

2001

Symphony in One Movement: Score and Analysis

Jon Kostal

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**SYMPHONY IN ONE MOVEMENT:
SCORE AND ANALYSIS**

BY

JON KOSTAL

1976 -

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

MASTER OF ARTS IN MUSIC

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

2001

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ACKNOWLEDGMENTS

I would like to thank my composition teachers, Peter Hesterman and Tucker Robison for their advice, insight, and guidance on completing this project. Thanks to all past and present friends and colleagues at Eastern Illinois University who have supported my work and taught me lessons that could not have been learned in any classroom. I would like to mention Nick Terry, Pavel Morunov, Brian Shaw, and Andrew Lenaghan, who performed on the electronic “virtual orchestra” recording of the piece. Their time and talent is extremely appreciated. Thanks for bringing a human element to an otherwise robotic performance. A special gratitude goes to my parents and family who have always supported and encouraged me in my efforts, musical or otherwise. Finally, I would like to thank my wife, Heather, for her tremendous patience, support, and inspiration over the last few months.

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ABSTRACT

SYMPHONY IN ONE MOVEMENT: SCORE AND ANALYSIS

by Jon Kostal

Submitted in partial fulfillment of the requirements for the degree of
Master of Arts in Music

May 16, 2001

This thesis consists of the composition, *Symphony In One Movement*, accompanied by an analytical study. The piece is composed for large orchestra and has a duration of twelve minutes. It comprises three connected but distinct sections, whose contrasts suggest individual movements. Each section is based on a traditional formal structure: sonata, passacaglia, and rondo-variations. The intention was to acknowledge the traditional symphony through these formal structures while applying more modern approaches to elements such as harmony, melody, and rhythm.

The analytical study that follows the score provides insight to the compositional methods and tools which were employed in the work. Separate chapters discuss form, pitch content, melody, harmony, rhythm, and texture/orchestration/dynamics. I explain the essential building blocks of the music in detail and provide musical examples and form graphs to support the text. Through the analysis, I show how I achieved my goal of writing a musically satisfying piece which combines traditional and modern techniques of composing for the symphony orchestra. The thesis includes a compact disc which contains an electronic realization of the work, along with supplemental recordings of the examples found in the body of the paper.

SYMPHONY IN ONE MOVEMENT

Jon Kostal

INSTRUMENTATION:

Piccolo
2 Flutes
2 Oboes
2 Clarinets in B \flat
Bass Clarinet
Alto Saxophone
2 Bassoons
4 Horns in F
3 Trumpets in B \flat
2 Trombones
Bass Trombone
Tuba
Timpani (3)
Percussion 1:
snare drum, marimba
Percussion 2:
bass drum, triangle, orchestra bells
Percussion 3:
cymbals, ride cymbal, tom-toms, tam-tam, suspended cymbal
Percussion 4:
tambourine, cymbals, xylophone, vibraphone, clave, tam-tam, suspended cymbal
Harp
Grand Piano
Violin I
Violin II
Viola
Cello
Double Bass

SYMPHONY IN ONE MOVEMENT

Transposed Score

Moderato ♩ = 100

Jon Kostal

8

Piccolo

Flute 1 & 2

Oboe 1 & 2

Clarinet in Bb 1 & 2

Bass Clarinet

Alto Saxophone

Bassoon 1 & 2

8

Moderato ♩ = 100

Horn in F 1 & 2

Horn in F 3 & 4

Trumpet in Bb 1 & 2

Trumpet in Bb 3

Trombone 1 & 2

Bass Trombone

Tube

8

Moderato ♩ = 100

FALC

Timpani

Percussion 1

Percussion 2

Percussion 3

Percussion 4

bas drum

cymbala

to ride cymbal

tamboresca

Harp

Piano

8

Moderato ♩ = 100

Violin I

Violin II

Viola

Cello

Double Bass

14

Picc.
 Fl.
 Ob.
 B. Cl.
 B. Cl.
 A. Sax.
 Bar.
 Hn. 1 & 2
 Hn. 3 & 4
 B. Tpt. 1 & 2
 B. Tpt. 3
 Tbn.
 B. Tbn.
 Tbn.
 Timp.
 Perc. 1
 Perc. 2
 Perc. 3
 Perc. 4
 Hp.
 Pno.
 Vin. I
 Vin. II
 Vla.
 Vcl.
 D.B.

14
 solo
 f
 14
 14
 triangle
 triangle
 mp
 ride cymbal (nicka)
 mp
 to tom-toms
 to cymbals
 mp
 14
 amirano
 mp
 p
 mf
 mp
 p
 mf
 solo
 end solo
 mf

This page of a musical score, numbered 4 in the top right corner, contains the staves for woodwinds, brass, percussion, harp, piano, violins, violas, violoncello, and double bass. The score is in 4/4 time and features various dynamics such as *f*, *ff*, *mp*, and *mf*. A box containing the number 35 is placed above the first staff of the woodwind section at the beginning of the fourth measure of that staff. The woodwind section includes Piccolo, Flute, Oboe, Clarinet in A, Clarinet in Bb, Saxophone Alto, Bassoon, Horns (1 & 2, 3 & 4), Trumpets (1 & 2, 3), Trombones (1, 2, 3), and Timpani. The brass section includes Horns, Trumpets, Trombones, and Timpani. The percussion section includes four parts, with the first part marked *Lx* and the second and fourth parts marked *to cymbals* and *cymbals*. The string section includes Violin I, Violin II, Viola, Violoncello, and Double Bass. The harp and piano parts are also present. The score is written in a standard musical notation with clefs, notes, rests, and dynamic markings.

This page of a musical score, page 5, contains measures 44 through 48. The score is arranged in a standard orchestral layout with multiple staves for each instrument family. The instruments listed on the left are: Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (B.C1.), Clarinet in C (C.C1.), Bassoon (A. Sx.), Bass (Bm.), Horns 1 & 2 (Ha. 1 & 2), Horns 3 & 4 (Ha. 3 & 4), Trumpets 1 & 2 (B1 Tpt. 1 & 2), Trumpet 3 (B1 Tpt. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), Tenor Trombone (Tbn.), Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), Percussion 4 (Perc. 4), Harp (Hp.), Piano (Pao.), Violin I (Vln. I), Violin II (Vln. II), Viola (Via.), Violoncello (Vc.), and Double Bass (D.B.).

Measure 44 is marked with a box containing the number 44. The score includes various dynamics such as *mp*, *mf*, *f*, *ff*, *p*, and *sf*. There are also performance markings like *1'* and *a2*. A specific instruction *in tambourine* is noted for Percussion 4 in measure 48. The music features complex rhythmic patterns, including sixteenth-note runs in the woodwinds and strings, and a steady drum pattern in the percussion.

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

- Pic. (Piccolo)
- Fl. (Flute)
- Ob. (Oboe)
- B. Cl. (Bass Clarinet)
- B. Cl. (Bass Clarinet)
- A. Sax. (Alto Saxophone)
- Bsn. (Bassoon)
- Hn. 1 & 2 (Horn 1 & 2)
- Hn. 3 & 4 (Horn 3 & 4)
- Dr. Tpt. 1 & 2 (Drum Trumpet 1 & 2)
- Dr. Tpt. 3 (Drum Trumpet 3)
- Tbn. (Trombone)
- B. Tbn. (Baritone Trombone)
- Tbn. (Trombone)
- Temp. (Timpani)
- Perc. 1 (Percussion 1)
- Perc. 2 (Percussion 2)
- Perc. 3 (Percussion 3)
- Perc. 4 (Percussion 4, including tambourine, cymbals, and chokis)
- Hp. (Harp)
- Pno. (Piano)
- Via. I (Violin I)
- Via. II (Violin II)
- Vla. (Viola)
- Vc. (Violoncello)
- D.B. (Double Bass)

Rehearsal marks numbered 53 are present in the Piccolo, Bassoon, Horn 1 & 2, Trombone, Timpani, Percussion 1, Percussion 2, Percussion 3, Percussion 4, Piano, Violin I, Violin II, Viola, Violoncello, and Double Bass parts.

Dynamic markings include *f*, *ff*, *p*, *sf*, and *div.* (divisi).

Text annotations include "Change F to E, A1 to B1" in the Timpani part and "tambourine", "to cymbals", "cymbals", and "chokis" in the Percussion 4 part.

This page of a musical score contains measures 61 through 64. The instruments are arranged as follows:

- Woodwinds:** Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (Bb. Cl.), Clarinet in C (C. Cl.), Bassoon (A. Sax.), and Bassoon (Bm.).
- Brass:** Horns 1 & 2 (Ho. 1 & 2), Horns 3 & 4 (Ho. 3 & 4), Trumpets 1 & 2 (B. Trp. 1 & 2), Trumpet 3 (B. Trp. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), and Trombone (Tbn.).
- Percussion:** Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), and Percussion 4 (Perc. 4).
- Keyboard:** Harpsichord (Hp.) and Piano (Pno.).
- Strings:** Violin I (Vin. I), Violin II (Vin. II), Viola (Via.), Violoncello (Vc.), and Double Bass (D.B.).

Measure 61 is marked with a box containing the number 61. The score includes various dynamic markings such as *ff*, *mp*, *mf*, and *sf*. There are also performance instructions like "1^a" and "to xylophone chime". The string section is marked "unisono" in measure 61. The percussion parts include specific instructions for xylophone and chime.

66

Fl. Pic.
Fl.
Ob.
B♭ Cl.
B. Cl.
A. Sax.
Bass.

66

Hr. 1 & 2
Hr. 3 & 4
B♭ Trp. 1 & 2
B♭ Trp. 3
Tbn.
B. Tbn.
Tbn.

66

Temp.
Perc. 1
Perc. 2
Perc. 3
Perc. 4
Hp.
Pno.

66

Vln. I
Vln. II
Vla.
Vcl.
D.B.

Detailed description: This page of a musical score covers measures 66 through 70. It features a large ensemble of instruments. The woodwind section includes Piccolo Flute, Flute, Oboe, B♭ Clarinet, B♭ Clarinet, and Alto Saxophone. The brass section consists of Horns 1 & 2, Horns 3 & 4, B♭ Trumpets 1 & 2, B♭ Trumpet 3, Trombone, Bass Trombone, and Tuba. The percussion section includes Timpani, four different Percussion parts (1-4), and a Harp. The piano part is also present. The string section includes Violins I and II, Viola, Violoncello, and Double Bass. The score is marked with various dynamics such as *mf*, *f*, and *ff*. A first ending bracket is shown for the B♭ Clarinet in measure 70. The number '66' is printed in a box at the beginning of each system.

This musical score page contains two systems of music, labeled 72 and 75. The instruments are arranged as follows:

- Flutes:** Fl. 1 & 2 (Measures 72-75)
- Oboes:** Ob. (Measures 72-75)
- Clarinets:** B.Cl. 1 & 2, B.Cl. 3 (Measures 72-75)
- String Section:** A. Str., Bm. (Measures 72-75)
- Horns:** Hn. 1 & 2, Hn. 3 & 4 (Measures 72-75)
- Trumpets:** B+Tpt. 1 & 2, B+Tpt. 3 (Measures 72-75)
- Tubas:** Tbn., B. Tbn., Tbn. (Measures 72-75)
- Timpani and Percussion:** Timp., Perc. 1, Perc. 2, Perc. 3, Perc. 4 (Measures 72-75)
- Harps and Piano:** Hp., Pno. (Measures 72-75)
- Violins and Violas:** Vla. I, Vla. II, Vla. (Measures 72-75)
- Violoncello and Double Bass:** Vc., D.B. (Measures 72-75)

Key musical markings include dynamics such as *f*, *mf*, *pp*, *ppp*, *p*, *sub.*, and *aracendo*. The score features complex rhythmic patterns, including sixteenth and thirty-second notes, and various articulations. The page number 9 is located in the top right corner.

79

Pic.

Fl.

Ob.

Bb.Cl.

B.Cl.

A.Ss.

Bsn.

79

Hn. 1 & 2

Hn. 3 & 4

Bp.Tpt. 1 & 2

Bp.Tpt. 3

Tbn.

B.Tbn.

Tba.

79

Timp.

Perc. 1

Perc. 2

Perc. 3

Perc. 4

Hp.

Pno.

79

Vln. I

Vln. II

Vla.

Vcl.

D.B.

This page of a musical score, page 11, contains the following instruments and parts:

- Woodwinds:** Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (B♭ Cl.), Clarinet in C (C Cl.), Alto Saxophone (A. Sax.), Bassoon (Bsn.).
- Brass:** Horns 1 & 2 (Hr. 1 & 2), Horns 3 & 4 (Hr. 3 & 4), Trumpets 1 & 2 (Trp. 1 & 2), Trumpet 3 (Trp. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), and another Trombone (Tbn.).
- Percussion:** Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), and Percussion 4 (Perc. 4).
- Other:** Harp (Hp.) and Piano (Pno.).
- Strings:** Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Double Bass (D.B.).

Key features of the score include:

- Rehearsal mark **84** appearing in the top right of several staves.
- Dynamic markings such as **ff** (fortissimo) in the Trombone and Double Bass parts.
- Performance instructions: "Change E to D" in the Timpani part and "to 1st-2nd" in the Percussion 3 and 4 parts.
- Complex rhythmic patterns and articulation marks throughout the woodwind and string sections.

This page of a musical score contains staves for the following instruments: Piccolo (Pic.), Flute (Fl.), Oboe (Ob.), Bass Clarinet (Bb Cl.), Clarinet in Bb (B. Cl.), Alto Saxophone (A. Sax.), Bassoon (Bsn.), Horns 1 & 2 (Hr. 1 & 2), Horns 3 & 4 (Hr. 3 & 4), Trumpets 1 & 2 (Bb Tpt. 1 & 2), Trumpet 3 (Bb Tpt. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), Tuba (Tbn.), Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), Percussion 4 (Perc. 4), Harp (Hp.), Piano (Pno.), Violin I (Via. I), Violin II (Via. II), Viola (Via.), Violoncello (Vc.), and Double Bass (D.B.).

The score features several dynamic markings: *f* (forte), *ff* (fortissimo), *p* (piano), and *pp* (pianissimo). It includes various performance instructions such as *solo*, *1^o solo*, *3^o*, *tr*, *tr-tan*, and *to form-tan*. A box containing the number 93 is placed above the Piccolo staff at the beginning of the section, and another box with 93 is placed above the Percussion 3 staff. The score is written in a standard musical notation with a common time signature.

This page of a musical score contains measures 105 through 110. The instruments are arranged as follows:

- Woodwinds:** Flute (Fl.), Oboe (Ob.), Bassoon (Bn.), Clarinet in B-flat (B♭ Cl.), Clarinet in A (A Cl.), Saxophone (A. Sax.), Bassoon (Bsn.).
- Brass:** Horns 1 & 2 (Hn. 1 & 2), Horns 3 & 4 (Hn. 3 & 4), Trumpets 1 & 2 (B♭ Tpt. 1 & 2), Trumpet 3 (B♭ Tpt. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), Trombone (Tbn.).
- Percussion:** Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), Percussion 4 (Perc. 4).
- Keyboard:** Harpsichord (Hp.), Piano (Pao.).
- Strings:** Violin I (Vln. I), Violin II (Vln. II), Viola (Via.), Violoncello (Vc.), Double Bass (D.B.).

Measure 105 is marked with a box containing the number 105. The score includes various dynamic markings such as *p*, *f*, *fp*, *mf*, and *ff*. A specific instruction "Change B♭ to F♯" is written above the Timpani staff. The notation includes complex rhythmic patterns, slurs, and articulation marks.

111

Picc.
Fl.
Ob.
B♭ Cl.
B♭ Cl.
A. Sax.
Bsn.

This block contains the musical staves for the woodwind and brass sections. The Piccolo (Picc.) and Flute (Fl.) parts are mostly silent. The Oboe (Ob.) part is silent. The B♭ Clarinet (B♭ Cl.) parts have a melodic line starting at measure 111, marked with a forte (f) dynamic and a crescendo leading to fortissimo (ff). The Alto Saxophone (A. Sax.) and Bassoon (Bsn.) parts are silent.

111

Hr. 1 & 2
Hr. 3 & 4
B♭ Tpt. 1 & 2
B♭ Tpt. 3
Tbn.
B. Tbn.
Tbn.

This block contains the musical staves for the brass instruments. The Horns (Hr. 1 & 2, Hr. 3 & 4) and Trumpets (B♭ Tpt. 1 & 2, B♭ Tpt. 3) parts are silent. The Trombones (Tbn., B. Tbn., Tbn.) parts are silent.

111

Timp.
Perc. 1
Perc. 2
Perc. 3
Perc. 4

This block contains the musical staves for the percussion instruments. The Timpani (Timp.) part has a rhythmic pattern starting at measure 111, marked with a forte (f) dynamic and a crescendo leading to fortissimo (ff). The four Percussion (Perc.) parts have various rhythmic patterns, with Perc. 3 and Perc. 4 marked with fortissimo (ff) dynamics.

Hp.
Pno.

This block contains the musical staves for the piano and harp. The Harp (Hp.) part has a rhythmic pattern starting at measure 111, marked with a forte (f) dynamic and a crescendo leading to fortissimo (ff). The Piano (Pno.) part is silent.

111

Via. I
Via. II
Via.
Vc.
D.B.

This block contains the musical staves for the string instruments. The Violin I (Via. I) and Violin II (Via. II) parts have melodic lines starting at measure 111, marked with a forte (f) dynamic and a crescendo leading to fortissimo (ff). The Viola (Via.) part is marked with mezzo-forte (mf) and fortissimo (ff). The Violoncello (Vc.) and Double Bass (D.B.) parts have rhythmic patterns starting at measure 111, marked with a forte (f) dynamic and a crescendo leading to fortissimo (ff).

Adagio $\text{♩} = 72$

Picc.

Fl.

Ob.

B♭ Cl.

B. Cl.

A. Sax.

Bsn.

Hr. 1 & 2

Hr. 3 & 4

B♭ Tpt. 1 & 2

B♭ Tpt. 3

Tbn.

B. Tbn.

Tba.

Change A1 to A

Adagio $\text{♩} = 72$

Timp.

Perc. 1 *to marimba*

Perc. 2 *Lx*

Perc. 3 *to tam-tam*

Perc. 4 *to vibez*

p *tan-tan* *dim.*

Hp.

mp

Pno.

p

Adagio $\text{♩} = 72$

Vln. I

Vln. II

Vla.

Vc.

D.B.

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

- Woodwinds:** Flute (Fl.), Oboe (Ob.), Bassoon (Bn.), Bass Clarinet (Bb Cl.), Clarinet in Bb (B. Cl.), Alto Saxophone (A. Sax.), and Baritone Saxophone (Bar.).
- Brass:** Horns 1 & 2 (Hr. 1 & 2), Horns 3 & 4 (Hr. 3 & 4), Trumpets 1 & 2 (B♭ Tpt. 1 & 2), Trumpet 3 (B♭ Tpt. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), and Tuba (Tbn.).
- Percussion:** Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), and Percussion 4 (Perc. 4). Specific markings include "marimba" and "to orch. bells" for Perc. 1, and "vibra" for Perc. 4.
- Piano:** Harp (Hp.) and Piano (Pno.).
- Strings:** Violin I (Via. I), Violin II (Via. II), Viola (Via.), Violoncello (Vc.), and Double Bass (D.B.).

Dynamic markings include *mf* (mezzo-forte), *mp* (mezzo-piano), *dim.* (diminuendo), and *acc.* (accrescendo). Performance instructions such as *tr.* (trill) and *to orch. bells* are also present.

142

Flac.
Fl.
Ob.
B♭ Cl.
B♭ Cl.
A. Sax.
Bsn.

142

Hr. 1 & 2
Hr. 3 & 4
B♭ Trp. 1 & 2
B♭ Trp. 3
Tbn.
B. Tbn.
Tbn.

142

Timp.
Perc. 1
Perc. 2
Perc. 3
Perc. 4
Hp.
Pno.

142

Vln. I
Vln. II
Vla.
Vcl.
D.B.

150

Picc. *p* *cresc.* *mf* *ff*
 Fl. *p* *cresc.* *mf* *mf*
 Ob. *mf*
 B♭ Cl. *mf* *cresc.*
 B. Cl. *mf* *cresc.*
 A. Sax. *mf*
 Bar. *mf* *cresc.*
 Hn. 1 & 2 *f* *mf* *f*
 Hn. 3 & 4 *f* *mf* *f*
 B♭ Tpt. 1 & 2 *f* *mf* *f*
 B♭ Tpt. 3 *f*
 Tbn. *f*
 B. Tbn. *mf*
 Tbn. *mf* *cresc.*
 Timp. *mf* *cresc.*
 Perc. 1 *cresc.*
 Perc. 2
 Perc. 3
 Perc. 4 *cresc.*
 Hp. *mf*
 Pno. *cresc.*
 150
 Vla. I *cresc.*
 Vla. II *cresc.*
 Vla. *f*
 Vc. *arco* *mf* *cresc.*
 D.B. *mf* *cresc.*

160

Fl.
Ob.
B♭ Cl.
B. Cl.
A. Sax.
Bsn.

ff *mp* *mf*

1st 2nd

Detailed description: This system contains five staves for woodwinds. The Flute (Fl.) and Oboe (Ob.) parts feature melodic lines with first and second endings. The Clarinet (B♭ Cl.) and Bassoon (B. Cl.) parts play a rhythmic accompaniment. The Bassoon (A. Sax.) and Bassoon (Bsn.) parts provide harmonic support. Dynamics range from fortissimo (ff) to mezzo-forte (mf).

160

Hn. 1 & 2
Hn. 3 & 4
B♭ Tpt. 1 & 2
B♭ Tpt. 3
Tbn.
B. Tbn.
Tbn.

ff *mp*

1st

Detailed description: This system contains seven staves for brass instruments. The Horns (Hn. 1 & 2, Hn. 3 & 4) and Trumpets (B♭ Tpt. 1 & 2, B♭ Tpt. 3) play melodic lines. The Trombones (Tbn., B. Tbn., Tbn.) provide harmonic support. Dynamics range from fortissimo (ff) to mezzo-forte (mp).

160

Timp.
Perc. 1
Perc. 2
Perc. 3
Perc. 4
Hp.

ff

Detailed description: This system contains five staves for percussion and harp. The Timpani (Timp.) and four Percussion parts (Perc. 1-4) play rhythmic patterns. The Harp (Hp.) part is mostly silent. Dynamics range from fortissimo (ff).

Pno.

ff *mf*

Detailed description: This system contains two staves for the Piano (Pno.). The piano part features a complex rhythmic accompaniment. Dynamics range from fortissimo (ff) to mezzo-forte (mf).

160

Vln. I
Vln. II
Via.
Vc.
D.B.

ff *mp*

Detailed description: This system contains five staves for strings. The Violins (Vln. I, Vln. II), Viola (Via.), and Double Bass (D.B.) parts play melodic and harmonic lines. Dynamics range from fortissimo (ff) to mezzo-forte (mp).

This page contains a musical score for measures 168 to 177. The instruments are arranged as follows:

- Woodwinds:** Piccolo (Pic.), Flute (Fl.), Oboe (Ob.), B♭ Clarinet (B♭ Cl.), B♭ Clarinet (B. Cl.), Alto Saxophone (A. Sax.), Bassoon (Bass.).
- Brass:** Horns 1 & 2 (Hr. 1 & 2), Horns 3 & 4 (Hr. 3 & 4), Trumpets 1 & 2 (B♭ Trp. 1 & 2), Trumpet 3 (B♭ Trp. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), Trombone (Tbn.).
- Percussion:** Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), Percussion 4 (Perc. 4).
- Keyboard:** Harpsichord (Hp.), Piano (Pno.).
- Strings:** Violin I (Vin. I), Violin II (Vin. II), Viola (Via.), Violoncello (Vc.), Double Bass (D.B.).

Measure 168 includes a *1^o solo* marking for the Bassoon. Measure 177 includes a *mp* marking for the Violin I part. The score features various dynamics such as *f*, *p*, and *mp*, along with articulation marks like accents and slurs.

183

Fl.

Ob.

B.Cl.

B.Cl.

A.Sx.

Ba.

Hr. 1 & 2

Hr. 3 & 4

B.Tpt. 1 & 2

B.Tpt. 3

Tbn.

B.Tbn.

Tbn.

183

Timp.

Perc. 1

orchestra bells

Perc. 2

Perc. 3

Perc. 4

Hp.

Pno.

183

Vin. I

Vin. II

Vla.

Vcl.

D.B.

f

mf

mp

pp

This page of a musical score contains measures 192 through 194. The instruments listed on the left are: Flac., Fl., Ob., B.Cl., B.Cl., A.Sc., Bsn., Hn. 1 & 2, Hn. 3 & 4, Bb Tpt. 1 & 2, Bb Tpt. 3, Trn., B. Trn., Trn., Timp., Perc. 1, Perc. 2, Perc. 3, Perc. 4, Hp., Pno., Vla. I, Vla. II, Via., Vc., and D.B. Measure 192 is indicated by a box with the number '192' above the staff. The score features various musical notations including dynamics such as *ff* and *f*, articulation marks like accents and slurs, and performance instructions such as *tr* (trills) and *acc.* (accents). The percussion parts include complex rhythmic patterns, and the harp and piano parts feature tremolos and specific chordal textures. The string section provides a harmonic foundation with sustained notes and rhythmic patterns.

This page of a musical score, page 23, contains the following instruments and parts:

- Flute (Fl.)**: Part 1, dynamic markings *mf*, *ff*, *mp*.
- Oboe (Ob.)**: Part 1, dynamic markings *mf*, *ff*, *mp*.
- Clarinets (Cl.)**: Bass Clarinet (B.Cl.), Clarinet in C (C.Cl.), dynamic markings *mf*, *ff*, *mp*.
- Bassoon (Bsn.)**: Part 1, dynamic markings *ff*, *mf*, *mp*.
- Horns (Hr.)**: Horns 1 & 2 (Hr. 1 & 2), Horns 3 & 4 (Hr. 3 & 4), dynamic markings *ff*, *mf*, *mp*.
- Trumpets (Tpt.)**: Trumpets 1 & 2 (Tpt. 1 & 2), Trumpet 3 (Tpt. 3), dynamic markings *mf*, *ff*, *mp*.
- Trombones (Tbn.)**: Trombone 1 (Tbn. 1), Trombone 2 (Tbn. 2), Trombone 3 (Tbn. 3), dynamic markings *mf*, *ff*, *mp*.
- Timpani (Timp.)**: Part 1, dynamic marking *ff*.
- Percussion (Perc.)**: Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), Percussion 4 (Perc. 4). Includes instructions: "to snare drum", "to bass drum", "bass drum", "tam-tam", "to aux. cymbal".
- Harp (Hp.)**: Part 1, Part 2.
- Piano (Pno.)**: Part 1, Part 2, dynamic markings *ff*, *mp*.
- Violins (Vln.)**: Violin I (Vln. I), Violin II (Vln. II), dynamic markings *mf*, *ff*, *mp*.
- Viola (Via.)**: Part 1, dynamic markings *mf*, *ff*, *mp*.
- Violoncello (Vcl.)**: Part 1, dynamic markings *mf*, *ff*, *mp*.
- Double Bass (D.B.)**: Part 1, dynamic markings *mf*, *ff*, *mp*.

Rehearsal marks numbered 200 are present at the beginning of the Flute, Oboe, Clarinets, Bassoon, Horns, Trumpets, Trombones, Percussion 1, Piano, Violins, Viola, and Double Bass staves.

209

Picc.
 Fl.
 Ob.
 B.Cl.
 B.Cl.
 A.Sx.
 Ten.
 Hn. 1 & 2
 Hn. 3 & 4
 Bb Tpt. 1 & 2
 Bb Tpt. 3
 Tbn.
 B. Tbn.
 Tbn.
 209
 Tamp.
 Perc. 1
 Perc. 2
 Perc. 3
 Perc. 4
 Hp.
 Poe.
 209
 Via. I
 Via. II
 Via.
 Vc.
 D.B.

f *p* *ff*
f *p*
f *p*
f *p* *ff*
f *p* *ff*
mp *ff* *Lx*
ff *dim.* *max. cymbal (soft mallets)* *p* *ff*
f *ff*
f *p* *ff*
f *p* *ff*
f *p*
mf *f* *p*

Vivace ♩ = 160 223

Pno.

Fl.

Ob.

B. Cl. *ff* \rightarrow *pp*

B. Cl.

A. Sc. *ff* \rightarrow *pp*

Bsn. *ff*

Hn. 1 & 2 *f*

Hn. 3 & 4 *f*

B♭ Tpt. 1 & 2 *ff*

B♭ Tpt. 3 *ff*

Tbn. *f*

B. Tbn. *f*

Tbn. *f*

Timp. *f*

Perc. 1 *marc* *f* \rightarrow *pp* *f* \rightarrow *pp* *f* *rim shot* *to wire brushes*

Perc. 2 *pp* \rightarrow *f* *to triangle*

Perc. 3 *cymbala* *f* *to ride cymbal*

Perc. 4 *chake* *f* *to clave*

Hp.

Pno. *ff* *f*

Vla. I *Vivace* ♩ = 160 *ff* 223

Vla. II *ff*

Vla. *ff*

Vc. *ff* *arco*

D.B. *ff*

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

- Woodwinds:** Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (Bb Cl.), Clarinet in C (C Cl.), Alto Saxophone (A. Sax.), and Bassoon (Bsn.).
- Brass:** Horns 1 & 2 (Hn. 1 & 2), Horns 3 & 4 (Hn. 3 & 4), Trumpets in B-flat 1 & 2 (Bb Tpt. 1 & 2), Trumpet in B-flat 3 (Bb Tpt. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), and Tuba (Tbn.).
- Strings:** Violin I (Via. I), Violin II (Via. II), Viola (Via.), Violoncello (Vc.), and Double Bass (D.B.).
- Percussion:** Timpani (Timp.), Percussion 1 (Perc. 1) with wire brushes, Percussion 2 (Perc. 2) with triangle, Percussion 3 (Perc. 3) with ride cymbal (sticks), and Percussion 4 (Perc. 4) with clave.

The score features dynamic markings such as *p* (piano), *mp* (mezzo-piano), and *ppp* (pianissimo). The percussion parts include specific instructions for playing techniques like wire brushes, triangle, ride cymbal (sticks), and clave.

This page of a musical score, numbered 27, contains the following parts and markings:

- Woodwinds:** Flute (Fl.), Oboe (Ob.), Bass Clarinet (B.C.), Clarinet (C.), Alto Saxophone (A. Sax.), and Bassoon (Bsn.).
- Brass:** Horns 1 & 2 (Hn. 1 & 2), Horns 3 & 4 (Hn. 3 & 4), Trumpets 1 & 2 (Bn. 1 & 2), Trumpet 3 (Bn. 3), Trombone (Tbn.), Bass Trombone (B. Tbn.), and Tuba (Tbn.).
- Percussion:** Four percussion parts (Perc. 1-4) with specific instructions: Perc. 1 (no sticks), Perc. 2 (no bass drum), Perc. 3 (no tam-tam), and Perc. 4 (no tambourine).
- Other Instruments:** Harp (Harp.), Piano (Pao.), Viola I (Via. I), Viola II (Via. II), Violoncello (Vc.), and Double Bass (D.B.).
- Dynamic Markings:** *mp* (mezzo-piano), *crescendo*, and *f* (forte).
- Rehearsal Marks:** 234 and 242.

This page contains the musical score for measures 250 through 259. The score is organized into several systems of staves:

- Woodwinds:** Piccolo (Pic.), Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (Bb. Cl.), Clarinet in C (B. Cl.), and Bassoon (Bsn.).
- Brass:** Horns 1 & 2 (Hn. 1 & 2), Horns 3 & 4 (Hn. 3 & 4), Trumpets 1 & 2 (B. Tpt. 1 & 2), Trumpet 3 (B. Tpt. 3), Trombone (Tbn.), and Bass Trombone (B. Tbn.).
- Percussion:** Timpani (Timp.), Percussion 1 (Perc. 1), Percussion 2 (Perc. 2), Percussion 3 (Perc. 3), and Percussion 4 (Perc. 4). Specific parts include bass drum, snicks, tambourine, and no symbols.
- Strings:** Violin I (Vln. I), Violin II (Vln. II), Viola (Via.), Violoncello (Vc.), and Double Bass (D.B.).

Measure 250 is marked with a box containing the number 250. The score includes various dynamic markings such as *mp*, *mf*, *ff*, and *pp*, as well as articulation marks like accents and slurs. The notation is in standard musical notation with a key signature of one flat and a common time signature.

Picc. *mf* *ff* 257

Fl. *mf* *ff*

Ob. *mf* *ff*

B. Cl. *mf* *ff*

B. Cl. *mf* *ff*

A. Sax. *mf* *ff*

Ban. *mp* *mf* *ff*

Hr. 1 & 2 *mf* *ff* 257

Hr. 3 & 4 *mf* *ff*

B♭ Trp. 1 & 2 *mf* *ff*

B♭ Trp. 3 *mf* *ff*

Tbn. *mf* *ff*

B. Tbn. *mf* *ff*

Tbn. *mf* *ff*

257

Timp. *f*

Perc. 1

Perc. 2

Perc. 3 *f* *hard-wood*

Perc. 4

Hp.

Pao. *mp* *ff* *f*

257

Vln. I *f*

Vln. II *f*

Vla. *f*

Vc. *f*

D.B. *f*

This page of a musical score, numbered 30, contains measures 263 through 269. The score is arranged in a standard orchestral layout with multiple staves for each instrument family. The woodwind section includes Flute (Fl.), Oboe (Ob.), Bassoon (B.C.), and Clarinet in B-flat (Bb.Cl.). The brass section includes Horns 1 & 2 (Hn. 1 & 2), Horns 3 & 4 (Hn. 3 & 4), Trumpets 1 & 2 (Bp.Tpt. 1 & 2), Trumpet 3 (Bp.Tpt. 3), Trombone (Tbn.), Bass Trombone (B.Tbn.), and Tuba (Tbn.). The percussion section includes Timpani (Timp.), four different Percussion parts (Perc. 1-4), and Harp (Hp.). The string section includes Piano (Pno.), Violin I (Via. I), Violin II (Via. II), Viola (Via.), Violoncello (Vc.), and Double Bass (D.B.). The score features dynamic markings such as *ff* (fortissimo) and *p* (piano) at various points. Measure numbers 263 and 269 are indicated in small boxes above the first and last measures of the page, respectively. The notation includes various note values, rests, and articulation marks.

279

Picc.
Fl.
Ob.
B♭-Cl.
B♭-Cl.
A. Sax.
Bass

279

Hr. 1 & 2
Hr. 3 & 4
B♭-Tpt. 1 & 2
B♭-Tpt. 3
Tbn.
B. Tbn.
Tbn.

279

Change D to F, F to G, A to B

Temp.
Perc. 1
Perc. 2
Perc. 3
Perc. 4
Hp.
Pno.

279

Via. I
Via. II
Via.
Vc.
D.B.

This page of a musical score, numbered 32, contains measures 288 through 292. The score is arranged in a standard orchestral format with multiple staves for each instrument family. The woodwind section (Flute, Oboe, Clarinets, Bassoon) and strings (Violins, Viola, Cello/Double Bass) are active throughout, with dynamic markings such as *f*, *mf*, and *crescendo*. The brass section (Horns, Trumpets, Trombones) is mostly silent, with some activity in the Trombone part starting at measure 290. The percussion section (Perc. 1-4) and Harp/Piano are also present, with the Harp/Piano part showing a *ff* dynamic in measure 290. A box containing the number 288 is placed above the first staff of each instrument group to indicate the starting measure. The score concludes at measure 292.

Musical score for page 33, measures 297-300. The score includes parts for Piccolo, Flute, Oboe, Bassoon, Clarinet in Bb, Clarinet in C, Saxophone Alto, Bassoon, Horns 1 & 2, Horns 3 & 4, Trumpets 1 & 2, Trumpet 3, Trombone, Bass Trombone, Trombone, Timpani, Percussion 1-4, Harp, Piano, Violin I, Violin II, Viola, Violoncello, and Double Bass. The score features various dynamics such as *ff* and *f*, and includes performance instructions like "no cymbals".

306

Picc.

Fl.

Ob.

B♭ Cl.

B♭ Cl.

A. Sax.

Bsn.

306

Hr. 1 & 2

Hr. 3 & 4

B♭ Trp. 1 & 2

B♭ Trp. 3

Tbn.

B. Tbn.

Tbn.

306

Timp.

Perc. 1

Perc. 2

Perc. 3

Perc. 4

Hp.

solo quasi cadenza

mp

mp

mp

Pan.

306

Vln. I

Vln. II

Vln.

Vc.

D.B.

315

Picc.
Fl.
Ob. *solo 1^a*
B.C. I. *mp*
B.C. II. *mf*
A. Sax.
Bass.

315

Hr. 1 & 2
Hr. 3 & 4
B. Tpt. 1 & 2
B. Tpt. 3
Tbn.
B. Tbn.
Tbn.

315

Timp.
Perc. 1
Perc. 2
Perc. 3
Perc. 4

Hp. *mf*
Pno.

315

Vin. I. *mf*
Vin. II. *mf*
Via.
Vc. *mf*
D.B.

329

Picc.

Fl.

Ob.

B♭ Cl.

B♭ Cl.

A. Sax.

Ban.

Hr. 1 & 2

Hr. 3 & 4

B♭ Tpt. 1 & 2

B♭ Tpt. 3

Tbn.

B. Tbn.

Tbn.

329

Temp.

Perc. 1

Perc. 2

Perc. 3

Perc. 4

Hp.

Pan.

329

Vin. I

Vin. II

Vla.

Vcl.

D.B.

336

Picc. *f* *mp* *ff*

Fl. *f* *mp* *ff*

Ob. *f* *mp* *ff*

B♭ Cl. *f* *mp* *ff*

B♭ Cl. *f* *mp* *ff*

A. Sax. *f* *mp* *ff*

Ban. *f* *mp* *ff*

336

Hr. 1 & 2 *f* *mp* *ff*

Hr. 3 & 4 *f* *mp* *ff*

B♭ Trp. 1 & 2 *f* *mp* *ff*

B♭ Trp. 3 *f* *mp* *ff*

Tbn. *f* *mp* *ff*

B. Tbn. *f* *mp* *ff*

Tbn. *f* *mp* *ff*

336 Change F to D

Temp.

Perc. 1 *f* *mp* *ff* *choke*

Perc. 2 *f* *mp* *ff*

Perc. 3 *f* *mp* *ff*

Perc. 4 *f* *mp* *ff*

Hp.

Pno.

336

Vla. I *arco* *mp* *ff*

Vla. II *arco* *mp* *ff*

Vln. *arco* *mp* *ff*

Vc. *pizz.* *mp* *ff*

D.B. *pizz.* *mp* *ff*

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

- Flutes (Fl.):** Two parts, both starting with *ff* dynamics.
- Oboe (Ob.):** One part, starting with *ff*.
- Clarinets (Cl.):** Two parts, both starting with *ff*.
- Saxophones (Sax.):** Alto Saxophone (A. Sax.) and Bass Saxophone (B. Sax.), both starting with *ff*.
- Horns (Horn):**
 - Horn 1 & 2 (Hr. 1 & 2)
 - Horn 3 & 4 (Hr. 3 & 4)
- Trumpets (Trp.):**
 - Trumpet 1 & 2 (Trp. 1 & 2)
 - Trumpet 3 (Trp. 3)
- Trombones (Tbn.):**
 - Trombone 1 (Tbn. 1)
 - Trombone 2 (Tbn. 2)
 - Trombone 3 (Tbn. 3)
- Percussion (Perc.):** Four parts (Perc. 1-4). Perc. 3 includes the instruction *to drum-roll*.
- Harmonica (Hp.):** One part.
- Piano (Pno.):** One part, starting with *f*, *ff*, and *p* dynamics.
- Violins (Viol.):**
 - Violin I (Viol. I)
 - Violin II (Viol. II)
- Viola (Via.):** One part, starting with *ff*.
- Cello/Double Bass (Vc./D.B.):** One part, starting with *ff*.

The score is marked with rehearsal numbers **354** in three locations: at the top right, middle right, and bottom right. Dynamic markings include *ff* (fortissimo), *p* (piano), and *ppp* (pianissimo).

Pic. *mp* *f* *sf* *sfz*

Fl. *f* *sf* *sfz*

Ob. *f* *sf* *sfz*

B.Cl. *f* *sf* *sfz*

B.Cl. *f* *sf* *sfz*

A. Sax. *f* *sf* *sfz*

Ban. *f* *sf* *sfz*

Hr. 1 & 2 *mp* *f* *sf* *sfz*

Hr. 3 & 4 *f* *sf* *sfz*

B. Tpt. 1 & 2 *f* *sf* *sfz*

B. Tpt. 3 *f* *sf* *sfz*

Tbn. *f* *sf* *sfz*

B. Tbn. *f* *sf* *sfz*

Tbn. *f* *sf* *sfz*

Timp. *f* *sf* *sfz*

Perc. 1 *f* *sf* *sfz*

Perc. 2 *f* *sf* *sfz*

Perc. 3 *mp* *sf* *sfz*

Perc. 4 *f* *sf* *sfz*

Hp. *f* *sf* *sfz*

Pan. *f* *sf* *sfz*

Vin. I *f* *sf* *sfz*

Vin. II *f* *sf* *sfz*

Vla. *f* *sf* *sfz*

Vcl. *f* *sf* *sfz*

D.B. *f* *sf* *sfz*

arco

choke

tan-tan

mp

sfz

CHAPTER 1

INTRODUCTION

The purpose of this paper is to reveal the findings of an analytical study of the original composition, *Symphony In One Movement*. The piece pays homage to the history of the symphony by using traditional forms as a basis for its structure, while applying more modern approaches to harmony, melody, rhythm, and orchestration. The paper is divided into chapters, each discussing important musical elements of the composition including form, pitch content, melody, harmony, rhythm, and texture/orchestration/dynamics. The first chapter identifies the three traditional forms which make up the structure of the piece and explain how the forms were modified and approached from the standpoint of a twenty-first century composer. Chapter 2 discusses the sources for pitches used in both melody and harmony over the course of the composition as a whole and explains how pitch content helps to create both unity and variety within the symphony. The third chapter involves discussions of the melodic relationships between formal sections and methods used to determine the pitches for the melodies. The fourth chapter, on harmony, also treats each section individually, but still considers the relationships of harmonies through the course of the piece and demonstrates ways in which chord structures were achieved and explores their interconnection. The chapter on rhythm goes into detail on the primary rhythmic concepts used throughout the piece and in each section, also investigating the manner in which tempo and meter are treated. In Chapter 7, I examine the use of the orchestra as an expressive medium in the work, including the roles of instrumental groups, the combination of orchestral voices, and the use and purpose of different colors and textures.

CHAPTER 2

FORM

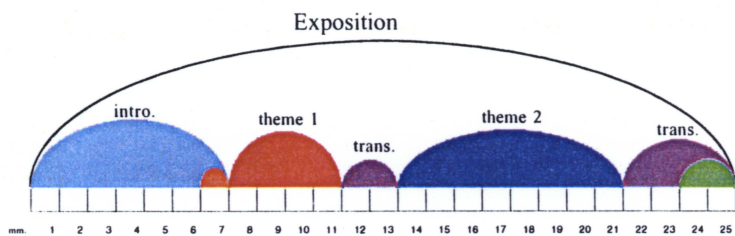
Symphony In One Movement is a single movement, as the title implies, comprising three connected but distinct sections, whose contrasts suggest individual movements. This chapter will discuss the three sections as individual units, while also considering the piece in its entirety.

The first section is based on sonata form which is historically associated with the first movement of a symphony. The traditional form is used as the framework for the section, retaining the thematic scheme, but disregarding the traditional tonal plan and using a twelve-tone series as the basis for the harmonic and melodic material. The work should not necessarily be labeled twelve-tone because the method of composition does not adhere strictly to the principles set by Schönberg and his followers. This aspect of composition will be discussed in more detail in the chapters on melody and harmony.

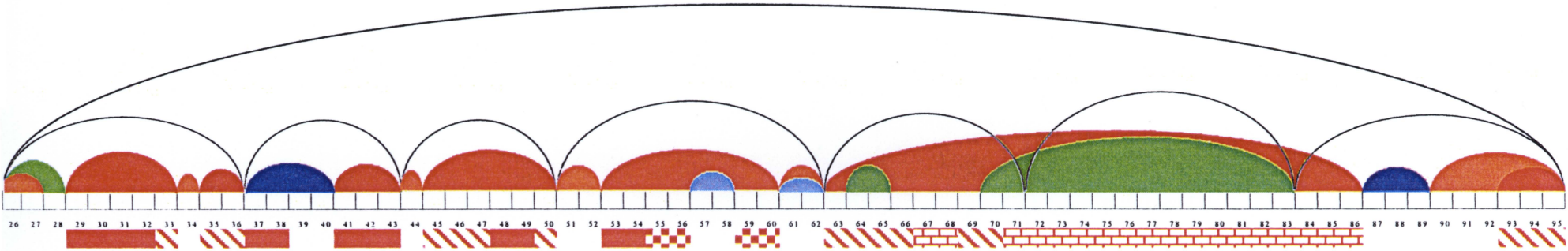
The exposition is made of an introduction, two themes connected by a transition, and a second transition leading to the development section (see Figure 1). The introduction, mm. 1-7, involves melodic and harmonic tendencies which remain constant throughout the section, including a one measure idea of expansion all through the orchestra at m. 7. This important motive is found through the development of the sonata and will be subsequently referred to as motive 'a'.

The function of motive 'a' is to act as a counterweight against the aggressive rhythmic material and confined range of melodies derived from the first theme. This motive only lasts one or two measures but is an important structural device because the entire orchestra is involved. It begins in the basses and escalates throughout the range of

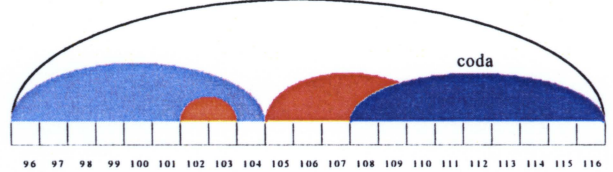
Figure 1: Sonata Form (mm. 1-116)



Development



Recapitulation



- Key:
- intro
 - motive a
 - theme 1
 - transition
 - theme 2
 - motive b
- Theme 1 Variations:
- var. 1
 - var. 2
 - var. 3
 - var. 4

the orchestra all the way to the flutes and piccolo. By referring to Figure 1, one can see all the instances of this motive. Here is the motive as heard at m. 26.

Example 1. Motive 'a,' mm. 26-27.

The musical score for Example 1, Motive 'a,' mm. 26-27, is presented in two systems. The first system includes the Piccolo, Flute (Fl.), Oboe (Ob.), Bass Clarinet (B♭ Cl.), and Alto Saxophone (A. Sx.). The second system includes Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Double Bass (D.B.).

Brackets on the right side of the score indicate the following groupings:

- motive 'a'**: Piccolo, Flute, Oboe, Bass Clarinet, and Violin I.
- motive 'b'**: Alto Saxophone.
- intro material**: Violin II, Viola, Violoncello, and Double Bass.

Dynamic markings include *f* (forte) and *p* (piano). The score shows the entrance of the motive in measures 26 and 27 for the instruments in the 'motive a' group, and the simultaneous introduction of the 'intro material' in measure 27.

The preceding example also demonstrates an instance where introduction material, motive 'a' material, and motive 'b' material are all sounded at once!

The first theme is comprised of an aggressive, rhythmic statement heard in the

bass voices. It is quite simple but evolves considerably in the development section.

Example 2. Theme 1, mm. 8-9.



The second theme is longer and more lyrical, relative to the rhythmic first theme. It is heard first as a double bass solo and is then passed to the bass clarinet and is freely imitated by the first bassoon.

Example 3. Theme 2, mm. 14-18, double bass solo.



The transition at m. 24 contains another important motive used throughout the development and, more specifically, at the climax of the sonata. It is a composite of lines played by the oboe, alto saxophone, and horns, and will be labeled motive 'b.'

Example 4. Motive 'b,' m. 24.



The development exploits the simple materials contained in the initial themes and is considerably longer (70 mm.) in comparison to the exposition (25 mm.). In this section the themes and motives are subjected to augmentation, diminution, combination, reharmonization, permutation, and transposition. Figure 1 shows what source material is used over the course of the development.

Four variations of the first theme appear in the development section (see Example

5). In the first variation, the theme is harmonized in three voices which move in parallel motion. In the second variation, it is transposed and the rhythms are elongated, making it legato rather than staccato. The third variation is actually a double variation, i.e., a variation of the second variation: the basic rhythm of the second variation remains, but the melody is different and is harmonized in two parts. Finally, in the fourth variation the notes from the previous version are retained, although the texture is inverted and the rhythm is changed to a repeating sixteenth-note idea. These variations are repeated, alternated, and combined with other elements throughout the development (see Figure 1).

Example 5. Variations of Theme 1, reduction.

Original Theme

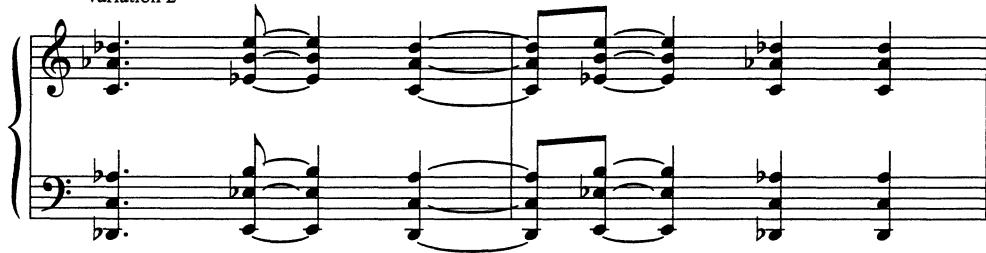


Variation 1



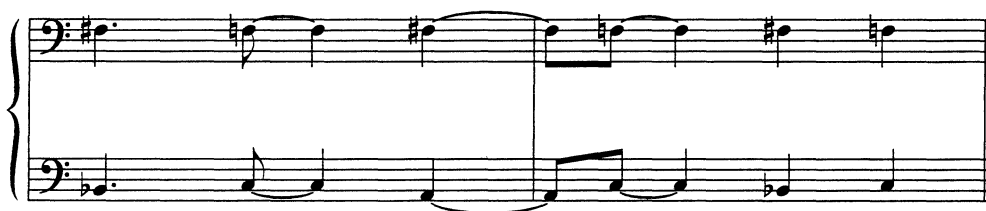
Musical notation for Variation 1, consisting of two staves (treble and bass clefs) with a common time signature. The treble staff contains a melody similar to the original theme, while the bass staff provides harmonic accompaniment with chords and eighth notes.

Variation 2



Musical notation for Variation 2, consisting of two staves (treble and bass clefs) with a common time signature. The treble staff features a melodic line with many beamed eighth and sixteenth notes. The bass staff provides harmonic accompaniment with chords and eighth notes.

Variation 3



Musical notation for Variation 3, consisting of two staves (treble and bass clefs) with a common time signature. The treble staff features a melodic line with many beamed eighth and sixteenth notes. The bass staff provides harmonic accompaniment with chords and eighth notes.

Variation 4



Musical notation for Variation 4, consisting of two staves (treble and bass clefs) with a common time signature. Both staves feature a rhythmic accompaniment of eighth notes, with some rests and accidentals.

The second theme is not used as often as the first, but is equally important to the structure of the sonata. It is the subject of a contrapuntal texture in m. 37, alternating between different woodwind instruments superimposed over the first theme. This lasts for approximately six measures, after which the motive 'a' idea returns.

Example 6. Theme 2 used in mm. 37-43.

The musical score for Example 6 shows four staves: B♭ Cl., B. Cl., A. Sx., and Bas. Theme 2 is introduced in m. 37 by the B♭ Cl. (1st ending, mp) and the Bas. (f). In m. 38, the B. Cl. (solo, mf) and A. Sx. (mf) enter with Theme 2. In m. 39, the B♭ Cl. (f) and Bas. (mp) play Theme 2. In m. 40, the B. Cl. (f) and A. Sx. (f) play Theme 1. In m. 41, the B♭ Cl. (f) and Bas. (f) play Theme 1. In m. 42, the B. Cl. (p) and A. Sx. (p) play Theme 1, var. 4. In m. 43, the B♭ Cl. (ff) and Bas. (ff) play Theme 1, var. 4.

The second theme is heard once again, at m. 87, as a dialog between solo bass clarinet, bassoon, and soprano clarinet. Once again, this is followed with motive 'a.'

Example 7. Theme 2 used in mm. 87-89.

The musical score for Example 7 shows four staves: B♭ Cl., B. Cl., A. Sx., and Bas. In m. 87, the B. Cl. (solo, f) and Bas. (solo, f) play Theme 2. In m. 88, the B. Cl. (solo, f) and Bas. (solo, f) play Theme 2. In m. 89, the B. Cl. (solo, f) and Bas. (solo, f) play Theme 2.

The climactic point of the sonata section occurs from m. 76 to m. 83, with a build-up starting at m. 70. Motive 'b' provides the foundation for the climax and is heard in inversion, permutation, and in different transpositions. It is presented simultaneously in different rhythmic groups including sixteenth-notes, sixteenth-note triplets, eighth-notes, and eighth-note triplets. The third variation of the first theme underscores the motive 'b'

material, as shown in Example 8 on the following page. The second theme is used in the last two bars of the climax and foreshadows the later development of the theme in the coda.

The last section of the development (m. 90 to m. 95) acts as a transition to the recapitulation and is an augmented version of motive 'a.' This time it is stretched out to fill five measures, with percussion playing the sixteenth-note figure from the fourth variation of the first theme.

The recapitulation begins in m. 96 with a restatement of the introduction. Here the introduction material is varied through orchestration, transposition, and extension. Another version of motive 'a' is sounded, starting in the brass and spreading to woodwinds and strings. The first theme is found in an extended form at m. 105 and acts as a preparation to the coda.

The coda, mm. 108-116, is based on the first three notes of the second theme and is presented in multiple rhythmic configurations, transpositions, and permutations. It is heard first in the violins at m. 108, then in the clarinets starting at m. 109, superimposed over the first theme. Especially interesting is the counterpoint occurring in mm. 111-112 in the strings and clarinets (see Example 9). It gradually becomes fuller and more rhythmically intense until it hits the final triple *forte* chord accompanied by the sixteenth-notes in the percussion at mm. 113-114.

Example 8. Climactic point, mm. 75-83, reduction.

high strings, woodwinds, xylophone

oboes, saxophone, brass

trombones

low strings, brass, and woodwinds

75

78

81

Example 9. Theme 2 used in the coda, mm. 108-112.

The musical score is divided into two systems. The first system includes the following parts: Clarinets in Bb, Violin I, Violin II, Viola, Violoncello, and Double Bass. The second system includes Bb Clarinet, Violin I, Violin II, Viola, Violoncello, and Double Bass. The score is written in 4/4 time and features a key signature of two flats. Dynamics include *f*, *mf*, *ff*, and *fff*. The first system shows a transition from 4/4 to 3/4 time. The second system continues in 4/4 time.

The second of the three large sections extends from mm. 117-215. The tempo is drastically slower and the time signature changes from primarily 4/4 to 3/4. The form of this section is based on the passacaglia, traditionally a ground bass repeated throughout a composition while upper voices change and provide contrasts. The approach taken here is somewhat different: the passacaglia theme is traded to a different instrument or group each time it is presented. It is initially played in the basses, in order to establish the theme and acknowledge the traditional form. The passacaglia theme itself is a double period, seventeen measures in length.

Example 10. Passacaglia theme form.

The diagram shows a horizontal line representing 17 measures, numbered 1 through 17. Above the line, four curved brackets group the measures into four sections: 'a' (measures 1-5), 'b' (measures 6-9), 'a'' (measures 10-13), and 'b'' (measures 14-17). Below the diagram are three staves of musical notation in bass clef, 3/4 time. The first staff shows the first statement of the theme, labeled 'a', spanning measures 1-17. The second staff shows the second statement, labeled 'b' and 'a'', spanning measures 6-13. The third staff shows the third statement, labeled 'b'', spanning measures 14-17. The notation includes various note values and accidentals, illustrating the transposition of the theme.

This passacaglia theme is stated a total of seven times. It is transposed up a whole step each time, cycling through the whole-tone scale, ultimately ending on the original transposition. The first statement at m. 117 is heard in the basses, cellos, and

piano in a low range and is accentuated by quick virtuosic figures in the harp. Figure 2 provides a form graph of the section. The square brackets indicate who plays the passacaglia theme and the arcs indicate who has the prominent melody, which may or may not consist of the theme.

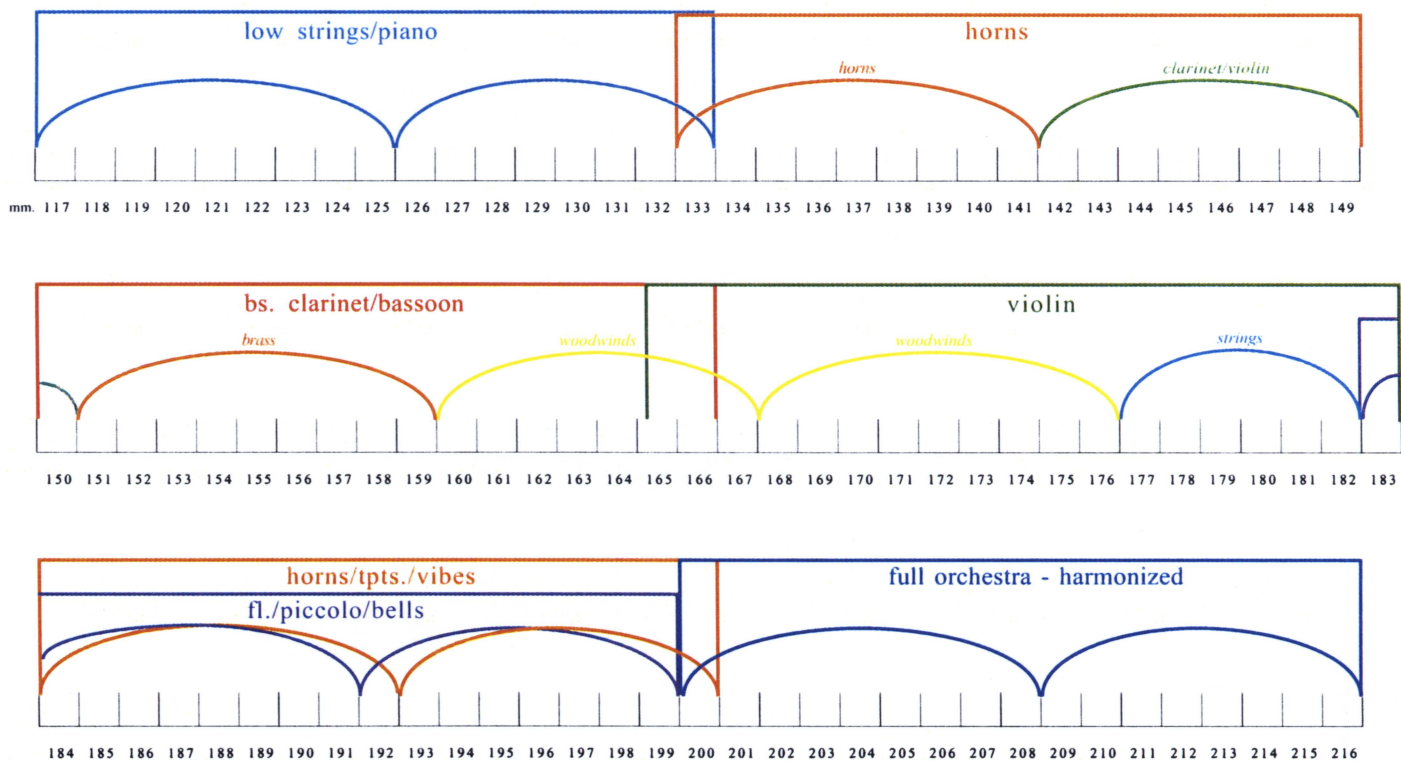
Texture and orchestration play an important role in the shaping of the form of this section. In the second statement, at m. 133, the horns state the theme in harmony while a pulsating, imitative, underlying texture is created by the harp, vibraphone, and marimba (see Example 11). The horns retain the melody until m. 142, where the violins and clarinet introduce a new melody which takes precedence over the passacaglia theme. This is the first of several instances in which the boundaries of the theme are obscured, helping to eliminate the possibility of an overly predictable form.

Example 11. Marimba, vibraphone, harp texture, mm. 134-139.

In the third statement, at m. 150, the bass clarinet and bassoon voices feature the passacaglia theme. A new melody is introduced in the trombones and shifted to the horns from mm. 151-158. This provides a stark contrast to the lyrical nature of the passacaglia theme. This melody can be seen later in Example 28.

At m. 160 the higher woodwinds enter in a contrapuntal texture which becomes the main melodic interest; the passacaglia theme functions as accompaniment rather than melody. The next statement of the theme occurs at m. 167 in the violin. Here it is not

Figure 2: Passacaglia Form (mm. 117-217)



obvious that a new statement is beginning because the woodwind counterpoint elides with the next entrance of the theme. Everything merges into a homophonic texture by mm. 175-176. The passage closes with a much slower harmonic rhythm, less motion, and lighter texture (mm. 177-182).

Example 12. Strings, mm. 177-182.

The musical score for strings (mm. 177-182) consists of five staves: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Double Bass (D.B.). The music is in a homophonic texture. The dynamics are marked as *mp* (mezzo-piano) and *p* (piano). The Violin I part starts with *mp* and then *p*. The Violin II part starts with *p* and then *pp*. The Viola part starts with *p* and then *pp*. The Violoncello part starts with *p* and then *pp*. The Double Bass part starts with *p* and then *pp*. The music features a mix of quarter and eighth notes, with some rests and a final cadence.

The fifth and sixth statements of the passacaglia theme are heard together in canon, with the sixth statement starting one measure after the fifth. This passage (mm. 183-199) acts as the climactic point of the section. The fifth statement on $D\flat$ is heard in flutes, piccolo, and orchestra bells, while the sixth statement on $E\flat$ is heard in the horns, trumpets, and vibraphone. Around and within the simultaneous themes, other elements from earlier in the section return: harp lines from the first statement (now doubled in the piano), pulsating eighth-notes in the marimba from the second and third statement, and contrapuntal passages in the woodwinds from the third and fourth statement.

In the seventh and final statement (m. 200), the passacaglia theme is heard once again in the bass voices. Now it is harmonized by the full orchestra, in a homophonic style. Overlapping rolls are heard in the percussion and quick, flowing lines are heard in interchange in the higher woodwinds in contrast to the long notes of the melody.

The third large section is based on the hybrid form of rondo-variations. It is a seven-part rondo form in which the refrain is varied each time it is restated. In this instance, each refrain and episode contains a small form within itself. The refrain and episode sections become progressively longer. The following is a basic graphic representation of the overall form of this section. See Figure 3 for a more detailed graph of the form.

Example 13. Rondo-variations form.

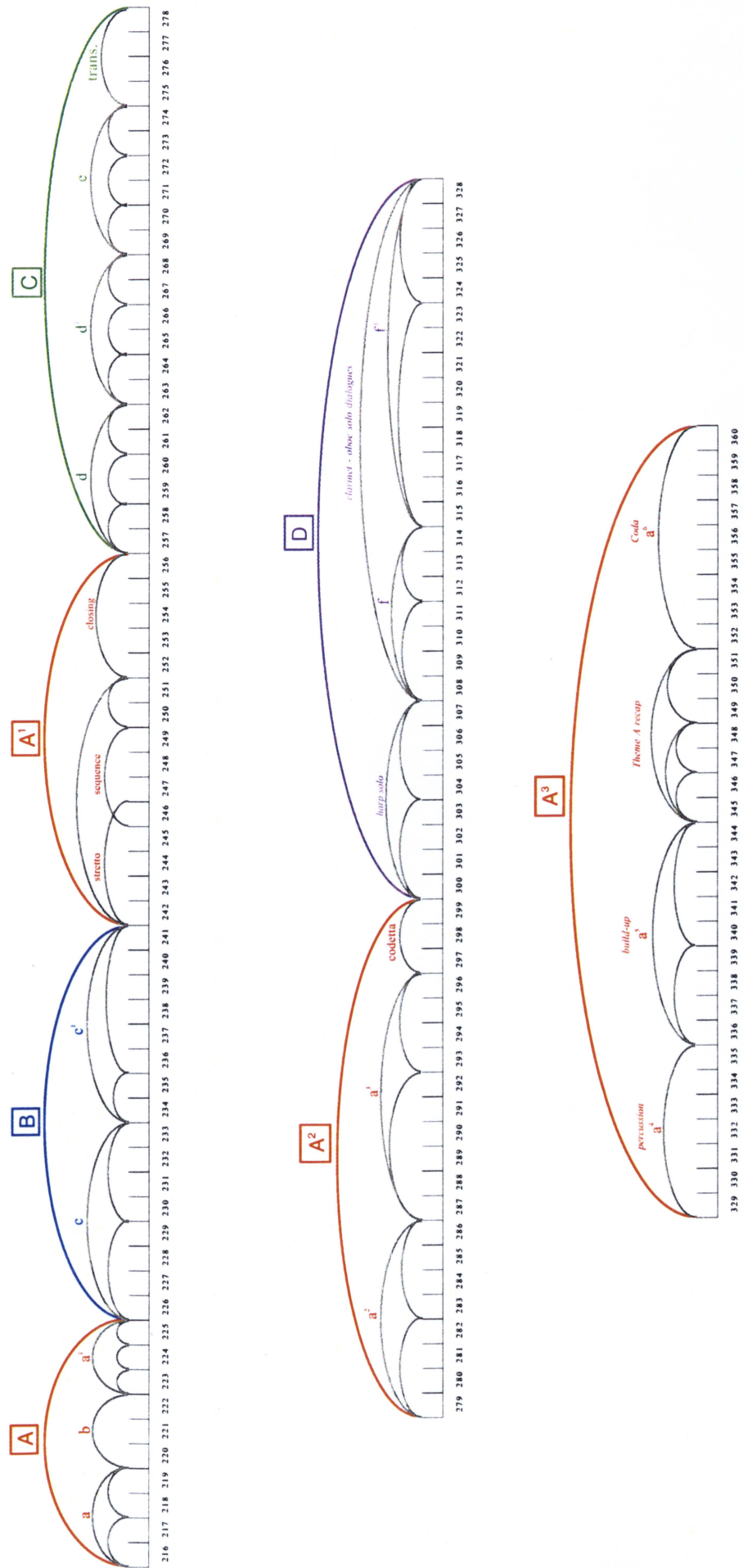
A	B	A1	C	A2	D	A3
216	226	242	257	279	300	336

The initial theme, A, is 10 measures in length and is itself a small ternary form. A militaristic and rhythmic motive provides the basis for Theme A. The brass choir is featured here in what can be viewed as a fanfare-like opening. The last three measures, subsection a' in Figure 3, act as an important unifying element which is later used to establish an association with Theme A. This idea occurs at the end of each refrain and even provides the basis for the coda.

Example 14. Theme A, subsection a' reduction.

The first episode, B, is lyrical and light-hearted. It is sixteen measures in length and its form can be best described as binary: the section can be split evenly into two parts, each eight measures in length. The first part contains a thin texture, is canonic, and lightly scored; the second contains a harmonized line in the melody, with more rhythmic

Figure 3: Rondo-Variations Form (mm. 216-360)



activity. Latin percussion and strings provide accompaniment to the woodwinds, who carry the main melody. The bass voices and viola line create momentum to the next section.

Example 15. Theme B, mm. 226-231, reduction.

The first variation of the A theme, at m. 242, is a fugato. The subject is based on an augmented and extended version of the first theme and is presented in stretto. The stretto is followed by a sequence and finally by a repetitive dialog between woodwinds and brass based on the opening motive.

Example 16. Fugato stretto reduction, mm. 242-246.

The closing section of the fugato variation is built on a fragment of section a¹. This two-measure figure is repeated twice, with the second measure repeated once more at the end as a punctuation. Elements of the fugato occur simultaneously with this material creating an echo effect between the brass and woodwinds.

Example 17. Closing section of Theme A¹, brass, reduction, mm. 252-256.

The second episode, Theme C, features a driving melody heard in the strings alone fueled by the fiery rhythms of the timpani and tom-toms. The form of this section is three-part, AAB, with a transition to the third refrain. The following example shows the first formal division of the three-part form (subsection d in Figure 2). The bass line is doubled with piano and is emphasized by the percussion. The bass line continues throughout the section, while the main melody and counterpoint are varied.

Example 18. Theme C, mm. 257-262.

The second variation of Theme A (mm. 279-299) consists of two major parts. The first part features echoes of a motive extracted from the original theme. It is first stated in the violin and imitated by the alto saxophone and clarinet, and again in

transposition in the trombone and bass clarinet. This imitation flourishes during the first half of the subsection. The second half is the climactic point of the rondo-variations section. Fragments of Theme A are repeated and layered until the climax, which consists of a driving rhythmic figure repeated for four measures (mm. 292-296) in the full orchestra. Finally there is a codetta that is taken from the last three measures of the original A theme (see Example 14).

Theme D, the third episode, is found at m. 300 and offers some relief from the intensity of the preceding refrain. The texture is very thin and the melodies are lyrical and smooth. It begins with a quasi cadenza for solo harp. This leads to a waltz which has an unpredictable metric scheme. The melody is found in the clarinet and oboe, in a dialogue fashion, accompanied by the harp and pizzicato strings.

The final A section consists of four main parts. It begins at m. 329 with a percussion section *soli* for seven measures which is based on the original A theme. The next part functions as a build-up, which is also based on Theme A, to a recapitulation at m. 345 in which Theme A is heard again much as it was at the beginning of the rondo-variations. This time, however, there is a new accompaniment in the strings and percussion as well as a descant part which originated from the melody in episode 2 (m. 257). There is also more percussion accenting the important rhythmic elements. The last part of the original theme (m. 223) is repeated several times and the piece is treated to a robust finale in the coda. Example 19 shows this theme as used in the coda, mm. 354-360.

Example 19. Coda, mm. 354-360.

timpani
and tam-tam

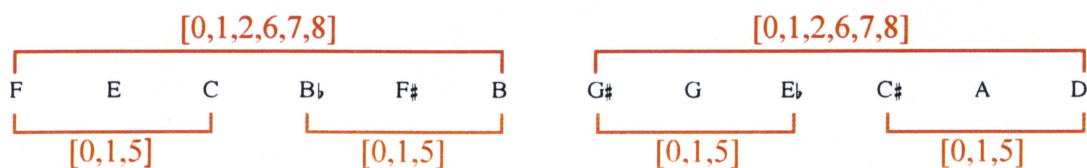
sfz

CHAPTER 3

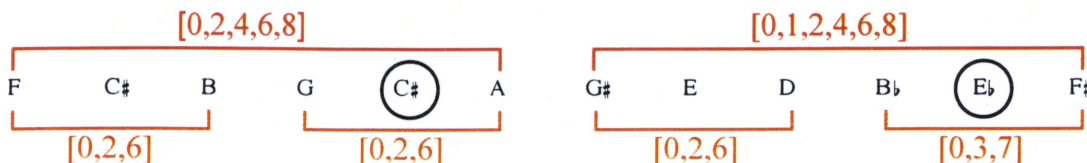
PITCH CONTENT

The primary source for both melodic and harmonic material is a twelve-tone row derived from the hexachord [0,1,2,6,7,8] (see Example 20). It contains four, discrete [0,1,5] trichords that form the basis for both the melody and harmony for the first and last large sections. The passacaglia section takes a totally different approach and consequently presents a contrast between the sonata and rondo-variations. The concept of rotational arrays is employed and the first rotation serves as a new row used in the passacaglia. The C is changed to C#, solely to produce a more desirable melodic line, but the result of this alteration is a tone row with only eleven pitch classes. See Example 21, which illustrates this version of the row. Although the techniques used by Schönberg and his followers are not fully employed, the twelve-tone row does serve as both melodic and harmonic source material.

Example 20. Original twelve-tone row used for source material.



Example 21. Row used for passacaglia.



CHAPTER 4

MELODY

With the exception of the climax, the melodies of the sonata section are generally narrow in range, usually less than an octave and often confined to the span of a minor third. In general, the melodies are short and very frequently contain repeated notes, but the more expansive melodies of motive 'a' provide a marked contrast.

The majority of the melodies in the sonata section are generated from two pitch class sets: [0,1,3,7] and [0,1,6,7]. [0,1,3,7] is really independent of the twelve-tone series, stemming from motive 'b.' [0,1,6,7] can be said to come from order numbers 1,2,4,6 of the prime form of the row. The trichord [0,1,6] is the unifying set of the section, being contained in both of the aforementioned tetrachords. The climactic point (mm. 75-83) is made up primarily of repetitions of [0,1,3,7], [0,1,6,7], [0,1,5,6], [0,3,6], and their various subsets sounding simultaneously in counterpoint. All of the other melodic materials of the sonata are derived from this section. See Example 22, the melodic analysis of the climactic point, on the following page.

The subset [0,1,3] of [0,1,3,7] forms the basis for the first theme and its variations, and generates numerous melodies of the development. The first theme merely outlines the interval of a minor third. The directed interval series <-1,+1> and <+2,-3> from the third variation are used with great frequency (see Example 24). The series <+2,-3> is also applied in an expanded version <+3,-4>, as seen in the violin melody in Example 25. This also provides an illustration of the use of repeated notes in melody.

Example 22. Climactic point (mm.75-83) reduction with melodic analysis.

The image displays a musical score for Example 22, covering measures 75 to 83. The score is presented in a piano reduction format with four staves: two for the right hand (treble and bass clefs) and two for the left hand (treble and bass clefs). The music is in 2/4 time and features a complex melodic structure with various intervals and textures.

Key annotations and features include:

- Measure 75:** The first staff (right hand treble clef) has an annotation $[0,1,3,7]$ (ostinato) in red, with a red circle around the first four notes. The second staff (right hand bass clef) has an annotation $[0,1,5,6]$ (main melody) in red, with a red oval around the first four notes. The third staff (left hand treble clef) has an annotation $[0,1,6,7]$ in red. The fourth staff (left hand bass clef) has annotations $-1,$ $+1, \dots$ in blue above the staff and $+2,$ $-2, \dots$ in red below the staff, indicating intervallic relationships.
- Measure 78:** The first staff has an annotation $[0,1,5]$ $[0,1,5]$ in red. The second staff has two yellow arrows pointing to notes with the annotation $[0,1,5,6]$ in yellow. The third staff has a red annotation $[0,3,6]$ below the staff.
- Measure 81:** The first staff has a series of red annotations: $[0,1,5,6]$ $[0,1,5,7]$ $[0,1,5,6]$ $[0,1,2,6]$ $[0,1,2,4]$ $[0,2,5,7]$ $[0,1,3,7]$ $[0,2,6]$ $[0,1,5,6]$ $[0,1,5,6]$ $[0,1,5]$. The second staff has two yellow arrows pointing to notes with the annotation $[0,1,5,6]$ in yellow. The third staff has a red annotation $[0,1,6]$ above the staff. The fourth staff has red annotations $[0,1,6]$ and $[0,3,6]$ below the staff.

Example 23. Theme 1, variation 3 melodic content.

Example 23 shows the melodic content for Theme 1, variation 3. The notation consists of two staves. The top staff (treble clef) contains five notes with intervals of -1, +1, -1, +1, and -1. The bottom staff (bass clef) contains five notes with intervals of +2, -3, +3, -2, and +2. A bracket below the bottom staff indicates the pitch class set [0,1,3].

Example 24. Melody in strings at mm. 63-66.

Example 24 shows the melody in strings at mm. 63-66. The notation includes staves for Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), and Double Bass (D.B.). The Vc. and D.B. staves have intervals of +2, -3, -1, +1, -1 and -1, +1, -1, +1, -1 respectively. A note in the Vc. staff is labeled (texture inverted).

The other important pitch class set implemented is [0,1,6,7], first appearing in the second theme. The subset [0,1,6] is used in the first instance of the theme, but other versions in the development employ the full [0,1,6,7] tetrachord. An example is at mm. 87-91 where the tetrachord is traded between the solo bass clarinet, bassoon, soprano clarinet, and piccolo. Although it is presented in different permutations, all four notes of the tetrachord are used each time.

Example 25. Melodic analysis, mm. 87-91.

The image shows a musical score for Example 25, measures 87-91. It features four staves. The bottom three staves are in bass clef and labeled 'Bs. Clarinet', 'Bassoon', and 'Clarinet' respectively. Each of these staves has a bracket underneath it with the interval notation $[0,1,6,7]$. The top staff is in treble clef and labeled 'Piccolo'. It has a slur over the notes and the interval notation $[0,1,6,7]$ above it. A forte (*f*) dynamic marking is placed below the Piccolo staff.

Motive 'a' provides a contrast to the bulk of the melodies heard in the sonata section. Its wide range and contour create a "blossoming" effect and the pitch content varies slightly each time. The most significant melodic aspect of motive 'a' is the contour and scope of its various presentations. The exact pitch content is secondary and is varied in each occurrence. The effect is that of a large scale arpeggiation of a full orchestra chord. A representative example occurs at mm. 90-93 where motive 'a' is presented in augmentation and the entrances spell out a $[0,1,5,6]$ chord.

Example 26. Melody and resulting chord, mm. 90-92.

The image shows a musical score for Example 26, measures 90-92. It features two staves. The top staff is in treble clef and labeled 'melody line:'. It shows a sequence of notes: a whole rest, then a quarter note G#2, a quarter note A#2, a quarter note B#2, and a quarter note C#3. The bottom staff is in bass clef and shows a whole rest. To the right of the melody line, the text 'resulting chord:' is written above a block chord consisting of the notes G#2, A#2, B#2, and C#3.

The melodies of the passacaglia provide great contrasts to the sonata in that they are very long, cover a much wider range, and are lyrical in nature. The passacaglia theme itself is the main melody for the bulk of the section.

In short, the theme is based on notes drawn from the two complementary whole-tone scales. The first phrase is based on a whole-tone scale on F, while the second phrase

is built on a whole-tone scale on $A\flat$. The third phrase is based on the F whole-tone scale, but the fourth is more of a combination. Since the fourth phrase is a variation of the second, it can still be viewed as being drawn from the $A\flat$ whole-tone scale with two chromatic notes borrowed from the other scale (see Example 10 for the entire theme). The use of whole-tone scales is obvious when viewing the melody and the parent scale together, as in Example 27 below.

Example 27. First half of Passacaglia theme compared to parent scales.

The image displays four musical staves in bass clef with a 3/4 time signature. The first staff is labeled 'F whole-tone scale' and contains the notes F, G, A, B, C, D, E, F. The second staff is labeled 'First phrase of Passacaglia Theme' and contains the notes F, G, A, B, C, D, E, F# (with a slur over F# and G), A. The third staff is labeled 'Ab whole-tone scale' and contains the notes Ab, Bb, C, D, Eb, F, G, Ab. The fourth staff is labeled 'Second phrase of Passacaglia Theme' and contains the notes Ab, Bb, C, D, Eb, F, G, Ab.

The melody in the brass which starts at m. 151 and extends to m. 158 is an example of a prominent melody which is not the passacaglia theme. It has a much different character and shape but uses the familiar whole-tone scale as its origin.

Example 28. Melody at m. 151.

The image shows two staves of musical notation. The top staff is for Trombone, in bass clef, 3/4 time. It features a whole-tone scale on A (A, B, C, D, E, F) with a triplet of three eighth notes (A, B, C) and a final note F. The bottom staff is for French horn in F, in treble clef, 3/4 time. It features a whole-tone scale on A-flat (A-flat, B-flat, C, D, E, F) with two instances of chromatic alteration (B-flat to B-natural and E to E-flat) and a triplet of three eighth notes (A-flat, B-flat, C). Both staves have a bracket underneath indicating the whole-tone scale.

The contrapuntal passages that occur in the woodwind family provide the most melodic contrast to the passacaglia theme as seen, for example, in mm. 160-176. The majority of the lines are generated from the pitch class set [0,1,3,4,6,9] and its subsets. During this counterpoint the passacaglia theme is still present but it functions as accompaniment, supporting the lines heard around it. Towards the end of this section the melodies begin to mutate back to a whole-tone sound. This section can be seen in detail in Example 29 on the following pages.

In the most basic sense there are four main melodies in the rondo-variations section. These are the theme (or refrain) and its variations, and the three episodes. In general the theme sections contain a fanfare-like, energetic melody which is based on a single motive. The episode melodies vary in nature from light-hearted and whimsical, to bombastic and vigorous, to lyrical and sweet.

All of the melodic material of the rondo-variations section is built primarily from the hexachord [0,1,2,6,7,8], drawn from the twelve-tone row. Melodically, the row is most often used in inversion and is adhered to more strictly here than the previous two sections. For example, I-0 is used for almost the entire melody of Theme A (see Example 37). Fragments of P-5 and I-5 are also used, but the majority of the melody stems from I-0.

Example 29. Passacaglia mm. 160-173, melodic analysis.

The musical score is for the Passacaglia section (mm. 160-173) of a piece. It features seven staves: Piccolo, Flute 1 & 2, Oboe 1 & 2, Clarinet in B \flat 1 & 2, Bass Clarinet, Alto Saxophone, and Bassoon 1 & 2. The key signature has two flats (B \flat and E \flat), and the time signature is 4/4. The score is annotated with melodic analysis:

- Red boxes (0,1,4,6,9):**
 - Flute 1 & 2: mm. 161-162 (1 $^{\circ}$) and mm. 163-164 (a2).
 - Oboe 1 & 2: mm. 161-162 (1 $^{\circ}$).
 - Clarinet in B \flat 1 & 2: mm. 160-161 (1 $^{\circ}$) and mm. 163-164 (mf).
 - Alto Saxophone: mm. 163-164 (mp).
- Blue boxes (passacaglia theme):**
 - Bass Clarinet: mm. 160-161 (sub.p).
 - Bassoon 1 & 2: mm. 163-164 (a2).

= (0,1,4,6,9)
 = passacaglia theme

Example 29 cont. Passacaglia mm. 160-173, melodic analysis.

The musical score shows the following details:

- Picc. and Fl.:** Play a melodic line starting at measure 160, marked *mf*. A blue box highlights the first two measures. A second blue box highlights measures 170-173, marked *f*. A note in measure 171 is annotated with "(gravitating towards whole-tone)".
- Ob.:** Provides harmonic support with sustained notes.
- B. Cl.:** Features a triplet in measure 168, highlighted by an orange box.
- B. Cl. (Bass Clarinet):** Plays a sustained harmonic line, highlighted by a blue box.
- A. Sx.:** Plays a melodic line with triplets in measures 168 and 171.
- Bsn.:** Features a "solo" section in measures 168-170, marked *f*, with triplets. A blue box highlights this section. Another blue box highlights a triplet in measure 171.

(whole-tone)

= (0,1,4,6,9)

= (0,1,3,6,9)

= (0,2,4,6,8,T)

= passacaglia theme

= (0,1,3,4,6,9)

= [0,1,4,8]

The first episode presents an interesting example of the tone row's combinatorial properties. A pattern is established with the first hexachord of I-3 acting as the source for the melody line and the first hexachord of I-0 providing the same melody in canon. These hexachords together form a complete aggregate of I-3. This technique continues during the entire episode.

Example 30. Melodic analysis of opening of episode 1, mm. 226-229.

The row is used to create melodies in other ways as well. For instance, in episode two, P-2 is used to form the melody. Here the order is not preserved, but all of the notes are used. The first trichord is presented in the correct order, but the second is heard in retrograde (see Example 31). So, even though the exact ordering is not always strictly observed, the melodies of the rondo-variations section rely on a more traditional usage of the serial technique than the sonata or passacaglia.

Example 31. Melodic analysis of opening of episode 2, mm. 257-260.

CHAPTER 5

HARMONY

The sonata and rondo-variations sections use the same harmonic foundation: the trichord [0,1,5]. This chord is treated as a point of centrality and unifies the two sections in contrast to the augmented chord types of the passacaglia. All movements feature sections in which counterpoint coincidentally generates the harmony, as well as more strictly homophonic sections where the harmony is fundamental to the conception. Parallelism and verticalization are two commonly used techniques.

A harmonic principle used in the sonata is that of two consecutive [0,1,5] trichords which collectively form the hexachord [0,1,2,6,7,8]. These harmonies are taken exactly from the prime form of the twelve-tone row. The chords often move in parallel motion, usually in minor third intervals. This is established from the first measure of the piece. Also refer to Example 4, the variations of the first theme. The second and third variations use the aforementioned chords in parallel minor thirds as well.

Example 32. Harmonic analysis, mm. 1-6.

The musical score for Example 32, Harmonic analysis, mm. 1-6, is presented in two staves (treble and bass clef). The first measure shows a bass clef chord with notes C2 and G2, labeled [0,1,5] below. The second measure shows a treble clef chord with notes F#3 and C4, also labeled [0,1,5] below. A bracket above the first two measures is labeled [0,1,2,6,7,8]. The third measure shows a treble clef chord with notes F#3 and C4, labeled 'repetition' above. The fourth measure shows a treble clef chord with notes F#3 and C4, labeled 'parallel motion' above. The fifth measure shows a treble clef chord with notes F#3 and C4, labeled 'parallel motion' above. The sixth measure shows a treble clef chord with notes F#3 and C4, labeled 'down a min. 3rd' above. The bass clef chord in the sixth measure is labeled 'up a min. 3rd' below.

Two or more [0,1,5] chords are also used in combination in order to form a larger, more dense harmony. This is done not only in the sonata, but also in the rondo-variations. An example is at m. 50 in a chord played by the full orchestra.

Example 33. Chord at m. 50.

The process of verticalization is often employed in this piece. The second theme takes this approach and provides a very clear illustration of the technique. The notes of the melody in the bass provide the pitches that make up the chords in the upper strings.

Example 34. Theme 2 verticalization.

Harmony is treated quite differently in the passacaglia than the other two sections. Although it is related to the twelve-tone row, as discussed earlier, it is easier to analyze by identifying traditional chord types. The two principal chord types used are subsets of the $[0,2,4,6,8]$ fragment in the melody, the French augmented sixth sonority and the augmented triad. A contrasting chord type used only during the last statement of the theme is the minor-major seventh, or $[0,1,4,8]$, which is a subset of the second

hexachord of the row, [0,1,2,4,6,8].

One approach taken towards harmony in this section consists of a general chord quality being sounded over the course of the corresponding melody. For instance, at mm. 132-149 a French sixth on G is the main tonality, being presented in a broken form in canon between harp, vibraphone, and marimba. The counterpoint passages, such as mm. 160-176 contain a thin harmonic texture. The main interest is in the treatment of the melody, but the chords that are sounded are still the French sixth, this time with D as the root.

The climactic point of the section, mm. 183-199, contains several simultaneous approaches to harmony. It includes two statements of the theme in canon, one measure and a whole-step apart (D \flat and E \flat). This works because, being a whole-step apart, they are based on the same whole-tone scale. Parts of the line are harmonized with augmented chords. The harp part contains lines from the very first statement, based on the G whole-tone scale (the same scale as the two statements of the theme). The marimba part has the broken chord figures from the second statement based on the G French sixth (see Example 11). The strings are the only section in a homophonic texture at this point and the chord progression uses sonorities derived from the whole-tone scale (see Example 35). The other chords function as either passing or tension chords. All of the elements mentioned above are combined in counterpoint to create a very dense harmonic texture.

Example 35. Strings, mm. 183-199, harmonic analysis.

Because of its harmonic nature, the final statement of the theme differs from all the previous statements. The majority of the pitches of the passacaglia theme are harmonized with minor-major seventh chords. This harmony was postponed until the end of the section in order to communicate a clear distinction from the earlier whole-tone scale based sonorities. It is interesting to note that the minor second interval is not used melodically until the last note of the Passacaglia theme, and not harmonically until the last statement of the theme. See the reduction with chords labeled in Example 36.

Example 36. Harmonic reduction, mm. 200-216.

200 Fm(maj7) Dbm(maj7) Gm(maj7) Bm(maj7) Fm(maj7) Gm(maj7) Dbm(maj7) Aaug

205 Abm(maj7) Am(maj7)/E Dm(maj7) Cm(maj7) Bbm(maj7)/Bb F#m(maj7) Fm(maj7) Bbm(maj7)/Db

210 Bm(maj7) Gm(maj7) Dbm(maj7) F#m(maj7)/A Fm(maj7)/Ab Em(maj7) D7(b5)

The first refrain of the rondo-variations section uses harmonic structures and concepts from both the sonata and passacaglia sections, creating a bond between all three. Both the harmony and melody use the inversion of the original row as its source.

The harmonic devices borrowed from the sonata section include the combination of different [0,1,5,] trichords and prevalent use of minor third intervals, as well as parallelism. Interspersed are sonorities based on major second intervals, such as [0,2,4,8], first heard in the passacaglia section. Example 37 provides a harmonic analysis, complete with row forms, order numbers, and pitch class sets.

Two examples of combined [0,1,5] chords are the “climax chord” and the final chord of the piece. The “climax chord” consists of four distinctly grouped [0,1,5] trichords, which form an eleven-tone chord (the twelfth tone can be found in the moving

Example 37. Harmonic analysis of Theme A.

I-0 melody **P-5**

216

I-9 [0,1,3,5] [0,2,3,6] *chromatic parallelism*
 [0,2,6] [0,2,6]

elision (last note of passacaglia) 6 is chromatically altered

220

I-8 [0,1,5,6] **RI-5** [0,1,5,7] [0,2,6,8] *parallelism*
 [0,2,4,8]

3, 7 are skipped over

I-0 **I-5** [0,1,3,5,7]

223

I-9 *parallel motion at minor third interval* **I-2** **I-9**
 [0,1,5] [0,1,5]

bass line, making the chord, at times, an all-interval chord). The bass line itself is also composed of two combined $[0,1,5]$ pitch class sets.

Example 38. Climax chord, m. 296.

The musical score for Example 38, 'Climax chord, m. 296', is presented in 4/4 time. It consists of five staves: two for Woodwinds, two for Brass/Strings, and one for Basses. A central box labeled 'all-interval chord' encompasses the first two measures of the score. The Woodwinds and Brass/Strings parts play chords that are transpositions of the $[0,1,5]$ pitch class set. The Basses part plays a bass line that is also composed of two combined $[0,1,5]$ pitch class sets. The score includes various musical notations such as notes, rests, and dynamic markings.

As stated earlier, this section adheres more strictly to the row forms than the previous two, although it starts with an inversion rather than the prime form. Notice however, that complete aggregates are rarely genuinely completed: the row is used more for its hexachords. Two forms starting a minor third apart sounded against each other is common to this section, and is revealed in the analysis. Many times an aggregate is finished in this way through combinatoriality because the second hexachord of the row is the same as the first, transposed up a minor third.

CHAPTER 6

RHYTHM

Each of the three main sections of the piece has its own unique approach to rhythmic structure. The sonata section, for instance, features a rhythmic crescendo from the opening until the end of the climax, where it settles back to the opening ideas at the recapitulation. At first it is very sustained with several small interjections which become increasingly more frequent, building momentum. The rhythmic intensity builds up to the climax which features several simultaneous rhythmic subdivisions, ultimately returning to the opening rhythmic scheme and quickly building up again as it did up to the climax. The tempo remains a steady *moderato* ($\text{♩}=100$) and the prevailing meter is 4/4, but there are several instances of meter changes for brief periods of time. Although the tempo is constant, the beat is often obscured through the use of syncopation.

The passacaglia section is significantly slower ($\text{♩}=72$) and remains in 3/4 for the duration of the section. This was done intentionally in respect to traditional passacaglias, which were most often in 3/4 at slower tempos. Whereas the sonata section's rhythmic structure consisted of the concept of a rhythmic crescendo, the passacaglia takes the approach of rhythmic layers. There are three main layers used, including the passacaglia theme, the pulsating eighth-notes of the harp and mallets, and the quick, flourishing passages of the woodwinds. The passacaglia theme provides the basis for the section and clearly establishes the 3/4 time-signature. The constant eighth-note patterns of the harp and mallets simply supply a pulse and if heard alone would not distinctly define the meter because their melodic patterns cross the bar lines at irregular patterns. Likewise, the woodwind lines in counterpoint provide melodic interest and usually involve

syncopation, ignoring the confines of the bar lines.

The rondo-variations section is the fastest of the three ($\text{♩}=160$). It has the most clearly defined pulse and the most occurrences of mixed meters. The section maintains a strong pulse throughout and the downbeats are continuously clear and easily distinguishable. The refrain sections are mostly in 4/4 with some 2/4 measures, but the episodes frequently vary the meter. The first episode remains in 4/4 for its entirety, the second contains a regular pattern of mixed meter (that is: 4/4, 2/4, 4/4, 2/4, 4/4, 5/8), and the third is entirely in 3/4. The third episode is the one exception of the clearly defined downbeat. There is a regular accompaniment pattern but it repeats at irregular intervals and on different beats, obscuring the true downbeat and meter.

CHAPTER 7

TEXTURE/ORCHESTRATION/DYNAMICS

In this piece the instruments of the orchestra are treated both as families and in combinations which work to create different orchestral colors. Strings have traditionally been the heart of the orchestra, and they are used for much of the symphony as such. On the other hand, there are parts where woodwinds, brass, or percussion are featured as their own section. An example is the refrain of the rondo-variations, which features the brass choir. Each episode of the rondo-variations features a different section: woodwinds in the first episode, strings in the second, and solo harp, clarinet, and oboe in the third. The section starts and ends at a loud dynamic level, with the internal sections providing dynamic contrasts.

The sonata section does not feature instrumental sections in the way the rondo-variations does, however it does feature several instrumental solos and duets. An example of this can be found at the statement of the second theme, mm. 14-20, first stated in solo double bass and then heard in an imitative duet by bass clarinet and first bassoon. Overall, the orchestra is treated as one massive instrument in this first section. For example, as mentioned earlier, motive 'a' features many instruments of the orchestra combined in a single motive. This concept of using many voices to execute a single line is a regular feature of the sonata. The brass section oftentimes serves as reinforcement for important accents and ends of phrases. The melody is passed through the orchestra and rarely lies in one section for a prolonged time. The dynamics of the sonata complement the rhythmic scheme, that is, a big crescendo from the outset of the piece to the climax, with another large scale crescendo from the end of the climax to the close of the section.

Texture and orchestration of the passacaglia section have already been covered to an extent in the form chapter because of its importance to the shaping of the section. This section generally features a softer, more delicate texture than the other two. It begins very subdued and includes numerous crescendos to high points, followed by quiet sections which in turn build up to the ensuing strong point. The passacaglia theme is passed around to a different section or instrumental combination each time it is sounded. Figure 2 indicates which section carries the theme each time. The layer concept that was mentioned in the rhythm chapter also applies to texture. The harp and mallet percussion form a texture of their own in the pulsing, canonic figures. Other layers include the passacaglia theme, the counterpoint of the woodwinds, and the other melodies that form above and around the theme.

CHAPTER 8

CONCLUSION

One can learn a great deal by conducting a detailed analytical study on a piece of music. For a composer to analyze his own music is just as enlightening. Before writing the symphony, I had established specific musical goals and intentions. The framework of the three combined formal structures were assigned to lengths which would yield the twelve minute duration. The pitch material all stemmed from a single hexachord, which was later incorporated into the twelve-tone row to be used as source material. Most of the composition was written with an intuitive approach, relying primarily on my instincts rather than formulas or systems.

The goal was not to come up with a piece that would produce the ideal analysis, but one that would be satisfying musically, indeed this paper proves that *Symphony In One Movement* has accomplished both. While working on the analysis, I had to recall the processes applied to certain parts, and often discovered details of the musical organization that were unintentional. For example, the passacaglia section was not consciously planned to be based around the whole-tone sonorities, this was mainly a result of the melody line and the harmonies I considered most appropriate. The analytical process was full of musical discoveries and I am quite pleased with the outcome.

In addition to writing the score and analysis, I have worked out an electronic realization of the piece in the Eastern Illinois University Electronic Music Studio. Conducting the “virtual orchestra” also provided a stimulating learning experience. The thesis includes a compact disc which contains this electronic performance, along with supplemental recordings of the examples found in the body of the paper.

APPENDIX A

Twelve-Tone Matrix and Rotational Arrays

	I-0	I-11	I-7	I-5	I-1	I-6	I-3	I-2	I-10	I-8	I-4	I-9	
P-0	F	E	C	B \flat	F \sharp	B	G \sharp	G	E \flat	C \sharp	A	D	R-0
P-1	F \sharp	F	C \sharp	B	G	C	A	G \sharp	E	D	B \flat	E \flat	R-1
P-5	B \flat	A	F	E \flat	B	E	C \sharp	C	G \sharp	F \sharp	D	G	R-5
P-7	C	B	G	F	C \sharp	F \sharp	E \flat	D	B \flat	G \sharp	E	A	R-7
P-11	E	E \flat	B	A	F	B \flat	G	F \sharp	D	C	G \sharp	C \sharp	R-11
P-6	B	B \flat	F \sharp	E	C	F	D	C \sharp	A	G	E \flat	G \sharp	R-6
P-9	D	C \sharp	A	G	E \flat	G \sharp	F	E	C	B \flat	F \sharp	B	R-9
P-10	E \flat	D	B \flat	G \sharp	E	A	F \sharp	F	C \sharp	B	G	C	R-10
P-2	G	F \sharp	D	C	G \sharp	C \sharp	B \flat	A	F	E \flat	B	E	R-2
P-4	A	G \sharp	E	D	B \flat	E \flat	C	B	G	F	C \sharp	F \sharp	R-4
P-8	C \sharp	C	G \sharp	F \sharp	D	G	E	E \flat	B	A	F	B \flat	R-8
P-3	G \sharp	G	E \flat	C \sharp	A	D	B	B \flat	F \sharp	E	C	F	R-3
	RI-0	RI-11	RI-7	RI-5	RI-1	RI-6	RI-3	RI-2	RI-10	RI-8	RI-4	RI-9	

F	E	C	B \flat	F \sharp	B	G \sharp	G	E \flat	C \sharp	A	D
F	C \sharp	B	G	C	A	G \sharp	E	D	B \flat	E \flat	F \sharp
F	E \flat	B	E	C \sharp	C	G \sharp	F \sharp	D	G	B \flat	A
F	C \sharp	F \sharp	E \flat	D	B \flat	G \sharp	E	A	C	B	G
F	B \flat	G	F \sharp	D	C	G \sharp	C \sharp	E	E \flat	B	A
F	D	C \sharp	A	G	E \flat	G \sharp	B	B \flat	F \sharp	E	C
F	E	C	B \flat	F \sharp	B	D	C \sharp	A	G	E \flat	G \sharp
F	C \sharp	B	G	C	E \flat	D	B \flat	G \sharp	E	A	F \sharp
F	E \flat	B	E	G	F \sharp	D	C	G \sharp	C \sharp	B \flat	A
F	C \sharp	F \sharp	A	G \sharp	E	D	B \flat	E \flat	C	B	G
F	B \flat	C \sharp	C	G \sharp	F \sharp	D	G	E	E \flat	B	A
F	G \sharp	G	E \flat	C \sharp	A	D	B	B \flat	F \sharp	E	C

APPENDIX B

Track Listing for Enclosed Compact Disc

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