

Chamber Symphony No.1(Evick)/  
Symmetrical and Structural Features in Sonata No.2, Mvt.1, violin and piano.(Béla  
Bartók)

by

Jason Wesley Evick

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Program

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Chamber Symphony No.1(Evick)/  
Symmetrical and Structural Features in Sonata No.2, Mvt.1, violin and piano.(Béla  
Bartók)

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Signature:

\_\_\_\_\_  
Jason Wesley Evick, Student Date

Approvals:

\_\_\_\_\_  
Dr. Robert Rollin, Thesis Advisor Date

\_\_\_\_\_  
Dr. David Morgan, Committee Member Date

\_\_\_\_\_  
William Slocum, Committee Member Date

\_\_\_\_\_  
Peter J. Kasvinsky, Dean of School of Graduate Studies & Research Date

## ABSTRACT

This thesis examines the musical language of the first movement of Béla Bartók's *Sonata no. 2*, for violin and piano (1922). Exploring the use of inversional symmetry, interval cycles, octatonic harmony and the use of Z-cells. It shows how Bartók used symmetry to function analogously to tonal procedures; and examines the form of the movement, its shape, melodic/harmonic content, and climatic structure. Analytic methods are based primarily on the research of Elliott Antokoletz and the theory of *twelve tone tonality*. The movement's structure and various developmental procedures are presented. Detailed analysis is provided, showing Bartók's use of symmetry, and Z-cell interaction with octatonic harmony, inversional symmetry, and free treatment. It also shows, Bartók's developmental process of cell expansion/contraction and intervallic displacement linking it to the Second Viennese School. The movement epitomizes the extremely experimental nature of Bartók's middle period style.

## ACKNOWLEDGMENTS

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# Chamber Symphony No. 1

Jason Wesley Evick

# INSTRUMENTATION

2 Flutes  
2 Oboes  
2 Clarinets (Bb)  
2 Basoons

Trumpet (Bb)  
2 Horns (F)  
Trombone

Percussion (2 Players)  
Glockenspiel  
Xylophone

Violins I  
Violins II  
Violas  
Cellos  
Basses

# Chamber Symphony no. 1

Jason Wesley Evrick  
2008

♩=108

Flute I II  
a.2 *pp*

Oboe II  
a.2 *pp*

Bb Clarinet in C I II  
a.2 *pp*

Bassoon I II  
a.2 *pp*

Trumpet in Bb  
*mf*

Horn 1 in F  
*mf*

Horn 2 in F  
*mf*

Violin I  
unison *pp*

Violin 2  
unison *pp*

Viola  
unison *pp*

Violoncello  
unison *pp*

Double Bass  
unison *pp*

♩=108





25

Musical score for orchestra, measures 25-34. The score is arranged in two systems of staves. The instruments listed are:

- Fl. I & II
- Ob. I & II
- Cl. I & II
- Bsn. I & II
- Hrn. 1
- Hrn. 2
- Tbn.
- Vln. 1
- Vln. 2
- Vla.
- Vc.
- Db.

Dynamic markings include *mp*, *mf*, *fff*, and *ff*. The score features complex rhythmic patterns and melodic lines across all instruments.

40

Fl. I II  
Ob. I II  
Cl. I II  
Bsn. I II  
Hrn. 2  
Tbn.  
Vln. 1  
Vln. 2  
Vla.  
Vcl.

*mp* *ff* *mf* *mf* *mp* *ff* *mp* *mf* *mf* *mf*

Detailed description: This page of a musical score covers measures 40 and 41. It features ten staves for various instruments: Flute I and II, Oboe I and II, Clarinet I and II, Bassoon I and II, Horn 2, Trombone, Violin 1 and 2, Viola, and Violoncello. The score includes dynamic markings such as *mp* (mezzo-piano), *ff* (fortissimo), and *mf* (mezzo-forte). Performance instructions like accents and slurs are present. In measure 40, the woodwinds and strings play a melodic line, while the brass instruments provide harmonic support. In measure 41, the woodwinds and strings continue their melodic development, with some instruments playing triplets. The brass instruments play sustained notes or chords.

50

Fl. I II *mf*

Ob. I II

Cl. I II *ff*

Bsn. I II *mf*

Tbn. *ff*

Xyl.

Vln. 1 *ff*

Vln. 2 *mf*

Vla. *ff*

Vc. *mf*

Db. *mf*

Detailed description: This page of a musical score covers measures 50 to 59. The instrumentation includes Flutes I and II, Oboes I and II, Clarinets I and II, Bassoons I and II, Trombones, Xylophone, Violins I and II, Viola, Violoncello, and Double Bass. The score is written in a key with one sharp (F#) and a common time signature. Dynamics are indicated by *mf* (mezzo-forte) and *ff* (fortissimo). The woodwinds and strings play rhythmic patterns, often with accents. The brass section, including Trombones and Viola, plays a prominent role with *ff* dynamics. The Xylophone and Double Bass have rests throughout the passage.

57

Fl. I  
Fl. II  
Ob. I  
Ob. II  
Cl. I  
Cl. II  
Bsn. I  
Bsn. II  
Tpt.  
Hrn. 1  
Hrn. 2  
Tbn.  
Glock.  
Xyl.  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Db.

*pp*  
*pp*  
*mf*  
*mf*  
*mf*  
*pp*  
*pp*

70

Fl. I II *mp*

Ob. I II *mp*

Cl. I II *mf*

Bsn. I II *mf*

Tpt. *mp*

Hn. 1 *mp*

Hn. 2 *mp*

Tbn. *pppp*

Glock. *mf*

Xyl. *mf*

Vln. 1 *mp*

Vln. 2 *mf*

Vla. *mp*

Vc. *pppp*

83

Fl. I  
Fl. II  
Ob. I  
Ob. II  
Cl. I  
Cl. II  
Bsn. I  
Bsn. II  
Tpt.  
Hrn. I  
Hrn. II  
Tbn.  
Glock.  
Xyl.  
Vln. I  
Vln. II  
Vla.  
Vcl.  
Db.

*mf* *f* *mp* *ppp* *mp* *f* *mp* *f* *mp* *f* *mp* *mf* *f* *arco* *mp* *ppp* *mp* *mp* *mp* *mp* *mp* *mp*





*111*

Fl. I II  
Cl. I II  
Bsn. I II  
Hrn. 2  
Tbn.  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Db.

110

The musical score is presented in two systems. The first system contains measures 110 and 111, while the second system contains measures 112 and 113. The instrumentation includes Flute I and II, Oboe II, Clarinet I and II, Bassoon I and II, Horn 2, Violin I and II, Viola, Violoncello, and Double Bass. The score features various musical notations such as slurs, accents, and dynamic markings. The first system begins with a dynamic marking of *f* (forte) for the Flute I and II parts. The second system begins with a dynamic marking of *mf* (mezzo-forte) for the Flute I and II parts.

Fl. I  
II

Ob. I  
II

Cl. I  
II

Bsn. I  
II

Hrn. 2

Vln. I

Vln. 2

Vla.

Vcl.

Db.

*f*

*mf*

*f*

*mf*

124

The musical score is arranged in two systems. The first system contains staves for Flute I & II, Oboe I & II, Clarinet I & II, Bassoon I & II, Trombone, and Xylophone. The second system contains staves for Violin I & II, Viola, and Violoncello. The score includes various musical notations such as triplets, slurs, and dynamic markings like *mp*, *f*, and *p*. The key signature has one sharp (F#) and the time signature is 4/4.

152

Fl. I  
II

Ob. I  
II

Cl. I  
II

Bsn. I  
II

Tpt.

Hrn. 1

Hrn. 2

Tbn.

Glock.

Vln. 1

Vln. 2

Vla.

Vc.

Db.

*mf*, *f*, *mp*, *p*

143

Fl. I II  
 Ob. I II  
 Cl. I II  
 Bsn. I II  
 Tpt.  
 Hrn. I  
 Hrn. II  
 Glock.  
 Xyl.  
 Vln. 1  
 Vln. 2  
 Vc.

Musical score for orchestra, measures 143-152. The score includes parts for Flute I & II, Oboe I & II, Clarinet I & II, Bassoon I & II, Trumpet, Horn I, Horn II, Glockenspiel, Xylophone, Violin I & II, and Cello. Dynamics range from *mf* to *ff*, with *cresc.* and *sforz.* markings. The key signature has two sharps (F# and C#), and the time signature is 4/4.

155

Fl. I II  
Ob. I II  
Cl. I II  
Bsn. I II  
Hn. I  
Hn. 2  
Tbn.  
Glock.  
Xyl.  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Db.

*f* *mf* *p* *mf* *p* *mf* *p* *mf*

The musical score consists of two systems of staves. The first system includes parts for Flute I and II, Oboe I and II, Clarinet I and II, Bassoon I and II, Trombone, Glockenspiel, Violin I and II, Viola, Violoncello, and Double Bass. The second system includes parts for Violin I and II, Viola, Violoncello, and Double Bass. The score is marked with dynamics such as *mf*, *f*, *cresc.*, *fff*, *dim.*, and *ppp*. Fingerings and breath marks are indicated throughout the woodwind parts.

Musical score for measures 175-183. The score is divided into two systems. The first system includes parts for Oboe II, Clarinet II, Trombone, Horn I, and Horn II. The second system includes parts for Violin I, Violin II, and Viola. The woodwind and brass parts feature melodic lines with slurs and dynamic markings such as *mp*, *mf*, and *p*. The string parts are mostly rests, with some activity in the second system. The measure numbers 175 and 183 are indicated at the beginning and end of the score, respectively.



187

Fl. I II  
Ob. I II  
Cl. I II  
Hrn. 2  
Xyl.  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Db.

*ff*  
*f*  
*mf*  
*f*  
*mf*  
*f*  
*mf*  
*f*  
*mf*  
*f*  
*mf*  
*mf*  
*mf*  
*mf*

Detailed description: This page of a musical score covers measures 187 through 191. The score is arranged in two systems. The first system includes woodwinds (Flute I & II, Oboe I & II, Clarinet I & II, Horn 2, and Xylophone) and the beginning of the string section (Violin 1 & 2, Viola, Violoncello, and Double Bass). The second system continues the string section. The woodwinds play melodic lines with various dynamics, including fortissimo (ff) and mezzo-forte (mf). The strings provide harmonic support with sustained notes and some rhythmic patterns. The Xylophone has a few notes in measure 189. The score is written in a key signature of one sharp (F#) and a common time signature (C).

201

Fl. I II  
Ob. I II  
Cl. I II  
Hrn. 2  
Xyl.  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Db.

*mf*

*mp*  
*mp*  
*f*  
*f*  
*f*  
*mp*  
*f*  
*mp*  
*mp*  
*mp*  
*mp*  
*mp*

Detailed description: This is a page of a musical score for an orchestra, covering measures 201 through 210. The score is written for ten staves: Flute I and II, Oboe I and II, Clarinet I and II, Horn 2, Xylophone, Violin I and II, Viola, Violoncello, and Double Bass. The key signature has two sharps (F# and C#), and the time signature is 3/4. The music features a variety of dynamics, including *mp* (mezzo-piano), *f* (forte), and *mf* (mezzo-forte). The woodwinds and strings play melodic lines, while the brass (Horn 2) has some rests. The percussion (Xylophone) has a rhythmic pattern. The strings (Violins, Viola, Cello, Bass) provide harmonic support and rhythmic drive.

21/2

The image displays a page of a musical score for an orchestra, specifically measures 21 and 22. The score is arranged in two systems. The first system includes parts for Flute I and II, Oboe I and II, Clarinet I and II, and Bassoon I and II. The second system includes parts for Horn 2, Violin I and II, and Viola. Each instrument part contains musical notation with notes, rests, and dynamic markings. The dynamic markings include *mf* (mezzo-forte), *f* (forte), and *mp* (mezzo-piano). The notation is in a common time signature, and the key signature has one flat. The page number '21/2' is located at the top left of the first system.

223

The musical score consists of ten staves, each representing a different instrument. The instruments are: Flute I and II (Fl. I II), Oboe I and II (Ob. I II), Clarinet I and II (Cl. I II), Bassoon I and II (Bsn. I II), Horn I (Hrn. 1), Trombone (Tbn.), Violin I (Vln. 1), Violin II (Vln. 2), Viola (Vla.), Violoncello (Vc.), and Double Bass (Db.).

The score is written in a key signature of two sharps (F# and C#) and a common time signature (C). It begins with a dynamic marking of *f* (forte) for the woodwinds and strings. The woodwinds (Flutes, Oboes, Clarinets, Bassoons) play melodic lines with various dynamics including *mp* (mezzo-piano), *pp* (pianissimo), *fff* (fortississimo), and *f*. The brass instruments (Horn I, Trombone) play sustained notes, with the Trombone part including a *mp* marking. The strings play rhythmic patterns, with the Violin I part marked *mp*, Violin II marked *pp*, Viola marked *pp*, Violoncello marked *ppp*, and Double Bass marked *ppp*. The score concludes with a *fff* marking for the woodwinds and strings.

238

The musical score for measures 238-241 is arranged in two systems. The first system covers measures 238-241, and the second system covers measures 242-245. The instruments are listed on the left of each system: Fl. I & II, Ob. I & II, Cl. I & II, Bsn. I & II, Tpt., Hrn. I & II, Tbn., Vln. I & II, Vla., and Vc. The score features complex melodic lines for the woodwinds and strings, with dynamic markings such as *f*, *ff*, *mp*, and *mf*. The woodwinds and strings play melodic lines with various articulations, while the brass instruments provide harmonic support with sustained notes.

249

Fl. II  
 Ob. II  
 Cl. II  
 Vln. 1  
 Vln. 2  
 Vla.  
 Vc.

Musical score for measures 249-254. The score is written for seven instruments: Flute II, Oboe II, Clarinet II, Violin I, Violin II, Viola, and Cello. The key signature is two sharps (D major or F# minor). The tempo is marked *Andante*. The score includes dynamic markings: *f* (forte) at measures 249 and 253, and *mp* (mezzo-piano) at measure 252. The Flute II part has a measure rest at 249. The Oboe II part has a measure rest at 249. The Clarinet II part has a measure rest at 249 and 253. The Violin I part has a measure rest at 249. The Violin II part has a measure rest at 249. The Viola part has a measure rest at 249. The Cello part has a measure rest at 249. The score is arranged in a system of seven staves.

255

Fl. I II  
Ob. I II  
Cl. I II  
Bsn. I II  
Xyl.  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Db.

*mf*  
*mf*  
*f*  
*mf*

Detailed description: This page of a musical score covers measures 255 to 260. The score is arranged in a standard orchestral format with woodwinds, strings, and percussion. The woodwind section includes Flutes I and II, Oboes I and II, Clarinets I and II, Bassoons I and II, and Xylophone. The string section includes Violins I and II, Viola, Violoncello, and Double Bass. The percussion part includes a snare drum. The key signature has two sharps (F# and C#), and the time signature is 3/8. The score begins with a dynamic marking of *mf* (mezzo-forte) in measure 255. In measure 256, the woodwinds and strings play a complex rhythmic pattern. In measure 257, the woodwinds play a melodic line while the strings continue their rhythmic accompaniment. In measure 258, the woodwinds play a melodic line, and the strings play a rhythmic pattern. In measure 259, the woodwinds play a melodic line, and the strings play a rhythmic pattern. In measure 260, the woodwinds play a melodic line, and the strings play a rhythmic pattern. The score ends with a dynamic marking of *mf* in measure 260.

261

Fl. I  
II

Ob. I  
II

Cl. I  
II

Bsn. I  
II

Hrn. 1  
Hrn. 2

Xyl.

Vln. 1  
Vln. 2

Vla.

Vc.

Db.

*mp*

*pp*

*pp*  
pizz.

*pppp*  
pizz.

*pppp*



274

Fl. I II *mf*

Cl. I II *mp*

Bsn. I II *mp*

Hn. 1 *mp*

Tbn. *mp*

Xyl.

Vln. 1 *mf*

Vln. 2 *mp*

Vla. *mp*

Vc. *arco* *mp*

Db. *arco* *mp*

*f* *mp* *mf*

*f* *f* *mp* *mf* *mf*

286

Fl. I II  
Ob. I II  
Cl. I II  
Bsn. I II  
Tpt.  
Hrn. 2  
Tbn.  
Glock.  
Xyl.  
Vln. 1  
Vln. 2  
Vla.  
Vc.  
Db.

*f*  
*f*  
*mf*  
*f*  
*mf*  
*mf*  
*mf*  
*mf*  
*mf*  
*f*  
*f*  
*f*  
*mf*  
*mf*  
*f*  
*mf*  
*mp*  
*mp*  
*mf*  
*mf*



# Chamber Symphony no.1 II

Jason Wesley Evrick

♩ = 72

Flutes I II

Oboes I II

B♭ Clarinets I II

Bassoons I II

Glockenspiel

Violin I

Violin 2

Viola

Violoncello

Double Bass

*f* *mp* *a2.* *f* *mp* *a2.* *f* *f* *f* *f*

*unisi.* *f* *unisi.* *mf* *unisi.* *mp* *unisi.* *mp* *unisi.* *mp*

*solo* *p cresc.* *fp* *solo* *pp cresc.* *f*

This musical score page (32) features a variety of instruments and dynamic markings. The woodwind section includes Flutes I and II, Oboes I and II, Clarinets I and II, Bassoons I and II, Glockenspiel, and Xylophone. The string section consists of Violins I and II, Viola, Violoncello (Vc.), and Double Bass (Db.).

Key musical elements include:

- Flute I:** Starts with a first ending (1.) marked *mp*, followed by a second ending (2.) marked *f*. It concludes with a *dim.* marking.
- Flute II:** Features a *f* dynamic marking.
- Oboe I:** Includes a *f* dynamic marking.
- Oboe II:** Includes a *mf* dynamic marking.
- Clarinet I:** Includes a *f* dynamic marking.
- Clarinet II:** Includes a *mf* dynamic marking.
- Bassoon I:** Includes a *f* dynamic marking.
- Bassoon II:** Includes a *mf* dynamic marking.
- Violin I:** Starts with a *f* dynamic marking.
- Violin II:** Includes a *mf* dynamic marking.
- Viola:** Includes a *mf* dynamic marking.
- Violoncello:** Includes a *mf* dynamic marking.
- Double Bass:** Includes a *mf* dynamic marking.

Other notable markings include *solo.* for the Flute I and Flute II parts, and *unsi.* (unaccompanied) for the Flute I and Flute II parts. The score also features various dynamic markings such as *f*, *mf*, *mp*, and *dim.* throughout the piece.

27

Fl. I II *mp* *f* *cresc.* 3 *mf*

Ob. I II *mp* *f* *cresc.* 3 *mf*

Cl. I II *p* *f* *cresc.* 3 *mf*

Bsn. I II *mp* *f* *cresc.* 3 *p* *mf*

Hrn. I *mf*

Hrn. II *mf*

Tbn. *f* *ff* *mf*

Glock. *mf*

Vln. 1 *mp* *f* *cresc.* 3 *ff*

Vln. 2 *mf* *p* *mf* *unis.*

Vla. *mp* *f* *cresc.* 3

Vc. *mf* *divisi* *mf* *ff*

Db. *mp* *mf*

37

Fl. I 1. 2. *f*

Ob. I *f*

Ob. II *mf*

Cl. I *f* *cresc.* 1. 2. *mf*

Cl. II *f* *cresc.* 1. 2. *mf*

Bsn. I *f* *a2.* 1. 2. *f*

Bsn. II *f* *a2.* 1. 2. *f*

Tpt. *f* *cresc.*

Hn. I *p*

Hn. II *p*

Tbn. *p*

Glock. *f* *cresc.*

Xyl. *f* *cresc.*

Vln. 1 *cresc.* *divisi*

Vln. 2 *cresc.* *divisi* *mf*

Vla. *f*

Vc. *f*

Db. *f*

This page of a musical score contains the following parts and markings:

- Flute I & II (Fl. I, II):** Both parts play a melodic line with slurs and accents. A *rit.* (ritardando) marking is present at the beginning.
- Oboe I & II (Ob. I, II):** Both parts play a melodic line with slurs and accents.
- Clarinet I & II (Cl. I, II):** Both parts play a melodic line with slurs and accents. A *a2.* (second ending) marking is present.
- Bassoon I & II (Bsn. I, II):** Both parts play a melodic line with slurs and accents. A *a2.* (second ending) marking is present.
- Horn I & II (Hrn. I, II):** Both parts are marked with a dash, indicating they are silent.
- Trombone (Tbn.):** The part is marked with a dash, indicating it is silent.
- Glockenspiel (Glock.):** The part is marked with a dash, indicating it is silent.
- Violin I & II (Vln. 1, 2):** Both parts play a melodic line with slurs and accents.
- Viola (Vla.):** The part plays a melodic line with slurs and accents. A *unsi.* (unaccompanied) marking is present.
- Violoncello (Vc.):** The part plays a melodic line with slurs and accents.
- Double Bass (Db.):** The part plays a melodic line with slurs and accents.



50 Fl. I II *mp* *al.*

Ob. I II

Cl. I II *p*

Bsn. I II *pp*

Glock.

Xyl.

Vln. 1 *un.* *mp*

Vln. 2 *p*

Vla.

Vc. *pp*

Db.

Detailed description: This page of a musical score contains staves for woodwinds, strings, and percussion. The woodwind section includes Flute I and II (marked *mp* and *al.*), Oboe I and II, Clarinet I and II (marked *p*), and Bassoon I and II (marked *pp*). The percussion section includes Glockenspiel and Xylophone (marked *mf*). The string section includes Violin I (marked *un.* and *mp*), Violin II (marked *p*), Viola, Violoncello (marked *pp*), and Double Bass. The score features complex rhythmic patterns, including sixteenth and thirty-second notes, and various dynamic markings.

62

Fl. I II *mf*

Ob. I II *p*

Cl. I II *mf*

Bsn. I II *p*

Hrn. I *p*

Hrn. II *p*

Tbn. *p*

Glock. *p*

Vln. 1 *p*

Vln. 2 *p*

Vla. *p*

Vc. *mf*

Detailed description: This is a page of a musical score for a symphony orchestra, page 37, measures 62-70. The score is arranged in a standard orchestral format with parts for woodwinds, brass, percussion, and strings. The woodwind section includes Flute I & II, Oboe I & II, Clarinet I & II, and Bassoon I & II. The brass section includes Horn I & II and Trombone. The percussion section includes Glockenspiel. The string section includes Violin I & II, Viola, and Cello. The score features various musical notations such as notes, rests, and dynamic markings. The dynamics are marked as *mf* (mezzo-forte) and *p* (piano). The key signature has one sharp (F#) and the time signature is 4/4. The page number 37 is in the top right corner, and the measure number 62 is in the top left corner.

72

Fl. I II *sf*

Ob. I II *mf*

Cl. I II *mf*

Bsn. I II *mf*

Hrn. I *mp*

Hrn. II *mp*

Tbn. *pp*

Glock. *mf*

Vln. 1 *mp*

Vln. 2 *mp*

Vla. *arco.*

V.c. *pizz. mf*

Db. *mf*

Detailed description: This page of a musical score covers measures 72 to 75. The woodwind section includes Flutes I and II (starting with a forte *sf* dynamic), Oboes I and II, Clarinets I and II, Bassoons I and II, Horns I and II, and Trombones. The brass section includes Trumpets (starting with *pp*) and Trombones. The percussion section features Glockenspiel (starting with *mf*) and Cymbals. The string section consists of Violins 1 and 2, Viola, Violoncello (starting with *pizz.*), and Double Bass. Dynamics range from *pp* to *sf*. The score includes various musical notations such as slurs, accents, and articulation marks.



96

Fl. I II *mf*

Ob. I II *f*

Cl. I II *f*

Bsn. I II *mf*

Hrn. I *pp*

Hrn. II *pp*

Vln. I *fz* *f* *unsi.* *mp*

Vln. 2 *mf* *p dolce* *pp*

Vla. *mf* *pp*

Vc. *mf* *pp*

Db. *mp*

103

Fl. I II *mp* *f* *mp*

Ob. I II *f* *f* *p dolce*

Cl. I II *mf* *mf* *mp*

Bsn. I II *mf* *mf* *mp*

Hrn. I *mf* *mf* *ppp*

Hrn. II *mf* *mf* *ppp*

Trn. *ppp* *ppp*

Vln. 1 *f* *mp* *p dolce* *pp* *ppp* *mp*

Vln. 2 *mf* *mf* *ppp* *ppp* *ppp* *mp*

Vla. *mf* *mf* *ppp* *ppp* *ppp* *mp*

Vc. *mf* *mf* *ppp* *ppp* *ppp* *mp*

Db. *mf* *mf* *ppp* *ppp* *ppp* *mp*

111

Fl. I *f*

Fl. II *f*

Ob. I *f*

Ob. II *f*

Cl. I *mf*

Cl. II *mf*

Bsn. I *mf*

Bsn. II *mf*

Tpt. *mf*

Hn. I *mf*

Hn. II *mf*

Tbn. *mf*

Glock. *mf*

Xyl. *mf*

Vln. 1 *f*

Vln. 2 *mf*

Vla. *mf*

Vcl. *mf*

Db. *mf*

*mp* *cresc.*

*p dolce* *cresc. 3*

*ff* *div.* *tunis.*

*mf* *cresc.*

117

Fl. I II *dim.* *pp* *mf*

Ob. I II *dim.* *pp* *mf*

Cl. I II *dim.* *pp* *mf*

Bsn. I II *dim.* *pp* *mp*

Tpt. *dim.* *pp* *mf*

Hn. I *dim.* *pp*

Hn. II *dim.* *pp*

Tbn. *dim.* *pp*

Vln. 1 *dim.* *pp* *mf* *unisi.*

Vln. 2 *dim.* *pp* *mf*

Vla. *dim.* *pp*

Vc. *dim.* *pp* *mp*

Db. *dim.* *pp*



130

Fl. I II *mp* *f*

Ob. I II *f*

Cl. I II *mp* *mf*

Esn. I II *mf*

Tbn *mf*

Vln. 1 *f*

Vln. 2 *f*

Vla *solo* *f*

Vc *mf*

Detailed description: This page of a musical score covers measures 130 to 139. The instrumentation includes Flute I and II, Oboe I and II, Clarinet I and II, Euphonium I and II, Trombone, Violin I and II, Viola, and Violoncello. The score is written in a key with one sharp (F#) and a common time signature. The woodwinds and strings play a rhythmic pattern of eighth notes, while the oboe and flute have melodic lines. The dynamic markings range from mezzo-piano (mp) to fortissimo (f). A 'solo' marking is present for the Viola in measure 135. The page number '130' is located at the top left of the first staff.

The musical score for page 45 is arranged in two systems. The first system includes parts for Flute I and II, Oboe I and II, Clarinet I and II, Bassoon I and II, and Trumpet. The second system includes Violin I and II, Viola, Violoncello, and Double Bass. The score is in D major (one sharp) and 4/4 time. The woodwind parts feature melodic lines with triplets and accents. The string parts provide a harmonic foundation with sustained notes and some melodic movement. Dynamics such as *f*, *mp*, and *mf* are indicated throughout. Performance markings include accents, slurs, and first endings.

This page of a musical score features the following instruments and parts:

- Flute I & II:** A2, measures 152-162, featuring triplets of eighth notes.
- Oboe I & II:** Measures 152-162, featuring triplets of eighth notes.
- Clarinet I & II:** Measures 152-162, featuring triplets of eighth notes.
- Bassoon I & II:** Measures 152-162, featuring a triplet of eighth notes.
- Trumpet:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.
- Trombone:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.
- Glockenspiel:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.
- Xylophone:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.
- Violin I & II:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.
- Viola:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.
- Violoncello:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.
- Double Bass:** Measures 152-162, featuring a triplet of eighth notes with a *cresc.* marking.

Dynamic markings include *cresc.* and *div.* (divisi). The score is written for a full orchestra with multiple players per instrument.

156

Fl. I II *ff*

Ob. I II *ff*

Cl. I II *ff*

Bsn. I II *ff*

Tpt. *ff*

Hrn. I *ff*

Hrn. II *ff*

Tbn. *ff*

Glock. *ff*

Xyl. *ff*

Vln. 1 *ff*

Vln. 2 *ff*

Vla. *ff*

Vcl. *ff*

Db. *ff*

*unssi.*

*unssi.*

157

Detailed description: This page of a musical score, numbered 47, contains measures 156 and 157. The score is arranged in a standard orchestral format with 15 staves. The instruments are: Flute I and II, Oboe I and II, Clarinet I and II, Bassoon I and II, Trumpet, Horn I and II, Trombone, Glockenspiel, Xylophone, Violin I and II, Viola, Violoncello, and Double Bass. The music is in 4/4 time and features a variety of dynamics, including fortissimo (ff) and piano (p). The woodwinds and strings play sustained notes, while the brass instruments have more active parts. The percussion instruments (Glockenspiel and Xylophone) play rhythmic patterns. The score includes various musical notations such as slurs, ties, and triplets. The page number 156 is written at the beginning of the first staff, and 157 is written at the end of the last staff.

Symmetrical and Structural Features  
in Sonata no.2, Mvt.1  
Violin and Piano

## I. Introduction

*Sonata No. 2* for violin and piano was composed in 1922 near the beginning of Béla Bartók's middle period (early 1920s-mid 30s).<sup>1</sup> This period produced some of his most experimental and difficult works such as the 4<sup>th</sup> string quartet (1928) and the sonata for piano (1926). It was also during this period that there was an increase in Bartók's concert career and Bartók performed *Sonata no.2* frequently with violinist Jelly D'Aranyi. The focus of this thesis is exclusively on the first movement of *Sonata No.2* and the work, itself, is one of Bartók's most expressionistic and complex. In a letter from December 31<sup>st</sup> 1925 Bartók states to a concert planner;

“What we must be careful to avoid is any attempt to put such works as my two Sonatas for violin and piano...in places where the level of music appreciation is as low, as in some Hungarian towns.”<sup>2</sup>

This difficulty is not only a product of harmonic experimentation, but, as Halsey Stevens comments, “there is complete independence between the piano and violin, a lack of traditional thematic unity, and a looseness of melody and form making it close to the work of the Viennese expressionist”.<sup>3</sup> Bartók has also been quoted as saying that with these works he; “wanted to show Schoenberg that one can use all twelve tones and still remain tonal.”<sup>4</sup>

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<sup>1</sup> Sonata no.1 was composed the previous year.

<sup>2</sup> Béla Bartók *Letters*. (Farber and Farber, London 1971) 168

<sup>3</sup> Halsey Stevens *The Life and Music of Béla Bartók*. (Oxford University Press, Oxford : Clarendon Press ; New York 1993) 234

<sup>4</sup> Elliott Antokoletz. *Bartók in Eastern Europe and the United States* in “Twentieth Century Music” (Englewood Cliffs, Prentice Hall 1992) 123

He even participated in performances with some members of the Schoenberg circle and others for the International Society for Contemporary Music (ISCM).<sup>5</sup>

Bartók frequently puts each work in a specific tonal center and this sonata is no exception. While the first Sonata is labeled ‘in C# minor,’ the second, “in C major”, this label is frequently ascertained from a works’ final measures, rather than large scale or localized tonal centers. The first movement final measures end with an F-B dyad (piano) and E-F# focus pitches (violin). The second movement ends with a clear C-G fifth (piano) and an E (violin). It is in the final movement where Bartók derives his tonal label, but this is essentially a ruse, for Bartók derives pitch structure from symmetrical treatment. Much of this symmetry evolved from his very earliest works. His 14 *Bagatelles* op.6 (1908) contains such processes as inversional symmetry and interval cycles derived from intervallic cells.<sup>6</sup> *Bagatelle* no.7 has intervallic cells replacing triads, representing nothing less than a new harmonic world where symmetrical organization replaces the traditional tonal language. Strict inversional or axial symmetry becomes the main feature of *Bagatelle* no. 2.<sup>7</sup> The work’s opening section (m.1-8) revolves around an A-Eb axis<sup>8</sup>, resulting in a readily apparent ascending and descending structure:

A Bb B C C# D Eb  
A Ab G Gb F E Eb

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<sup>5</sup>Elliott Antokoletz. *Bartók in Eastern Europe and the United States* in “Twentieth Century Music” (Englewood Cliffs, Prentice Hall 1992) 123

<sup>6</sup> An interval cycle is any collection of pitches exclusively based on a single interval. For example such collections can be whole-tone scales built on interval 2, and chromatic scale built on interval 1. This type of treatment is available to all possible intervals from every pitch class.

<sup>7</sup> See Antokoletz, Elliot. “At last something truly new” *The Bartók Companion* edited by Malcolm Gilles. (Amadeus Press, Portland, Oregon 1993) 121

<sup>8</sup> Axis pitches (a pitch class and corresponding tritone) are points in a symmetrical structure about which other pitches revolve. For example the whole tone subset, c-d-e has D as its axis, where c-d and d-e consist of interval 2 and c-e, being interval 4, balancing around D as a converging point of symmetry. It is also possible to have a dual axis of symmetry where the axis consists of a semitone. For example C and Db can function as an axis and includes their respective tritones Gb and G.

The horizontal alignments of pitch classes are inversive complements that always revolve around the two axis pitches A-Eb<sup>9</sup>. Inversive complement dyad Ab/Bb (piano right hand) opens the movement before unfolding inversive complement dyads melodically (example 1.1). At measure 5 inversive complement dyads stop and turn into interval cycle 1 fragment.<sup>10</sup> Bartók next relies on the tonal cadential archetype, V-I, here a Bb resolving to Eb. Measures 8-10 constitute a transition into a brief development centering around a D-Ab axis followed by a recapitulation (m. 18) focusing on the original axis retrograde, now seen as Eb-A.

The musical score consists of two systems. The first system, labeled 'Piano', shows measures 1-4. The right hand plays a continuous eighth-note melody, while the left hand is silent. A bracket above the first four measures is labeled 'Inversive Complement dyad (I.C Dyad)'. The second system, labeled 'Pno.', shows measures 5-8. The right hand continues the eighth-note melody. The left hand enters in measure 5 with a melodic line. Brackets below the first two measures of this system are labeled 'Interval cycle 1.'. Brackets below measures 7 and 8 are labeled '(I.C Dyad)'. A bracket below the final measure of the system is labeled 'Axis Dyad'. A bracket below the final measure of the system is labeled 'Quasi-tonal cadence.'.

### Example 1.1 Bagatelle no. 2, piano, measures 1-8

<sup>9</sup> Elliot Antokoletz points out the axis and dyads in his article, "At last something truly new" *The Bartók Companion* edited by Malcolm Gilles. (Amadeus Press, Portland, Oregon 1993) 116-117

<sup>10</sup> See footnote 5.



Octatonic and whole-tone scales appear frequently in all the Bagatelles. It is in Bartók's middle period where these ideas see their full potential, not only in the second sonata, but also in the 3<sup>rd</sup> and 4<sup>th</sup> string quartets (1927 and 1928) which are among his most experimental works. Within these works Bartók expands on a symmetrical configuration known as a Z-Cell. It is a 0,1,6,7 structure that has ties to both octatonic and axis harmony.<sup>11</sup>

Symmetrical structures perform a vital role in *Sonata no. 2*, mvt. 1. The harmony is often derived from axis structures as in *Bagatelle no. 2*. Bartók often combines inversional complement dyads into tetrachord structures to create larger units not found in the *Bagatelles*. He frequently "modulates" into new axis areas as well as combines them with related octatonic scales.<sup>12</sup> In turn the octatonic collections become a prominent element of the harmony and combines with other interval cycles.

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<sup>11</sup> A Z-cell can be transformed into an octatonic scale by combining a Z-cell(0,1,6,7) and its minor 3<sup>rd</sup> transposition(3,4,9,10). The cells' relation to axial harmony is found through the use of a dual axis (0/1) and their tritones (6, 7). When this occurs a further octatonic relation is found by inversional complements (3.10 and 4.9) as corresponding elements around the 0/1 axis. The Z-cell was first mentioned by Leo Treitler in *Harmonic Procedures in the Fourth Quartet of Béla Bartók*. *Journal of Music Theory* (Volume 3, 1959). 292-98

<sup>12</sup> The octatonic scale can be viewed as an interval cycle; this is first mentioned by Gary Karpinsky in his PhD. Diss. *Interval cycles in the Music of Bartok and Debussy* (New York University, 1995).

## II. Form

The movement's design is developed through organic dispersal of small motivic material resulting in a fragmented yet-unified structure.<sup>13</sup> The movement as a whole can be viewed as a monothematic Sonata with only a single recurring thematic element.<sup>14</sup> Sections are separated by changes in texture, new motives, harmonic organization and occasionally clearly defined cadences. Typical of Bartók's writing is the complexity of form. While each section seems like a new event, there are subtleties that tie the work to traditional formal archetypes. The use of such devices as cluster chords, scalar passages, octaves, and melodic/gestural similarities help aurally to focus the movement without resorting to traditional thematic structure. The rhythm of the work is free from consistent metric pulse as there are a multitude of tempo changes. The 125 measure movement is comprised of a 4 measure introduction and eight sections. Figure 2.1(next page) shows a graph analysis of the movement's various sections and axis centers. Figure 2.2 (page 7) shows the proportion of each section and at what percentage climaxes occur within the movement. The movement can be bisected at roughly 50% (measure 64), separating the exposition and development as the first half, and the recap, re-development, and coda as the second half. An interesting feature is the outer A sections (1 and 3) flank section B, C, D, A2, E and F with exactly 20 measures each. Both climaxes occur roughly at the same points in their bisection division, the first occurring at roughly 35% and the second at 76% of the total form.

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<sup>13</sup> Here the term motive is intended to suggest the smallest level of idea content structure.

<sup>14</sup> Hasley Stevens makes mention of the form as a Sonatina in his text *The Music of Bela Bartók*. Oxford (University Press, Oxford : Clarendon Press ; New York 1993) 233

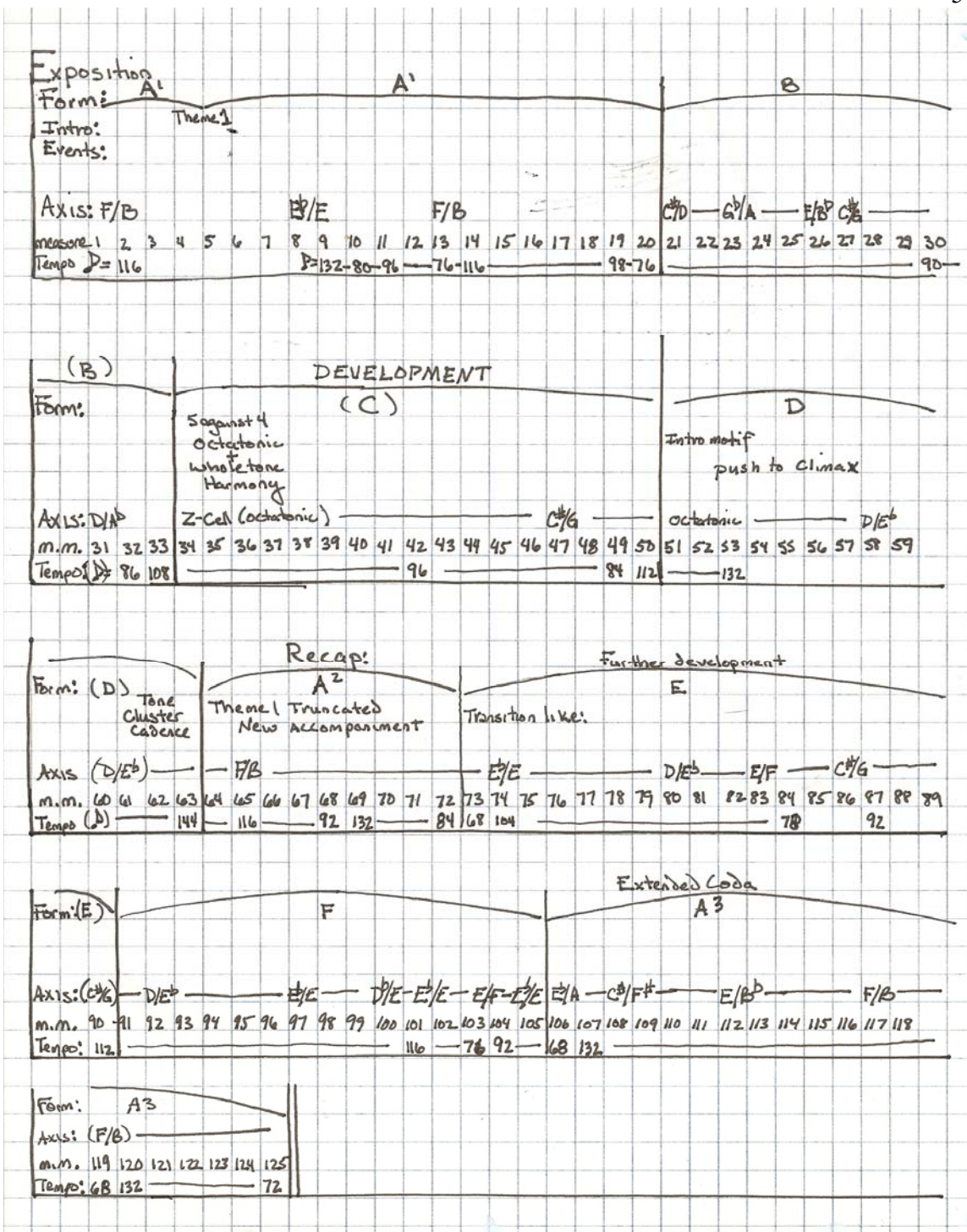


Figure 2.1. Formal Divisions of Sonata no. 2, Movement 1

# Form and Sectional Proportions

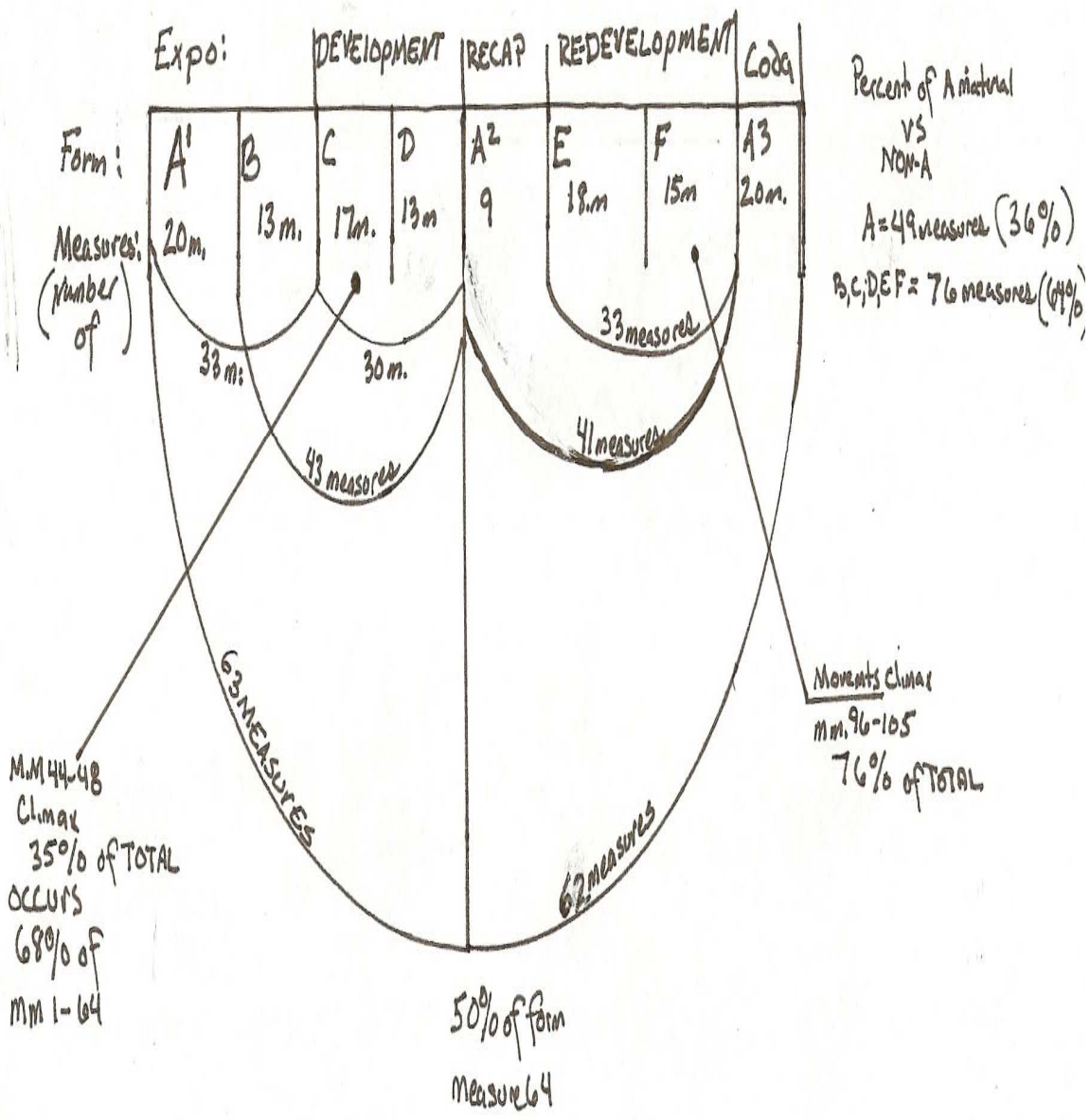


Figure 2.2 Form and Sectional Proportions/Percentages, movement 1.

### Exposition

The opening measures introduce a simple textural procedure, two notes held for 4 measures in both piano and violin. This structure consists of a single pitch, sometimes alternating with a 2<sup>nd</sup> pitch. It occurs throughout the A, B, and D sections, and is the main melodic feature of each. Not only does Bartók use this feature to open the movement, but he also closes several sections with one or two pitch classes in a similar manner.<sup>15</sup>

Figure 2.3 shows the various cadences where this device occurs. The D section closes with a dissonant collection of tone clusters which doesn't appear elsewhere as a cadential marker.

Section	A m. 19-20,	B m. 33,	D mm. 61-62,	A mm 105,
Violin	E	no pitch	E	G#/B
Piano	F#	B pedal to Bb	tone clusters above G#	G/A#

**Figure 2.3 locations of Textural Cadences**

The main theme enters at measure 4 (violin part) and is complete by the downbeat of measure 7 (See example 2.1). This solitary theme initiates the primary section that ends at measure 20. It returns truncated and varied at the recapitulation (mm. 63-72), and again at the coda (mm.106-125).



**Example 2.1 Theme, mm. 4-7**

<sup>15</sup> The cadential feature of this motive frequently employs a large range as is found in the opening measures.

The static rhythmic feature of the opening-measure procedure becomes conjoined with the melodic content as early as measure 7, but it is not until the B section that it takes on a primary role. What occurs is the use of the sustained pitch feature (violin) against rapid figurations in the piano, creating a sense of two speeds. Similar treatment can be found throughout various section of the movement, where there is the occurrence of sustained single pitch classes and minor figurations (violin).

#### Development

The character of section C is more developmental and driving against the subdued and languid opening. There is an increased rhythmic activity as the violin plays in 5 eighths against 4 in the piano until m. 39(see example 3.9 below). Sections C and D replace axial harmony with all 3 possible octatonic scales and a whole tone scale and chromatic scale fragments. Section C elides texturally into section D and is the fastest section of the movement with measures 51-60 at a tempo of ♩ = 132 and then, at mm. 61-63, ♩ = 144. Measure 57 returns to axial harmony in time to prepare for the recapitulation at m. 64.

#### Recapitulation

The recapitulation is signaled by the return of the theme, this time with new accompaniment figures and the F-B axis dyad. This statement of the A section is not punctuated by a clearly defined cadence, but, instead an elision. What follows is further development (E section mm. 73-90)<sup>16</sup>. The opening static rhythmic feature is now stated

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<sup>16</sup> Measures 73-78 of this section functions as a transition and the new section (E) is most clearly defined at measure 79. The transition begins after an elided cadence at measure 72, where a new axis harmony begins.

texturally as dyads, with increased rhythmic activity in the piano (as occurred in section C and D), along with octatonic and shifting axis centers. The section ends with a clear cadence and, like the B section, ends on A# prolonged agogically.

The coda (mm. 106 to end) returns the theme (violin) at a new pitch-level and expands the on the triplet rhythm. Much of the harmonic activity revolves around axis centers and octatonic sub-sets. At m. 119 the original axis returns (F-B) and the theme is restated an octave higher (at original pitch content). The theme descends sequentially two octaves to revolve around the pitches E4 and F#4 in the final measures. The piano part is comprised of diatonic 4ths (C major) played on beats 1 and 9, the final chord being the axis F-B dyad.

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The transition takes on the character of the E section through the accompaniment (piano). They are lumped together as on section due to a singular tempo ( $\text{♩} = 144$ ), similar textures, and a lack of a cadence.

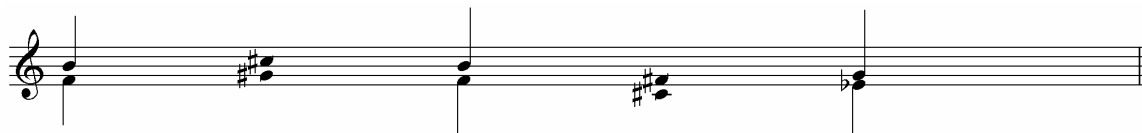
### III. Harmony

Axial symmetry can be seen throughout the movement. Clear surface and middle ground statements are found in the A section (m.1-20). The opening pitches E-F# (introduction) are inversional complements around the axis F-B as follows,



**Example 3.1A. Axis Pitches and Inversional Complements**

At measure 5 there is a direct statement in the piano of the axis dyad (F-B) that alternates with dyads<sup>17</sup> C#-G# and C#-F# until the first tri-chord cadence at m. 7.<sup>18</sup> The following figure displays a reductive overview of dyadic movement of measures 5-7,<sup>19</sup>



**Example 3.1B. Dyadic Movement with Free Material  
(Stemmed notes show axis pitches) mm. 5-7**

<sup>17</sup> These dyads consist of one or both pitches doubled at the octave and are part of regularly occurring use of free gestural treatment in the harmony and melody.

<sup>18</sup> The tri-chord Eb, F, G is also a subset of the whole-tone scale or interval cycle 2. Any pitch in an interval cycle can function as its axis of symmetry, and in this case F is the axis of symmetry. Eb and G are inversional complements around an F axis.

<sup>19</sup> At m.13 there is an interval 1 tri-chord cadence, that contains the opposite axis pitch B and inversional complement dyad Bb-C.



Three elaborations of axial harmony are shown in example 3.2.

A. Measures 5-7

Violin

Piano

Axis Dyad Free Axis Dyad Free  $3$  Axis Cadence

Inversional complement dyad

B. Measures 8-11

Vln.

Pno.

Axis E-Bb

Octatonic subset (C whole-half)

Octatonic subset (C whole-half)

Octatonic subset (C half-whole)

Octatonic subset (C# half-whole)

Octatonic subset (C# half-whole)

Free

C. Measures 13-14

Vln.

Pno.

Axis pitch

Elided Cadence

Free  $3$  Axis Cadence

Octatonic subset (C whole-half)

**Example 3.2. Basic Harmonic Structures mm. 5-7 (incomplete m.4), 8-11, and 13-14**

Measures 21-30 show frequent transformation of axial harmony into new axis areas. The transformation occurs through non-axis pitch material and axis related octatonic

collections. Measure 21 contains tetra-chords (piano) made of inversionsal complement dyads (inner voices) and freely-treated pitches. The inversionsal complement dyads alternate between B/D# and C/D (notated as C double sharp), while axis pitch G is stated in the lowest voice. The composite axial pitch collection of m.22-24 (C-D, Eb-B, F-A)<sup>20</sup> is disrupted by implied major 3rds (Bb-D, C-E), and is then reorganized around the new axis at m. 25. Further axial interchange from this passage can be seen in example 3.3.

**Example 3.3. Axis changes. mm. 21-30**

<sup>20</sup> The pitch A of the axis collection is found in the violin shown in the example above measure 23.

Examples 3.4 A and B show a clear instance of axial interchange (mm. 100-104). The music shifts between three axis centers, each containing a dual axis of symmetry. Each move to a new axis center is initiated by tetra-chords made of two pairs of inversive complement dyads in the piano and a different set of dyads in the violin. Axis dyads in the piano are connected in the middle voice and in the outer voice).

The image shows a musical score for Violin and Piano. The Violin staff is on top, and the Piano staff is on the bottom. There are five measures of music. Above the Violin staff, five boxes indicate axis centers: Axis D/Eb-Ab/A, Axis E/F-Bb/B, Axis D/Eb-Ab/A, Axis E/F-Bb/B, and Axis Eb/E-A/Ab. The Piano staff shows corresponding chords and dyads for each measure.

**Example 3.4A. Combined Axis Dyads as chords. Reduction of mm 100-104.**

Example (3.4A and B) clarifies one of the movement's clearest axial symmetry passages not penetrated by octatonic harmony. An interesting trait of the three axis centers is that each one is Z related to one of the three possible octatonic scales.<sup>21</sup> Axial interchange of this sort is similar to the atonal treatment found in the pre-serial works of the second Viennese school.<sup>22</sup> The mirror grace notes in the piano passages at m. 103-104 consists of two tritone pairs (F/B-E/Bb) preparing the return of the initial axis (ex. 3.4B. next page).

<sup>21</sup> See page 4 footnote 9.

<sup>22</sup> Schoenberg would consider this a form of "Pan-Tonal" treatment; meaning all keys or an extremely rapid form of modulation.

Violin

Piano

Axis  
D/Eb-Ab/A

Axis  
E/F-Bb/B

Axis  
Eb/E-A/Bb

Axis  
Eb/E-A/Bb

Axis  
E/F-Bb/B

6

Vln.

Pno.

Axis  
Eb/E-A/Bb

Vln.

Pno.

3

**Example 3.4B. Axial Interchange mm. 100-104**

Frequently an axis center will dissolve into an interval cycle collection that is permuted, sometimes with octave displacement. This can be seen in m. 73-78 where a dual axis center dissolves into an interval 1 cycle and then is expanded into two simultaneous whole tone partitions. Combined use of axial statements and interval cycles occur regularly.

The image displays two musical staves. The top staff is labeled 'Piano' and the bottom staff is labeled 'Pno.'. The top staff shows an 'Axis Eb/E-A/Bb' section with 'Axis dyads' and an 'incomplete Z-cell statement'. This transitions into a 'Permuted Interval 1 cycle' section with an 'Interval 1 cycle fragment'. The bottom staff shows a 'Permuted Interval 1 cycle' section with an 'Interval 1 cycle fragment', followed by a 'Cmaj.7 with added Eb' section, and finally a 'Whole-tone scale (C)' section with a 'Whole-tone scale (C#)' section.

### Example 3.5. Axial symmetry dissolving into interval cycle 1 and 2 mm. 73-78

An example of Interval 1 tetra-chords that vary in order (permuted tetra-chords) is found at the recapitulation (section A m.63-65)<sup>23</sup>. The axis center is created by the melodic use of inversionsal complement dyad E-F# (violin) and harmonic use of the F-B axis (piano). At m.65 the tetra-chord is expanded with the addition of Bb. Such tetra-

<sup>23</sup> The tetrachord 0,1,2,3 is reordered and partitioned as major 2nds (0/2, 1/3).

chords are symmetrical, but their permutations are devoid of any possible axial relationship (ex. 3.6).<sup>24</sup>

**Example 3.6. Interval 1 Permuted Tetra-chords, F/B axis, mm. 63-65**

The integration of axial, octatonic, and interval cycles becomes a very basic feature of the harmonic fabric. The use of the octatonic is both harmonic and melodic.<sup>25</sup> Alternation between two different octatonic collections can be seen in m. 51-60. In this passage the octatonic collections function in terms of harmonic rhythm. Every two measures shifts to a new collection (See example 3.7, next page).

<sup>24</sup> The dyads lack inversional complementation around a single axis of symmetry and are only related to the interval cycle not the F-B axis.

<sup>25</sup> Exploration of octatonic harmony occurs for the first time at the outset of the movement measure 5. Bartók integrates vertical octatonic tri-chords (piano and violin) of F-B-A and C#-D-G# around whole tone melodic features (the addition of F on beat 7 can be seen as an addition of the octatonic scale). Measure 6 is a continuation and explores the same two octatonic collections from m.5 in retrograde order.

Violin

Piano

Octatonic C#, H-W

Octatonic C, W-H

Octatonic C, H-W

Chromatic

Vln.

Pno.

Chromatic

Octatonic C, W-H w/added pitch Ab

Interval 1 cell (chromatic) and Axis Harmony

Octatonic C# H-W

Vln.

Pno.

Interval 1 cell and Axis Harmony

Octatonic C, W-H w/added pitch C#

Example 3.7 Octatonic pitch content mm. 51-60

Occasionally multiple octatonic collections will be used at the same time. Measures 92-95 show how two octatonic sub-sets alternate with axial harmony. The chromatic tones are frequently derived from axis harmony (See example 3.8 next page).



I.C refers to Inversional Complement

Violin

I.C Dyad I.C Dyad I.C Dyad

Piano

Permuted I.C Dyads as -0,2,8 set

C W-H octatonic with added pitch Eb

Vln.

I.C Dyad D/Eb Axis I.C Dyad I.C Dyad

Pno.

Permuted I.C Dyads as -0,2,6 set

Permuted I.C Dyads as -0,2,8 set

C# H-W octatonic with added pitch Gb

Alternating octatonic collections

Vln.

Permuted Chromatic Cell

Axis change to E/F

Permuted Chromatic Cell

Pno.

C# H-W octatonic

C W-H Octatonic

I.C Dyads

I.C Dyads

C W-H Octatonic

I.C Dyad

C H-W Octatonic

**Example 3.8. Mixed octatonic collections. mm. 92-95**

Measures 34-43, is an earlier example of mixing two different streams of octatonic collections. The violin part is derived from octatonic material and the piano is derived from the whole-tone scale until m.40. This then becomes a linear statements of Z-cells [(C#-G/D-Ab) and (F#-C/F-B)]. The Z-cells are initially stated as perfect 5ths and then reordered intervallically as tritones. The tritone reordering gives a greater sense of connection to the preceding whole-tone passage. At measure 43 the material becomes exclusively octatonic in the piano and the violin plays whole-tone fragments with a few chromatic notes (example 3.9).

The musical score for Example 3.9, measures 34-43, is presented in two systems. The first system (measures 34-40) shows the Violin part with four octatonic lines: C# H-W, C W-H, C H-W, and C W-H. The Piano part features a C Whole Tone scale and added pitches G, B, and A#. The second system (measures 41-43) shows the Violin part with two octatonic lines: C# H-W and C W-H, and added pitches D#, Fb, Fb, and Fb. The Piano part features a C# Whole Tone scale and Z-cells (1/2-7/8 and 11/0-5/6).

**Example 3.9. Octatonic, Whole tone, and Axial pitch material. mm. 34-43**

#### IV. Melodic Treatment

Bartók's Second Sonata first-movement melodic material is based on interval cycles and extensive use of the octatonic scale and its subsets. The melody is developed through octave displacement, cell expansion/contraction and permutation. Structural pitches are defined by the use of agogic accents, and axis pitches. The melodic material is organically derived from the opening statements. The movement begins by developing the opening cell.

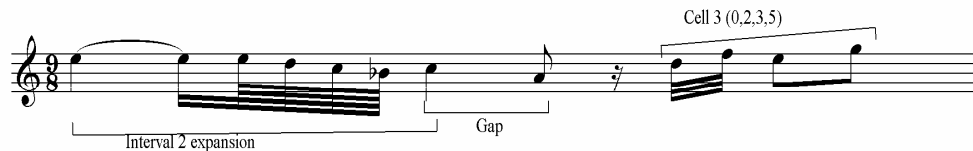
The opening measures of the work are seen as the vehicle for intervallic expansion. The first motive and opening two pitches (E-F#) supply an interval 2 cell. The cell 2 (found in the theme) contains an aggregate of intervals of 3, 1, and 2 (F#-A-G

Expansion of cell 1 into whole-tone scale fragment.

followed by an interval 2 expansion into a whole tone scale (example 4.1.).

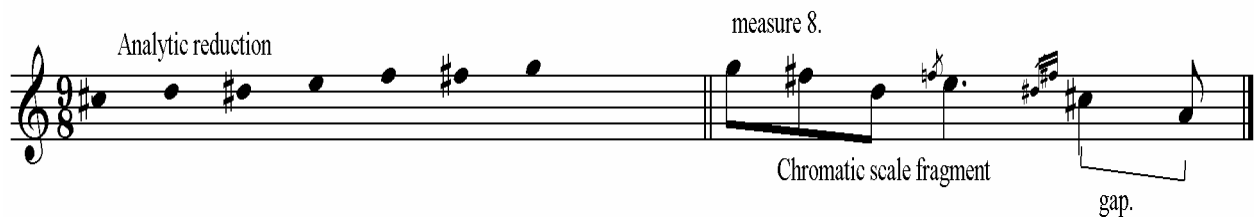
#### **Example 4.1. Cell Expansion, violin, incomplete m.4-5**

After cell 1 expands cell 3 is added. Cell three contains intervals 1, 2, and 3, and adding interval 5 to its collection.<sup>26</sup> Interval 5 is a subsidiary element of the cell since intervals 3 and 2 are projected motivically (ex. 4.2).



**Example 4.2. Cell 3, violin, m.6.**

At measure 8 the melodic line fills a tritone (G-C#) chromatically (ex.4.3).



**Example 4.3. Permutated Expansion of Interval 1, m.8.**

Cellular expansion/contraction occurs throughout the work, and at mm. 51-57 a clear example includes both octatonic and chromatic cells (see example 4.4). The contraction occurs around agogically accented pitches that form a chromatic step-progression of interval 1 (f-f#-g). This step-progression also provides the impetus for the interval 1 cell at measure 57. This cell consists of pitches Bb-B-C and has a T-5

<sup>26</sup>This is a form of cellular expansion where, the cell, a subset of the octatonic collection, adds another tone to the existing cell.

relationship to the preceding step-progression.<sup>27</sup> The first cell is a middle-ground formation while the second cell is a foreground structure (example 4.4).

The image displays two staves of musical notation. The first staff, labeled 'm.51-57', shows a sequence of notes with brackets above indicating 'Octatonic' sections and 'Chromatic' sections. A bracket below the entire staff is labeled 'Chromatic step-progression'. The second staff, labeled '5' and '7', shows a sequence of notes with brackets above indicating 'Chromatic' and 'Octatonic' sections. A bracket below the notes in measure 7 is labeled 'Interval 1 cell'.

#### Example 4.4. Pitch Content, violin, mm 51-57

Octave displacement is a key procedure for melodic and motivic development, occurring throughout. The second section (m.20-34) explores the octave displacement of a single pitch class and intervals 1, and 2. Example 4.5 from m.28 shows how interval 2 becomes displaced by an octave through grace notes. The displacement results in an interval of a major 9<sup>th</sup> between the pitches G4 and A4.<sup>28</sup>

The image shows a single staff of musical notation for measure 28. It features a sequence of notes with a grace note above the main note, illustrating octave displacement.

#### Example 4.5. Octave displacement of measure 28, violin.

<sup>27</sup>The use of T/n typically indicates a transposition of a pitch or cell. In this case there is a T-5, which indicates transposition of 5 semitones between the cells f-f#-g and a#-b-c.

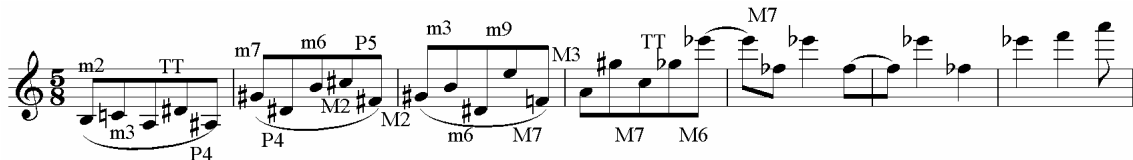
<sup>28</sup> The number beside the pitch class refers to the Acoustical Society of America's (ASA) system of pitch class ordering where C4 equals middle C.

The agogic pitches beginning at m.21 (horizontal projection of E, F# motive) become displaced by as much as 2 octaves. This same technique is echoed in the accompaniment figures at m. 21-23. Even though the pitches differ from violin to piano, the agogic accents and disjunct procedure unify the passage. The piano twitterings act as a foil to this unification as shown in example 4.6.

The image displays a musical score for measures 21-23, illustrating octave displacement. The score is written for violin (top staff) and piano (bottom two staves). The key signature is one sharp (F#) and the time signature is 3/8. The violin part features a melodic line with a horizontal projection of the E, F# motive. A bracket labeled '1 octave range' spans the first two notes of this motive. The piano accompaniment consists of two staves with complex rhythmic patterns. A bracket labeled '2 octave range' spans the first two notes of the piano accompaniment. The piano part is marked 'Pno.' on the left. The score shows the progression of the music through measures 21, 22, and 23, with various annotations and markings.

**Example 4.6. Measures 21-23 Octave displacement**

The violin line in measures 34-42 shows an example of gradual octave displacement that occurs with cell and pitch permutation. The line is filled with various intervals, intermittingly increasing and shrinking. The largest interval is a minor 9<sup>th</sup>.



**Example 4.7. Free expansion of melodic contour, mm 37-42.**

At measures 80-90 the violin plays various vertical dyads. The dyads begin as interval 2 and then expand and contract into intervals 3 and 4. At measure 88 further expansions occur, displacing normally used interval 1 into a major 7<sup>th</sup> (interval 11). The expanding and contracting happens rapidly and intermittently (m. 90).



**Example 4.8. Violin. Displaced interval 1 dyads mm. 88-90**

At measure 96 the harmonic dyads return to linear cells. This section also employs octave displacement and contains the largest interval expansion in the movement expanding to 3 octaves.



**Example 4.9. Octave Displacement of measures 96-99**

The following measures show the most expansive use of interval 3 dyads displaced harmonically as 10ths, and interval 1 dyads as 9ths. This section (m.100-104) utilizes the same wide range (violin) as the preceding section, resulting in a registral climax just before the coda at m.106. The dyad collection focus is primarily on A-Bb from m.103-

104, where it is shifted up various octaves and then suddenly returns to its normal interval 1 position (after the fermata in m. 104).

The image displays three staves of musical notation for a Violin part. The first staff is in treble clef with a key signature of one flat (B-flat). It features several measures of music with interval markings: m10th, m9th, m10th, m10th, M10th, m10th, M7th, m10th, M7th, and m9th. The second staff is in treble clef with a key signature of one flat and a 3/8 time signature. It includes markings for M7th, m10th, m10th, and m9th. The third staff is in treble clef with a key signature of one flat and a 3/8 time signature, showing markings for m2nd and m3rd. The notation includes various rhythmic values and accidentals, with some measures containing complex chordal structures.

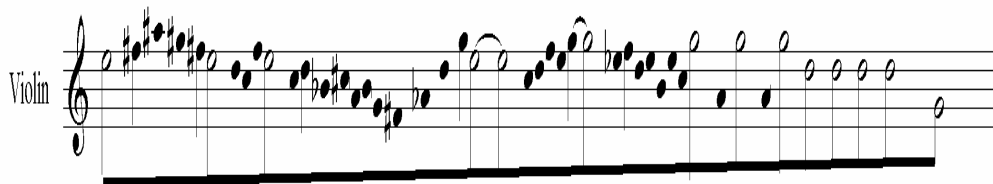
#### Example 4.10. Displaced dyads of intervals 1, 2, and 3. mm. 100-104

Agogic pitches that appear as diatonic elements on the surface are often the result of symmetrical organization that works in tandem with the harmony. The focus of the opening motive is the pitch class E and remains a priority throughout the movement. Secondary agogic pitches help form a symmetrical structure of a minor pentatonic scale (e-g-a-d-b).<sup>29</sup> This scheme is varied only slightly in the second section m.20-34 where pitch class A replaces B and D as agogic focus. At the recapitulation (measure 64) pitches E, G, and D return dominating the melody until m.80. These pitches serve only as a foreground structure and do not delineate a large scale tonal center. Bartók spoke of the

<sup>29</sup> The pentatonic scale can be seen as a symmetrical structure when ordered as perfect 4ths (b-e-a-d-g) are symmetrical around a single pitch class. In this case A is the axis while e-g and b-d are inversional complements. This is, of course, a minor pentatonic which is already symmetrical.



work as being in C major, though at the onset of the recap this pitch is absent. Example 4.11 shows a reductive analysis starting from the final beat of measure 63 to 79.



The image shows a musical score for Violin, measures 63-79. The score is written on a single staff in treble clef. The music consists of a series of notes, some of which are marked with a fermata, indicating a sustained or agogic pitch. The notes are arranged in a sequence that suggests a reductive analysis of the original material. The key signature is one sharp (F#), and the time signature is 4/4. The notes are primarily eighth and quarter notes, with some half notes and a final whole note. The overall texture is sparse, focusing on the pitch content of the agogic notes.

**Example 4.11 Reductive analysis of agogic pitches (violin) mm.63-79**

### V. Rhythm, Texture, and Shape

The rhythmic perception of the movement is almost non-metric and free. It is guided by a free eighth note pulse that allows both piano and violin to align when needed. The tempo is constantly shifting through changing meters, metronome markings, and various uses of rubato and accelerando.<sup>30</sup> The violin and piano parts both contain this same sense of rhythmic freedom liberating the music from the metric pulse.<sup>31</sup> Each section is characterized by different rhythmic types from brief flutters against long notes, rhythmic unisons, and various polyrhythmic activities. Much of Bartók's musical exploration in this movement centers in separating the piano from the violin. Examples of polyrhythms occur frequently throughout the work, but rarely occur over more than the span of a few beats or measures. An example of the latter puts 5 eights against 4 (notated as 2 quarter notes) in mm. 34-38.

The image shows a musical score for Violin and Piano, measures 34-38. The Violin part is in 3/8 time, and the Piano part is in 5/8 time. The score illustrates a polyrhythmic relationship where the Violin plays five eighth notes against the Piano's four eighth notes (notated as two quarter notes). The Piano part features a long note in the right hand and a shorter note in the left hand, with a slur over the right hand notes. The Violin part consists of a sequence of eighth notes.

#### **Example 5.1. Polyrhythmic features between Violin and Piano mm. 34-36**

<sup>30</sup> The rhythm of the movement is best summed up by Andras Szentkiralyi in his Ph.d. dissertation *Bartók's Second Sonata for Violin and Piano* where he makes the comparison to the Hungarian language. He states that Bartók's rhythmic influence is derived from the natural rhythms and accents of the Hungarian language and its ties to folk music.

<sup>31</sup> This approach results in similar rhythmic features found to those in the pre-serial/ atonal works of the Second Viennese School.

While the above example is rare, Bartók does frequently create polyrhythms within a single beat as in the next example where there are 12 against 14.

**Example 5.2. 12 against 14 polyrhythm. m. 92 (Exactly as notated in piano)**

Textural elements of the work align themselves with the instruments' independence. It is rare when both parts act together, and even this is disguised in brief gestural imitation. Texture changes are reflected in the number of horizontal elements at any one time, rather than independent lines. This is employed in the piano where range plays a secondary role to the number of pitches. The opposite is true for the violin.<sup>32</sup> In both cases dynamics affect the intensity of the texture. Frequently dense texture is paired with soft dynamics before erupting into climatic episodes. Figures 5.1 and 5.2 (next 2 pages) show the relative textural features of the individual instruments throughout the movement.

<sup>32</sup> This is due to, the nature of the instruments. The violin is a more linear instrument.

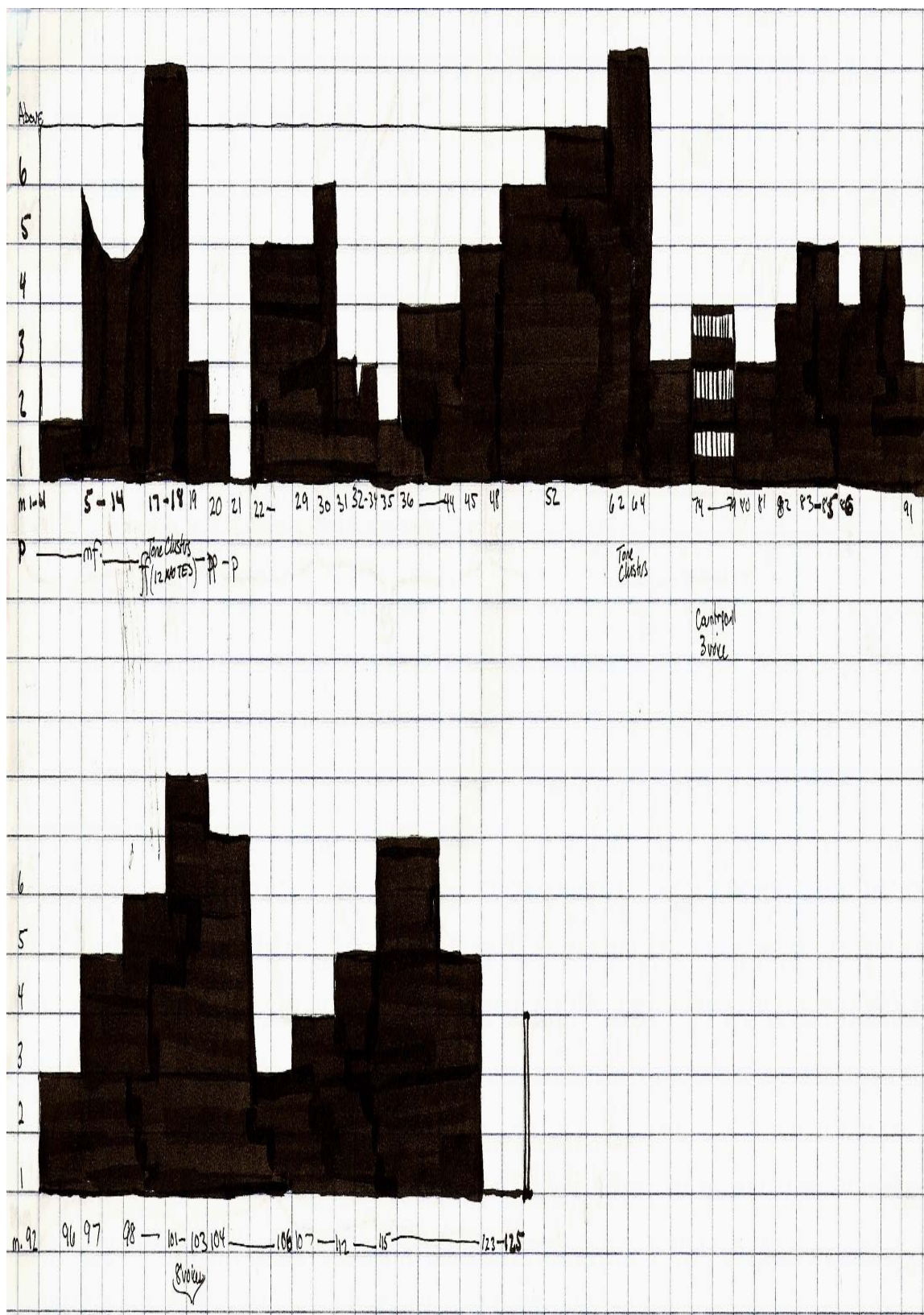


Figure 5.1. Textural Reduction of Movement. (piano)

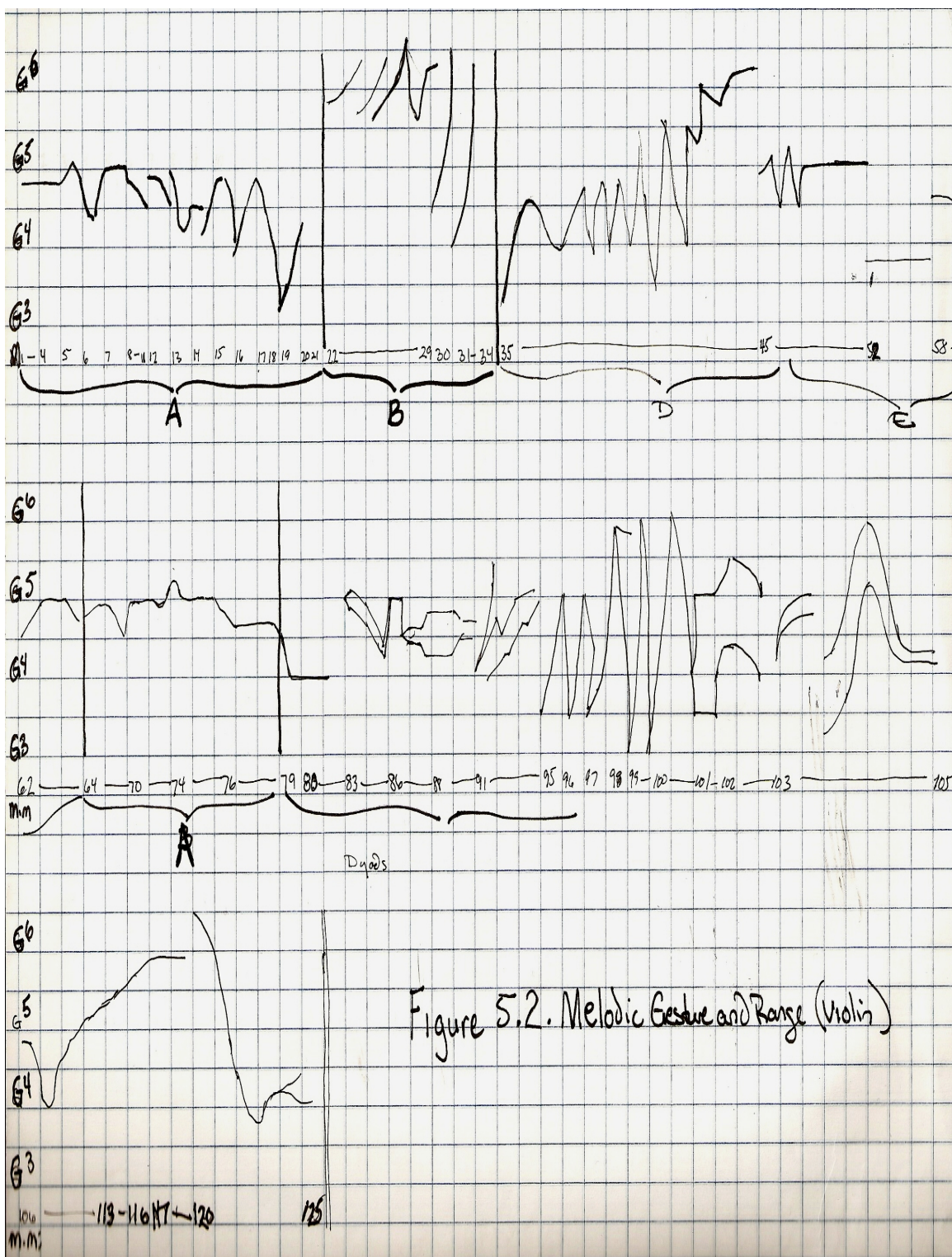


Figure 5.2. Melodic Gesture and Range (Violin)

Figure 5.2. Melodic Gesture and Range of Movement 1 (violin).

Textural interaction throughout much of the movement is homophonic. There is frequent use of inversive counterpoint (contrary motion) through both chord movement and individual voice strains.<sup>33</sup> Example 5.3 is an instance where free inversive counterpoint occurs without exact intervallic relationships between the lines.

**Example 5.3. Free Inversive Counterpoint. mm. 79-81**

All the elements of a work amount to little, if there are no special musical achievements. In the sonata's first movement each section has its climatic peaks; there are a select few that stand out above the rest. It is documented that Bartók frequently organized his music around structural symmetrical processes, and this movement is no exception.<sup>34</sup>

The first major climax occurs around mm. 44-48 in the development. There is an accumulation of density in the piano and an increase in range in both violin and piano.<sup>35</sup> At this point both instruments are at forte. This is followed by *sforzando*, and a decrease in tempo from ♩= 108 to 98. The climax is suddenly reached from *pianissimo*, and a

<sup>33</sup> The use of inversive counterpoint can, at times involve axial symmetry.

<sup>34</sup> Proportional structure has been discussed at length in Andras Szentkiralyi's Ph.D thesis. (Princeton University 1976) Here he discusses three possible types of proportions. The first is Golden Mean, the second is Bisectional, and the last, a combination of Golden mean and bi-sectional (bi-sectional referring to equal divisions). His approach is to combine all three types and to delineate both the first and second movements of the sonata as a single musical entity. Many of the structural climaxes coincide with bisectional proportion (as do the ones in following paragraphs). The whole movement is part of the golden mean/bisectional proportion combination. According to Andras the golden mean itself contains little significance in the first movement beyond localized foreground structure.

<sup>35</sup> In the previous section the violin uses harmonics. This is more a feature of timbral change, notwithstanding the high register.

fairly narrow violin range increases measure by measure through progressively widening range (mm.35-45).<sup>36</sup> Syncopated rhythmic activity begins in the piano at m.38, and the violin at m. 42. The climactic measures are shown in example 5.4; the peak of the violins range is seen in m. 44 while the range of the piano narrows and converges at m. 49.

The image displays a musical score for Violin and Piano, labeled 'Example 5.4. Structural Climax at mm.43-47'. The score is in 5/8 time and marked 'Largament (♩=96)'. The Violin part is written on a single staff with a treble clef. The Piano part is written on two staves (treble and bass clefs). The score is divided into two systems. The first system shows measures 43-47, with a 'climactic peak' indicated by a dashed line above the violin staff at measure 44. The second system shows measures 48-49, with a 'climactic resolution' indicated by a dashed line above the piano staff at measure 49. Dynamics include *f espr.* and *sf*. The key signature has one flat (B-flat).

**Example 5.4. Structural Climax at mm.43-47**

The second major climactic point occurs at about the middle of the movement around mm. 63-64. Bartók builds up the section gradually (mm.51-63) with dynamics at *pianissimo* until the climactic *forte* at m. 61. The violin opens the section with long held notes and brief flutters. A gradual increase in range and rhythmic motion continues until the E harmonic in m 61. Both hands of the piano play in a homorhythmic unison of chords derived from free inversions counterpoint. The climactic measures themselves

<sup>36</sup> See example 4.7.

push the tempo from ♩ = 132, to 144, with the piano playing a low G# and containing a set of gapped interval 1 tone clusters above it.<sup>37</sup> This climax functions as a cadence allowing a return to the A section.

The image shows a musical score for Violin and Piano. The Violin part is on the top staff, and the Piano part is on the bottom two staves. The score is in 6/8 time and marked 'Vivo' with a tempo of 144. The Violin part features a melodic line with a long note on G6, followed by a series of eighth notes. The Piano part features a complex texture with clusters of notes, including a low G# in the bass and clusters of notes above it. The score is marked with a forte 'f' dynamic.

**Example 5.5. Structural/Cadential Climax. mm. 61-63**

The third and final structural climax appears in two parts, the first (m.98) acting as a prelude to the second (mm.103-105 see example 5.6 below). The measures in between function as a build up to the second climax. The first contains a sizable difference in range between the piano and violin-the piano playing an Fb1 an octave below the bass clef and the violin (downbeat m. 99) plays a G6 an octave above the staff. The G in the violin occurs as a goal in the melodic line<sup>38</sup>. The same occurs in the piano as the bass descends from Bb-Gb to Fb (as seen in example 5.6), resulting in a range

<sup>37</sup> The clusters being derived from pitches C,C#,D, F,F#,G, and A.

<sup>38</sup> Cf. Compare similar displacement in example 4.9.



exceeding 5 octaves. The final structural climax begins at m. 103 until the cadence at 105. This initiates the final return to the A section and subsequent coda. Yet this is all built up from m.100, where the violin has its most dissonant dyadic figures and vertical range expansion.<sup>39</sup> The dynamics in the section shift rapidly from loud to soft and back again until the *sforzando* in the violin at m. 105.

The image displays two systems of musical notation for Violin and Piano. The first system, measures 98-105, features a Violin part with a melodic line and a Piano part with a complex harmonic accompaniment. Annotations include 'Melodic Goal' above the violin line, 'Climax 1' above the piano part, and 'Climax 2 intensity build up.' above the piano part. A '5 octave range' is indicated between the piano staves. The second system, measures 106-110, shows the continuation of the piece, with 'Climax 2' and 'Resolution' annotations. The piano part includes a triplet of sixteenth notes marked with a '3'.

**Example 5.6. Climax 1 and 2 of Measures 98-105.**

<sup>39</sup> See also example 3.4B. and 4.10.

Viewing a single work of a composer whose output is as expansive and varied as Bartók's, can often result in a distorted perspective of that composer's musical language.<sup>40</sup> Consideration must be taken as to the time, place, and intention of the composer. As stated earlier, Bartók's intentions was to compose "12-tone tonal music". This idea should not be confused with the twelve-tone system, where ordered pitch classes function as both thematic and pre-composition material. Bartók, instead, allows symmetry to function as the pre-compositional language of the work, without it necessarily projecting into the foreground of the music. Symmetry functions in a similar manner to the tonal system's pre-compositional and syntactic elements. Triads, functional voice-leading, root movement, and key centered relationships are replaced with the chromatic scale and all its symmetrical permutations, resulting in new scale types, and, as was shown, new methods of creating harmonies through inversional complementation.

The syntax of a language is the result of many individuals, but, in accordance with Charles Rosen in his text *The Classical Style*, the language of art takes a more individualistic approach.<sup>41</sup> It is the great composers that set the standard for linguistic phenomenon rather than the individual. Bartók is one of the few to set this standard and actually to use this symmetrical language with the intention of hierarchal organization. With that in mind it becomes easier to assess all the peculiar ideas of the work's structure, and axis center organization, as well as the relationship of non-axis material such as the octatonic collection.

The fact that Bartók brings back the final A section with a related axis key for prolongational purposes shows that his thinking is still rooted in tonal music and formal

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<sup>40</sup> This is especially true of any post-tonal composer's work.

<sup>41</sup> Charles Rosen *The Classical Style* (New York/London, W.W Norton Press, 1997) 21

organization. In fact the use of a specific axis areas for the A section as well as frequent shifts to new axes during the development recalls traditional tonal practices. Furthermore the process of continual development found within the form and in motivic/thematic elements can be viewed as a common link between this and the work of the Second Viennese School. Obviously Bartók's personal musical language drives this movement. Many of the Bartókian folk elements are subdued for this early "atonal" experiment, though his use of shifting rhythmic accents and changing meters fits well within the atonal language, as does his fragmented and gestural use of motivic material. Bartók tries and succeeds at assimilating both elements of his personal musical language and that of the Second Viennese School without giving up the elements of his previous music.

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