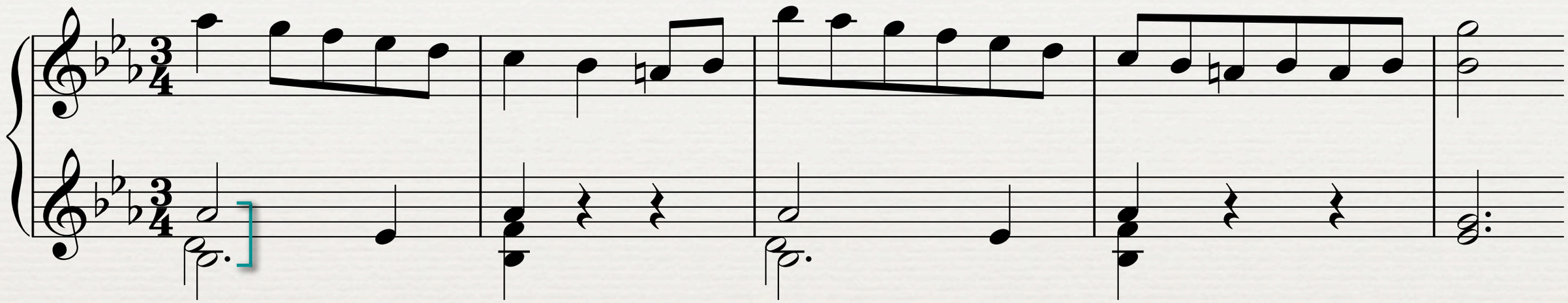


Beethoven: Bagatelle, Op. 119 No. 1



- The LH sustains a vertical seventh

Beethoven: Bagatelle, Op. 119 No. 1



- The LH sustains a vertical seventh
- The RH linearizes that same interval with a set of passing tones

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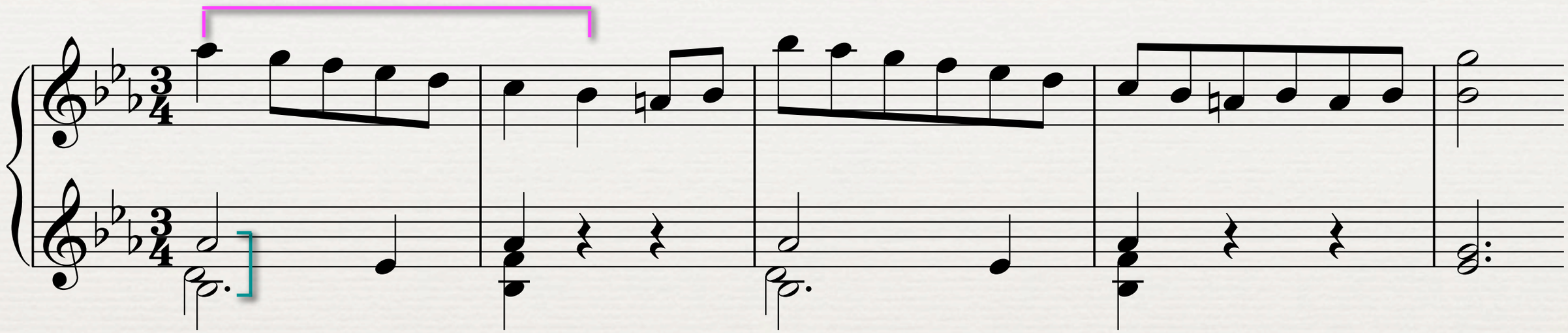
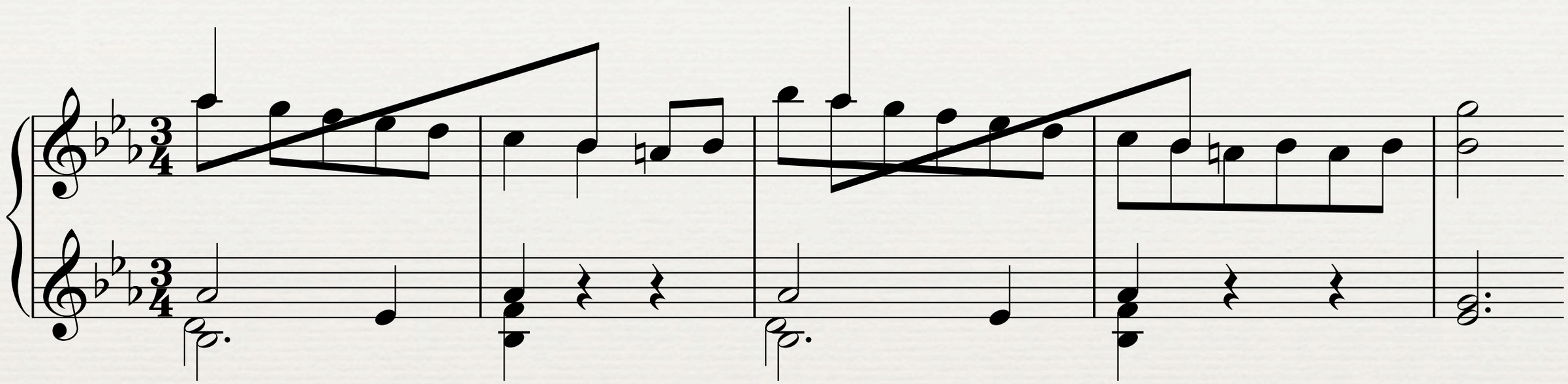
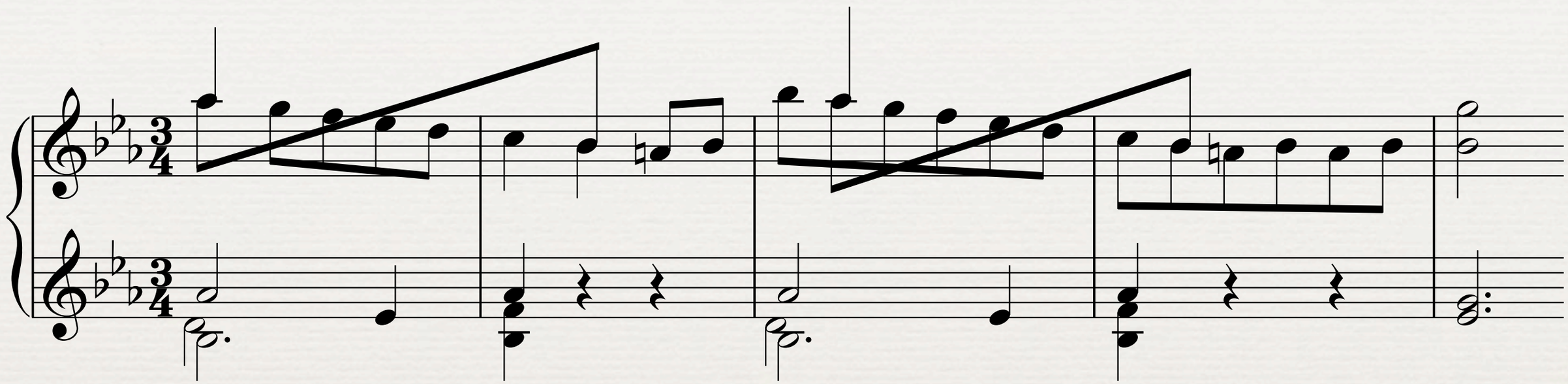


- The LH sustains a vertical seventh
- The RH linearizes that same interval with a set of passing tones
- That 7th *unfolds* a dissonant span—moving from one voice to another over the larger interval

Beethoven: Bagatelle, Op. 119 No. 1

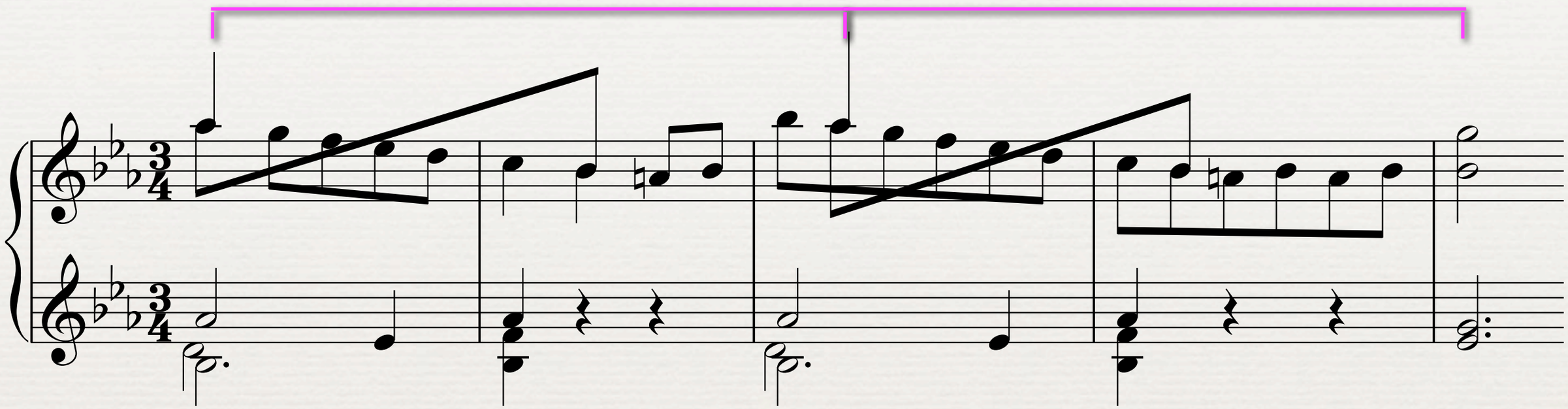


Beethoven: Bagatelle, Op. 119 No. 1



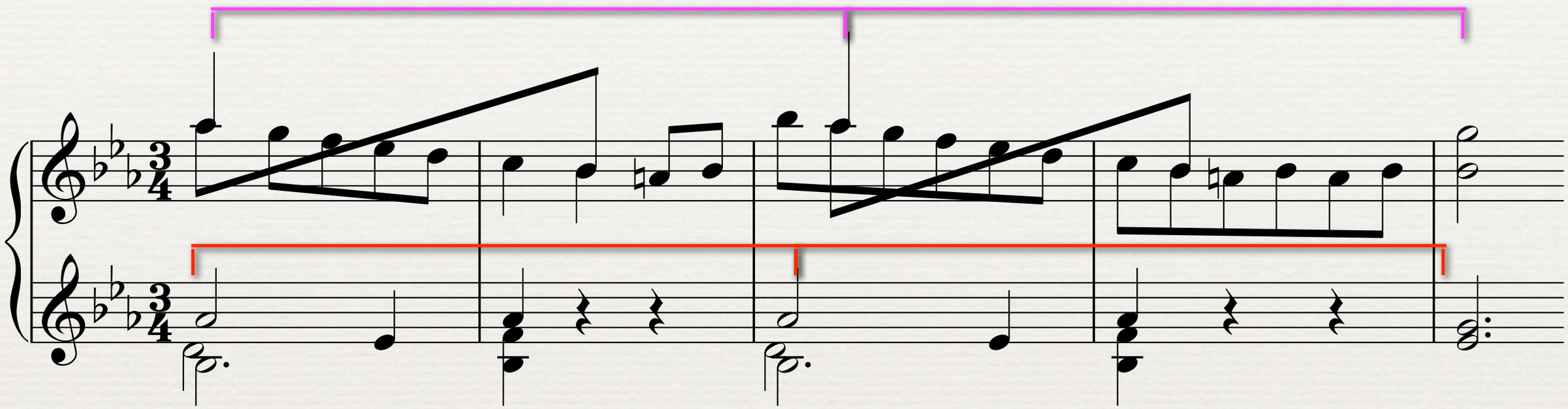
- The diagonal beam indicates an *unfolded* interval

Beethoven: Bagatelle, Op. 119 No. 1



- The diagonal beam indicates an *unfolded* interval
- The resolution of the 7th in the RH is *delayed* until the last measure of the example

Beethoven: Bagatelle, Op. 119 No. 1



- The diagonal beam indicates an *unfolded* interval
- The resolution of the 7th in the RH is *delayed* until the last measure of the example
- Just as in the LH

Sequences

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- Harmonic sequences typically involve some kind of repeated intervallic pattern between a pair of voices

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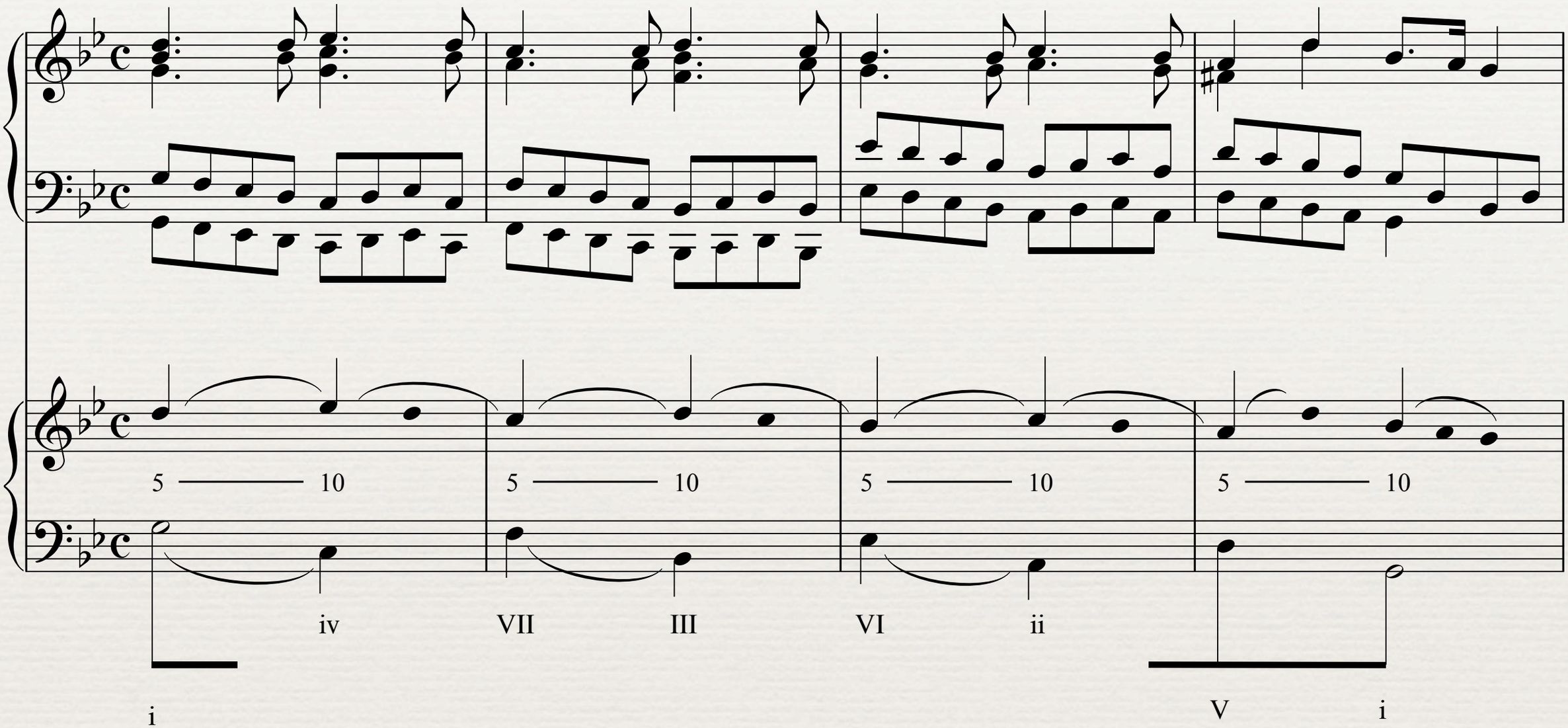
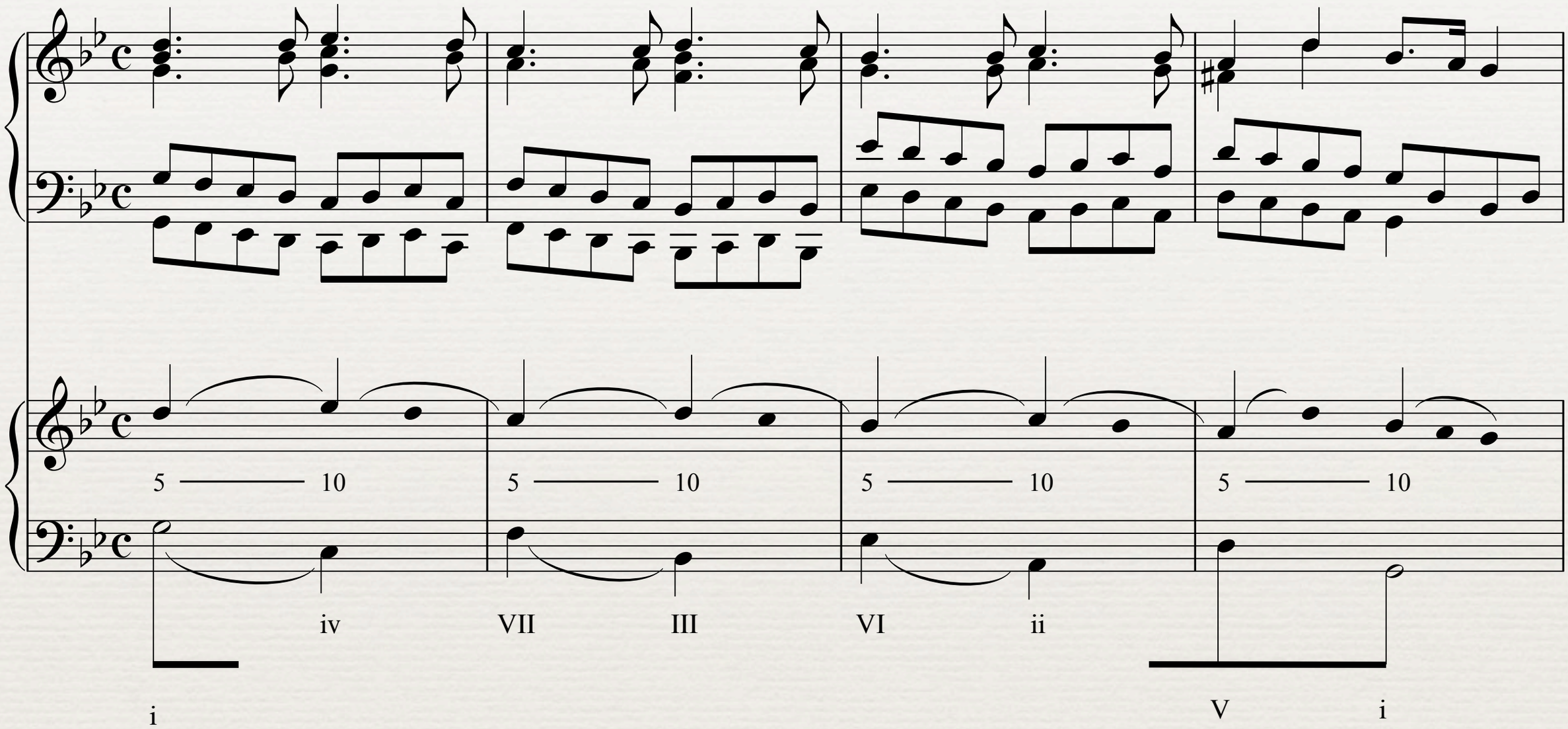
- Such patterns are known as *linear intervallic patterns*.
- Sequences and their associated linear intervallic patterns produce harmonic prolongations and larger structural connections.

Handel: Passacaille

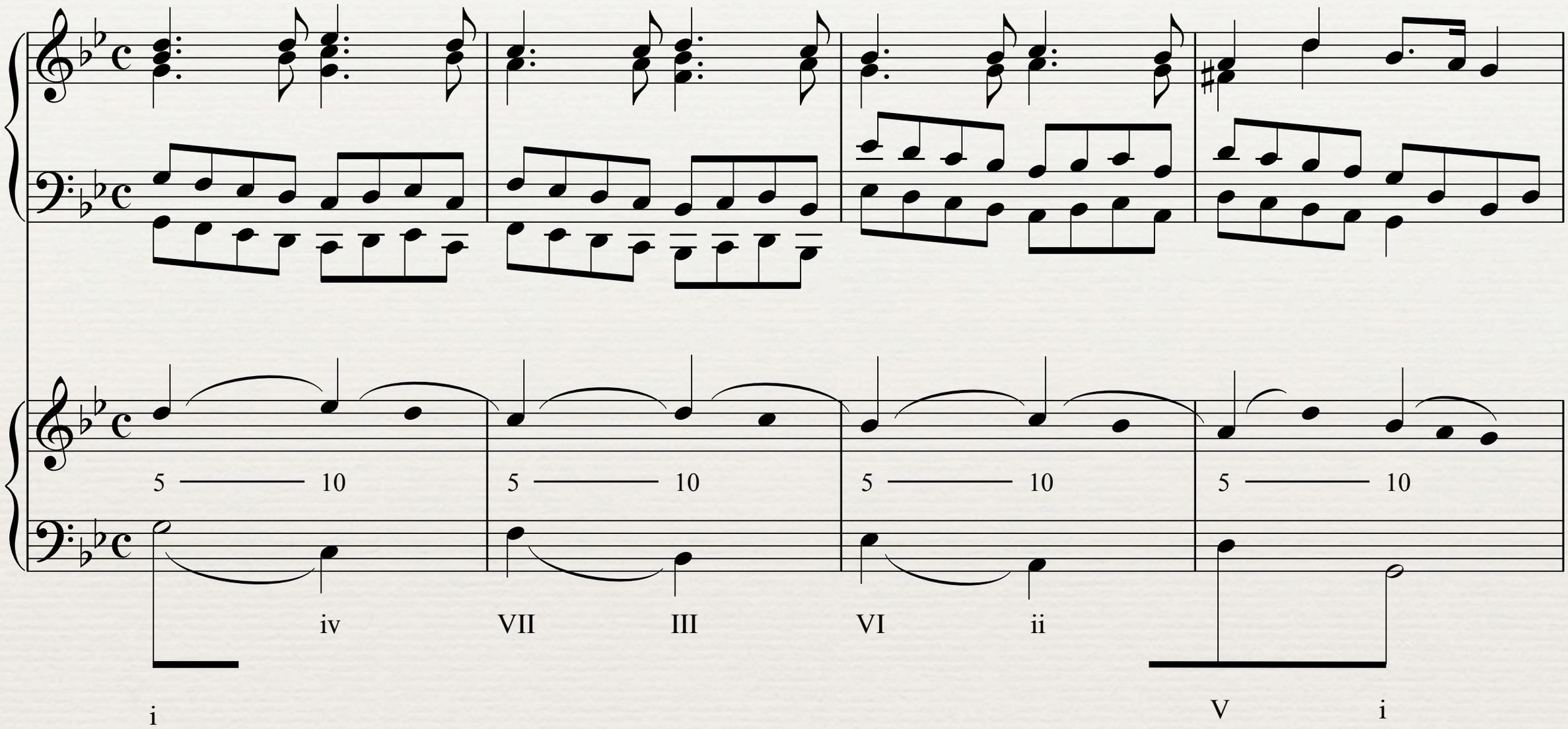


Handel: Passacaille



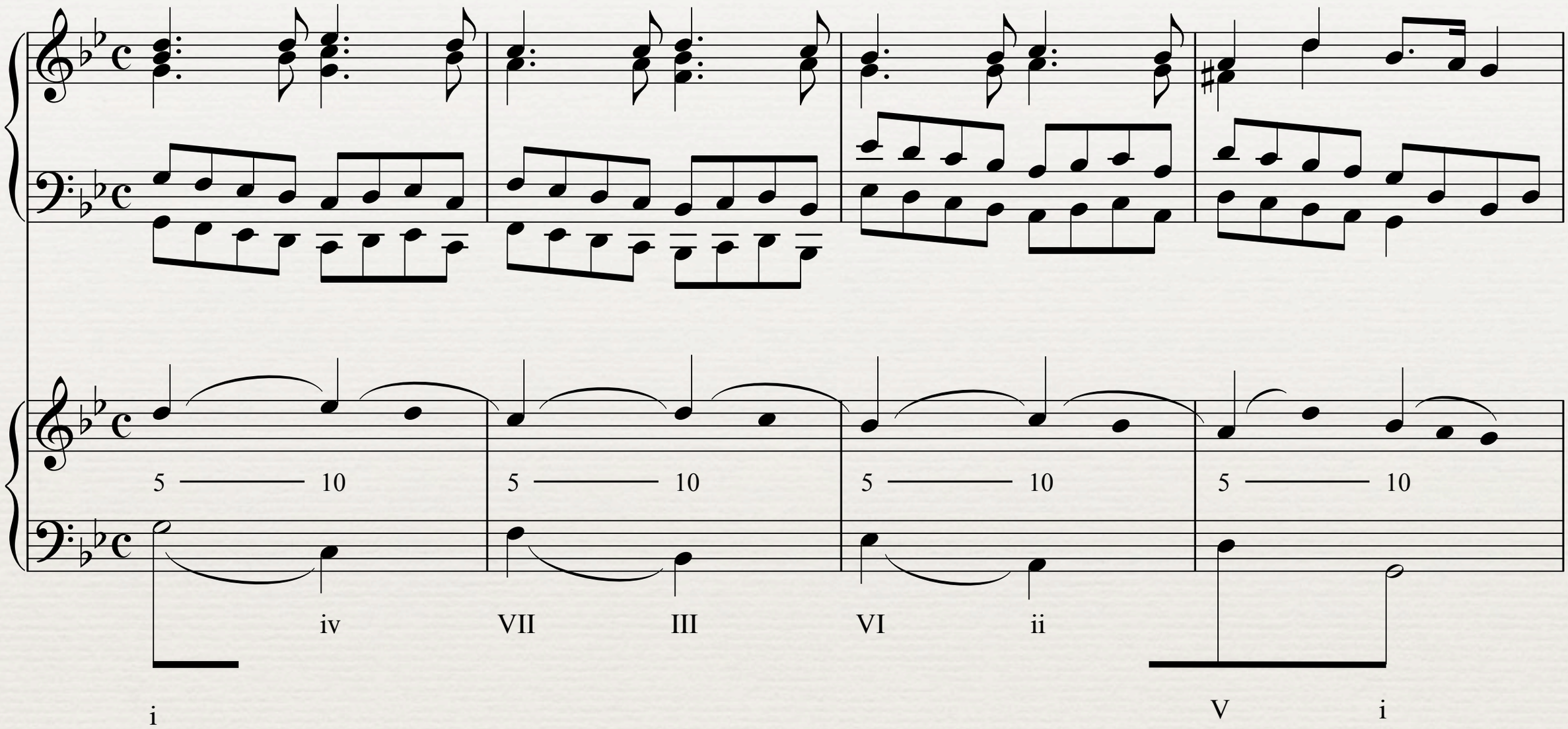
- Descending fifths sequence

Handel: Passacaille



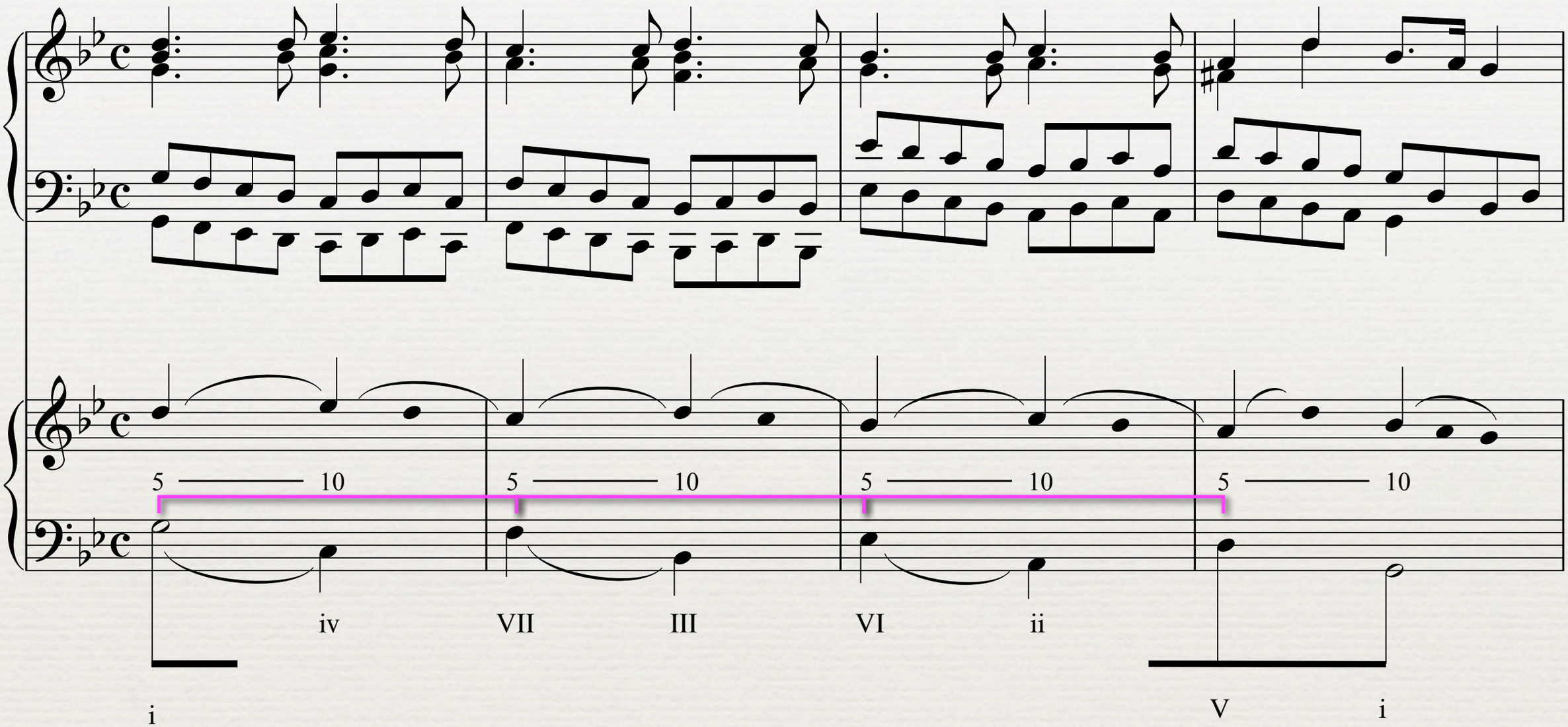
- Descending fifths sequence
  - Complete circle of fifths

Handel: Passacaille



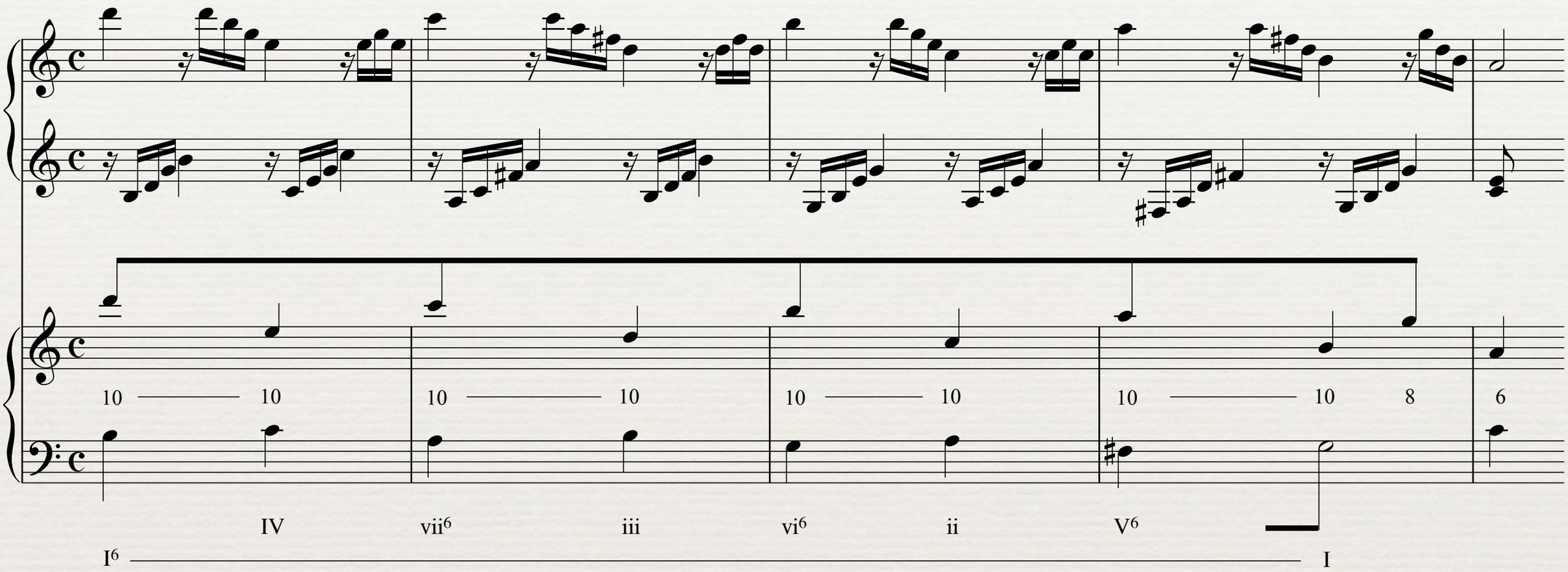
- Descending fifths sequence
  - Complete circle of fifths
  - Focus on the recurring pattern in the outer voices

Handel: Passacaille

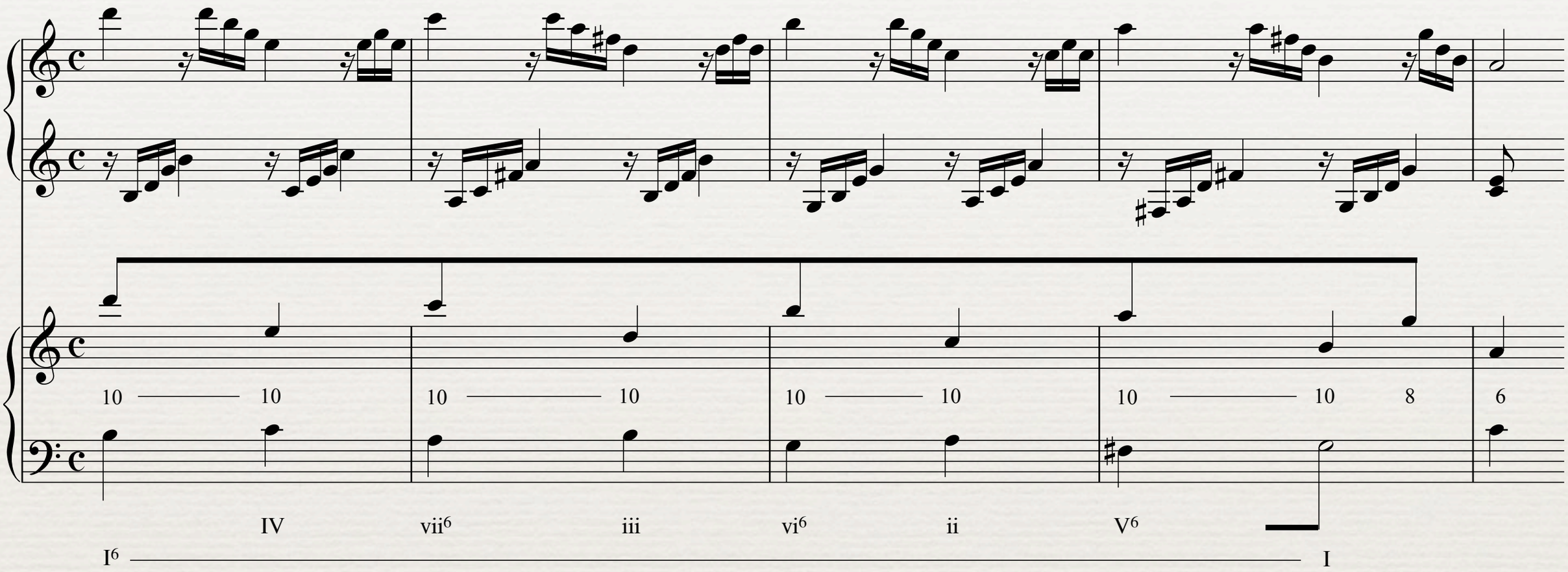


- Descending fifths sequence
  - Complete circle of fifths
  - Focus on the recurring pattern in the outer voices
  - Also note that there is a kind of descending 4-prg in the LH motion.

Mozart: Sonata K. 545, I

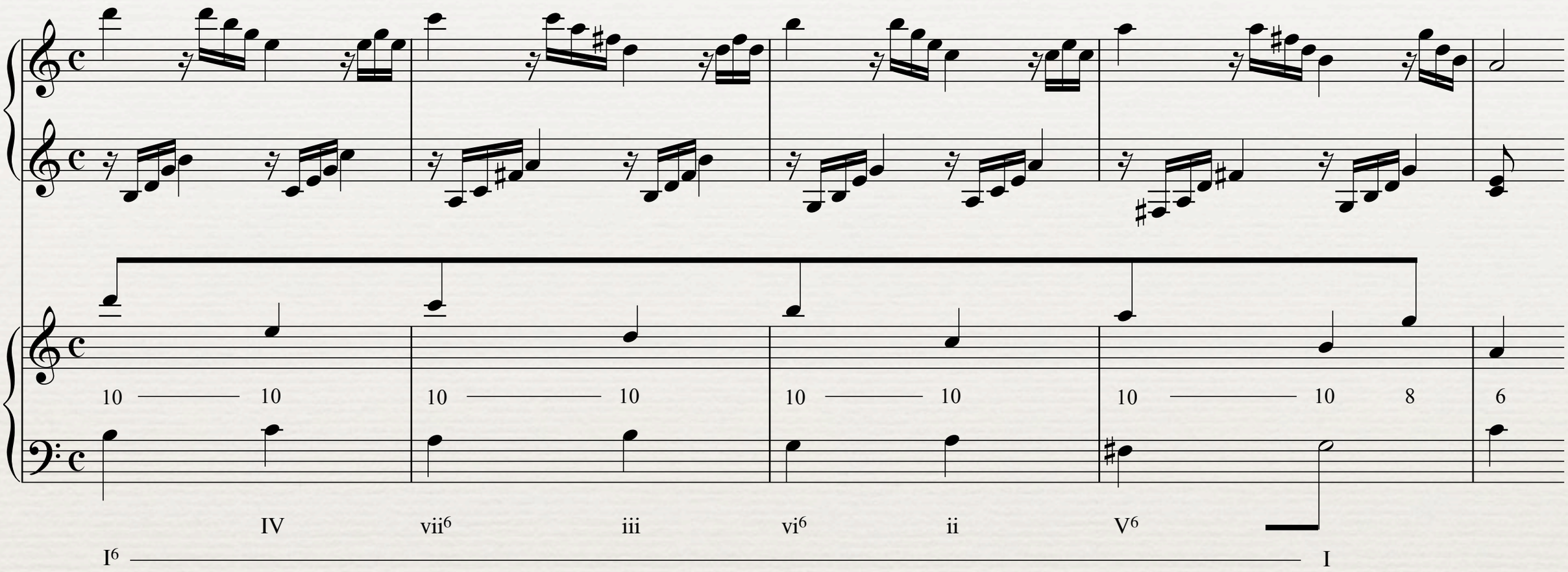


Mozart: Sonata K. 545, I



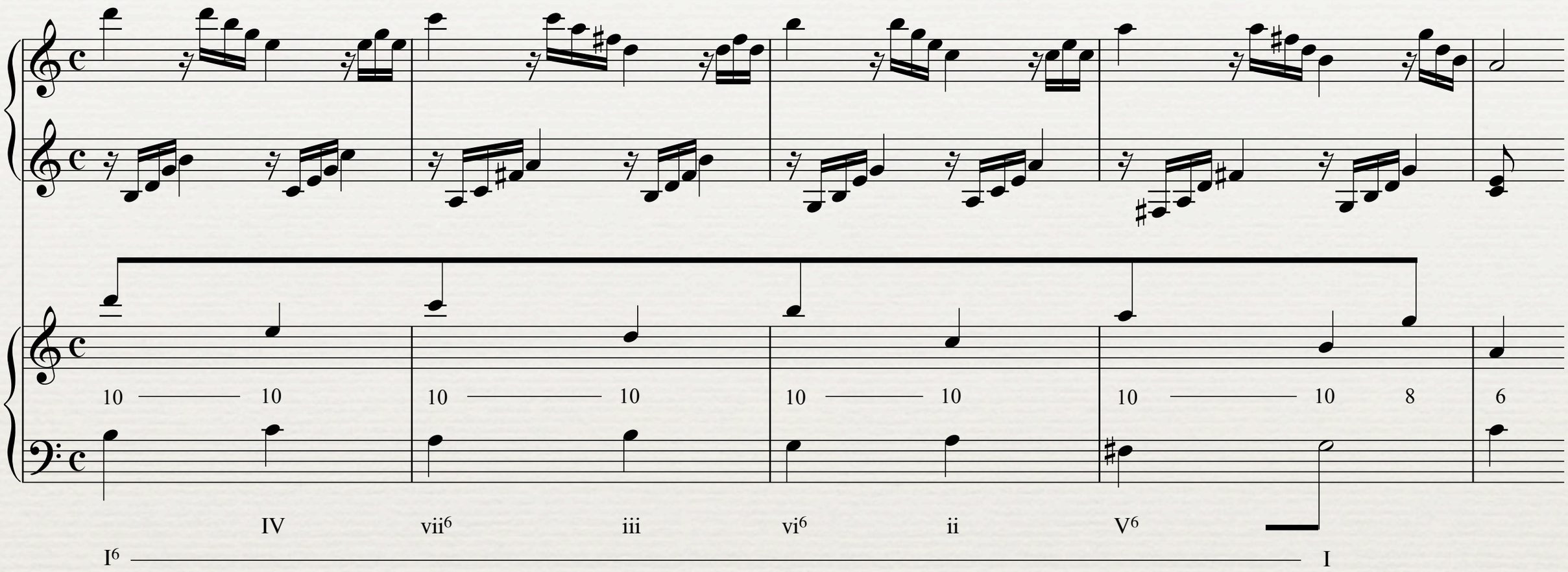
- Also a descending fifths sequence

Mozart: Sonata K. 545, I



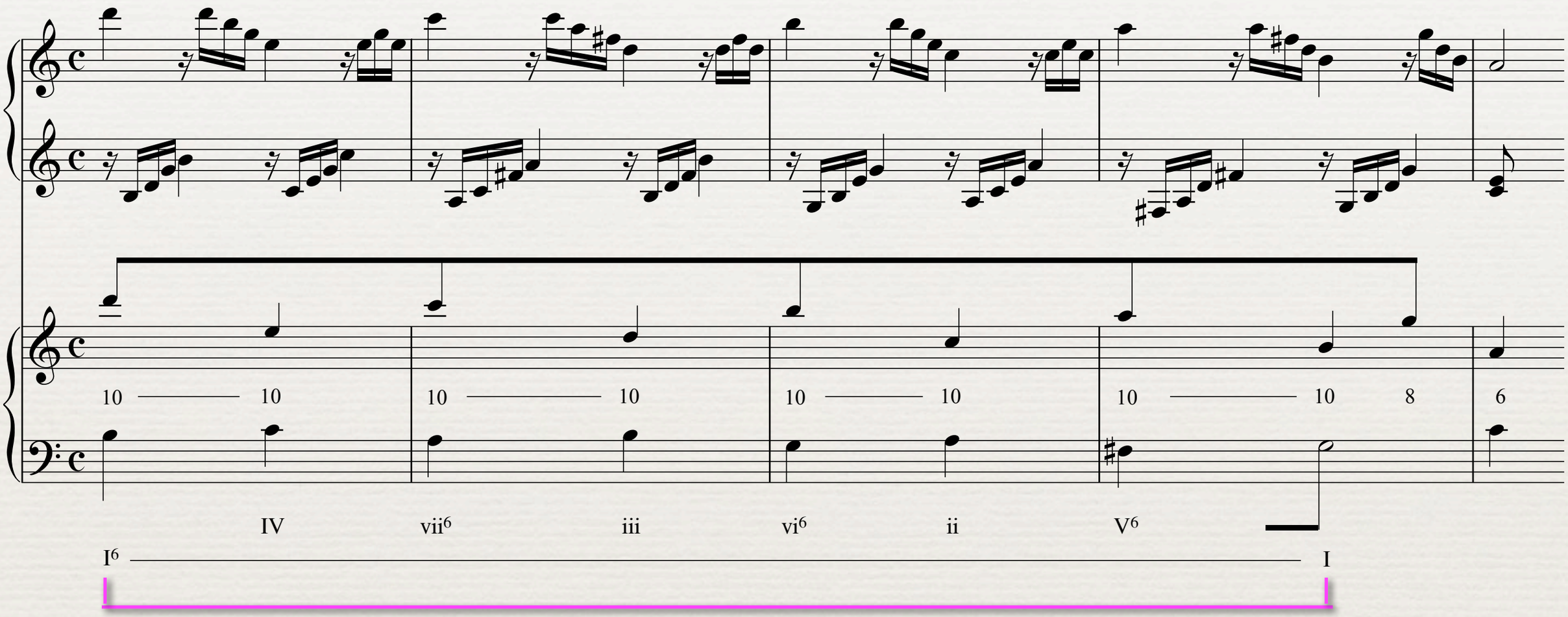
- Also a descending fifths sequence
  - Alternating root-position and first-inversion chords

Mozart: Sonata K. 545, I



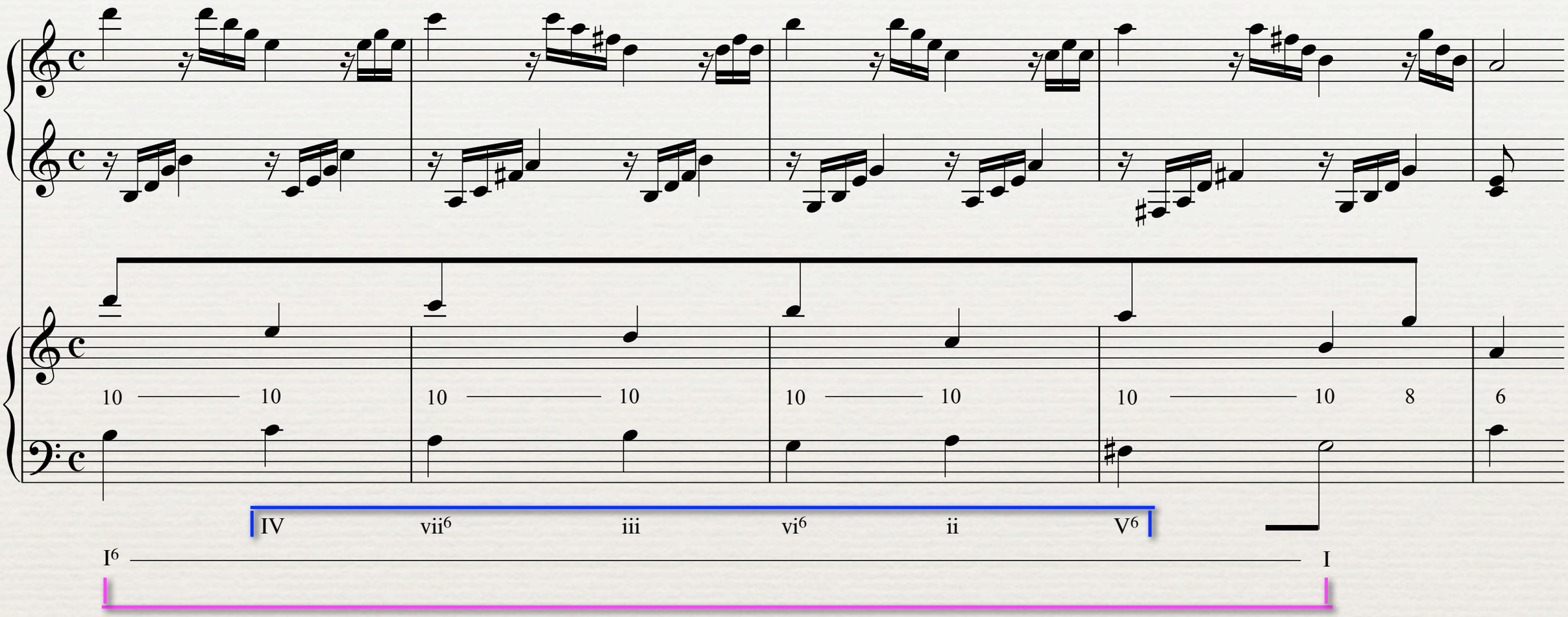
- Also a descending fifths sequence
  - Alternating root-position and first-inversion chords
- Note the two levels of harmonic analysis

Mozart: Sonata K. 545, I



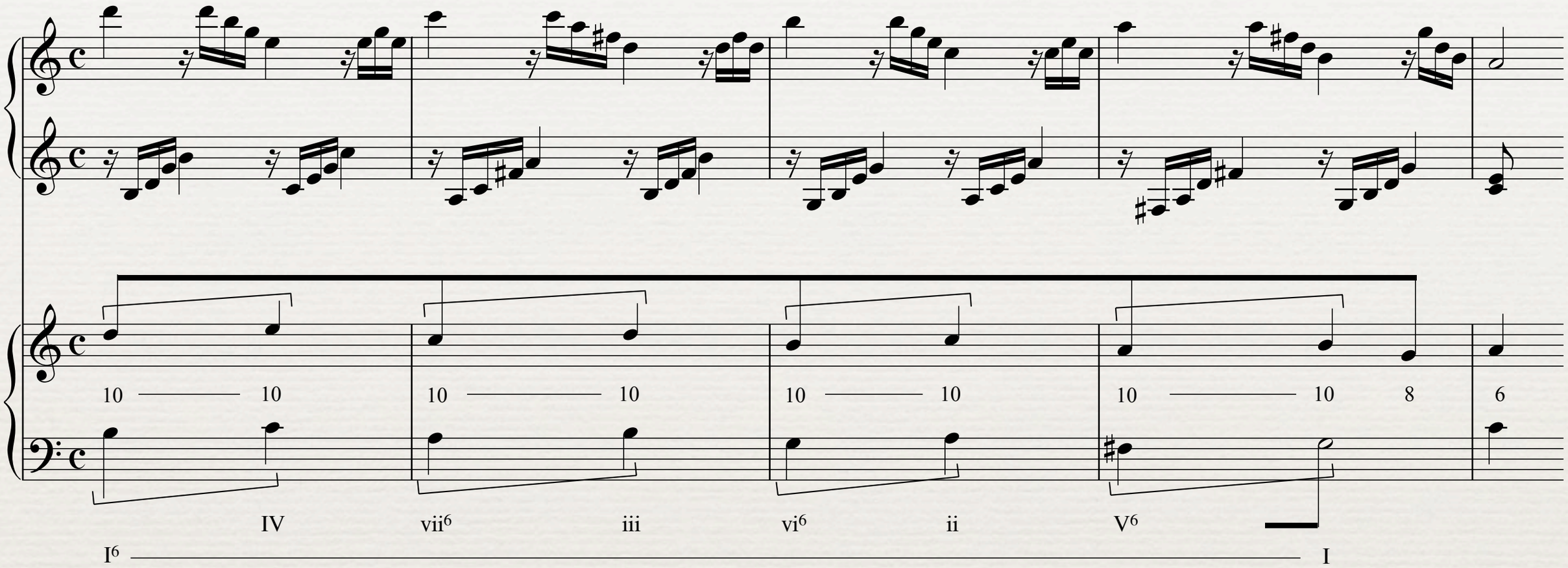
- Also a descending fifths sequence
  - Alternating root-position and first-inversion chords
- Note the two levels of harmonic analysis
  - The harmonic prolongation of I

Mozart: Sonata K. 545, I

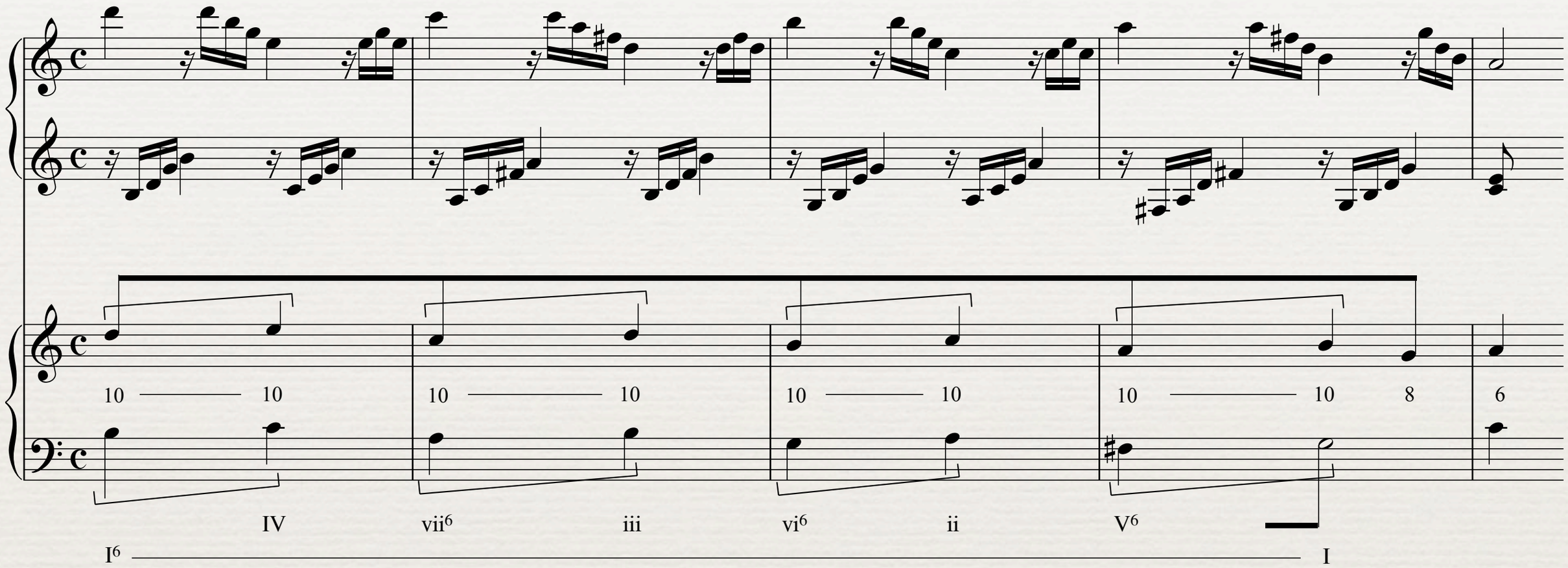


- Also a descending fifths sequence
  - Alternating root-position and first-inversion chords
- Note the two levels of harmonic analysis
  - The harmonic prolongation of I
  - Inner, passing harmonies that fill the space

Mozart: Sonata K. 545, I

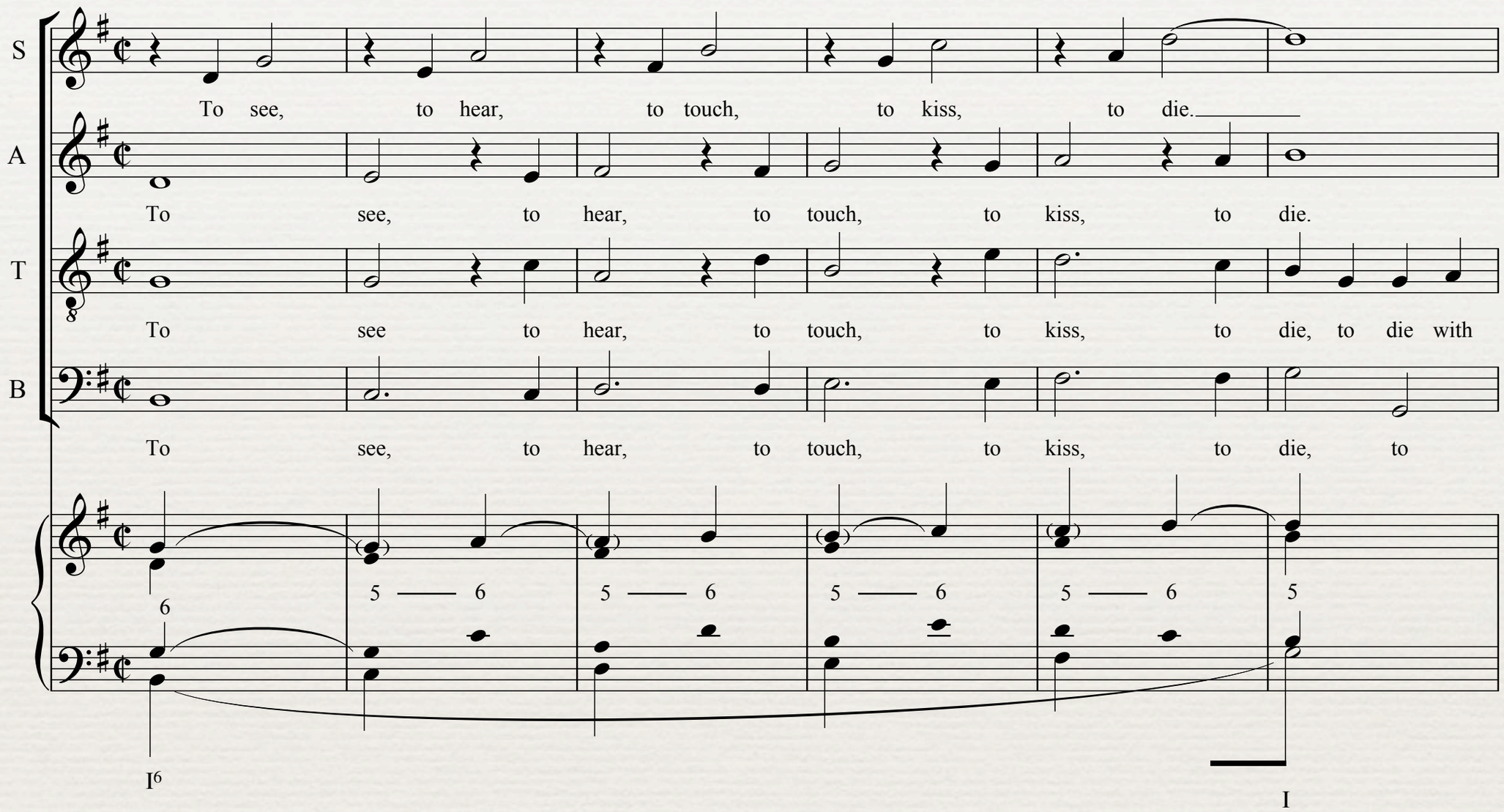


Mozart: Sonata K. 545, I

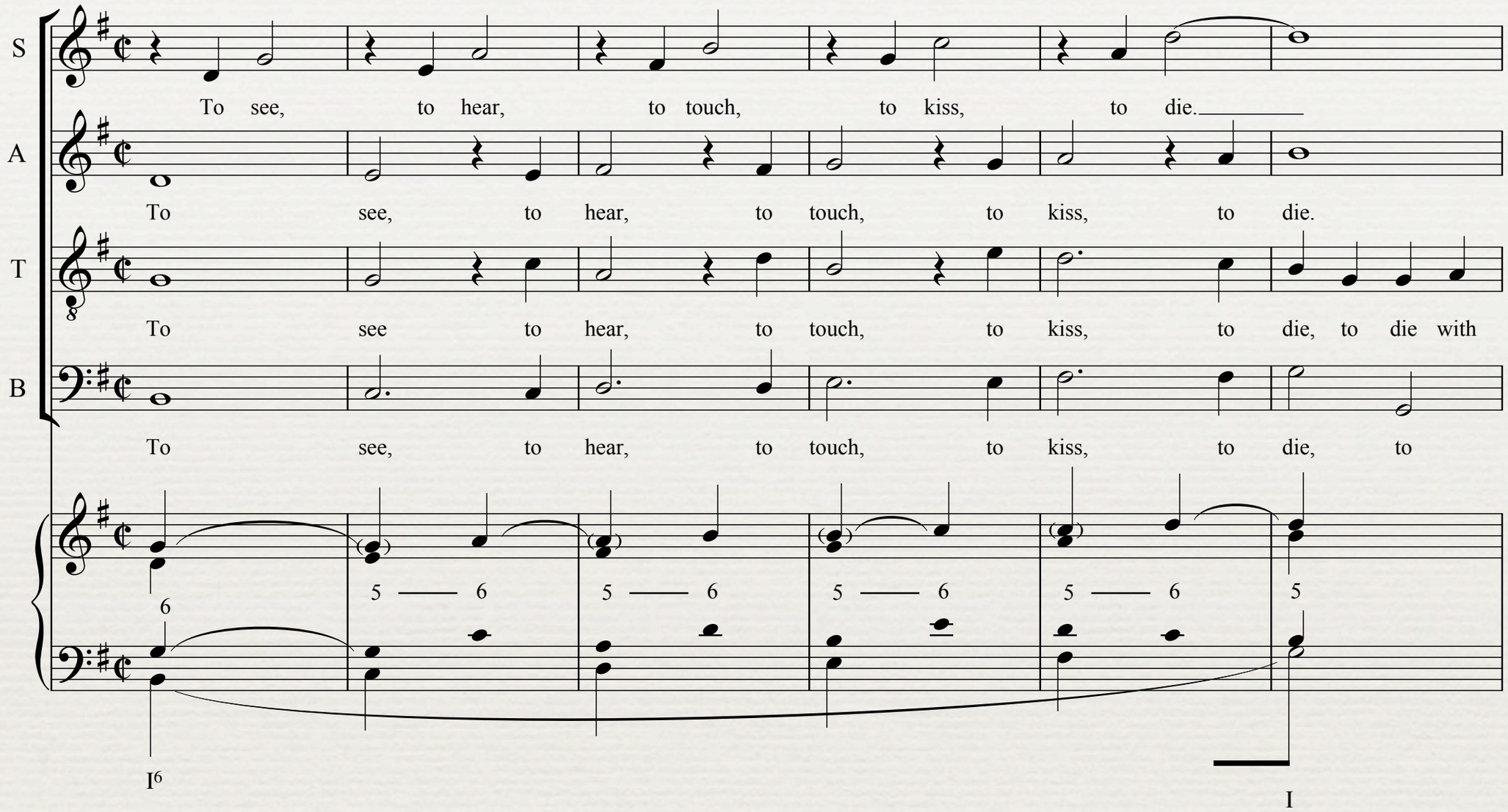


- This modification of the melodic RH motion shows more clearly the incomplete neighbors that characterize the descending progression.

Dowland: "Come Again, Sweet Love"

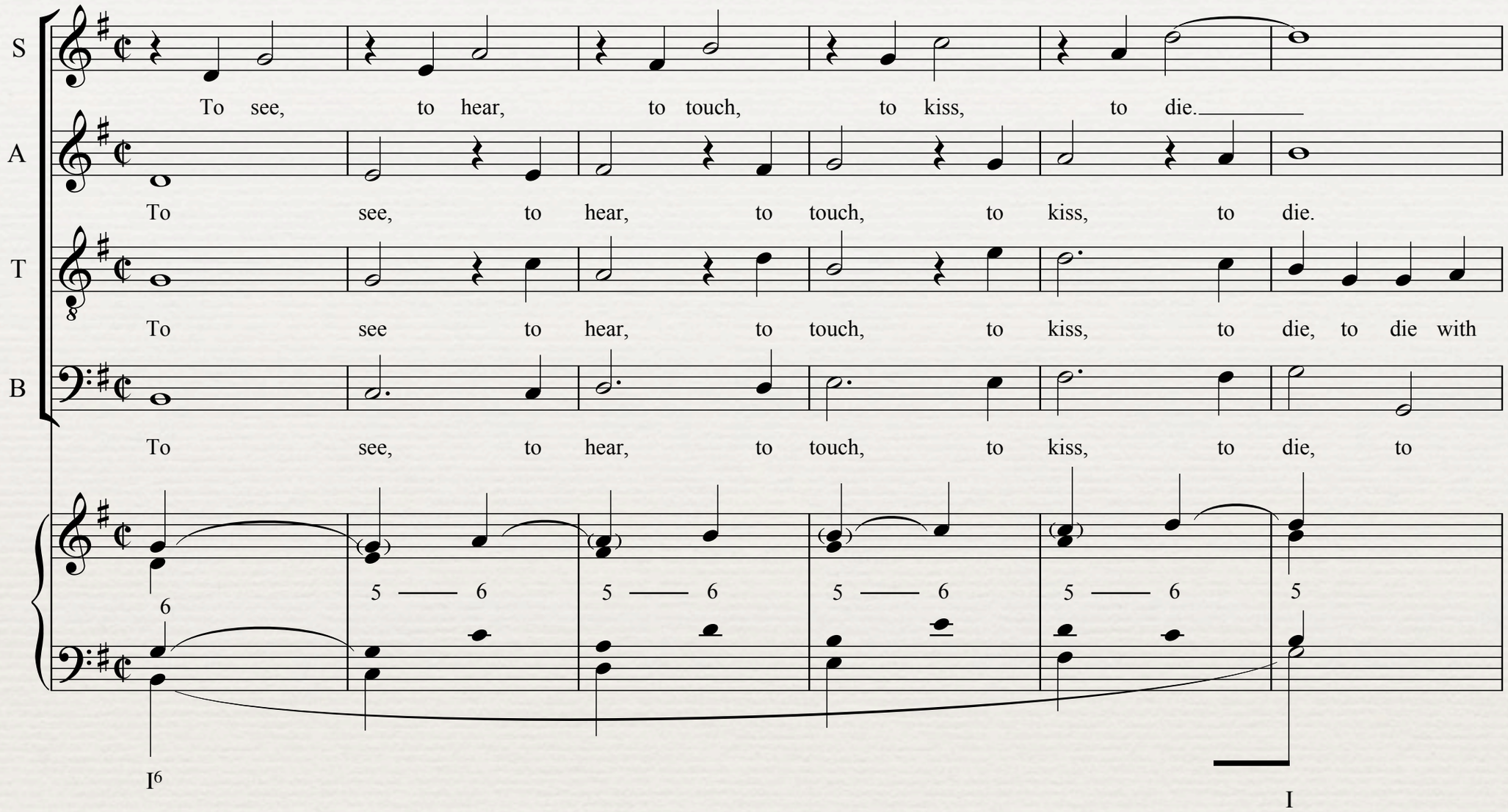


Dowland: "Come Again, Sweet Love"



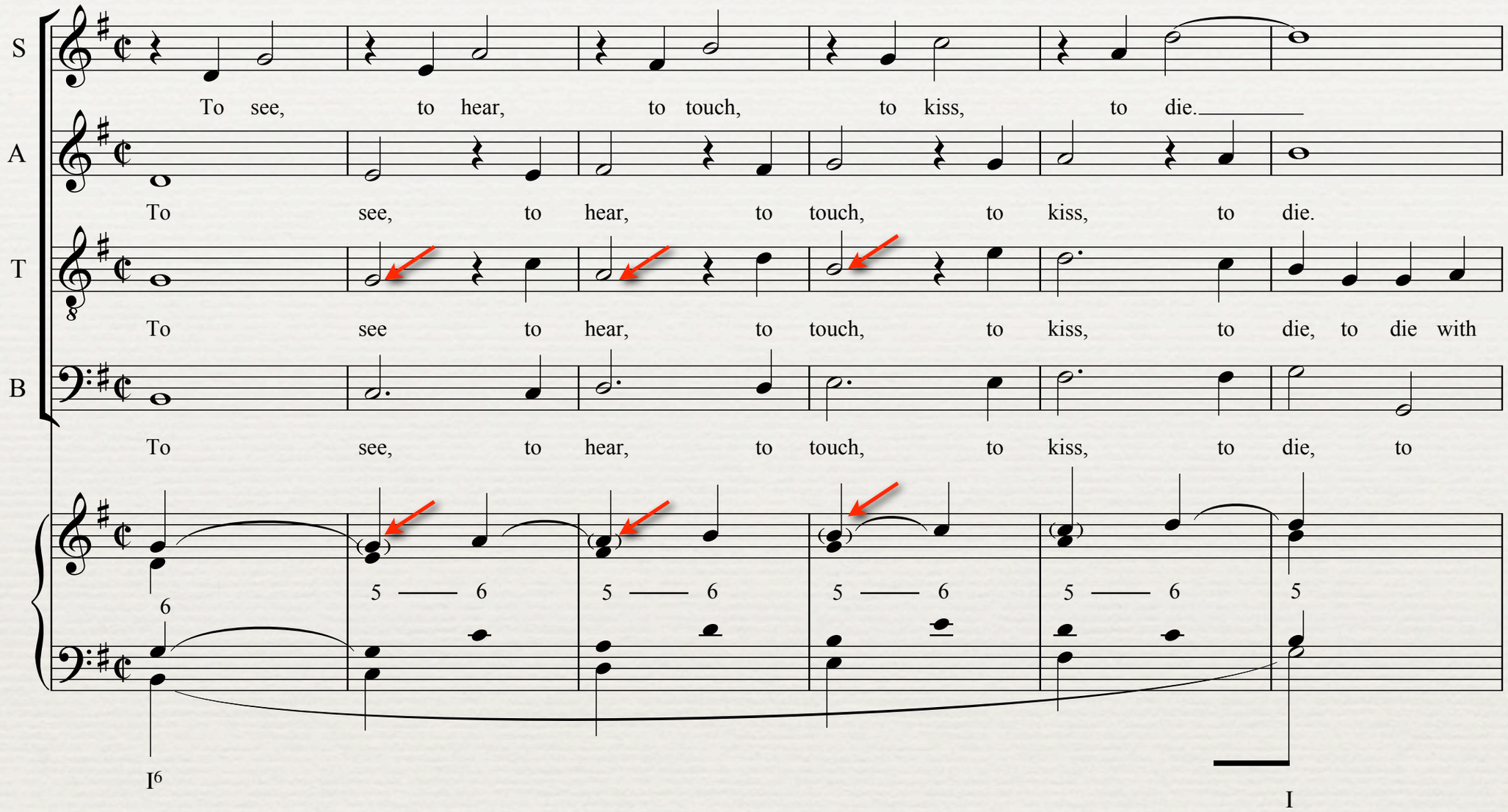
- An ascending 5-6 sequence

Dowland: "Come Again, Sweet Love"



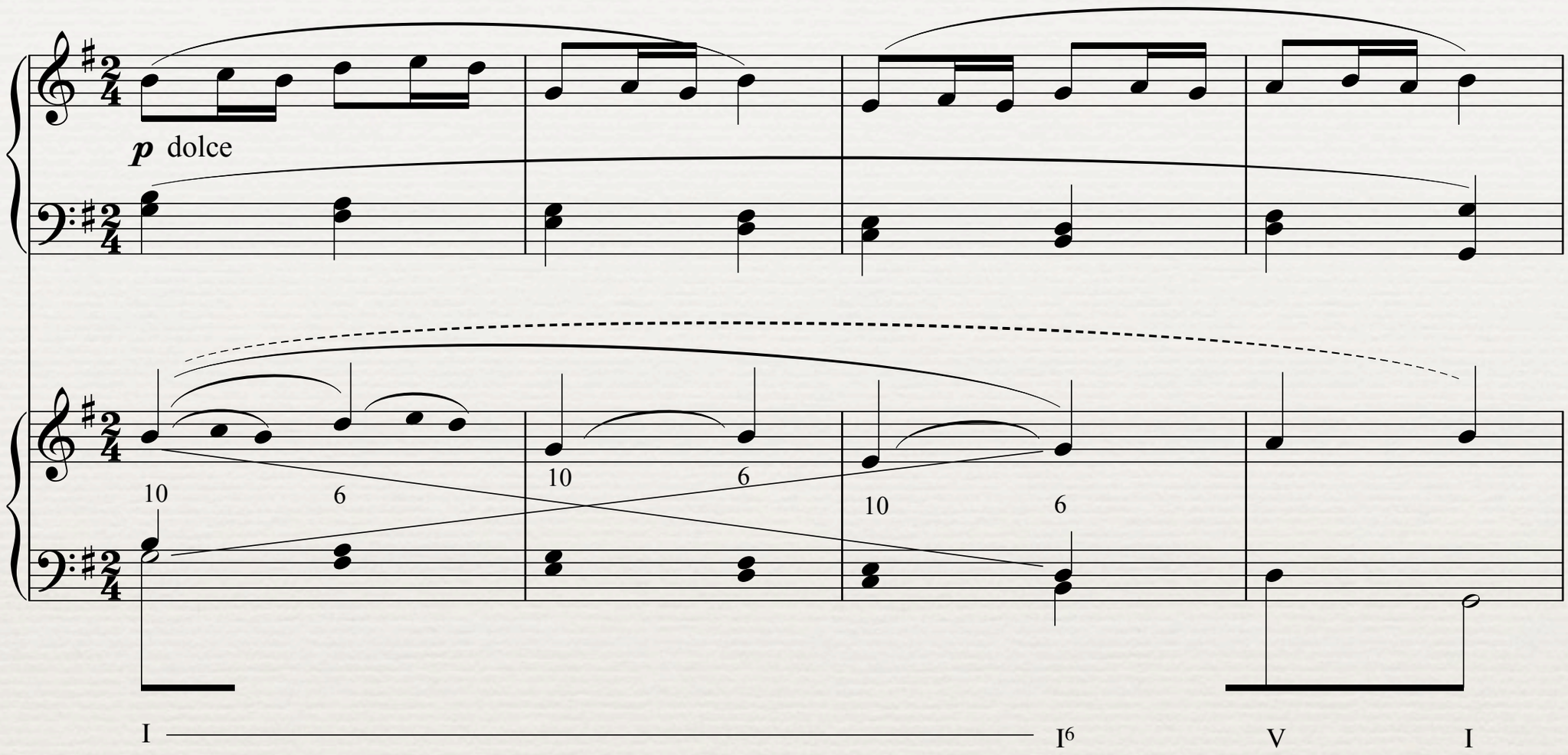
- An ascending 5-6 sequence
- The chordal skips throughout tend to hide the stepwise linear pattern

Dowland: "Come Again, Sweet Love"

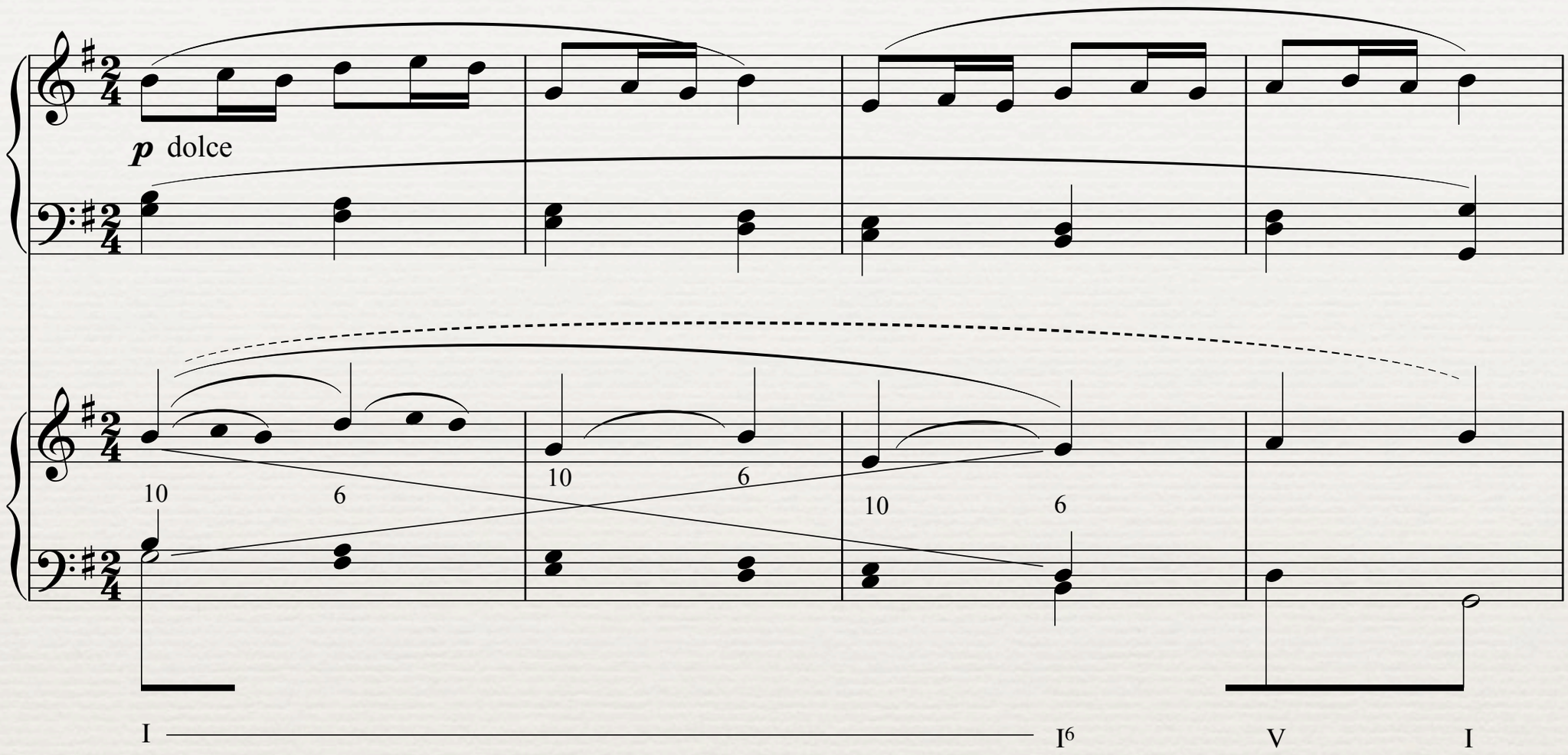


- An ascending 5-6 sequence
- The chordal skips throughout tend to hide the stepwise linear pattern
- The tenor voice helps to understand the pattern—note the way that implied notes are placed in parentheses

Beethoven: Sonata Op. 79, III

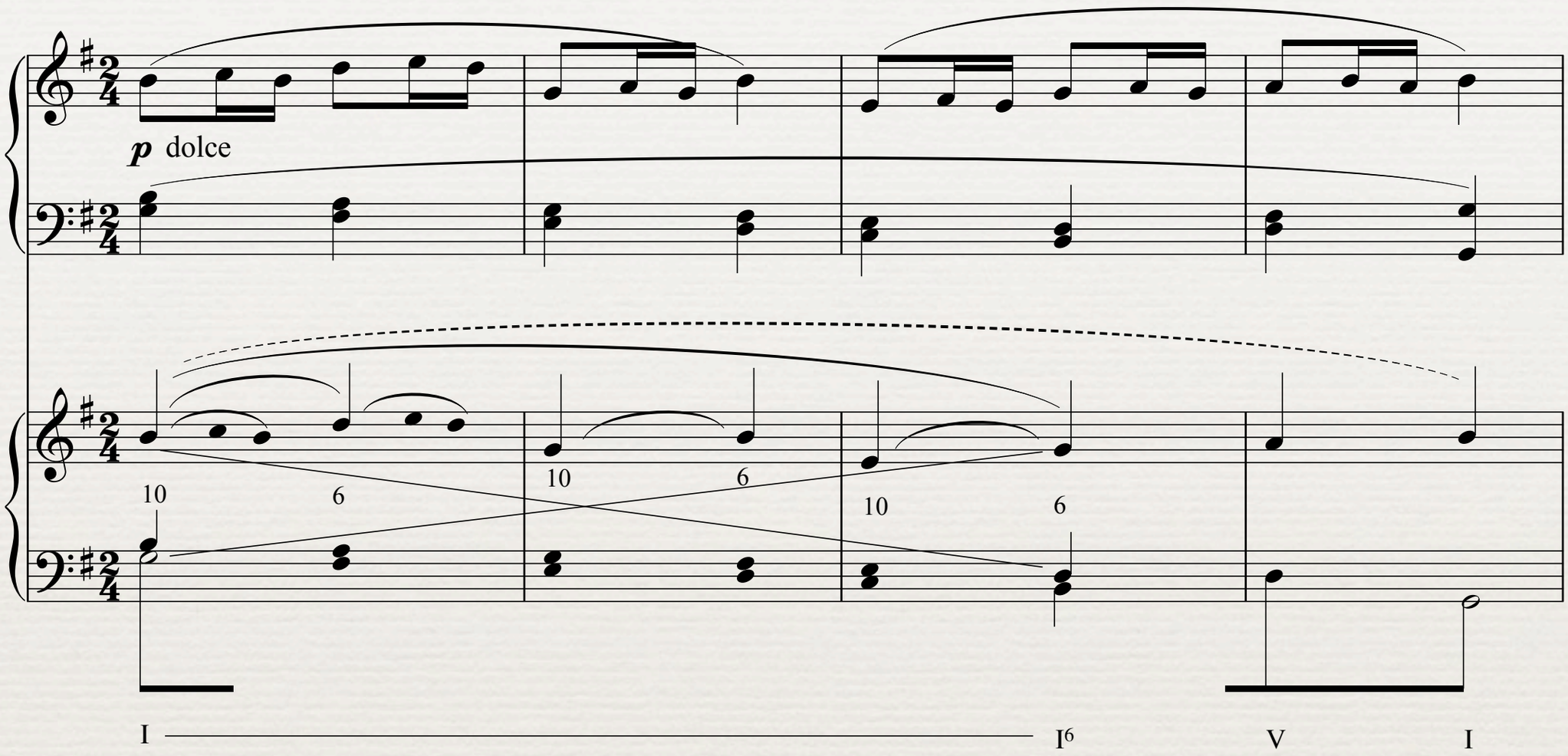


Beethoven: Sonata Op. 79, III



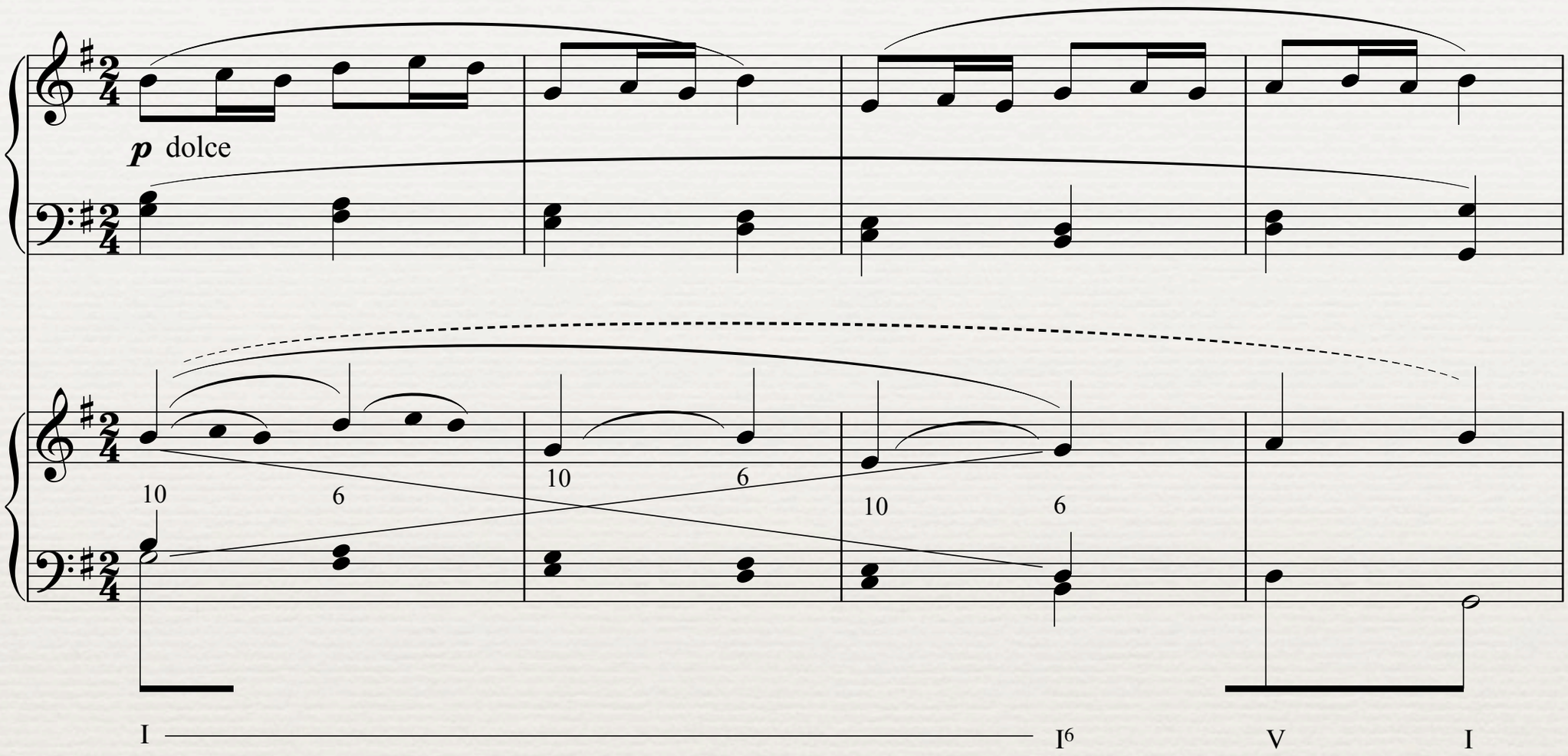
- Falling thirds sequence

Beethoven: Sonata Op. 79, III



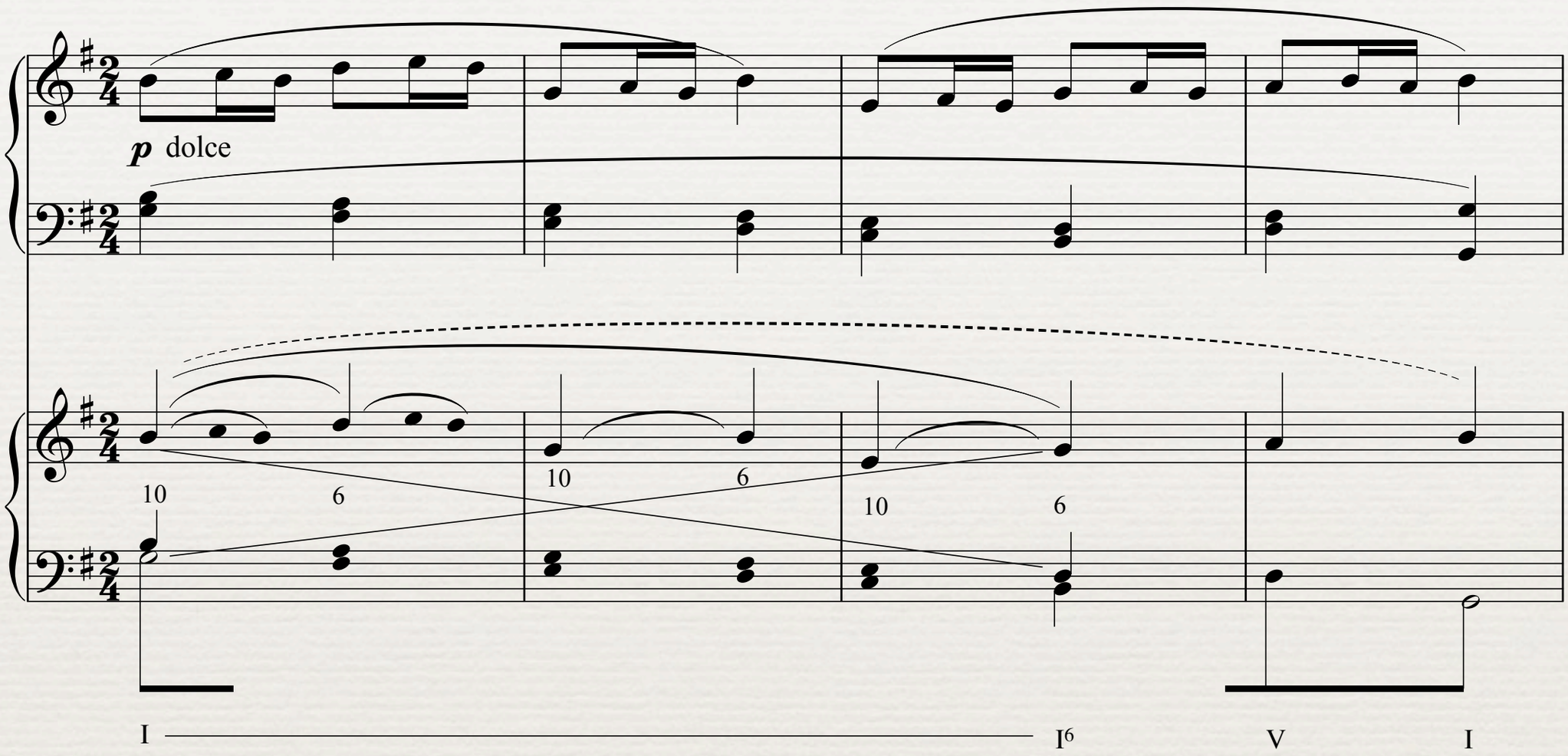
- Falling thirds sequence
- Prolongation of opening tonic to I6, then to the cadence

Beethoven: Sonata Op. 79, III



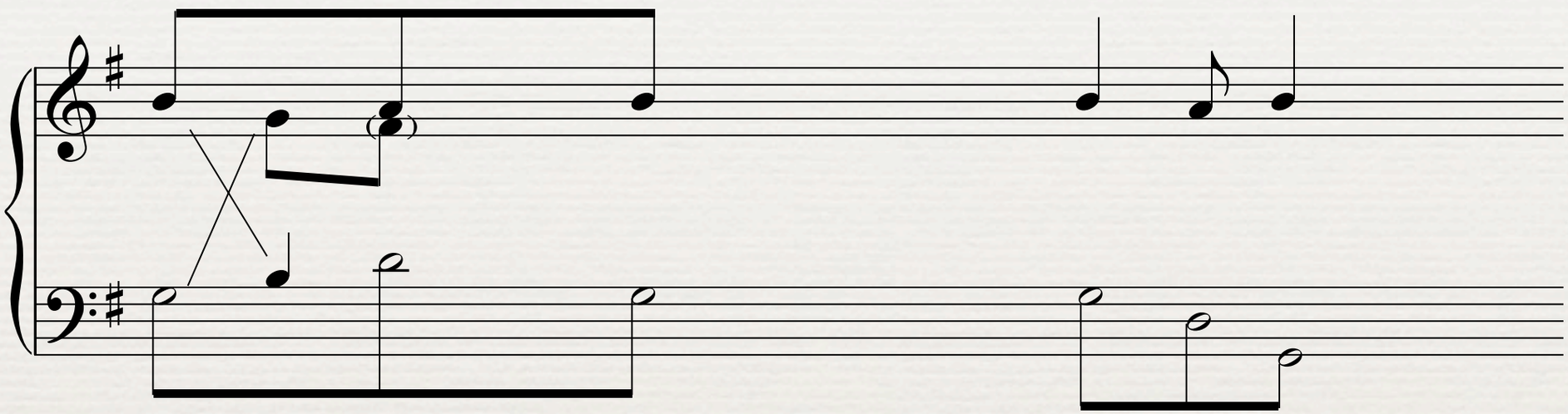
- Falling thirds sequence
- Prolongation of opening tonic to I6, then to the cadence
- Inner harmonies are contrapuntal and passing

Beethoven: Sonata Op. 79, III

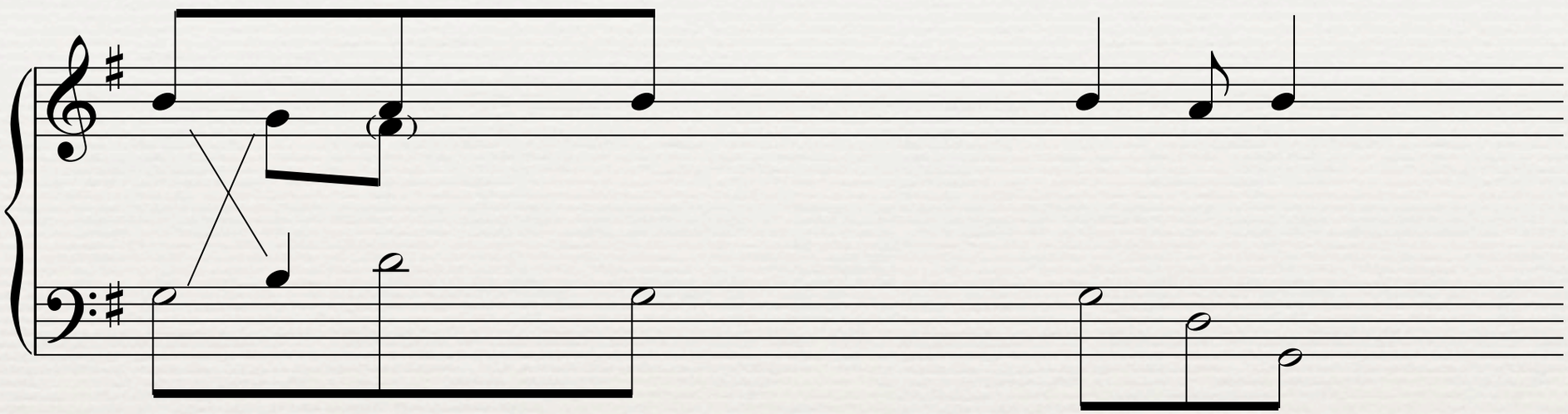


- Falling thirds sequence
- Prolongation of opening tonic to I6, then to the cadence
- Inner harmonies are contrapuntal and passing
- Note the prolonged voice exchange

Beethoven: Sonata Op. 79, III

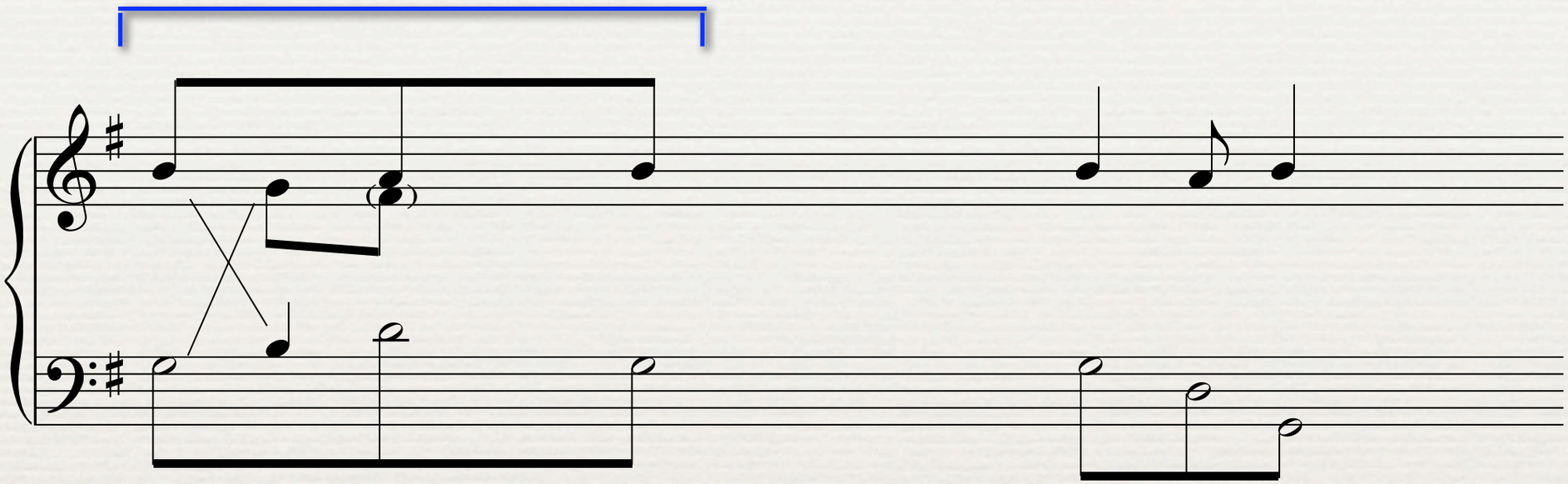


Beethoven: Sonata Op. 79, III



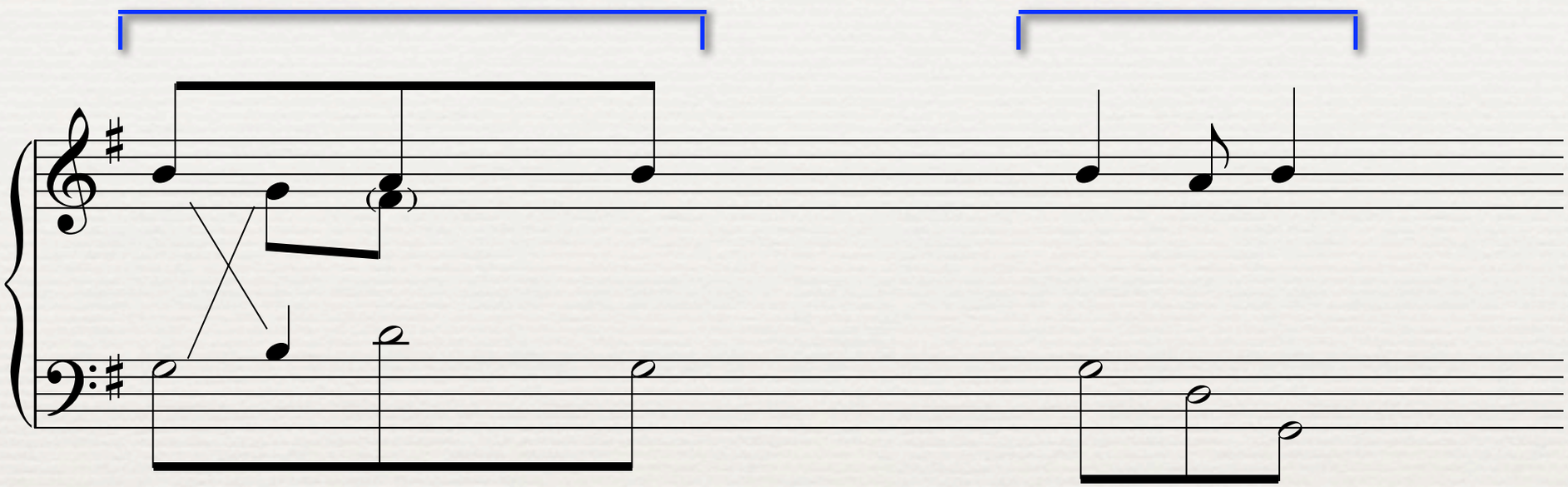
- The pattern can be reduced still further

Beethoven: Sonata Op. 79, III



- The pattern can be reduced still further
  - First showing the voice exchange

Beethoven: Sonata Op. 79, III



- The pattern can be reduced still further
  - First showing the voice exchange
  - Then showing it as a I-V-I pattern in the bass, and a neighbor-tone figure in the melody

Neighbor Tones

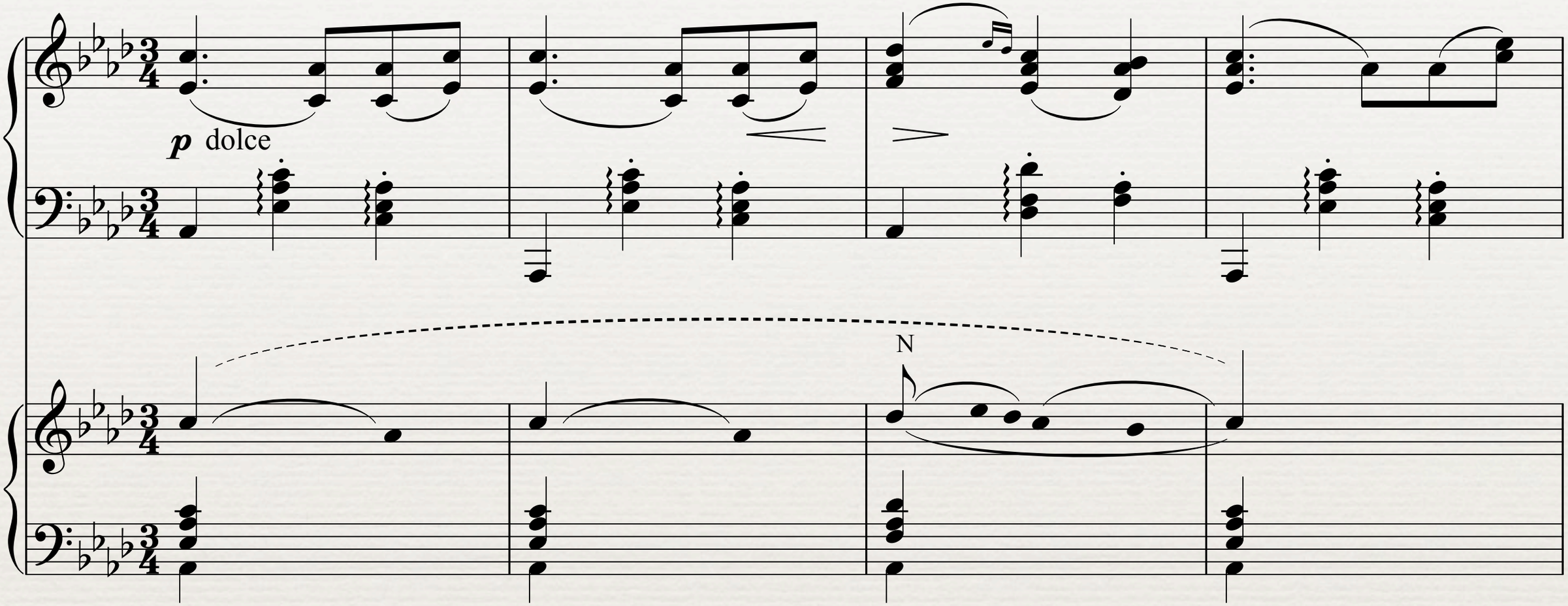
Neighbor Tones

- Neighbor tones exist on various structural levels in a piece of music

Neighbor Tones

- Neighbor tones exist on various structural levels in a piece of music
- Not all neighbor tones are surface embellishment; neighbors can also serve to act as larger-scale prolongations

Brahms: Waltz, Op. 39 No. 15



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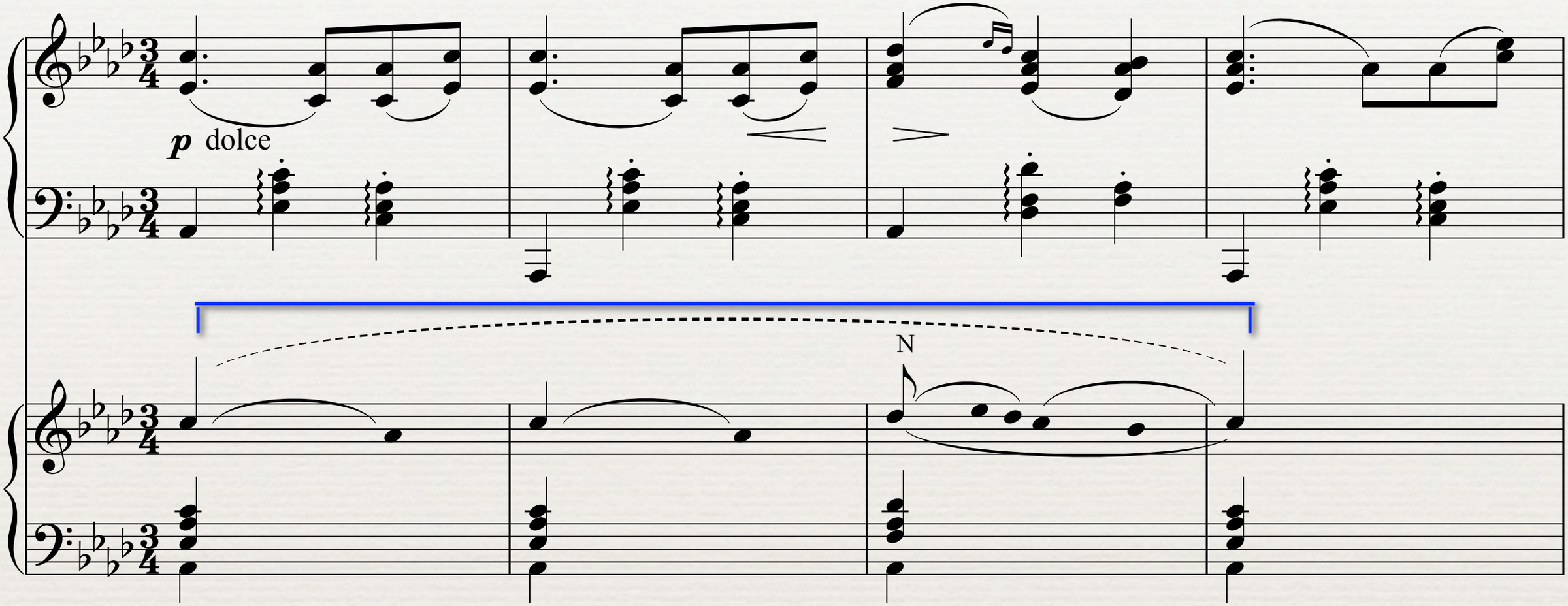

- Tonic harmony is prolonged through the phrase

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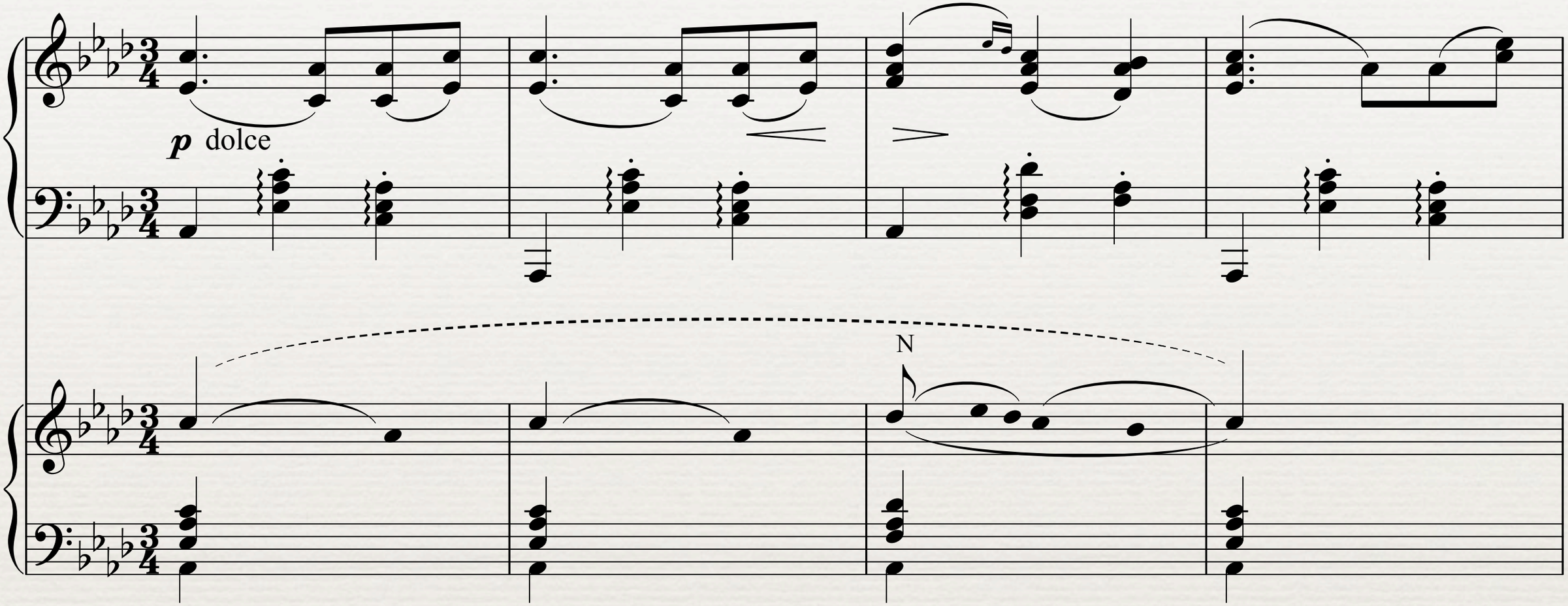

- Tonic harmony is prolonged through the phrase
- The chord in bar 3 is a neighboring 6-4, supporting D-flat as an upper neighbor to C

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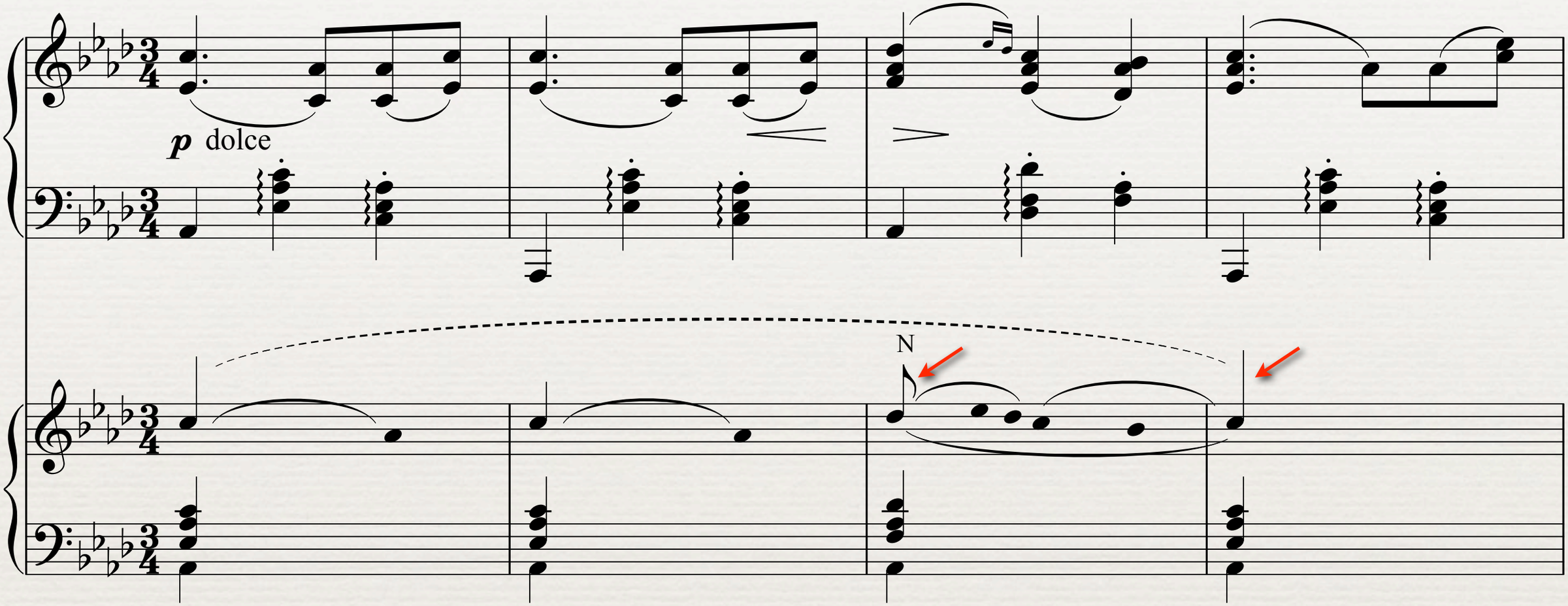
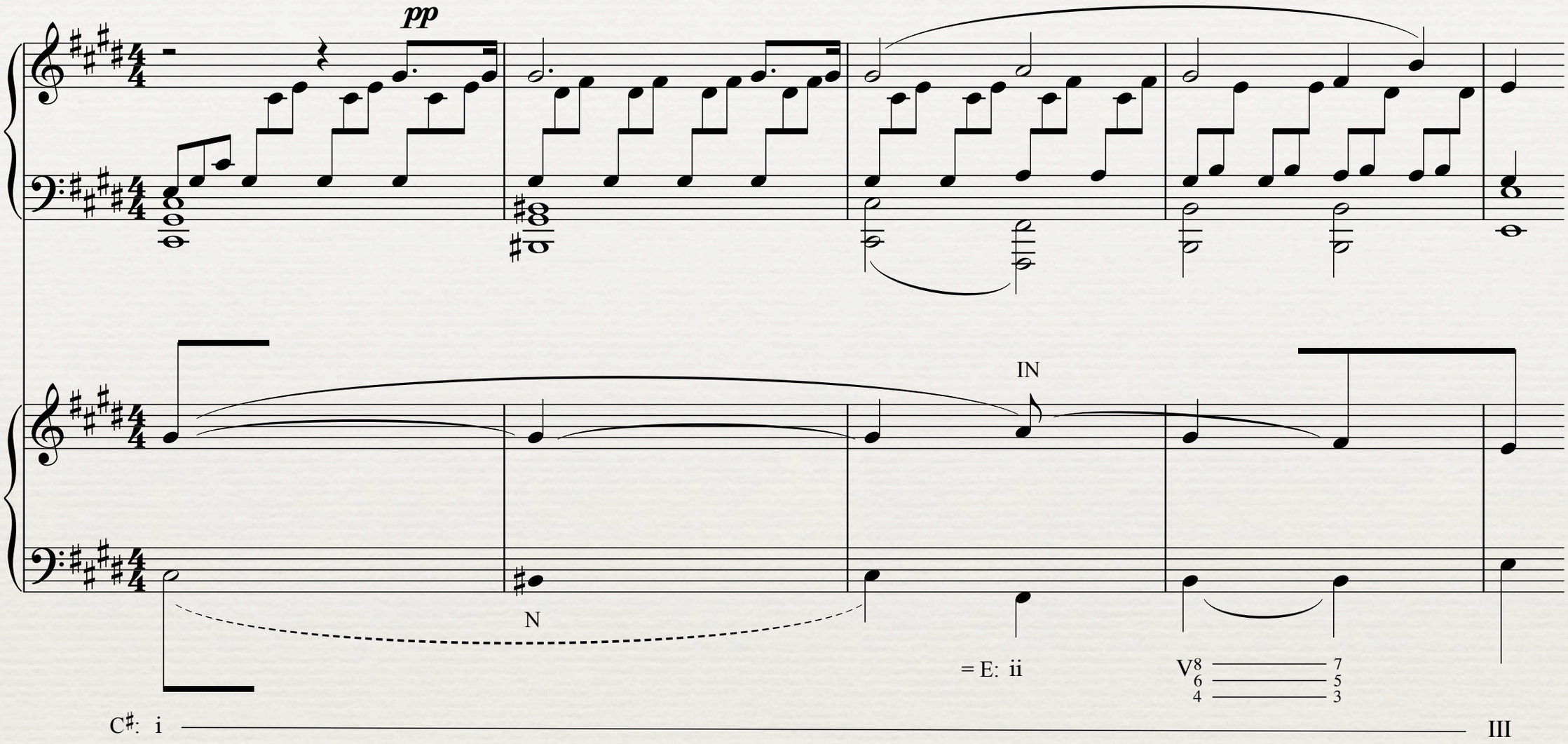
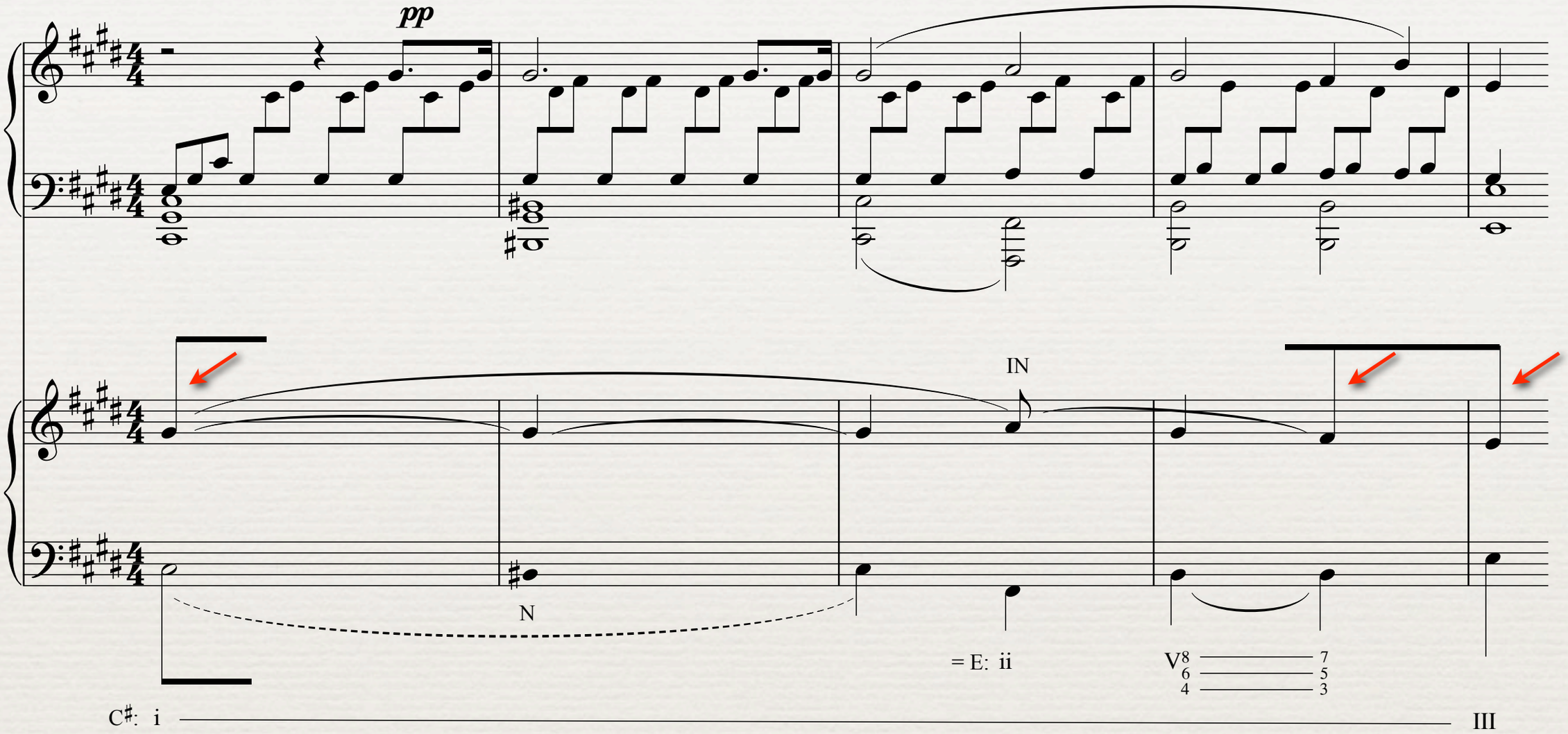


- Tonic harmony is prolonged through the phrase
- The chord in bar 3 is a neighboring 6-4, supporting D-flat as an upper neighbor to C
- The neighbor tone *does not resolve* to the C immediately following; instead, the resolution is on bar 4

Beethoven: Sonata Op. 27 No. 2, I

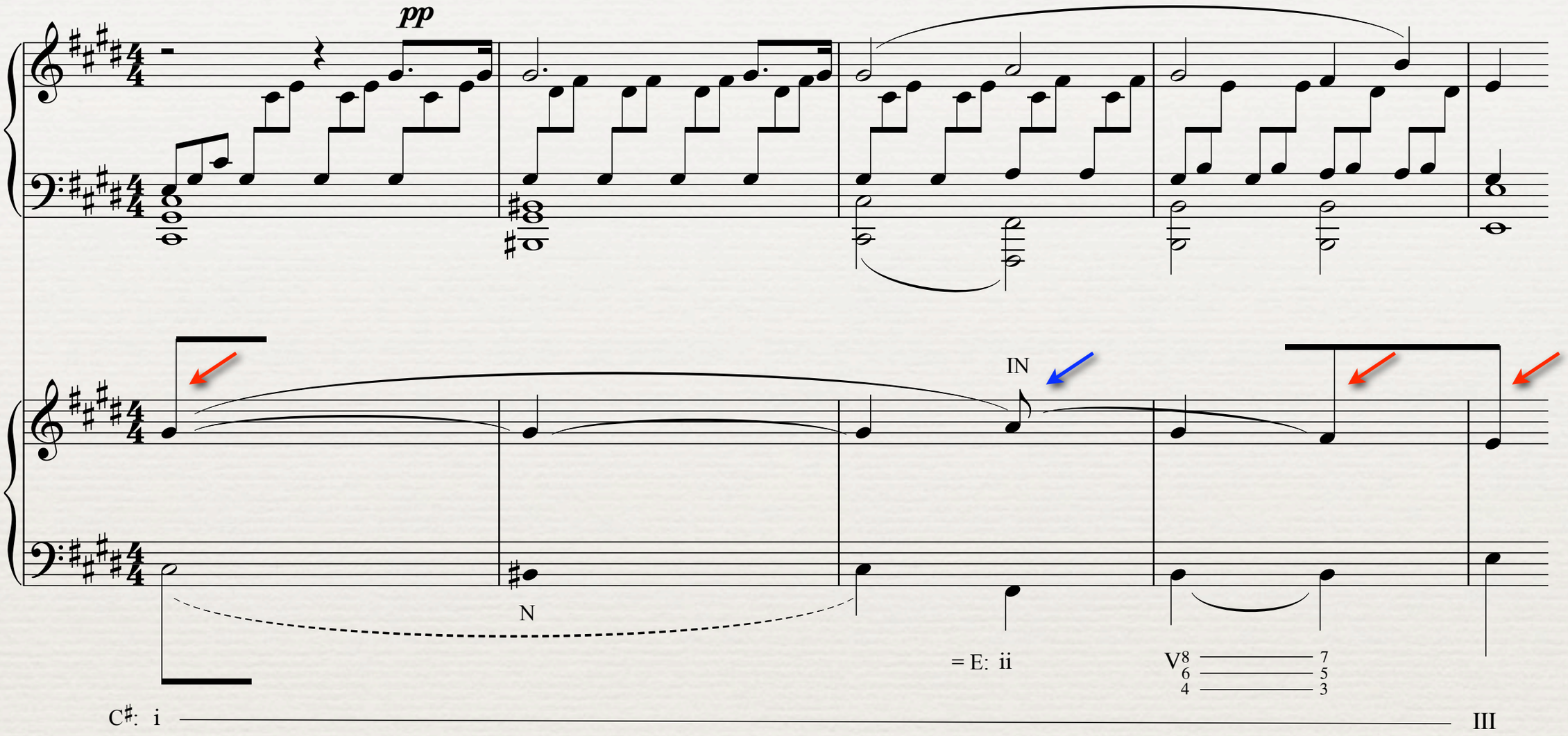


Beethoven: Sonata Op. 27 No. 2, I



- The upper voice traverses a 3-prg.

Beethoven: Sonata Op. 27 No. 2, I



- The upper voice traverses a 3-prg.
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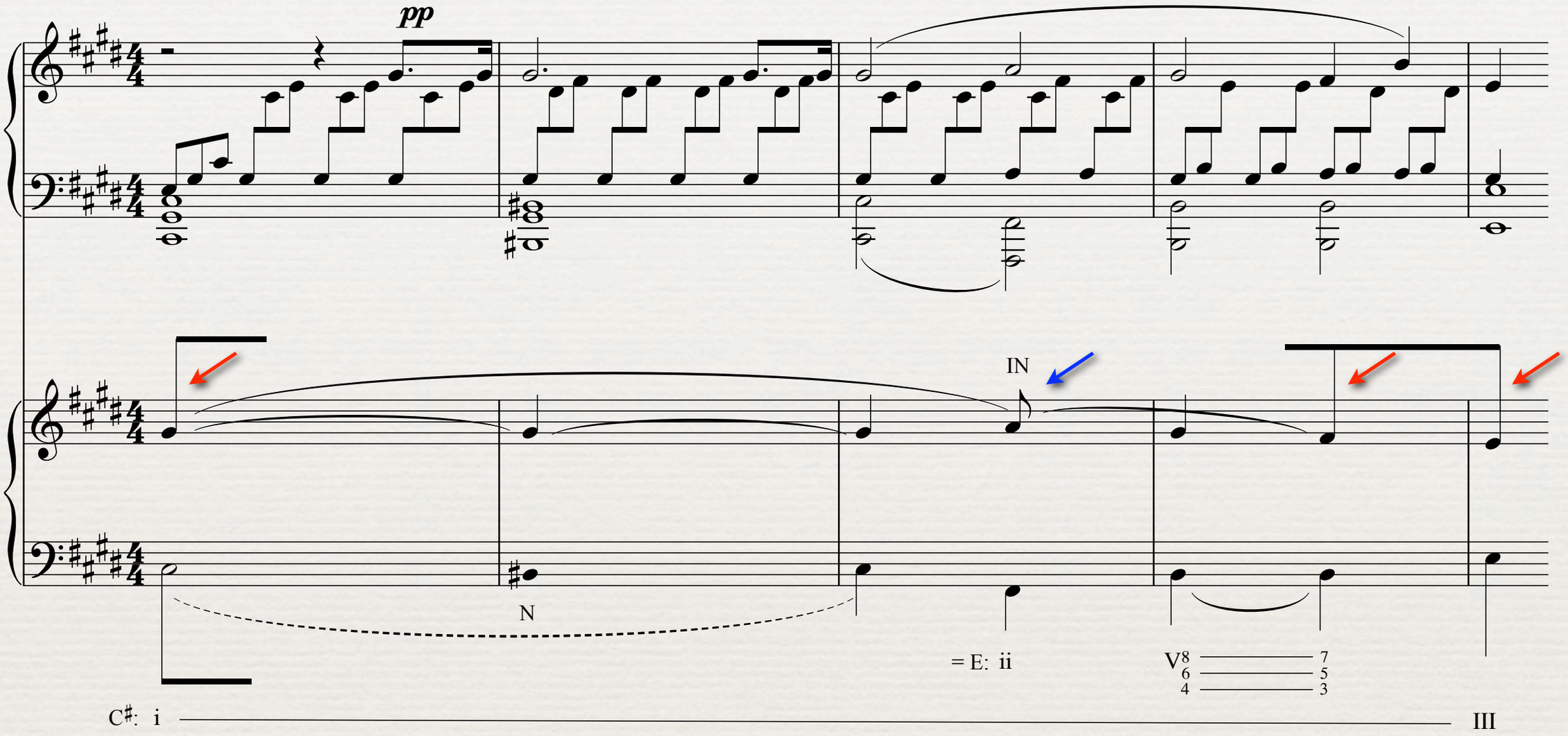
Beethoven: Sonata Op. 27 No. 2, I



- The upper voice traverses a 3-prg.
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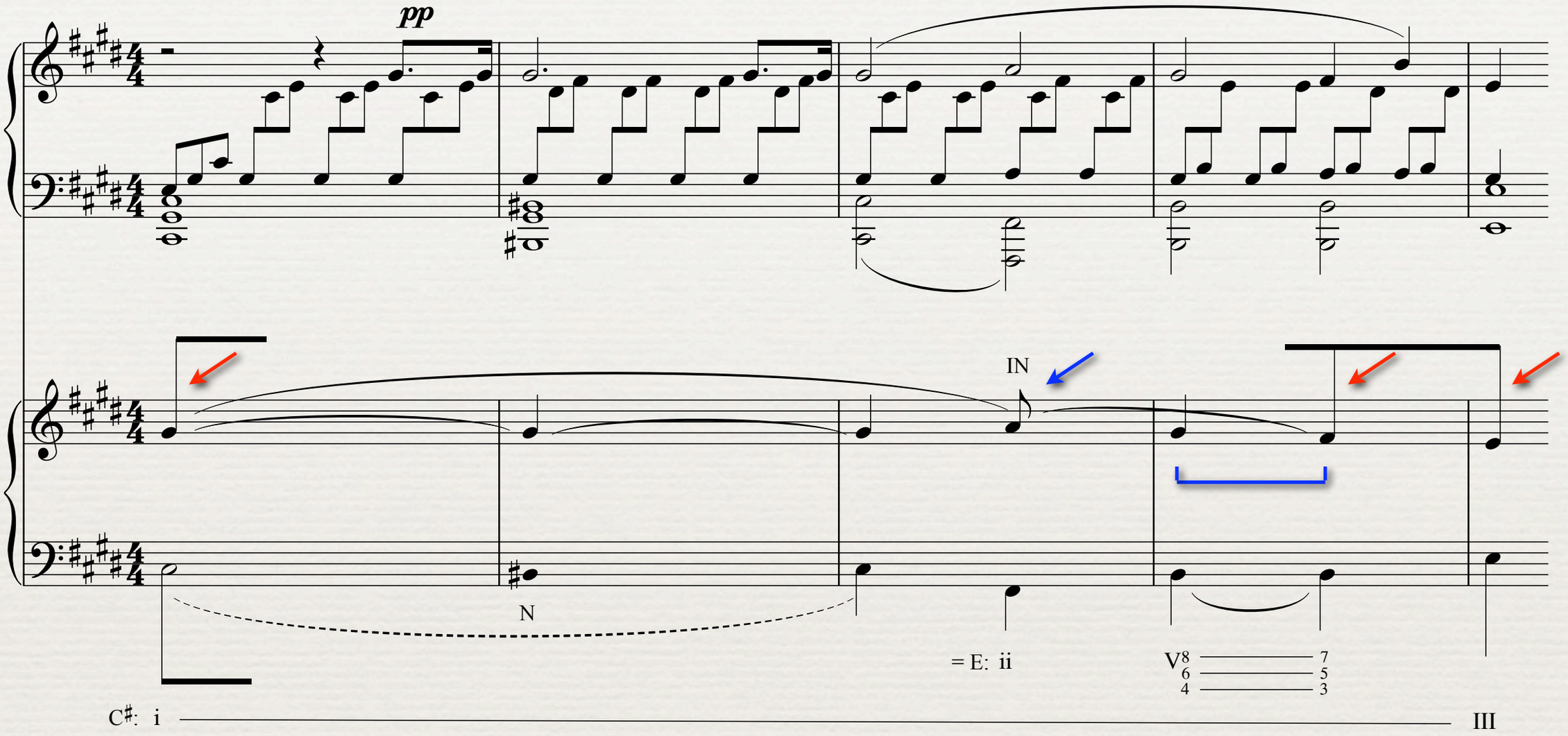
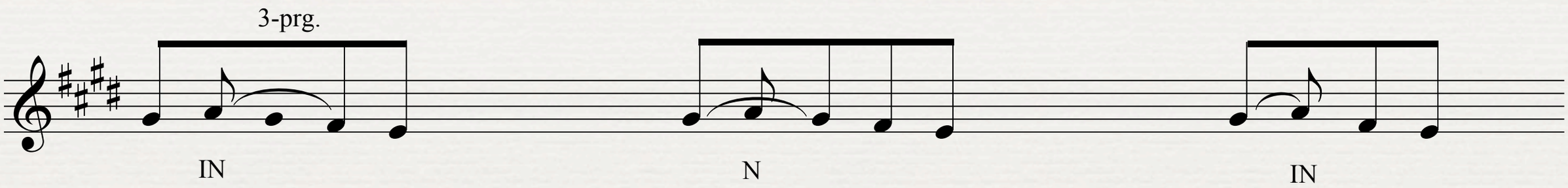
- Note that the A is an *incomplete* neighbor—that is, it is neighboring only to the G# before.

Beethoven: Sonata Op. 27 No. 2, I

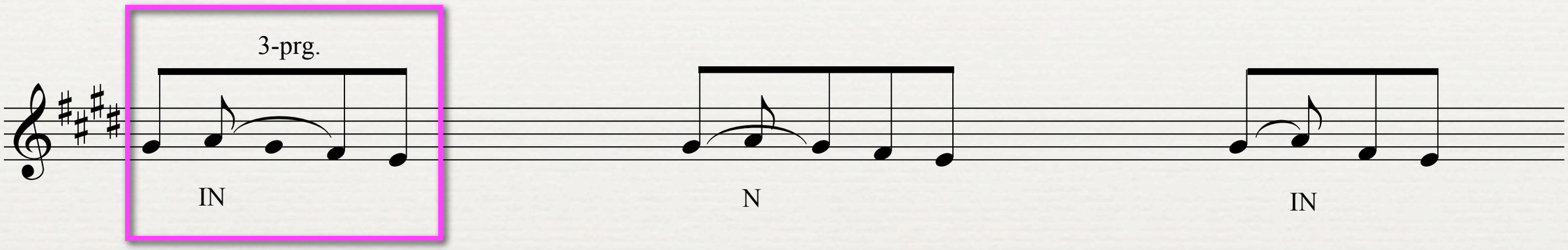


- The upper voice traverses a 3-prg.
  - Elaborated and expanded by 'A', upper neighbor to G#
- Note that the A is an *incomplete* neighbor—that is, it is neighboring only to the G# before.
- The following G# is an accented passing tone, not a main tone.

Beethoven: Sonata Op. 27 No. 2, I



Beethoven: Sonata Op. 27 No. 2, I



- The Beethoven is the first example—the G# is interpreted as a passing tone.

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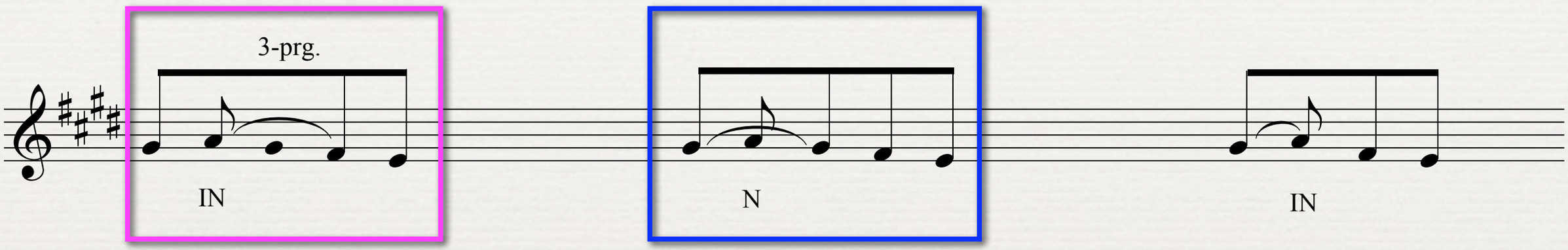

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- It might be possible to interpret the G# as a complete neighbor, but that isn't taking the embellishing nature of the following G# into account.

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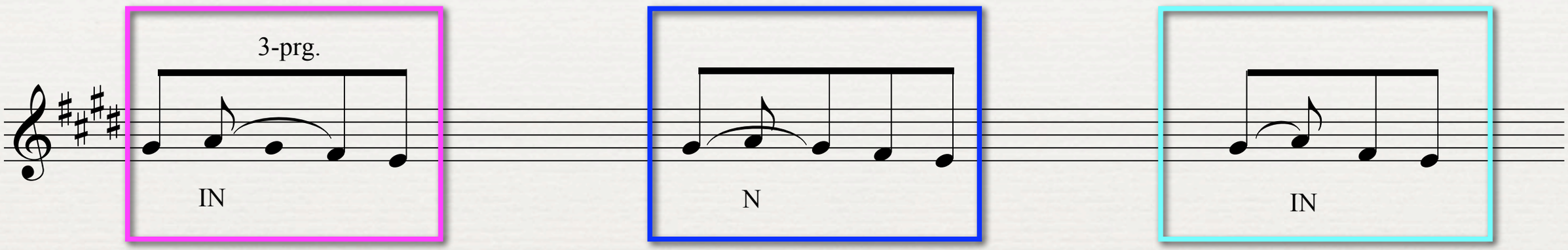

- The Beethoven is the first example—the G# is interpreted as a passing tone.
- It might be possible to interpret the G# as a complete neighbor, but that isn't taking the embellishing nature of the following G# into account.
- A wiser interpretation understands the figure as an incomplete neighbor, or *escape tone*.