

AN ANALYTICAL STUDY OF
BELA BARTOK'S SONATA FOR PIANO (1926)

by

MICHAEL BRANDON KONOVAL

B.Mus., The University of Alberta, 1987
M.Mus., The University of British Columbia, 1989

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF MUSICAL ARTS

in

THE FACULTY OF GRADUATE STUDIES

School of Music

We accept this thesis as conforming

to the required ~~standard~~

THE UNIVERSITY OF BRITISH COLUMBIA

June 1996

© Michael Brandon Konoval, 1996

In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of

Music

The University of British Columbia
Vancouver, Canada

Date

30 / 07 / 96

THE UNIVERSITY OF BRITISH COLUMBIA

SCHOOL OF MUSIC

Recital Hall

Saturday, February 16, 1991

8:00 p.m.

GRADUATE RECITAL *

=====

BRANDON KONOVAL, Piano

Après une Lecture de Dante -
Fantasia quasi Sonata

Franz Liszt
(1811-1886)

Fantaisie sur des Rythmes Flamenco

Frank Martin
(1890-1974)

Rumba lente
Rumba rapide
Soleares
Petenera

Alborada del gracioso
(No.4 from Mirroirs)

Maurice Ravel
(1875-1937)

- INTERMISSION -

Thirty-three Variations on a Waltz
by Anton Diabelli, Op.120

Ludwig van Beethoven
(1770-1827)

* In partial fulfillment of the requirements for the
Doctor of Musical Arts degree in Piano Performance.

THE UNIVERSITY OF BRITISH COLUMBIA

SCHOOL OF MUSIC

Recital Hall

Thursday, May 2, 1991

8:00 p.m.

DOCTORAL CHAMBER MUSIC RECITAL*

=====

BRANDON KONOVAL, Piano

Piano Quintet, Op.34

Johannes Brahms
(1833-1897)

Allegro non troppo

Andante, un poco Adagio

Allegro

Poco sostenuto - Allegro non troppo

Angelique Toews, violin

Susan Schaffer, violin

Barbara Fast, viola

Laura McPheeters, violoncello

- INTERMISSION -

Variations on a Theme by Paganini
for Two Pianos

Witold Lutoslawski
(b. 1913)

David Rogosin, piano

Sonata for Two Pianos and Percussion

Béla Bartók
(1881-1945)

Assai lento - Allegro molto

Lento, ma non troppo

Allegro non troppo

David Rogosin, piano

Jon Richmond, percussion

Robin Reid, percussion

* In partial fulfillment of the requirements for the Doctor of Musical Arts degree with a major in piano performance.

THE UNIVERSITY OF BRITISH COLUMBIA
SCHOOL OF MUSIC

15 April 1996

8:00 pm

Recital Hall

GRADUATE RECITAL*
BRANDON KONOVAL
piano

Partita No. 2, in C minor, BWV 826

Johann Sebastian Bach
(1685-1750)

Rain Tree Sketch II

Toru Takemitsu
(1930 -1996)

Sonata No. 7, Op. 83
Allegro
Andante caloroso
Precipitato

Sergey Prokofiev
(1891-1953)

I N T E R M I S S I O N

Intermezzo Op. 119, no. 1
Intermezzo Op. 116, no. 5
Capriccio Op. 76, no. 2

Johannes Brahms
(1833-1897)

Symphonic Études, Op. 13

Robert Schumann
(1810-1856)

* In partial fulfillment of the requirements for the
Doctor of Musical Arts degree with a major in Piano Performance.

THE UNIVERSITY OF BRITISH COLUMBIA
SCHOOL OF MUSIC

06 February 1996

Recital Hall

8:00 pm

DOCTORAL LECTURE-RECITAL*

BRANDON KONOVAL *piano*

Béla Bartók:

The Piano Sonata (1926)

* In partial fulfillment of the requirements for the
Doctor of Musical Arts degree with a major in Piano Performance.

LECTURE-RECITAL

Béla Bartók

The Piano Sonata (1926)



(Drawing by Aline Fruhaup)

Béla Bartók

The Piano Sonata (1926)

**LECTURE-RECITAL by
BRANDON KONOVAL**

Tuesday, February 6, 1996 8:00 pm

Recital Hall, The University of British Columbia

...with special thanks to

*Nathan Wilkes for assistance in preparing music examples,
Dolya Konoval for graphics,
and to David Stratkauskas for recording.*

Figure 1 (First Movement)

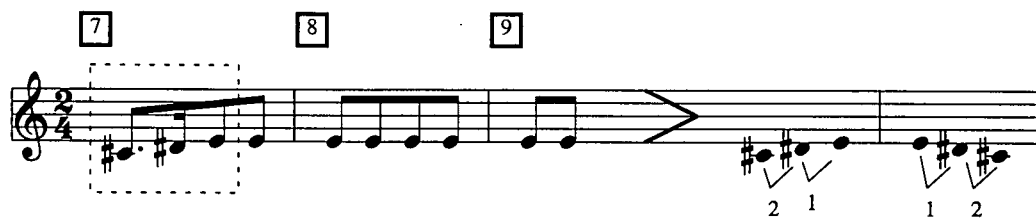


Figure 2

mm. 44 - 48



mm. 78 - 85



mm. 116 - 125



Figure 3

mm. 81 - 82



mm. 117 - 118



Figure 4

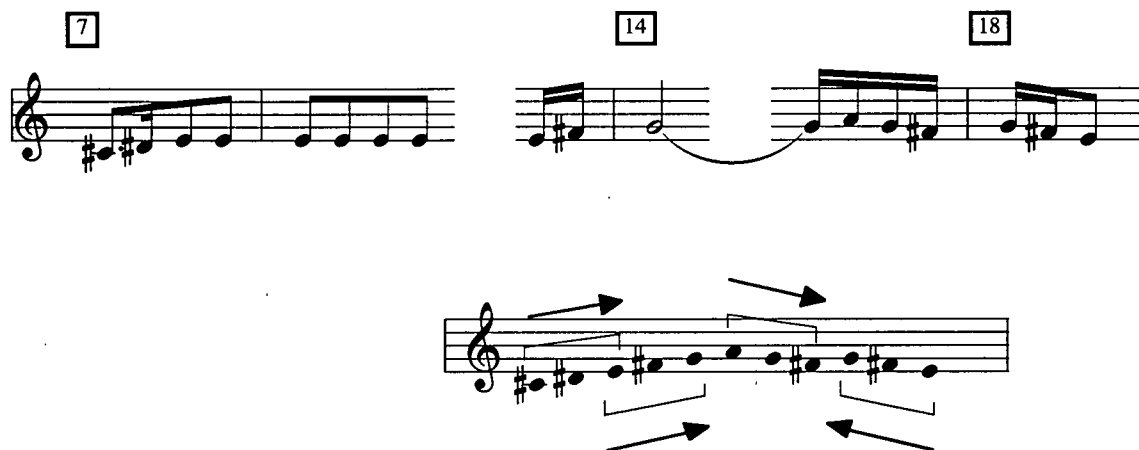


Figure 5

Octatonic Collection

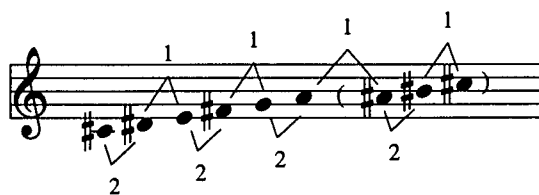


Figure 6

"Octatonic" Chords



Figure 7

44



46



New Theme:

55



Figure 8

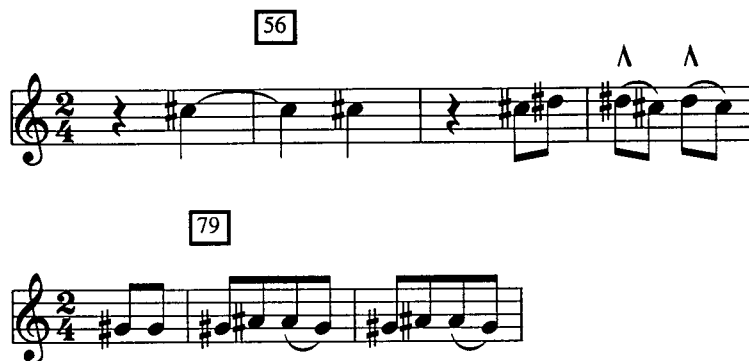


Figure 9

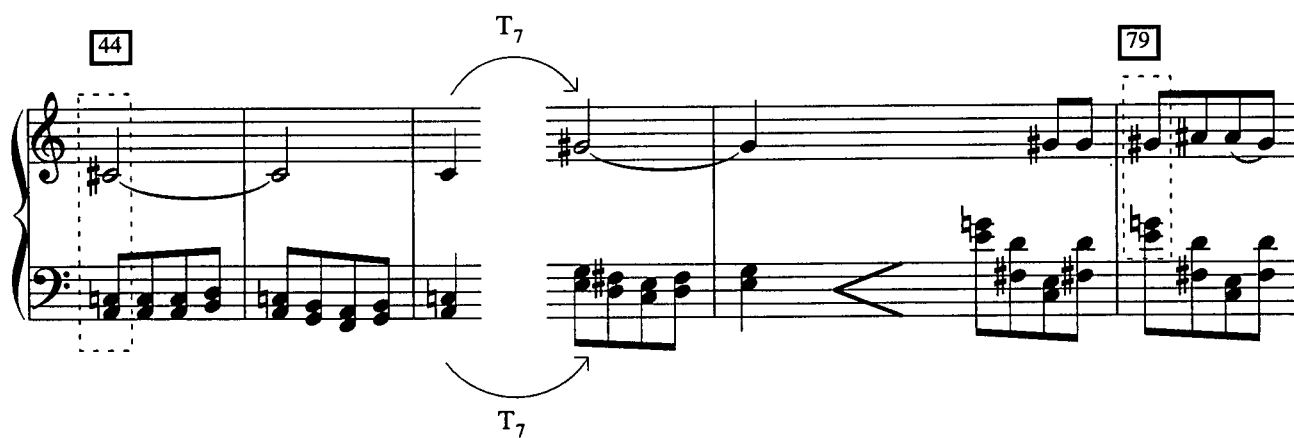


Figure 10

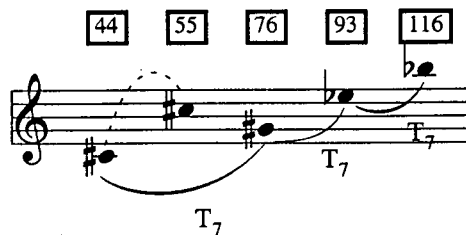


Figure 11

	Exposition		Development	Recapitulation	
Themes:	A	B	(A / B)	A	B
Keys:	I / i	V / III	? [...V]	I / i	I / i

Figure 12

Figure 12 displays a musical score for measures 26 through 29. The score is written for four staves: two treble staves and two bass staves. Measure 26 is marked with a box containing the number 26. Measure 27 is marked with a box containing the number 27. Measure 28 is marked with a box containing the number 28. Measure 29 is marked with a box containing the number 29. The music features various rhythmic patterns, including eighth and sixteenth notes, and rests. A dynamic marking of *sf* (sforzando) is present in measures 26 and 29. A 3/16 time signature change is indicated in measure 26.

Figure 13

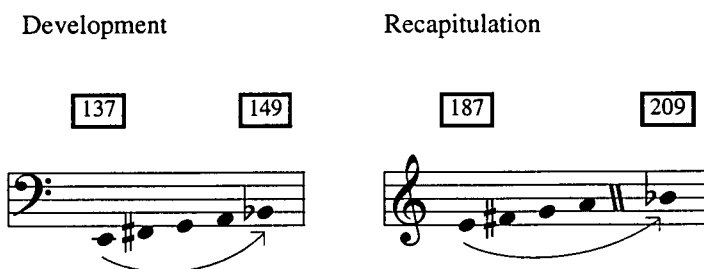
Figure 13 displays two systems of musical notation. The first system, labeled 58, consists of two staves (treble and bass clef) with complex rhythmic patterns, including many beamed notes and accents. The second system, labeled 142, also consists of two staves (treble and bass clef) with similar complex rhythmic patterns, including beamed notes and accents.

Adapted from Erno Lendvai, *The Workshop of Bartók and Kodály* (Budapest: Editio Musica Budapest, 1983), p. 209.

Figure 14

Figure 14 displays a single staff of musical notation. The staff is labeled 137, 144, and 148-9. The notation includes a series of beamed notes and a large arrow pointing to the right, indicating a continuation or a specific musical gesture.

Figure 15



Bartók: Hungarian Folk-Song Transcription

(No. 44a, *La Musique populaire des Hongrois et des peuples voisins*, 1937)



Figure 16

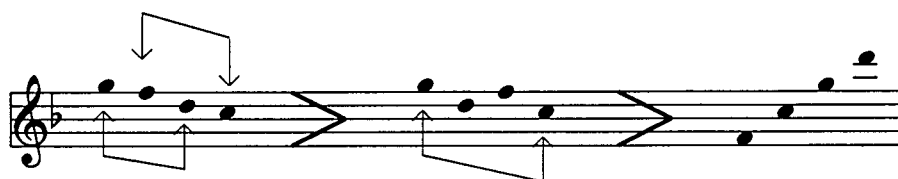
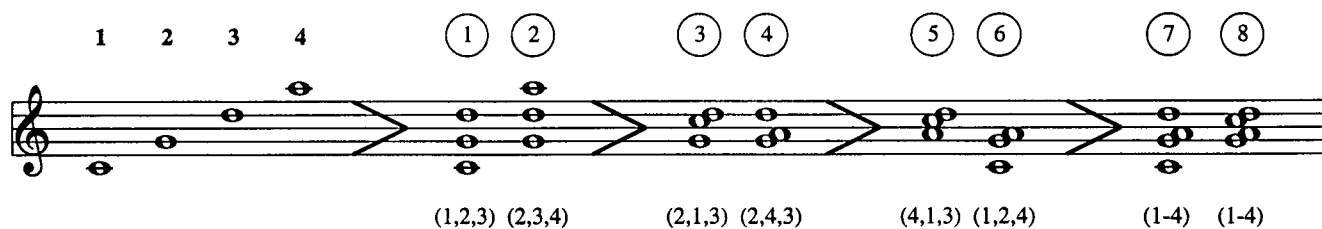


Figure 17



Bartók: Dance Suite (1923/5), IV, mm. 1 - 2

Molto tranquillo, $\text{♩} = 58 - 60$



Figure 18

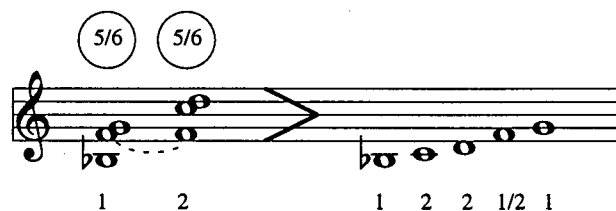
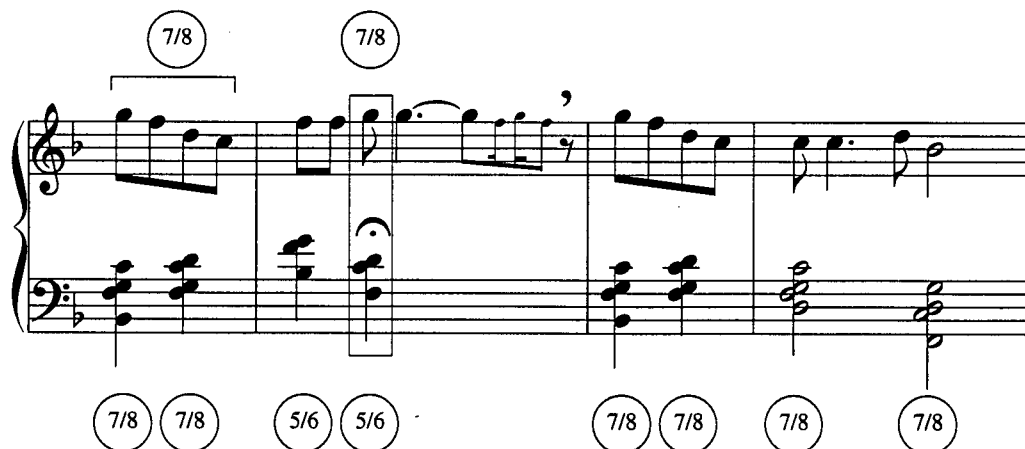


Figure 19



Bartók: Dance Suite (1923/5), IV, mm. 13 - 15

Più tranquillo, $\text{♩} = 142$

8va--

p

mf *sonore*

↑ ↑ ↑ ↑ ↑ ↑

Figure 20 (Second Movement)

mm. 30 - 36

Figure 21

[6]

[30]

[30]

[35]

Figure 22

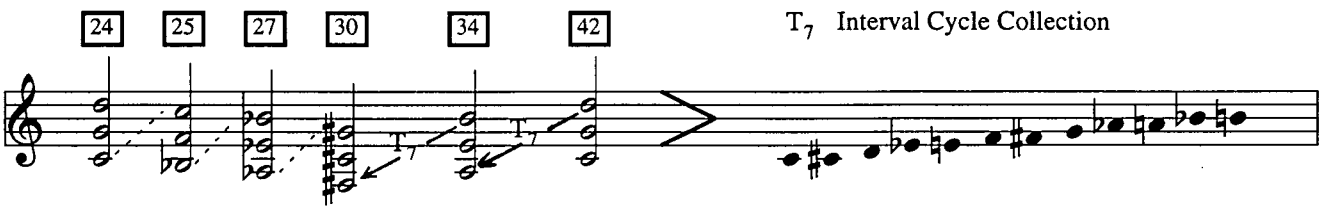


Figure 23

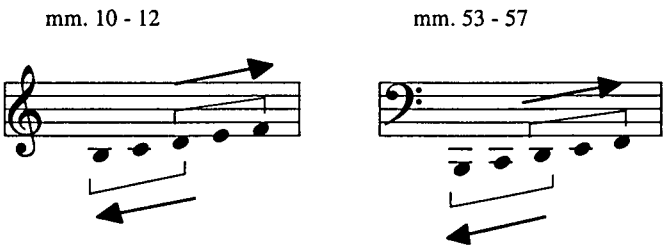


Figure 24 (Third Movement)



Figure 25

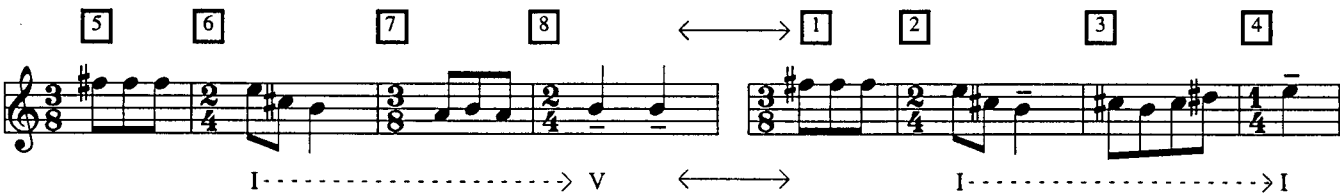


Figure 26

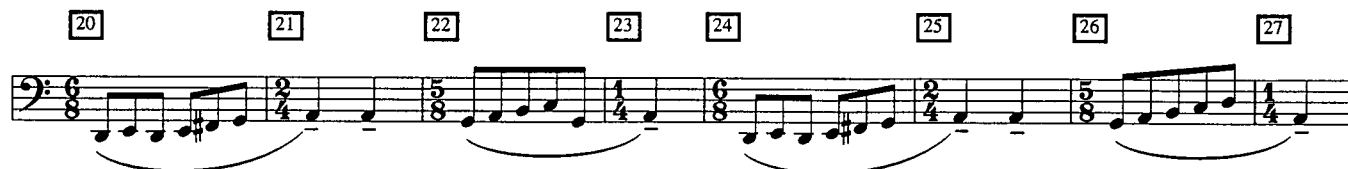


Figure 27



Figure 28

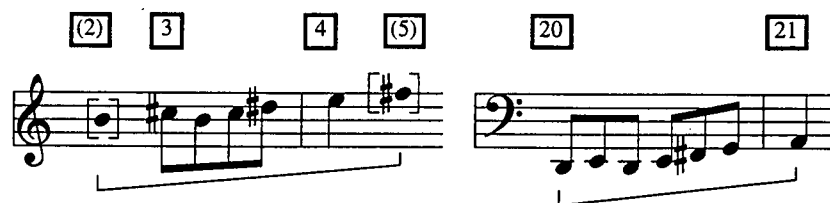


Figure 29

A: Ostinato B: Melody



Figure 30

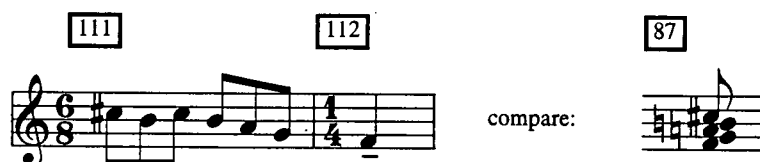


Figure 31



Figure 32



Figure 33

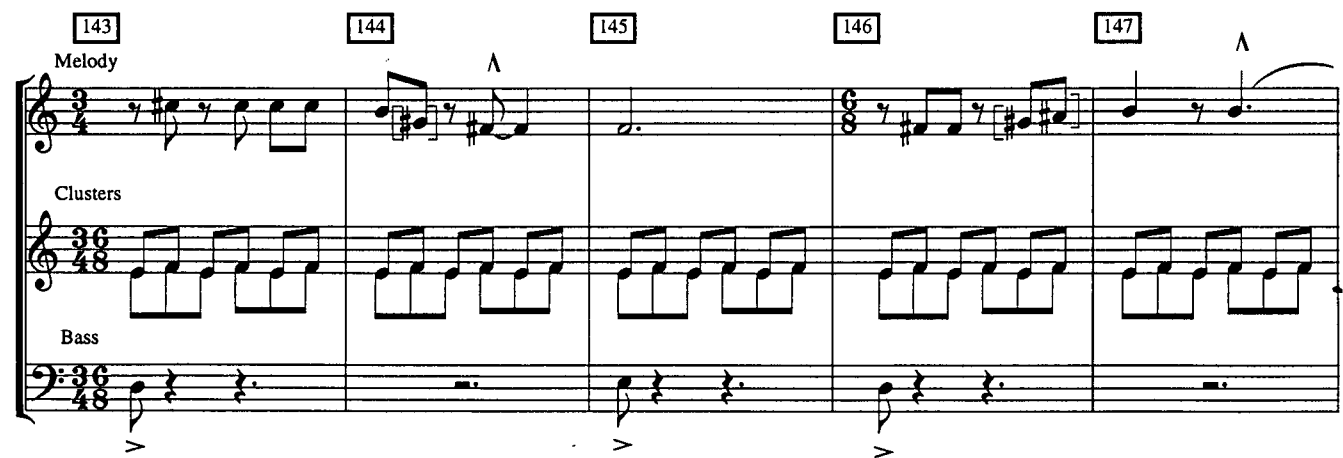


Figure 34

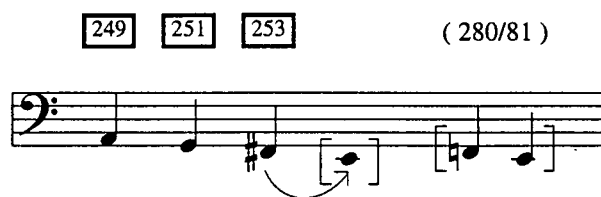


Figure 35

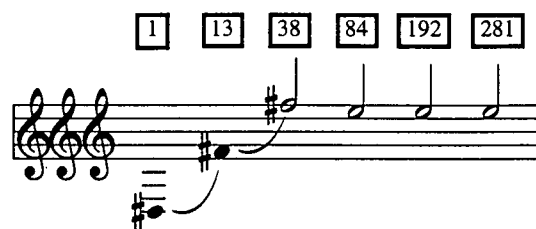
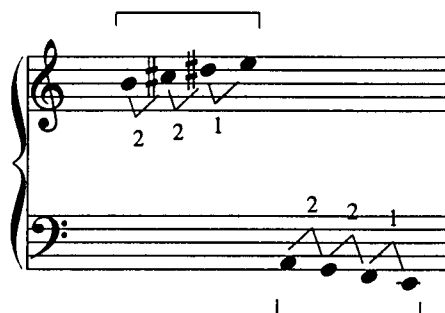


Figure 36



Schematic Representation of Third Movement

m. 1	A	Refrain
m. 20	B	Contrasting Theme (bass)
m. 53	A^{v-1}	Folk variant #1: vocal style
m. 92	A¹	Refrain (slightly varied)
m. 111	C	Developmental Theme (of A and B)
m. 143	A^{v-2}	Folk variant #2: peasant flute style
m. 157	A^{v-3}	Variant of Refrain
m. 175	B¹	Contrasting Theme (soprano)
m. 205	A^{v-4}	Folk variant #3: peasant fiddle style
m. 227	A^{v-5}	Refrain (transposed) over dominant pedal
m. 248	A²	Refrain (varied)

IV/25

Agıt - Lament

♩ = 300

1.) *Hĩ* De-da-ni-ya-n de — dö-şü ñen — — li,

Hĩ Nen-ni Boy-raz — of-lun nen — — ni;

2.) *Hĩ* Öl-dü-rür — — ler — — ga-zun si — — gi,

Hĩ Es-ki-ler — — ev — — vel-doz kel — — di.

3.) *Hĩ* y-e-ri-mi-ye-jin — — (2) e — — kin,

Hĩ İyö-kin ga — ra — — de-den ye — — kin;

4.) *Hĩ* Ağ-la-na — — ga — — ar e — — di — — yom,

Hĩ Düş-kan-la — — rın — — e-ri ga — — kin.

* A sorok végén csak rezgetés (yi yi és magasságrátöltetés nélkül). (= At the end of the lines (sections) vibration only (without yi yi and without any change affecting the pitch.)

(1) var. garrun

Cyl. n. 26 b) last

Arık (Kadirli - Adana) 20. XI, 1936

(2) öö-rü is more discernable

H.F. 3161 b) last

Adnan Torun (42)

than "üf-rü. Adn.

Turkish Lament transcribed by Béla Bartók, Nov. 20, 1936.

(Béla Bartók's Folk Music Research in Turkey, [Budapest: Akadémiai Kiadó, 1976], p. 106).



Béla Bartók 'out of doors'

Abstract

The Sonata for Piano (1926) by Béla Bartók (1881-1945) is a work of considerable significance to both performers and analysts of Bartók's music. Aside from the uniqueness of its genre amongst Bartók's mature compositions, the Sonata remains one of the most important works for solo piano of the early twentieth century. Furthermore, the Sonata has been described by the composer himself as reflective of a particularly formative stage of his creative development. Although the Sonata clearly merits close analytical attention, some measure of which it has already received, many important aspects of the compositional design of the Sonata remain unexplored. This study therefore presents in-depth analysis of a variety of structural features in each of the work's three movements.

Analysis of the first movement begins with an examination of the features which both suggest and challenge an interpretation of the movement as a parody of sonata form. The careful integration of motivic structures and thematic features are explored in some detail, from which further associations with the structure of harmonic resources are drawn. A close examination of transpositional relationships is then presented, allowing a more detailed appreciation of the parody of tonal sonata form to emerge. Analysis of the first movement concludes with attention to aspects of rhythmic structure that are integral to compositional design.

The second movement does not readily invite association with either thematic or harmonic features of a conventional tonal form. Analysis of the movement therefore begins with pragmatic observation of motivic, thematic and harmonic features that manifest an idiosyncratic compositional design. Motivic relationships are examined in detail, for they play an essential role in the structural integration of the movement. Other important aspects of pitch structure are addressed by examining structures associated with the interval-class 5 cycle and set types associated with other important features of the movement. Significant characteristics

of pulsation and meter are also discussed, followed by a consideration of deep-level structural integration to conclude analysis of the second movement.

As with the first movement, thematic relationships offer an inviting initial line of analysis for the third movement and suggest association with a conventional tonal form, the rondo. Analysis begins by exploring the relationship of the principal theme to apparent episodes, although these are largely found to be variants of the principal theme. The structure of the principal theme itself is closely examined, for it presents features that are used to integrate numerous aspects of the movement. Pitch structure is analyzed both within local contexts and in terms of thematic associations that span the entire movement. Diverse types of rhythmic activity characterize the movement, of which a representative selection is examined in detail. In conclusion, the integration of the movement as a whole is addressed both in terms of the dissolution of the final refrain of the principal theme and in terms of structural associations that transcend the sectional features of the movement.

Table of Contents

Abstract		ii
Table of Contents		iv
Preface		v
Acknowledgement		vii
Chapter One	INTRODUCTION	1
	1.1 Aspects of Chronology	2
	1.2 Bartók as Commentator	4
Chapter Two	REVIEW OF SOURCE MATERIALS	8
	2.1 Primary Sources	8
	2.2 Secondary Sources	12
Chapter Three	FIRST MOVEMENT ANALYSIS	18
	3.1 Formal Scheme	18
	3.2 Motivic Features and Thematic Relationships	33
	3.3 Aspects of Tonal Design	44
	3.4 Rhythmic Structures	58
Chapter Four	SECOND MOVEMENT ANALYSIS	65
	4.1 Aspects of Form	65
	4.2 Motivic Features	79
	4.3 Uses of the Interval-Class 5 Cycle	95
	4.4 Other Structures	106
	4.5 Pulsation and Metric Patterns	111
	4.6 Large-Scale Structures	117
Chapter Five	THIRD MOVEMENT ANALYSIS	121
	5.1 Thematic Perspectives on Form	121
	5.2 Structure of the Principal Theme	137
	5.3 Local Features of Pitch Structure	143
	5.4 Transpositional Relationships of the Principal Theme and its Variants	155
	5.5 Aspects of Rhythmic Structure	156
	5.6 Local Aspects of Closure	165
	5.7 Large-Scale Features	177
CONCLUSION		180
Bibliography		182

Preface

In a chapter from Milton Babbitt's *Words About Music* that might well have been entitled, "The Theorist as Specialist",¹ Babbitt comments on the comparatively recent appearance in American universities of the professional academic music theorist:

The notion of professional theory is almost totally new. There were virtually no professional theorists in this country [before the generation of theorists like Allen Forte], unless you count the people who took degrees at teachers' colleges by counting the number of six-four chords in the *Teutonic Sonata* of Edward McDowell (there were such theses by the way) or those people who found new labels for old chords or old labels for new chords.²

Babbitt then drolly implies that the advent of the professional theorist is a welcome deliverance from the trenches of theory and analysis ("this racket"), "because it would allow me to stop passing as a part-time theorist and go back to my full-time vocation as a part-time composer."³ Yet, for some readers, Babbitt's squib on the theorist as non-specialist begs a discomfiting question: what is one to make of the performer passing as a part-time analyst?

The Bartók Sonata for Piano has long been a source of curiosity for this author: first, as a work encountered in the concert hall; then, as a composition prepared for performance; and, more recently, as the subject of a document submitted in support of a candidacy for a D.M.A. in Piano Performance. Analytic contemplation of the Sonata has been inseparable from all of these phases of encounter, and the reader can therefore assume that the following study has been cultivated as part of an ongoing attempt simply to 'understand' the Bartók Sonata in some measure. Nevertheless, the fact that this attempt reflects the efforts of a pianist

¹ Milton Babbitt, *Words About Music* (Madison, Wisconsin: The University of Wisconsin Press, 1987). The actual title of the chapter is "Professional Theorists and their Influence"; the suggested alternative refers to Babbitt's famous article for *Hi Fidelity*, "Who Cares If You Listen?" (*Hi Fidelity*, VIII, no. 2 [February 1958]: 38-40, 126-27), a title supplied by the editor in place of Babbitt's own, "The Composer as Specialist". (See *Music in the Western World: A History in Documents*, Piero Weiss and Richard Taruskin, eds. [New York and London: Schirmer Books, A Division of Macmillan, Inc., and Collier Macmillan Publishers, 1984]: 529.)

² *Ibid.*, p. 121.

must be acknowledged: as a non-specialist in the domain of theory and analysis, the performer cannot justify parodying Babbitt with a preface entitled "Who Cares If You Read This?" (see note 1) when a more apt title might be, "The Performer as Analyst—A Relic of History".

Or would it be? Although this author has taken reasonable precautions to avoid using "old labels for new chords", some old chords have nevertheless found new labels in this study, and the enumeration of appearances of the set class (0257) just might rival the tabulations of six-four chords in the *Teutonic Sonata*. Having thereby raised his reader's suspicions, the part-time analyst might attempt to justify his immodest undertaking as a measure of occupational hazards, hazards described by Babbitt himself:

I want to talk about...this current fragmentation [of compositional style], because this pluralism has created...some of our professional problems, but above all, it has created musical problems. No one denies that it has created problems for the performer, for the listener, and for the composer. Obviously, the performer now picks up a piece and wonders, "Is this a wrong note or not?".... He wonders indeed how to make anything of this piece....⁴

In some respects, then, the twentieth century may well have provided a niche for the performer-as-part-time-analyst rather than dooming this creature to extinction (or, at least, to obsolescence). Having wondered at length how indeed to make anything of the Bartók Sonata for Piano, the present author has assembled some of the results of his inquiries for those who might share this interest. It is hoped that this gesture will not lead readers to judge it better that pianists only be heard, not seen (in print), and that the fascination with the Bartók Sonata for Piano which inspired this study can be shared.

Vancouver, June, 1996.

³ *Ibid*, p. 122. Babbitt is quoting his own "keynote (or prime set) address" to the Society For Music Theory, 1981.

⁴ Babbitt, *ibid* (Chapter Six, "The Unlikely Survival of Serious Music"), 169.

Acknowledgement

If the preparation of this study has at times been a somewhat daunting undertaking for its author, it would have seemed overwhelming without considerable support from those who cannot be adequately recognized here.

I am indebted to Dr. John Roeder for accepting a supervisory role for the creation of this document. Without his thoughtful commentary on the ideas pursued in this analysis and surpassingly generous attention to the manner in which they have been presented, this study would be far less worthy of the interest of other readers. Dr. Roeder's guidance has made this project an invaluable learning experience that ends too soon.

Dolya Konoval's assistance has extended well beyond manuscript preparation and immeasurably beyond the reasonable bounds of patience required for my text revisions. I deeply appreciate her support of this pursuit, as of so many others over so many years.

The presentation of this document has also been considerably enhanced by the graphic expertise of Nathan Wilkes, whose assistance in the preparation of figures will have saved another's eyes if not, alas, his own.

Analytic contemplation of the Bartók Sonata for Piano has been inseparable for me from my experience of the work as a performer. To Dr. Robert Silverman, I express my sincere appreciation for his support and guidance throughout the course of my graduate studies. I would also like to thank Professors Jane Coop and Robert Rogers for their participation as members of my committee.

Many other individuals have contributed to the completion of this study in immeasurable ways. I would especially like to thank my sister, Karin Konoval, for a lifetime of support and encouragement (as well as for nourishing meals during a crucial stage of writing). I would also like to thank Elizabeth Negrave and Rosie (our muse), Martin Bell, Mike Adl, James Watmough, David Holloway, David Rogosin, Eric Lund, Mike Nyenhuis,

Frank Polak, Heather Jenkins, Alan Crane, Cynthia Monroe, Andrew Johnson, Rob Wilson, Osbert Tham, Dr. Stephen Straker and the boys at the Fringe, Ernie Hamm, Tim Dejaeger and Will Koop. To quote the quodlibet from Bach's "Goldberg" Variations, "I have long been away—I'm here, I'm here!"

Chapter One

INTRODUCTION

The Bartók Sonata for Piano (1926) is from many angles a rather odd object to behold. It appears to be a solitary contribution to a familiar concert genre, the piano sonata, by a composer who did not shy away from other conventional instrumental genres, notably the string quartet and the solo concerto.¹ The creation of the Piano Sonata is associated with an abrupt increase in compositional activity devoted to piano music, an increase which corresponds with expanding concert activity by the composer:² not only the Sonata but also the *Out of Doors* suite and the First Piano Concerto were composed in 1926, leading some commentators to refer to it as Bartók's "piano year".³ Nevertheless, the piano concerto appears to have served a more favored role for Bartók as a vehicle for pianistic display, who returned twice to the genre after 1926. Furthermore, there is a much larger issue reflected in the oddness of the Piano Sonata which this study cannot begin to address—namely, Bartók's motivation to appropriate and transform structural features and aesthetic qualities of folk music into the genres of 'art' music. The more interesting question perhaps is not why Bartók failed to compose *more* piano sonatas, but rather why he chose to compose one at all.

Even if analysis can serve in some sense to render the odd more familiar, the Piano Sonata will undoubtedly retain a power to shock or mystify its audience.⁴ This 'untameability'

¹ László Somfai comments: "In view of the enormous number of piano works that Bartók composed it is surprising that he gave the title of sonata to only one of these works from his maturity. It is no accident that his only sonata, just as his first piano concerto, was a product of the classicizing and distilling year of 1926." (László Somfai, "The 'Piano Year' of 1926", in *The Bartók Companion*, Malcolm Gillies, ed., [London, Faber and Faber Limited, 1993]), 174.

² See, for example, Halsey Stevens, *The Life and Music of Béla Bartók*, rev. ed., (New York: Oxford University Press, 1964), 132; József Ujfalussy, *Béla Bartók*, trans. by Ruth Pataki, trans. rev. by Elisabeth West (Budapest: Corvina Press, 1971), 221; and Paul Griffiths, *Bartók, The Master Musicians*, Stanley Sadie, ed. (London and Melbourne: J. M. Dent and Sons Ltd., 1984), 110.

³ See, for example, László Somfai's "Analytical Notes on Bartók's Piano Year of 1926", *Studia Musicologica* 26, n1-4 (1984): 5-58, and Somfai's "The 'Piano Year' of 1926" (see note 1); see also Griffiths, *ibid*, 128.

⁴ Even as a viscerally dramatic and virtuosic concert piece, the Sonata has never approached the 'war-horse' status of other twentieth-century sonatas like the Prokofiev Seventh Sonata or the Barber Sonata. Bartók himself once commented in a letter to a concert promoter that "the piano Sonata would give the audience a

(for lack of a better word) is perhaps integral to the very compositional nature of the Sonata, a work which appears to reach as much toward a kind of primitivism in aesthetic impact as it does a neoclassicism in structural design.⁵ Commenting on the first movement of the Sonata, Paul Griffiths writes that it “is more acutely violent than the *Allegro barbaro* because it has reason, in the shape of contrapuntal artifice and sonata form, attempting to take hold of the barbarity”.⁶ It may therefore be the seemingly incongruous presence of “reason” amidst this “barbarity” which removes the Sonata from the comfortable embrace of the rational. Nevertheless, this arresting confluence of rigorous structure and atavistic declamation creates a compelling and sometimes disturbing experience for its audience, and makes the Sonata a work bristling with incongruities that dare to be examined.

1.1 Aspects of Chronology

The apparent isolation of the Piano Sonata in Bartók’s compositional oeuvre has been somewhat misleading, for the Piano Sonata (1926) is not Bartók’s first and only piano sonata but his fifth, preceded by four juvenile works for piano with the title “sonata”.⁷ The fact that

fright, so there would be no sense in putting it in the programme. But to you (and anyone else who might be interested) I would gladly play it in private....” (Letter to Ernő Südy, Jan. 20, 1934. *Béla Bartók Letters*, p. 227).

⁵ Although the use of the terms “primitivism” and “neoclassicism” is essentially descriptive here, the intent is not to be glib. These terms are exceptionally rich with respect to twentieth-century musical style and the present study cannot adumbrate such complex semantic histories. The interested reader is therefore directed toward more appropriate resources: with respect to “primitivism” and twentieth-century music (and associated terms like “atavism”, “fauvism” or “barbarism”), Glenn Watkins offers a fascinating interdisciplinary account in Chapters 3 through 8 (“The Primitive”) of his recent book, *Pyramids at the Louvre: Music, Culture, and Collage from Stravinsky to the Postmodernists* (Cambridge, Massachusetts and London, England: The Belknap Press of Harvard University Press, 1994); less venturesome, if still informative, discussion can be found in the same author’s *Soundings: Music in the Twentieth Century* (New York: Schirmer Books, A Division of Macmillan, Inc., 1988). As with “primitivism” and its cognates, the term “neoclassicism” can be found in innumerable reference works (with, some critics argue, as many meanings): Scott Messings’s *Neoclassicism in Music: From the Genesis of the Concept through the Schoenberg/Stravinsky Polemic* (Ann Arbor, Michigan: UMI Research Press, 1987) is therefore a welcome exploration of the uses of this term in early- to mid-twentieth-century music, but unfortunately does not address neoclassical aspects of Bartók’s music. Some commentary on this issue can be found in Joseph N. Straus, *Remaking the Past: Musical Modernism and the Influence of the Tonal Tradition* (Cambridge, Mass., and London, England: Harvard University Press [1990]), pp. 40-42.

⁶ Griffiths, *ibid*, p. 114.

⁷ These are: the Sonata No. 1 in g minor, Op. 1, DD32 (1894); the Sonata No. 2 in F Major, Op. 3, DD35 (1895); the Sonata No. 3 in C Major, Op. 6, DD38 (1895-lost); and the Sonata Op. 19, DD51 (1898-lost).

Bartók waited until well into his maturity as a composer before revisiting the genre suggests that the Piano Sonata reflects considerable forethought and assigns it a measure of prominence within his entire compositional output. This prominence is enhanced by the nearly three-year period of compositional inactivity which preceded the creation of the Piano Sonata and other works of the summer of 1926: as the Sonata was among the first works that the composer produced following such a lengthy period of introspection, not only pianists but students of Bartók's music in general might find good reason for closely examining it.

Bartók began work on the Piano Sonata in the summer of 1926 and announced its completion to his publisher, Universal Edition Vienna, in a letter dated September 25, 1926.⁸ The world première was given over Hungarian Radio on December 3, 1926, with the composer performing from manuscript. Five days later, the Piano Sonata was performed again at the Great Hall of the Music Academy, along with selections from the *Out of Doors* suite and Nine Little Piano Pieces.⁹

The Piano Sonata shares with the First Piano Concerto (another work from 1926) a movement plan that suggests neoclassical associations. The sequence of three separate movements, fast-slow-fast, does not reveal any characteristic Romantic influences and possibly implies an intent to explore aspects of a pre-Romantic style or aesthetic: having frequently performed the Liszt Sonata as a young man and having extolled in writing the virtues of Liszt as a composer, Bartók's choice of a decidedly un-Lisztian framework of discrete movements for his own Piano Sonata is especially noteworthy. Analysis will in fact uncover numerous structural features which suggest that, in the Piano Sonata, Bartók "invoke[s] the past in order to reinterpret it".¹⁰

This information is provided in the catalogue of Bartók's compositions found in *The New Grove Dictionary of Music and Musicians*, s.v. "Bartók, Béla", Vol. 2, pp. 222-225.

⁸ Somfai, 1993, pp. 173-174.

⁹ *Ibid.*, p. 174.

¹⁰ Joseph N. Straus, *op. cit.*, p. 1.

1.2 Bartók as Commentator

In his 1920 essay, "The Problem of the New Music", Bartók discussed the difficulty of addressing "atonal" music in terms of systematic theory:

In the consideration of atonal music it is very confusing that we have nothing to go by that is expressed in works, no 'rules' to establish satisfactory, harmonious voice-leading. Composers as well as audience, too, are dependent on their instinct in that regard. The time to establish a system in our atonal music is not at all here as yet.... This newest phase of musical development has but hardly begun, and there are too few works of this kind on which to base a theory at this time.¹¹

Bartók allowed that "some interesting although timid attempts" had already been made in Schoenberg's *Harmonielehre*, yet was not disposed to venture any such attempt himself. In fact, as is well-known, Bartók was disinclined even to teach composition¹² and shared few analytic insights into his own compositions.¹³ The impression that Bartók was somewhat given to secrecy in matters concerning his compositional technique and development—that is, beyond merely sharing some ideas for the appropriation of folk music sources—is enhanced by László Somfai's observation that Bartók routinely destroyed sketch materials early in his career.¹⁴

This is far from suggesting, of course, that Bartók entirely disavowed the presence of theoretical constructs in his compositions. The idea of 'tonality' in his music could be seen as one such construct, although one senses in his comments on the subject that Bartók's hand was at times somewhat forced by critical reception. The nature of his readership should therefore

¹¹ Béla Bartók, *Essays*, p. 457.

¹² Canadian composer Violet Archer describes composition studies with Bartók (during his final years in America) as consisting entirely of exploring possible settings of folk tunes. (Violet Archer, conversation with author, Edmonton, Alberta, 1987).

¹³ These rarely reach below the level of formal scheme (as in his 'analyses' of the fourth and fifth string quartets, and 'explanations' of the "Music for String Instruments", Sonata for Two Pianos and Percussion and the Concerto for Orchestra) or thematic interrelationships (Second Piano Concerto). See Bartók, *Essays*, Benjamin Suchoff, ed. (New York: St. Martin's Press, 1976), pp. 412-433.

¹⁴ See Somfai, 1981, p. 21.

be kept in mind to appreciate the nuances of Bartók's views on tonality, for it sometimes appears that the audience he addresses is one for whom the term 'atonality' simply means a kind of musical 'anarchy'. In the introduction to a collection of his piano works (*Béla Bartók Masterpieces for the Piano*, 1945), for example, Bartók retroactively bestowed 'tonality' on several shorter works, purportedly identifying the key of each. Having done so, however, he caustically concluded:

This information is addressed especially to those who like to pigeonhole all music they do not understand into the category of 'atonal' music.¹⁵

That is, even if some compositions display features that are not overtly reconcilable with conventional tonal practice they are not thereby lacking some form of tonal design. The polemical tone of Bartók's comments, however, does not engender much confidence in his key attributions beyond their use as a convenient, if inexact, rubric. (This is an issue which will be seen to be of particular relevance with respect to the composer's own alleged view of the 'tonality' of the Sonata). One might conclude that if a simple 'tonality/atonality' dichotomy did not suit Bartók's own descriptions of his music, it would not likely serve as a useful assumption for the analysis of it.

In the same introduction to the 1945 collection of piano works, Bartók observes of his compositional development,

...the Bagatelles [1908] inaugurate a new trend of piano writing in my career, which is consistently followed in almost all of my successive piano works, with more or less modifications....¹⁶

Amongst the works enumerated as evidence of this stylistic maturity, the Piano Sonata is cited with the rather cryptic comment, "(enlargement of the newly won means)".¹⁷ This

¹⁵ Bartók, *Essays*, p. 433.

¹⁶ Bartók, *Essays*, p. 432.

¹⁷ *Ibid.* The two other works mentioned in this context are the *Suite Op. 14* and "especially" *Mikrokosmos*.

appraisal—notwithstanding its enigmatic character—clearly suggests that Bartók held the Piano Sonata to be a significant work.¹⁸ By virtue of its stylistic maturity, one also suspects that the manifest complexity of the Sonata is associated with a high degree of structural integration: as Bartók commented in 1939,

With maturity, it seems to me, comes the wish to economize....
If I could write my first quartet [1909] again, I would not write
it the same way, naturally. Today I see in it some superfluous
material....¹⁹

Whether close analysis of the Piano Sonata would support evidence of a comprehensive theoretical system guiding Bartók's compositional technique is a problematic issue. Bartók's caveat in "The Problem of the New Music" predates the composition of the Sonata by six years, and it may be that the latter work represents at least a partial solution to the "musical and technical problems" encountered in earlier works.²⁰ Yet even long after 1926, the composer appeared to be constantly seeking new creative paths without trying to foreordain the destinations these paths might reach. Addressing students and faculty at Harvard University as part of a lecture series he delivered in 1943, Bartók commented:

By the way, the working-out of bimodality and modal chromaticism
happened subconsciously and instinctively.... I never created
theories in advance, I hated such ideas....²¹

Then, with a qualification that casts the sincerity of this statement into some doubt, Bartók continued: "This attitude does not mean that I composed without...set plans and without

¹⁸ The Sonata and the *Out of Doors Suite*, also composed in 1926 as previously noted, were also the last major compositions Bartók wrote for solo piano, with the exception of the *Mikrokosmos* series (which was also begun in 1926). In this sense they represent a culmination of Bartók's compositional developments of music for solo piano.

¹⁹ Bartók, in Petersen, 1971, p. 27.

²⁰ In the introduction discussed above, Bartók in fact describes the *Mikrokosmos* as a "synthesis of all the musical and technical problems which were treated and in some cases only partially solved in the previous piano works". *Essays*, p. 432.

²¹ Béla Bartók, *Essays*, p. 376.

sufficient control".²² Without being completely skeptical of Bartók's disavowal of pre-compositional theoretical constructs, one can at least interpret this statement as an indication that individual works were very carefully conceived and executed with respect to their intrinsic structure. Yet, no matter how carefully integrated the object of analysis may be, analytic literature devoted to the Piano Sonata still tends to make "The Problem of the New Music" appear prophetic: in lieu of the emergence of a consensus in analytic results, the Sonata might appear to represent a text subscribable to multiple readings. Nevertheless, the following study takes the composer's own description as a point of departure, to explore the "newly won means" of the Sonata in an attempt to understand both the work itself and some measure of Bartók's compositional craft.

²² *Ibid*, p. 376.

Chapter Two

REVIEW OF SOURCE MATERIALS

This chapter will present a synopsis of primary and secondary source materials. For the purposes of this study, primary sources are understood to be the printed score, manuscript versions, commentary by the composer in letters and essays, and recordings by the composer. Designating this diverse range of material as one type of source does not imply that these sources provide equivalent research information. The review of secondary literature will be limited to major sources that focus on the Bartók Piano Sonata. Any detailed evaluation of these and other secondary sources appropriate to the purposes of this study will be left for discussion in the context of analysis presented in Chapters Three, Four and Five.

2.1 Primary Sources

The edition of the Piano Sonata (1926) used for this study is the Universal Edition (8772), originally published in 1927 (copyright renewed by Boosey and Hawkes, Inc., in 1955). Although the Sonata was included in the 1945 publication *Béla Bartók Masterpieces for the Piano* it did not receive any changes, unlike other previously-published works reissued in that collection.¹ This edition has been slightly updated by Peter Bartók (Boosey and Hawkes, 1992) to include some accent marks found in a manuscript fair copy (discussed below) that are not found in the printed copy corrected by the composer.

The Universal Edition was originally prepared from a fair copy of a manuscript subsequently donated by the composer to the Hungarian National Museum in 1928 and which is currently on extended loan to the Budapest Bartók Archive.² The Archive published a manuscript which precedes the fair copy in a facsimile edition (Boosey and Hawkes, Inc.: Editio Musica Budapest, 1980) in commemoration of the centenary of Bartók's birth. This manuscript falls late in the source chain: although there are extensive revisions to the third

¹ Béla Bartók, "Introduction to *Béla Bartók Masterpieces for the Piano*", in *Essays*, pp. 432-433.

² Somfai (1981), p. 107; (1990), p. 546.

movement, changes in the first and second movements are minor and these movements appear virtually as published. László Somfai, director of the Budapest Bartók Archive, suggests that this manuscript appears to have been used as a performance copy by the composer prior to publication, and believes that the minor alterations to first and second movements (in what Somfai calls " 'soft' parts of the form"—slight changes in rhythm or registration, rather than pitch-class structure) are the result of impressions gained through performance. Somfai therefore cites this manuscript as evidence that Bartók did not rely exclusively on proportional constraints in composition (possibly a veiled criticism of Lendvai), although the near binary division of the first movement (at the end of the presentation of new thematic material, m. 134) remains a rather striking 'coincidence' (see Chapter Three, Section 3.1, "Formal Scheme").

There is an earlier manuscript (and some thematic memo sketches) of the Piano Sonata, formerly housed in the New York Bartók Archive but now in the private possession of Peter Bartók (Homosassa, Florida).⁴ While the composer's wife, Ditta Pasztory, was alive, Benjamin Suchoff was appointed trustee of the Archive and the Archive's resources were accessible to the public. Upon the death of Ditta Pasztory in 1982, ownership transferred directly to the composer's son, Peter, who did not renew Suchoff's trusteeship, and the New York Bartók Archive was consequently closed. No detailed study of the earlier Piano Sonata manuscript has been published, although both Somfai and Alison Welch have had access to it.⁵ This earlier manuscript plus other sketch materials might yield a fascinating array of

³ Somfai, *Commentary to Facsimile Edition of Bartók's Piano Sonata* (1926), 1980 (no pagination).

⁴ Somfai, "The Influence of Peasant Music on the Finale of Bartók's Piano Sonata", p. 545.

⁵ Somfai refers to this early manuscript in his commentary to the facsimile edition: "there is no question that the creative process is most clearly seen in the first draft...of the first and second movements of the Sonata." Welch (1986) has clearly seen a copy of an early Bartók sketch sent to her by Peter Bartók, identified as NYBA 55 PS1 (Welch, p. 130). Welch also refers to an "intermediate draft" (NYBA 55 P1 D1). Of both sources she writes: "Even in this early manuscript [i.e., the sketch, NYBA 55 PS1] we find that there is evidence of different compositional concerns but that the material is basically the same as that found in the intermediary draft (55 P1 D1)" (Welch, 1986, p. 130). Since the content of the "intermediary draft" is never discussed, Welch's comment conveys information on neither source. Elsewhere, attempting to prove that mm. 38-41 represent the "Golden Section" of the slow movement, Welch writes, "perhaps an earlier manuscript might indicate mm. 38-41 as a highlighted section of the movement", yet does not indicate what that manuscript might be or why she has not encountered evidence of such "highlighting" in the earlier manuscripts she has already examined (Welch, p. 106).

information regarding the composition of the first and second movements, although one could never accurately assess the proportion of Bartók's compositional processes that actually left its imprint in manuscript form.

There are two incomplete collections of Bartók's essays⁶ and a projected eight-volume Hungarian complete edition begun in 1989.⁷ This author has had access only to the Suchoff collection⁸ which offers important commentary by Bartók on his music, little of which is directed at the Piano Sonata itself. There are limitations in the use of this collection aside from its incompleteness: much of Bartók's commentary was originally written in Hungarian or German and only occasionally in French or English, and the Suchoff collection (which draws from all of these language sources) uses only English translation without providing the original text. In addition, the musical examples embedded in Bartók's text in this collection were sometimes only referred to by a vague comment of the composer: for example, referring to the superimposition of modes in the course of the second Harvard Lecture (1943), Bartók left himself a note for an example, "perhaps Sonata for Piano?", for which Suchoff selected mm. 127-137 of the final movement.⁹ For these and other reasons, László Somfai has commented, "[current] publication of Bartók's essays is in no way sufficient for the purposes of advanced study".¹⁰ As a companion to the *Essays*, Peter Petersen's book, *Die Tonalität im Instrumentalschaffen von Béla Bartók* (see Bibliography) offers a useful if small collection of quotations by Bartók concerning his music given during interviews, as well as articles published by Bartók.¹¹ Although there is some overlap with Suchoff's publication, much additional information can be gleaned from these quotations, including the interview with Harry Becker for *Musical America*, December 1927, in which Bartók describes the Piano

⁶ András Szöllösy, ed., *Bartók Béla összegyűjtött írásai*, I (Budapest, 1987); and Benjamin Suchoff, ed., *Béla Bartók Essays* (London: Faber and Faber, 1976).

⁷ Tibor Tallian, *Bartók Béla Írásai*, Vol. I (Budapest, 1989).

⁸ The Hungarian collections were found cited in Somfai, (1990), p. 536.

⁹ *Essays*, p. 368.

¹⁰ Somfai, (1990), p. 536. See also Somfai's review, "Bartók's Writings", *The Musical Times*, CXVIII (1977): 395-396. Somfai nevertheless quotes frequently from materials published in the *Essays*.

¹¹ See Petersen, pp. 15-30.

Sonata to be in "E major".¹² The collection of Bartók's correspondence (*Letters*, J. Demény, ed.—see Bibliography) yields some information about Bartók's performance dates of the Sonata and programs on which it was included. All three of the collections consulted for this study (Demény, Petersen, Suchoff) are carefully indexed.

Although Bartók left a substantial recording legacy and publicly performed the Piano Sonata several times there is, surprisingly, no recorded performance of the Sonata by the composer.¹³ This may partly be a blessing in disguise: one of the most striking characteristics of Bartók's recordings are the differences they present to the score. As László Somfai has carefully demonstrated,¹⁴ deviations in Bartók's performances may be of sufficient magnitude or consistency (where he has recorded a work several times, as in the case of "Evening in the Country") that we may be inclined to reconsider the indications of the score. Although these cases rarely include alteration of pitch structure, discrepancies may be found in performance indications (from Bartók's own notorious metronome markings, for example), in rhythmic interpretation (especially in *parlando rubato* passages) and in ostinato passages where interpolations affect proportional structure (Somfai has devoted considerable discussion to this in the case of the *Allegro Barbaro*—see note 14). Interpolations, possibly derived in a similar way from Bartók's experiences in performing the Sonata, appear to have already been notated in the manuscript of the first movement prior to publication, as mentioned above. However, even if a recorded performance of the Piano Sonata would illuminate important aspects of the composer's 'performance practice', it is unlikely that such a resource would establish any definitive changes to the pitch or proportional structure of the score: given the opportunity in 1945 (while preparing the edition, *Béla Bartók Piano Masterpieces for the Piano*), Bartók made

¹² See Petersen, p. 23. Unlike the articles in the Suchoff collection, Petersen's Bartók quotations are reproduced in the original languages (English and German).

¹³ Paul Griffiths, *Bartók*, p. 111.

¹⁴ See Somfai, "Die *Allegro Barbaro*-Aufnahme von Bartók textkritisch bewertet", in *Documenta Bartókiana*, v. 6 (Mainz: B. Schott's Söhne, and Budapest: Akadémiai Kiadó, 1981), pp. 259-75; "Über Bartók's Rubato-Stil. Vergleichende studie der zwei Aufnahmen *Abend am Lande* des Komponisten", in *Documenta Bartókiana*, v. 5 (1977), pp. 193-201; and commentary for "The Centenary edition of Bartók's Records", Hungaraton (LPX 12326-33), 1981.

slight changes in the Sketch No. 4 (mm. 37-40) and in some parts of the Second Rumanian Dance but left the Piano Sonata intact.¹⁵

2.2 Secondary Sources

The Bartók Piano Sonata has received considerable analytic attention in the past twelve years. This attention has reflected diverse research interests and correspondingly diverse analytic approaches, resulting in an extensive but diffuse body of findings. A comprehensive account of these findings would greatly exceed the length of the present study and would likely serve little purpose in view of the frequently incommensurable observations and their variable quality. Nevertheless, a brief review of some features of this body of literature is pertinent, for this analytic study was undertaken in conjunction with an extensive bibliographic survey and will at times use comments from secondary literature as points of departure for discussion.

Analytic literature on the Bartók Piano Sonata can be broadly classified into two categories: extended monographs attempting to analyze the Sonata as a 'whole', and articles or references in books which focus on a narrower range of analytic topics related to the Sonata (there is one notable exception to this dichotomy which will be discussed below). Of these two broad categories of analysis, the former is the less successful: although there are two extant theses on the Bartók Sonata, these commentaries are among the least satisfactory references available.

The sheer length of Sheila Waxman's D.M.A. thesis, "Béla Bartók's Sonata for Piano: An Analytical Study" (Boston University, 1985), at 185 pages, promises an in-depth analysis of at least some aspects of the work. However, the bibliography tellingly refers to only thirteen works, only one of which is analytic. Given this apparent lack of familiarity with contemporary analytic literature, it is not surprising that the reader is presented with what may best be described as a 'phenomenological' approach in which the author ruminates, often

¹⁵ It is evidently assumed here that, in view of the changes made to the other works, Bartók would have been able to make changes in the Piano Sonata as well, had he so desired.

measure by measure, on which pitches are to be perceived as tonal centers,¹⁶ or which keys a passage might conceivably refer to. The ingenuousness of this approach necessitates acute observation of registral shifts, textural differentiation, articulation and so on in a hopeful attempt to find 'meanings' in the complex succession of pitch events, occasionally yielding an informative result. Unfortunately, the analytic observations may also verge on the absurd—for example, the isolated sixteenth-note pitch-class E^b found in m. 29 of the first movement is claimed (without explanation) to be a "prolepsis" of the "eventual E^b tonicization at m. 93"¹⁷—resulting in a document that invites frequent skepticism from its reader.

In contrast to Waxman, the Master's thesis prepared by Allison Welch, "Approaches to Bartók's Source Materials with a Focus on the Facsimile Edition of the Piano Sonata (1926)" (University of Texas at Austin, 1985) draws upon more numerous analytic resources and offers more substantial discussion of some parts of the Sonata. Although Welch devotes approximately one-third of her thesis to literature review,¹⁸ she is clearly attempting to support the theoretical approach of her advisor, Elliot Antokoletz.¹⁹ Antokoletz is perhaps best known for his publication, *The Music of Béla Bartók: A Study of Tonality and Progression in Twentieth-century Music* (1984—see Bibliography), of which Welch writes:

This system [of analysis], foundational to Bartók's music, is all the more convincing because Antokoletz supports his analyses through the study of manuscripts.²⁰

Welch claims that the principles of analysis developed by Antokoletz are also "supported by evidence in the Facsimile Edition of the Piano Sonata".²¹ This approach begets a curious situation: as previously observed, the Facsimile Edition presents a manuscript in which the

¹⁶ For example, the B^{b1} of m. 57 of the first movement is described, without further explanation, as a "tonicization" (Waxman, p. 68).

¹⁷ Waxman, p. 43.

¹⁸ This does not include discussion of Lendvai's more recent work, *The Workshop of Bartók and Kodály* (1983—see Bibliography), in which Lendvai discusses the Piano Sonata.

¹⁹ This is true also of Antokoletz's mentor, George Perle.

²⁰ Welch, p. 127.

²¹ *Ibid.*, p. 13.

first and second movements are virtually identical with the published edition (in fact, in terms of pitch-class structure they are identical), leaving only the third movement as a potential 'empirical' test of Antokoletz's theories. Yet, the bulk of actual analysis, at 18 pages, is devoted to the *second* movement (in which there are no revisions of pitch-class structure of any kind) while the heavily revised third movement receives four pages of analytic discussion. Given the analytical premises of this thesis, 4 pages out of 138 devoted to what is essentially the topic seems somewhat skimpy.²² In addition, Welch's discussion is often difficult to follow due to a considerable number of errors and editorial oversights.²³

After these two theses, the most extensive commentary on the Bartók Sonata is to be found in Paul Wilson's *The Music of Béla Bartók* (1992—see Bibliography). Wilson's study devotes one chapter to the Piano Sonata in which he attempts to provide a general account of the pitch structure and formal design of each of the movements using pitch-class set theory and reductive analytic techniques. Wilson's generally sophisticated analyses convey considerable information in spite of the space limitations inherent in the context for his study of the Sonata. Nevertheless, such limitations place an appreciable constraint on his ability to detail motivic features and thematic relationships throughout the Sonata, as well as many important aspects of pitch structure germane to his study. In particular, Wilson's claim that each of the movements

²² To be fair, Welch devotes seven pages of discussion to revisions of "Mussettes", which was originally intended to be an episode of the third movement of the Sonata. Nevertheless, the "particular compositional technique favored by Bartók" to be demonstrated by analysis of revisions in the facsimile is "intervallic compression" (Welch, p. 5): this technique is the subject of Welch's analysis of the *second* movement, her remarks on the third movement being devoted to Bartók's change of scale materials in one passage. Perhaps the most inexplicable circumstance is Welch's failure to utilize earlier manuscripts, to which she appears to have had ready access.

²³ A sample of these includes: incorrectly identifying modes (labelling an example of the phrygian mode "dorian"—p. 45); misreading a clef (reading a passage in the bass clef instead of in the treble clef indicated in the score—p. 70); incorrectly identifying interval structure (i.c.4 described as i.c.2—p. 98); referring incorrectly to a figure ("transition" referred to as mm. 6-7 in discussion is identified as mm. 7-8 in a figure—p. 98); claiming the presence of a note not found in the score in support of analysis (unfounded claim of E^b in II, m. 41—p. 108); miscounting the number of measures of the first movement (this results in a spurious Fibonacci proportion—p. 106); reversing accidentals (B-C[#] in score becomes B[#]-C in text—p. 104); mistaking distinct set-types for the identical set-type ([012] and [014] are said to be the same "chordal structure"—p. 107); and miscounting elements of the aggregate (Welch overlooks the shortage of one pitch-class in a passage said to generate the aggregate—p. 77).

suffers from elements of "the arbitrary or the unprepared"²⁴ in an attempt to achieve structural closure—particularly in the case of the second and third movements—invites reconsideration when the Sonata is examined in greater detail.

Of the commentators who have presented analyses of aspects of the Piano Sonata in periodical literature, László Somfai has been the most prominent contributor. Somfai's considerable experience with Bartók manuscripts has yielded both a helpful guide to their study, "Manuscript versus Urtext: The Primary Sources of Bartók's Works" (1981—see Bibliography), and commentary specific to the Facsimile Edition of the Piano Sonata (Béla Bartók, *Sonata* (1926): Facsimile Edition of the Manuscript, 1980—see Bibliography). Of greatest interest, however, are Somfai's articles, "Analytical Notes on Bartók's Piano Year of 1926" (1984), "The Influence of Peasant Music on the Finale of Bartók's Piano Sonata: An Assignment for Musicological Analysis" (1993), and "The 'Piano Year' of 1926" (1993—see Bibliography). Somfai's commentaries focus on diverse issues, including aspects of motivic structure and formal design in the first movement and manuscript revisions of the third movement. Perhaps his most distinctive contribution is his unique attention to rhythmic analysis (restricted to the first movement—see Somfai, 1984): since no other source has attempted to address rhythmic structures in the Sonata, Somfai's 1984 article merits special attention.

A number of other authors provide less extensive analysis of some details of pitch structure and form. Ernő Lendvai's *The Workshop of Bartók and Kodály* (1983—see Bibliography) presents some of the most idiosyncratic and at times illuminating commentary on the first movement of the Piano Sonata. Lendvai's analytic vocabulary is so distinctive as to be somewhat isolated from other types of discourse about music, although certain features of it may be subsumed by set theory.²⁵ Lendvai nevertheless offers intriguing insight into the

²⁴ Wilson, *The Music of Béla Bartók*, p. 84.

²⁵ A glimpse of this system—the "alpha chord" model and its derivations, "omega chords" and the axis system—may be gleaned from the section on terminology, pp. 757-762.

Sonata which can be critically examined regardless of its idiosyncratic analytic precepts.²⁶

Joseph N. Straus's comments on pitch structure in the first movement of the Piano Sonata in his *Introduction to Post-tonal Theory* (1990) and *Remaking the Past: Musical Modernism and the Influence of the Tonal Tradition* (1990—see Bibliography) make no claim of comprehensive analysis yet offer sufficiently detailed analysis of some important passages to merit careful evaluation. Peter Petersen's *Die Tonalität im Instrumentalschaffen von Béla Bartók* (1971—see Bibliography) examines only the first movement of the Sonata, identifying what may be called 'controlling' (or significant) pitches with associated intervallic configurations as well as exploring some aspects of form. Petersen's approach draws particular attention to the interval content of chords, an approach which invites translation into the terms of pitch-class theory. David Burge's entire commentary on the Piano Sonata is found in three brief articles for *Contemporary Keyboard* (1978; 1988a,b—see Bibliography) and in his more recent book, *Twentieth-century Piano Music* (1990—see Bibliography), which essentially summarizes the content of the earlier articles. Burge's analytic observations are largely restricted to isolating diatonic (specifically, implied tonic-dominant) relationships in the Sonata, arguing that these occur at critical junctures in the first movement. Burge also draws attention to the "three-note motive" of the first movement but does not develop this observation in detail. In addition to the commentary presented by these sources, there are much briefer references to the Piano Sonata in a variety of books and in periodical literature: when these are of interest they will be referred to in the course of analysis presented by this study.

The preceding survey of secondary literature suggests that the interests of this analytic study are shared to some extent by a diverse field of commentators. Notwithstanding such widespread interest in the Bartók Piano Sonata, significant structural features of the work remain unexplored that will be closely examined in the following chapters. The analytic

²⁶ It is unfortunate that *The Workshop of Bartók and Kodály* offers few editorial comforts: there is no index, none of the musical examples are given measure numbers and the text itself appears largely unconcerned with a systematic presentation of ideas. This suggests that the book may have been assembled from a collection of writings not originally intended for publication as a single work.

techniques adopted by this study have been chosen and developed in response to interpretive issues raised by particular features of the Sonata: no independent theoretical system, associated either with Bartók's music or with modes of analysis in general, is exclusively deployed or defended by this study. This places the analytic approach of this study at odds with that of Lendvai and of Welch, whose results suggest a highly restricted analytic perspective that is ill-suited to the diverse means of structural integration found in the Sonata. The flexibility of pitch-class theory, on the other hand, is especially helpful in articulating idiosyncratic structural associations:²⁷ this study therefore shares the interest of Straus and Wilson in the information availed by the selective application of pitch-class theory. Furthermore, the exploration of tonal parody in post-tonal idioms that is characteristic of the analyses of Straus and Wilson (and, to a much lesser extent, Burge) is a concern of this study as well, although the means by which such parodies are constructed will often be portrayed much differently in the following discussion.

This study also shares the interest of Somfai in the analysis of rhythmic structures in the Sonata, but both evaluates Somfai's results and extends this interest into regions of the work not explored by his commentary. The integration of aspects of rhythm and pitch structure will also be pursued in greater detail, with the understanding that an appreciation of Bartók's music that overlooks such integration may also overlook critical features of structural articulation. It is hoped, finally, that these means of analysis and the manner in which they are directed will result in a more comprehensive analytic appreciation of the Bartók Sonata for Piano than is currently available in secondary literature.

²⁷ This especially seems to be the case in the frequent set-class associations that inhere between melodic and chordal structures in Bartók's music. These associations may partly be the result of Bartók's methods of adapting folk idioms to create non-idiomatic structures: this issue will be explored to some extent in Chapter Four, Section 4.3, "Uses of the Interval-Class 5 Cycle". Straus likens this process to "the Schoenbergian structural principle of a motivically determined integration of musical space" (Straus, *Remaking the Past*, p. 41).

Chapter Three

FIRST MOVEMENT ANALYSIS

Analysis of the first movement will begin with an examination of the features which both suggest and challenge an interpretation of the movement as a parody of sonata form (Section 3.1, "Formal Scheme"). The careful integration of motivic structures and thematic features will be explored in some detail, from which further associations with the structure of harmonic resources will be drawn (Section 3.2, "Motivic Features and Thematic Relationships"). A close examination of transpositional relationships will then be presented, allowing a more detailed appreciation of the parody of tonal sonata form to emerge (Section 3.3, "Aspects of Tonal Design"). Analysis of the first movement will conclude with attention to aspects of rhythmic structure that are integral to compositional design (Section 3.4, "Rhythmic Structures").

3.1 Formal Scheme

Perhaps the first question to arise in an examination of the Piano Sonata as a whole is, "in what sense (or senses) is this work a 'sonata'?" for in choosing such a title the composer acknowledges some intent to address the history and associated meanings of the term. Chapter One observed that pragmatic features suggest conformance to a traditional genre—a solo instrumental work which alternates movements in a fast-slow-fast sequence. Furthermore, secondary literature generally concurs (where such an opinion is expressed) that the first movement is in "sonata form", and the last in a form of "rondo", a pattern also typical of the normative Classical sonata. However, secondary literature lacks consensus in specifying the criteria which manifest "sonata form" in the first movement. This is an issue of potentially great significance to further analysis, especially if the composer is understood to be parodying the tonal structure of sonata form.

A number of themes emerge throughout the first half of the movement, suggesting the possible presentation of principal and secondary themes, but no transparent parody of a sonata form exposition can be detected from their transpositional relationships. Thematic contrast is not pronounced—all themes have a relatively insistent character—but it can still be readily appreciated in rhythmic features, namely a subdivision into sixteenth notes in the first thematic area and eighths in subsequent themes.¹ (These relationships will be discussed in detail in Sections 3.2, “Motivic Features and Thematic Relationships”, and 3.3, “Aspects of Tonal Design”). However, there are suggestions of pitch-centricity and chord preference near the beginning of the movement from which subsequent transpositions can be oriented. An apparent introductory passage of six measures begins the movement with a short motive and establishes an ostinato of alternating chords, following which an extended theme gradually takes shape (mm. 7-35).² This first or principal theme, comprised of relatively simple motivic components, initially emphasizes the pitch-class E through extended repetitions (mm. 7-13), then momentarily rises to G (mm. 14-17) before falling back to repetitions of E (mm. 18-20). Synchronized with this melodic contour, E-G-E, is a similar movement away from and then back to the alternating chords established in the introductory passage. At m. 14, where the melody rises to G, a new chordal ostinato is begun that lasts until the melody returns to E, which the ostinato quickly follows with a return to its original chord sequence. The clear terracing of musical activity in mm. 1-20 therefore provides a strong local sense of structural hierarchy—that is, a sense that the pitch structures, however unfamiliar, have a ‘here’ and ‘there’.

In the melody of the first thematic area, both repetition and contour stress the importance of the pitch-class E. This perception is reinforced by the chordal ostinato that accompanies the melody with its use of E major chords (in root position) on strong beats in

¹ Wilson (1995) makes a similar observation (p. 57).

² The boundaries of this “theme” are not conveniently defined: mm. 1-35 present a more-or-less ongoing development of motivic elements. The improvisatory character and structural features of this passage will therefore be discussed in greater detail later in this chapter.

close association with the melodic emphasis on E. Diatonic features are extremely inconsistent in mm. 1-30, yet a sense of tonal focus is conveyed nonetheless through the association of structural processes detailed above. A foundation for the parody of a tonal form has therefore been established but the manner in which the parody is extended beyond this foundation is problematic. The ending of the movement, for example, lands forcefully on the pitch E⁵, but this arrival is not accompanied by any of the chords that were strongly associated with the pitch-class E in mm. 1-20: if there is a parody of sonata form in the movement that associates thematic features with some form of tonal design, the parody is evidently a subtle one. Thematic recurrence and development should in any event provide important clues to the delineation of form, especially if they behave in ways which recall thematic processes characteristic of sonata form.

All sources but Lendvai agree that there is a development section in the movement. The most favoured location for the beginning of the development section is immediately after the end of the presentation of new thematic material, at m. 135, without the cadential material one would expect from a typical classical model. In this interpretation of form the movement can be said to have a large binary division in terms of measure numbers since the total number of measures of the exposition (134) is equal to the remainder, the development plus recapitulation (134 measures).³ Perhaps this proportion was the composer's intended parody of a binary form, which some theorists hold to be a possible origin of sonata form.⁴ (No repeat signs,

³ The proportion of beats is not as exact—547 up to the end of m. 134, 551 to the end of the movement—but approximates binary division. László Somfai reports a study of recently discovered sketches which, he says, “supports the view of a 134-bar-long exposition”, although he does not describe *how* the sketches support this view (“The Piano Year of 1926”, p. 184, n. 4).

⁴ See Charles Rosen's fuller discussion in *Sonata Forms*, rev. ed., (New York and London: W.W. Norton and Company, 1988), pp. 16-27. For an alternative viewpoint, see Wallace Berry, *Form in Music*, second edition, (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1986), pp. 48-49. Bartók's exposure to earlier keyboard music would be a likely influence in this respect. László Somfai details some of this exposure in the time period preceding the composition of the Piano Sonata: “From the beginning of the 1920s Bartók had regularly played sonatas by Domenico Scarlatti and was studying the works of Couperin. In the summer of 1926...he also learned several pieces of pre-Classical keyboard music—a fresh experience for him. On 15 October and 10 November 1926 he performed sonatas, toccatas and polyphonic pieces by Michelangelo Rossi, Bernardo Pasquini, Azzolino Bernardino della Ciaia, Benedetto Marcello and Domenico Zipoli over Budapest Radio.” (Somfai, “The Piano Year of 1926”, pp. 186-187).

however, clarify this possibility). Nevertheless, the relatively extended length of the exposition resulting from this partition is a striking proportional feature.

The location of the end of the development section (or the initiation of the recapitulation) has several intriguing alternatives, depending on the analysis. Most sources agree that the return of early thematic material at T_0 in m. 187 is sufficient indication of the arrival of the recapitulation. To this David Burge adds that the pitch B^2 which initiates m. 186 (that is, the measure immediately prior to the recapitulation) is in effect a "dominant" preparation of the recapitulation.⁹ Given this interpretation it would be logical to suggest that the preceding passages, mm. 176-179 and 180-186, 'hint' at recapitulation with the upper voice recalling early thematic material in an 'incorrect' transposition:

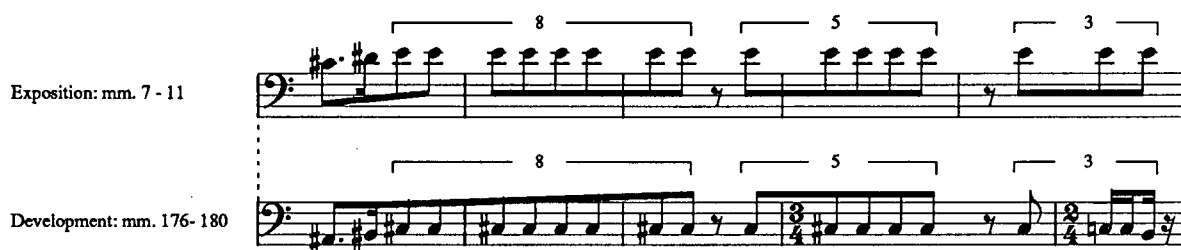


Figure 3.1.1

The figure demonstrates that the 'hint' of recapitulation is emphasized not only by pitch structure but by rhythmic structure as well: as in the principal theme (mm. 7-11), mm. 176-180 also make use of a Fibonacci sequence (8+5+3) in the rhythmic grouping of repeated notes (which prevail in spite of changes in notated meter). This part of the texture of mm. 176-180 could perhaps be construed as a parody of false recapitulation, although the lower part of the texture seems to linger on preceding material of the development section. (This reference to earlier material will be discussed in detail as part of Section 3.2, "Motivic Features and Thematic Relationships"). Bartók appears to be gradually 'phasing out' the

⁹Burge, "Bartók's Sonata for Piano" (1988), p. 104. This illustrates Burge's view that Bartók's "goal [was] to extract the essence of the early sonata procedure", which Burge details as the implication of "functional dominant-tonic structures" (*ibid.*).

development section by reducing it to one half of a contrapuntal texture (the lower half) while, with the other, he is 'phasing in' the recapitulation.

The retransition requires two attempts: the first is disrupted at mm. 180-181 by the three-sixteenth-note motive (intervallically and rhythmically narrowed) with which the development began (only the upper part is shown):



Figure 3.1.2

(Notice the registral ascent and use of octaves in both passages.) This interruption occurs precisely in the register where the recapitulation has been attempting to assert itself, temporarily displacing it. The next 'attempt at recapitulation' (mm. 182-185) has alterations in both strata of the texture: instead of being interrupted by rests, the upper part becomes a constant stream of eighth notes (as did the lower part of the previous 'attempt', mm. 176-179). The lower part, in contrast, allows considerable interruption—with a curious eighth-rest break in the rhythmic pattern at m. 184 that in effect emphasizes the pitch-class C^\sharp of the upper part on the downbeat of the measure—and enharmonically reinterprets pitch material from mm. 172-179 (F and A become E^\sharp and G^\flat).⁶ The final 'interruption' occurs with a sequence of successive transpositions by interval-class 1 of the $A^\sharp-B^\sharp-C^\sharp$ motive in a low register (formerly occupied

⁶ The use of enharmonic reinterpretation in mm. 182-185 suggests that pitch-class elements of the pattern in thirds of the left hand, mm. 176-179, are now being associated with some other collection, possibly 'in harmony' with the right-hand melody. The idea of a contrapuntal layering of different modal collections (which Bartók referred to as "polymodality"—see *Essays*, pp. 367-368 and 370-371) is suggested by the apparent reversal of the right- and left-hand collections in mm. 180-181: the right hand uses C^\flat instead of B^\sharp and the pitch-class B, which was not found in its part in mm. 176-179; the left hand plays F^\sharp -major chords, with no pitch-classes in common with the thirds of mm. 176-179.

by the recalcitrant development material) until the 'correct' transposition is reached in the correct register, initiating the recapitulation:

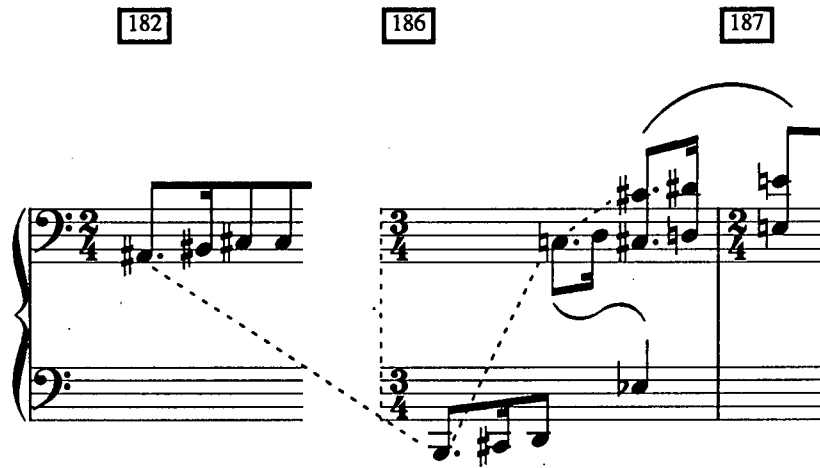


Figure 3.1.3

(This passage will be further discussed in the context of tonal design, where a functional interpretation of motivic association and transposition is considered). The dramatic effect and structural features of this registral interplay become incongruous if the initiation of the recapitulation is located elsewhere.

The principal theme makes a recognizable reappearance at T_0 beginning in m. 186, but this is clearly not an exact recurrence. The melody quickly moves on from its arrival at the pitch-class E to an emphasis on G, as if the theme were encountered *in media res*. Although the melodic contour does return to an emphasis on E (mm. 191-193), it soon rises to emphasize G once more (m. 194), creating a pattern of pitch-class emphasis that tends to reverse the relationship between E and G found at the beginning of the movement: structurally, the melody seems to be 'moving ahead', restless to get away from the centrality formerly associated with the pitch-class E. This is also suggested by the accompanying harmony: the E-major chords of mm. 2-20 are nowhere to be found in mm. 187-196, even when the melody returns to an emphasis of E. The chords that *are* used throughout mm. 187-196 are those that conveyed a sense of harmonic motion at the beginning of the movement (mm. 14-18). Unlike

the melody, the harmony makes no pretense of returning to its point of origin, with the result that the recapitulation of the principal theme sounds anything but formulaic or structurally static.

Some commentators appear to be concerned about the significant deletion of secondary thematic material from the recapitulation if this section is said to begin at m. 187: only one secondary theme appears thereafter, in m. 211. These commentators place the recapitulation much earlier, in effect 'catching' more of this thematic material within the recapitulation at the expense of the development section (or, in the case presented by Lendvai, completely at its expense). The absence of any secondary thematic material transposed to 'E' (that is, reflecting the centricity of this pitch-class in the manner of the principal theme) fails to provide in itself a clear means of determining the location of the recapitulation: without such an unambiguous parody of the normative transpositional relationships of secondary themes found in a tonal sonata form, *any* transposition of such themes (with the likely exception of T_0) could be taken to be a possible indication of 'recapitulation'. Therefore, the analyst must at least assess the appearance of thematic integrity at any such recurrence—that is, whether there is an appreciable degree of resemblance to the first appearance of the theme in the movement, apart from its transpositional level.

Petersen argues that the recapitulation begins with what he calls "the second theme", first stated in the exposition, mm. 44-55 and 'recapitulated' at T_5 in mm. 155-175.⁷ The fact that this passage then varies and extends this material for approximately twice the duration of the first statement (21 measures in the "recapitulation" versus 11 measures in the exposition) is not addressed. More importantly, the sequence of transpositions of this thematic material downwards by interval-class 5 (at mm. 161, 163 and 165) places the thematic material alternately at the new transpositional level, emphasizing the pitch-class F^\sharp , and at the original

⁷ Petersen, *Die Tonalität im Instrumentalschaffen von Béla Bartók*, p. 160. Not surprisingly, Petersen offers no account of mm. 176-186: in his scheme of thematic groups (p. 160) mm. 176-186 is left conspicuously blank. To be fair, detailed observations of such a passage would exceed the intended depth of Petersen's survey of Bartók's music, although it obviously detracts from the depth of this analysis.

transpositional level, emphasizing C[#]: that is, the transpositional level of the first appearance of this thematic material at m. 44 (in the exposition) is given equivalent prominence in this passage. Aside from the transpositional instability of this passage, the prominent (if disjunct) use of the original transpositional level does not alone suggest the behaviour of a secondary theme in the recapitulation of a tonal sonata form. Could one instead call such transpositions and melodic elaborations a 'development' of the theme? Part of the answer may lie in the syntactical function which is attached to the transposition of secondary themes in a post-tonal sonata form: that is, should the recapitulation be said to occur only when 'essential' secondary thematic material is, in some sense, transposed into the 'tonic'? If not, then what formal purpose does secondary thematic material serve, and how could one distinguish the concept of recapitulation from simple thematic recurrence?

One possible response to these considerations is to simply decide that a recurrence of secondary thematic material with a reasonable degree of coherence (for example, not presented in disjunct fragments) is sufficient evidence of recapitulation. To this end, Petersen divides the exposition into three thematic "complexes":

Complex A: mm. 13 - 35

Complex B: mm. 44 - 75

Complex C: mm. 76 - 134

These three complexes are then recapitulated in permuted order:

Complex B: mm. 155 - 175

Complex A: mm. 187 - 208

Complex C: mm. 221 [211?]^{*} - 222

There are several objections to these complexes. Foremost, perhaps, is simple aural impression: the abrupt transpositional shifts of mm. 155-175 (each signalled by *sforzati* F[#]s

^{*} This is an apparent typographical error in Petersen.

and C[#]) suggests neither tonal nor registral stability, some semblance of which would convey a sense of recapitulation. The contour of the entire passage suggests descent from a point of climax in the development section (the octave F^{#4}-F^{#5} at the end of m. 154) to the C^{#3} (m. 172) which precedes the passage of registral conflict discussed above (mm. 176-186). The result of this descent is a registral dissonance between the locations of thematic material at either registral extreme, with the intervening tonal space calibrated by descending transpositions at interval-class 5. This process of registral descent also suggests an added dimension to the two 'interruptions' which articulate mm. 176-186: in the first, mm. 180-181, a *forte* outburst attempts to dominate all registers, climbing rapidly back to the high register from which the large-scale descent was begun in m. 155. In the second interruption, m. 186, the motive associated with the principal theme is allowed to prevail, growing in dynamics and registral location from the level associated with the denouement of the development section until the register and dynamic level of the principal theme is regained.⁹ These striking registral processes undermine an interpretation of mm. 155-175 as a recapitulation of Petersen's Complex B. Rather, the interplay of registrally disruptive events which precedes the return of Petersen's "Complex A" creates large-scale articulation of the return of the first theme, which restores what passes for 'stability' in this movement of tonality, register and dynamic level. It is difficult to hear this dramatically prepared event in m. 187 as merely a secondary stage of recapitulation.

If we find that Petersen's premature recapitulation tends to obscure the detail of mm. 155-186, we may still value the attention he draws to the thematic recurrence at m. 155. It has been remarked that the large-scale descent is articulated by successive transposition of thematic material, each stratum initiated by a kind of 'signal pitch', either a *sforzato* F[#] or C[#] or a combination of both. Their combination occurs in a unique register; after C^{#4} and F^{#4} are

⁹ Perhaps the anticipation of the recapitulation in mm. 176-179 and 182-184 seems somewhat threatening in character because the *piano* dynamic level in which it mysteriously reappears is so incongruous: it is as if there is a conflict between the true, *forte* 'nature' of this motive and the guise it assumes at m. 176. This would appear to be further evidence against the recapitulation occurring earlier than at m. 187.

stated simultaneously (mm. 164-170), the use of F^\sharp as a 'signal pitch' is excluded from further descent:



Figure 3.1.4

The impression of terracing is created by the association of thematic material specific to each signal pitch (the thematic material is indicated in the example only by the upper part of the thirds-texture):

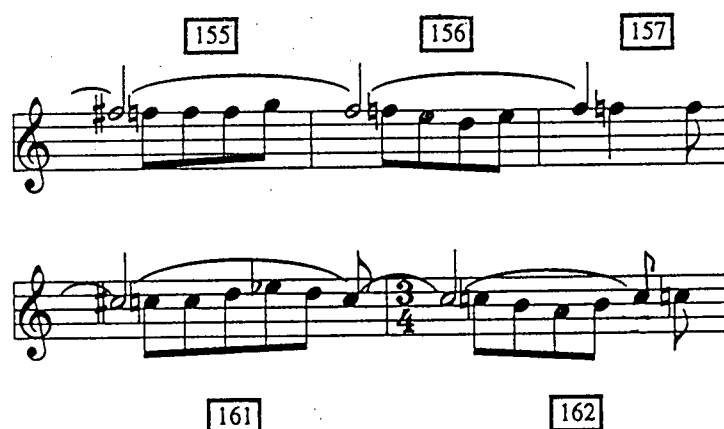


Figure 3.1.5

It has already been observed that the transpositional level of parts of this descent—specifically, those passages associated with the $C^\sharp5$ and $C^\sharp4$ signal tones, mm. 161-162 and m. 171, and the $C^\sharp4$ - $F^\sharp4$ paired signal tones, mm. 165-170—corresponds with that of the first appearance of the theme in m. 44. Furthermore, in the large-scale descent of the development section only two

F[#]s are used, F^{#4} and F^{#5}. These are registrally identical to those found in the exposition associated with the first statement of this theme. The developmental features of mm. 155-171 not only recall aspects of earlier thematic presentation but eventually draw a careful registral association: this association suggests moving backward in time, effectually moving the thematic references closer to the beginning of the movement and preparing for the return of the principal theme. The contrapuntal layering of thematic references in mm. 176-179 therefore reflects an intermediary stage of this return, where the reference to the earliest secondary theme has not yet given way to the return of the principal theme.

Although there is a marked change in thematic reference in the development section at m. 155 to the earliest secondary theme, mm. 155-171 do not proceed as an entirely discrete structural entity.¹⁰ Some measure of continuity between the first and latter parts of the development section is observed in the registral locations of the pitch-class F[#]. F^{#4} and F^{#5} are stated as a simultaneity at the end of m. 154, immediately preceding Petersen's recapitulation. This simultaneity (along with D¹) seems to be the climactic point of the entire preceding developmental material (mm. 135-155), from which the large-scale descent unfolds. The F^{#4}-F^{#5} octave of m. 155 is already prepared by the fixation of F^{#4} on the last beat of m. 145; after the climax of m. 154, F^{#4} is not stated alone again until m. 162, preceded by the identical tetrachord anacrusis, C-D-E-F (in sixty-fourth notes). The descent, F^{#5}-C^{#5}-F^{#4} of mm. 155-162 partitions the F^{#4}-F^{#5} octave of m. 154 through C^{#4}. In combination with the initial fixation of F^{#4} in m. 145, therefore, mm. 145-164 suggest a prolongation of the pitch-class F[#] (the prolongation is literal until m. 160):

¹⁰ This discussion of continuity is not intended to obscure the obvious partition of the development at mm. 154-155 noted above. Among the strongest indications of 'development' is the reversal of the E²-D² alternation of mm. 2-13 of the principal thematic area in mm. 150-154: the reversed sequence, D²-E², lands emphatically on D¹ at the end of m. 154, emphasizing the reversal of order (and, perhaps, of the tonal primacy of the pitch-classes involved).

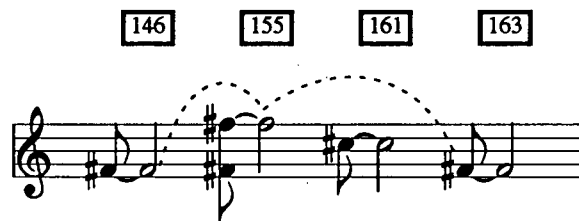


Figure 3.1.6

$F^{\#4}$ is then held in combination with $C^{\#4}$ from m. 164 (last beat) through m. 170 (penultimate beat), following which there is an octave transfer from $C^{\#4}$ down to $C^{\#3}$. This registral shift downwards is not reversed until the arrival of the principal-theme motive in m. 186 which (in the correct register) initiates what this study observes as the true recapitulation. In sum, the unfolding of registral shifts of the pitch classes $F^{\#}$ and $C^{\#}$ in mm. 145-186 delineate a symmetrical contour:

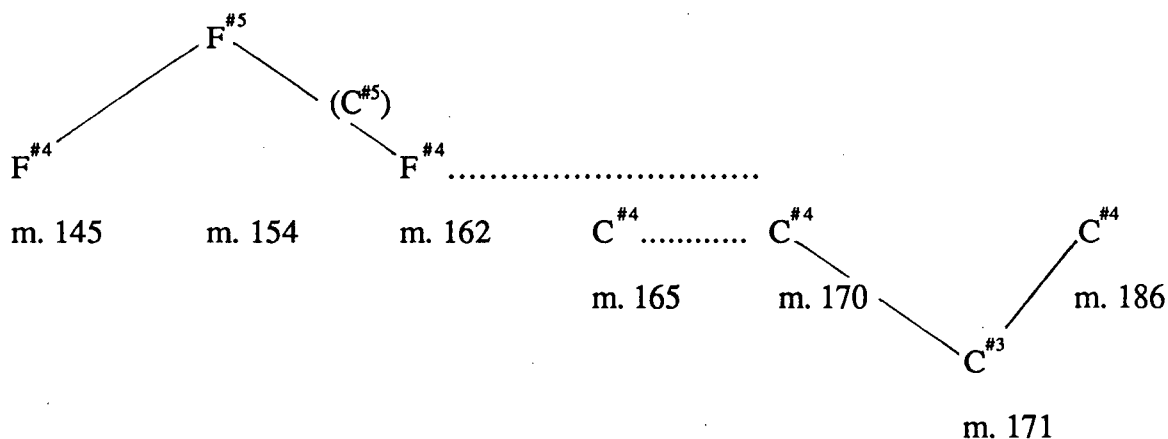


Figure 3.1.7

Given this sequence of events, it would seem misguided to divorce the events of mm. 155-186 from the development section proper. It seems reasonable to suggest that Bartók found more effective uses for a secondary theme deployed in the development section than it might have served in the recapitulation: it is an essential structural component of much of the development section and serves to gradually return to the principal thematic area for the exposition.

The gradual reversal of thematic references with which Bartók effects a retransition has yet one more important detail. Lying in between the principal theme and the secondary theme

first heard in the exposition is a passage, mm. 38-43, in which chords recall the opening harmony of the movement, mm. 2-13; these chords are notably absent from the recapitulation. Situated above these chords in mm. 38-43 is a line which shares pitch content, rhythmic features and registral location with the upper part of mm. 176-185, the passage which this study suggests to be a foreshadowing of the recapitulation. If one were to consider the passage mm. 7-37 as constitutive of the first theme plus a retransition to an area of secondary thematic material, Bartók may be seen to reverse this sequence of thematic events in the retransition from development section to recapitulation:

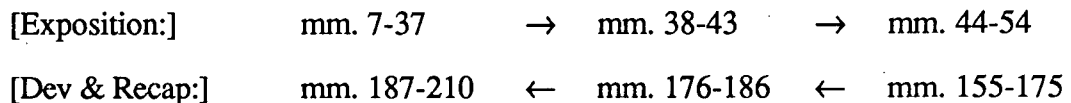


Figure 3.1.8

(Arrows indicate the sequence of events in the movement.) The deletion of the chords of mm. 38-43 from 176-186 is perhaps easily explained. The textural interplay of thematic references with which the development section is 'phased out' and the recapitulation foreshadowed would not be possible otherwise: the original chords are replaced by secondary thematic material, namely the use of parallel thirds in the low register. Furthermore, if in mm. 176-186 the lower part of the texture may be said to recall preceding material, the same may be said of mm. 38-43.¹¹

Where Petersen's conception of formal divisions in the first movement seems to restrict the development section to an almost absurdly short duration (20 measures out of 268), Lendvai's location of the recapitulation is perhaps the *reductio ad absurdum*. Lendvai is also keenly aware of the absence of several secondary themes following the recapitulation of the first thematic area. He almost agrees with Petersen's formulation, yet would point out a further

¹¹ Although the 'harmony' underlying mm. 38-43 is absent from mm. 176-186, the sequence of the lowest pitches, E²-D², is prominently isolated in the lowest register of mm. 150-154 of the development section.

deletion of secondary thematic material (which Petersen simply refers to as a "Nachsatz"¹²), the rather striking passage of mm. 55-67 which seems to vanish forever after one statement in the exposition. Or does it? The 'real' recapitulation, argues Lendvai, actually *begins* with this theme, in m. 135:

Exposition

58

Development

142

Figure 3.1.9 Adapted from Erno Lendvai, *The Workshop of Bartók and Kodály* (Budapest: Editio Musica Budapest, 1983), p. 209.

That is, there really *is* no development section at all, just recapitulation from m. 135 to the end. Bartók's 'sonata form' is actually "an exact *bridge-form*":¹³

¹² Petersen, p. 158.

¹³ Lendvai, *The Workshop of Bartók and Kodály*, p. 209.

Principal theme	m. 1
Secondary theme I	m. 44
Secondary theme II	m. 55
CENTRAL THEME	m. 76
Secondary theme II	m. 135
Secondary theme I	m. 155
Principal theme	m. 176

The symmetrical beauty of this scheme loses some of its lustre when the reader notices that the "CENTRAL THEME" is not proportionally central and also recurs prominently at m. 211—details Lendvai neglects to include in his illustration or to discuss. Lendvai's scheme also invites the same type of criticism as Petersen's since much significant compositional detail is simply ignored. The passage, mm. 176-186, for example, has already been discussed in connection with Petersen's analysis and the same criticisms apply equally to Lendvai; however, Lendvai's lumping of mm. 176-186 with the "Principal theme" is perhaps even less attentive to compositional nuance since mm. 176-185 contain prominent references to Lendvai's "Secondary theme I".

While Lendvai's perception of the analogy between "Secondary theme II" and mm. 135-136 (or mm. 139-140 or mm. 142-143, which he does not mention) may be considered a brilliant observation, his interpretation of this insight is highly selective: Lendvai's example stops just prior to where the principal-theme motive intrudes in the bass, m. 137. A similar event occurs in an inner part in m. 141, where thematic material heard as recently as seven measures earlier (m. 134, the D-C[#]-B-A descent which prominently concludes the exposition) intrudes again. In view of the multiplicity of these 'intrusions' it hardly seems credible to consider them as such: their presence is far more palpable than is the positively cryptic "recapitulation" of "Secondary theme II". One is moved instead to observe how brilliantly Bartók *disguises* this theme: the use of enharmonic spelling and of a

contrapuntal rhythmic texture (which shifts the elements formerly constituent of verticalities out of phase with each other) present a diffraction of this theme, not a restatement of it. Lendvai's implication that the entire pitch-structure of this theme is recapitulated is misleading: the registrally-prominent and sharply-articulated low B^b which punctuate mm. 55-67 are absent from mm. 135-154.¹⁴ Lendvai's schematic symmetry perhaps highlights a subtle form of organization emanating from within the development section, revealing a compositional integration of the secondary thematic material not found in the recapitulation, but this symmetry does not supplant the development section itself. Nevertheless, a puzzle remains: with the absence of a transposition to the 'tonic' of secondary thematic material in the recapitulation, how misleading is the term 'sonata form' as a description for the compositional processes of this movement? This question requires a closer look at thematic relationships throughout the movement.

3.2 Motivic Features and Thematic Relationships

In his 1984 discussion of the Piano Sonata, Somfai remarks on the thematic interrelationships of the first movement:

one begins to sense that we are not just listening to a colorful chain of events consisting of independent pianistic themes but to variations of a central idea.¹⁵

The concept of a "central idea" appears to be closely associated with Somfai's perception of "organicism" in the movement, for he likens the central idea to a "germ" with two 'archetypal' representations: one of these includes a dotted rhythm (see Figure 3.2.1 below—boxed area) while the other presents two sixteenths arriving at a long note, E-F[#]-G (see mm. 13-14).¹⁶ For

¹⁴ This B^b notably resurfaces as A[#] in m. 181, not long after the appearance of A¹ in m. 174. The extreme registral isolation of these pitches suggests some measure of linear association (A¹-A[#]) and also of possible structural significance. The importance of a progression from the pitch-class A to A[#]/B^b for the recapitulation will be explored in detail in Section 3.3: the extraordinary registral prominence of these pitch-classes immediately prior to the recapitulation suggests the foreshadowing of an important structural event.

¹⁵ Somfai, "Analytical Notes on Bartók's Piano Year of 1926", p. 43.

¹⁶ *Ibid.*, p. 42.

the purposes of this study, this “germ” or motivic cell can be identified as a representation of the set-class (013), with Somfai’s two “archetypes” understood as rhythmic patterns that stress either the first note of the motive or the last.¹⁷ Figure 3.2.1 below abstracts this cell from the melody of m. 7:

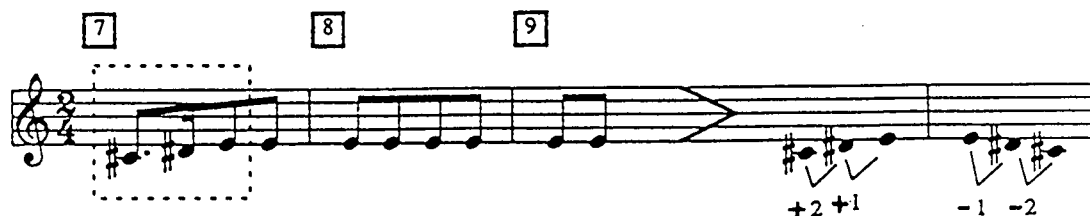


Figure 3.2.1

The boxed area identifies the cell, and the representations of it on the right-hand side of the figure show its interval succession in ascending and descending order. The cell is prominently established for the listener by its rhythmic differentiation from the texture of consistent eighth-note pulsation in which it is set in mm. 1-16. Inversions of each of the interval successions are also possible and are pervasive in several secondary themes:

¹⁷ Since such stresses are associated with a larger structural context—in particular, the emphasis applied to particular pitches or pitch-classes—the ‘archetypal’ classification conflates analytic issues addressed separately in this study (that is, of set structure and emphasis of set members).



Figure 3.2.2

Each of the boxes identifies the motivic cell in one of its intervallic orientations, and all possible orientations appear (although not all occurrences of these orientations are indicated).

The importance of the intervallic orientation of motivic structure is not an analytical construct: inversive and retrograde relationships are clearly exploited by Bartók to create prominent compositional features. The second and third themes in Figure 3.2.2, for example, display an exact inversive relationship:



Figure 3.2.3

The interval sequence of mm. 81-82 is precisely inverted at $T_3 I$ in mm. 117-118. Multiple orientations of the (013) motivic cell, however, are apparent well before the emergence of secondary themes. The very first measure of the movement provides two orientations simultaneously:



Figure 3.2.4

The direction of the arrows represents the relationship between the intervallic orientations (the lower motivic cell is portrayed as a retrograde inversion of the upper cell), with directional preference assigned to the ordering presented on top of the texture: this preference (that is, the interval sequence 2-1) reflects the intervallic profile of the motivic cell that is perhaps the most readily perceived, as it occurs repeatedly on top of the texture in mm. 1, 7 and 13-14 (it is also simply referred to as 'the motive' by other commentators, including Somfai). However, as Figures 3.2.3 and 3.2.4 suggest, this assigned directional preference is perhaps more usefully understood as attributing an orientation to the interval sequence of the motivic cell from which the use of that cell in melodic activity can be more easily traced. This is especially helpful in appreciating the motivic nuances of the first thematic area, as the following figure illustrates:

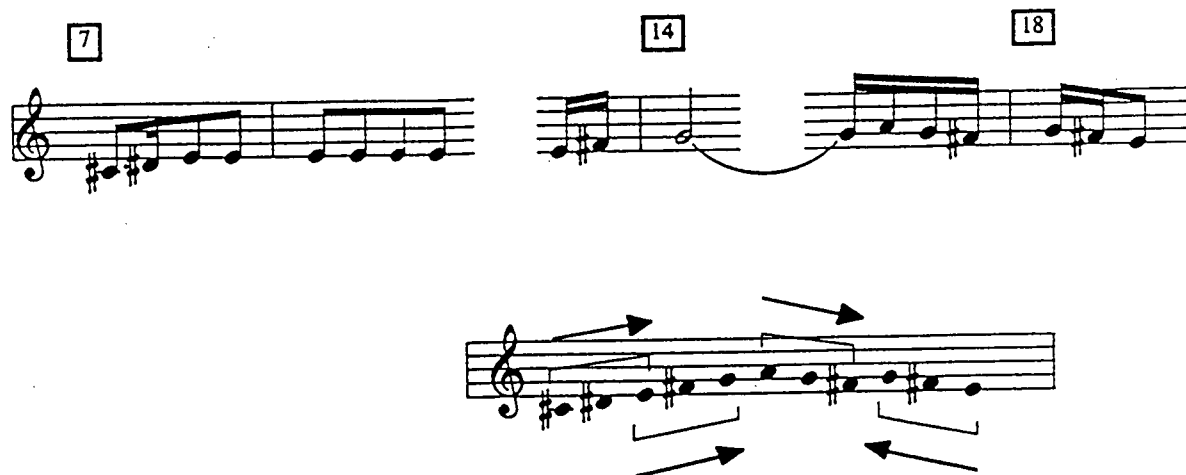


Figure 3.2.5

The first theme, as commented on in Section 3.1 (see note 2), is anything but a concise, easily segmented structural unit: Figure 3.2.5 portrays it as a large unfolding of diverse orientations of the (013) motivic cell (these cells and their orientations are depicted in the lower part of the figure). Transitional material following the first thematic area also displays similar motivic activity:



Figure 3.2.6

Such intense interactions of motivic orientation possibly reflect Bartók's adaptation of the improvisatory features of some types of folk melody. The following figure presents a

transcription of the pitch content of an improvisatory passage in a Turkish folk song transcribed by Bartók which displays similar features:

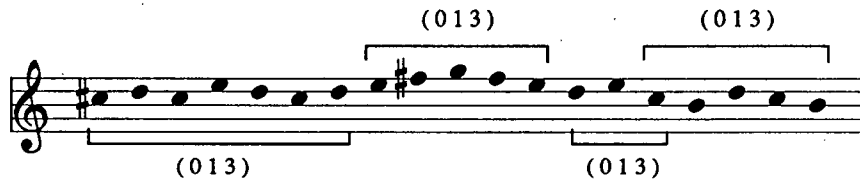


Figure 3.2.7 Adapted from: Béla Bartók, *Turkish Folk Music from Asia Minor*, transcription #62, mm. 7-8.

(Accidentals apply throughout the example). The use of improvisatory figuration such as repeated notes and trills has been pared away to reveal the basic pitch materials of the passage but without deleting any of the pitch content or altering the general sequence in which this content appears. The pitch emphases of this figuration can still be traced in the transcription: the original melody emphasizes the pitches C[#], E and B, elaborating each of these tones with orientations of (013) melodic figures.¹⁸

Other motivic features associate the themes as well. In Figure 3.2.2, the third theme (mm. 116-125) ends with an apparent diatonic descent, A-G-F[#]-E, the same pitch content as that concluding the principal theme (see Figure 3.2.5, mm. 17-18): the association suggests a form of motivic ‘rounding off’ of the presentation of thematic material in the exposition. Other motivic relationships between themes suggest a progressive emergence of thematic material that the (013) boxes of Figure 3.2.2 do not convey. A prominent secondary theme erupts in m. 55 following the first theme depicted in Figure 3.2.2, and the following figure illustrates the motivic and transpositional association between the two:

¹⁸ The type of melody transcribed in Figure 3.2.7 is classified by Bartók as a *Hora lunga* or *Cantec lung*, a “long-drawn” melody which is improvisatory in nature: “it has no rigid structure at all; indeed, it is performed like an improvisation, using a few standard patterns rather freely”. (Bartók, *Rumanian Folk Music*, Vol. II, p. 25). Somfai (1990) has drawn a similar analogy with the use of the motivic “germ” throughout all themes in the movement, but the secondary themes seem far less improvisatory in character.



Figure 3.2.8

The first four pitches of the new theme (mm. 55-57) are a T_1 transposition (mod 12) of those of the preceding theme (m. 44). This T_1 relationship is directly associated with the C^\sharp pedal-tone held above the preceding melody (not depicted—see score, m. 44). As the second excerpt (m. 46) reveals, the perfect fourth or interval-class 5 skip of that pedal-tone (C^\sharp to F^\sharp) is incorporated as part of the new melody when it finally moves away from its reiteration of the opening pitch collection. These features occur in tandem transposed at interval-class 5: since the newer secondary theme uses parallel fifths and octaves, an inner line reiterates G^\sharp and A^\sharp rather than C^\sharp and D^\sharp in the first part of the melody, and the skip is also by interval-class 5 (from A^\sharp to D^\sharp). The following figure illustrates the motivic association between this secondary theme and the next:

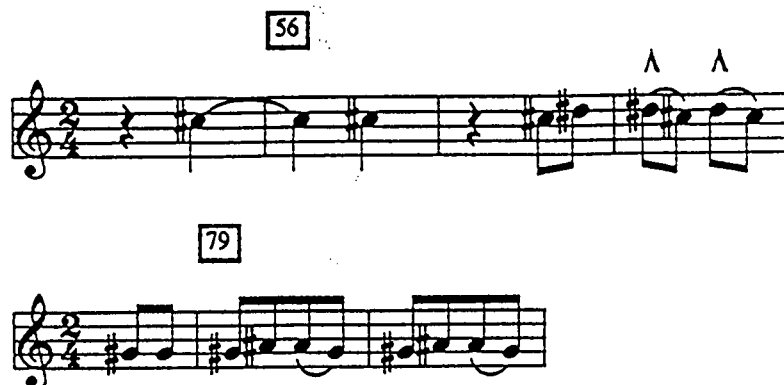


Figure 3.2.9

The motivic reference to the earliest secondary theme is evident (compare with Figure 3.2.8), but instead of a T_1 relationship between the first four pitches of successive themes, the relationship appears to be T_5 . However, the relationship is T_0 with the tandem inner line of the prior theme, as though this latest theme has literally emerged from within the theme which precedes it. (The $G^\#-A^\#$ dyadic motives of mm. 69-72 appear to have detached themselves from the previous theme to prepare for the emergence of the next).

This discussion has devoted its attention to the emergence of melodic structures from motivic components and their associations, but the association between motivic structures and other structural features is also of interest. The sequential use of a (013) motive suggests the partitioning of an octatonic collection, such as that implied by the principal theme (compare with Figure 3.2.5):

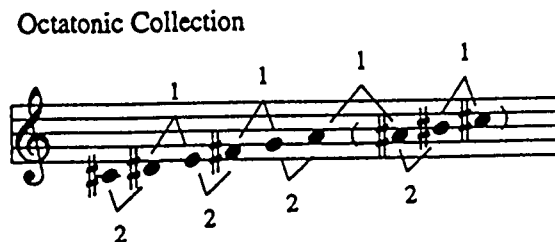


Figure 3.2.10

(The pitch-classes given in parentheses represent the (013) motive needed to complete the sequence and the octatonic collection. Such completion is found locally in m. 38 but in another register; the completion is notably encountered in the 'correct' register in the recapitulation at m. 215, associated with the transposition of a secondary theme.) The sequence of T_3 relationships between (013) components depicted in Figure 3.2.10 therefore suggests an octatonic resource from which the chord-types used to harmonize the theme may be drawn:

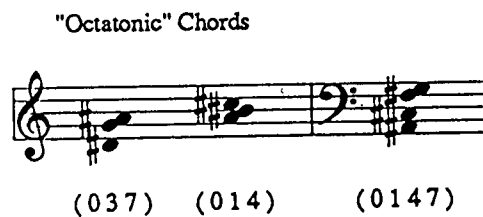


Figure 3.2.11

As the figure demonstrates, even triads such as the E-major and A[#]-major chords found in mm. 2-25 of the principal theme, set-type (037), could be subsets of octatonic collections (the specific chords depicted in Figure 3.2.11 refer to the octatonic collection of Figure 3.2.10).¹⁹

Joseph N. Straus has extracted numerous octatonic subset relationships from the opening measures of the movement as part of his claim that the entire principal theme may be understood in terms of octatonic relationships.²⁰ While Straus' claim is intriguing and merits careful attention (to be pursued more fully in the next section of this chapter), it is apparent that octatonic relationships do not control the structure of all chords used in the principal theme, as the following figure demonstrates:

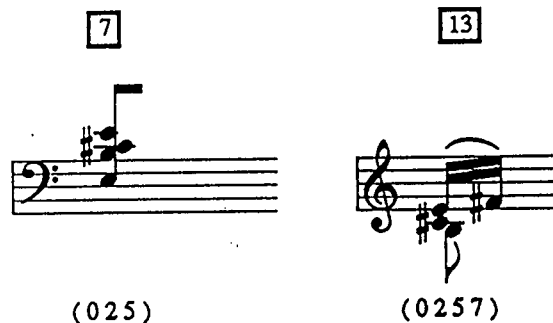


Figure 3.2.12

¹⁹ This T₆ relation between chords of the set-class (037)—that is, the use of E-major and A[#]-major chords in mm. 2-25— suggests an interesting parallel with the opening measures of the first movement of the Suite Op. 14. In the Suite, however, the alternation between B^b-major chords and E-major chords is constant: the T₆ relation is not used to establish a distinct tonal area, unlike the clear terracing associated with this relation in the principal theme of the Sonata discussed in Section 3.1.

²⁰ Straus, *Introduction to Post-Tonal Music*, p. 116.

These closely-related set-types (the first is a subset of the second) are prominent structures within the principal theme and are not subsets of an octatonic collection. However, they *are* subsets of the pentatonic collection, set-class (02479), and therefore suggest association with the secondary theme in fifths and octaves that begins in m. 55:

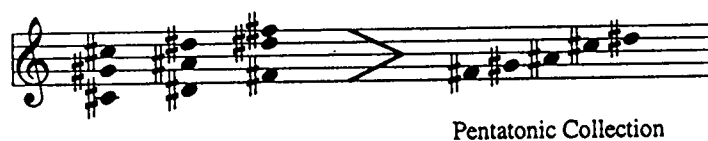


Figure 3.2.13

The intervallic structure of chords therefore suggests another dimension of association between themes in the movement. Such an association also exists between the secondary themes beginning in mm. 44 and 76:

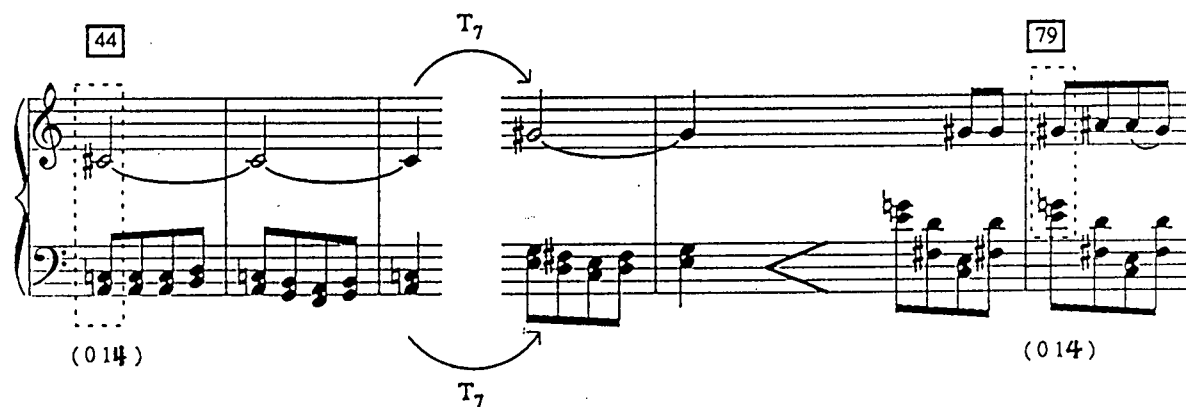


Figure 3.2.14

The parallel thirds which play the role of a melody in m. 44 become an accompaniment (at T_7) in the later secondary theme. Furthermore, the relationship between the melody in thirds of

m. 44 with the C^{#4} pedal-tone of m. 44 defines the same (014) relationship between the melody and accompaniment at the beginning of the later theme (see dashed boxes).

Still another structural relationship associates these secondary themes. The melody of the secondary theme beginning in m. 76 has a noteworthy intervallic structure:



Figure 3.2.15

This is a folk mode that was encountered by Bartók in the course of his ethnomusicological research²¹ and which many theorists now refer to as “heptatonia seconda”—that is, the ‘second’ seven-note diatonic mode (the first being the major scale, or “heptatonia prima”).²² The melody in thirds which begins in m. 44 proceeds entirely in such a mode until the penultimate eighth-note of m. 48, defining the collection {F,G,A,B,C,D,E^b}. The first five notes resemble a lydian pentachord, suggesting an association between the melody and accompaniment of the theme beginning in m. 76: the accompanying thirds, which define the collection {C,D,E,F[#],G}, are a subset of a heptatonia seconda collection, {C,D,E,F[#],G,A,B^b} related by T₁ to that of the melody.²³

²¹ See *Essays*, p. 363.

²² See Wilson (1992), pp. 27-28. The designation is typically used by Hungarian musicologists, although Lendvai refers to one of its rotations as the “acoustic scale” (the intervallic sequence 2-2-2-1-2-1-2). Elliott Antokoletz apparently disdains the use of the term but gives no explanation for this reluctance in an analytic paper entirely devoted to the mode (see Antokoletz, 1993).

²³ Because of inversive associations between rotations of heptatonia seconda, the relationship could also be described by T₅ I.

Apart from the suggestion of a 'lydian' segment, rotations of heptatonia secunda can suggest other collections of interest:

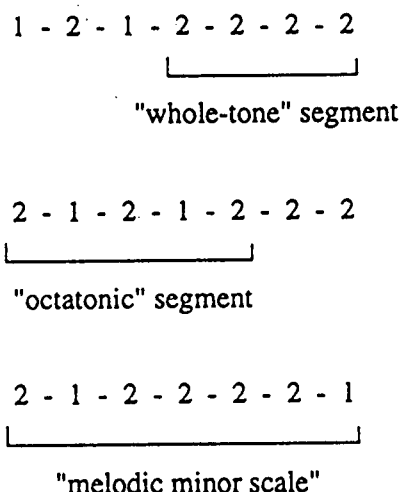


Figure 3.2.16

The appearance of an octatonic segment is of particular interest for the first movement (the whole-tone segment will be of similar interest in the second and third movements): it suggests another means of association between secondary themes and the principal theme, as the principal theme's T_3 sequence of (013) motives forms a set type, (023568), that also describes the octatonic segment of heptatonia secunda.

3.3 Aspects of Tonal Design

Perhaps one of the most perplexing tasks that confronts the analyst of the first movement is to reconcile the score with Bartók's comment that it was conceived to be in "E major".²⁴ If one were to take the composer at his word, one would concur with Halsey

²⁴ Reported by H. C. Becker in "Béla Bartók and His Credo," *Musical America*, December 17, 1927, as cited in Halsey Stevens' *The Life and Music of Béla Bartók*, rev. ed. (Oxford: Oxford University Press, 1964),

Stevens's observation that, in the first movement, the pitch classes G and G[#] occur somewhat "indiscriminately" and that recurrent use of the pitch A[#] "gives the tonality a Lydian flavor".²⁵ However, if we maintain a more sophisticated idea of tonality, Bartók appears to have been indiscriminate in far more details of pitch structure than mere admixture of Gs, G[#]s and A[#]s: indeed, the notion that "E major" controls pitch events appears utterly Procrustean.

While some analysts still restrict themselves to exploring diatonic implications in the Piano Sonata²⁶ others have sought more diverse theoretical frameworks predicated on the assumption that the Piano Sonata may in some sense be "tonal" even if this tonality is not specifically diatonic. Of particular interest is Joseph N. Straus' claim that, in the first movement, "the music centers on E, but...is not in E major. It is 'in E-octatonic'."²⁷ Straus appears to focus his attention on the first movement of the Sonata because of the paradigm of tonal design which classical sonata form offers. In his view, Bartók's pitch structure is an analogue of diatonic processes using octatonic means:

In a traditional sonata form, the first theme and the second theme lie in distinct harmonic areas. The first theme establishes a referential diatonic collection and pitch-class center; the second theme presents a transposition of the first collection and a new pitch-class center. Bartók's procedure is similar, but the harmonic contrast is worked out within an octatonic framework.²⁸

Straus neglects to remark that Bartók's procedure is profoundly dissimilar to traditional sonata form in one important way: if the principal theme indeed establishes an "octatonic framework" as a referential collection, then the secondary themes clearly do not present a "transposition of the first collection", as previous discussion in this chapter has established (see Figures 3.2.14 - 3.2.16). "Harmonic contrast", therefore, cannot be said to be "worked out within an octatonic

p. 133.

²⁵ Stevens, p. 133.

²⁶ See, for example, David Burge's interesting but limited concept of implied "functional dominant-tonic relationships" (referred to above, p. 16). Burge's brief commentary, of course, makes no attempt to account for the specific pitch structure of sonorities.

²⁷ Straus, p. 116.

²⁸ *Ibid.*, p. 117.

framework.” Nevertheless, Straus's concept of a referential octatonic collection is important because it offers an analytic vocabulary that "diatonic" models cannot: that is, a means by which actual pitch structures of the movement may potentially be seen to interrelate on their own terms. However, it is still possible for such an approach to display its own Procrustean tendencies, as Figure 3.2.12 has suggested.

There are two octatonic collections containing the pitch-class E and these may simply be designated as "E-1"—where the interval following E in a scalar arrangement of the collection is interval-class 1 and the interval sequence starting from E, therefore, is 1-2—and "E-2"—where the interval-class sequence is 2-1:

$$\begin{array}{l}
 \text{E-1: } \boxed{E} - F - \boxed{G} - G^\# - \boxed{A^\#} - B - \boxed{C^\#} - D \\
 \text{E-2: } \boxed{E} - F^\# - \boxed{G} - A - \boxed{A^\#} - C - \boxed{C^\#} - D^\#
 \end{array}$$

Figure 3.3.1

Pitch-class invariances between collections E-1 and E-2 are boxed above. These invariances offer a symmetrical distribution of points of intersection between the collections, each located at T_3 from the next. If only *one* of these E-octatonic collections is cited as a *referential* collection, the analyst is obliged to carefully address the appearance of variant pitch-classes. Straus begins by examining the first seventeen measures of the movement and claims that,

With a few isolated exceptions, the pitch material for this passage is drawn from a single octatonic collection: E, F, G, $G^\#$, $A^\#$, B, $C^\#$, D.²⁹

That is, the E-1 octatonic collection, according to Straus, may be understood to govern all essential pitch events. The utility of Straus's claim is promising at first: not only is the E-major triad which is used repeatedly in the bass in mm. 2-13 a subset, (037), of the

²⁹ *Ibid.*, p. 114.

E-1 collection, but the chord which "embellishes" it (Straus's term) in mm. 2-5 and mm. 7-13 is also a subset, (014), of that collection. (These subset relations were demonstrated in Figure 3.2.11.) Straus suggests that Bartók's rhythmic emphasis on the E-major triad (that is, by placing it on downbeats) supports a perception of centrality of the pitch-class E, a perception similarly commented on in this chapter, Section 3.1. (One might counter that the powerful, syncopated reiteration of the pitch B³ in mm. 2-6 suggests a greater local emphasis on that pitch rather than on E, and that both accompanying chords, (037) and (014), may possibly be interpreted as 'consonant' support for B³).³⁰ The "few isolated exceptions"—the pitch-classes A (m. 1), F[#] and C (m. 6), all of which may be found in the E-2 collection—appear to be outweighed for Straus by the associations provided within an E-1 referential collection. This is not to say that Straus' case is airtight—if Bartók is trying to establish a referential collection, why is it so unclear right in the first measure?—but his approach has clearly yielded some interesting results.

It is after m. 6 that Straus begins to run into some problems. Straus claims that an "arpeggiation" from G[#] to G^b occurs in the upper part in mm. 1-14, and that the "clash" between these two pitches, heard in their respective registers in m. 14, is more apparent than real: these two pitches, he maintains, are merely adjacent members of a single octatonic collection, "the third and fourth degrees of the octatonic scale on E".³¹ There is, however, more than one octatonic collection containing the pitch-class E, as Figure 3.3.1 has shown. This point is crucial for, upon closer examination of linear details, the registral ascent in mm. 1-14 in the upper line reveals a striking registral distinction of pitch structure:

³⁰ That is, both belong to the same octatonic collection and share the pitch-class B as a common tone.

³¹ Straus, p. 115.

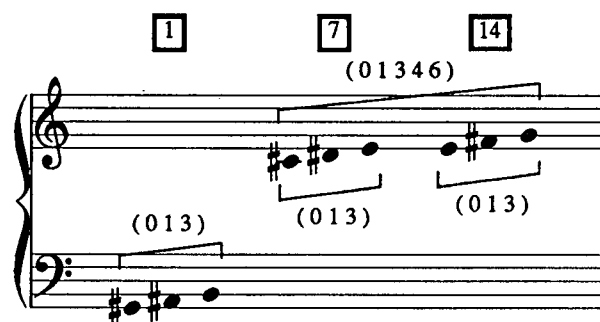


Figure 3.3.2

The linear and registral continuity of (013) motivic structures in mm. 7-14 creates a set-class, (01346), that is a subset of an octatonic collection, but the pitch content of this collection corresponds to that of E-2 in Figure 3.1.3, not E-1. Of the two motives of m. 1, only the upper version is shown in Figure 3.3.2, as this is the version which would correspond with Straus's E-1 referential collection and which the figure demonstrates to be registally isolated. The lower version, G[#]-A^b-B, is a member of neither the E-1 nor the E-2 collections, suggesting further evidence of a registral partitioning of octatonic collections if they in fact serve as source collections. Perhaps Straus might want to claim that Bartók's use of the pitches D^{#4} and F^{#4} (the variants which are not members of the E-1 collection) in mm. 7-14 is, as Halsey Stevens would say, "indiscriminate", yet Bartók's subsequent unfolding of part of the E-2 octatonic collection in the upper voice of the principal theme (see Figures 3.2.5 and 3.2.10) appears to be remarkably suggestive.

Conceding the presence of both collections in mm. 7-25 therefore rationalizes some features of the score that would otherwise appear to be arbitrary insertions: in mm. 7-25, the bass chords can be drawn without exception from the E-1 collection, and the pitch content of the melody from the E-2 collection. However, the textural distinction between these collections is less distinct within the right hand itself: the chord structures linked with the melody are part of the E-1 rather than the E-2 collection, and the close registral contact of these two collections produces structures that are not associated with octatonic collections, as Figure 3.2.12 has

already demonstrated (the set-classes (025) and (0257) are not octatonic subsets).

Nevertheless, the pitch structures associated with the E-2 collection are registrally constrained in mm. 7-25 to appearing at or above C^{#4}. Some of the elements of pitch-class invariance between the two octatonic collections (see Figure 3.3.1)—notably, the pitch-classes E and G—appear to define prominent pitch-class centers in the principal theme as witnessed in the unfolding of the melodic contour E-G-E discussed in Section 3.1. Pitch-class invariance between contrapuntally-arrayed octatonic collections therefore appears to provide not only some means of integration between these collections but also to serve a larger tonal design. The means of tonal association and emphasis discussed here, it should be noted, differ markedly from Straus's concept of an "octatonic framework", quoted above. Where Bartók's apparent clash of G¹ with G[#] at m. 14 suggests no modal or referential conflict in Straus' E-1 octatonic scheme, the contrapuntal relationships detailed in this study give structural credence to the perception of a sharp dissonance between these pitch classes.

The results of Straus's analytic procedure are perhaps attributable in part to his greater attention to vertical structures rather than linearly established pitch collections. Linear presentations of octatonic collections or subsets figure prominently throughout the movement and have indeed already drawn our attention to the incorporation of the E-2 collection. Bartók also employs segmentation of the third octatonic collection, of which the pitch-class E is not a member: in mm. 29-35, for example, the pitch content of the upper voice, {B,C,D,E^b,F} may be understood as a partial unfolding of this third collection, F-F[#]-G[#]-A-B-C-D-E^b (to be referred to here as the 'F collection'). The entire pitch structure of this passage—that is, including the chords—may be understood as a bimodal or contrapuntal octatonic texture, similar to that which was uncovered in mm.7-25: in this case the melodic pitch events (that is, excepting the E-F[#] dyads of mm. 26-28) belong to the third octatonic collection, while the harmonic pitch events are members of the E-2 octatonic collection (the designation "E-2" here simply refers to the use of that pitch-class collection and asserts no tonicity for the pitch-class E in this context). The addition of this new octatonic collection is accompanied by a significant

expansion in register, signalled by statements of the pitch B^5 in measure 26. With each addition of a new octatonic collection, Bartók expands the registral distribution of pitch events and underscores this expansion by keeping the octatonic collections in generally distinct textural roles:

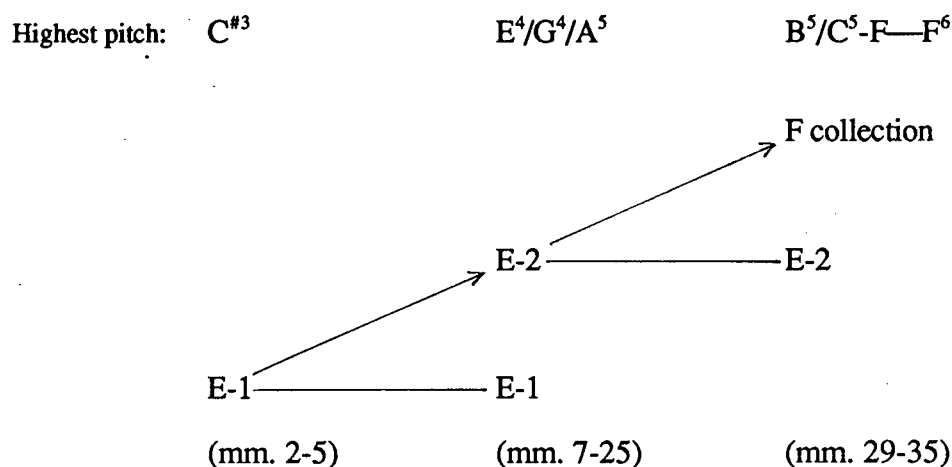


Figure 3.3.3

When each collection is introduced it may be said to serve some form of "melodic function"; as each collection is superseded in register, it fades into a "harmonic" background, losing its linear identity.

The overall pattern of registral ascent ceases in mm. 36-37, where the registral expansion and increasing rhythmic complexity appear to reach a point of repose on the pitch class C[#]. (The entire pitch content of these two measures, set-type (014), may be drawn only from the E-2 octatonic collection.) Immediately following this point of arrival, the upper pitch contour drops in register by a full octave (still emphasizing the pitch-class C[#]) and the textural array of pitch content for mm. 38-43 returns to that found previously in mm. 7-25 (namely, a contrapuntal octatonic texture with elements from the E-2 collection located registrally above elements of the E-1 collection). One important new feature has been added: an E-2 octatonic segment, A[#]-B[#]-C[#]. Although the C[#] of m. 36 has been arrived at via melodic material drawn

from the F collection, it finally appears to be 'claimed' by the E-2 collection through both the prevalence of that collection in mm. 36-7 and the subsequent linear connection made by the $A^\#-B^\#-C^\#$ segment.

A reasonable question for the analyst to ask at this stage is why Bartók did not use a direct unfolding of the E-2 collection to arrive at the pitch $C^\#$. There is an implied gap in the sequence of (013) segmentations of the E-2 collection:

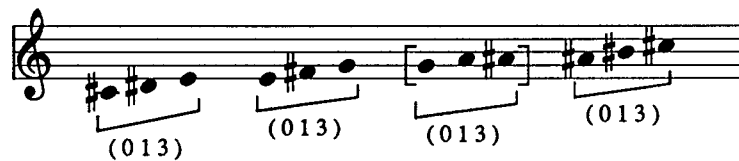


Figure 3.3.4

Where is the emphasis on $A^\#$ which would arise from completion of the octatonic sequence depicted above? It appears as if Bartók has been unfolding a complete octatonic collection at a deep layer of structure—perhaps even as a kind of "referential" or source collection—yet has decided to leave it incomplete at this stage of the composition as if, in some sense, he is evading "closure" of that collection: that is, Bartók may have created an anticipation of structural closure through a discontinuity in the linear unfolding of the E-2 collection established at the outset of the movement. (The role of rhythmic structure in the emphasis of this discontinuity will be discussed in Section 3.4, "Rhythmic Structures"). This discontinuity appears to be recalled in the first part of the development section, where two (013) motives, $E-F^\#-G$ and $G-A-B^\flat$ (mm. 137 and 148-149, respectively), make discrete but prominent intrusions in the developmental fabric in a low register: the first motive recalls the principal thematic area at T_0 , while the second demonstrates the next possible transposition of the (013) motive (at T_3) within the same octatonic collection, as shown in Figure 3.3.4.³²

³² Note that the spelling of the pitch-class $A^\#/B^\flat$ in the T_3 motive, $G-A-B^\flat$, corresponds with the prominent use of B^\flat in the recapitulation of the secondary theme in m. 211.

Do these inferences constitute some form of octatonic analogue for diatonic procedures? In view of the extraordinary cohesiveness of Bartók's pitch structure this early in the movement, it is conceivable that Bartók envisaged an association of structural relationships in the remainder of the movement with the octatonic foundations laid at its outset (where one would expect some form of 'tonic' to have been established). The main obstacle to delineating such structural relationships is the extraordinary complexity of pitch structure which lies beyond m. 43, coincident with the introduction of secondary thematic material: where Bartók has previously kept octatonic collections relatively distinct by means of register and texture, he now makes use of other collections which interpenetrate each other in various thematic features, as detailed in Section 3.2.

A schematic framework for the tonal complexity of secondary thematic material is afforded by the sequence of pitch-classes initiating each theme in the highest register, $C^{\sharp 4}$ (m. 44) – $C^{\sharp 5,6}$ (m. 55) – $G^{\sharp 4}$ (m. 76) – E^{b5} (m. 93) – B^{b6} (m. 116). Each of these pitch-classes is related to its neighboring pitch-classes by interval-class 5:³³

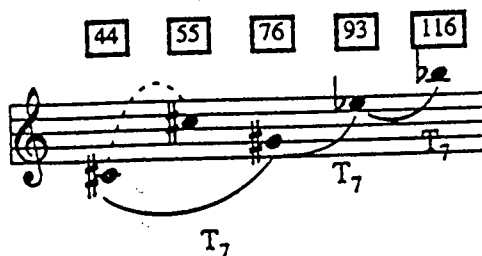


Figure 3.3.5

³³ Interval-class 5 relationships appear to relate diverse structural features in the first movement. The series of pitch-classes identified in Figure 3.3.5 describe the set-class (0257), a set-type observed in Figure 3.2.12 that also represents the pitch-class content of the right-hand chords of the secondary theme analyzed by Lendvai in Figure 3.1.9. These associations therefore suggest that interval-class 5 relationships may be used to serve multiple compositional purposes: such derivations will be seen to play extremely significant roles in the pitch structure of the second and third movements.

The series of pitches initiating each secondary theme arrives at B^{b6} ($A^{\#6}$) with the last theme, culminating the exposition.³⁴ The arrival at B^b in mm. 116-125 is of local structural significance as this is the pitch-class from which the development section proceeds in its upper registers. The possibility that this process alludes to the linear discontinuity of the first theme area is intriguing—namely, that the $A^{\#}$ missing from the unfolding of the octatonic collection in mm. 7-36 is 'found' (as B^b) at the end of the presentation of secondary thematic material but in the wrong register (an octave too high) and attained by the wrong means (proceeding from $C^{\#4}$ by a sequence of fifths, rather than from E through an octatonic progression).³⁵

In tonal sonata form, closure may be understood to be avoided by the process of interruption: in the exposition of the first movement of the Bartók Sonata, the literal 'interruption' of the linear unfolding of the E-2 collection may perhaps be understood to serve an analogous function. The most likely place to find the missing $A^{\#5}$ of the E-2 collection would therefore be in the recapitulation, where one would expect to encounter some evidence of structural closure, likely in association with secondary thematic material (as an indication of transpositional significance) despite the absence of so much of this material. As discussed in Section 3.1, the brevity of the recapitulation may serve a proportional function, giving the movement a binary division; nevertheless, one may expect the recapitulation to retain those features which Bartók felt to be indispensable for the structural meaning of the movement as a whole. Indeed, of the mass of secondary thematic material deployed by Bartók between mm. 44 and 115, only one theme is retained and transposed in the recapitulation:

³⁴ The structural prominence of transposition by fifth has already been suggested by the T_7 relationship between the chordal accompaniment of mm. 21-25 and mm. 26-35.

³⁵ Notice that when the highest B^b is regained, in m. 137 of the development, the first-theme motive bursts in. This event perhaps telescopes the conflict established between primary and secondary thematic areas: what the former seeks (the pitch-class $A^{\#}$) is temporarily claimed by the latter and held registrally out of reach.



Figure 3.3.6

This is clearly not a transposition of the theme into the 'tonic', if the term is understood to represent some form of structural association with the centricity of the pitch-class E.³⁶ In this sense, one would have expected to encounter the following transposition:



Figure 3.3.7

A vestige of this theme in this transposition in fact occurs near the end of the movement: the last two measures depicted in Figure 3.3.7 appear in the score in mm. 247-248 (and again, rhythmically distorted, in mm. 253-255), where they seem to play an important role in effecting closure.³⁷ However, is the actual transposition of the complete secondary theme, which suggests the local centricity of B^{b4}, nevertheless intended to serve a 'tonic' function? Enharmonic spelling notwithstanding,³⁸ the registral location of the pitch-class lies where Figure 3.3.4 anticipated its arrival, at A^{#5}/B^{b5}. Before the turbulence of transitional material dissolving the principal thematic area was encountered in the exposition (mm. 26-35), the registral ceiling of the principal theme was at A⁵: when the correspondingly turbulent transition of the recapitulation (mm. 199-208) resolves to a (014) sonority in m. 209, the step from the

³⁶ However, the presence of the pitch-classes {D,E,F[#], G[#], A, A[#]} in this passage suggests aural association with mm. 1-6.

³⁷ The last pitch-class, B, finally moves to E, possibly suggesting a dominant-tonic parody.

³⁸ The use of B^b rather than A[#] suggests direct association with the arrival at B^{b6} at the end of the series of T₇ transpositions of secondary themes in the exposition (see Figure 3.3.5). This association is also suggested by the use of B^{b5} and B^{b6} in mm. 209-210, preparing the recapitulation of the secondary theme.

preceding measure is $A^{5,6} - B^{b5,6}$, and the secondary theme takes over from the bottom of the octave (at B^{b5}). Registral continuity therefore suggests $A^{#5}/B^{b5}$ as an important goal of linear motion in a local context as well, perhaps the strongest structural association to emphasize the importance of this pitch.

At a deep level of structure, therefore, the E-2 octatonic collection increasingly appears to function as some form of referential collection—if not exclusively of pitch structure then perhaps of structural process. This association with structural process is highlighted by the retransition from the development section to the recapitulation. The arrival on C^\sharp in m. 36 of the exposition was subsequently ‘claimed’ for the E-2 collection by the motivic segment $A^\sharp - B^\sharp - C^\sharp$ in m. 38. The same motivic segment reappears in the identical register in m. 176, an event suggesting analogy with the idea of false recapitulation. If the listener is being led to anticipate the imminent return of the opening thematic material, the implied sequence would therefore be:



Figure 3.3.8

Yet, immediately preceding the recapitulation, in mm. 186-187, Bartók interpolates "foreign" octatonic segments:

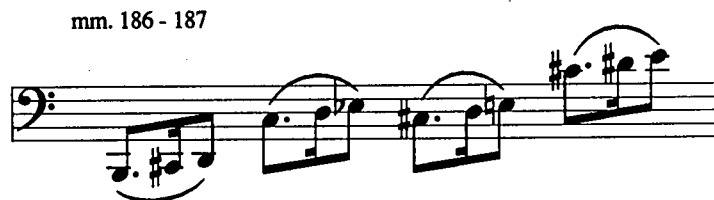


Figure 3.3.9

The first of these (013) segments begins on scale degree five of the E-diatonic mode, suggesting a possible dominant implication if viewed as a parody of tonal practice.³⁹ In terms of octatonic collections, the first motive is a segment of the E-1 collection and therefore does not represent the correct collection for the return of the melody of the principal theme, which the sequence of motives finally arrives at in m. 186 (the last segment depicted in Figure 3.3.9) and from which the melody of the principal theme then proceeds.⁴⁰

The location of secondary thematic material after its initial statement in the exposition further reinforces the idea of an "interruption" of the structural unfolding of a partial octatonic collection. The secondary theme present in the recapitulation is restated *only* in the recapitulation (after its double presentation in the exposition); that is, all preceding secondary thematic material (mm. 44-75) is confined to use (or restatement) in the development section. This segregation of secondary thematic material within the precincts of either development section or recapitulation suggests a careful distinction of functional roles associated with the process of interruption. Bartók's "wish to economize"⁴¹ finds vivid expression in the careful deployment of thematic resources in the first movement of the Piano Sonata.

It is ironic that the transposition of the 'second theme' to A[#]/B^b observed by this study appears to correspond with a characteristically Lendvai analytic model, the axis system, a correspondence which Lendvai himself does not comment on. The significant pitch centers through which the E-2 collection unfolds and from which the process of interruption is hypothesized—E-G-(A[#])-C[#] in mm. 7-36—outlines all tonic-axis members with the exception of the counterpole of the main branch:

³⁹ The same motive, identical in pitch-class content, is the last of this type to make an appearance in the development section proper (mm. 152-153, left hand): the association this presents between the conclusion of the first part of the development section and m. 186 is therefore of considerable interest.

⁴⁰ The reversal of this transpositional sequence in mm. 222-224 suggests a return to an implied structural dominant. Straus considers the return of the motive of the principal theme in these measures to be a form of 'suppression' of the secondary theme (Straus, *Remaking the Past*, pp. 110-112).

⁴¹ Bartók, in Petersen, p. 27.

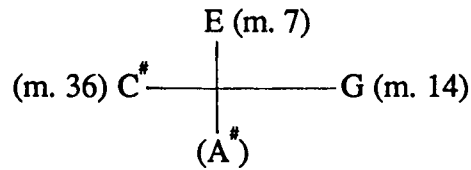


Figure 3.3.10

It is this counterpole which is 'saved' for the restatement of the second theme in the recapitulation, where it may substitute for the tonality of E according to Lendvai's theory. This offers a neat solution to the puzzle of transposing a second theme to the 'tonic' if no secondary theme appears to share the same transpositional level as the principal theme.

The transition from primary to secondary thematic material in both exposition and recapitulation suggests further association with the E-2 octatonic collection. For example, the set-type (014), a subset of the octatonic collection, describes the pitch content of the critical juncture in the exposition, mm. 36-37, that precedes the introduction of secondary thematic material. The analogous passage in the recapitulation, mm. 209-210 is also of the set-class (014), transposed by interval-class 3 and therefore a subset of the same octatonic collection—the E-2 collection. Since the secondary themes following each of these (014) links begin at T_0 with the same interval structure, the E-2 octatonic collection might also play a formative role in the configuration of secondary themes.

An important concern of the preceding analysis has been that Straus's interpretation of what may be called foreground events of pitch structure is limited in its perspective. Yet, Straus holds a trump card that is a logical defense of his claim for the structural supremacy of the E-1 octatonic collection. The final, uppermost pitch of the movement is E^5 and the chord which supports it is a subset of the E-1 collection. If the final chord were assumed to be a 'tonic' chord, this fact would weaken the notion that the E-2 octatonic collection may be considered a referential collection for the pitch structure of the movement. This study, however, has not claimed such a status for the E-2 collection, but has suggested instead that the E-2 octatonic collection may be understood as a referential structure for some important linear

orderings of pitch structure which may be likened to tonal process. Therefore, this is not the type of claim which would assert that the E-2 collection determines which verticalities are 'consonant' or may be representations of functional chords.

Although octatonic structures and associations have been pursued in detail in this section, other parameters of association should not be overlooked entirely. The use of octatonic parameters to interpret the pitch events in mm. 7-13 is a case in point: not only do non-octatonic subsets appear as chords in this passage, but the presence of the E-1 collection itself is far from incontrovertible. The elements held to be representative of the E-1 collection, {E, G[#], A[#], B, C[#], D}—which leave out the pitch-classes F and G needed to complete the collection—could also be found in a heptatonia secunda collection, {E, F[#], G[#], A[#], B, C[#], D}—from which only F[#] is missing in the passage. This possibility is particularly suggestive in view of the prominent use of heptatonia secunda, either in whole or in part, in secondary themes, as demonstrated in Section 3.2. The concept of segmentation of larger collections is therefore somewhat problematic, as such segmentations cannot always be uniquely attributed when more than one collection shares the same segments or subsets.

3.4 Rhythmic Structures

An interesting feature of pitch structure observed in mm. 7-36 was the registral stratification of different pitch collections, suggesting a contrapuntal texture. This arrangement of pitch collections is perhaps illustrative of a comment made by Bartók in 1939:

I myself, I believe, have developed in a consistent manner and in one direction, except perhaps from 1926, when my work became more contrapuntal....⁴²

Another prominent compositional feature of the first movement of the Piano Sonata may be called 'rhythmic counterpoint', in which independent rhythmic patterns run concurrently, periodically synchronizing commensurate with the arithmetic relationship of pulse units. An

⁴² Bartók, in Petersen, p. 27.

analogy to this process may be found in the periodicity of pendulum motion, as illustrated by Galileo Galilei in the *Discourse on Two New Sciences*:

Hang lead balls, or similar heavy bodies, from three threads of different lengths.... Removing all these from the vertical and then releasing them, an interesting interlacing of the threads will be seen, with varied meetings....⁴³

The process as it actually occurs in the Sonata, however, is not quite as regular as pendulum motion since the composer frequently disrupts the 'swings' of the constitutive pulse units.

László Somfai opened the door to rhythmic analysis of the Piano Sonata, a portal through which no subsequent analysis of the work has been inclined to pass. This disinterest is curious because passages of rhythmic aperiodicity seem to articulate significant compositional events, including transitions between themes (punctuating, for example, the 'blocks' of secondary thematic material in the exposition) and between principal and secondary thematic areas in the exposition and recapitulation. There also appears to be a crude correlation between level of structural division and degree of rhythmic complexity: the areas of transition between primary and secondary thematic material in the exposition and recapitulation are exceptionally turbulent, rivalled only by parts of the development section and the conclusion of the movement.

The claim of 'rhythmic turbulence' assumes the prevalence of a consonant or "homophonic"⁴⁴ rhythmic background, against which passages of rhythmic polyphony are perceived as disruptive phenomena. This is indeed how Somfai characterizes rhythm in Bartók's music, which,

⁴³ Galileo Galilei, *Two New Sciences*, Stillman Drake, trans. (London: The University of Wisconsin Press, Ltd., 1974), p. 107.

⁴⁴ Somfai, 1984, p. 30.

in spite of its plentiful changing metres, generous accentuation [and] textures built out of complementary rhythms...is directional and surprisingly simple. [...] In such a rhythmic frame...any pattern[s] that break up the continuity of steady movement—by decomposing, dividing the attention, or spreading confusion—must have a specific significance.⁴⁵

The apparent 'decomposition' of the first thematic area in mm. 21-35 is a characteristic example of this phenomenon. Beginning in m. 21, the melody appears to be unable to return to the pitch E⁴, which had served as an important tonal focus throughout the principal theme (see Section 3.1). The A-G-F[#]-E descent found in mm. 17-18 is interrupted at F^{#4} in mm. 21-25 (then moving upwards to continue the transition), and the 2/4 metric framework of mm. 17-18 likewise becomes disrupted by the figuration of mm. 21-25:

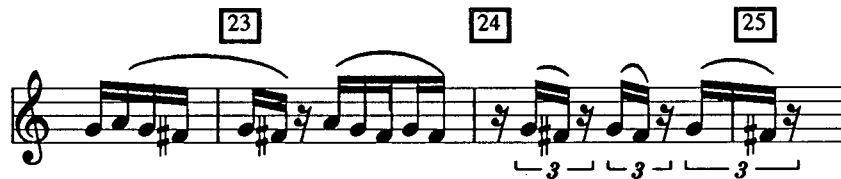


Figure 3.4.1

The triplet indications used in the figure do not depict triplets *per se* but groupings of sixteenth notes. As the passage unfolds, the left-hand ostinato maintains a 2/4 rhythmic pattern but the right-hand figuration disrupts this with groupings of three sixteenths as indicated in the figure. The groupings are emphasized by the use of a rest in each, a feature which also emphasizes the ellipsis of E⁴—that is, an interruption of the melodic descent found previously in the principal theme, G⁴-F^{#4} (-E⁴): this apparent blockage of the return to E⁴ undermines the centrality of that pitch, allowing the passage to 'modulate'. The initial attack of the three-sixteenth groupings does not coincide with the downbeat of the left-hand pattern until m. 26, launching the next phase of transition:

⁴⁵ *Ibid.*



Figure 3.4.2

This figure uses time signatures to represent the groupings of each rhythmic stream. The second line is given a 4/8 time signature as a means of associating it more clearly with the upper line, and from this association further groupings are implied. The synchronization of the E-F[#] dyads with the 3/8 groupings (indicated by vertical dotted lines) are coincident with registral accents in the E-F[#] line (the use of E⁵-F^{#5}): this suggests the presence of a 6/8 hypermeter that is quickly interrupted by the foreshortening of the 3/8 line to 3/16 (the sixteenth-groupings occur with less intervening delay, three-sixteenths of rest having been removed).

Figures 3.4.1 and 3.4.2 demonstrate a breakdown of rhythmic homogeneity that quickly grows in its complexity: as the transition from principal theme to secondary thematic area proceeds, the rhythmic integration of the principal theme is progressively dissolved

through the reiteration of motivic details that create new metric groupings. This trend is appreciable in Somfai's illustration of rhythmic processes in mm. 21-36:

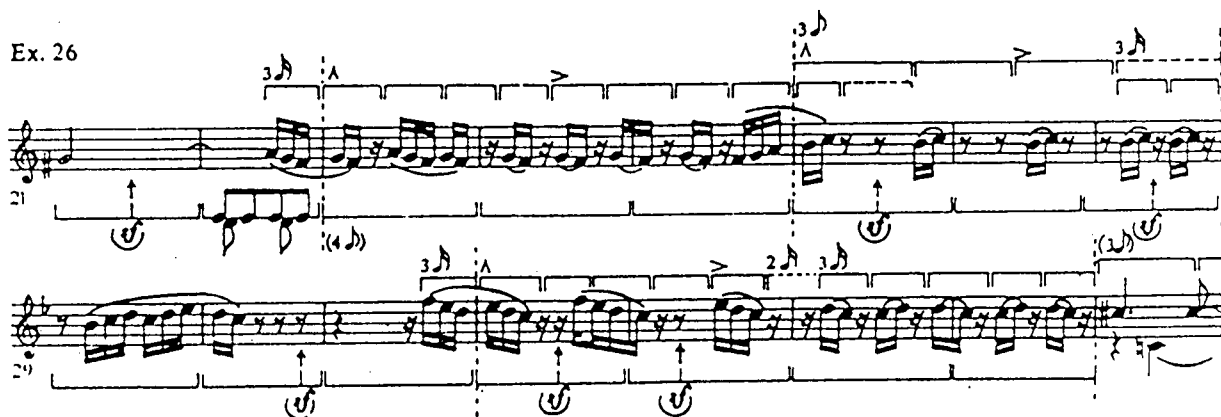


Figure 3.4.3 Source: László Somfai, "Analytical Notes on Bartók's Piano Year of 1926", (*Studia Musicologica* 26 [1984]), p. 32.

Somfai's analysis of mm. 21-5 depicts how periodicities of this passage (initially synchronizing every three measures, as indicated by the vertical dotted lines) subsequently disappear: although the regularity of the three-sixteenth-note group is superseded by another regular grouping of three eighths in m. 26, synchronization is lost with the lower part of the texture, and by m. 29 the upper part loses its regularity entirely. What Somfai's analysis does not indicate is the apparent interpolation of an extra measure, disrupting a large-scale regularity of the lower part of the texture (perhaps the representative 'homophonic' rhythmic element) at m. 33:

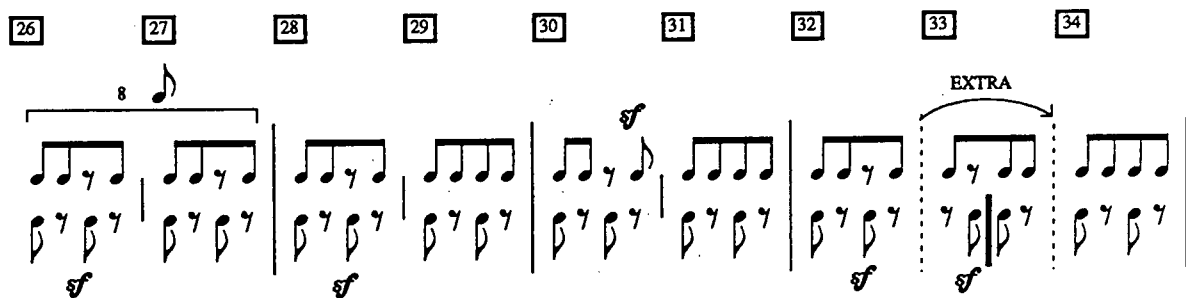


Figure 3.4.4

The heavy bar in the middle of m. 33 indicates the midpoint of a palindromic rhythmic structure in the lower stream of pulses, mm. 32-34, which is created by the interpolation of m. 33. (A palindromic structure also occurs in mm. 32-33 in the upper pulse stream.) The result of this apparent interpolation is that the two-measure cycle of eight eighths is left incomplete by one measure at m. 36: the arrival at the (014) structure from which the secondary themes proceed is therefore a further interruption of rhythmic regularity. Bartók's destabilization of the relative rhythmic homogeneity of the first theme therefore arrives ultimately at a disruption of background rhythm. Somfai invites comparison of this passage with its parallel in the recapitulation (mm. 194-209), loosely observing that it is,

more neurotic [in] style, with more irregular cycles, in accordance with the environment at this stage of the form.⁴⁶

This characterization is certainly apt, perhaps indicative that an event of even greater structural import is about to occur (the arrival at the secondary theme centered on A^{#5}).

Somfai offers a rhythmic analysis of the first part of the development section (mm. 135-154) that can be somewhat rationalized, at least as far as m. 148, in a way that the transitional passages discussed above cannot be. Somfai characterizes this passage as a,

'clockwork', with many peculiar 'gears'. The movement is determined by the staccato clatter of the eighth-notes, and it sounds 'regular' where the gears of the clockwork turn 2/4, in four-note groups.⁴⁷

Up until m. 148 there is in fact a clear sequence of metric indications:

Phrase 1, mm. 135-141: 2/4 (x3) + 3/8 + 2/4 (x2) + 3/4

Phrase 2, mm. 142-148: 2/4 (x3) + 3/8 + 2/4 (x2) + 3/4

⁴⁶ Somfai, 1984, p. 33.

⁴⁷ *Ibid.*, p. 46.

The rhythmic polyphony of the development therefore has an added dimension of complexity because the pulsation of background rhythm as indicated by the time signatures is not kept constant. The contrast between this and the subsequent portion of the development section, mm. 155-175, is almost stark: mm. 155-175 seem designed in part to diffuse the rhythmic tension of the first part of the development section. The phrases, understood in terms of eighth-note pulse, are reduced by the sequence 12-12-11-9-7-7-6-6-6, ultimately returning to the 2/4 rhythmic background perceived at the opening of the development section.

While of considerable interest in themselves, rhythmic structures appear to be an integral feature of the design of the first movement as a whole. The close association of important events of pitch structure with prominent events of rhythmic structure observed in this discussion suggests that attention to pitch structure alone overlooks equally important means of structural articulation in the first movement of the Bartók Sonata.

Chapter Four

SECOND MOVEMENT ANALYSIS

The second movement does not readily invite association with either thematic or harmonic features of a conventional tonal form. Analysis of the movement will therefore begin with pragmatic observation of motivic, thematic and harmonic features that manifest an idiosyncratic compositional design (Section 4.1, "Aspects of Form"). Motivic relationships will be examined in detail, for they play an essential role in the structural integration of the movement (Section 4.2, "Motivic Features"). Other important aspects of pitch structure will be addressed by examining structures associated with the interval-class 5 cycle, and of set types associated with other important features of the movement (Section 4.3, "Uses of the Interval-Class 5 Cycle"; Section 4.4, "Other Structures"). Significant characteristics of pulsation and meter will also be discussed (Section 4.5, "Pulsation and Metric Patterns"), followed by a consideration of means of deep-level structural integration (Section 4.6, "Large-Scale Structures") to conclude analysis of the second movement.

4.1 Aspects of Form

As a prelude to his discussion of the second movement, Wilson comments that in comparison to the first movement, "the interpretation of form requires a less tortuous process"; to which a researcher hoping to reconcile the varied accounts of the movement's form given in secondary literature might reply, if only it were so. Indeed, to judge from the variety of units into which it has variously been parsed, no other movement of the Sonata for Piano (1926) would appear to offer such nettlesome structural details. If analytic literature has been able to settle, however uncomfortably, with relative uniformity on formal designations for the first and final movements ("sonata" and "rondo" form, respectively), no such harmony of vision has

¹ Wilson, *The Music of Béla Bartók*, p. 71.

ever found a resonance with the peculiarities of structure that appear to bedevil the central movement of the Sonata. After surveying such inquiries into the form of the movement, the questions for the reader are, first, whether structural idiosyncracies are more interesting than possible similarities to tonal models of form and, second, whether these idiosyncracies are informative features of a more intrinsic design.

Of the six secondary sources consulted for this study that either refer to or discuss the form of the second movement, three use the term “ternary” (although never in exactly the same way),² one uses the term “sonata rondo form”,³ and two simply refer to the movement as either a four-part structure⁴ or a five-part structure.⁵ In most of these cases, the criteria which define schematic representation have essentially been thematic: although such a bias is inherent in any attempt to relate the movement to common tonal forms (the complexity of pitch structure in the second movement is perhaps even less amenable to association with the harmonic procedures of tonal forms than in either of the other movements), it is questionable whether such an *a priori* analytic restriction will yield a framework that is helpful to further analytic investigation. Thematic references are, nevertheless, an integral part of every listener’s experience of the work; likewise, the ways in which analytic commentators have heard the second movement with respect to its thematic design can serve as a useful preview for further analysis. In place of a close discussion of the details supporting any of these particular formal designations, however, this section will focus instead on the structural features that create problems for convenient subdivision and which are found lurking within every schematic representation of the movement, regardless of the rubric under which they have been placed.

² David Yeomen, in *Bartók for the Piano*, describes the second movement as “ternary with a varied repeat” (p. 104). Otto Deri, in *Exploring Twentieth-Century Music*, refers to it as a “ternary song form” (p. 249). Paul Wilson, the only commentator of this group to offer a detailed explanation for his designation, describes the movement as a “compound ternary form, ABA” (p. 71).

³ Welch (1985), p. 97.

⁴ David Burge (1990) describes the movement as being “in A-A¹-B-A¹¹ form” with “two returns of the A section [that] are varied” (Burge, p. 83).

⁵ Waxman (1985), pp. 73-75.

This section will occasionally address particular aspects of pitch structure as are needed to articulate some of the formal idiosyncracies of the second movement. However, the intent here is also to draw attention to some of the compositional facets that define dimensions of musical activity—of dynamics, registral placement and temporal coordination—and that are inseparable from impressions of thematic activity or other structural features. These facets are often as sharply defined as any melodic or motivic contour, and as an integrated field of musical activity—or what could be loosely referred to as a kind of ‘event space’⁶—they present a compositional topography that is every bit as rugged as that encountered in the other two movements.

Partitions of the second movement are sometimes suggested by thematic appearance or re-appearance, while at other times such demarcations are difficult to pinpoint due to the varied features of a thematic ‘recurrence’, its incompleteness or, perhaps, its implicit reference to more than one theme. Undoubtedly the greatest impediment to any sincere attempt to establish formal divisions through attention to details of thematic design lies in the fundamentally protean nature of the tool itself. There are no exact thematic recurrences anywhere in the second movement, making it virtually impossible to identify any portion of the score as a discrete ‘theme’ except by deference to the order of appearance—that is, to simply state that whatever comes first is that which is later varied.

Measures 1-6 suggest a kind of independent theme, set-off from the following material by both silence (two quarter rests in m. 6) and the contrasting nature of the following material (these contrasting features will be discussed later in this section). The idea of a ‘theme’ is perhaps best understood here as a texturally inclusive term, for the right-hand ‘melody’ is not notably different in character from the ‘harmonies’ which ‘accompany’ it. The characteristics of this theme include: a generally static pitch structure with no pitch-class invariance between

⁶ The attention to registral features suggests a partial analogy with Robert Morris’ “contour-space” but is clearly less rigorously defined in its use here (see Robert Morris, *Composition With Pitch-Classes: A Theory of Compositional Design* [New Haven and London: Yale University Press, 1987], pp. 23-26).

hands (the intrusion of the pitch D⁴ in m. 6, disrupting this stasis, is the last event of the theme and the only suggestion of direction in pitch activity);⁷ a static registral separation between the hands (suggestive of a 'melody with accompaniment' texture); no gradual dynamic gradations (there is an abrupt shift from *forte* to *piano*, demarcated by a quarter-beat of silence, in m. 4);⁸ separate entry of the hands, with the left hand markedly preceding the right; and a complete absence of simultaneous occurrence of pitch events between hands (not especially characteristic of a homophonic texture). The seeming alienation of the 'melody' from the 'accompaniment' therefore has many structural determinants: before m. 7, practically the only thing which the two hands share is the silence at the beginning of m. 4.

The first apparent recurrence of these thematic materials is at m. 15. Although some features are clearly preserved in the initial two measures—for example, the static pitch-class structure and lack of simultaneity between pitch events of each hand—several other features are not: the 'thematic recurrence' begins at a *piano* dynamic level rather than at *forte*; the right-hand entry precedes that of the left hand; and the left-hand chords, although static with respect to pitch-class structure, intrude upon the registral space of the right hand. By m. 17, only the third measure of this 'thematic recurrence', there are several more disruptions to thematic integrity: the right-hand breaks out of its E-ostinato with not one divergent pitch but three (D—the original intruding pitch-class of m. 6—G and A); some right-hand pitches have registral duplicates (A⁴ and A⁵; G³ and G⁴), forming a symmetry about the pitch D⁴; the right-hand now notably begins to reach downward in register, eventually to intrude upon the original registral space that had isolated the left-hand chords in mm. 1-6 (see mm. 20-21); dynamic

⁷ Welch refers to this striking disruption, which is enhanced by the abrupt silence following it, as a "resolution" (Welch, p. 97).

⁸ There has often been debate as to the placement and meaning of this "*p*" indication in m. 4, which appears in the Universal Edition as an indication for the right hand alone by its proximity to the repeated E naturals. Although one might be tempted to see this apparent suggestion of a bifurcation of dynamic levels as a further emphasis of the registral (and rhythmic) isolation of the two hands, the facsimile edition of the manuscript places the "*p*" indication equidistantly between them and not as shown in the printed score. To this author's eye, it is clear that Bartók indeed intended a sharp overall contrast in dynamics in m. 4, with subtler dynamic gradations left to emerge later in the movement.

gradation (a crescendo toward *forte*) accompanies the greater dynamism of features as detailed above; and the two hands finally intrude upon each other's pitch attacks on the final beat of m. 17 and the first beat of m. 18. Within just three measures, a substantial transformation of the thematic materials of mm. 1-6 has transpired, which possibly accounts for the dramatic (and unprecedented) silence of three quarter-notes duration immediately following the downbeat of m. 18. The original pitch-class stasis of the left hand is finally broken at this point (m. 18) with the introduction of a T₇ cognate of the original chord, both being identically voiced and belonging to the same set-class, (025). This expanded range of thematic features provides the essential matrix of compositional activity that follows until mm. 22.⁹

There is also considerable contrast between the compositional features of mm. 1-6 and mm. 7-8, a contrast which two of the three extended analyses paper-over in their formal schemes.¹⁰ Among the most striking features of m. 7—features readily appreciated by listeners and performers—are the sudden arrival of simultaneity in the attack of pitch events in both hands (these, it should be recalled, had been kept utterly disjoint in mm. 1-6); the conflation of spheres of registral activity, this being perhaps most palpable in the immediate F^{#4}/G⁴ 'clash' on the downbeat of m. 7 (in mm. 1-6, semitonal 'friction' had been kept registally isolated)¹¹ although the dissonance of the F[#] to the C-G-D chord is suggested by the distribution of these elements between hands; and the loss of registral confinement, epitomized by the outward expansion of pitches from a range defined by C⁴—D⁵ to E^{b3}—E⁶. Less prominent but equally contrasting features are a reversal in the density of pitch structures between hands—the right

⁹ Wilson (1992) only observes changes in pitch-class structure in this passage, which he represents schematically as follows: a (mm. 15-16), a¹ (mm. 17-21). Since Wilson also labels mm. 1-6 as "a", his scheme does not attempt to account for the significant changes already present in mm. 15-16 as detailed above. Wilson subsequently designates mm. 22-23 as a part of this section, "a²", although the features of these two measures differ radically from any preceding material, as will be discussed later in this section.

¹⁰ Welch's "sonata-rondo" scheme refers to mm. 7-8 simply as "T" for "transition" (Welch, p. 97); likewise, the extraordinarily significant development of this material in mm. 24-29 and mm. 47-52 are also labeled as slightly varied transitional material ("T¹ and T¹¹"). Waxman's "five-part structure" labels all of mm. 7-14 as "A²", (Waxman, p. 73), in itself a questionable degree of inclusiveness, which also does not appreciably distinguish any of the content of these measures from "A¹", mm. 1-6.

¹¹ Welch observes the registral separation of "whole-tone dyads" in mm. 1-6 (p. 97) but does not comment on the sudden shift of registral parameters in m. 7.

hand now has trichords while the left hand has single pitches; the expansion of trichords formerly confined in range to a major sixth to chords that extend beyond the range of an octave (the outer intervals are two major ninths followed by one minor ninth); and the wide interval over which the single pitches of the left hand extend (the range of the single-pitch line of mm. 1-6 had only extended to a whole-tone by m. 6; in m. 7 the range is already an augmented fifth, F[#]-B^b). In one sense, the relatively fluid exchange of pitch-attack events between hands in mm. 1-6 has been replaced by static simultaneities in m. 7; however, the abrupt increase in the rate of harmonic activity in m. 7—each simultaneity is an entirely new configuration of pitches—represents a tremendous surge in structural activity departing from the intrusion of the pitch D⁴ at the end of m. 6. In this manner there is a subtle suggestion of a continuity of momentum across the barrier of rests concluding m. 6.

Part of the 'shock' of m. 7 can therefore be measured in terms of the enormity of change in the *array* of musical information from the preceding passage and—in view of the prior stasis of register, range and pitch structure—the sudden change in the *rate* of incoming information. If some listeners therefore find the turn of events in m. 7 disorienting, analysis suggests that this sense of dislocation attends to numerous structural incongruencies. Although the idea of a 'thematic recurrence' beginning in m. 15 has already been demonstrated to be only marginally informative, it would appear that the dissolution of the static features of mm. 1-6 at this 'recurrence' have been presaged in m. 7: to draw a simple thematic parallel between mm. 1-6 and the events following m. 15, therefore, would be to ignore the profound intervening changes in musical activity already apparent in m. 7.

Although the three-note whole-tone motive which emerges in mm. 7-8 serves as a feature of continuity with the next passage following another dramatic caesura, the subsequent imitation of this motive two octaves lower emphasizes registral discontinuity:

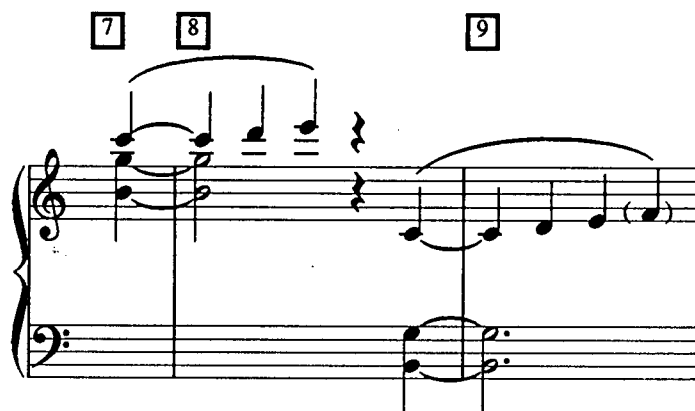


Figure 4.1.1

This local discontinuity of register draws attention to recurrences of the motive later in the movement at the same transpositional level in mm. 24-25 and in m. 48. Both of these locations present the material of mm. 7-8 but then subject it to significant development.¹² Furthermore, the use of F^{#5} in m. 47—an unprecedented reach above the initial (027) sonority of the right hand—suggests registral correspondence with appearances of this pitch in mm. 44 and 46, where it is part of a curious splicing of terse compositional references (to be discussed later). Such transformations of the materials of mm. 7-8 later in the movement do not prompt a ready association with compound ternary form.

The initial imitation of the three-note whole-tone motive immediately following mm. 7-8 expands in m. 9 to include the pitch-class F, and later to include the pitch-class B in mm. 11-12. This expanded melodic figure is the only feature of mm. 9-12 that recurs... unambiguously later in the movement, in the bass of mm. 53-56. The surrounding features of mm. 53-58 are, however, a radical departure from those of mm. 9-12: the notes of the right hand that are juxtaposed against this melodic figure, the pitch-classes G^b, B^b and E^b, are a

¹² In mm. 24-29, this material is treated sequentially (downwards by T₁₀) and includes obvious changes in pitch structure, most notably in the addition of a three-note rising motive in the bass, of the set-class (013), which links the sequential statements; following m. 47, the analogous passage unfolds with extreme irregularity that requires more detailed analysis to uncover sequential features (see the next section in this Chapter, 4.2, "Motivic Features").

fairly transparent reference to the left-hand pitch-classes of mm. 7-8, F[#], B^b and E^b. This juxtaposition of references to material from different sections of the movement is clearly not amenable to a simple schematization of form. (The structural importance of this passage will be addressed in Section 4.6, "Large-Scale Structures"). The recurrence of other features of mm. 9-12 create similar problems, although these are perhaps more subtle, as demonstrated below.

The emergence of a partially contrapuntal texture in mm. 9-12 begins with the appearance of reiterated B^bs in the soprano of m. 9. Rather than descending by whole-step as might be expected from m. 6 (that is, as a T₆ analogy of the E-D descent), the B^b descends by semitone to A. As this 'voice' develops in mm. 10-11, it appears as though it will present a melody identical to that heard in the lower voice, the sequence B-C-D-E-F. (The intervallic symmetry of this sequence about the pitch-class D is emphasized by the arrival of each voice at opposite ends of the sequence—that is, on the pitch-classes F and B—on the fourth and fifth beats of m. 11, respectively). By the eighth beat of m. 11, however, the pitch E^{b5} intrudes on this neat symmetry, its intrusion always marked by a separation in articulation from the surrounding melodic contour (E^b is never included within a slur in mm. 11-12). Following the appearance of this new pitch, the uppermost voice restricts itself to the sequence F-E-D-E^b. As the following figure indicates, this sequence suggests a compression of the whole-tone dyads of m. 6 into one registral location:

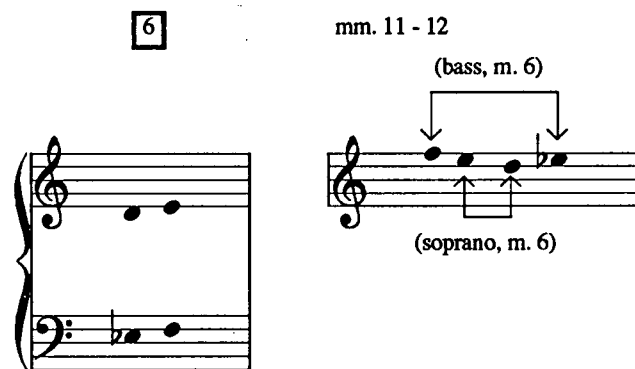


Figure 4.1.2

Although a similar association has been drawn by Welch,¹³ the orientation of this motivic figure has not been examined in relation to the melodic contour through which the upper voice departs from the reiterated B^bs of mm. 9-10:

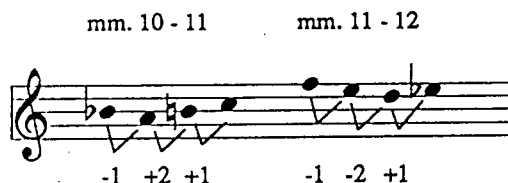


Figure 4.1.3

Both contours are of the set-class (0123), related by T_5 but oriented in mirror symmetry (that is, the second is a retrograde of the first at T_5). This motive recurs in mm. 22-23, oriented as found in the second instance depicted above (mm. 11-12) but using the pitches of the first example:

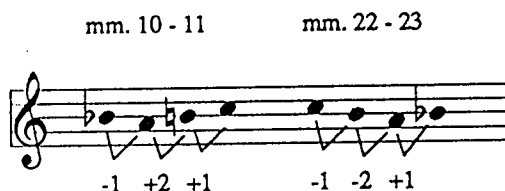


Figure 4.1.4

To refer to this passage (that is, mm. 22-23) simply as a varied recurrence of material drawn from mm. 1-6, a depiction found in every analysis of this movement presented in extant secondary literature, misconstrues the elements of the passage entirely. In view of the motivic relationship depicted in Figure 4.1.4, mm. 22-23 seem to imply an integration of the isolated B^bs of m. 9 with the left-hand (025) chords of mm. 1-6. Attending only to the use of this

¹³ Welch observes a "vertical statement of x-2" (that is, an x-cell, (0123), built on the pitch-class D) in m. 6, which is "chromatically concentrated...in the soprano line" of mm. 11-12 (see Welch, pp. 99-100).

(025) chord in formal analysis has apparently deterred analysts from looking more closely at results of this 'integration', the set-class (0257), the emergence of which will be shown to demonstrate another level of compositional integration in Section 4.3, "Uses of the Interval-Class 5 Cycle".

Every analysis of the second movement regards the passage beginning in m. 30 as a kind of 'middle section', although there is no consensus as to where this section definitively ends. Waxman and Welch consider the dramatic arrival at m. 42, at the chord which began m. 7, to demarcate the conclusion of this section;¹⁴ Wilson, in view of the association of m. 42 with m. 7, considers it to be the beginning of a final A section in his compound ternary scheme.¹⁵ This author will contend that neither analytic conclusion properly considers the relationship of this passage to that which precedes it, mm. 24-29.¹⁶

The prominent use of (027) chords in the right hand throughout mm. 30-37 and again in m. 42 suggests some form of continuity with mm. 24-29, where the initiation of each step of the sequence is signalled by the use of a (027) chord:

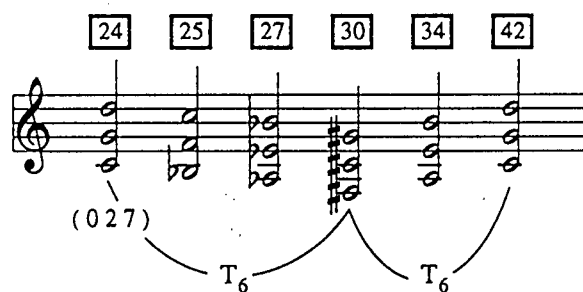


Figure 4.1.5

¹⁴ See Waxman, p. 73; Welch, p. 97.

¹⁵ See Wilson, p. 71.

¹⁶ Perhaps the most distinctive feature of the passage beginning in m. 30 is the use of a D pedal tone, although even this could possibly be heard as analogous to an augmentation of the static 'melody' of mm. 1-6. Whether the sudden disappearance of this pedal tone in m. 42 could therefore be taken to indicate a meaningful partition of the movement between m. 41 and m. 42 is a shallow speculation in lieu of closer analysis.

It is worth noting in retrospect that the structural integrity of this type of chord is already indicated by notation in m. 7 (where $F^{\#4}$ is notated separately from the (027) chord) and by the rhythmic displacement throughout mm. 24-29 of the 'conflicting' pitch-classes, $F^{\#}$, E and D. The (027) chord on the downbeat of m. 30 lies at T_6 from the (027) of m. 24 (and of m. 7), a relationship that has larger structural implications. Furthermore, in combination with the pedal tone, D, the (027) chord on the downbeat of m. 30 shares noteworthy pitch-class invariances with the (027) and $F^{\#}$ combination of mm. 7 and 24:

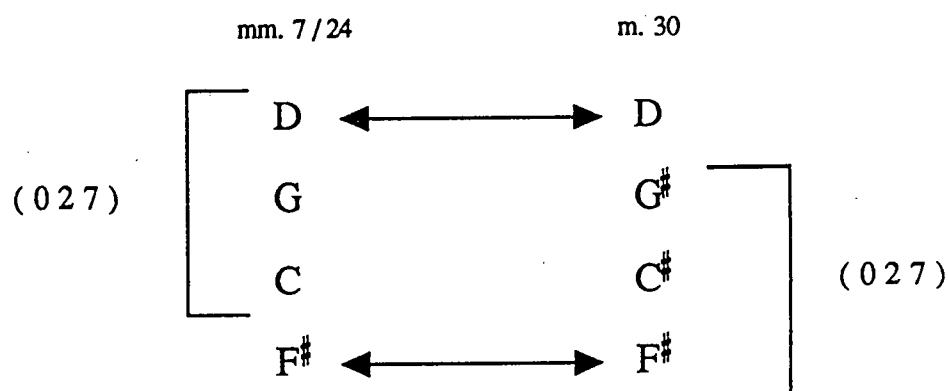


Figure 4.1.6

These pitch-class invariances not only suggest some measure of structural continuity (balanced by the return to the initial array in m. 42) but also a form of symmetry:

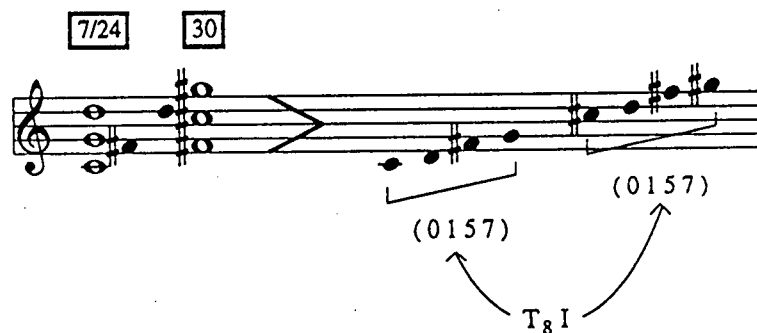


Figure 4.1.7

Although a (027) chord arrayed in consecutive fifths (as found here) is in itself an inversionally symmetrical construct, the use of pitch-classes not part of the (027) chords create tetrachords that are inversions ($T_8 I$) of each other.¹⁷ In this sense, the beginning of m. 30 may be considered a form of 'development' of the material heard on the downbeat of m. 7, although it is neither the first nor only 'development' of this material. Furthermore, with respect to the analogous material of m. 24, the separation of the additional pitch-class from the (027) chord is also active in m. 30 but with a significant transformation of means: not only is the additional pitch notationally and registrally separated (as a pedal tone) but its rhythmic separation has been shifted from a quarter-note delay (as in m. 24) to a quarter-note 'anticipation' on the final beat of m. 29.

The passage beginning in m. 30 can also be said to provide a significant transformation of previously-encountered material in the relationship between the two bass parts. In mm. 30-31 there is initially a double pedal tone, D^2-E^3 , before the upper part begins a linear ascent that eventually reaches the pitch $F^{#4}$ of m. 42. The use of these two pitch-classes in mm. 30-31 suggests a profound registral transformation of the pitch elements of the 'melody' of m. 1-6, with the original whole-tone dyad bifurcated by a registral separation. As the following figure shows, this bifurcation expands symmetrically by octave as the passage approaches m. 42:

¹⁷ Wilson also notes the inversive relation of the tetrachords.

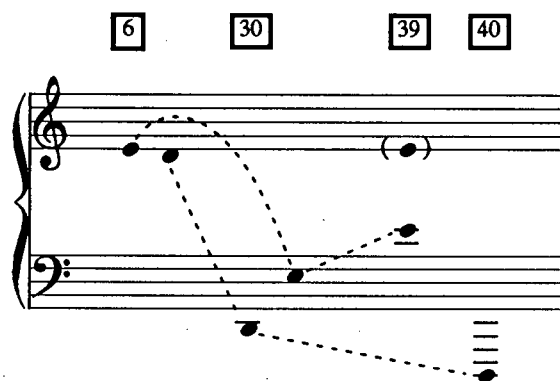


Figure 4.1.8

The abrupt displacement of the D pedal-tone by the return to the (0157) simultaneity in m. 42 is greatly enhanced by the prominent registral transfer of the pedal-tone (from D^2 to D^1) which immediately precedes it. The pedal-tone itself seems to be displaced by the same pitch-class four octaves higher in m. 42, as both the lower registral boundary of m. 41 and the upper registral boundary of m. 42 are defined by the pitch-class D (D^1 and D^5 , respectively). In sum, Figures 4.1.5 through 4.1.8 suggest a coherent interaction of structural features from m. 24 through to m. 42. Although other means of coherence will be explored in some detail later in this chapter, it is clear that prominent structural features of mm. 30-41 (or 42) are not adequately understood in isolation or as part of a distinct section. Furthermore, although transformations of previously encountered compositional features are to be found in mm. 30-41/42, these are not the first significant transformations of such features (as previous discussion has already established). It would therefore be somewhat incongruous to identify mm. 30-41/42 as a quasi 'development' section when virtually the entire movement has been consistently 'developmental' up to this point.

One of the greatest challenges confronting any attempt to schematize the form of the second movement is provided by the sequence of events beginning in m. 42. A palindromic framework of references to elements from earlier in the movement is evident in mm. 42-46, designating the varied material related to mm. 1-6 and m. 7 as 'A' and 'B', respectively:

m. 42	m. 43	m. 44	m. 45	m. 46
B	A	B	A	B

Figure 4.1.9

Even this representation obscures important features of this passage, for the only correspondence between the associated measures is one of pitch-class structure (and even this is approximate in mm. 43 and 45 because of the use of the pitch-class D in one measure and not the other): m. 44, for example, is a striking contrast in dynamics to both m. 42 and m. 46, and m. 45 inverts the registral relationship between ‘melody’ and ‘accompaniment’ of m. 43. The brevity of these references, and the sharp contrast even between associated references as depicted in Figure 4.1.9, contribute less to the perception of a ‘recapitulation’ of previously encountered material than a sense of disorientation which these disjunct references only enhance. The effect is perhaps like a close intercutting of different time sequences in film, with the constantly alternating references disrupting a sense of continuous narrative. The conflicting accounts in secondary literature over the precise location of the ‘return’ of ‘A’ material reflects to some extent an unwillingness to recognize the discontinuities integral to this entire passage. Schematically delaying the ‘return’ of familiar material until m. 43 provides only a brief congruity in the order of thematic references with the sequence of thematic events that transpires at the beginning of the movement. Schematic preference for this ‘correct order’ of thematic references in mm. 43-44, however, addresses none of the incongruities which follow.

Regardless of the preferred pattern of formal scheme, the conclusion of the movement has troubled most commentators (save those who have simply looked at the final note in the bass and proclaimed the movement to be ‘C-based’).¹⁸ Wilson takes a somewhat provocative stance: after observing that the final sonority is of the set-class (014)—an abstract if intriguing association with similar structures in both the first and second movements—Wilson suggests

¹⁸ See Somfai (1993), p. 177; Yeomans (1988), p. 104. Welch describes the “final chord” as “C major/minor” but offers no explanation to justify this interpretation, either with respect to the choice of label (the absence of a fifth in this “major/minor chord”, at least, is noteworthy) or the composer’s use of this structure.

that the second movement as a whole fails to manifest any evidence of large-scale structural process. According to Wilson, "it seems that Bartók ends a movement by creating an abrupt change to cut off a process that has no natural conclusion".¹⁹ "Natural" or not, this study will contend that the movement concludes a linear process articulated by numerous structural features and from which the arrival at C² in the final measure is at least a likely outcome.

4.2 Motivic Features

Although most secondary sources make some reference to motivic features of the second movement, the precise intervallic structures of important motivic units receive surprisingly oblique commentary. All of the major analyses of this movement (Waxman, Welch and Wilson) refer, for example, to a "three-note motive", yet none are moved to examine the structure of this "motive" beyond the cardinality of its pitch-classes. The potential analytic limitations of this disinterest should already be apparent from the structural importance played by the motivic relationships of the first movement: not only was the use of a (013) motivic cell a prominent means of thematic integration but it also directed analytic attention to the integration between thematic structure and sonorities, and eventually to features of large-scale structural design (for example, the completion of a linear octatonic ascent from E to A[#] at the arrival of the second theme in the recapitulation). Mindful of such precedents, the analyst might expect similarly important structural features to emerge from motivic characteristics of the second movement.

The dyadic structure which emerges in the opening right-hand 'melody' in m. 6 will be commented on in a subsequent section, where its place within the context of an interval-class 5 cycle can be adequately explored (see Section 4.3, "Uses of the Interval-Class 5 Cycle"). At this point, what is of interest is the apparent extension of this whole-tone dyad into a three-note motive of the set-class (024):

¹⁹ Wilson, p. 77.

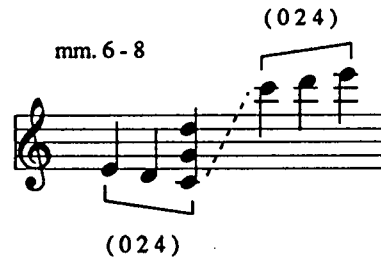


Figure 4.2.1

The symmetry of this set-class (in this example, about the pitch-class D) is apparent in Bartók's immediate use of it in both descending and ascending directions (that is, whether the motive is played upwards or downwards, the succession of intervals remains the same). In mm. 8-9 the motive is transferred to an inside voice, the result of a two-octave registral shift of the right-hand material of mm. 7⁵-8³, and the motive is extended upwards to include the pitch-class F, thus breaking the symmetry of the (024) motive. Symmetry becomes re-established, however, when the previous extension to the pitch-class F is allowed to descend and incorporate the pitch-class B in m. 11. The result of this intervallic growth is both another symmetric set-class, (01356), of which the original (024) motive is a subset, and a melodic structure which continues to be symmetric specifically about the pitch-class D:



Figure 4.2.2

Figures 4.2.1 and 4.2.2 therefore detail a process in which a (024) motive is symmetrically expanded into a (01356) melodic structure.²⁰ Another striking feature of the symmetry depicted above is that it partitions the set-class (01356) into two inversionally-related (013) subsets ($T_4 I$) that recur throughout the movement. The subsets depicted in Figure 4.2.2 are related to each other by $T_4 I$ and recall a similar array found in the closing theme of the exposition of the first movement, mm. 116-133:

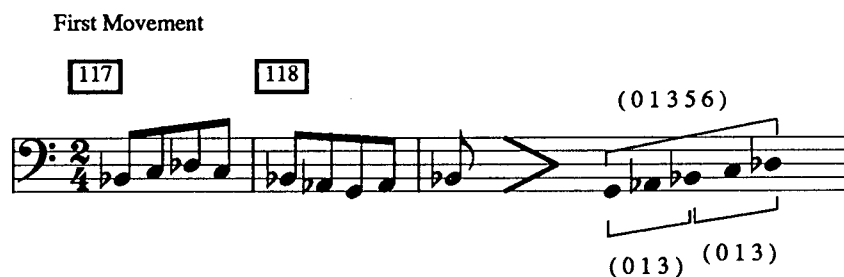


Figure 4.2.3

The intervallic sequence is identical here and likewise emphasizes the centrality of a particular pitch-class (B^b/A^\sharp) that was of particular structural importance. In the second movement, therefore, the question arises as to whether the symmetry about the pitch-class D of both the original (024) motive and of its subsequent expansion into the (01356) melodic figure manifests the structural importance of this pitch-class.

This (01356) melodic structure recurs strikingly in the second movement in mm. 53-56 in a much lower register but at the same transpositional level at which it first appeared (that is, it remains symmetrical about the pitch-class D), following which the point of symmetry becomes a melodic 'ceiling' (m. 56-57), thereby creating a discrete expression of the set-class (013):

²⁰ The observation of symmetrical structures presented here will recall for readers George Perle's seminal exploration of such structures in Bartók's Second, Fourth and Fifth String Quartets in "Symmetrical Formations in the String Quartets of Bela Bartok" (*Music Review* 16 [1955]: 300-312).

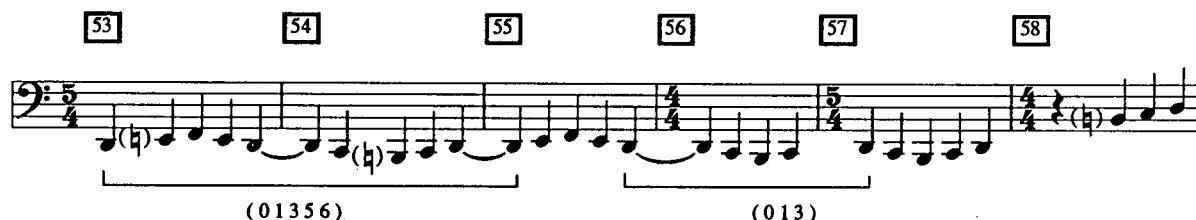


Figure 4.2.4

Emphasis on the pitch-class D in mm. 53-58 is effected not only by intervallic symmetry: the temporal elongation of the pitch-class by a quarter note in mm. 53-56 (making it twice as long as any of its neighbors), followed by its role as a melodic contour limit in mm. 56-58 (enhanced by the upward direction and arrival at the pitch-class D of the motivic figure in both measures 57 and 58) compound the symmetric emphasis. This associated emphasis on a particular pitch-class both close to the beginning of the movement and close to its end suggests that motivic features may play a crucial role in delineating significant structural activity throughout the movement, though the particular importance of emphasis on the pitch-class D must temporarily be left for future exploration in this study (see Section 4.6, "Large-Scale Structures").

The crystalline intervallic growth from a (024) motive into a larger symmetrical structure, the melodic figure (01356), appears to have created the intervallic matrix from which a (013) motive has emerged. Both of these three-note motives are recurrent features of the movement and are associated with larger symmetrical collections. These associations—of the (024) motive with a whole-tone collection and of the (013) motive with an octatonic collection—will be discussed separately before possible references to other collections or set structures are explored.

As remarked in Section 4.1, measure 7 features a strikingly dissonant relation between the pitch-class F[#] and a chord constructed from perfect fifths, C-G-D, or the set-class (027). This 'dissonant' pitch-class, F[#], is integrated in a lower register in mm. 13-14 as part of a

partial whole-tone descent, where it is placed above a descending version of the (024) motive that is symmetrical about the pitch-class D:

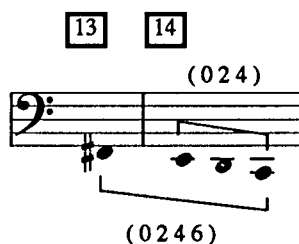


Figure 4.2.5

The immediate return in the bass to the pitch-class A^b in m. 15 likewise suggests a broader whole-tone context in which several (024) structures may be nested:

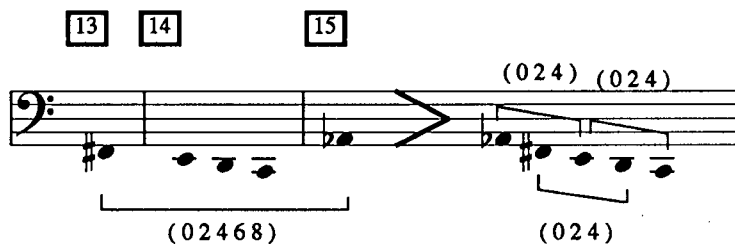


Figure 4.2.6

The registral integrity of this whole-tone segment suggests possible reference to a complete whole-tone collection which also appears to be referred to in mm. 25-29, in a succession of (024) motives that lie on top of the texture:

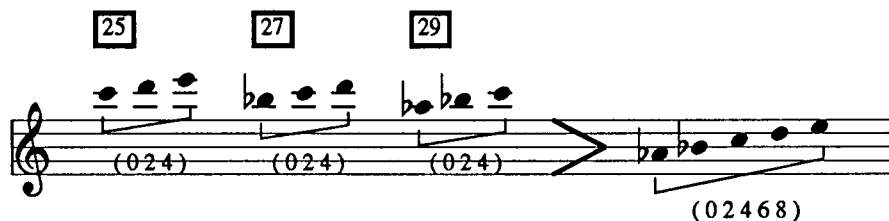


Figure 4.2.7

Both of these whole-tone segments (that is, in mm. 13-15 and 25-29), which are representatives of the set-class (02468) related by T_8 , are possible segmentations of the same complete whole-tone collection, but with each lacking a pitch-class contained by the other needed to complete this collection (the missing pitch-class for each passage is identified in brackets):

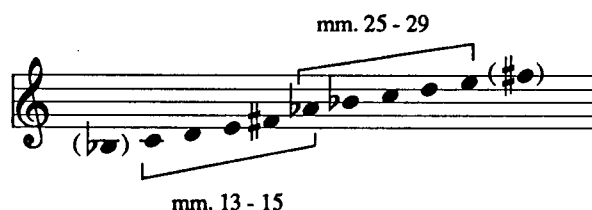


Figure 4.2.8

Although the apparent symmetry of this distribution of (02468) segments has been placed for convenience in one register, this distribution is not simply a symmetry in pitch-class space since the relative configuration of registral separation has been retained, as may be seen by comparison with the preceding two examples. The symmetrical array of these pitch-class collections emphasizes the centrality of the pitch-class A^b . Furthermore, the actual pitches represented by the central A^b in Figure 4.2.8, A^{b2} and A^{b5} , are symmetrically arrayed about the pitch D^4 , the point of symmetry of the (01356) melodic figure depicted in Figure 4.2.2. (The importance of some of these points of symmetry will be elaborated upon in Section 4.6, “Large-Scale Structures”, in terms of both large-scale voice exchange and deep-level linear structure).

The whole-tone implications of the (024) motive are not restricted to just one of the two possible whole-tone collections. Measures 48-52 unfold a sequence of (024) motives in the upper part of the texture which, if taken to refer to whole-tone collections, alternate between these distinct collections:

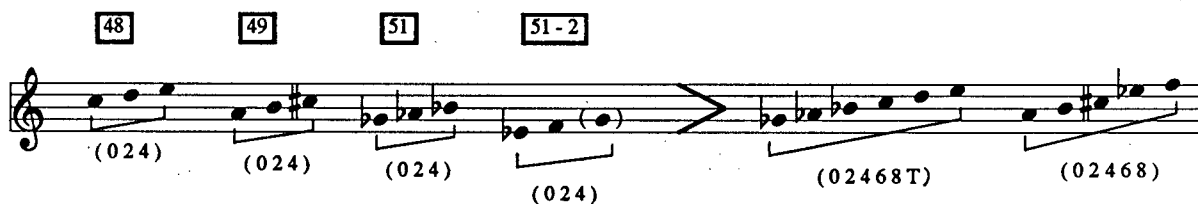


Figure 4.2.9

The descending T_9 sequence of (024) motives—which outlines a (0369) structure in the sequence of pitches initiating each (024) motive, C-A-G^b-E^b—stops one note short of completing the aggregate: an E^b-F-G^b (013) motive subsumes the E^b-F-G (024) motive anticipated by the T_9 sequence depicted above (see mm. 51-52, right hand).

Beneath the T_9 transpositional sequence of (024) motives in mm. 48-52, a (013) motive, C-D-E^b, has remained untransposed. It is disturbed only in m. 51, when a sudden commensurability of motivic structure between registers emerges:

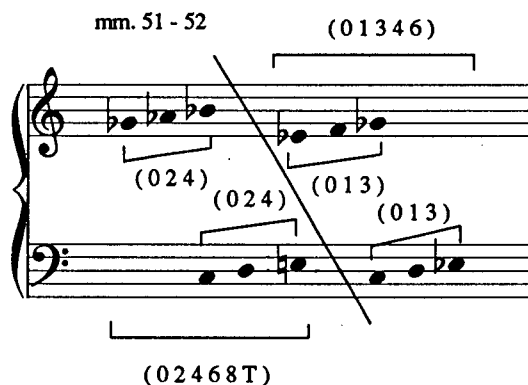


Figure 4.2.10

The overlapping of the first pair of (024) motives, creating a complete whole-tone collection, suggests that the reference to alternate whole-tone collections depicted in Figure 4.2.9 is substantiated by direct association of (024) motives to a single whole-tone collection in mm. 51-52. The subsequent overlap of the (013) motives suggests possible reference to an octatonic collection. Hints of octatonicism are not difficult to locate elsewhere in the

movement, particularly beginning in m. 30. Between measures 30 and 34, the two bass lines (that is, including the pedal-tone D) unfold a partial octatonic sequence from D to G[#]:

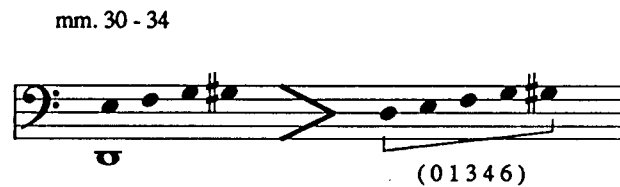


Figure 4.2.11

The set-class, (01346), to which this sequence belongs, and which is a subset of the complete octatonic collection, is identical to that observed in mm. 52-53 (see Figure 4.2.10).²¹

Furthermore, the melody of mm. 30-36⁴ can be said to proceed ‘octatonically’:

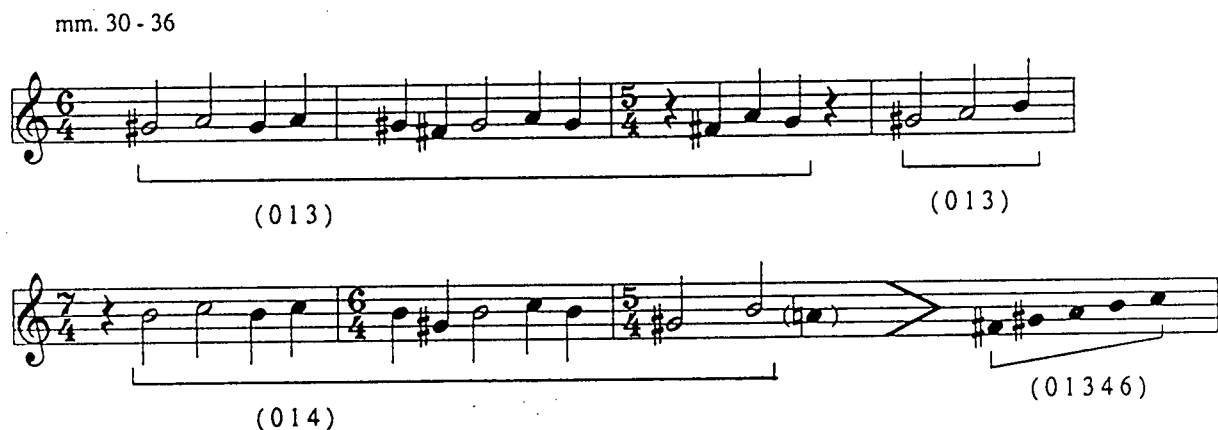


Figure 4.2.12

This octatonic segment is another manifestation of the set-class (01346) and demonstrates more than a similarity of set structure with the (013) ‘octatonic’ segments of mm. 51-52 (see Figure 4.2.10). These octatonic segments together comprise a complete octatonic collection:

²¹ Although Welch has referred to the use of (01346) in mm. 30-34 as an “incomplete octatonic scale”—an assertion which will soon be re-evaluated in this study—she draws no correspondence with mm. 52-53 (Welch, p. 103).



Figure 4.2.13

This relationship can be described as $(01346) \cup T_6(01346) = (0134679T)$. In this case, the registral depiction is not conflated but shows the precise location of these segments as found in the score (although the lower octave doubling of the C-D-E^b motive, a significant structural continuity, has been temporarily left out for discussion in another context). The registral location of this array is noteworthy for it is precisely bisected by the registral position in which the pitch-class F[#] first appears in the movement (m. 7).

Although this relationship between separate expressions of (01346) is suggestive of octatonic resources, this is not the only possible conclusion. An alternative source for apparent octatonicism is evident directly in the form of a complete and continuous expression of heptatonia seconda in the bass of mm. 30-36:



Figure 4.2.14

This distinctive intervallic sequence, more easily recognized in a characteristic rotation, (1-2-1-2-2-2-2), is a mode of heptatonia seconda. As this scale-type has already proven to be a significant thematic resource in the first movement²² and will prominently resurface in the final

²² See Chapter Three, Figure 3.2.15 and ensuing discussion.

movement, it is perhaps not surprising to find it present in the second movement as well. The appearance of heptatonia secunda, which claims both (024) and (013) as subsets, therefore raises the prospect that motivic structures should not be interpreted as segments of only one collection²³: careful attention must be given to compositional features such as those discussed above (sequential patterns, registral location, symmetrical constructs) before attempting to assign subset and superset relations.

The transpositional relationships of motives also refer to collections of which they are not proper subsets. For example, the T_9 sequence of (024) motives in mm. 48-52 was observed to create a (0369) collection of initiating pitch-classes, {C,A,G^b,E^b}, which are elements of the octatonic collection depicted in Figure 4.2.13. Similarly, the T_{10} sequence of (013) motives in the bass of mm. 25-29 outlines the whole-tone motive (024):

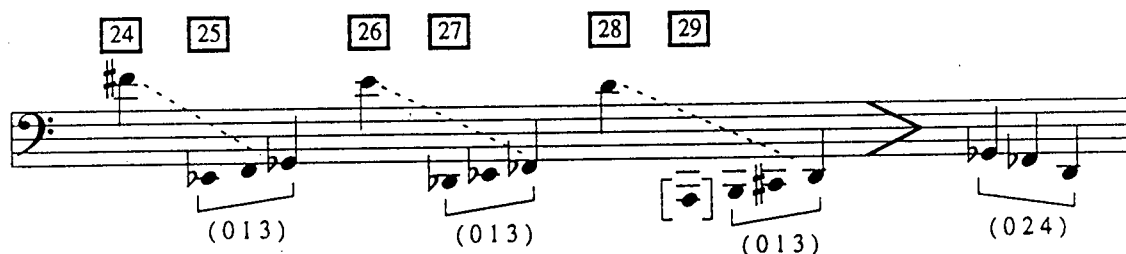


Figure 4.2.15

This suggests a larger whole-tone framework, not only due to the emphasis in the bass of the pitch-class A^b in mm. 15-21 and mm. 22-23 (in each of these passages it is the lowest pitch-class used) but in the analogy suggested with the bass of mm. 13-15:

²³ It should also be recalled that partial whole-tone and octatonic collections are found as segments in heptatonia secunda, as demonstrated in Chapter Three, Figure 3.2.16.

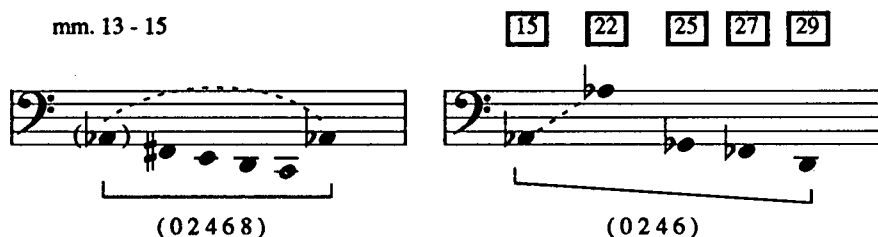


Figure 4.2.16

The prominent whole-tone segment of mm. 13-14, F^\sharp -E-D-C, therefore appears to undergo a composing-out in mm. 24-29 that stops just short of completion in the identical register at the pitch C^2 . Furthermore, the disjuncture between the A^{b2} of m. 15 and the preceding whole-tone descent is now conjoined with such a descent by the means depicted in Figure 4.2.16. A significant structural process therefore appears to be taking shape which lends coherence to the entire progress of the movement from m. 1 through to m. 29:

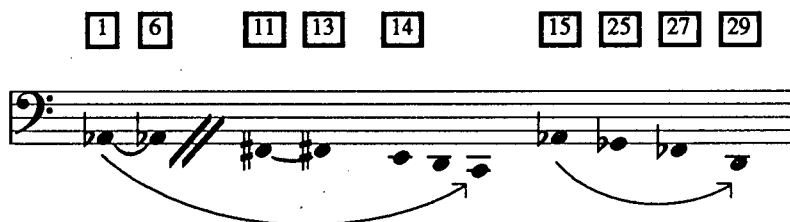


Figure 4.2.17

Parallel whole-tone progressions descend in the bass from the pitch A^{b2} , with the second progression stopping one note short of completing the descent to C^2 of the first progression. The final section of this Chapter (Section 4.6, "Large-Scale Structures") will discuss the ramifications of these linear whole-tone descents.

Although this study has taken pains to carefully distinguish between motivic structures representative of the set-classes (024) and (013), it would be misleading to thereby promote the impression that these motives lead entirely discrete lives throughout the course of the movement. In some situations, these motivic structures are combined in such a way as to

suggest motivic ambiguity or mutation. The idea of semitone 'conflicts' or 'frictions' popular with some commentators (Waxman and Welch, for example) can sometimes be seen to arise from ambiguities of motivic structure. For example, the E^b/E^\sharp 'friction' of mm. 1-6 arises in m. 48 and again in mm. 50-52 between expressions of a (013) and a (024) motive beginning on the identical pitch-class, C (that is, between a C-D- E^b and a C-D-E motive). This ambiguity of set-class membership can also be found in considerably more complex manifestations where the set members are distributed over more than one register, as in the following examples:

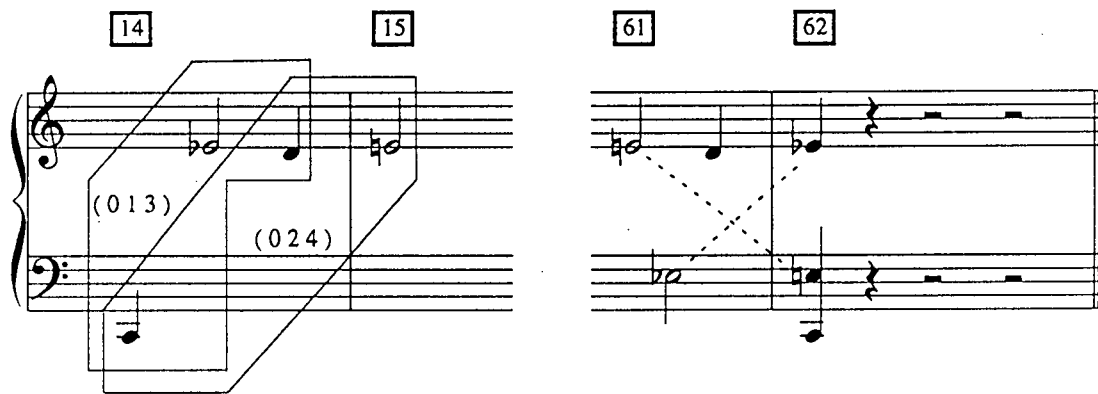


Figure 4.2.18

The second example is particularly ambiguous due to the use of voice exchange between the pitch-classes E^b and E^\sharp (indicated by the crossed dashed lines). As the latter example constitutes the conclusion of the entire movement, the presence of set-class-membership ambiguity would appear to be an important compositional feature: performers and listeners alike comment on the 'strange ending' of the movement, a form of closure frequently found to be ambiguous. The reader will also note that the first example, mm. 14-15, corresponds to an important structural location suggested by Figure 4.2.17, inviting consideration of structural parallels between these locations in the movement. The parallel is also implied by the reversal of the E^b -D- E^\sharp upper line (mm. 14-15) at the end of the movement, becoming E^\sharp -D- E^b , in the identical registral location. (The registral locations of the pitch-classes E^b and E^\sharp in m. 61,

before the voice exchange occurs, are those found at the beginning of the movement, in mm. 1-6).

Ambiguity between expressions of (013) and (024) can be suggested by symmetrical relationships. The symmetry of the (01356) melodic figure depicted earlier in Figure 4.2.2 unfolds within a symmetrical framework previously established in mm. 7 and 9 by the registral positions of the pitch-classes F^\sharp and B^b (which, notably, are not given enharmonic equivalents anywhere in this passage):

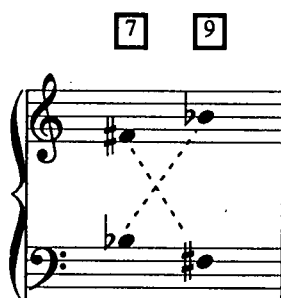


Figure 4.2.19

If all of these elements—the pitch-classes F^\sharp and B^b and the (01356) melodic figure—are combined, the resulting structure nests symmetrical arrays of both (024) and (013) subsets:

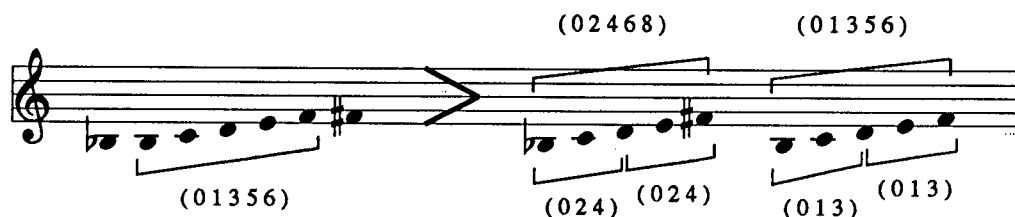


Figure 4.2.20

This particular structure is of interest because of its recurrence in mm. 53-58, where the isolated pitch-classes G^b (F^\sharp), B^b and E^b are combined with the (01356) melodic figure, each of these pitch-classes coinciding with a semitone relation. (The association of these pitch-

classes to the left-hand pitch-classes of mm. 7-8 has already been commented on in Section 4.1). These conjunctions imply all of the (024)/(013) ambiguities depicted above in Figures 4.2.18 and 4.2.20:

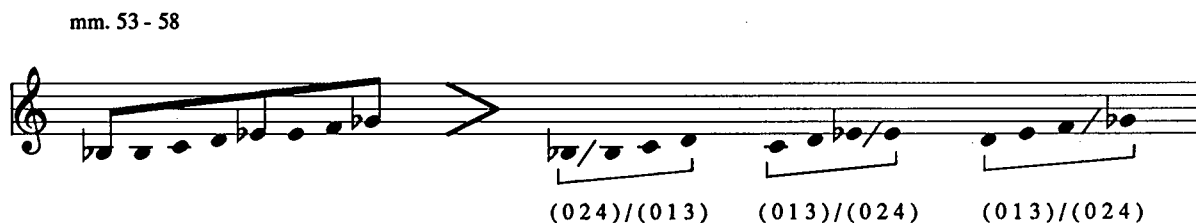


Figure 4.2.21

Measures 53-58 therefore present a nexus of set-class-membership ambiguities prevalent throughout the movement.

Ambiguities of set-class-membership can also be used to disrupt sequential processes. A prominent example of this was observed with respect to the sequence depicted in Figure 4.2.9, where the completion of the aggregate by a T_9 sequence of (024) motives was foiled by the intrusion of a (013) motive, ending the sequence on G^b (part of the (013)-type set, E^b - F - G^b) rather than on G (part of the (024)-type set, E^b - F - G). The thwarting of this sequence is possibly foreshadowed by the content of the chord, $\{E^b, F, F^\#, G\}$, that interrupts the contrapuntal passage of mm. 10-12 and from which a whole-tone segment descends in mm. 13-14:

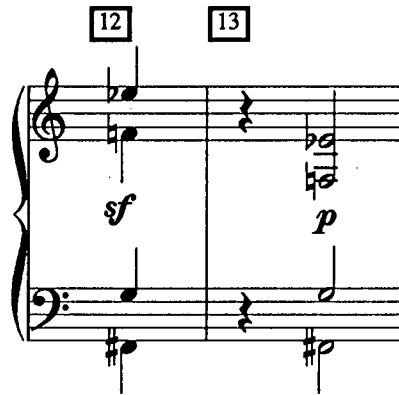


Figure 4.2.22

In the chord of m. 12 in particular, the pitch-class F^\sharp appears to be an intrusive element, conflicting with the perfect symmetry about F^4 of the upper parts—another possible symmetrical arrangement of the set-class (024).

Another important example of the disruption of a sequence by a (024)/(013) ambiguity appeared in Figure 4.2.15, where the expected (013) motive in m. 29, B-C $^\sharp$ -D, was distended by the inclusion of the pitch-class A:

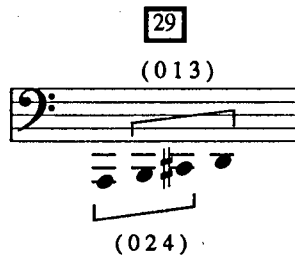


Figure 4.2.23

The (024) disruption of the sequence (in two registers in m. 29) appears to be associated with features of a later sequence of (024) motives, mm. 48-52. The later sequence moves directly to an A-B-C $^\sharp$, (024) motive from its initial C-D-E motive—that is, it moves directly from the (024) motive which began mm. 24-29 to the (024) motive which interrupted the sequential treatment of that passage (see Figure 4.2.9). Furthermore, the next (024) motive in

mm. 48-52— $G^b-A^b-B^b$ —represents a consequent transposition of the T_{10} sequence of (024) motives found in mm. 24-29 (see Figure 4.2.7), if that sequence had not been interrupted but had continued with one more iteration (forming a complete whole-tone collection). The (013) motive, $B^2-C^{\#2}-D^2$, which had been entangled with the (024), $A-B-C^{\#}$ motive in m. 29, finally emerges in the same register with a distinct identity in mm. 52-53: this emergence is part of an important structural continuity in the movement that will be detailed in Section 4.6, “Large-Scale Structures”.

In the associations that have been drawn in this section between the intervallic structure of a set-class and a motivic representation of that set-class, an assumption has been made with respect to the order or registral direction of the constituent intervals. It has been assumed, for example, that the interval succession 1-2 (or 2-1) will describe the interval structure of a motive representative of the set-class (013). If, on the other hand, intervallic succession itself is considered as a motivic structure, certain compositional associations come to light which are not conveyed by a consideration of set-class structure alone. This has already become apparent as a matter of the distribution and orientation of a (0123) motive in Section 4.1, detailed in Figures 4.1.3 and 4.1.4. Furthermore, in terms of intervallic succession, the same motive can be understood to harbor interwoven expressions of the interval sequence 1-2/2-1:

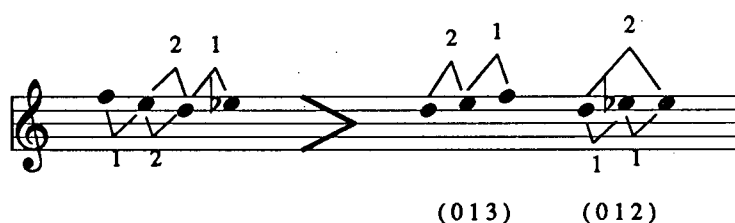


Figure 4.2.24

According to the figure, the shape of the interval sequence 1-2 or 2-1 need not be exclusively associated with the set-class (013). The E^b-D-E^{\natural} and $E^{\natural}-D-E^b$ melodic contours detailed in Figure 4.2.18, while evidently referring to the pitch-class elements and orientations of the

(0123) motive depicted in Figure 4.2.24, are not therefore simply a distribution of the elements of a subset of (0123)—that is, of the set-class (012)—without possible association to other motivic structures. The spatial features of motivic activity may therefore contribute as much to structural coherence as associations of set-class features. This matter is not an abstract theoretical concern, for listeners are more likely to perceive the ‘shape’ of the figure F-E-D-E^b than a symmetrical collection of semitones, D-E^b-E^b-F (or an ‘x-cell’), and to draw an association from this shape with the melodic closure of the movement, E^b-D-E^b, rather than assigning a subset relation to it.

4.3 Uses of the Interval-Class 5 Cycle

The preceding chapter recorded the use of a chain of T_7 relationships in the succession of secondary themes in the exposition of the first movement; furthermore, the derivation of chords comprised of fourths and fifths from an interval-class 5 sequence was also commented on. It was suggested that these features indicate the composer’s interest in developing multiple structural features from a single process, the generation of pitch structures or the transposition of entire thematic structures by the interval-class 5. Although this type of process is readily apparent in the compositional features noted above, it may also be present in pitch relationships that bear no obvious association with interval-class 5 structures. For example, some subsets of the octatonic collection can be subjected to an interval-class 5 transposition without disrupting their membership in the collection: any diminished-seventh sonority, a representative of the set-class (0369), will create a complete octatonic collection in combination with its transposition by interval-class 5 (that is, at either T_5 or T_7).²⁴

Since the second and third movements were composed after the first, it is perhaps not surprising that the interval-class 5 processes observed in the first movement are more extensively deployed as a structural resource in the later movements. Furthermore, the use of

²⁴ (0369) \cup T_5 (0369) = <0235689E> = (0134679T).
 (0369) \cup T_7 (0369) = <0134679T> = (0134679T).

these processes results in striking similarities of structures between the two later movements, and to this extent the following discussion will foreshadow some aspects of the analysis of the third movement. Because of the evident importance of these structures, the following two paragraphs will provide a brief survey of their basic features and their development in Bartók's compositional techniques.

Elliott Antokoletz has demonstrated the use of interval-class-5-derived structures in Bartók's compositions as early as the Bagatelles for piano Op. 6 (1908), four years after the composer began his folk music research and one year after he was introduced to the music of Debussy by Kodály.²⁵ Bartók himself describes the importance of pentatonic-derived structures as a source for the development of new melodic contours and new sonorities.²⁶ An example of the type of folk melody from which these structures could be derived is provided below (transcription No. 44a, from Bartók's *La Musique populaire des Hongrois et des peuples voisins*, 1937).²⁷

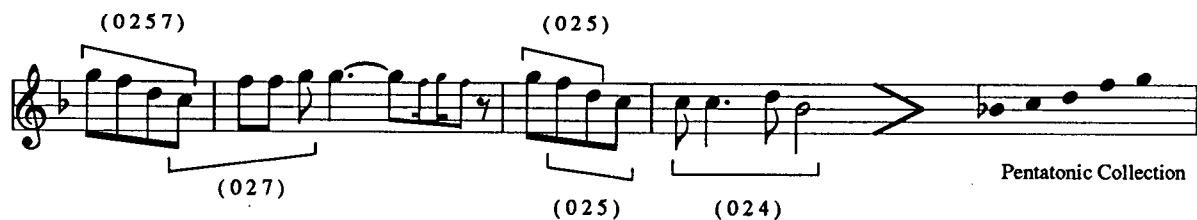


Figure 4.3.1

Some of the set structures of the melody are identified in the figure, each constituting a subset of the anhemitonic (that is, without semitone steps) pentatonic collection defined by the

²⁵ See Antokoletz, *The Music of Béla Bartók*, pp. 206-207.

²⁶ Bartók discusses both the "melodic impulses" and "harmonic suggestions" (which he describes at one point as resulting in "queer-sounding chords") drawn from the "anhemitone" pentatonic scale in the second Harvard lecture (*Essays*, pp. 363-375). Many of the examples shown are triadic (not necessarily a reflection of the editor's preference—see Chapter Two, Section 2.1, "Primary Sources"), although Bartók observes that these triadic chords nevertheless avoid traditional tonal functions to the extent that tonic-dominant relationships are not possible (the dominant triad cannot be constructed from the collection—see *Essays*, p. 371). The derivation of "fourth chords" from pentatonic melodies is discussed by the composer in his 1928 essay, "The Folk Songs of Hungary", in which Bartók identifies the folk provenance of "the simplest fourth-chord", an example of the set-class (027), as used in his first String Quartet of 1908 (*Essays*, p. 336).

²⁷ The example is taken from the collection of Bartók *Essays* (Benjamin Suchoff, ed.), p. 178.

melody, the set-class (02479). The elements of this set-class can be drawn from any 5-note segment of an interval-class 5 cycle (similarly, the elements of any diatonic collection, set-class (013568T), are generated by any 7-note segment of the cycle). Figure 4.3.2 unpacks the interval-class 5 relationships of a large subset of (02479), the (0257) motive which begins the melody depicted above:

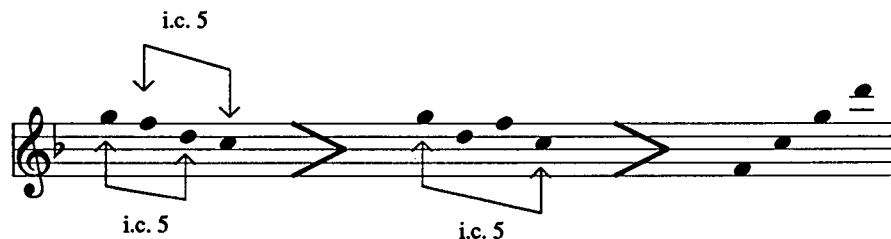


Figure 4.3.2

The derivation of possible chords from this segment is depicted below in Figure 4.3.3 (the segment of Figure 4.3.2 has been transposed for convenience of illustration). The numbers provided below the figure are simply an indication of the order of the pitches of the segment <CGDA>, from lowest note to highest, which are then used to highlight the relationship of the subsets with the segment:

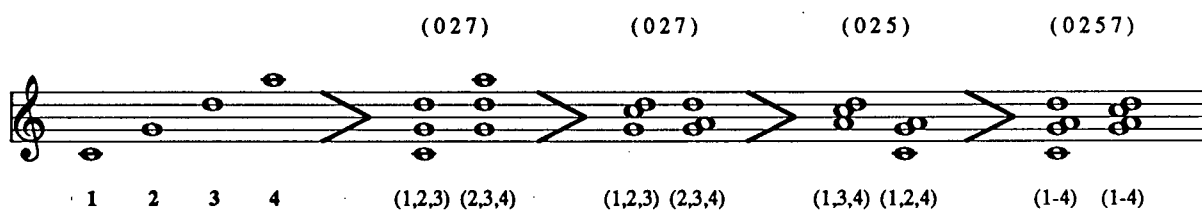


Figure 4.3.3

These are only some of the possible subset derivations but they demonstrate important characteristics of these types of structures: they can form fairly dense collections that emphasize whole-tone dyads, spacious collections of 'fourths' and 'fifths', or combinations of these characteristics. They also submit to many forms of symmetrical distribution (see the first two (027) examples, and the inversive symmetry of the final (0257) example, which

corresponds with the prime form of the set). While any of these structures could be used to 'harmonize' the folk tune transcribed in Figure 4.1.3, they may be used by themselves to create more abstract structures. The following excerpt from Bartók's *Dance Suite* of 1923 (transcribed for solo piano in 1925, one year prior to the creation of the Sonata for Piano) clearly demonstrates the relatively free use of (0257) chords:

Più tranquillo, $\text{♩} = 142$

8va-----

(0257)

The musical score is written for piano in 9/8 time. It consists of two staves, treble and bass. The tempo is marked 'Più tranquillo' with a quarter note equal to 142 beats. The key signature has one flat (B-flat). The score shows measures 13, 14, and 15. Measure 13 has a dotted box around the first two chords in the right hand. Measure 14 has a bracket labeled '(0257)' above the right hand. Measure 15 has a bracket labeled '(0257)' above the right hand. Dynamics include 'p' (piano) and 'mf sonore' (mezzo-forte, sonorous). Arrows at the bottom point to measures 13, 14, and 15, indicating when both hands share the same pitch-class representation.

Figure 4.3.4 Bartók: *Dance Suite*, IV, mm. 13-15

Each of the chords in each of the hands is a (0257) structure, with arrows indicating when both hands share the same pitch-class representation of that structure (bringing the structure into pitch-class 'focus' between the hands at these points). The unison melody of the third measure is an expression of the same set-class. The dotted box around the first two right-hand chords indicates a T_1 relation which will be discussed later.

It would be misleading to present the preceding discussion without acknowledging that Bartók was not the sole originator of these types of compositional innovations, a fact to which Bartók himself drew attention. Bartók observed that Debussy had arrived at similar innovations, possibly without recourse to the study of folk music, although in both his 1920 essay, "The Influence of Folk Music on the Art Music of Today" and in the 1921 essay, "The Relation of Folk Song to the Development of the Art Music of Our Time", he suggests that

Debussy and Ravel might have been influenced by eastern European folk music.²⁸ Aside from the obvious interval-class 5 structures of a much later work like the *Étude in Fourths* (1915),²⁹ one can clearly see the type of pentatonic-associated structures which likely caught Bartók's attention in 1907 in a work like *Images I* (1905). The melody of "Hommage à Rameau", for example, begins by outlining the set-class (0257), much like the folk melody encountered in Figure 4.3.1 and, coincidentally, using the identical pitch-classes of the (0257) melody at the end of the *Dance Suite* excerpt, Figure 4.3.4:



Figure 4.3.5 Debussy: "Hommage à Rameau", *Images I*, mm. 1-2.

Debussy's use of interval-class 5 structures can also be found in chords. In the following example, also taken from *Images I* ("Reflets dans l'eau"), chords using interval-class 5 components (parallel fourths and fifths) are directly associated with a pentatonic scale:

²⁸ In the earlier essay Bartók is adamant that folk music is responsible for important avant-garde features of the music of Debussy and Ravel: "The works of Debussy and Ravel should be considered the first ones on which the folk music of Eastern Europe and Eastern Asia exerted a permanent and, to some extent, leading influence" (*Essays*, p. 317). If the Eastern Asian influence is incontrovertible (Debussy's visit to the Paris World Exhibition in 1889 and enthusiasm for the Javanese gamelan music he encountered there is widely documented), Bartók's opinion of the Eastern European influence is stated much more cautiously in the later essay: "The purpose of this essay is not to discover which of the modern composers have been influenced by the folk music of one country or another and in what form the influence has manifested itself. So I shall not raise the question as to whether Debussy acquired certain characteristics through the medium of Moussorgsky or from direct contact with Russian folk music, nor shall I speculate upon the sources of the pentatonic element in the work of Ravel" (*Essays*, p. 325).

²⁹ Debussy, however, also uses augmented fourths, or interval-class 6. Bartók's own compositional essay in fourths, "Fourths" (*Mikrokosmos* no. 131) does not admit the use of this interval-class.

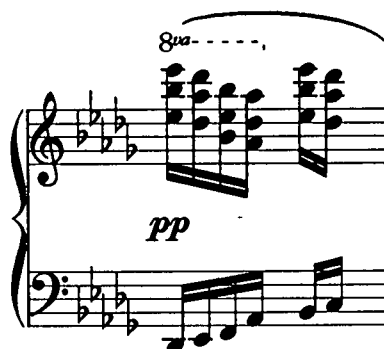


Figure 4.3.6 Debussy: “Reflets dans l’eau”, *Images I*, m. 16.

The chords of the right hand can be generated as a continuous T_7 sequence, $D^b-A^b-E^b-B^b$, constituting the set-class (0257), while the pentatonic scale of the left-hand (octave-doubling has been left out of the example) completes this sequence with the pitch-class F, $D^b-A^b-E^b-B^b-F$, creating the set-class (02479). The ‘collapsing’ of the parallel fourths/fifths chords in the right hand into a single (0257) structure can be heard in the chord held through the third and fourth measures from the end of “Reflets dans l’eau”, using the identical pitch-classes.

Similar but far more extensively developed relationships unfold between movements of the Bartók Piano Sonata. The use of (025) and (0257) structures was observed early in the first movement (see Chapter Three, Figure 3.2.12) and found expanded use later in the movement. Parallel fifths and fourths erupt noisily with the secondary theme beginning in m. 56: these intervals and the pitch-classes which define them have already been shown to provide a connection with the first part of the development section through a set-class (0257) association.³⁰ The use of chords related to the interval-class 5 cycle becomes much more prevalent in the second movement, as the discussion of Section 4.1 will have already made somewhat apparent (see Figure 4.1.5): the set-classes (025) and (027) are prominent chords

³⁰ Coincidentally, the enharmonic reinterpretation of the constituent pitch-classes—from $(G^*A^*C^*D^*)$ to $(A^bB^bD^bE^b)$ as shown in Figure 3.1.9—produces the same (0257) collection observed in the second Debussy example discussed above, Figure 4.3.6. While the upper (right-hand) part of the secondary theme of the Bartók Sonata defines a pentatonic collection, however, this collection $(F^*G^*A^*C^*D^*)$ is not identical to that of the Debussy example $(D^bE^bFA^bB^b)$.

and create powerful structural associations between different areas of the movement. The following discussion will demonstrate general congruencies of both melodic features and chords with interval-class 5 structures; the use of the set-class (0257) as both an important chord of 'resolution' and as a melodic contour; the contrapuntal overlay of interval-class 5 structures related by T_1 , and the T_7 associations of a chain of (027) chords and the pitch-class collection that this chain generates.

An immediate and transparent interval-class 5 association between melodic contour and chordal structure is encountered in m. 7:

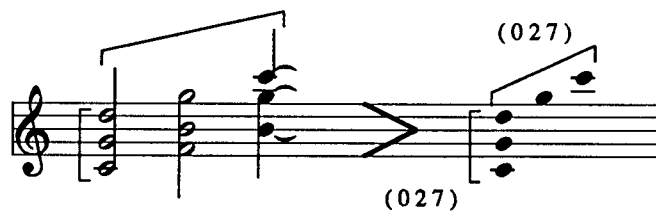


Figure 4.3.7

The initial chord and the pitch-classes of the upper voice in the sequence of chords are representations of the set-class (027) with identical elements: the pitch-class invariance of these representations emphasizes their interval-class association (the same relationship recurs in mm. 24, 26 and 28 in sequence). Other associations of melodic contour and chordal structure with interval-class 5 structure are encountered that share set-class structure but not pitch-class invariance. Section 4.2 recorded the emergence of a (024) motive from the whole-tone dyad with which the right-hand melody ended in m. 6. The apparent 'return' of this melody beginning at m. 15 unfolds in another direction entirely: mm. 17-18 see the apparent transposition of the dyad D-E by interval-class 5, generating a melodic structure of the set-class (0257) which is used until the end of m. 21:

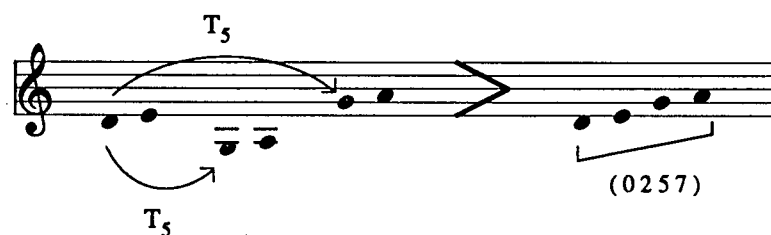


Figure 4.3.8

The identical melodic structure (that is, of the same set type and pitch content) recurs just before the end of the movement in mm. 60-61. However, a (0257) structure with different pitch-class elements also emerges (as a discrete chord) soon after, in mm. 22-23, associated with the opening (025) chord of the left hand, mm. 1-6:

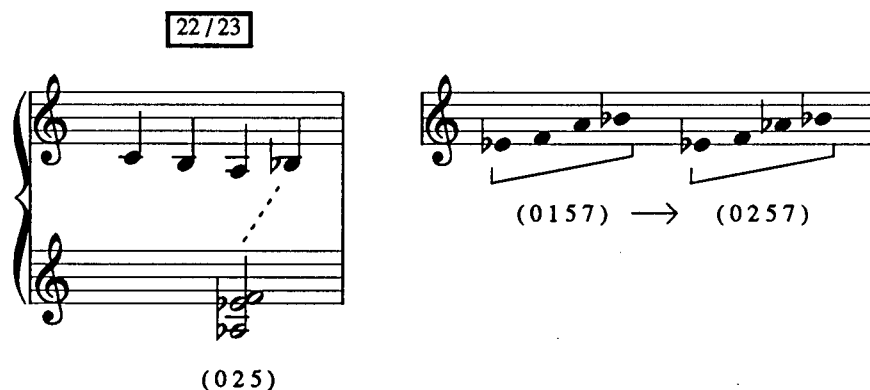


Figure 4.3.9

The dotted line connecting the (025) chord to the pitch-class B^b of the melodic figure indicates the apparent 'resolution' of a (0157) chord, $\{A^b A^{\sharp} E^b F\}$, into a (0257) chord that integrates the pitch-class B^b with the (025) chord. The integration is analytically suggestive: the melodic figure, C-B-A- B^b , was shown in Figure 4.1.4 to be a retrograde of the figure which departed in mm. 10-11 from the isolated B^b s stated on top of the texture in mm. 9-10. This retrograde melodic figure therefore returns to the pitch-class B^b and integrates it, as part of a (0257) structure, with the (025) chord that opened the entire movement. Other resolutions of a (0157) chord to a (0257) structure are suggested in m. 7 (and in m. 24), where the $F^{\sharp 4}$ - $F^{\sharp 3}$ succession between the first two chords implies a voice-leading association of $F^{\sharp 3}$ with the initial C-G-D

chord, forming the distribution <CFGD>, or set-type (0257).³¹ The prominent inversion of (0157) with which the pedal-tone passage in m. 30 begins (see Figure 4.1.7) demands another type of 'resolution' into a (0257) structure since the 'dissonant' pitch-class is fixed as a pedal-tone. Rather than this pitch-class 'resolving' by step, as shown above in Figure 4.3.9, the (027) structure moves: at the mid-point of the (027) succession back from F[#]-C[#]-G[#] (m. 30) to C-G-D (m. 42), the (027) chord A-E-B (mm. 34-37) forms the set-type (0257) in combination with the pedal-tone.³²

The T₁ relation between (0257) structures shown in Figures 4.3.8 and 4.3.9 suggests some analogy with the T₁ relation between (0257) chords depicted in the *Dance Suite* excerpt given above (Figure 4.3.4). In fact, the constituent pitch-classes, {DEGA} and {E^bFA^bB^b}, are identical collections: the principal difference is that in the second movement of the Sonata, the sets also suggest a contrapuntal distribution of T₁-related set-types rather than a simple alternation between them. Many of the semitone 'frictions' arising in mm. 15-21 can be understood as the result of the T₁ distribution of subsets of (0257):



Figure 4.3.10

The figure depicts the symmetrical association of these (0257) collections about the pitch-class inversive center, F[#]. The (0257) subset A^b-E^b-F, set-class (025), used in mm. 1-6 not only

³¹ The B-G sixth above F[#] of the second right-hand chord is retained as part of the succeeding chord, B-G-C. The elements of the second right-hand chord of m. 7, therefore, suggest association with structures on either side.

³² This association is sometimes made emphatically by the composer's use of alternating rests in the left-hand parts: these rests associate each of the A-E-B chords of mm. 34-36 directly with the pedal-tone D².

isolates the semitone friction between the dyads E^b -F and D-E (a friction which is developed throughout the movement—a significant case will be discussed in the next section, “Other Structures”, Section 4.4), but clearly suggests a chord root by its isolation of the pitch-class A^b . If the inversive symmetry of the set-class (0257) is expressed in the actual registral distribution of its elements, this symmetry tends to obscure the perception of a chord root: however, by using (025) at the beginning of the movement and again in mm. 15-23, Bartók creates a strong impression of chord roots which can then be associated in particular registers. In mm. 15-21, the roots of (025) chords are associated by T_7 , expanding the pitch-class collection of the left-hand chords beyond those contained in a (0257) collection. The union of any instance of (025) with its transposition by T_7 is an anhemitonic pentatonic collection:

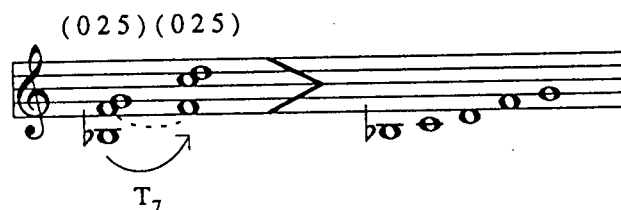


Figure 4.3.11

The T_7 transposition of the $\{A^b, E^b, F\}$, (025) chord in mm. 15-21 therefore produces a (02479) or pentatonic collection, $\{A^b, B^b, C, E^b, F\}$, four elements of which are at T_1 from the pitch-classes of the (0257) collection of the melody.

The sequence of (027) sonorities that runs through mm. 24-42, as observed in Section 4.1 (Figure 4.1.5), has not been closely examined in secondary literature. Wilson comments on the whole-tone transposition of the (027) chords from m. 24 to m. 30, a contour which this study has demonstrated as playing a recurrent and significant structural role (see Figures 4.2.5 - 4.2.10 and 4.2.16 - 4.2.17).³³ There is another structural dimension of this whole-tone sequence, however, that integrates it with the T_3 transposition of (027) chords

³³ Schoenberg's third Piece for Orchestra, Op. 16, also makes use of apparent whole-tone sequences of (027) sonorities. See Allen Forte, *The Structure of Atonal Music*, p. 171 (example 154, analysis of stratum 2).

between mm. 30 and 42. As the following figure illustrates, the entire passage constitutes a complete interval-class 5 cycle:

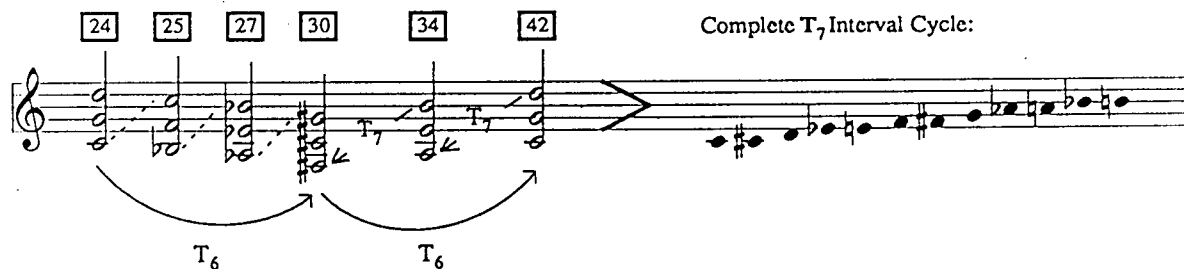


Figure 4.3.12

The dashed lines indicate pitch-class invariance and the arrows show a T_7 mapping of the particular pitch-class from which they point to the pitch-class indicated by the arrowhead. Since a similar procedure maps each pitch-class of each (027) chord onto the next highest pitch-class, the entire passage can be read backwards as a complete (that is, aggregate-producing) T_7 cycle. The T_7 reading has been chosen for its isography with the pitch distribution of the (027) chords: the figure therefore represents how transpositional relationships that define members of a set are then used to relate or integrate appearances of that set. Although the T_6 relation is the strongest indication of the completion of a structural motion in this stratum, the completion of the aggregate seems to play an associated role. The T_3 sequence of the (027) chords in mm. 30-42 (another symmetrical division of the T_6 contour of the sequence, like the preceding T_{10} sequence) suggests a noteworthy association with mm. 265-273 of the final movement:

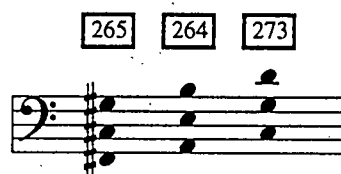


Figure 4.3.13

This particular congruency of pitch-class content, set structure and transpositional sequence is all the more striking as the conclusion of the third movement is likewise associated with a complete interval-class 5 cycle negotiated by (027) chords. The uses of this cycle, either in association with the structures of melody and harmony or as a transpositional process, are always of considerable analytic interest, for they indicate significant structural associations.

4.4 Other Structures

Space limitations preclude treatment of many structural interrelationships of interest in the second movement. The few additional features of pitch structure selected here for analysis are particularly representative of compositional processes or of significant structural events, and are not treated sufficiently in other sources.³⁴

This section will concentrate on further analysis of mm. 30-41. In the preceding section, discussion of the set-types found in mm. 30-41 was largely restricted to those associated with the interval-class 5 cycle: although these set-types delineate important structural associations and processes, there are many others present in mm. 30-41 which also participate in significant compositional events. The following figure identifies those set-types played by the right hand in mm. 30-41:

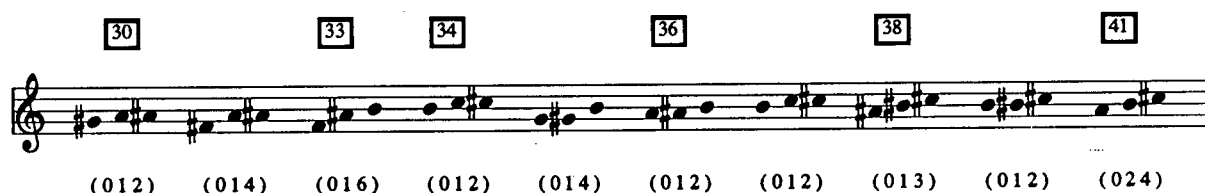


Figure 4.4.1

³⁴ The sole secondary source to provide a reasonably balanced account of features of pitch structure is Wilson (1992), although Wilson's study differs markedly from that found here. Welch's 1985 analysis, as discussed in the review of secondary literature (Chapter Two, Section 2.2), tends to concentrate on possible manifestations or transformations of x-, y- and z-cells, often to the exclusion of more salient structural features, although some of these cell-derived features are worth reconsideration.

Several features are of interest here. Only five set types are used, and of these only two are used recurrently, the set-types (014) and (012). In Section 4.2, Figure 4.2.12 demonstrated that the melodic contour of the first section of the melody (mm. 30-33) segments (013) set classes, while the next section (mm. 34-36) emphasizes the set-class (014). As Figure 4.4.1 demonstrates, congruencies therefore arise between the set structures of the melody and the chord sequence of which it is a part. (The use of a (016) chord in m. 33 is also congruent to the extent that it too is an octatonic subset). Although the contour of the second part of the melody (mm. 34-36) abandons a strict T_3 parallelism with that of the first part, skipping down by minor third to $G^{\#4}$ instead of by step to A^5 , the chord used at this juncture remains the same set type, (014), as that used in the parallel location.³⁵ The seemingly incongruous use of the set-class (024) in m. 41 is perhaps a reminder not only of the prevalence of this set-class in motivic features throughout the movement but also of a specific occurrence of it: the (024) interruption of the sequence of (013) motives in the bass of mm. 24-29 was effected by the same pitch-class collection, $\{ABC^{\#}\}$. (The same (024) pitch-class collection also plays a prominent role in the T_9 sequence of mm. 48-52, detailed in Figure 4.2.9.)

The alternation of (012) and (013) sonorities in mm. 38-41 is frequently described as a passage of intense chromaticism.³⁶ This intensity is lucidly depicted by Klumpenhouwer network isographies:

³⁵ The change in the melodic note is probably due to the effect of harmonizing the pitch-class A with a (014) chord, $\{A,C,C^{\#}\}$. In combination with the exposed pedal-tone D, the resulting sonority, of the set-class (0125), sounds entirely inappropriate to the context. By moving to $G^{\#}$ and harmonizing this pitch-class with the identical set-type, (014), Bartók creates a (0147) chord in combination with the pedal-tone, a sonority frequently encountered in the first movement (the alternating chords of the coda, mm. 258-268, are of this type) as part of the 'octatonic' atmosphere (this set-type is a subset of the octatonic collection). The same structure prominently recurs in the second movement in m. 11 on beat 7 where, for the first time in several measures, all voices initiate a phrase simultaneously.

³⁶ Welch makes this observation in conjunction with an attempt to correlate this passage with a 'golden section' of the entire Sonata. Regardless of how misguided this attempt may be—Welch's calculation lands her at an ill-defined point somewhere in the midst of m. 38, which does not correspond with either the beginning or the conclusion of this passage—Welch's calculation is erroneous due to a miscounting of the number of measures in the first movement.

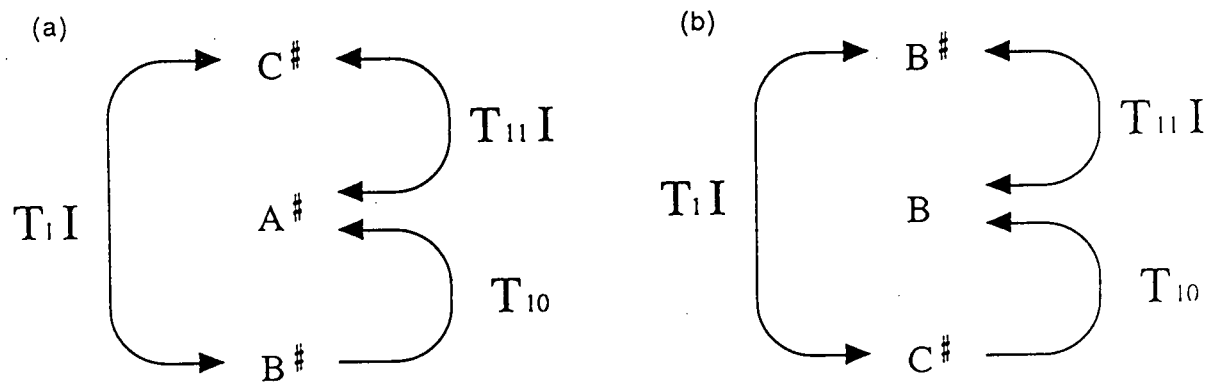


Figure 4.4.2

These networks are “strongly isographic” according to Klumpenhouwer’s terminology because the graphs are strictly identical (that is, the configuration of nodes and arrows is exact).³⁷

The T_{10} relations capture the intensely chromatic parallel motion of the interval-class 2 dyads, $A^\#-B^\#$ and $B-C^\#$ (which together form one of the x-cells observed by Welch). This semitonal relation between interval-class 2 dyads is clearly reminiscent of the friction between the interval-class 2 dyads of mm. 1-6. The inversive relations, $T_1 I$ and $T_{11} I$ respectively capture the voice-exchange between the pitch-classes $C^\#$ and $B^\#$, and the symmetrical contractions of the $C^\#-A^\#$ dyad into the $B^\#-B$ dyad of the (012) chord. These associations are eloquently depicted by this type of Klumpenhouwer isography because they reflect the actual registral distribution of, and voice-leading between, the associated networks. They convey some of the dynamic force of mm. 38-40 which the string of set-types depicted in Figure 4.4.1 cannot.

This is not to suggest that other dynamic features of this passage cannot be elucidated with the assistance of pc-set analysis. The distributions of the pitch-classes D , $D^\#$, E and $E^\#$ in the lower parts of mm. 38-41 parts (played by the left hand) form set-types like those depicted in Figure 4.4.1:

³⁷ See Lewin (1990), p.84.

measure numbers:	38	39	40	41
set-class:	(013)	(012)	(012)	(013)
pitch-classes:	{D,D [#] ,E [#] }	{D,D [#] ,E}	{D,D [#] ,E}	{D,E,E [#] }

Figure 4.4.3

Although the interior (012) collections in this example are identical with respect to pitch-class content, the outer two (013) collections belie their palindromic appearance somewhat by being inversionally related (by T_7I). The sense of effortfully pulling away from the gravity of the D pedal-tone is enhanced by the semitone relation between this pedal-tone and the next pitch in each measure of mm. 38-40 (D-D[#]): after the sequence of the higher voice in mm. 35-37, A[#]-B[#]-C[#], of the set-type (013), some expectation is engendered that the progression will continue from D^{#4}-E^{#4} to F^{#4}, the 'dissonant' pitch from which the larger passage departed (along with the (027) chord, C-G-D) in m. 24 and to which it will return in m. 42. The return to this point of origin foreshadows a similar but more successful (that is, uninterrupted) event in mm. 51-52:

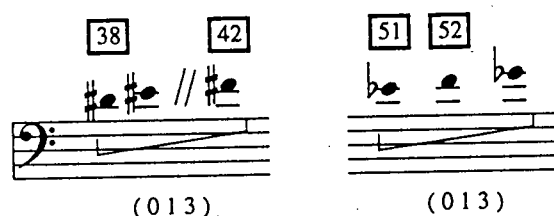


Figure 4.4.4

Readers may appreciate some of the nuances of this parallelism by reviewing Section 4.2, Figures 4.2.10 and 4.2.13. The enharmonic reinterpretation is suggestive because it highlights another congruency, namely, the enharmonic reconfiguration of the static initial whole-tone dyads of the movement (m. 6), E^b-F and D-E, into a more dynamic structure using the corresponding pitch-class identities, D[#]-E[#] and D-E. (Readers may also recall the association

drawn in Section 4.1, Figure 4.1.8, between the opening melodic dyad D-E of m. 6, the initial pedal-tones of this passage, D-E, and their dramatic registral expansion before m. 41).

The curiously alien presence of the pitch $F^{\sharp 4}$, felt so intrusively in mm. 7 and 24, now becomes a goal of motion. The first attempt to reach this goal—hypothetically in m. 39—is thwarted before the destination can be reached. At first, the upper part can only reach E^{\flat} (mm. 39-40), but once the D^{\sharp} -E dyad is transposed to E - E^{\sharp} (m. 41) the goal becomes accessible. As a set-class analysis reveals, this event is highly suggestive of another structural association:

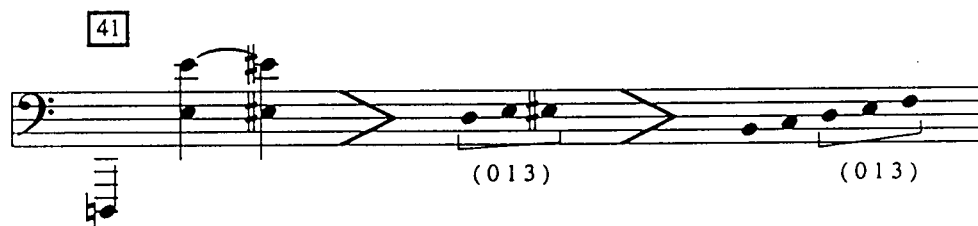


Figure 4.4.5

The use of D - E - E^{\sharp} corresponds to one of the (013) motives constituent of the (01356) melodic figure of mm. 10-12. The point of symmetry of this figure, the pitch-class D (see Figure 4.2.2), appears to have been registrally separated in m. 41 from two of its satellite pitches (E and F or E^{\sharp}). It remains to be seen whether this separation will be maintained; whether the position defined by the pitch D^{\sharp} , which has been so studiously avoided throughout mm. 30-42, will be regained as part of a (01356) structure, or whether this structure itself will move to another register. In view of the recurrent emphasis on symmetrical distributions of pitch structure, it is likely that the outcome of this registral disjuncture will be of some significance to the structure of the entire movement. This issue will be addressed in Section 4.6, "Large-Scale Structures".

4.5 Pulsation and Metric Patterns

After the vigorous motivic and rhythmic activity of the first movement, and before being able to grasp hold of the same robust features of the last, the slow movement at first stretches out before the analyst as a comparatively featureless domain. Part of the dramatic impact of the second movement, especially as it is perceived within the general character of the Sonata, is the stark contrast it presents in relative 'activity' to the outer movements. The very stasis of the pitch structure in mm. 1-5 could be conceived as a pitch-space metaphor for immobility: if the perception of motion is simply conceptualized as the perception of change, the chords of the left hand and the pitches of the right (so long as they remain poised on E) could occur as an infinite series of events without suggesting activity in the dimension of pitch space. The pitch-space stasis of the opening measures therefore seems to burlesque the relentless ostinatos of the first movement: in contrast to the inexorable force of musical activity in the first movement, mm. 1-5 of the second movement present a virtual suspension in time.

Although in some ways it is the unfolding of events of pitch structure which appears to determine the structures of rhythm and meter, the progress of the second movement is not that of a metrically-undifferentiated flow of pitch events, with rhythm conceived of solely as a framework to produce either discrete or coincident pitch events. Nevertheless, an important dimension of the time canvas of the second movement lies at the level of simple pulsation; that is, in the listener's sense of a basic rate of activity. At times the border between metered and unmetered activity becomes very indistinct, with the result that the very perception of regular pulsation itself becomes an important source of orientation. One of the most distinctive kinds of event with respect to this means of orientation is the occurrence of total silences which interrupt the course of the movement: no such complete disruptions of activity occur anywhere in the first movement, except to conclude it. In the second movement these silences profoundly disrupt the continuity of pulse whenever they occur, disorienting the listener within a temporal framework that emerged through the continual activity of pitch events. If abrupt and

seemingly irregular loud noises disrupt the regularity of the rhythmic ostinatos of the first movement, in the second movement it is the silences which are the most obtrusive event.³⁸

The differentiation of note values in the second movement is extremely narrow in comparison to the other movements: aside from the brief use of eighth notes and one dotted-quarter note in mm. 10-12, the remainder of the movement proceeds entirely in quarter notes and half notes or whole notes, either alone or with occasional dotted values or ties. This creates a general framework of pulse activity that lies either at or above the quarter-note level. Nevertheless, there are occasions in which a differentiation of groupings of pulse occur:

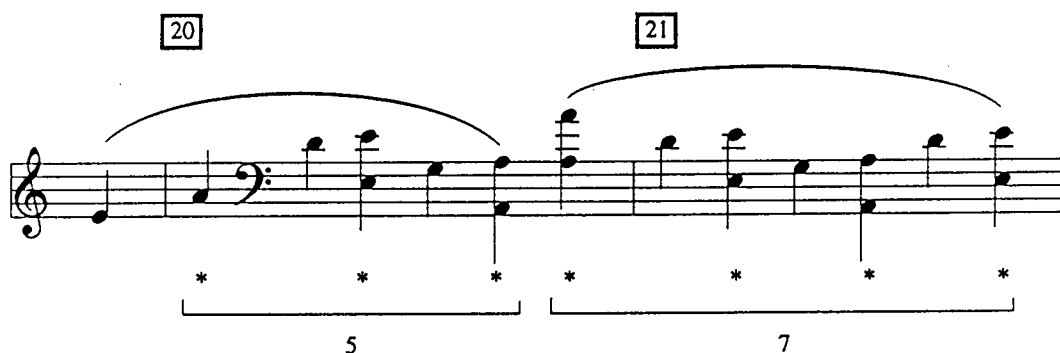


Figure 4.5.1

The articulation of a pattern of stress by octave-doublings following the downbeat of m. 20 (indicated by asterisks) runs counter to the regular succession of dotted-half-note chords that accompany this pattern and fit comfortably within the 6/4 time signature of these measures.

The 'dissonant' relationship between pitch elements of each part, described in Section 4.3 as a T_1 relation between two (0257) collections (see Figure 4.3.10), finds a counterpart in the disjunct stratification of pulse activity.

³⁸ Actual rests are perhaps only one end of the spectrum of silence: articulation, notated so carefully throughout the movement, perhaps defines the other, as a means of relating, isolating or accentuating pitch events. Section 4.3, for example, observed the emphasis given to a representation of the set-class (0147) by the simultaneous articulation of all parts of the texture in m. 11 between beats 7 and 8.

Although the second movement may seem to have little in the way of metric regularity there are, nevertheless, some perceptible metric patterns, although it is difficult to define what these patterns signify. These patterns partition the movement into three sections, mm. 1-21, mm. 22-42, and mm. 43-62, though no corresponding formal scheme of pitch structure is meant to be implied by this tri-partition, as the patterns in each of these hypothetical sections are defined by different metric processes or sequences. As a general observation, the largest time signature used is $9/4$, and the smallest, $3/4$, with a continuum of quarter-beat time signatures in between. The only non-quarter beat indication used is $3/2$, a time signature subsumable in terms of its beat value within the continuum of quarter-beat time signatures described above (that is, as $6/4$). Its seemingly incongruous and perceptible use is therefore of some interest and will be discussed separately at the end of this section.

In the first section (that is, before mm. 22) there are only three time signatures in use: $9/4$, $6/4$ and $5/4$. This section is primarily an alternation of $9/4$ with $6/4$, as is particularly evident in mm. 9-15, where the alternation is constant in each measure but for the adjacent use of $9/4$ in mm. 11-12. The use of $5/4$ is curious because this use is clearly defined in terms of metric context: whenever $5/4$ is used in this section (mm. 1-21) it is always preceded by $6/4$ and always followed by $9/4$. This context gives the use of $5/4$ the appearance of a 'contraction' of $6/4$, an appearance enhanced by the sudden return to the use of $9/4$. The initiation of the use of $5/4$ occurs only twice in this section, in m. 7 and again in m. 16, and both of these locations are significant with respect to general changes in parameters of compositional activity, as discussed in Section 4.1: m. 7 sees the first interpenetration of both registral space and pitch attack between hands in the movement, kept isolated in mm. 1-6; m. 16 presents the first registral interpenetration of the pitch-class content of mm. 1-6. In both cases, therefore, the use of $5/4$ is associated with the disruption of previously static structural features of mm. 1-6, compositional events which provide momentum to the movement as a whole.

The second section, mm. 22-42, is largely defined by a series of contractions in the values of time signatures as arrayed below:

$$\begin{array}{lcl}
\text{mm. 22-26:} & 7/4 & + \quad 6/4 \quad + \quad 5/4 \text{ (x2)} \quad + \quad 4/4 \\
\text{mm. 27-28:} & & 5/4 \quad + \quad 4/4 \\
\text{mm. 29-33:} & 7/4 & + \quad 6/4 \text{ (x2)} + \quad 5/4 \text{ (x2)} \\
\text{mm. 34-39:} & 7/4 & + \quad 6/4 \quad + \quad 5/4 \text{ (x3)} \quad + \quad [\] \quad + \quad 3/4
\end{array}$$

Figure 4.5.2

(Note that this array stops at m. 39; the remainder of this section will be discussed later.) The reductions in time signature values are presented in three clear sequences (mm. 22-26; mm. 29-33; mm. 34-39), each beginning with a 7/4 indication. The process, however, is a subtle one, because after each of the initial uses of 7/4 there is some variability in the number of measures for which each subsequent time signature of the sequence is operative; furthermore, although the use of 7/4 in mm. 22 and 34 is associated with the initiation of clear thematic junctures, the use of 7/4 in m. 29 arises just before the end of a well-defined transpositional sequence, and overlaps with the beginning of another (see Figure 4.1.5). The contraction of time-signature values in mm. 34-39 notably 'accelerates' with the apparent ellipsis of an intervening regularity in reduction (the 'missing' use of 4/4): before this apparent ellipsis, each contracting sequence has been defined by an $x-1$ (where x = quarter beat) relationship between subsequent time signatures.

Welch has suggested that there is a "metrical arch form"³⁹ in mm. 38-42:

$$\begin{array}{ccccccccc}
5/4 & + & 3/4 & + & 3/2 & + & 3/4 & + & 5/4 \\
| & & | & & & & | & & | \\
\hline
& & & & & & & &
\end{array}$$

Figure 4.5.3

³⁹ Welch (1985), *ibid*, p. 78.

Welch notes that, in the manuscript she has examined (also examined by this author), m. 42 was formerly notated as 6/4, and Welch believes that Bartók made the change in time signature to create this apparent “arch” scheme. Welch suggests that Bartók’s motivation was to associate this “arch form” with “the most chromatically concentrated segment of the movement”,⁴⁰ although she does not observe the sequence of contractions in time-signature values which preceded it and which is co-extensive with it. From the perspective of Figure 4.5.2, Welch’s “arch form” presents a palindromic structure which breaks the patterns of contraction as they achieve their greatest point of concentration (3/4). It is more likely, however, that Bartók’s change of meter in m. 42 is merely coincident with his removal of a quarter-note rest at the beginning of m. 42 (see manuscript, 5/VII/I), a dramatic caesura which he evidently felt was misplaced and which would therefore appear to have been removed due to a concern for a continuity of pulsation rather than time signatures per se. (The reason for this restored continuity of pulsation may have much to do with the structural continuity implied by the (027) sequence of mm. 24-42, as depicted in Figure 4.1.5.)

In the final section, mm. 43-62, a considerable change in the character of the succession of time signatures is readily apparent. In mm. 43-49, five different time signatures are used and these change with every measure: the effect of ‘spliced meters’ appears to be associated with a comparable splicing of thematic references, as discussed above (Section 4.1), although the time signatures themselves cannot be associated with the same region of thematic references (that is, there is no ‘recapitulation’, or pattern of correspondence with time signatures used in mm. 1-22, unlike the thematic recapitulation alleged by some commentators). Following m. 49, the rate of change in time signatures slows considerably as the movement nears its end. The time signature 5/4 is in effect for mm. 49-55, a total of seven measures, the same number of measures which comprises the preceding (and overlapping) sub-section of constantly changing meter. (This proportion does not, of course, account for the number of quarter-note beats in each sub-section). Measure 56 sees a subsequent reduction

⁴⁰ *Ibid*, p. 78.

to 4/4, echoed in mm. 57-8 by another 5/4 - 4/4 sequence. Measures 59 and 60 see a sudden expansion to 9/4 and 8/4, immediately preceding the final indication, 3/2, which governs the final two measures of the movement.

The choice of 3/2 to conclude the movement is intriguing, for its only prior use has been in m. 40, the central indication of Welch's "arch form" and, in any event, a point of considerable tension in the movement. In both of these locations there is no evident reason why Bartók does not use a 6/4 indication, which otherwise occurs frequently throughout the movement and which, perplexingly, is used to open the movement (where 3/2 might have been expected for the use of half notes in the opening measure). If Bartók intended an association with traditional patterns of stress in any of these locations (though such patterns are frequently difficult to appreciate in this movement), the use of a 6/4 indication in m. 1 suggests a hemiola in the use of half-note chords which effects an out-of-phase meter relationship with the subsequent reiterated quarter-note E's of the right hand, a relationship which would contribute to an appreciation of the disjunctures of numerous compositional features in mm. 1-6 discussed in Section 4.1.⁴¹

The use of 3/2 with a traditional stress implication in m. 40 would suggest a heavy syncopation of the left hand on the second half of beat two (pitch-class D[#]), a syncopation increased in its effect by the quarter-note rest immediately preceding it. The character of a syncopation in m. 40 is underscored by other features that suggest metric regularity: the use of accent (a tenuto on the (013) chord of the right hand on beat two), registral disjuncture (in the right hand on beat two) and articulation (slurring of the two final quarter notes which comprise beat three) combine to suggest the pattern of beats typical of a 3/2 meter. In m. 61, the right hand pitch-class E is also given the effect of a syncopating suspension in a traditional 3/2 beat stress pattern: the break in articulation after beat one, the slurring of the right-hand melody from beat two and the prominent placement of the left-hand chord on beat three (while the right

⁴¹ The discrepancy between metric associations of the right- and left-hand parts is also simply a matter of duration: the ostinato of the left-hand chords is initially in half-note values while right-hand E's begin in quarter notes.

hand E is suspended) all suggest the beat pattern of a 3/2 meter. Against this pattern, the syncopation presented by the half-note E both emphasizes the pitch E⁴, possibly in reference to the opening of the movement, and creates a disruption in the otherwise uniform succession of quarter-note pulse in the melody preceding this measure. This syncopation therefore suggests a rhythmic enhancement of closure for the movement, perhaps analogous to the use of a suspension in a tonal cadence.

4.6 Large-Scale Structures

Although numerous structural features of the second movement derive from set-classes with few elements (or small segments of an interval cycle), Sections 4.2 and 4.3 have suggested that larger collections are not wholly absent. The emergence of a nearly complete whole-tone collection in mm. 13-15, for example, was observed in Figure 4.2.6, with possible implications for the sequence of mm. 24-29, as detailed in Figures 4.2.15 - 4.2.17: the registral specificity of this linear whole-tone descent, in combination with other structural factors, will be shown to be of considerable importance for the structural coherence of the entire movement.

Symmetries of registral placement and of transpositional procedure have been important topics of discussion in this chapter and are worth further analytic integration. The T₆ contour of the sequence of (027) chords in mm. 24-42 (see Figure 4.3.12) suggests analogy with a T₆ relationship in the sequence of pitches in the bass of mm. 15-43:

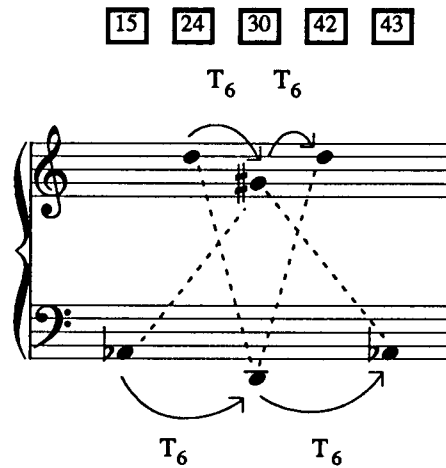


Figure 4.6.1

The pitch-class equivalencies are indicated by dashed lines, suggestive of voice-exchange. The downward T_6 associations are linearly established by parallel whole-tone descent (thereby articulating a complete whole-tone collection) but the upward T_6 associations are not. This discontinuity was significant with respect to the pitch-class content of the sequence of (027) chords in mm. 24-42, for the T_3 transposition of the (027) structure at m. 34 provided the additional pitch-classes that completed the aggregate generated by the interval-class 5 cycle (see Figure 4.3.12). (This upwards T_3 - T_3 sequence finds a complement in the downwards T_6 sequence of (024) motives in mm. 48-52—see Figure 4.2.9). The gap in the T_6 relation between D^2 and A^{b3} depicted in the bass, however, is complete: no symmetrical division of the intervening registral space occurs, and the gap is both emphasized and increased by the registral drop of the pitch-class D (not shown in Figure 4.6.1) in m. 40, from D^2 to D^1 (see Figure 4.1.8). This discontinuity is reflected in other structural associations: as detailed in Section 4.4, the pitch-class D appears to have been registrally separated from associated elements of the melodic figure (01356) (see Figure 4.4.5), a separation which is closed by the registral transfer of the entire figure down to the region symmetrical about D^2 in mm. 53-58 (see Section 4.2, Figure 4.2.4).

By means of these associations, the conclusion of the whole-tone descent from A^{b2} to D^2 in mm. 15-30 discussed in Section 4.2 (see Figures 4.2.16 and 4.2.17), a descent which

arrives at the pedal-tone of m. 30, appears to be recalled in mm. 53-58 with the symmetry of the (01356) melodic figure about the pitch D^2 . The descent to D^2 in m. 30 was defined by a descending T_{10} sequence of (013) motives (see Section 4.2, Figure 4.2.15) in which the final (013) motive, B-C $^\sharp$ -D, was intruded upon by a (024) motive, A-B-C $^\sharp$ (see Figure 4.2.15). This intrusion is 'corrected' in mm. 52-53 by the use of the B-C $^\sharp$ -D (013) motive in the identical register without such disfigurement. The registral location of the motive appears to have been prepared by the registral transfer of a chord first heard in m. 7, B-G-C, from which the C-D-E (024) motive first clearly emerged:

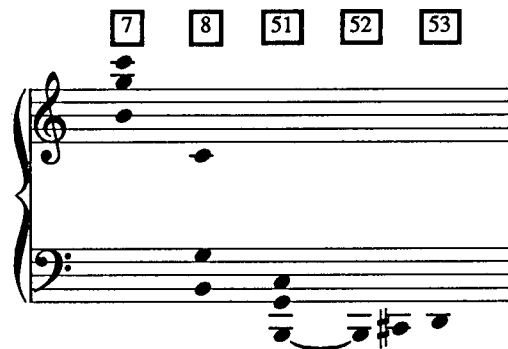


Figure 4.6.2

Although the B-G-C chord is already repeatedly encountered in this register from m. 48, a (024) motive does not depart from it until immediately before the movement away from B^2 via the (013), B-C $^\sharp$ -D, motive to D^2 .⁴² The careful preparation of this arrival, and its multi-faceted integration with structures from earlier in the movement, suggest that it is intimately bound with a large-scale structural process. This study suggests that this process is a completion of the linear whole-tone descent from A^{b2} to C^2 foreshadowed in mm. 13-15. As discussed in conjunction with Figures 4.2.16 and 4.2.17, this descent is composed-out in mm. 15-29 but stops one pitch short of an arrival at C^2 . Although the evenness of this stepwise motion does

⁴² Wilson (1992) observes the registral transfers of the B-G-C chord detailed above and its registral preparation of the B-C $^\sharp$ -D motive. He does not make the numerous associations with structural processes detailed above, which contribute to his impression of an arbitrary ending to the movement, noted in Section 4.1.

not elicit a 'demand' for closure in any tonal sense, the arrival at C^2 in the final measure of the movement is both eminently well-prepared and integrated with structural features of the movement as a whole.

Chapter Five

Third Movement Analysis

As with the first movement, thematic relationships offer an inviting initial line of analysis for the third movement and suggest association with a conventional tonal form, the rondo. Analysis will begin by exploring the relationship of the principal theme to apparent episodes, although these will largely be found to be variants of the principal theme (Section 5.1, "Thematic Perspectives on Form"). The structure of the principal theme itself will be closely examined, for it presents features that are used to integrate numerous aspects of the movement (Section 5.2, "Structure of the Principal Theme"). Pitch structure will be analyzed both within local contexts (Section 5.3, "Local Features of Pitch Structure") and in terms of thematic associations that span the entire movement (Section 5.4, "Transpositional Relationships of the Principal Theme and its Variants"). Diverse types of rhythmic activity characterize the movement, of which a representative selection will be examined in detail (Section 5.5, "Aspects of Rhythmic Structure"). In conclusion, the integration of the movement as a whole will be addressed both in terms of the dissolution of the final refrain of the principal theme (Section 5.6, "Local Aspects of Closure") and in terms of structural associations that transcend the sectional features of the movement (Section 5.7, "Large-Scale Features").

5.1 Thematic Perspectives on Form

The appearances of themes and their variants suggest formal divisions within the third movement that recall classical forms. The apparent recurrence of the initial theme at identical transpositional levels both within the movement (at m. 92) and near the end (at m. 248), together with the use of contrasting sections that are interrelated by significant features (compare mm. 20-48 with mm. 175-204, for example, or mm. 49-91 with mm. 205-226),¹

¹ The manner in which these sections are interrelated will be discussed later.

suggests the alternation of a theme with episodic material characteristic of rondo form. Two central 'episodes' (mm. 111-142 and mm. 142-156) show 'development' of previous themes and therefore invite analogy with the idea of the developmental episode of sonata-rondo form. In view of the careful parody of sonata form observed in the first movement, the use of a rondo-like form in the final movement would also correspond to neo-classical expectations of the "sonata" as a genre. Yet, even at a purely thematic level of structure, the third movement evades neat correspondence with a simplified perspective on form: thematic appearances are constantly nuanced, sometimes to such an extent that an analyst is less inclined to speak in terms of 'thematic recurrence' than to address means and degrees of thematic differentiation. The rondo-like features of the third movement therefore do not suggest outright mimicry of an idealized classical model but, rather, reference to a point of departure for the composer.

The only instance of identical thematic recurrence in the entire movement is the re-appearance of the first eight measures of the initial theme at mm. 92-99; the 'rondo-like' recurrence of this theme at mm. 92 and 248 (and, to some extent, at m. 157)² is therefore not a simple refrain. Aside from retaining the essential motivic structures and contour of the melody, the perception of thematic recurrence at mm. 92 and 248 is encouraged by other means as well: by repeating the theme at the same transpositional level; by using a prominent registral shift in each appearance of the theme, usually to distinguish the second melodic statement in the first two appearances of the theme;³ by accompanying each melodic statement with the same descending pitch line in the bass ($A^3-G^3-F^{#2}-E^2$) at the same transpositional level;⁴ by maintaining the same detached character of articulation; by implying the same phrase structure,

² The use of the same transpositional level in m. 157 in conjunction with the striking initial thematic motive strongly conveys a sense of partial thematic recurrence. Nevertheless, the theme is profoundly transformed in many other aspects (to be discussed later) which do not suggest simple recurrence.

³ The final appearance of the theme reverses this feature: there is only one complete melodic statement (mm. 248-253), followed by a series of motivic extensions (mm. 254-263) resembling part of the consequent phrase of the theme. The first half of the melody is given in the higher register, followed by the second half in the lower register.

⁴ The interruption of this descent at the pitch-class $F^{\#}$ in the final appearance of the principal theme will be discussed in detail in Section 5.6 (Local Aspects of Closure).

2+2+2+2, through harmonic punctuation;⁵ by using the same interval structure in the accompanying sonorities; and by maintaining the same rhythmic proportions in spite of the use of 'added notes' which vary the melodic contour. (The latter two features require some demonstration and will be discussed independently of this section). All of these facets—melodic contour, transpositional level, interval structure, rhythmic structure, registral distribution and articulation—contribute to the perception of thematic integrity: the strength of these associations, therefore, conveys a sense of thematic recurrence. This recurrent theme can be designated the 'principal theme' because of its number of occurrences in a relatively coherent form (more than any other theme in the movement) and the structurally privileged location of two of these occurrences (at the beginning of the movement and as the last clear thematic statement).

If the term 'thematic recurrence' cannot be used without some qualification, neither can the terms 'episode' or, more simply, 'contrasting material'. Paul Wilson (1992), who likewise views the third movement as "a variant of rondo form",⁶ argues that thematic criteria provide insufficient means for formal division: "changes in harmonic setting, rather than a true change of theme, mark out the separate sections."⁷ Wilson himself favors a "somewhat Haydnesque scheme"⁸ for the movement as a whole, representing it by a simple pattern of alternation, ABABABA (coda).⁹ Wilson's representation not only obscures the presence of genuinely contrasting thematic material—the relatively lyrical theme which occurs in mm. 20-27 and again in varied form in mm. 175-181, for example, is subsumed within "A" sections—but also fails to correspond with significant features and events of pitch structure, notwithstanding a professed interest in "harmonic setting". The limitations of this formal scheme reflect in part a

⁵ Note that even the motivic extension of the third thematic statement (mm. 254-263) continues to punctuate the 2+2+2+2 pattern with a static sonority, as though a second melodic statement were occurring in a vestigial form.

⁶ Wilson, 1992, p. 78.

⁷ *Ibid.*

⁸ *Ibid.*

⁹ Wilson, 1992, p. 79. This schematic representation is taken from the uppermost level of structural division given in Wilson's Figure 3.3.

disinterest in the variety of means by which Bartók sets his themes in the third movement: careful attention to these settings reveals a spectrum of thematic differentiation integral to the design of the third movement.

To create formal contrast Bartók uses both contrasting themes and transformations of the principal theme. Proportionately, most of the contrasting material arises from variation of features of the principal theme; close analysis also reveals motivic and other pitch-class relationships between the contrasting themes and the principal theme. Detailed observation of the pitch-class structure of these relationships will be presented in Sections 5.3, “Local Features of Pitch Structure” and 5.4, “Transpositional Relationships of the Principal Theme and its Variants”. This section, however, will restrict its attention to relatively basic observations concerning contrasting themes and means of variation of the principal theme so that a clear picture of thematic appearances can emerge before more detailed relationships are explored.

Let us first consider the clearly contrasting theme that is presented in mm. 20-27 and again, in varied form, in mm. 175-181, where it is broken off one measure prematurely. In both of these occurrences the melody is comparatively lyrical by virtue of its legato articulation—an obvious contrast to the detached articulation of the principal theme—and repeatedly rises, through stepwise motion, to a pitch a fifth above the initial note of the melody. This suggests an inversion of the repeated descents in the principal theme from the pitch-class F^\sharp down to B:

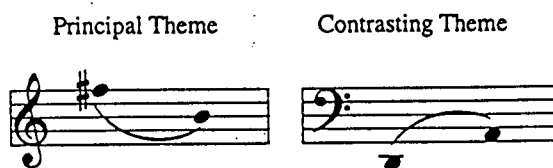


Figure 5.1.1

(In its second appearance, the contrasting theme repeatedly rises from C to G). In character, articulation and features of contour, therefore, the contrasting theme provides a neat complement to the principal theme. The new theme also contrasts the principal theme in proportional length: whereas the principal theme normally consists of a double melodic statement, with each statement eight measures in length and distinguished by a registral expansion, the new theme bears no such repetition and is just eight measures in total length. (The octave doubling of the single melodic line midway through the new theme, however, is suggestive of the registral expansion of the principal theme at its repetition). Nevertheless, like the principal theme the contrasting theme does not recur without variation: these alterations include the interruption of the second appearance of the theme (at m. 182); transposition (at T_{10} from the original); changing to the accompanying harmony (a static use of a single chord in the first occurrence is replaced by varied chords in the second); changing the dynamic level (from "meno *f*" in the first statement to "*p*" in the second, enhancing the theme's lyrical character); and the changing registral and textural placement of the melody (now located above the accompanying chords).

In the initial statement of the contrasting theme, the direct registral contrast of its melody with that of the principal theme is striking: where the principal theme presents the melody in a high register and above its harmonic accompaniment, the contrasting theme answers with its melody in the bass and below the harmony. By placing the melody above the accompanying chords, on the other hand, the subsequent appearance of the contrasting theme not only inverts the textural configuration of the original statement but brings it closer in nature to the principal theme. The varied use of harmony between statements of the contrasting theme likewise acts as both a feature of thematic contrast and of thematic integration. After the repetitive descent of accompanying chords in the principal theme, the static character of the accompanying harmony in mm. 20-27 provides a contrasting point of harmonic repose. Just as the texture of the subsequent statement of the contrasting theme is more like that of the principal theme, its harmony also behaves more like that of the principal theme: no longer

lodged on one sonority, the accompaniment likewise follows a descending contour. This contour suggests a transpositional relationship to that of the principal theme: in mm. 176-181, a descent of C-B^b-A occurs in the bass, with an implied descent to G that is interrupted at m. 182 (but, it will be argued, fulfilled at m. 192). This stepwise descent therefore describes the same interval succession, 2-1-2, as that of the bass line descent of the principal theme (A-G-F[#]-E), at T₃.

Comparison of the varied statements of just two themes in the third movement already affords a glimpse of a more general process that can be seen throughout the movement. Procedures of thematic variance cannot be conceived simply as departing from a fixed type: to begin with, the very idea of thematic identity has to assimilate a constant metamorphosis of thematic features. Furthermore, the transformational processes that vary one 'theme' (or matrix of thematic features) may bring about a morphological convergence toward another. Such multiple cross-references of thematic features are vividly encountered in the 'episodic' material founded on transformations of the principal theme.

There are five clear variants of the principal theme, each presenting a unique configuration of the thematic features detailed above—melodic contour, transpositional level, overall interval structure, rhythmic structure, phrase structure, registral distribution and articulation. Although the two appearances of the contrasting theme are clearly varied with respect to each other in some of these features, the limited number of appearances of this theme allows for a conveniently simple schematic representation, B for the first statement and B¹ for the second. The variants of the principal theme require more typographical distinction within a schematic representation and, for the sake of clarity, will be identified by the designation A^{v-x}, where "v" refers to "variant" and "x" will be a number representing the chronological order of appearance.

The first variant of the principal theme (A^{v-1}) occurs in mm. 53-91. The original melodic contour is essentially retained but the pitch-class content has been transposed: the melodic contour now features repeated descents from B to E rather than from F[#] to B,

associating this thematic variant by T_7 to the melody of the principal theme. T_7 relationships will be seen to play an important role in the array of transpositions of all thematic variants. The A^{v-1} melody is first broken into discontinuous segments (mm. 53-73) and is then repeated without such discontinuities (mm. 74-81): the segmentation of the first melodic statement augments the phrase rhythm from a 2+2+2+2 pattern to 5+5+5+5; the second statement restores the original pattern (2+2+2+2), providing a local rhythmic diminution. All of these variant features occur within the context of a profoundly transformed rhythmic structure: the frequent metrical shifts of the principal theme have been dissolved into a continuous eighth-note pulsation, disturbed by regular syncopations with which the melody is at first coordinated in the entry of each phrase. Each of these phrase entries of the first melodic statement begins with a three-eighth-note pattern, displaying a rhythmic uniformity not encountered in the original theme (in which the second phrase unit begins with four eighth notes). The second melodic statement, mm. 74-81, likewise displays uniformity, but by abandoning the initial three-eighth patterns for four-eighth patterns, conforming with the duple meter framework of the ostinato: although the entire passage, from m. 49 to m. 91, suggests an ostinato variant of the principal theme, the relationship of the melody to that ostinato changes significantly in the course of the passage. Nevertheless, there is a readily-perceived change in rhythmic structure in this type of passage: when this rhythmic ostinato is used in different thematic contexts, it is always highlighted by a faster tempo than that of the principal theme. As a compositional feature, therefore, it commands a measure of structural prominence.

The registral distinction between the two melodic statements typical of the principal theme is replaced in the first thematic variant by the contrast in phrase structure described above, although a vestigial reference to the registral shift literally pops out of the texture in m. 77. The accompaniment is radically transformed: it is static, neither proceeding along a descending contour nor changing in pitch content, and it is presented in a higher register, leaving the lower bass register appreciably vacant for the first extended period of time in the movement. The accompanying chords retain the dyadic whole-tone features of the chords used

to accompany the principal theme, yet these 'clusters', which will be carefully examined in Section 5.3 ("Local Features of Pitch Structure"), create a harmonic stasis like that which accompanies the contrasting theme in its initial statement. It appears as though the accompanimental features of the principal theme have been transformed into a structure which more closely resembles that of the contrasting theme.

The next highly varied presentation of the principal theme (A^{v-2}), which contains only one complete melodic statement, occurs in mm. 143-156. The melody is profoundly transformed, with significant variation of the contour, rhythm and phrase structure. The melodic contour still provides a clear descent of a perfect fifth, from $C^{\#5}$ down to $F^{\#5}$ in mm. 144 and 150, but this time is extended another perfect fifth downwards by the end of the statement, down to B^5 in m. 153. The T_7 transpositional relationship between the melody of the principal theme and A^{v-1} (from $F^{\#}$ — B to B — E) now appears symmetrically balanced by the transpositional level of the melody of A^{v-2} , evoking comparison with the subject entries of the first movement of *Music for Strings, Percussion and Celeste*:

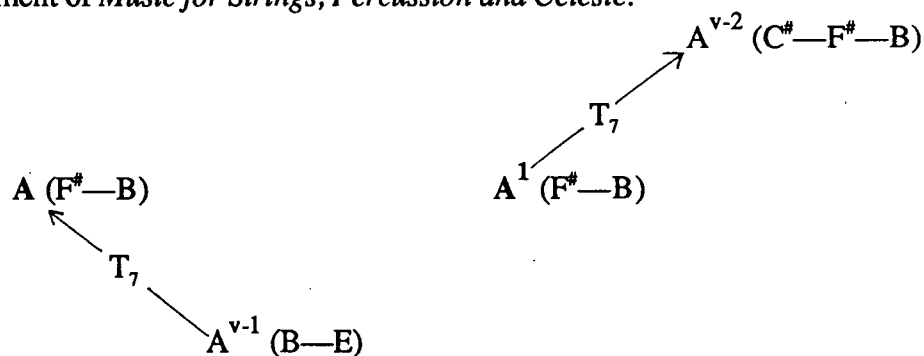


Figure 5.1.2

This transpositional relationship is referred to by the perfect fifths both in the florid melody and in its lower, unembellished octave-doubling. All the pitches of the original melody appear transposed in the upper voice of A^{v-2} , but the inclusion of A^1 is a striking departure from the intervallic integrity of the melody of the principal theme—there is no corresponding use of D^{\sharp} in the original melody. However, the use of either A^1 or A^{\sharp} is specific with respect to melodic

direction: A^b is always used in descent and A^\sharp in ascent. The ascending collection is therefore an inversion, about the axis A^b/A^\sharp , of the descending collection:

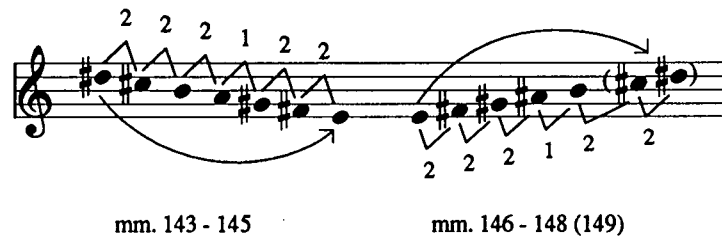


Figure 5.1.3

The interlocking of the phrases in terms of pitch-class structure is a subtle compositional feature: instead of beginning again on the pitch-class D^\sharp in m. 149, the melody first completes the pitch-class ascent of the preceding phrase upwards from B ($B-C^\sharp-D^\sharp$). Unlike the inversive pitch-class relationship of the melody, however, the accompanying octave-doubling does not change its pitch structure with respect to melodic direction— A^b is used throughout. The occasional A^b/A^\sharp conflicts which this produces suggests a variation of the uniform octaves of the principal melody.

Articulation and phrasing are also affected in this thematic variant. The slurring of the melodic embellishments in A^{v-2} effectively introduces an intermediary stage in articulation between the principal theme and the contrasting theme—the melody is neither fully detached nor fully legato. The melody is also extremely fragmented, distorted almost beyond recognition, although a regularity of phrase structure persists nevertheless. Where the segmentation of the first melodic statement of A^{v-1} produced 5+5+5+5 groupings in contrast to the 2+2+2+2 groupings of the principal theme, in A^{v-2} the groupings are in 3-measure segments with a two-measure extension of the last phrase (3+3+3+5). Alternating clusters are still used in the accompaniment, but are scored in groupings of three rather than two eighths; the triplet grouping is emphasized by the relationship of the interior clusters to the lowest dyad,

D³-E³, which is no longer stated as a simultaneity (as it was in the previous cluster episode). The rhythmic structure of this passage is reasonably complex and will be analyzed in detail in Section 5.5, "Aspects of Rhythmic Structure". Nevertheless, at this stage of analysis a qualitative observation is instructive: where the rhythmic fluctuations of the principal theme were relatively 'smoothed-out' in A^{v-1}, A^{v-2} goes to the opposite extreme, making the original metric organization seem almost regular. Of all the thematic variants, A^{v-2} appears to be the most radically transformed, in terms of both pitch and rhythmic structure. This profound disruption of thematic elements suggests a central role for this thematic variant in the composition and it is perhaps not surprising to find it beginning nearly at the middle of the movement.

A^{v-2} is immediately followed by another thematic variant, A^{v-3} (mm. 157-174). Wilson designates this section 'A' in his representational scheme in recognition of the T₀ relationship of the melodic segments to the melody of the principal theme. The melody is nevertheless varied here in several important ways. Only the first four measures are used, with an extension down to the pitch-class A (formerly included only with the second phrase). The melodic segments are still presented in two-measure units of changing meter but the last measure of each of these units changes time signatures in the sequence 1/4 - 2/4 - 3/4 (corresponding to mm. 160, 164 and 168). The melodic segments are also distinguished by a constant shift of register from one segment to the next, continually ascending while the accompanying chords descend in contrary motion.

The descent in the bass now begins (m. 158) on the pitch E² rather than A³, a radical departure from the ostinato of the principal theme, which had always ended where the accompaniment of A^{v-3} now begins. Furthermore, this descent is now articulated in tertian sonorities, another departure from the accompaniment of the principal theme; and, even more strikingly, the descent is no longer a recurrent sequence but a continuous linear descent through all melodic statements. The scalar descent in the bass, E[#]-D[#]-C[#]-A-B-G[#] (mm. 158-168) is interrupted for two measures before finally landing on the pitch-class F[#] in m. 171. F[#] is

notably prolonged through m. 173 and then does not 'resolve' to the pitch-class E but quickly moves down via E² (m. 174) to the pitch-class D in m. 175. This curious descent does suggest an association with the accompaniment of the principal theme: the prolongation of F[#] in mm. 170-173 and subsequent avoidance of E implies an interruption of the directive motion to the pitch-class E heard repeatedly in the accompaniment of the principal theme. This pause on the penultimate pitch-class of this descent foreshadows a much more intractable interruption of the descent at F[#] in m. 253, a structurally significant feature which will be discussed in considerable detail in Section 5.6, "Local Aspects of Closure". In view of the significant transformation of so many features of the principal theme in mm. 157-174, this study is not content to class this passage as a refrain of that theme. The fragmentation of this thematic variant and the restless registral expansion of its components suggest an almost transitional function.

Thematic variant A^{v-3} is followed by the varied reappearance of the contrasting theme (B¹), after which another 'cluster' thematic variant appears, A^{v-4} (mm. 205-226). The T₇ transpositional pattern between appearances of the melody of the principal theme and its variants has now vanished: the melody of A^{v-4} is at T₃ above that of the principal theme in m. 1. The left-hand clusters have the same vertical interval structure as those of A^{v-1} (mm. 49-86), but then 'collapse' into one register in mm. 208-211: this is apparently due to the registral descent of the melody, inverting the registral ascent typical of the principal theme. The short slurred articulations of the melody are reminiscent of those of A^{v-2}, although the clusters in the bass clearly remain in a duple meter throughout, as in A^{v-1}. Unlike A^{v-1}, however, the metric relationship between melody and accompaniment is obscure—there are apparent groupings but there is no longer a clear pattern to them (this feature will be examined in Section 5.5, "Aspects of Rhythmic Structure"). Furthermore, only the opening two-measure descent of the principal theme is being varied. In conjunction with A^{v-3}, which varied only the first four measures of the melody of the principal theme, an interesting pattern emerges: A^{v-3} and A^{v-4} progressively foreshorten the melody of the principal theme by

reiterating smaller fragments of it. The later variants appear to be focussing on ever smaller components of the melody of the principal theme, abstracting the melody further each time.

The final variant of the principal theme, A^{v-5} , (mm. 227-247), partially steps back from this melodic foreshortening by restoring the complete first half of the melody of the theme but it also 'adds on' to this half with motivic extensions. The melody of A^{v-5} is related to that of A^{v-4} by T_7 , momentarily re-establishing the T_7 relationship between melodic appearances encountered throughout the first half of the movement. The characteristic detached articulation of the principal theme is also restored and its insistence enhanced by the use of clusters once again; however, the clusters are of a novel textural distribution and interval structure. There are two clear textural strata of clusters: the dense sonorities encased between B^1 and B^2 and the simple dyadic structures syncopated against them which are played with the melody in the right hand. The dyadic clusters below the melody combine to form a (0257) sonority, {DEGA} which is related by T_7 to the (0257) motive of the initial melody; the low clusters represent the set-type (023579), identical in pitch-class content with the melody of A^{v-5} . Clusters have not been used in such a low register before in the movement and their comparative registral 'weight' appears to have rendered them less capable of rapid movement as well—they are twice as slow as the clusters in A^{v-1} and A^{v-4} , occurring in quarter-note values rather than in eighths.

This concludes the discussion of variants of the principal theme. The methods of variation reveal how an astonishing array of compositional features can nevertheless provide a carefully integrated compositional structure. These transformative processes are also of particular interest because they are among the most tangible features of the movement, details which every performer of the work would explore as essential to the movement's characterization. There remains one extremely important episode which has not been examined, the passage described earlier as resembling a 'developmental episode' of sonata-rondo form, mm. 111-142. Since there are analytically detailed issues to be explored in this episode, discussion of it will be saved for Section 5.3, "Local Features of Pitch Structure". In

view of its comparatively distant relationship to the other themes, it will be represented by the letter C.

The folk-like character of the final movement is not confined to a resemblance between the distinctive opening motive of its principal theme to that of the transcribed folksong excerpted in Chapter Four, Figure 4.3.1.¹⁰ In "The Relation Between Contemporary Hungarian Art Music and Folk Music", a lecture delivered at Columbia University sometime in 1941 or 1942, Bartók described how, in his compositions, "in many cases themes or turns of phrases are deliberate or subconscious imitations of folk melodies or phrases as, for instance, [in the]...Sonata for Piano,"¹¹ followed by a numerical indication for the third movement (no examples were provided in the lecture notes).¹² László Somfai argues that the idea of a folk theme association in the third movement is carried further in the composition, into folk genre references in several of the "episodes" (described here as thematic variants). The third movement was heavily revised twice in the course of composition, the first version consisting of 371 measures, the second 416 measures and the final version shortened to 281 measures.¹³ The longest version contained a musette (bagpipe) episode which was then removed to become part of the *Out of Doors* suite. Somfai argues that the use of the musette episode was not an isolated character episode in the movement but part of a "secret program"¹⁴ of folk genre references, a claim which he details in his 1993 article, "The Influence of Peasant Music on the Finale of Bartók's Piano Sonata" (see Bibliography). Somfai's "program" is persuasive and provides insight into the form of some of the melodic variants of the principal theme: Somfai claims that the unornamented melody of the thematic variant beginning in m. 53 (A^{v-1})

¹⁰ Numerous commentators refer to the folk character of the principal theme of the third movement, although none have made the association drawn here. (The association is simply an illustrative one, not a claim that the principal theme is a cryptic folk tune). The folk character is not only a matter of pitch structure: László Somfai (1993a) comments that the use of changes of meter is characteristic of Rumanian folk music (p. 546).

¹¹ *Essays*, pp. 349-50. The lecture notes indicate that Bartók originally intended to use an excerpt from the *Dance Suite*.

¹² The editor of the *Essays*, Benjamin Suchoff, provides the principal theme, mm. 1-12.

¹³ Somfai (1993a), p. 546.

¹⁴ *Ibid.*, p. 547.

represents a “vocal stanza”,¹⁵ the richly-ornamented melody of the variant beginning in m. 143 (A^{v-2}) a “peasant flute stanza” and the variant beginning in m. 205 a “peasant fiddler stanza”.¹⁶ This author listened to numerous recordings of folk music from Bartók’s private collection¹⁷ and found the references to vocal and flute styles entirely convincing, although the associations are not transparent due to the richly developed accompaniments in the third movement. The “peasant fiddle” reference is more difficult to confirm as Somfai stipulates that the reference is to a specific style of fiddling, the rapid two-note bowings of Transylvanian fiddlers whose virtuosity had impressed Bartók so much:¹⁸ as this type of fiddling is not included in the collection of Bartók folk music recordings commercially released, this study was unable to make the same association as that drawn by Somfai. (As director of the Budapest Bartók Archive with its immense archival resources, Somfai presumably would have had ready access to such material.)

A schematic representation of the third movement of the Sonata from a thematic perspective can summarize the overall design of the movement. The appearance of themes and thematic variants is used to define the initiation of subsections of the movement; transitional passages (to be discussed in Section 5.3, “Pitch-Class Structure and Thematic Relationships”), are incorporated within these subsections. In three cases—with respect to A^{v-1} , A^{v-2} and A^{v-4} —the subsection begins slightly before the actual appearance of the melody: this is in recognition of the arrival of the ‘accompaniment’ at the transpositional level with which it is identified for the course of the thematic variant. The final extensions to A^2 which conclude the movement are not a “coda” in the view of this study and their relationship to the final thematic statement will be elaborated in Section 5.6, “Local Aspects of Closure”.

¹⁵ The association drawn with the folk tune given in Figure 5.3.1 therefore bears further analogy.

¹⁶ Somfai (1993a), p. 549.

¹⁷ A small part of this collection has been commercially released as “Hungarian Folk Music: Gramophone Records With Bartók’s Transcriptions”, edited by László Somfai (Hungaraton, LPX 18058-60).

¹⁸ Somfai (1993a), p. 547.

Schematic Representation of Third Movement

m. 1	A	Refrain
m. 20	B	Contrasting Theme (bass)
m. 49	A ^{v-1}	Folk variant #1: vocal style
m. 92	A ¹	Refrain (slightly varied)
m. 111	C	Developmental Theme (of A and B)
m. 139	A ^{v-2}	Folk variant #2: peasant flute style
m. 157	A ^{v-3}	Variant of Refrain
m. 175	B ¹	Contrasting Theme (soprano)
m. 201	A ^{v-4}	Folk variant #3: peasant fiddle style
m. 227	A ^{v-5}	Variant over dominant pedal
m. 248	A ²	Refrain (varied)

Figure 5.1.4

As previously observed, the actual settings of the folk variants (A^{v-1}, A^{v-2} and A^{v-4}) tend to make the “secret program” of the third movement that much more secretive. Somfai himself allows that, “these ethnomusicological genres...are not obvious as we listen to the virtuoso piano style of the finale; they were not invented by the composer as idyllic references or as colorful displays in an imaginary folklore museum”.¹⁹ The careful attention given to *all* thematic variants in this discussion (not just the folk-style variants) as well as the contrasting theme are

¹⁹ *Ibid.* Somfai does not pursue this observation with respect to the excision of the musette episode, a genre reference which, if it were still included in the movement, would indeed be characterized as an “episode” in this study rather than a “thematic variant”. In view of the exceptional integrity of thematic design detailed in this chapter, one suspects that Bartók felt that the use of such extensive contrasting material would upset this integration and disrupt the flow of the movement; or, to appropriate Somfai’s express, would become a “colorful display”, which would not be in keeping with the secretiveness of the other folk genre references. At any rate, Bartók was evidently not deprived of sufficient contrasting material created from more economical thematic resources.

therefore essential to understanding how the composer's imagination transcended the confines of a "folklore museum". Furthermore, the very secretive nature of the references—the fact that the composer himself did not draw attention to them—suggests that Bartók was content to let the composition 'speak for itself', an incentive for the analyst to see how in fact it does.

Just as patterns emerge in thematic features and events, rhythmic features and events also suggest a design. In fact, the rhythmic design of the third movement, albeit at a very rudimentary level, is as suggestive of a rondo-like scheme as are the patterns of thematic recurrence. A broad schematic representation of the movement could therefore also be drawn along these lines:

A	(mm. 1-27)	—	'dance-like' rhythms
	(mm. 28-48)	—	multiple rhythmic disruptions
B	(mm. 49-80)	—	'driving' rhythms
	(mm. 81-91)	—	rhythmic disruptions
A	(mm. 91-126)	—	'dance-like' rhythms
	(mm. 127-138)	—	rhythmic disruptions
C	(mm. 143-156)	—	confusion of 'dance-like' and 'driving' rhythms
	(mm. 157-174)	—	rhythmic disruptions
A	(mm. 175-191)	—	'dance-like' rhythms
	(mm. 192-200)	—	rhythmic disruptions
B ¹	(mm. 201-221)	—	more intense 'driving' rhythms, becoming more chaotic
	(mm. 222-226)	—	prominent arrival of previous section
B ²	(mm. 227-246)	—	'driving' rhythms, some disruptions
A ¹	(mm. 247-264)	—	'dance-like' rhythms, becoming increasingly disrupted.
B ³	(mm. 265-281)	—	extremely 'driving', disruptive rhythms

Figure 5.1.5

Some of these passages will be analyzed in detail in Section 5.5, “Aspects of Rhythmic Structure”. Nevertheless, the simple qualitative descriptions used here indicate a close partnership between thematic design and rhythmic characterization throughout the movement.

5.2 Structure of the Principal Theme

The only close analysis to date of the pitch structure of the principal theme has been tendered by Paul Wilson (1992, pp. 79-80). Wilson astutely observes that, in mm. 1-8, each sonority which ‘harmonizes’ the melody, including the melodic note it ‘harmonizes’, is an expression of (0257), a feature which Wilson notes as, “for Bartók’s music[,] a remarkable homogeneity of harmonic vocabulary.”²⁰ Wilson then both claims too much homogeneity of pitch-class content in the theme and overlooks the homogeneity that does inhere in transpositional relationships of set structure. He thereby overlooks a structural dimension of the third movement that is nearly as fractal in its intricacy as it is pervasive in its varied manifestations.

Wilson is keen to find a single source collection for the pitch structure of the principal theme as it appears in mm. 1-8. He asserts that “heptatonia seconda...supplies all pc material for the passage.”²¹ Wilson’s observation would be correct if the passage consistently used the pitch-class collection {E, F[#], G, A, B, C[#], D[#]}. However, a persistent chromaticism occurs six times in the course of the theme. The first two chords harmonizing each complete melodic statement contain the pitch-class D^b, which in no way appears as a chromatic inflection of a C[#] or D[#]. In fact, the D^b is an essential element of the (0257) sonorities to which Wilson himself draws attention. The question remains, however, as to whether the use of D^b is an inconsistency in the pitch-class structure of the theme as it appears in mm. 1-19.

The apparent inconsistency is texturally distinguished: D[#] only occurs in the melody, while D^b occurs only in the chords. In view of the textural division of pitch-class collections observed elsewhere in the Sonata—consider, for example, the superimposition of a heptatonia

²⁰ Wilson, 1992, p. 79.

²¹ *Ibid.*, p. 79.

seconda melody above a lydian-pentachord accompaniment in the secondary theme of the first movement that begins in m. 76—this type of distribution should come as no surprise. While the pitch-class content of the melody could fit within a diatonic collection (with some modal implications in view of the emphasis on the pitch-class B) or a heptatonia seconda collection, an analyst has no means (or, perhaps, need) to assign preference to one source collection over another.

The chords accompanying the first statement of the principal theme, as already observed, are intervallically consistent: each is an expression of (0257). Accordingly, this particular sonority echoes the dynamic opening motive:



Figure 5.2.1

That is, although Bartók does not fully match the pitch-class content of his harmonization to that of his melody, the harmonization provides an intervallic association with a prominent and recurrent melodic motive. In particular, the whole-tone dyadic components of the set-class (0257), in combination with the inversive symmetry of the set, create strong associations of similar intervallic quality throughout the sequence.

But what of the pitch-class content of the harmonization as a whole? In the exposition of the first movement, a large-scale expansion of (0257) delineated the pitch centers of the secondary thematic material: it appeared as though Bartók had extrapolated the T_7 transpositional process which relates each element of (0257) to create the transpositional array of secondary themes, one of these themes itself prominently displaying a (0257) structural component. This large-scale reflection of small-scale structure is even more pervasive in the

harmonization of the principal theme of the third movement: the three (0257) chords, each of which is generated by T_7 , are related to themselves by T_7 . These relationships are represented below, out of order of appearance to clarify the T_7 relationships, and each chord is taken to represent both the chord and melodic pitch-class it harmonizes:

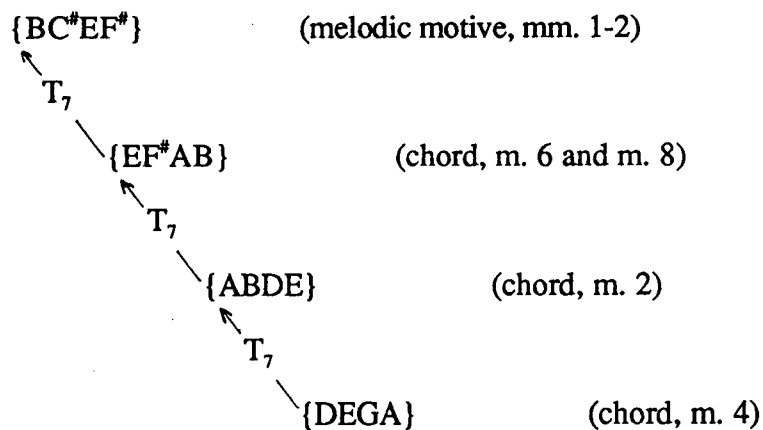


Figure 5.2.2

Wilson claims that the melody of the principal theme is tonally ambiguous due to its equal emphasis on two pitch-classes, E and B. He further notes that the bass line of the harmonization “drives clearly [down] toward E”.²² Wilson’s observation can be clarified and extended in its structural significance by considering the implications of this (0235) bass contour: the double statement of the melody over a recurrent bass descent kept in the same register creates the impression of an ostinato. The specific pitch-class sequence of the bass line itself, A-G-F[#]-E, has already been encountered in the closing theme of the exposition in the first movement, which was itself associated with the principal theme of the movement, as observed in Chapter Three, Section 3.2:

²² *Ibid.*, p. 79.

First Movement

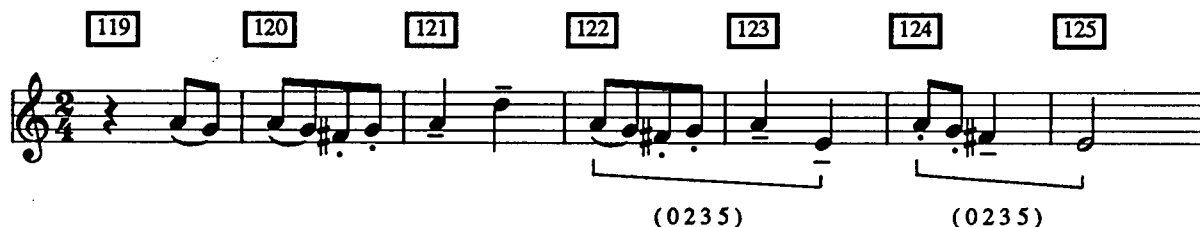


Figure 5.2.3

This is a striking motivic relationship in view of the importance of the bass line in the third movement. The ostinato implied by the thematic repetition establishes the descent to E as normative: this normative expectation is disturbed in the final statement of the principal theme, in which the descent to E is interrupted. The disruption of the repetitive bass line descent and the final arrival at E appear to be strong determinants of closure for the movement.

The occurrence of a G[#] 'upper neighbor' to F[#] in m. 105 has already been noted with respect to the highly-embellished melody of A^{v-2} (see Section 5.1). Although a claim for heptatonia seconda as the source collection of pitch-class structure for the principal theme has already been demonstrated to be in error, it is worth noting that Bartók's use of G[#] in m. 105 would also not fit with this analysis. With the additional pitch-class, the source collection constituting the melody of the principal theme could be construed as an E major scale or B mixolydian mode. However, the A[#]s in both A¹ (m. 100) and A² (m. 148) do not fit into this diatonic collection, and this discrepancy is very prominent as it occurs at the beginning of a melodic statement in each case and embellishes the signature (0257) opening motive. The key to assimilating this anomaly is specifically registral rather than textural, unlike the case of the D[#]/D^b discrepancy: the use of A[#] is restricted to the top of the melody, always above the (0257) motive—A^b prevails below. That is to say, the reason why an A[#] does not appear in the first statement of the principal theme is because the melody does not venture high enough. A registrally-specific representation of the pitch-class collection of the melody incorporating the use of A[#] exhibits an interesting structure:

Principal Theme: Melodic Pitch-Class Collection

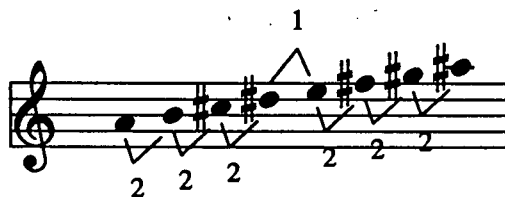


Figure 5.2.4

The collection reveals a clear intervallic symmetry around the semitone $D^{\#}$ -E, suggesting an association with the inversive symmetry of the (0257) motive: the pitch-class content can be understood as the superimposition of two whole-tone tetrachords or, more simply, as two expressions of the whole-tone set (0246) at T_7 . The use of a T_7 relationship in this capacity is suggestive in view of the apparent prevalence of this transpositional relationship thus far in analysis of the movement (more manifestations, on a larger structural scale, are to follow), but it is also significant with respect to the whole tone collection itself. A T_7 transposition of any whole-tone set creates mutually exclusive pitch collections: one might say that Bartók has created the melody of the principal theme by drawing symmetrical portions from the two distinct whole-tone collections and by isolating these portions registrally. The whole-tone relationships uncovered in analysis of the principal theme will prove to be of further interest in analysis of the structure of clusters in the movement and of an important thematic variant.

The prominence of the set-class (0257) in both the melody and accompaniment of the principal theme significantly contributes to a perception of tonal ambiguity in pitch structure: the inversive symmetry of the set expresses in quantifiable terms the absence of a perceivable 'root' to the sonority. Although there is a clear directive motion toward the pitch-class E in the bass, the final sonority itself never sounds conclusive: it is already clear from the first thematic statement in the movement, therefore, that this final sonority will have to be altered by some means in the final thematic statement to convey a sense of closure.

This 'open-ended' character of the principal theme is also in part a consequence of the implied phrase structure of the melody. The ambiguity of pitch-class centricity already noted—that is, whether the melody is in 'E major' or 'B mixolydian'—can be found not only in the succession of pitch-classes which conclude each two-measure grouping but, more simply, at the four-measure level: the first apparent 'phrase' of the melody (mm. 1-4 and again at mm. 9-12, for example) ends with a directed pitch motion through the upper tetrachord of E major, while the second 'phrase' (mm. 5-8 and 13-16) ends on the pitch-class B. Tonal ambiguity is therefore not simply a reflection of the particular motivic structures of the melody with their varied implications of pitch-class centricity but also of the order of these motivic structures: in a tonal context, the implicit phrase structure of the melody of the principal theme seems reversed—that is, if the 'phrases' were reversed in order, they would create an antecedent-consequent phrase relationship intelligible in a tonal context:

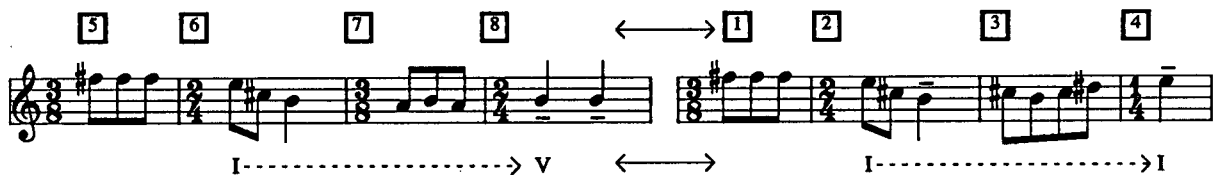


Figure 5.2.5

The emphasis on two pitch-classes, E and B, suggests an ambiguity of tonal focus at the beginning of the movement with important ramifications. The ambiguity avoids sectionalizing the principal theme of the movement from what follows by essentially building a transitional component into the very structure of the theme itself: by the end of m. 19, listeners are left without a sense of full or definite closure, and the presentation of the contrasting theme can follow immediately without any need for transition. (The contrasting theme is also carefully integrated with the principal theme, a relationship which the interpolation of transitional material would only obscure, as the next section will demonstrate). Furthermore, the recurrence of the principal theme as a refrain at T_0 reinforces this ambiguity throughout the

movement: far from sectionalizing the movement as a whole, the principal theme essentially propels the movement forward with every appearance, heightening the anticipation of closure. The interruption of the bass descent at F[#] in the final refrain (m. 253) signals that the ambiguities of the principal theme must finally be addressed: the means of closure deployed by the composer will be assessed in detail in Section 5.6, “Local Aspects of Closure”.

5.3 Local Features of Pitch Structure

The first appearances of the principal and contrasting themes (mm. 1-19 and mm. 20-27) display numerous interrelationships of motivic design and pitch-class structure. As noted in Section 5.1, the corresponding melodies are balanced, especially with respect to registral location (soprano/bass) and contour (descending fifths, F[#]—B / ascending fifths, D—A). Furthermore, the descending bass line of the principal theme is registrally associated with the melody of the contrasting theme, as though a supportive limb of the principal theme has differentiated into a new compositional feature of increased prominence:

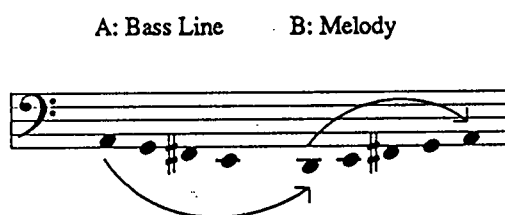


Figure 5.3.1

The first arrow in the figure indicates the linear continuity between the recurrent descending bass line of the principal theme and the beginning of the melody of the contrasting theme. The melody therefore emerges from the same register and rises repeatedly to reclaim the same pitch, A³, from which the bass line descended (as indicated by the second arrow). Just as the

repetition of the bass line emphasized A as its initial tone, the new theme also emphasizes this pitch-class, but as the final tone of each phrase unit:

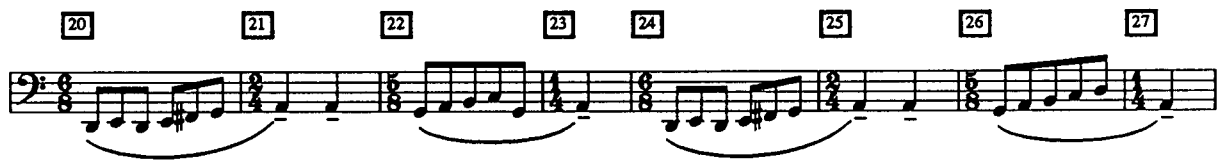


Figure 5.3.2

(The use of tenuto articulation provides additional emphasis to this pitch-class). The emphasis on A provided in these various ways contributes to the large-scale pitch structure of the movement, as will be discussed in the concluding section of this chapter.

The contrasting theme also bears important intervallic relationships with the principal theme. These have already been noted in the use of perfect-fifth melodic contours but can also be seen in a similar emphasis on (0257) structures, stated baldly in the static accompaniment throughout mm. 20-26—{CDFG}—and implicitly in repeated tones of the melody:



Figure 5.3.3

The prominent use of the pitch-classes E and G as neighbor tones to the pitch-classes D and A emphasizes the dyadic features that have been associated with the set-class (0257) in the

principal theme. On the surface, there is a clear motivic relationship with a prominent segment of the melody principal theme:

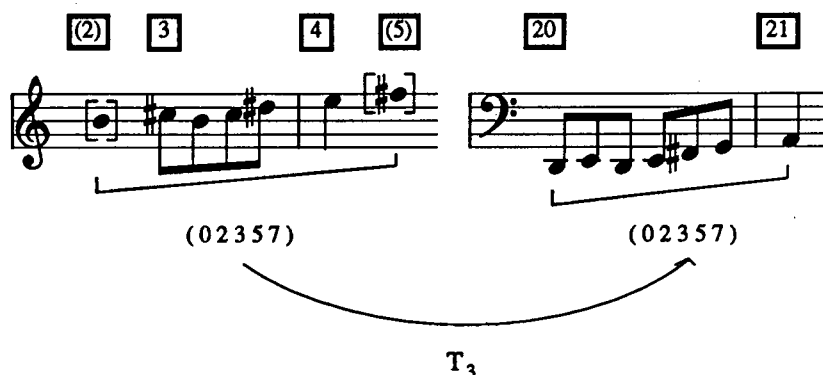
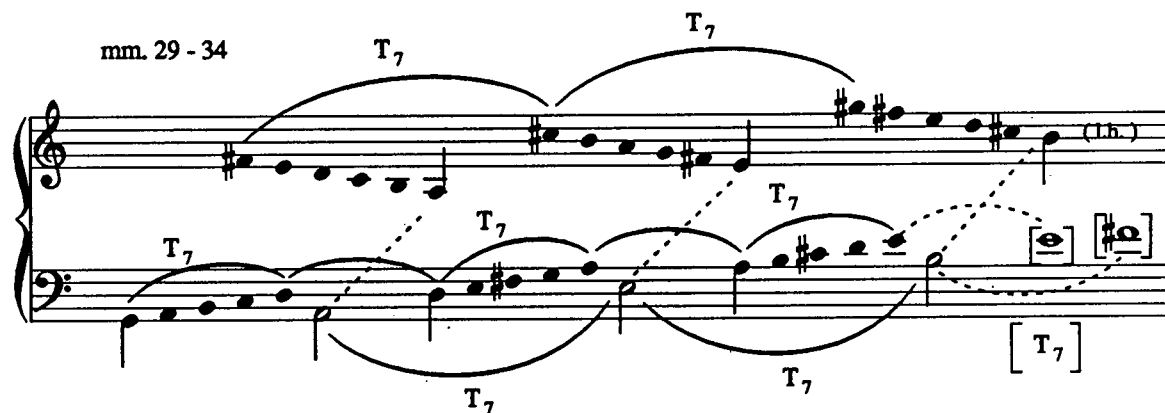


Figure 5.3.4

(The pitches given in parentheses, intended to clarify the motivic relationship with the contrasting theme, are drawn directly from the immediate melodic context, the last pitch of m. 2 and the first of m. 5). The pitch-class content of the new melody, suggesting a D-mixolydian mode, is also remarkably similar to that of the chords harmonizing the principal theme: each of these chords is a subset of the D-mixolydian collection. The distinction in pitch-class content audible between the melody of the principal theme and its supporting chords therefore prepares for the emergence of the contrasting theme.

The interruption of the contrasting theme at m. 28 draws from the same pitch-class resources as those used by the contrasting melody (which could be read as a 'G major' or 'D mixolydian' collection) but begins on the pitch-class F^\sharp , the initial pitch-class of the principal theme. This pitch-class receives the same registral distribution as found in the second melodic statement, m. 9 and m. 13 ($F^{\sharp 4}$, $F^{\sharp 5}$ and $F^{\sharp 6}$). The descending contour of this interruptive diatonic fragment and the abrupt return of detached articulation further suggest that m. 28 is a vestigial re-emergence of the principal theme, as though the contrasting theme has not been strong enough to supplant it completely. From this interruption, a succession of interlocking diatonic melodic fragments—ascending in the bass (like the contrasting melody), descending in

the soprano (like the melody of the principal theme)—proceeds by T_7 , seemingly paired by T_7 -related key structures (a succession of 'G major'—'D major'—'A major'):



mm. 29-34 therefore suggest a linear differentiation of these (0257) structures. The G-A dyad at the bottom of the (0257) sequence depicted in Figure 5.3.6 recurs as ninths at the bottom of the texture in mm. 40-41 and as the pedal tones of the extended cluster passage, mm. 49-92, left undisturbed until the resumption of the principal theme, A¹. The pairing of these pitch-classes, initially separated by a diatonic sequence, is therefore temporally compressed at first into vertical dyads, the major ninths of mm. 40-41. These dyads are then registrally compressed into major seconds in the lower dyad of the clusters of mm. 49-92. The emphasis on the G-A dyad suggests association with the contrasting theme, in which the repetition of melodic tones emphasized the dyads D-E and G-A (see Figure 5.3.3). Unlike the melody of the contrasting theme, however, the ostinato of mm. 49-91 provides greater emphasis on the pitch-class G, placing it at the bottom of vertical structure. This reverses the structural association of G and A depicted in Figure 5.3.5, and suggests that an important structural transition has occurred by m. 49.

Between mm. 29 and 49, however, there is considerable activity in pitch structure. There is an extended directive motion in mm. 35-37 to the pitch-classes B in the soprano register and A in the bass. These two pitch-classes were at either end of the sequence of concluding tones of mm. 29-34, A—E—B, but the chords of mm. 38-40 are not thereby easily rationalized: the preceding key sequence (which ought to arrive at 'E major'), does not prepare the use of the pitch-class A[#]. Textural configuration suggests that the pitch-class content of left-hand chords, {D,E,F[#],A,C}, which occupy the registral space of the melody of the contrasting theme, are representative (or are pitch-class subsets) of that melody, containing no divergent pitch-classes. The lower of the two right-hand chords, {E,G[#],A[#],B}, suggests a similar relationship with the melody of the principal theme, with the pitch-classes G[#] and A[#] taken as prolepses of the eventual pitch-class configurations of this melody in A¹ and A² (see Figure 5.2.4). The upper-most chord {DEF[#]} might suggest pitch-class continuity with the melody of the contrasting theme, but the use of the pitch-class F[#] is integral to an important symmetry of contour that is unmistakably linked with the principal theme. The descending

F[#]—B contours of the melody of the principal theme was answered by the ascending D—A contours of the contrasting theme. In mm. 38-39 and 42, these intervals are restated in their respective parts of the texture but with the direction, as indicated both by sequence and slurring, reversed:

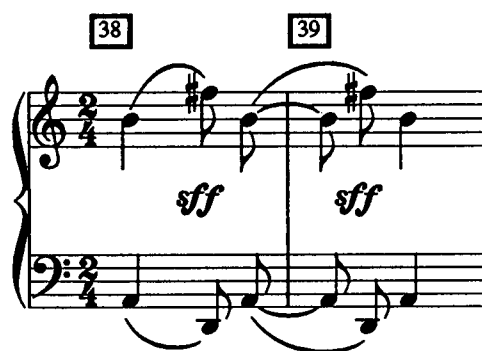


Figure 5.3.7

(Compare with Figure 5.1.1). This striking reversal of thematic contours is emphasized by a sudden change in rhythm from the preceding passage. The successive entries of descending diatonic lines in mm. 34-37 occur in cycles of five eighth-notes, creating a regular 5+5+5+5+5 pattern: the sudden turn to a palindromic rhythmic pattern in mm. 38-39—2+1+2+1+2—breaks this regularity.

Such extraordinary disruptions of the compositional fabric are found in other features of this passage, such as the extreme registral isolation of the {DEF[#]} chord and the rhythmic foreshortening of the G-A ninths in mm. 40-41 by exact halving of successive durational values. Furthermore, the outbursts of mm. 38-39 and m. 42 are interrupted by passages which intercalate temporally-fragmented expressions of (0257). The pitch-class structure of mm. 40-41 and mm. 43-44 clearly reveals this fragmentation:

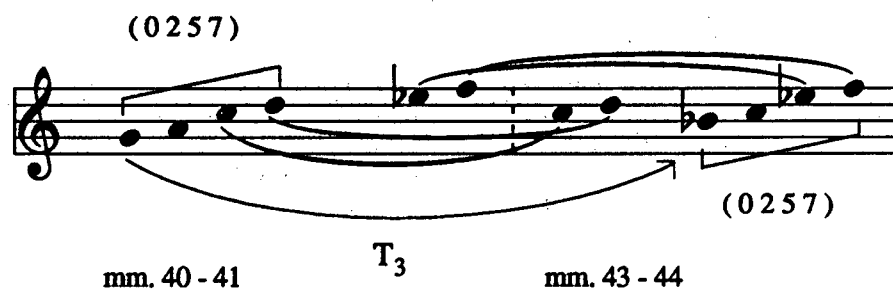


Figure 5.3.8

Only two sets are used, $\{GACD\}$ and $\{B^bCE^bF\}$, and only one of these is completely expressed in each two-measure passage (common tones are indicated by slurs). Mm. 45-48 can likewise be analyzed as interlocking instances of set type (0257):

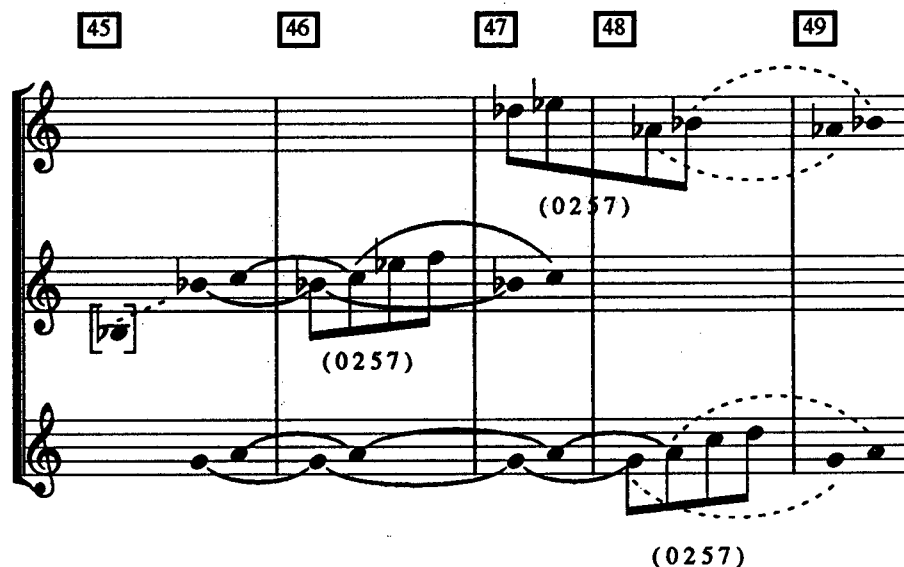


Figure 5.3.9

(The B^b -C dyad has been compressed into a whole-tone dyad for convenience of representation; the remaining voicings are the composer's). The underlying sequence can be understood more simply as a descending sequence of (0257) sonorities by T_{10} and $T_{11}: \sharp$

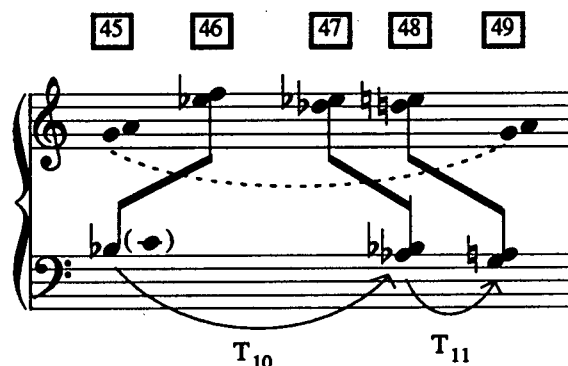


Figure 5.3.10

This sequence renders the (0257) sonorities in the actual order in which they are completed. The initial G-A dyad of m. 45 acts like a double pedal tone throughout the passage toward which the other (0257) sonorities linearly tend but do not resolve. The subsequent G-A / A^b-B^b clusters of mm. 49-83 are therefore the vestige of this sequence of (0257) structures,²³ a T₁ configuration of (0257) collections notably used in the second movement (see Figure 4.3.10).

Clues to the derivation of the curious sonorities of mm. 38-39 and m. 42 appear when the score returns to the same register in mm. 84 and 86. A whole-tone tetrachord, {B^bCDE}, literally erupts from the texture in the right hand. At first it is briefly supplanted by another whole-tone tetrachord, {GABC[#]} in m. 85, which then expands in mm. 87-91 into a complete whole-tone hexachord, (02468T), while the left hand continues to juxtapose dyads from opposing whole-tone collections. Although the composer has transmuted the dyadic vestiges of two (0257) collections at T₁ (see Figure 5.3.10) into an apparent reference to whole-tone collections at T₁, whole-tone references may be found prior to their evident emergence in mm. 84-91. The perplexing sonorities of mm. 38-39 and m. 42 combine the prominent perfect-fifth leaps, B—F[#] and A—D, with two expressions of (026) in the first sonority and pitch-class elements, {D,E} from these (026) sets in the second:

²³ Watson's contention that they are simply another appearance of an "x-cell" configuration is somewhat unsatisfying: no attempt is made to relate these "cells" to preceding voice-leading or to the pervasive use of (0257) structures throughout the movement.

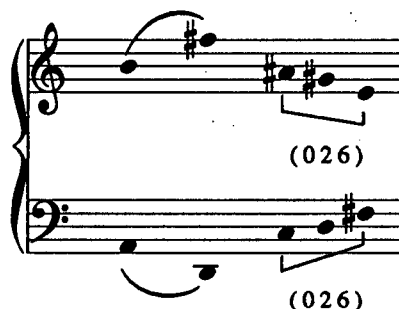


Figure 5.3.11

This symmetrical relation between two expressions of (026) partitions a complete whole-tone collection, {CDEF[#]G[#]A[#]}; that is, the (026) collections are complementary subsets of the whole-tone collection found incomplete in mm. 84 and 86, {B^bCDE}. Mm. 38-86, therefore, provide references to T₁-related whole-tone collections that will reappear in segments throughout the movement.

The whole-tone collection of mm. 87-91, {D[#]E[#]GABC[#]} finds a subset associate not long afterwards. The melody of the C episode, mm. 111-138, clearly suggests such an association:

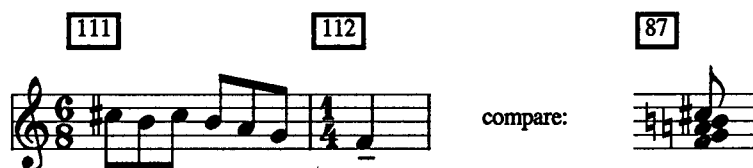


Figure 5.3.12

This playful figure appears to invert (and modify the pitch structure of) the initial phrase of the melody of the contrasting theme, which was itself motivically derived from the principal theme; the descending melodic contour and the detached articulation in the C episode therefore recall features of the principal theme. The conventionally voiced accompanying left-hand chords

begin with a circle of fifths sequence—the roots of which unfold a (0257) collection, {CDFG}, previously used to accompany the contrasting theme (mm. 20-27)—which quickly degenerates into a non-functional progression, arriving in the bass at the pitch-class D. The entire episode therefore seems to be a parody of both themes used in the movement—the ‘all-thumbs’ fingering in itself is suggestive—at the same time that it associates their similarities of structure. However, the pitch structure of the entire melody is not a whole-tone collection but a larger collection, heptatonia seconda, of which a whole-tone pentachord, (02468), is a subset. While the first melodic statement, mm. 111-118, uses only one heptatonia seconda collection, the subsequent melodic statement in the bass is accompanied by an upper voice symmetrical about the pitch-class A and an inner voice which unfolds another complete heptatonia seconda collection at T_7 from the bass melody:

The figure shows a musical score for five measures, numbered 119 to 123. The score consists of three staves. The top staff has a treble clef and a key signature of one sharp (F#). The middle staff has a treble clef and a key signature of one sharp (F#). The bottom staff has a bass clef and a key signature of one sharp (F#). The time signatures for the measures are 6/8, 3/8, 5/8, 3/8, and 6/8 respectively. A curved arrow labeled T_7 points from the bottom staff to the middle staff, indicating a transformation. The notation includes various note values, rests, and accidentals.

Figure 5.3.13

The transition to the next cluster-accompanied thematic variant, A^{v-2} , does not undergo the transformations of (0257) found in the preceding transition, mm. 40-49. However, a vestige of the T_{10} - T_{11} voice-leading of mm. 45-49 (B^b — A^b —G) remains, clearly marked in the bass of mm. 139-143:

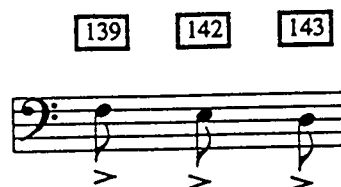


Figure 5.3.14

This descent maps directly onto the lowest three pitch-classes of the melody of episode C, suggesting both a motivic and a transpositional link between C and A^{v-2}. While the bass reiterates part of this descent (E³-D³) throughout the passage, the melody descends from the pitch-class C[#] (ornamented by D[#]),²⁴ implying another association with the melody of episode C. The integration of prominent elements of this thematic variant is comparable to the superimposition of whole-tone dyads in cluster passages of the movement. The clusters inbetween the melody and bass tones of A^{v-2} suggest pitch-class associations with each of these textural features: the D⁴-E⁴ dyad is clearly associated with the recurrent pitches in the bass, D³-E³, while two of the alternate pitches of the cluster, C^{#4} and E^{b4}, are invariant with the highest pitch-classes of the melody, C^{#6} and D⁶. The alternation of these whole-tone dyads in the clusters therefore suggests a microcosm of the antiphonal exchange between melody and bass (neither part is active at the same time as the other). A^{v-2} ends with the re-emergence of a full whole-tone collection, {FGABC[#]D[#]}, out of the cluster interplay, another tangency with the melody of the C episode which began with the collection {FGABC[#]}.

The essential features of A^{v-3} have already been discussed in Section 5.1. Of these, the most interesting for the purposes of this discussion lies at the end of the long descent of accompanying chords. From the pitch-class F[#], where the descent pauses in mm. 171-173, the rapid movement through E² (m. 174) to D² subverts the normative E² goal of the bass line descent of the principal theme: here, the descent from E to D depicted in Figure 5.3.1 literally occurs without pause or interruption. The contrasting theme, however, begins this time on the

²⁴ The (0257) thematic motive is the set {F[#]G[#]BC[#]}.

pitch-class C rather than on D, and accompanying chords continue to descend after the arrival at D in m. 175. Viewed within a larger context, therefore, mm. 157-174, comprising A^{v-3} , seem to function as a transition, as surmised in Section 5.1: the passage bridges the conclusion of the preceding thematic variant, A^{v-2} , with its emphasis on the pitch-class D in the bass, to the next statement of the contrasting theme, B^1 , (m. 175), which coincides with the arrival in the bass at the same pitch-class.

The descending bass line of B^1 continues until it arrives at the pitch-class A (mm. 180-181). At this point further descent is interrupted by a T_7 transitional sequence analogous to mm. 29-37. In this sequence, the left-hand diatonic segments are kept legato (unlike mm. 29-37) and begin T_7 lower than in m. 29; the right-hand segments, however, remain at the identical transpositional level as mm. 28-37, creating a T_7 -related bi-modal texture not encountered in the analogous passage—tonally, therefore, the right hand appears to be one T_7 iteration 'ahead' of the left. The transitional passage now leads in mm. 192-193 to emphasis of the fifths A—E in the right hand, G—C in the left, and the recurrence of (026) collections, $\{B^b, C, E\}$ and $\{D, G^\sharp, F^\sharp\}$ which, due to the T_{10} transposition of this passage from its companion earlier in the movement (mm. 38-42), are complementary subsets of the same whole-tone source collection used in mm. 38-39 and m. 42. The use of (0257) transitional sonorities in mm. 194-198 is severely attenuated in both set representation and time—there is only one complete (0257) collection, $\{A^b B^b D^b E^b\}$, and the arrival at the next transpositional level takes only five measures instead of nine as in the analogous passage (mm. 40-48).

Compositional proportions appear to be generally foreshortened by m. 201. The two-note phrasings of the melody in A^{v-4} are breathless, the reference to the principal theme is reduced to only the first two measures of the melody, and the tempo has attained the fastest metronomic indication of the entire movement ($\text{♩}=194$). The pitch-class emphasis at the bottom of the clusters remains on F until m. 219, a whole-tone below the analogous cluster passage of mm. 49-91. Beginning in the middle of this measure, the clusters momentarily

settle on the pitch-class E before precipitously descending to B at m. 222²⁵, unleashing a cascade of (027) sonorities. The wide registral distribution of these sonorities (from B¹ to B⁷) eventually settles into lower registers (B¹-B³) from which the ostinato for the final thematic variant, A^{v-5}, emerges. The implication of a dominant pedal is very strong, suggesting the imminent conclusion of the movement.

The final statement of the principal theme and the means by which the movement concludes will be examined in detail in both Sections 5.6, "Local Aspects of Closure", and 5.7, "Large-Scale Features". As in the case of the second movement, commentators have tended to doubt the structural determination of closure in the third movement: the means of closure for this movement therefore merit careful assessment.

5.4 Transpositional Relationships of the Principal Theme and its Variants

In Section 5.1 an expansion by T₇ around the initial pitch-class F[#] was observed in the transpositional sequence of the melody of the principal theme and its first two variants (see Figure 5.1.2). This initial pattern then appeared to break down at A^{v-4}, which was related to the melody of the principal theme by T₃ (with an initial pitch-class A). The final thematic variant, A^{v-5} (with an initial pitch-class E) is then related by T₇ to the preceding A^{v-4} statement. A^{v-5} is then followed at T₂ by the remaining statement of the principal theme (on F[#]). There are, therefore, two apparent sequences of statements of the melody of the principal theme and its variants related by T₇, with disjunctures in this transpositional pattern of T₃ (between A^{v-3} and A^{v-4}) and T₂ (between A^{v-5} and A²).

All of these transpositional relationships—which correspond to i.c. 5, 3 and 2—are constitutive intervallic relationships of (0257), the sonority that initiates every appearance of the principal theme and its variants. By using transpositional levels which correspond with this

²⁵ Note that both the set-class structure and pitch-class content of the descending bass line in mm. 219-222—(01356) and {BCDEF}—correspond with the symmetrical distribution about the pitch-class D that was of such structural prominence in the second movement (see Figure 4.2.2).

intervallic structure, therefore, Bartók creates a transpositional matrix in which numerous pitch-class invariances will inhere. This suggests another possible means of thematic integration but one which is appreciable at best in relatively abstract theoretical terms in view of the discontinuities in the thematic transpositional sequence. To some extent these discontinuities reflect an important feature of thematic design, namely the T_0 refrains of the principal theme which parody rondo form. It is possible, however, to relate all appearances of the principal theme and its variants by means of interval-class 5 outside of the order of appearance that actually occurs in the score. This transpositional order can be represented, using the initial (0257) thematic motive, as a continuous sequence of overlapping (0257) structures, with the resulting pitch-class invariances clearly shown:

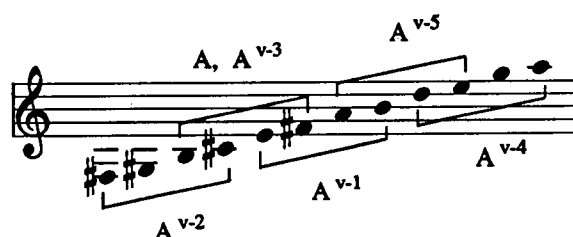


Figure 5.4.1

5.5 Aspects of Rhythmic Structure

Some discussion of rhythmic structure in the third movement has already been broached with respect to aspects of pitch structure and thematic features. Indeed, pitch and rhythmic structure may at times appear to be so carefully integrated that separate analyses of these features threaten to attenuate appreciation of their compositional roles. The purpose of this section is not, therefore, to examine rhythmic structure as a wholly autonomous analytic enterprise: although the results are frequently of some interest within themselves, they will often be seen to have ramifications for other aspects of compositional design.

Although the principal theme is characterized by an almost constant change in meter, this fluctuation does not create an impression of random rhythmic activity. This might reflect in part the parallel sequence of metric indications which results from the double statement of the principal theme: for example, in the first appearance of the theme (mm. 1-19), the sequence of metric indications in both statements is identical (compare mm. 1-8 and mm. 9-16). However, this parallelism does not hold for the refrain of the principal theme in mm. 92-110, where the second statement is subject to additive melodic elaborations:

	3	2	-	1	3	2	3	2
A ¹ , mm. 92-99	8	4	-	4	8	4	8	4
	5	2	5	3	5	2	5	2
A ¹ , mm. 100-107	8	4	8	8	8	4	8	4
	└──────────┘			└────────┘		└──────────┘		

Figure 5.5.1

There are occasional congruencies of metric indication between corresponding parts of the melody (always with the same meter, 2/4), but the two statements are otherwise discrete sequences of time signatures. (Unlike the first statement, the second has a pattern of recurrent use of 5/8 indications, as indicated by the lower brackets). Nevertheless, in spite of such discrepancies, the refrain of the principal theme does not sound ill-proportioned in the relationship between its melodic statements. Furthermore, it does not sound particularly more irregular in rhythm than the first appearance of the principal theme, which enjoyed the supposed benefit of a parallel sequence of metric indications. Patterns of time signatures alone, therefore, will not elucidate the coherence of rhythmic design.

An important source of coherence in the principal theme lies in its phrase structure, which has been shown to conform to a 2+2+2+2 pattern of measure groupings. (One of the noteworthy means of varying the principal theme discussed in Section 5.1 was the change of these groupings in A^{v-1} and A^{v-2}). This in itself does not address the particular patterns of

change in metric indication but provides the means for doing so: if the passages are analyzed with respect to their basic level of continuous pulse, the eighth note, within the context of the two-measure groupings, a clear proportionality does emerge:

	(number of eighths per two-measure unit)						
A, both halves of theme: (without extension, mm. 17-19)	7	+	6	+	7	+	7
A ¹ , first half of theme:	7	+	6	+	7	+	7
A ¹ , second half of theme: (without extension, mm. 108-110)	9	+	8	+	9	+	9

Figure 5.5.2

This representation demonstrates a clear proportional relationship in eighth-note values: in the second half of A¹, each two-measure unit is lengthened by two eighths.

These proportional relationships are of interest because they clearly define the rhythmic characteristics of the principal theme and suggest a way of analyzing other rhythmic contexts. For example, among the distinguishing features of the contrasting theme in its initial statement (B) is the proportionately greater gap in eighth-note values between the two-measure groupings (10+7+10+7). In the subsequent appearance of this theme (B¹), not only are certain features of pitch structure and textural arrangement closer to those of the principal theme but there is a closer similarity of rhythmic proportions as well: the gap in eighth-note values between the initial three two-measure groups is only one eighth, as it is in the principal theme, although the elision of the final group effects a rhythmic interruption (8+7+8+5).

The rhythmic proportions of the central episode, C—8+7+8+7 for the first melodic statement and 9+8+ 9+7 for the second—recall features of the rhythmic organization of both the principal and contrasting themes, in keeping with its 'developmental' character. The

thematic variants A^{v-3} and A^{v-4} , on the other hand, cannot be meaningfully analyzed from this perspective by virtue of their use of shorter melodic portions (as detailed in Section 5.1); they will therefore be discussed separately in this section. The extreme melodic segmentation of A^{v-2} also does not invite the use of this particular mode of rhythmic analysis.

The final statement of the principal theme, A^2 , reveals interesting variations of normative rhythmic features. The first of these variations is an apparent stretching of the proportional sequence with the interruption of the ostinato descent at the pitch class F^\sharp (m. 252), providing a means of proportional emphasis for this significant event in pitch structure. This is clearly illustrated through comparison with the second melodic statement of A^1 , the eighth-note group values of which A^2 appears to depart from:

A^1 , mm. 100-107:	9	+	8	+	9	+	9
A^2 , mm. 248-254:	9	+	8	+	<u>13</u>	+	9

Figure 5.5.3

The 'stretched' portion (underlined in the figure) is readily perceived in a local context, regardless of the more abstract relationship presented here. The ensuing rhythmic sequence, 7+7+7+8 (mm. 256-263) is unusual with respect to the typical asymmetry of the principal theme: the stasis in chordal accompaniment for mm. 254-261, suited to prolongation of the interruption on F^\sharp , is reflected in a rhythmic stasis in mm. 256-261 (7+7+7).

The transitional passages that follow both appearances of the contrasting theme and of the C episode also reveal interesting structures from an eighth-note perspective. All of these passages are contrapuntally arranged, with two 'voices' (one in each hand) constantly interrupting each other. Each 'voice' continues until it completes its particular melodic segment, resulting in a continuous overlapping of pitch events which both dissolves the two-measure groupings of the entire texture of the preceding themes and fluidly drives the

composition ahead. The melodic fragments iterated in each hand are regular with respect to eighth-note values but the interruptive configuration of these fragments creates the effect of recurrent rhythmic groupings which have slipped out of phase with each other. Both the group values integral to one phase and the value of the 'phase shift' (amount of delay between the hands) can be expressed in eighth notes, with suggestive results (all transitional passages are elided by extended eighth-note sequences, at which point no more group values can be indicated):

mm. 29-33	(3)	8	+	8...				
	8	+	+	+	8...			
mm. 125-132	(2)	7	+	7	+	7	+	7...
	7	+	7	+	7	+	7...	
mm. 182-186	(3)	8	+	8...				
	8	+	8	+	8...			

Figure 5.5.4

The relative intensification of the central transitional passage is clearly indicated by this representation: not only are the melodic groupings of mm. 125-132 shortened with respect to those of the other passages, but so is the value of the entry delay, as indicated by the number in parentheses (both of these values are shortened by one eighth note).

Rhythmic disruptions perceivable at the eighth-note level may also be configured in other forms. Three-eighth groups are often suddenly superimposed above an apparent duple meter:

mm. 46 - 48

([♭] ♭) x2 + (♭) (+1)

mm. 81 - 83

(♭) (♭) et cetera

Figure 5.5.5

Disruption may also be effected by the sudden insertion of rhythmic symmetry, as in mm. 38-39. This type of palindromic figure has folk music roots, as the following transcription by Bartók of a folk melody with pedal-tone demonstrates:²⁶

Figure 5.5.6

²⁶ This transcription is found in the *Essays*, p. 267.

The effect of this palindromic rhythmic structure in mm. 38-39, previously observed in Section 5.3, is appreciable as a textural event: a striking sequence of rhythmic simultaneities, it follows a transitional passage of contrapuntal rhythmic overlapping (an 'out-of-phase' structure detailed in Figure 5.5.4). The disruption is also perceived simply as a change from continuous eighth-note pulsation.

Analysis of the grouping of eighth-note values has unveiled rhythmic structures behind time signatures. Time signatures themselves, however, occasionally present a cogent means of identifying rhythmic processes: in A^{v-3} (mm. 157-174), for example, a pattern of meter indication is clearly associated with durational values. As already noted in Section 5.1, A^{v-3} only makes use of the first half of the melody of the principal theme and may therefore be understood as a series of 2+2 groupings, each of which ends on the pitch-class E. Arranged in these series, the meter indications are configured as follows:

mm. 157-160	3 8	2 4	3 8	1 4
mm. 161-164	3 8	2 4	3 8	2 4
mm. 165-168	3 8	2 4	3 8	3 4

Figure 5.5.7

The time signature of the final measure of each series corresponds to the increased duration (and emphasis) of the pitch-class E in the melody.

Rhythmic structures may also verge on the genuinely chaotic at times. The eighth-note groups of phrase units of A^{v-4} do not convey any consistent pattern outside of a general trend toward shortening of the groups—7+7+5+6+4+4+5+3+3+3+1 (mm. 205-216). Although this pattern begins with some semblance of 'regularity' (the 7+7 groups), the rhythmic structure of the melody quickly becomes 'unglued', and the trend toward shorter groups

corresponds with the general foreshortening of features in this passage described in Section 5.3.

Rhythmic structures in the Sonata can therefore generally be observed within patterns of time signatures and groupings of pulsation. These features enable multiple layers of rhythmic processes to co-exist and interact, as has been observed in significant passages of the first movement. In the third movement, the central thematic variant of the principal theme, A^{v-2} (mm. 139-156), provides another prominent example of a multi-layered rhythmic texture. This passage, like the intense transformations of pitch and motivic structures of the C episode which immediately precedes it (mm. 111-138), conveys a vigorously developmental character. Taken together, these passages straddle the middle of the movement and suggest the role of a central developmental episode, each 'half' varying different features of preceding thematic material. In the 'second half', A^{v-2}, perhaps the most radically-developed features are rhythmic.

Previous commentary in Section 5.1 has identified the basic textural components of A^{v-2}: the antiphonal exchange between 'soprano' and 'bass' occurs around the perpetual motion of clusters, suggesting a three-part texture. Although the clusters are notated in triple meter, albeit without emphasis indicated on the main beats, the simple alternation between two whole-tone structures is also suggestive of a duple subdivision (like the clusters previously heard in mm. 49-91) and could be configured within a 3/4 meter. The lone accent on beat four in m. 138 which momentarily suggests a triple meter therefore effectively creates metric ambiguity for the passage of clusters: the listener is fleetingly enticed to hear such a subdivision but is left without reassurance of that subdivision thereafter.

The extremely disjointed character of the melody seems to invoke different metric references at different times. The following figure illustrates a possible interpretation of these alternate metric implications:

an unaccented neighbor preceding the downbeat of m. 144—create discontinuities of stress in the melodic contour. The interactions of these elements create subtle rhythmic features that effectively mimic the elusive stresses and rich ornamentation of a peasant flute player.

A^{v-2} is therefore a passage of considerable disorientation for the listener in terms of thematic treatment, pitch structure and rhythmic texture; yet, this disorientation is contrasted by the literally striking arrival of each phrase of the melody on the succession of pitch-classes F[#]—B—F[#]—B (the last hit twice). These pitch-classes, which serve as important contour points for the principal theme, will be seen to have an increasingly high structural profile toward the end of the movement.

5.6 Local Aspects of Closure

The T₇ relationships which associate appearances of the principal theme are somewhat reminiscent of the transpositional relationships of secondary thematic material in the exposition of the first movement. With respect to this earlier transpositional pattern, Straus raises the 'problem' of potentially endless sequential generation of secondary themes at T₇: this process needs to be 'interrupted' in the recapitulation, Straus suggests, by reintroducing the inhibiting presence of the principal theme (that is, through the use of its definitive motive in sequence, mm. 222-224).²⁷ This study has suggested that the sequence of T₇ transpositions is already circumscribed in the exposition by its arrival at the pitch B^{b6} (see Chapter Three, Figure 3.3.5), an event structurally associated with the recapitulation of secondary thematic centered on B^{b5}. Unlike the transpositional sequence of secondary themes in the first movement, however, the T₇ thematic relationships of the third movement are not expressed in a strict sequence and a pitch-class goal cannot therefore be stipulated for them. Furthermore, the constant metamorphosis of the principal theme itself suggests an endemic challenge to closure: how can such a protean refrain be constrained?

²⁷ Straus, *Remaking the Past*, pp. 110-112.

This issue can first be productively explored through examining local features of closure—that is, significant structural events appearing close to the end of the movement. Section 5.2 has already commented on the striking interruption in mm. 253-263 of the repetitive descent in the bass register of the principal theme. The protracted delay at F[#] of the directed motion toward E (mm. 253-272) through the beginning of what Wilson identifies as the “coda” amplifies its effect. This final section of the movement (mm. 264-281) cannot be accurately understood as a separable “coda” because it is so intimately linked with the interruption of the final incomplete statement of the principal theme: the anticipated arrival at E in the bass does not occur until the last measure of the movement. Furthermore, although the rhythmic features of this passage sharply contrast with those of the preceding thematic statement, this change must also be understood as a disruptive technique rather than an indication of a separable section. The obstinate delay on the F[#] suggests a need for the explosive destruction of the weakened metric frame of the principal theme, as though the dynamics of pitch structure alone lack sufficient momentum to end the work.

Anticipation of closure is also enhanced locally by tonal parody in mm. 222-247. The clusters built on the pitch-class B in A^{v5} (mm. 227-247) suggest a ‘dominant pedal’: the ear has been accustomed to hearing the $\wedge \wedge \wedge \wedge$ 4-3-2-1 descent of the principal theme’s descending bass line in this low register, and the steady insistence on the (023579) cluster unmistakably builds up the kind of anticipatory tension normally associated with a dominant pedal. The metric regularity and relative insistence of the rhythm of this passage are obvious means of emphasis. However, the greatest impact of this passage is perhaps felt indirectly. Not only does the ‘dominant pedal’ fail to resolve directly to the presumed ‘tonic’ (the pitch-class E), but so does the climactic bass line descent of the theme which follows:

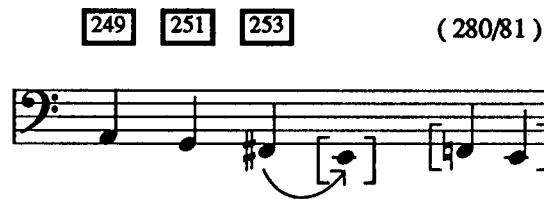


Figure 5.6.1

The melodic insistence on the pitch-class B in mm. 253-259 (over the concurrent prolongation of F# in the bass) suggests a registral transfer or recollection of the 'dominant pedal': the composer seems intent upon combining the effects of both the interruption of a linear descent in the bass and of the lack of resolution of the dominant pedal which preceded it. The pitch-class E therefore seems cornered but not yet caught:

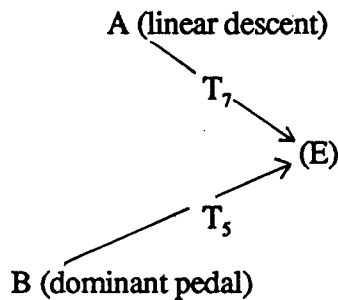


Figure 5.6.2

This entrapment is pressingly felt with the arrival at the pitch-class E in m. 264 in the 'wrong' register, still apparently obstructed from its rightful place in the bass register by the defiant pitch-class F#. Bartók's "*sff sff*" indication suggests a palpable collision of prospective closure (arrival at the pitch-class E) with an as yet immovable interruption (prolongation of the pitch-class F#).

The explosion of activity generated by this collision is more than mere sound and fury staged to provide an exciting ending to this piece. The extreme concentration of pianistic activity is in fact more than matched by the concentration of interval-class activity: one might call this finale an apotheosis of the interval-class 5 relationships which permeate the movement,

for every pitch-class occurring in mm. 264-281 is related to every other by an interval-class 5 cycle (to be detailed below). The roots of this sequence are detected in association with the previous insistence on the pitch-class B.

The chord which is built on $F^{\#2}$ beginning in m. 264 suggests an extension of the $B-F^{\#}$ relationship discussed above:

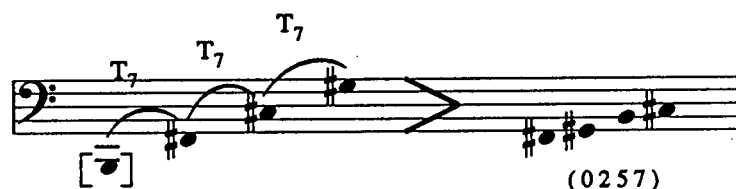


Figure 5.6.3

The upper part of the texture, $\{E, G^{\#}, A\}$, can be simply described as a (015) sonority, holding one common tone ($G^{\#}$) with the (027) sonority in the bass. The addition to this collection of $C^{\#}$ in mm. 265-267 suggests, however, that the combined presence of $G^{\#}$ and $C^{\#}$ in the upper part of the texture is a registral extension of the (027) sonority in the bass; furthermore, the chords which eventually emerge from this overlapping of the collections $\{F^{\#}, C^{\#}, G^{\#}\}$ and $\{A, E\}$ reveal another T_7 sequence of pitch relationships which also suggest generation from the pitch-class B (see below). If the upper sonorities from m. 265 to the end of the movement are considered in isolation—that is, once the $G^{\#}$ and $C^{\#}$ extensions from the bass in mm. 264-267, mm. 269-270 and m. 272 have been separated out—another T_7 sequential relationship emerges:

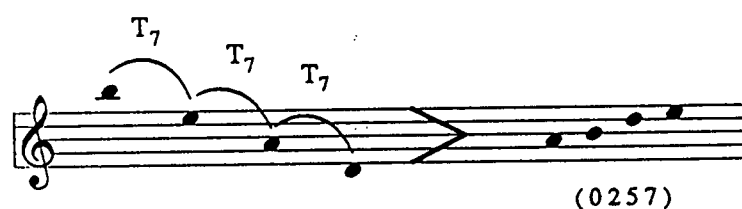


Figure 5.6.4

Further T_7 relationships in pitch structure at the conclusion of the movement will be considered when their presence may be used to address peculiarities of linear features.

Throughout mm. 254-261, a linear sequence slowly emerges as other prominent features (most notably, emphasis on the pitch-class B) drop out:



Figure 5.6.5

The severe accentuation of the figure in m. 260 is enhanced both by the drop in register and by the sudden, glaring loss of octave pairing (a feature not indicated in the example as given above). The final simple ascent by perfect fourth, A—D, further emphasizes the outline of the figure. This four-note ascending figure is clearly reminiscent of a prominent motive in the principal theme, of which it is an exact replica at T_{10} :



Figure 5.6.6

Other clear patterns of pitch-class emphasis emerge from the two-measure groupings of mm. 254-261:

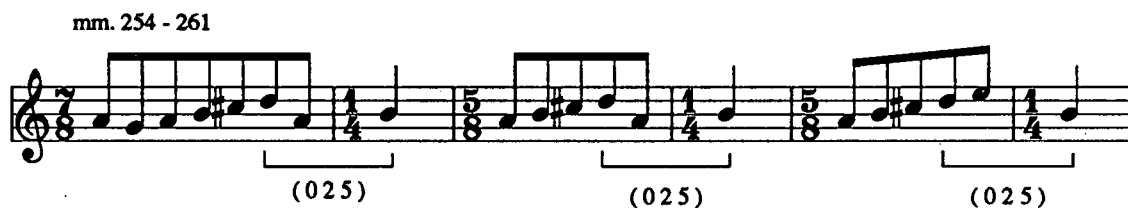


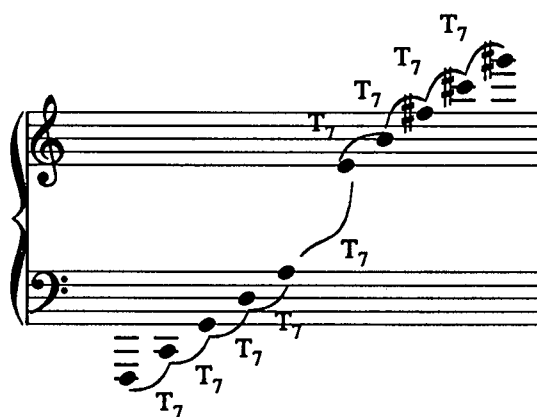
Figure 5.6.7

Every two-measure group not only begins with the pitch-class A but ends in a subset, (025), of a single (0257) sonority, {ABDE}. This is the same collection that provides the entire pitch-class structure of the upper part of the texture from m. 264 to the end of the movement (that is, excluding the C[#]-G[#] incursions as discussed above). The pitch collection of the melody of the principal theme has changed in mm. 254-261 in preparation of the {ABDE} collection that sustains the upper part of the texture until the conclusion of the movement.

This final collection was foreshadowed by the pitch-class content of the melody of the final thematic variant, A^{v-5} (mm. 227-247), but in that manifestation it was accompanied by the 'dominant pedal' clusters. Mm. 264-281, on the other hand, present a radically changed accompaniment and elicit attention to other issues of closure. Of these, the most striking is the final directed motion to E in the bass via F^b rather than F[#]. Emphasis on the interruption at the pitch-class F[#] of the bass line descent of the principal theme has been seen to have ramifications in countless structural features. The use of F^b, on the other hand, is a comparative 'throw-away' in local terms—just three-eighths' worth of duration at the extreme end of the movement and without prior appearance in the previous 59 measures. Furthermore, its intrusion on the pitch-class scene upsets several potentially aesthetic conclusions to the movement, at least from an analytic viewpoint: the pitch-class F[#] is not given a chance to resolve directly to the pitch-class E and the final sonority—{E, F, B, D} as a collection, (0136) as a set-type—is extremely 'ugly', bearing no readily appreciated structural relationship to the surrounding chords. Wilson has commented that "the concluding events of all three

movements of the Sonata contain some element of the arbitrary or the unprepared”,²⁸ judging the first movement to be the most convincing in achieving closure and not specifying which of the remaining movements he considers to be the worst in this respect. Is the sudden and curious appearance of the pitch-class F^{\sharp} one of these “arbitrary” or “unprepared” features?

F^{\sharp} may simply be incorporated as an element of a T_7 sequence which generates all pitch-class material for mm. 264-281: \sharp



The transpositional relationships are indicated by arrows and pitch-class invariances between neighboring chords are indicated by parentheses. In terms of the transpositional order of pitch-class elements, the (027) sonorities run backwards up to m. 273, briefly forward to m. 279, then backward again in m. 280 until the sequence finally reaches its 'root', F^\sharp .

The (027) sonorities of the bass in mm. 264-281 also state the entire pitch-class collection of the passage; the upper part of the texture states only one (0257) sonority, {ABDE}, as observed before. (The pitch content of the bass intersects with this set only at mm. 268, 271 and 279). The initial impression is of an alternation of 'roots' in the bass between the pitch-classes A and F^\sharp —respectively, the pitch-class which always initiated the bass line descent of the principal theme and the pitch-class which now serves as this descent's point of interruption. The proportional structure of this passage progressively shortens the duration of F^\sharp , as though its presence were being durationally erased:

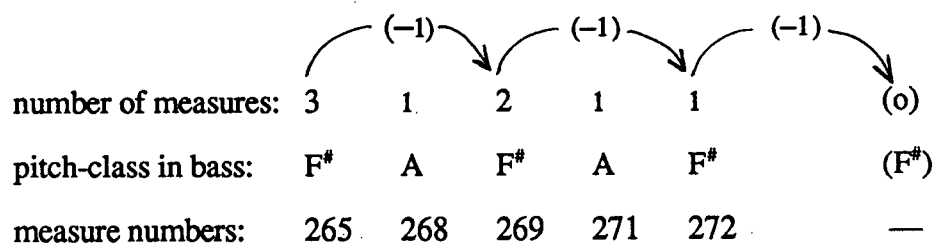


Figure 5.6.10

The arrival at a C-G-D chord in m. 273, temporarily substituting for the recurrence of an A-E-B chord, is achieved via an implied T_3 transpositional scheme symmetrical about the pitch-class A, F^\sharp —(T_3)—A—(T_3)—C. (The use of a similar structure in the second movement was commented on in Chapter Four, Figures 4.3.12 and 4.3.13). There is also a clear proportional symmetry in total duration of (027) chords which Bartók finally breaks with a cross-measure notational 'stretch': once the rhythmic ostinato has begun (m. 265), there are, in total, six full measures of F^\sharp -based (027) chords and, in a continuous sequence, six full measures of C-based (027) chords which are then 'stretched' by two eighths into m. 279 (indicated by

Lengthening the C-G-D ostinato suggests a proportional dominance over the F[#]-C[#]-G[#] ostinato. The dimension of this proportional stretch—two eighth notes, or 1/6 the length of the C-G-D ostinato—both accommodates the off-beats of the D-E dyads in the upper part of the texture and establishes the internal rhythmic proportions of the final three measures:



173

m. 264) articulated by these downbeat simultaneities is, therefore, 4+3+2+8. The foreshortening of the first three terms (each in succession by the value of a half note) is evident and correlates in duration and timing with the foreshortening of the F[#]-C[#]-G[#] ostinato described above (see Figure 5.6.10); the extended delay of the final downbeat simultaneity by 8 measures occurs while the C-G-D ostinato in the bass completes its proportional symmetry with the F[#]-C[#]-G[#] ostinato and then launches the final descent into closure. The final 8-measure suspension of a downbeat simultaneity after the initial foreshortening of such events is therefore an important feature of rhythmic closure for the movement and suggests some analogy with the conclusion of the first movement. As the bass chords complete their descent in mm. 280-281, registral transfers occur in the right hand in foreshortened proportion to the left hand eighth-note pulsation: the first registral transfer follows its T₀ cognate at two eighths, the next at just one. The impression is that of a final foreshortening of rhythmic pulsation to the single eighth-note level, initiated by registral transfer in the upper part of the texture and finally joined in by the lower part (that is, by the final leap downwards in the left hand): the temporal distribution of the pitch events of the right hand literally runs right into the distribution of the left hand. In context, the downbeat simultaneities of mm. 268, 271 and 273 seem disruptive rather than metrically regular, as though the upper metric flow—normally out-of-phase with the downbeats of the lower metric flow—literally ‘skips a beat’, bringing it into collision with another metric framework. This creates the impression of an underlying metric friction in the passage that is only resolved by the final dovetailing of patterns of foreshortening down through the eighth-note level into complete cessation of pulse—a literal metric implosion.²⁹

²⁹ This relatively close analysis of a rhythmically complex passage meaningfully correlates with a simple performance indication. Bartók indicates that the *accelerando* which begins in m. 265 is to be already complete by m. 268 (“*Vivacissimo*”). A more prolonged *accelerando* would distort the very foreshortenings and phase shifts inherent in the passage which make it so exciting; unfortunately, the foreshortenings at the very end also don’t allow for any slowing down—the pianist is obliged to ‘hit the wall’ at full speed. This adds a dimension of excitement to the conclusion of the work perhaps best appreciated by its performer.

Closure therefore extends toward the pitch-class E by two means: both upward from the pitch-class A by the gradual unfolding of a (0257) collection and downwards from A by the linear descent A-G-F-E. Both processes fill in complementary expressions of interval-class 5:

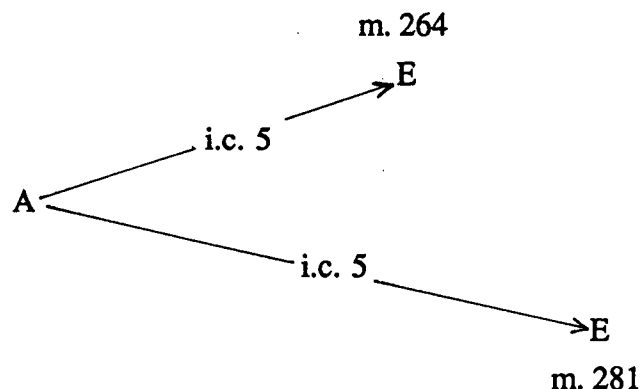


Figure 5.6.13

The sudden registral expansion in the final two measures of the movement seems to echo an expansion of pitch-class structure toward closure.

The intervallic structure of the A-G-F-E descent in the bass suggests another facet of closure. Analysis of the pitch structure of the melody of the principal theme (Section 5.2) revealed an ambiguity of tonal focus: although three of the two-measure sub-phrases ended on the pitch-class B, one ended on E via an ascending four-note stepwise ascent suggestive of the upper tetrachord of an E major scale. This directed motion upwards toward the pitch-class E was suggested to have an analogous descending contour toward E in the bass of the theme (the descent, A-G-F[#]-E); the latter contour, however, bore no intervallic relationship to the E-major tetrachord. The A-G-F[#]-E descent in the bass of mm. 279-281, however, does bear such a direct relationship: $\frac{1}{2}$

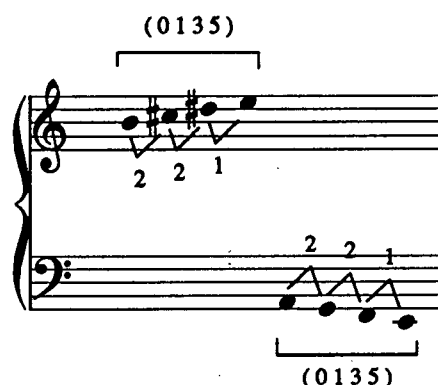


Figure 5.6.14

Both tetrachords are expressions of (0135) related by $T_8 I$. If the directed motion toward the pitch-class E in the melody of mm. 3-4 suggests reference to an E-major diatonic collection, the descent of mm. 279-281 is suggestive of an inversionally related collection, an E-phrygian mode.

5.7 Large-Scale Features

Some structural associations in the third movement are not appreciable at a local scale. The transpositional relationships of statements of the principal theme and its variants detailed in Section 5.4 is one such large-scale association of compositional features. This section will briefly address two others, suggesting that they play a role in preparing and effecting closure of the movement.

Severe registral disruptions of the upper part of the compositional texture have been noted in mm. 38-39 and m. 42, mm. 84 and 86, mm. 192-193 and m. 196 and, finally, at the very end of the movement. None of these registrally-isolated chords contain pitch-class variance with the pitch-class collection of all such chords taken together, forming the whole-tone collection $\{B^b C D E F^\#\}$. This pitch content suggests some form of structural association in the highest register occupied by the movement, an impression that is strengthened by the uppermost contour of these collections:

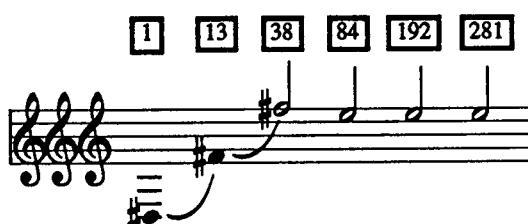


Figure 5.7.1

In a sense, the much-sought-after $F^\#-E$ completion of the bass line descent interrupted at m. 253 appears to have occurred long before (m. 84) at the opposite end of the registral spectrum. The $F^\#{}^7-E^7$ association may seem abstract but the perception of extreme registral dissonance in the third movement is not. The abrupt ascent of the right hand to the furthest region of the keyboard in the last two measures of the movement is anything but a capricious paroxysm of virtuosity: registral dissonances of the movement would be left unaddressed if the movement was registrally configured to end in any other way. Furthermore, the expansive registral disposition of m. 281 as a whole is registrally associated with the tumultuous arrival at the 'dominant' (027) chords of mm. 222-226, which extend from B^1 to B^7 : the arrival at a registral expanse in the final measure defined by E^1 to E^7 therefore suggests a parody of a dominant-tonic resolution by registral association (B^1-E^1 , B^7-E^7). This registral association and temporal orientation of the interval-class 5 relationship between B and E finally resolves the ambiguity of pitch-class emphasis of the principal theme.

The discontinuities in the registral peripheries of mm. 38-42 and mm. 192-196 are associated with other features as well, as the structure of symmetrical fifths depicted in Figure 5.3.7 has shown. In the left hand, the palindromic rhythmic pattern gives durational emphasis to the upper note of the interval— A^3 in mm. 38-42 and G^2 in mm. 192-196. These pitches are registrally associated with the bass line descent of the principal theme throughout the entire movement and, by extension, with the interruption of this descent at the end of the movement. Following each of these passages of registral disruption, an extended ostinato

begins with the bass of the ostinato supplied by a pitch-class that is a whole-tone lower (A^3 - G^3 , G^2 - F^3):

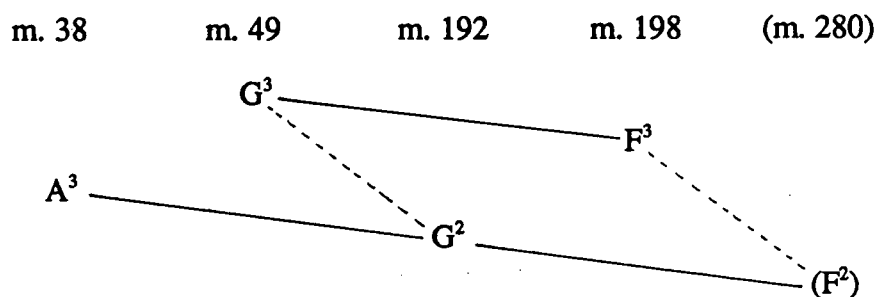


Figure 5.7.2

It is unlikely that the stepwise terracing of these prominent passages is strictly a fortuitous association of transpositional levels: the passages themselves are associated by numerous compositional features (detailed in Sections 5.1 and 5.3), and the structural prominence of the pitch from which the terracing descends, A^3 , is clearly established by the repeated emphasis it receives in both the bass of the principal theme and the melody of the contrasting theme. These features suggest a large-scale structural association of the elements depicted in Figure 5.7.2 with the final bass line descent of the movement, A^3 - G^2 - F^2 - E^2 . This association represents yet another means by which Bartók integrates a potentially sectionalized structure.

CONCLUSION

The Bartók Sonata for Piano is a work of extraordinary structural sophistication that bears eloquent testimony to the composer's description of an "enlargement of...newly won means".¹ As a twentieth-century re-interpretation of a classical genre and its associated tonal and thematic idioms, the Sonata convincingly addresses the "anxiety of style" by which Joseph N. Straus characterizes the relationship between twentieth-century composers and musical tradition.²

Analysis of the first movement reveals aspects of parody of both the thematic design and tonal structure of sonata form. Thematic and harmonic features demonstrate close structural integration frequently articulated by motivic associations, contributing to an exceptional coherence of diverse facets of compositional design. Analysis of rhythmic structures reveals 'contrapuntal' distributions of rhythmic activity that also serve to articulate prominent events of form in the movement.

Analysis of the second movement uncovers highly idiosyncratic aspects of structure. Motivic interrelationships, associations of set types, patterns of meter, sequential treatment and the importance of registral continuity and symmetry all contribute to a profoundly integrated compositional design. Although the second movement does not suggest the reinterpretation of a conventional tonal form, it is associated in numerous features with the other movements of the Sonata and suggests a transformation of some of their structural aspects.³

Analysis of the third movement details a rondo-like form in which most episodic material varies a principal theme and thereby establishes an important means of structural unity. Numerous aspects of pitch structure integrate sections distinguished by thematic design,

¹ See Chapter One, Introduction, Section 1.2, "Bartók as Commentator", p. 5.

² See Straus, "Toward a Theory of Musical Influence", in *Remaking the Past*, pp. 1-20. Straus adopts this term and its associated ideas principally from Harold Bloom's theory of artistic influence detailed in *The Anxiety of Influence*.

³ This may to some extent reflect the chronology of composition of the movements.

although the distinctive characters of these sections are maintained by rhythmic features. In spite of the appearance of a sectionalized form characteristic of a thematic refrain, the composer transforms normative aspects of the final refrain to convincingly achieve structural closure.

This study set out to provide an integrated account of motivic, thematic, pitch-class and rhythmic features of structural activity in the hope that such an approach would avert an analytic dissection that rendered the Sonata a collage of intriguing but insular structural details. In this one can perhaps trace the most overtly 'pianistic' aspect of this study, for no performer of the Sonata encounters any of these compositional facets in isolation. The process of analyzing the Bartók Sonata for Piano (1926) has, in the end, not been entirely unlike the experience of performing the work: both activities are frequently guided by intuition, just as they are prepared and assessed by close observation of the score. Both activities are also a pursuit of detail or nuance in the right proportion, an attempt to capture the idiosyncratic speech of the score. Most importantly, this pursuit is ongoing for both analyst and performer for, "as we all know, the life of an interpretation is marked by further discovery."⁴

⁴ Wallace Berry, *Musical Structure and Performance* (New Haven and London: Yale University Press, 1989), ix.

Bibliography

- Antokoletz, Elliott. "Transformations of a Special Non-Diatonic Mode in Twentieth-Century Music: Bartók, Stravinsky, Scriabin and Albrecht." *Music Analysis* 12:1 (1993): 25-45.
- . *Béla Bartók: A Guide to Research*. New York: Garland Pub., 1988.
- . *The Music of Béla Bartók: A Study of Tonality and Progression in Twentieth-century Music*. Berkeley: University of California Press, 1984.
- Bartók, Béla. Sonata (1926): Facsimile Edition of the Manuscript. Commentary by László Somfai. Budapest: Editio Musica, 1980.
- . *Turkish Folk Music from Asia Minor*. Benjamin Suchoff, ed. Vermont and Connecticut: Princeton University Press, 1976.
- . *Essays*. Benjamin Suchoff, ed. New York: St. Martin's Press, 1976.
- . *Letters*. János Demény, ed. London: Faber and Faber; New York: St. Martin's Press, 1971.
- . *Rumanian Folk Music*, Vol. 2. Benjamin Suchoff, ed. The Hague: Martinus Nijhoff, 1967.
- . Sonata for piano solo. New edition, rev. by Peter Bartók. Boosey and Hawkes Inc., New York, 1992.
- . Sonate (1926): Piano Solo. Nr. 8772, Universal Edition, 1927. Copyright renewed 1955, Boosey and Hawkes Inc., New York.
- . Sonata (1926): First Draft. Property of Peter Bartók [formerly New York Bartók Archive 55 P1 D1]. Availability unknown. See Welch, p. 63, 130.
- . Sonata (1926): Sketches. Property of Peter Bartók. [formerly New York Bartók Archive 55 PS1] See Welch, p. 63, 130.
- Bernard, Jonathan W. "Space and Symmetry in Bartók." *Journal of Music Theory* 30/2 (Fall 1986): 185-201.
- Berry, Wallace. *Musical Structure and Performance*. New Haven and London: Yale University Press, 1989.
- . *Form in Music*, Second Edition. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1986.
- . "Symmetrical Interval Sets and Derivative Pitch Materials in Bartók's String Quartet No. 3." *Perspectives of New Music* 18 (1979-1980): 287-379.
- Burge, David. *Twentieth-century Piano Music*. New York: Schirmer Books, 1990.
- . "More of Bartók's Sonata." *Contemporary Keyboard*, 14 (February 1988): 118.

- . "Bartók's Sonata for Piano." *Contemporary Keyboard*, 14 (January 1988): 104.
- . "Bartók's Piano Sonata." *Contemporary Keyboard*, 4 (September 1978): 56.
- Cohn, Richard. "Bartók's Octatonic Strategies: A Motivic Approach." *Journal of the American Musicological Society*, XLIV, n. 2 (Summer, 1991): 262-300.
- Deri, Otto. *Exploring Twentieth-Century Music*. New York: Holt, Rinehart and Winston, Inc., 1968.
- Downey, John W. *La Musique Populaire dans l'oeuvre de Béla Bartók*. Paris: Publications de l'Institut de Musicologie de l'Université de Paris, 1966.
- Fenyo, Thomas. "The Piano Music of Béla Bartók." Ph D. diss., University of California, Los Angeles, 1956.
- Forte, Allen. *The Structure of Atonal Music*. New Haven and London: Yale University Press, 1993.
- . "Bartók's 'Serial' Composition." *Musical Quarterly*, 46/2 (April 1960): 233-245.
- Galilei, Galileo. *Two New Sciences*. Stillman Drake, trans. London: The University of Wisconsin Press, Ltd., 1974.
- Grave, Jerald C. "Novel Symmetries in Bartók's Piano Music." Unpublished paper read at A.M.S. Conference, Boston, 13 November, 1981.
- Griffiths, Paul. *Bartók. The Master Musicians*, Stanley Sadie, ed. London and Melbourne: J. M. Dent and Sons Ltd., 1984.
- Hopper, Kenneth Wayne. "A Survey of Bartók's Piano Music Through the Theories of Ernő Lendvai." Diss. Northwestern University, Evanston, 1974.
- Howat, Roy. "Review Article: Bartók, Lendvai and the Principles of Proportional Analysis." *Music Analysis*, 2-I (1983): 69-95.
- Hundt, Theodor. *Bartók's Satztechnik in den Klavierwerken*. Regensburg: Gustav Bosse Verlag, 1971.
- Kirby, F.E. *Music for Piano: A Short History*. Singapore: Amadeus Press, 1995.
- Lampert, Vera, and László Somfai. "Bartók, Béla." *The New Grove Dictionary of Music and Musicians*, Vol. 2. Stanley Sadie, ed. London: MacMillan Publishers Limited, 1980. pp. 197-225.
- Lendvai, Ernő. *The Workshop of Bartók and Kodály*. Budapest: Editio Musica Budapest, 1983.
- Lewin, David. "Klumpenhouwer Networks and Some Isographies that Involve Them." *Music Theory Spectrum*, Vol. 12, n. 1 (Spring, 1990): 83-120.
- Morris, Robert D. *Composition with Pitch-Classes: A Theory of Compositional Design*. New Haven and London: Yale University Press, 1987.

- Nüll, Edwin von der. *Béla Bartók, ein beitrag zur morphologie der neuen musik*. Halle: Mitteldeutsche verlagsaktiengesellschaft, 1930.
- Parks, Richard S. "Harmonic Resources in Bartók's 'Fourths'." *Journal of Music Theory* 25 (1981): 245-274.
- Perle, George. "Symmetrical Formations in the String Quartets of Béla Bartók." *Music Review* 16 (1955): 300-312.
- Petersen, Peter. *Die Tonalität im Instrumentalschaffen von Béla Bartók*. Hamburg: Verlag der Musikalienhandlung Karl Dieter Wagner, 1971.
- Reisberg, Horace. "The Vertical Dimension in Twentieth-century Music." *Aspects of Twentieth-century Music*, ed. Gary E. Wittlich. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1975. pp. 322-387.
- Roeder, John. "Interacting Pulse Streams in Schoenberg's Atonal Polyphony." *Music Theory Spectrum*, Vol. 16, No. 2 (Fall, 1994): 231-249.
- Rosen, Charles. *Sonata Forms*. Rev. ed. New York: W. W. Norton and Company, 1988.
- Sannemüller, Gerd. "Béla Bartók's Suite Op. 14; Stil- und Werkanalyse." *Schweizerische Musikzeitung*, 1965: 10-20.
- Somfai, László. "The Influence of Peasant Music on the Finale of Bartók's Piano Sonata: An Assignment for Musicological Analysis." *Studies in Musical Sources and Style: Essays in Honor of Jan La Rue*. E. K. Wolf and E. H. Roesner, eds. Madison: A-R Editions, 1990. pp. 535-555.
- . "The 'Piano Year' of 1926." *The Bartók Companion*. Malcolm Gillies, ed. London: Faber and Faber Limited, 1993. pp. 173-188.
- . "Analytical Notes on Bartók's Piano Year of 1926." *Studia Musicologica* 26, n1-4 (1984): 5-58.
- . "Sonata (1926), piano solo. B. Bartók. Introduction by László Somfai." *New Hungarian Quarterly*, 22, n.4 (1981): 107.
- . "Manuscript versus Urtext: The Primary Sources of Bartók's Works." *Studia Musicologica*, 23, n1-4 (1981): 2-66.
- . *Tizennyolc Bartók-tanulmány* [Eighteen Bartók Studies]. Zeneműkiadó, Budapest, 1981.
- Stevens, Halsey. *The Life and Music of Béla Bartók*. Rev. ed. New York: Oxford University Press, 1964.
- Straus, Joseph N. *Introduction to Post-tonal Theory*. Englewood Cliffs, N.J.: Prentice Hall, 1990.
- . *Remaking the Past: Musical Modernism and the Influence of the Tonal Tradition*. Cambridge, Massachusetts, and London, England: Harvard University Press, 1990.

- . "The Problem of Prolongation in Post-Tonal Music." *Journal of Music Theory* 31 (1987): 1-21.
- Suchoff, Benjamin. "Ethnological Roots of Béla Bartók's Musical Language", *World of Music* 29 (1987): 1-20.
- . "The New York Bartók Archive." *Music Theory* CXII (1981), no. 1657, pp. 156-159.
- Ujfallusy, Jozsef. *Béla Bartók*. Trans. by Ruth Pataki, trans. rev. by Elixabeth West. Originally published Budapest: Corvina Press, 1971. Translation published Boston: Crescendo Publishing Company, 1972.
- Waxman, Sheila. "Béla Bartók's Sonata for Piano: An Analytical Study." D.M.A. diss., Boston University, 1985.
- Watkins, Glenn. *Pyramids at the Louvre: Music, Culture, and Collage from Stravinsky to the Postmodernists*. Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 1994.
- . *Soundings: Music in the Twentieth Century*. New York: Schirmer Books, A Division of Macmillan, Inc., 1988.
- Weissman, John S. "La Musique de Piano de Bartók: L'Evolution d'une Écriture." *Revue Musicale*, 1955: 171-222.
- Welch, Allison. "Approaches to Bartók's Source Materials With a Focus on the Facsimile Edition of the Piano Sonata (1926)." Master's thesis. The University of Texas at Austin, 1985.
- Wilson, Paul. *The Music of Béla Bartók*. New Haven and London: Yale University Press, 1992.
- Wolters, Klaus. *Handbuch der Klavierliteratur: Klaviermusik zu Zwei Händen*. Fourth ed. (rev.). Zurich, Mainz: Atlantis Musikbuch-Verlag, 1994.
- Yeomans, David. *Bartók for Piano*. Bloomington and Indianapolis: Indiana University Press, 1988.