UNIVERSITY OF CINCINNATI

August 1974

I hereby recommend that the thesis prepared under my supervision by Mary Baker Findley

entitled Bartók's Sonata for Solo Violin: Analysis and Perspective

be accepted as fulfilling this part of the requirements for the degree of Doctor of Musical Arts in Violin

Approved by:

Samuel T. Pogue

Ronald D. Ross

Scott Huston

BARTÓK'S SONATA FOR SOLO VIOLIN: ANALYSIS AND PERSPECTIVE

A Thesis Submitted to the
Division of Graduate Studies
of the
University of Cincinnati

In Partial Fulfillment
of the Requirements for the Degree of
DOCTOR OF MUSICAL ARTS in VIOLIN
in the College-Conservatory of Music
August, 1974

by

Mary Baker Findley
B. M., University of Cincinnati, 1965
M. M., University of Cincinnati, 1966

I wish to thank Professor T. Scott Huston for his kind help in the preparation of this thesis.

TABLE OF CONTENTS

INTRODUCTION

Bartók's Sonata for Solo Violin was commissioned by Yehudi Menuhin in November of 1943. Bartók had recently heard Menuhin give excellent performances of both his Violin Concerto and his Sonata No. 1 for Violin and Piano, as well as a solo sonata by Bach, and had communicated his pleasure to the artist. Menuhin had commissioned other works, some of them for unaccompanied violin, from various composers before 1943, and he has continued doing so to the present. Bartók composed the work in Asheville, North Carolina, where he was recuperating on doctors' orders from a flare-up of the leukemia which eventually became fatal for him. It was completed in March of 1944, and its first performance was in New York City on November 26, 1944. The audience was very enthusiastic, but the critics were cool, reporting that the audience's liking for the piece was due entirely to Menuhin's spectacular playing.

Bartók conferred often with Menuhin before the premiere and offered to try to change whatever the violinist deemed impractical. For a pianist, Bartók had a remarkable understanding of the violin. This was the result of much previous experience gained from professional performance association with violinists such as von Vecsey, Waldbauer,

Székely, d'Aranyi, and Szigeti, as well as experience gained through composing and later revising earlier works for violin.

One of Bartók's first works was a Straussian Sonata for Violin and Piano, written in 1903, which remains in manuscript. It was one of his entries in the composition division of the Rubinstein Competition held in Paris in 1905; played by him with the violinist Zeitlin, it attracted some attention to the youthful composer, even though no prize was awarded that year. In 1908 the Two Portraits for Violin and Orchestra were composed and given to Stefi Geyer, a talented violinist whom Bartók admired. It was never performed or published in Bartók's lifetime, but lives on in the form of part of the Two Portraits for Orchestra (1908). The original was finally performed and published after the death of Miss Geyer (some years after Bartók's death in 1945) as the Violin Concerto No. 1, Op. Posth., a title given to the work by Boosey and Hawkes, not by Bartók. The Sonatas Nos. 1 and 2 for Violin and Piano were dedicated to Jelly d'Aranyi in 1921 and 1922. These abstruse, severe, technically difficult works make use of a great deal of rubato, and both finales use the moto perpetuo idea. The Two Rhapsodies for Violin and Piano (or Orchestra) were composed for Joseph Szigeti in 1928. These good-natured works represent some of Bartók's first attempts at using folk music elements in a serious setting; each consists of two movements, a lassú (slow) and a contrasting friss (fast). The Six String Quartets

demonstrate the growth process of his style throughout his career, especially in the areas of rhythmic vitality and structural logic. Here are found virtually all of the idiomatic string-instrument devices and effects. Some devices, such as the snap pizzicato, were invented by him. Although not invented by him, others, such as quarter-tones, first appear in his oeuvre in the quartets.

The attractive and sensitive Forty-Four Duos for Two Violins were the result of a request in 1931 by Erich Doflein for some easy contemporary duets for a violin method he was preparing. Bartók based them virtually entirely on folk songs and graded them according to difficulty. The last ones are more complicated in the areas of rhythm and bowing than the first ones. The great Violin Concerto of 1938 was written for Zoltán Székely. One of Bartók's best works and possibly his best concerto, it is based entirely on the variation principle: the second movement is a theme and variations, while the third movement is a variation on the first movement (which is in sonata-allegro form). There is much motivic use of folk materials and some non-serial use of a twelve-tone row. The famous Contrasts for Clarinet, Violin and Piano was commissioned by Benny Goodman and Joseph Szigeti. It relies heavily on folk music, adding the further "peasant" touch of a violin tuned in scordatura for the opening of the third movement. The cadenzas for each instrument have a concerto-like brilliance. The Sonata for Solo Violin is closest in

its seriousness, sober style, and virtuoso requirements and brilliance to the Sonatas of 1921-1922 and the Concerto.

Bartók's Sonata for Solo Violin comes as one of the high points in a long history of unaccompanied chamber works for violin and represents perhaps the culmination of compositions for this medium beginning with the earliest works for the instrument by Westhoff and Biber. Composers after 1944 have continued to write with great interest for unaccompanied violin, but increasingly with the idea of experimentation rather than of imitation of Bach. Bartók's Sonata, widely regarded as the only solo sonata since those of Bach to have achieved the status of being equal to, or nearly equal to, those famous six, has had its own influence on the recent composers. Not only is it sometimes imitated, but it seems to have given hope to composers that Bach can indeed be rivalled, while maintaining one's own personal style.

The great bulk of works in this medium has been written by virtuoso violinists. It is noteworthy that both Bach and Bartók were performing artists--keyboard virtuosi, not violinists. (Bach played the violin but was in no sense a virtuoso.) Both composers knew a great deal about the violin from much close contact with it--Bach, as court conductor as well as composer of chamber music at Cöthen, and Bartók, from his lifelong associations with violinists as sonata-partners, quartet-leaders, and friends. Both composers, however, were able to write for the violin without the restrictions of habit

which, in general, hamper the virtuoso-composer in his efforts to create something new and unique. Each composer was a master of structure and of counterpoint. Paganini is an example of one of the few violinist-composers who had great mastery of structure. One of the reasons for the success of his Twenty-Four Caprices, Op. 1, is his tightly-controlled form; the imaginative harmonies and lovely textures would be quite empty without the strong underpinnings.

Among the earliest examples of unaccompanied violin works are those by the virtuoso Biber and Westhoff in the seventeenth century. Biber's Passagaglia (sic), the sixteenth Rosary Sonata (circa 1674), is a well-structured and moving work based on the familiar minor descending four-note motive; Westhoff's Suite in A Major (1682) exploits double-stopping. Bach's monumental and well-known three Sonatas and three Partitas for "violin without bass" (circa 1720) occupy the next place in history, followed shortly by virtuoso sonatas by Pisendel (circa 1730) and Geminiani (circa 1740) and by the less-fearsome quasi-rococo Six Sonatas of Telemann (1735). In the nineteenth century, the solo sonata came to be regarded as unsuitable for public performance, but excellent as a technical exercise for the studio. This was the age of the etude or caprice, and of the violin concerto with its ever-lengthening solo cadenza. Paganini's Twenty-four Caprices, Op. 1, written in 1818, and his Variations on "Nel cor più non mi sento" are virtually all we have from the last

century in the way of unaccompanied works suitable for the concert stage. The bipartite Caprices could easily and justifiably have been termed "sonatas," as were similar works of Domenico Scarlatti earlier. It was during the nineteenth century that the Bach solo sonatas were provided with extraneous piano accompaniments by several different well-meaning composers, including Schumann. Joachim and then Ysaye were among the first violinists in modern times to begin performing Bach with the original intent, but only a movement or two at a time (most often the Chaconne in D minor or the Preludio in E major). Szigeti was the first artist to begin consistently programming entire Bach works for unaccompanied violin for his concerts.

The period of greatest concentration of new works for the medium was the years 1900-1927, when at least fifty-four works were published. Many were imitations or evocations of Bach, though at least three were boldly experimental: Hába's Phantasie and Musik, Op. 9a and 9b, in quarter-tones, published in 1922; Artur Schnabel's Sonata, published in 1919; and Krenek's Sonata, Op. 33, published in 1924. The most important works on the Bach model were: the twenty-six works for this medium published between 1900 and 1922 by Reger, including eleven Sonatas, thirteen Preludes and Fugues, one Prelude, and one Chaconne; and Six Sonatas by Ysaye and Two Sonatas, Op. 31, by Hindemith, both appearing in 1924. Of these works, Reger's are eclectic, "studied", and long-winded;

Ysaye's are the most virtuosic; and Hindemith's charming Sonata, Op. 31, No. 2, is perhaps the most often performed. It is quite likely that Bartók knew at least one or two of these works; also, since he was intimately associated with the composers as performers and friends, he may have heard or seen the score to von Vecsey's Preludio and Fuga, published in 1914, and Székely's Sonata No. 1, published in 1926. Even the experimental works of this time span show the principal interest in composition to be that of line and counterpoint rather than harmony, as do the above-mentioned conservative "neo-Baroque" works (Reger, Ysaye, Hindemith).

It was much debated during this time period whether or not the unaccompanied violin sonata was a genuine artistic genre or just a substitute (some said "bastard") form of the "proper" sonata for violin and piano. It is interesting to note that after Bartók, the unaccompanied violin sonata gained for itself a place as a specific, self-evident category of chamber (or solo) music. Two trends have become evident after 1944: a trend toward linear simplicity and toward extreme difficulty. Bach continues to be imitated by a few composers, Bartók by others, and still others strike out on totally new and experimental paths. Among the better-known works for unaccompanied violin since Bartók are the following (with their dates of publication): Stravinsky Elegie (1944), Prokofiev Sonata, Op. 115 (1947), Honegger Sonata (1948), Ben-Haim Sonata (1952), Tibor Serly Sonata in Modus Lascivus (sic)

(1953), Sessions Sonata (1955), Ross Lee Finney Fantasy in Two Movements (1948), Cage 59½ Seconds for a String Player (1960), and Richard Rodney Bennett Sonata No. 2 (1965).

The specific advantages of writing for the violin in the unaccompanied medium include 1) the opportunity for more tonal ambivalence through long monophonic passages, 2) the possibility of microtones, and 3) total control over the performance by the violinist, as no accompanist must be reckoned with. The disadvantages include 1) the difficulty of getting and keeping the attention of the audience with such sparse means, and 2) the resultant danger of relying too much on virtuoso passagework, effects, and even "tricks" in an attempt to make up for inactivity and for what is lacking in lower range support.[1]

One can conclude that a fine unaccompanied sonata for violin should exhibit the following characteristics: 1) strong formal structure; 2) exceptionally well-constructed melodic line, which can also serve as harmony, rhythm, and polyphony (implied counterpoint); 3) carefully planned dynamics, range, tessitura, and other special effects so as to avoid monotony (while not relying on these means alone, of course); and 4) playability, that precious commodity, the result of not aiming to write a difficult work per se, and of great knowledge and practical experience with the violin.

[1]Brigitte Petrovitsch, "Studien zur Musik für Violine Solo 1945-1970," Kölner Beiträge zur Musikforschung, LXXIV (1972), 6-30.

Bartók's Sonata for Solo Violin fulfills these requirements admirably, as will be seen in the following analysis.

CHAPTER I

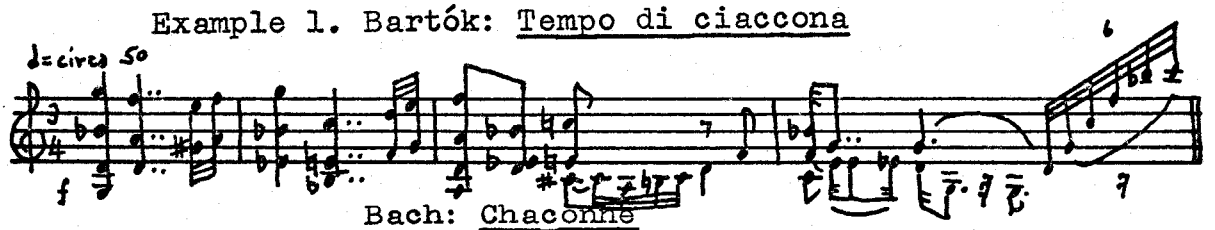
ANALYSIS OF FIRST MOVEMENT

Tempo di ciaccona

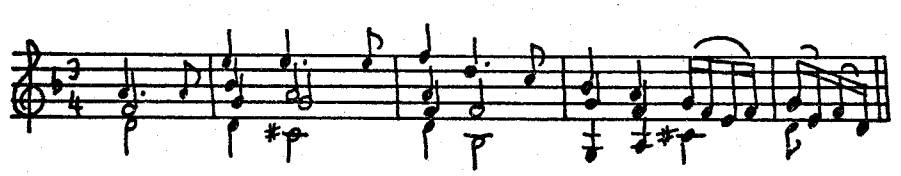
1. Form and Harmony

The first movement is cast in sonata-allegro form, with some chaconne characteristics. The sonata-allegro form is most evident in the treatment of the two contrasting themes and in modified traditional key relationships. The stately tempo, triple meter, and opening thematic material and the many particularly instrumental gestures (such as types of chords and arpeggio figures), call to mind Bach's famous Chaconne for unaccompanied violin (last movement of the Partita No. 2 in D minor, BWV 1004), as do the phrase structure, rhythmic texture, and polyphonic density. (See Example 1.) In

Example 1. Bartók: Tempo di ciaccona



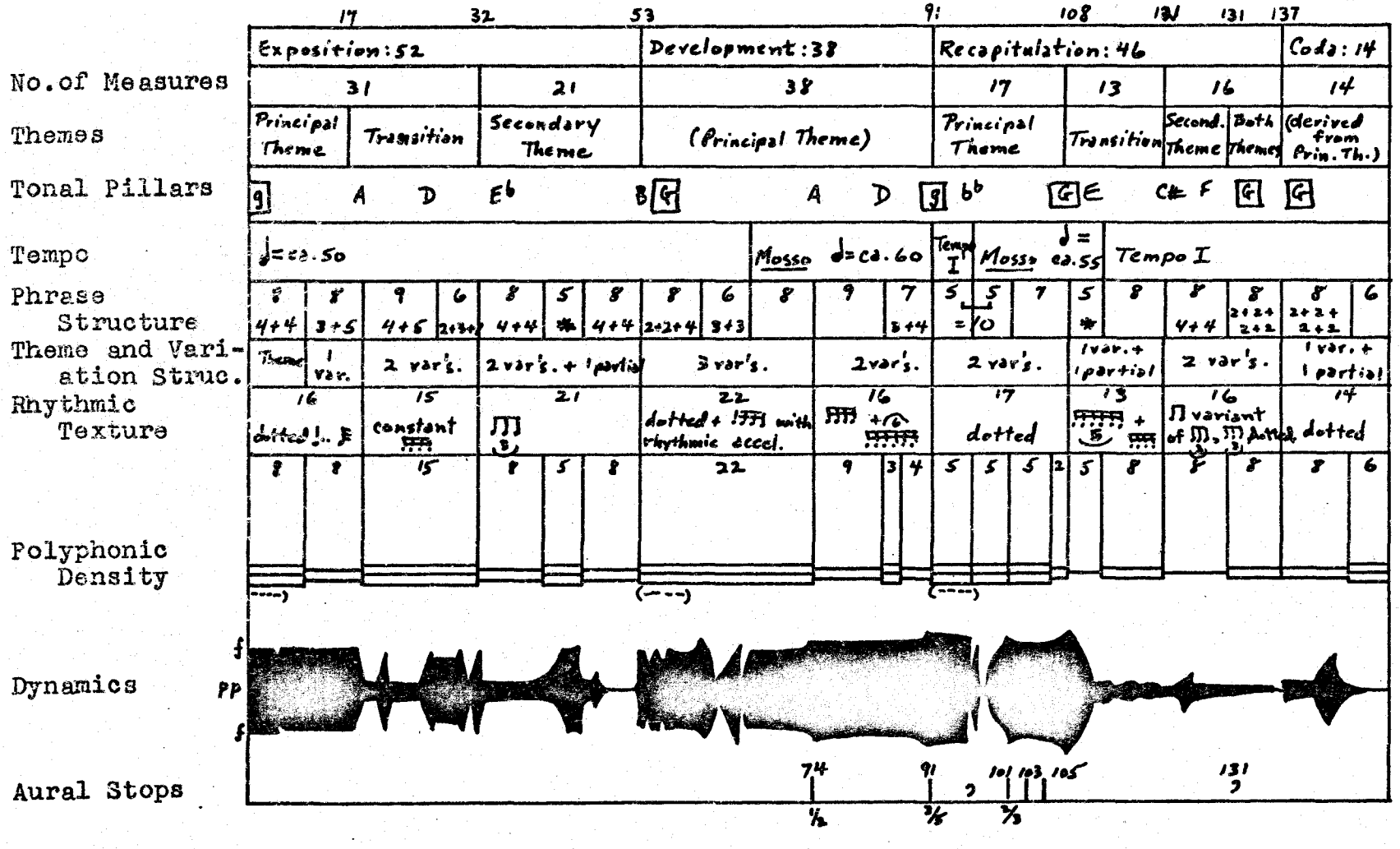
Bach: Chaconne



the course of the following commentary, reference will be made to the graph on page 12 (Graph 1).

There are several elements which serve to support the premise of sonata-allegro form. Among these are: conventional sonata-allegro proportions, contrasting themes, and tonal pillars. The exposition consists of fifty-two measures, of which thirty-one are devoted to the principal theme and transition, twenty-one to the secondary theme. The development contains thirty-eight measures and the recapitulation forty-six, of which thirty are allotted to the principal theme and transition and sixteen to the secondary theme. The coda comprises fourteen measures. Inasmuch as the movement has one hundred fifty measures, these approximate percentages apply: exposition 35% (principal theme and transition 20%, secondary theme 15%), development 25%, recapitulation 30% (principal theme and transition 20%, secondary theme 10%), and coda 10%. The climax, located at the beginning of the recapitulation, divides the movement into the approximate proportions 3:2 (60%:40%), or more exactly: .612:.387. The two sections of slightly faster tempi (Mosso ♩= circa 60 and Mosso ♩= circa 55) do not materially affect this overall proportion, as the playing times of these two sections also very nearly approximate a 3:2 proportion. (Actually the listener is hardly aware of these only slightly faster tempi, as they would tend to be perceived as intensification rather than change of tempo.) Thus these proportions fall well within a

Graph 1. First Movement: Tempo di ciaccona: Sonata-Allegro Form (quasi-Chaconne). Formal Superimpositions: Themes, Tonal Pillars, Tempo, Phrase Structure, Theme and Variation Structure, Rhythmic Texture, Polyphonic Density, Dynamics, Aural Stops.



Beethovenian sonata-allegro archetype.

An initial climax (marked with a caesura) is reached in measure 74, the approximate half-way point in the movement. The development begins approximately at the one-third point. The secondary theme in the exposition begins at the one-fifth point, and there are caesuras at the two-thirds and the three-quarters points (the latter is the beginning of the transition in the recapitulation). Thus there is some evidence that the proportions were organized geometrically in advance, and they give the movement definite shape and cohesiveness, whether or not they can be perceived as such by the listener during a performance.

Each of the two thematic ideas is in a conventional form (eight measures, of which the last four are a variation of, and consequent to, the first four). The two themes have a traditional contrasting relationship: the first is dramatic, forte, revealing mainly dotted rhythms, in three (sometimes four) voices, and in G minor; the second is lyrical, piano, in slurred legato eighth-note triplets, in two voices, and on E^{b} (the submediant level of G minor). In each theme, the consequent four-measure phrase begins a perfect fifth higher than the initial phrase. The secondary theme is related to, and perhaps is in part derived from, the principal theme. The second beat is lightly stressed, the accompanying voice dotted rhythm recalls the opening, and the chromatic line B^{b}-A-A^{b} (or $G^{\#}$) appears in the opening measures of each

theme. Both themes are combined in the recapitulation (just before the coda) on G (the tonic level). Since Bartók rarely used a literal repeat of any material, later appearances of the themes are characterized by changes in the form of "tonal answers," inversions, partial inversions, intervallicly compressed and expanded forms on various tonal levels, and freely altered rhythmic and melodic versions.

The development is based almost entirely on the principal theme and its fragments; the coda (especially the rhythm) is derived from measure 4 of the principal theme.

The harmony is based on the key of G minor. Tonal pillars support the form: the secondary theme is on E^{b}, the submediant level, a major third below G; the development opens in B major, a major third above G, a deceptive and surprising entry, on the raised major mediant. (The change of mode to G major is underscored by a prominent G major chord just three measures later.) The recapitulation begins properly in G minor, with the consequent phrase on the minor mediant B^{b} instead of D, the perfect fifth above, as in the exposition. G (in octaves) signals the beginning of the transition to the secondary theme on $C^{\#}$ (the tritone level) and also signals the interlocking (in measure 131) of both themes shortly before the coda, which is solidly in G major.

The use of open strings plays a large part in unifying the movement. The use of the open strings A and subsequently D in bariolage (a form of coloristic drone effect or pedal

point) constitutes most of the transition between the principal and secondary themes in the exposition, as well as in the recapitulation (where the open strings used are the outer two, G and E, preceded by several anchors of A and D open strings beneath a modulating sequence, measures 101-105. During the development, the open A and D are used in the dialogue section as drone strings.

Certain elements serve to blur the perception of sonata-allegro form: among these the most important are the constant development of the two basic four-measure theme phrases, and Bartók's use of tempo, dynamics, and certain "aural stops." Aural stops are what I shall call certain score indications for dramatic caesuras. (See Graph 1 on page 12.) Both themes begin the process of development immediately after being announced, and the effect is one of constant organic growth. At measure 96, the effect is one of a second (or continued) development section, after an interruption of five measures for recapitulation of the principal theme. The second slightly quicker Mosso tempo section tends to underscore the impression of a continued or second development section, since the first Mosso was associated with development. (Motivic development, like change of tempo, is a form of intensification of thematic material, and here the two are used together.) All of the aural stops except at the end of measure 90 serve again to blur the sonata-allegro form (see bottom of Graph 1 on page 12). Overall the dynamics

tend to support sonata-allegro form, but in detail they may obscure the exact outlines of sonata-allegro form, especially toward the end of the movement.

Among the elements which support the impression of chaconne form are: phrase structure, rhythmic texture, polyphonic density, and the aural stops in measure 74 and at the end of measures 90, 95, and 100. The listener tends to expect a chaconne from the title (which is, of course, only Tempo di ciaccona), from the opening theme, and from the eight-measure period structure of half of the appearances of the theme throughout the movement. The movement can be perceived as an eight-measure theme of two four-measure phrases plus nineteen variations, of which nine approximate regular variations (eight measures long, with or without the 4-plus-4 internal phrasing), and ten are irregular--three are somewhat expanded, four somewhat contracted, and three are just expanded single-phrase variations, related to a regular variation just preceding or following (marked * on Graph 1, under the heading Theme and Variation Structure, on page 12). The rhythmic texture, as can be seen on the graph, tends to emphasize the chaconne impression, changing subtly for every "variation," and falling into large groupings of two or three "variations." The polyphonic density alternates basically between two and three voices, with some four-voice chords and some short segments of single-line melody. These alternations occur mostly in phase with the phrase structure, accentuating

the impression of "variations" (though less so in the latter part of the movement).

Elements which tend to blur the impression of chaconne form are: the uneven phrase structure of the other half of the "variations," change of meter, change of tonal level, and the aural stops in measures 103, 105, and end of 130 (which also blur perception of sonata-allegro form). The phrase structure is most often <u>not</u> 4-plus-4, even within the "regular" eight-measure "variations," as can be seen on the graph. The change of meter to 4/4 and then to 5/8 in measures 82-86 tends to interrupt the even 3/4 meter flow. A chaconne would be expected to maintain a rather static, repetitive harmonic or at least melodic pattern (with perhaps change of mode and some exotic internal harmonic excursions) and remain basically on one tonal level. But here the thematic materials appear on and modulate to various tonal levels. Only two "variations," aside from the "theme," are firmly anchored on G: those beginning in measures 91 (recapitulation) and 137 (coda).

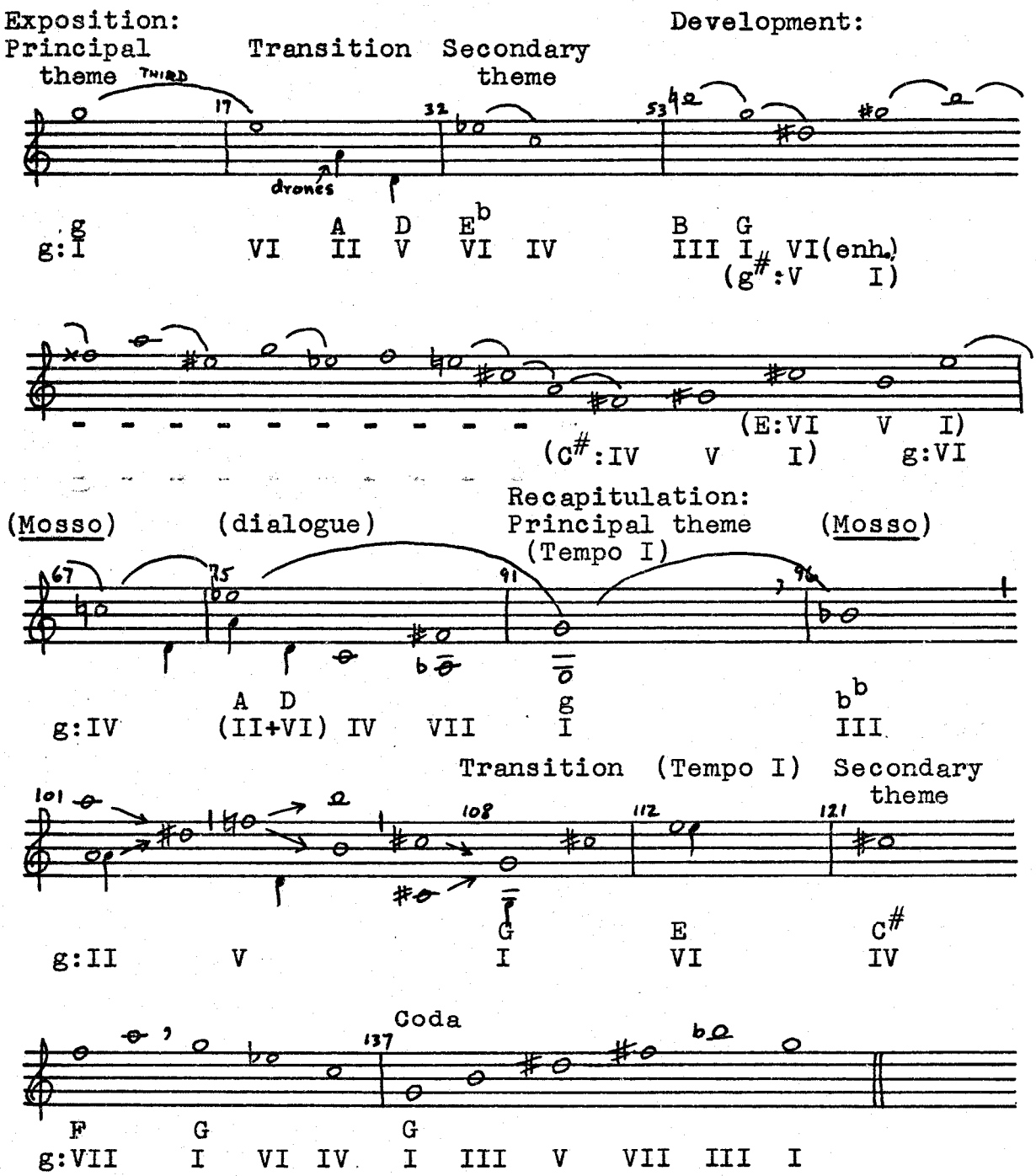
This movement is not based on a "Bartók scale" but rather on the scale of G natural minor plus E natural (or G Dorian plus E^b) with the secondary theme on E^b (perhaps in the Phrygian mode), outlined by tonal pillars as well as by the chordal structure of the opening measures. (See chart of tonal pillars, Example 2, on page 19.) Between the pillars, free, rhapsodic, improvisatory motivic development and counterpoint provide wide divergences from the main tonality,

especially in the treatment of the secondary theme. The root movement is based largely on thirds, both major and minor, except during the secondary theme, when it is largely by step. There are a few recognizable functional cadences (exempli gratia measures 64-65). The functional harmonic plan is obscured by techniques such as planing in the form of constant parallel movement of certain intervals, bitonality, intervallic sequencing, and counterpoint.

Non-harmonic tones (upper and lower neighbors, passing tones, escape tones, suspensions, appoggiaturas) often appear on chromatically altered scale degrees, and are the principal sources of dissonance in this movement. Modulations occur enharmonically, by common chord, by sequences, and by change of mode. The harmonic rhythm is generally slow and stately except during the development and during measures 96-107 of the recapitulation.

The idiomatic vertical consonances of the third and sixth are found mostly in the context of parallel motion (exempli gratia measures 15, 84), as are the less idiomatic series of parallel fourths and fifths (measures 56, 79, and elsewhere, all occurring during the development and during measures 96-107 of the recapitulation; measures 87-89 contain planing in root-position chords broken into an arpeggio figure). Vertical seconds, sevenths, and tritones often result from combinations of non-harmonic tones achieved through counterpoint (exempli gratia measure 3, beat 1½, measure 7,

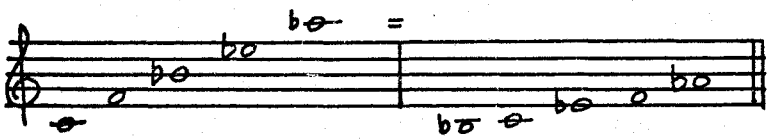
Example 2. Tonal pillars, showing many third relations and basic functional relationships (simple level only).



beats 2 and 3, measure 8, beat 1) and the use of drone strings (exempli gratia measure 76).

The chord in measure 3 on beat 2 is a vertical combination of both major and minor forms of the II chord (A): a combination of the major "dominant-of-the-dominant" form and the natural form of the II chord in G minor. The double stop in measure 10 on beat 3 is an example of a dissonance (extended for almost two beats) used for specific tension value, coming as it does just before a transition. Vertical dissonances which are spaced farther apart have less pungency (measure 13) than those which are spaced closer together (measure 7, beat 2 and measure 14, beat 2). Bitonality is found in measures 84-87 (D major-minor plus B major-minor). Measures 49-52 are based on an "irregular" pentatonic scale built up from melodic perfect fourths:

Example 3. Pentatonic scale as derived from projection of perfect fourths.



The use of the Magyar fourth melodically (especially in the secondary theme) generates the harmonic use of the perfect fourth (and perfect fifth), especially chords consisting of two perfect fourths (exempli gratia measure 4) or two perfect fifths (exempli gratia measures 17, 100). The pivot chord GDA in measure 17 contains both the tonic G and the drones A (II) and D (V) which form the basis of the transition to the

secondary theme.

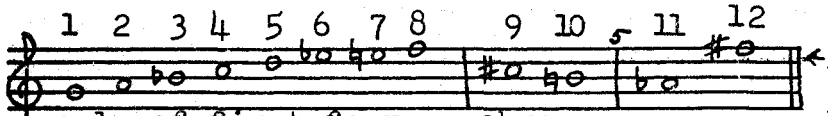
Example 4 (a-d) on page 22 shows the approximate order of introduction of the twelve semitones of the octave in each theme (and how this establishes mode or key) as well as the areas of the harmonization of both themes which are, respectively, most chromatically dense and most ambiguous functionally.

2. Motives and Melody

Measures 121-137 of the recapitulation provide a most interesting example of Bartók's ingenuity in combining themes and deriving and developing thematic material (see page 23, Example 5 (a-c)). The recapitulation of the secondary theme is both a simplification and an expansion of the original in the exposition. (See Example 5 (c).) Measure 124 (the fourth measure in the phrase) is derived from the fourth measure of the principal theme, thus already hinting at an eventual intertwining of the two themes, which actually takes place beginning at measure 131. During measures 129-130 the secondary theme is heard for one measure in its original form and then in inversion, while the accompaniment is reminiscent of the principal theme, as shown in Example 5 (a) on page 23. During the next seven measures, the four measures of the principal theme are heard in slightly altered form in alternation with altered forms (intervallic compression) of the first

Example 4 (a-d). Scales and harmonization of themes.

4 (a). Principal theme: G natural minor plus E natural (or G Dorian plus E^{b}).

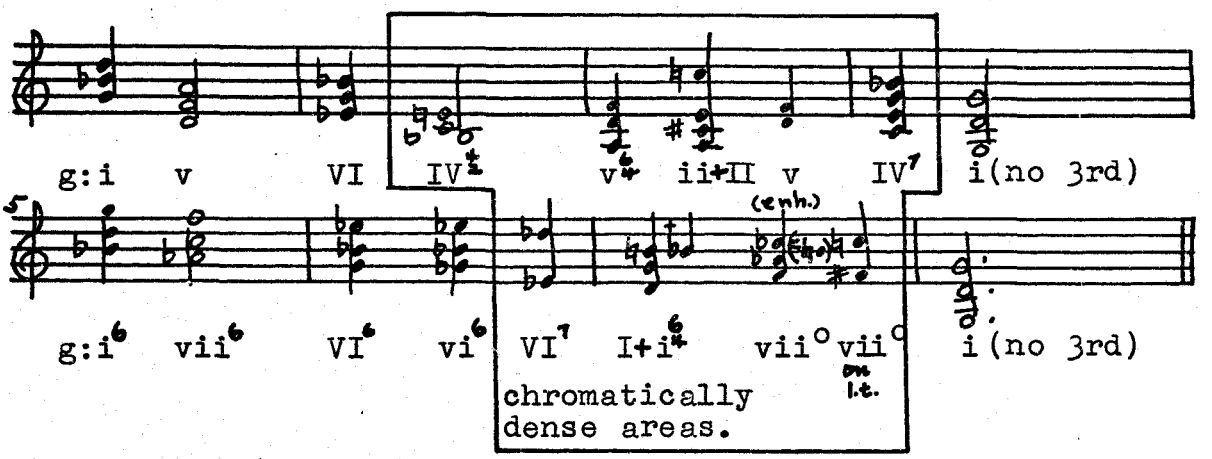


scale of first four measures of principal theme

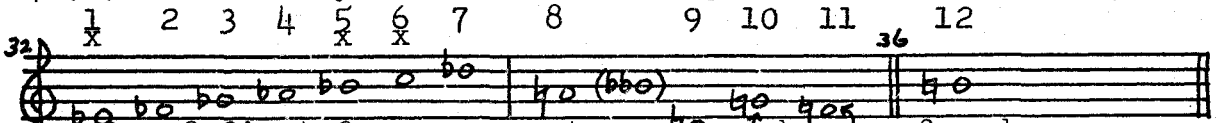
chromatic alterations on II.

←Adds $^{b}2$ and leading tone in measure 5-8, harmony "progresses."

4 (b). Basic harmony expressed as function of G minor.



4 (c). Secondary theme: more ambiguous--perhaps E^{b} Phrygian.

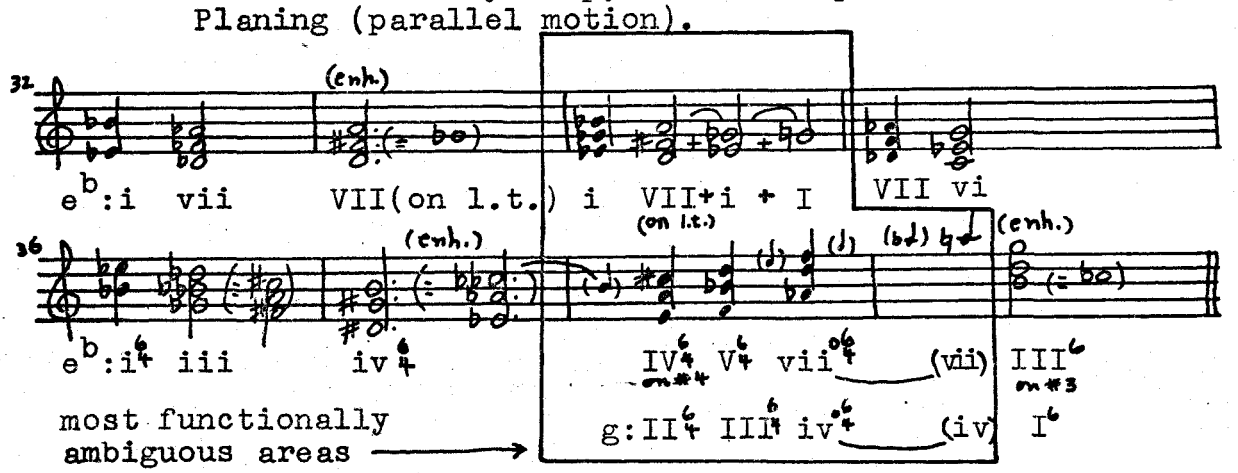


scale of first four measures of secondary theme (x= notes in common with prinipal theme)

p.t.

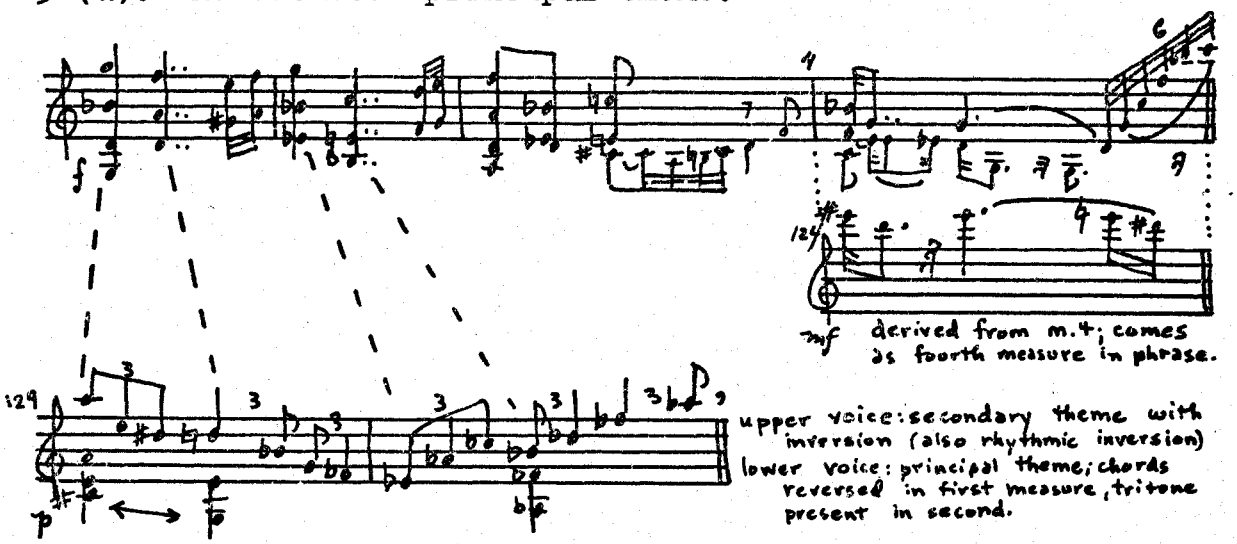
change of mode. acc., no l.t. function.

4 (d). Basic harmony expressed as function on E^{b} minor (root movement more by step, hard to express functionally). Planing (parallel motion).

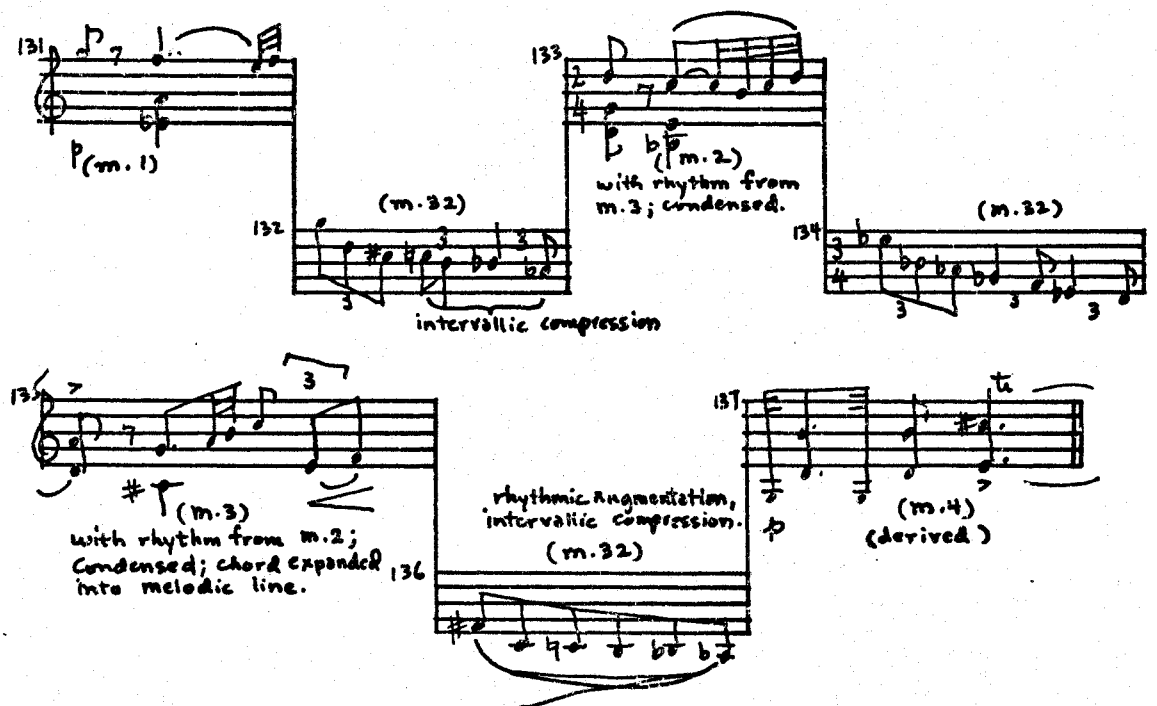


Example 5 (a-c). Derivation of thematic material, secondary theme in recapitulation.

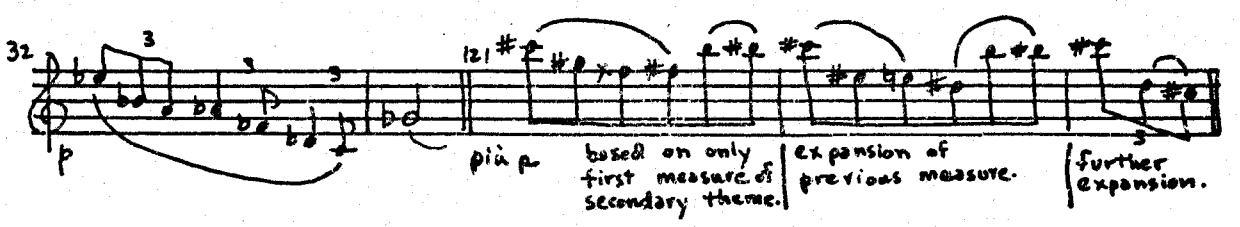
5 (a). Reference: principal theme.



5 (b). Intertwining of principal and secondary themes.



5 (c). Reference: secondary theme.



measure only of the secondary theme (which is appropriate, since the secondary theme in the recapitulation is based only on the first measure of the original). (See Example 5 (b).)

The melodic flourish at the end of measure 4 of the principal theme is used to unify the movement. Measure 35 echoes it in the secondary theme; measure 128 might be considered a simplified version and measures 95 and 142 expanded versions. It is also the "germ" out of which grow the quasi-pentatonic measures 49-52, as well as the four rhapsodic runs of the development, measures 54, 56, 62-63, and 65-66.

Development in this movement deals principally with one motive at a time. Measures 12-17 are an expansion through development of measures 9-11. In the recapitulation, measures 92-93 are a sequence version of measures 2-3, while measures 94-95 are an extended version of measure 4. In the secondary theme in the exposition, measures 39-42 are a development of the first measure of the secondary theme in inversion, and with imitation. Measures 43-44 are a much altered version of measures 33-34. Measures 45-46 are similar to measures 39-40 without inversion.

As a whole, the movement covers a wide range on the violin--almost four octaves. The highest note (e''''') occurs twice: in measure 15 (in the exposition) and measure 65 (in the development). Both themes have a fairly large ambitus, unlike so many other of Bartók's themes. Both have similar contours: the first four measures of each start on the top

note of the respective scale and end an octave lower, after ranging down lower than the final note. The second four-measure phrase of each is heightened, not only starting a fifth higher, but rising relatively higher in the middle of the phrase (measure 6, beat 1 and measure 7, beat 1; measures 38-39).

3. Rhythm

Many scholars are in agreement that Bartók's style reveals a penchant for "continuous development." Rhythmic variation is an important component of Bartók's principle of continuous development. Measures 41 and 42 are each a rhythmic variation of measure 40 (measure 42 is also a fifth higher). Rhythmic imitation based on earlier motives is found in measure 9 (based on measure 3, beat 2) and measure 10, beat 2 (based on measure 4, beat 1). Rhythmic accelerando is found in measures 54 and 56, with extended, inverted versions in measures 62-63 and 65-66. Rhythmic diminution occurs in measure 142 of the coda, and augmentation occurs in measure 14, beats 2 and 3 (based on measure 10, beat 3). The development section and what appears to be a "second development" (measures 96-107) are built, to a great extent, on the motive  , a diminutive form of the opening chaconne rhythm () which is first introduced in measure 5. In measures 84-86 the variation  of is found. Measure 121 is a

duple version of measure 32 (see page 23, Example 5 (c)). The rhythms in measures 133 and 135 are reversed from the original (measures 2 and 3), and measure 133 (which should have the rhythm of measure 2) follows the condensed version of the principal theme as it appears in the recapitulation (measure 92, beat 2). Measures 143-144 of the coda are an extension and rhythmic variation of measures 138 and 140.

To accommodate the colorful metric shifts which occur during the dialogue, the actual barring of measures 74-86 should be as follows: 2/4, 3/4 3/4 5/4 2/4 7/8 4/8 9/8 2/8 2/8 2/8 3/8 3/8 3/8 3/8 3/4 3/8 5/8. After measures 87-88 re-establish the true 3/4 meter, measures 89-90 form a measure of 3/2, the hemiola effect being achieved through the accented chord and the shape of the melody. Measures 108-120 sound very free and unmetered, due to the many rests and interplay of duplets and triplets. The accent on the last chord in measure 137 in the coda gives the feeling of 3/8 meter until measures 141-142, when the aural impression of meter is the following: 2/4, 3/8, 2/8, 3/8. Measures 145-148 form two measures of 3/2, again for the hemiola effect.

Virtually all the rhythmic figures can be traced to the Baroque era and Bach, with the possible exception of the figure  , which is derived from Magyar folk music. This particular figure serves as a unifying device in the form of a "rhyme" rhythm which occurs (frequently in the fourth

measure of a four-measure statement of one of the themes) often in the exposition, recapitulation, and coda (but not development) sections of this movement:

In principal theme (m.4): 

In secondary theme (m.35):  (incorporating two rhythmic variations).

The "rhyme" figure occurs in measures 4, 8, 10, 14, 31, 35, 39, 94, 124, 128 (in an altered version, and throughout the coda), and as the accompaniment figure to the secondary theme.

4. Compositional Devices

Contrapuntal devices found in this movement include imitation (exempli gratia measures 40-42 in the secondary theme and measures 67-73 in the development) and inversion (exempli gratia measure 40 in the secondary theme and measure 61 in the development). Beginning at measure 9, the impression of two voices within one line is achieved through wide spacing and the different tone colors of the G and E strings. The dialogue section in the development gives the impression of four voices (2 plus 2) using the same technique.

Special instrumental effects are mainly restricted to those of tessitura and range (exempli gratia high on the G string, high on the A string), brilliant multiple stops, and drone strings. Only a few of the less conservative effects,

such as glissando (measure 11), harmonics (measure 65), pizzicato (measure 17), and left-hand pizzicato (especially the very difficult passage at the end in measures 145-148) are used, and these only in places which really require a special, subtle color.

The movement ends pianissimo with a mood of expectancy; it seems to need the ensuing forte, fast Fuga movement to sound complete. This recalls the pairing of slow (often improvisatory, and ending in a half-cadence) and fast (often imitative or fugal) movements in the Baroque sonata. Even the half-cadence effect is here: the G major ending of the first movement ("V") leads into the C minor ("I") beginning of the Fuga.[1]

[1]The final G major chord of the first movement is not a true half-cadence, since the movement is on G; it can be interpreted and heard as such in view of the Fuga's C minor beginning.

CHAPTER II

ANALYSIS OF SECOND MOVEMENT

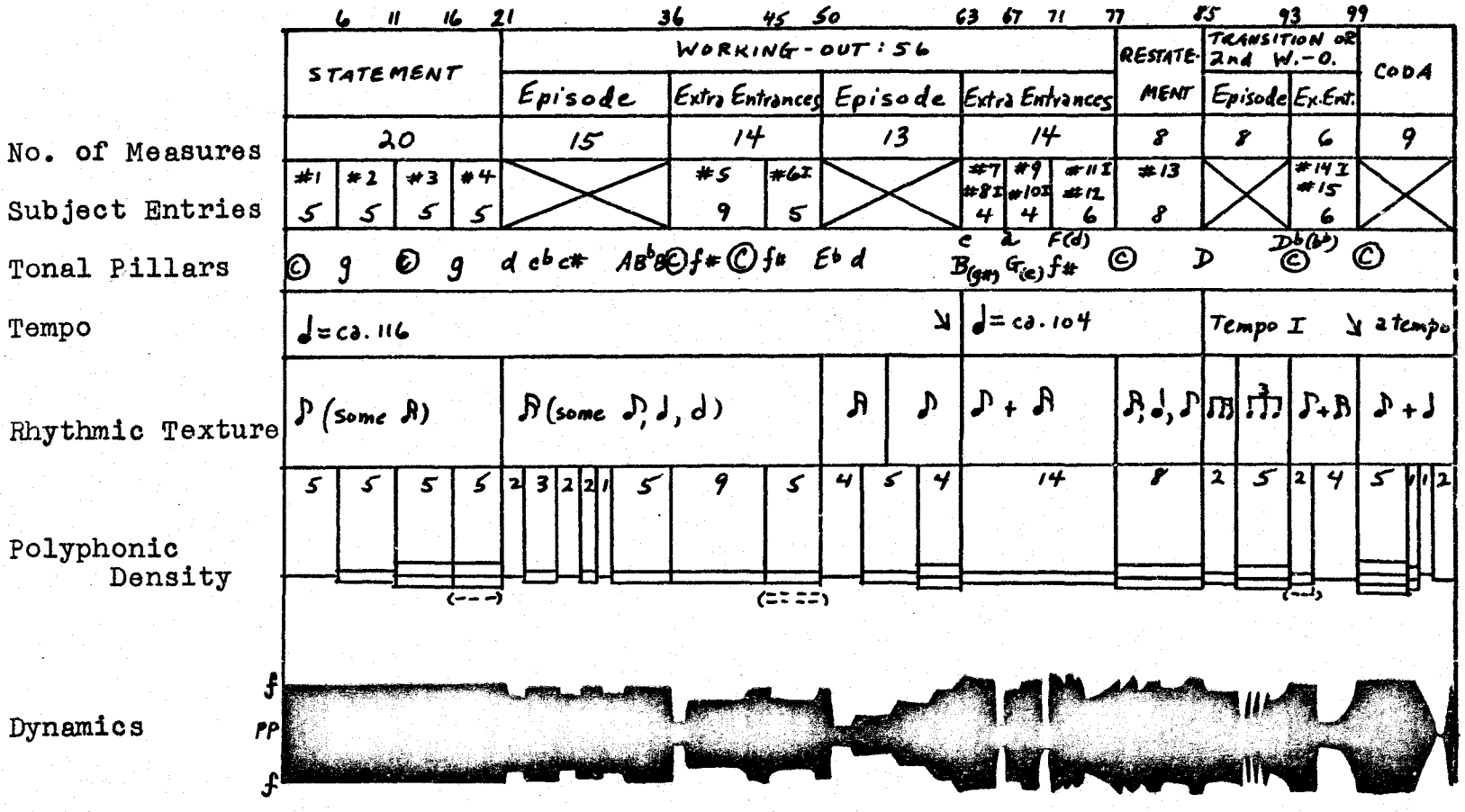
Fuga

1. Form and Harmony

Bartók was very fond of the imitative technique, as can be seen in many of his works, notably the first movement of Music for Strings, Percussion and Celesta, the third movement of the Third Piano Concerto, the Cantata Profana, and virtually all of the string quartets, to name a few. This movement is probably the only complete, fully developed fugue in his total output, as can be seen from the discussion below. A graph of the form of this movement appears on page 30 (Graph 2).

The fugue consists of the traditional Baroque statement, working-out (with episodes and extra entrances), restatement, and final episode sections, with a transition or second working-out section joining the restatement and coda. The presence of a second working-out section may be indicative of Bartók's fondness for continuous development and variation. The statement consists of four successively higher subject entries, the first and third on the tonic level, C minor, with real answers by the second and fourth voices at the

Graph 2. Second Movement: Fuga. Formal Superimpositions: Subject Entries, Tonal Pillars, Tempo, Rhythmic Texture, Polyphonic Density, Dynamics.

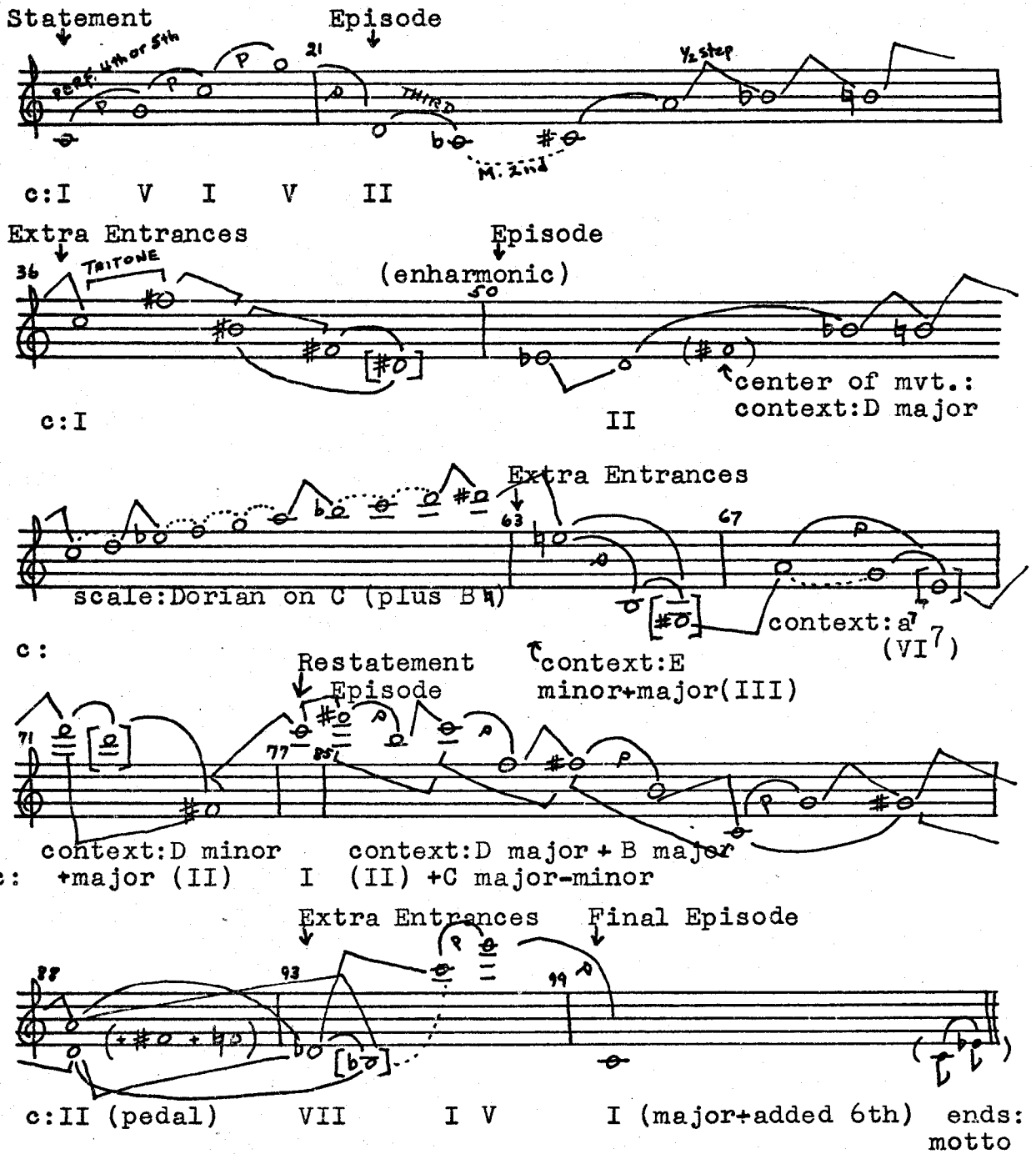


dominant level, G minor. (Repetition a fifth higher in another voice is typical both of the traditional Baroque fugue and also of Magyar folk music.)[1] The order and level of entries suggest four voices in the order: bass, tenor, alto, and soprano. The working-out contains two episodes, both built on the transition motive found at the end of the subject (see measure 5), and eight extra entrances. All entrances of the subject except one, the restatement, occur in pairs, including the statement entries, where bass and tenor, alto and soprano form subject-and-answer pairs. The first two extra entrances, marked as subject entries #5 and #6 on Graph 2 on page 30, are on $F^{\#}$ minor, the tritone level, with #6 being the first of five inverted subject entries. These are presented, one in the top voice and the other in the bottom voice, with a sixteenth-note accompaniment figure which is derived in part from the transition motive (measure 39, beats 2-3, measure 41, beats 2-3, measure 42, beats 1-2, and measure 46, beats 1-3). The accompaniment figure so effectively conceals these extra entrances that the listener may not be aware of their existence.

The next three pairs of extra entrances (measures 63-76) are in a slightly slower tempo, in stretto; each interlocked pair contains an original and an inverted form of the

[1] For myriad examples of repetition a fifth above, see Bartók's 44 Violin Duos and the Mikrokosmos, which are based, respectively, virtually entirely, and heavily, on Magyar folk music.

Example 6. Tonal pillars, showing root movement by step (major and minor second), perfect fourth and fifth, third, and tritone. Subject inversions show dual relationships.



subject. These partial entries (only the first part of the subject is presented) are colored by various characteristic instrumental devices such as pizzicato on six different tonal levels: E and B, A and G, F and $F^{\#}$. In each case the inversion is <u>on</u> a certain tonal level, but <u>implies</u> a different tonal level, that of a minor third below. For instance, the entrance on B in measure 63 implies $G^{\#}$ minor most strongly, but it could be heard as the incomplete first inversion of an E major triad. What is more important is the tonal ambivalence allowed by this procedure.

The full restatement of the subject, on the tonic level of C minor (measure 77), could be construed either as a three-voice stretto entry or simply as a homophonically harmonized version on C, as in the last six extra entrances. The episode beginning at measure 85 is again built on the transition motive, and, because an interlocked pair of extra entries appears (again partial), it might be considered a second working-out section, rather than just a transition from the restatement to the final episode. The final episode (measure 99) is based on the subject, forming a continuation of entry #15 (see end of Example 8, page 39).

The movement is built on the C Dorian scale, although the subject itself already contains a great deal of chromaticism. The scale, plus B natural, the leading tone, is stated explicitly in the upper voice in measures 60-62, beginning on B^{b}.

The placement of the C minor tonal pillars tends to make possible the perception of the movement as a quasi-monothematic sonata-allegro form, thus: exposition, measures 1-35 (transition beginning in measure 21); development, measures 36-76, containing partial and changed entries on various tonal levels; recapitulation, measures 77-98 (transition beginning in measure 85), and coda, measures 99-107.

Measures 88-92 reveal a pedal point on D (major-plus-minor), the dominant-of-the-dominant level (II). Rather than progressing directly to the dominant level, the harmony seems to shift down a half-step to D^{b} (entry #14--actually this sounds like B^{b} minor) and again down a half-step to the tonic C minor (entry #15) before cadencing on the dominant G in measure 98 just prior to the final episode. Another, more clear, example of chromatic stepwise root movement can be found at the end of the first episode in measures 32-35: A-B^{b}-B natural-(C). Root movement in this movement is basically by step (either minor or major second), with root movement by perfect fourth or fifth, third, and tritone also occurring, in decreasing order of frequency (see Example 6 on page 32).

Modulation occurs in the subject itself (C minor to $F^{\#}$) and thus in each subsequent entrance of the subject. Episode modulation is often effected by a change in direction of the half-step interval between the third and fourth notes of the transition motive (compare the "tonal" ending of the

first real answer in measure 10 with the original in measure 5).

The area of climax (measures 63-84) is enhanced by density of effects, stretto, number of voices (apparently four throughout this area), the many changes in the subject, and tempo (slightly more deliberate, to set off this section). The high point of the climax area occurs in the middle of this area, at measure 77 (restatement), which is exactly three-quarters of the way through the entire movement.

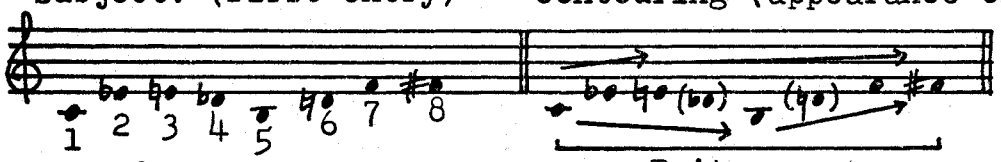
The note $F^{\#}$ (tritone from C) is important 1) because it is the climax of the subject, 2) because it is found at the exact center of the movement (measure 54), and 3) because it is the choice of tonal level for the first pair of extra entrances. Also there is some root movement by tritone between tonal pillars other than C and $F^{\#}$.

Vertical dissonance is the result of linear counterpoint (exempli gratia measure 62), drone strings (measures 88-92), and the planing (use in parallel motion) of intervals such as seconds (measure 74, also appearing in the final episode as added sixths), and ninths (measures 71-74). A majority of chords are the same types as one encounters in the fugues for unaccompanied violin by Bach, but the chords, often the result of simultaneous non-harmonic tones, are often resolved differently, not at all, or are planed.

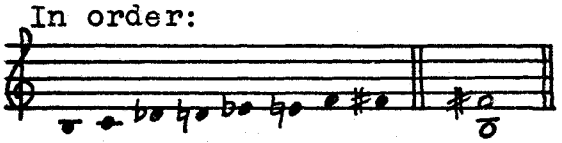
The harmonic rhythm is quicker and the harmony more ambivalent in the entry sections, while the harmonic rhythm

Example 7. Fuga: Order of appearance of twelve tones.

Subject: (first entry) contouring (appearance of new highest and lowest pitches)

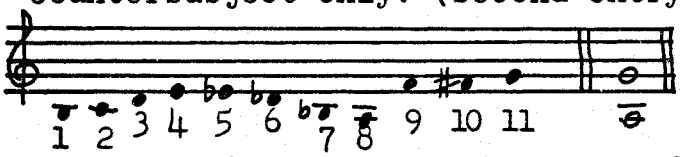


In order:

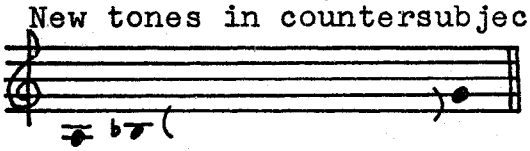


8 chromatic tones within a perfect fifth (total range of meas. 1-5).

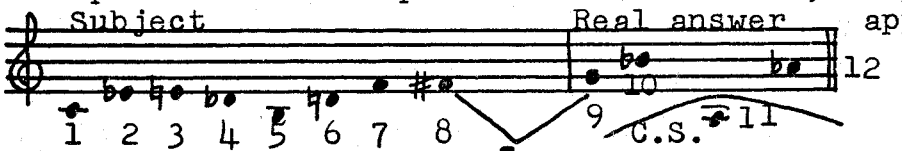
Countersubject only: (second entry)(m.6-10). A^b missing. 11 chromatic tones within a minor seventh.



New tones in countersubject extend range of subject:

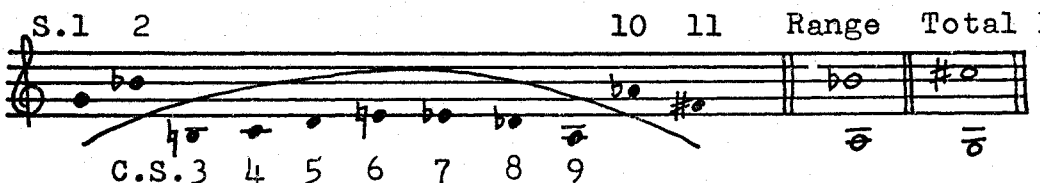


Complete order and placement of 12 tones, simply as they first appear:



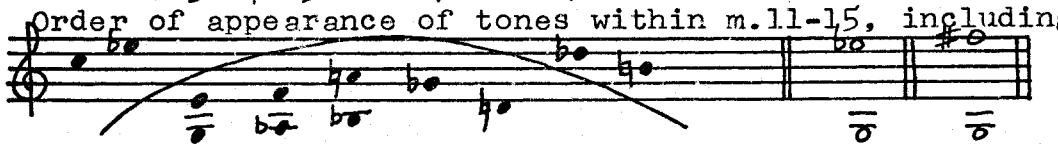
Note "leading tone" relationship of climax of subject and real answer.

Order of appearance of tones within m. 6-10, including pickup ♪:

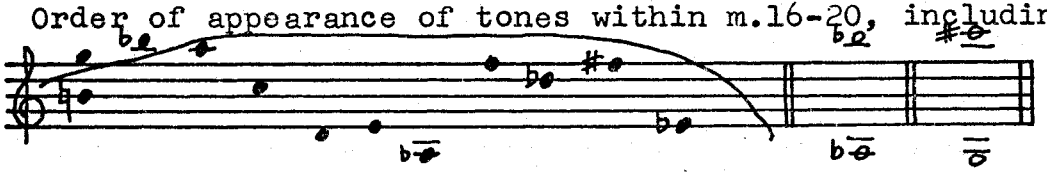


(F is missing).

Order of appearance of tones within m.11-15, including pickup ♪:



Order of appearance of tones within m.16-20, including pickup ♪:



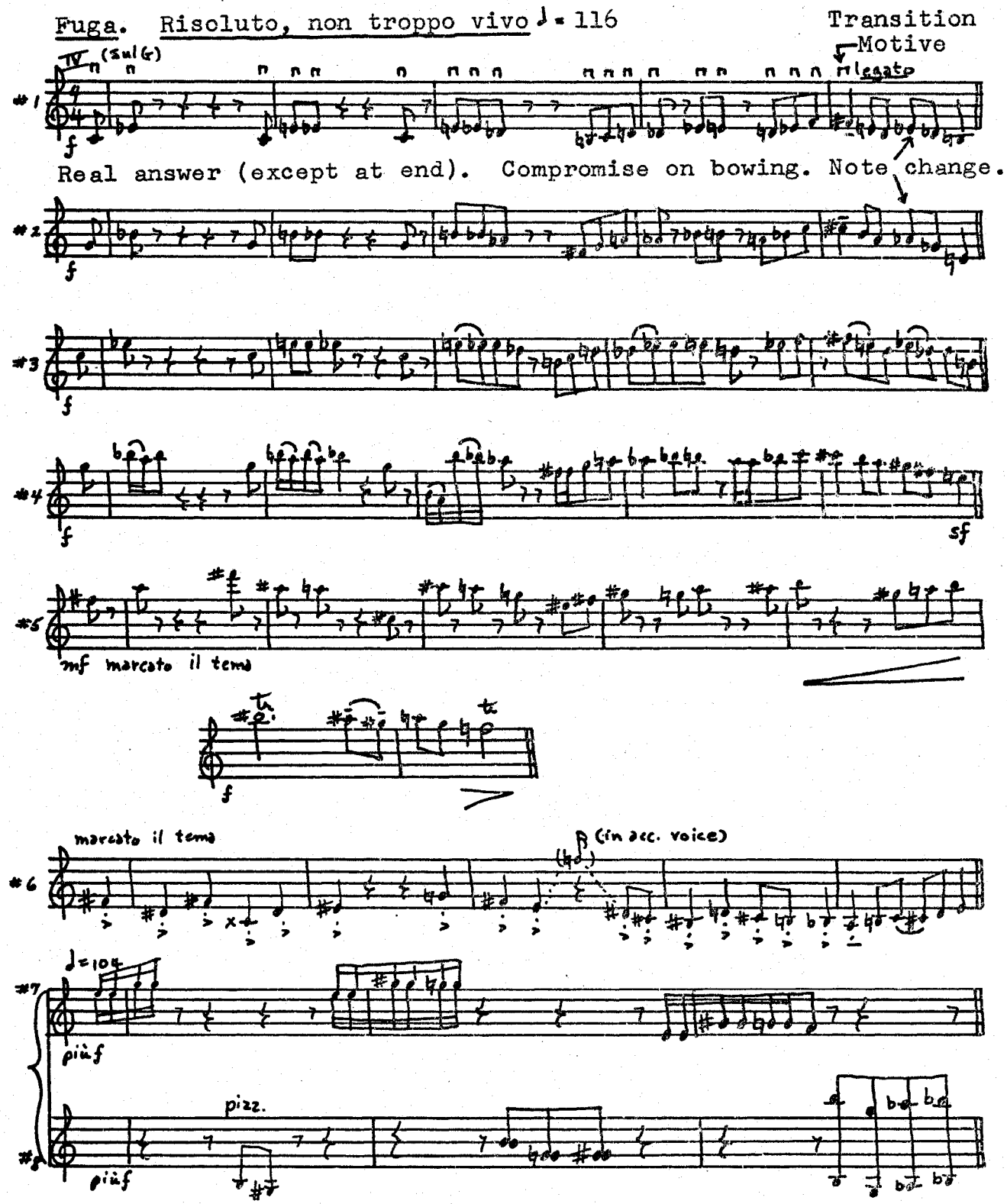
is slower and the harmony is more functional in the episodes. This is exactly opposite from the situation usually encountered in a Bach fugue, where the entries anchor the piece tonally, while the episodes provide the harmonic freedom.

2. Motives and Melody

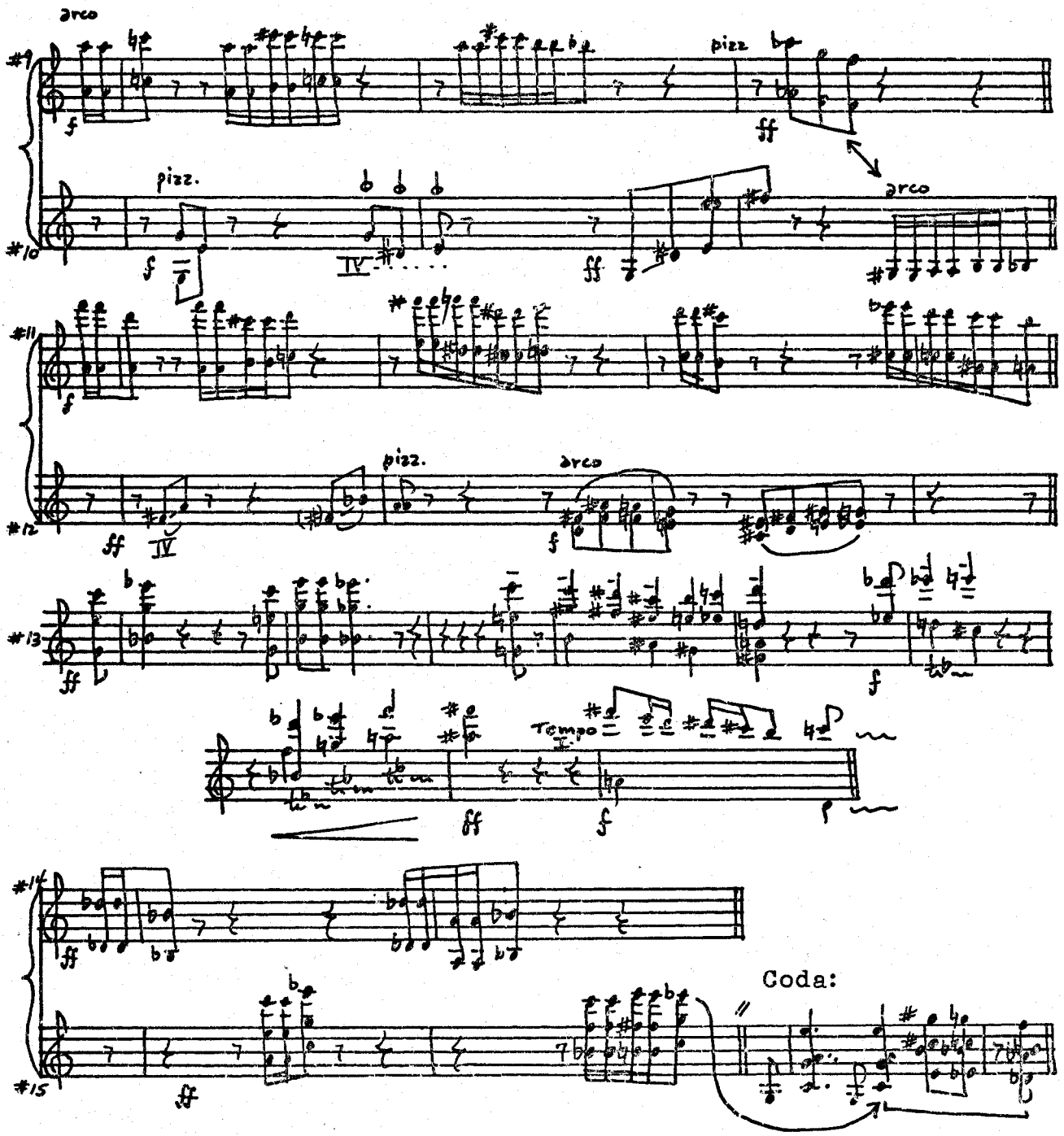
Example 7 on page 36 shows the order of appearance of the twelve semitones of the octave. The subject contains the eight chromatic tones between B and $F^{\#}$ (a perfect fifth), opening out or "fanning out" from the C-E^{b} beginning motto. The contouring or shaping of the subject in terms of new highest and lowest pitches is shown next. The countersubject to the first answer contains eleven of the semitones of the octave (A^{b} is missing), arranged within a minor seventh A to G, which in effect extends the subject by three tones: A, B^{b}, and G. The A^{b} occurs in the first answer in the top voice. The complete order and placement of the twelve tones, simply as they appear from the very beginning, is given next in Example 7. All twelve tones appear by measure 8, beat 2. Note the leading tone relationship of $F^{\#}$ and G (climax point of subject and beginning of real answer). Next in Example 7 are given the order of appearance of the twelve tones within each five-measure subject-entry segment.

The countersubject (measures 6-10) begins with a compressed and partially inverted variant of the transition in

Example 8. Chart showing transformations of subject.



Example 8, continued.



measure 5. One could even suggest that the countersubject may begin in measure 5, since that is the point where the change to legato character occurs. The countersubject is important motivically only to the extent to which it provides legato contrast to the subject and is related to the very important transition motive.

Example 8 (pages 38-39) shows the thematic changes which occur in the subject in the course of fifteen entries. Since every entry subsequent to the subject is changed in a unique way, there seem to be a "theme" and fourteen "variations." The subject is marcato, all down bows. Entry #2 has some compromises in the bowing and an adjustment in the transition motive of the half-step interval to A-A^b, rather than A-B^b. Entry #3 is more dense, with eighth-note repetitions of some tones and some shifts of rests near the end. Entry #4 further elaborates on the changes made in entry #3, introducing the sixteenth-note pulse and octave displacement. Entry #5 has rhythmic and melodic variations and is elongated by two measures. Entry #6, the first inverted entry, lacks the second motive of the subject (id est third, fourth, and fifth notes) and the accompanying voice supplies a missing note in hocket style. The intervals near the end are adjusted slightly to allow the entry to finish on E instead of on G.

Partial entries #7 and #8 appear together in stretto and form an echo or dialogue effect because of the placement of the rests in the subject. The notes are doubled, in

unisons and in sixteenth-note repetitions, in #7, and entry #8 features pizzicato in three different ways, including double stops two octaves apart. Here the two entries cross and expand, #7 descending and #8 rising as well as expanding outward. Partial entries #9 and #10 continue the apparent four-voice texture begun with #7 and #8; the stretto is now much closer together because the rests are shorter; there is some counterpoint in #9, snap pizzicato and pizzicato glissando in #10, and there is an exchange of the fourth motive at the end. In partial entry #11 and #12, the top voice rather than the bottom voice is the inverted form of the subject. The subject lacks the third motive in entry #11; it is sounded first with a drone A and then in parallel ninths, while entry #12 is arco glissando with a single pizzicato, and harmonized with thirds at the end.

Entry #13 is complete, in three voices, basically in planing but with counterpoint added. It is the most extended version (8½ measures) of the subject and gives the impression of rhythmic augmentation. The end (transition motive) generates the following episode in a very direct manner. Entry #14 is the shortest entrance of the subject, only two motives long; here the inverted lower voice appears first in the stretto-pair and the original temporal spacing of the motives reappears. Entry #15 recalls the restatement, and together the two entries give the impression of five voices. The final episode is an extension of entry #15; it becomes

fragmented and disappears to ppp on a glissando; then the subject motto C-E^{b} returns forte for the last time.

A fugue is by its nature a very unified form; this fugue is further unified by a transition motive. Variety results from the constant variations in both the subject and the transition motive. The transition motive is varied in the following ways: 1) rearrangement of the pattern of half- and whole-steps, for example, the inverted, rhythmically altered form in measure 21: A-B-$C^{\#}$-$D^{\#}$-E; 2) inversion, of which there are many examples (some of the inversions could be considered retrograde); 3) interruption of the six notes of the motive by a single note or octave, for example, measures 27 and 32; 4) expansion of intervals, measure 34 (it is also an "interrupted" form); 5) melodic variation, measure 53; 6) rhythmic alteration, measure 54 (also incorporated are other changes and point of imitation) and measure 85 (diminution); 7) parallel sixths (measures 57 and 62); 8) fragmentation, measure 58; and 9) extension by linking two or more cells, measures 85-86 and 87.

Measures 75-76 feature a form of the B-A-C-H motive, appropriately honoring the composer whose unaccompanied violin works and imitative technique served as models for Bartók. The Magyar augmented second B^{b}-$C^{\#}$ appears in measure 52.

The subject entries feature various forms of counterpoint. The statement entries are accompanied by the legato

countersubject material. The first two extra entrances are worked into arpeggio and drone-string textures, respectively. The rests in the restatement entry of the subject are filled in with decorative flourishes, giving the impression of a fourth voice. The stretto pairs need no accompaniment, although they employ a similar kind of flourish (runs in fifths) to "break off" the partial entries.

3. Rhythm

The subject is typical of Bartók's fugue and fugato subjects in its use of rests to create tension and drama (see his Fifth Quartet). Bach, in the fugue from the Toccata, Adagio and Fugue in C Major, also employs rests in the subject to the same end. The countersubject, in contrast, uses relaxed, even eighth notes.

Some of the rhythmic variations of both subject and transition motive have already been noted. These include extension (entry #13--almost augmentation) and compression (entries #9-12 in stretto). Entries #5 and #6 show considerable change in the original dramatic rhythm of the subject; this is a principal factor in the apparent concealment of the two entries. The final episode, generated by the subject rhythm, takes on a syncopated, even "jazzy," character. Rhythmic transformations of the transition motive include diminution (measure 85), retrograde in diminution (measure 88), and a

"flattened" version of the diminution in triplets (measures 90-92).

As noted previously, the slower tempo sets off the area of climax (measures 63-84), while a poco allargando signals the approaching final episode.

Although the 4/4 meter is unchanged in the printed score, the actual meter shifts in several places. Measure 35 becomes: 3/8, 3/8, 2/8. Measures 61 and 62 can be heard in several ways, depending upon whether the aural emphasis is placed on the upper or lower voices. Entry pair #9-10 is compressed into: 2/8 2/8 3/8 3/8 4/8 4/8 3/8 3/8, while pair #11-12 creates a slightly different pattern: 2/8 2/8 3/8 3/8 4/8 4/8 2/8 4/8 4/8. Measures 101-103 of the final episode might be divided into measures as follows: 3/4 plus six measures of 3/8.

4. Compositional Devices

The polyphonic density can be broken down into categories and approximate numbers of measures and percentages as follows: two voices (54; 50%), three voices (26; 25%), one voice (21; 20%), and four voices (6; 5%). However, as has been previously noted, there are frequently more voices suggested than are actually present. For instance, the fourth statement entry suggests four voices: the subject in the top voice and countersubject imitation in the lower three voices.

Measure 45 implies three, if not four, voices and measure 57 suggests four voices. All of the paired stretto entries suggest four voices (the last pair actually imply five), while the flourishes in the restatement section seem to represent a fourth voice. The voices which are "implied" frequently make clever use of contrary and oblique motion, offsetting the parallel motion which is the result of a fair amount of planing.

Some of the idiomatic instrumental effects have already been noted: the down bows of the first subject entry; and the pizzicato double stops, pizzicato glissando, and snap pizzicato of the area of climax. Other effects used in this movement are: snap pizzicato double stops (measure 69), glissando on perfect fifths (measures 70 and 105), fingered quasi-glissando (measure 65), trills (measures 82-83), drone strings D and A plus melody in the fourth position on the G string (measures 88-92), and left-hand pizzicato (measures 103-104). Bariolage, using the E and A strings, is found in measures 45-49. Difficult chords abound, made so by the high positions.

The Fuga is in general louder than the first movement, and the dynamics tend to support the form (see Graph 2 on page 30). They range from ff to ppp, though predominantly forte; the Baroque era is evoked in the use of "terraced" dynamics in measures 88-92.

Bartók's Fuga is more condensed in time and texture

than any of Bach's fugues for unaccompanied violin, lasting less than four minutes. It differs from Bach's works also in its longer subject, fewer subject entries, and greater variations of the subject.

CHAPTER III

ANALYSIS OF THIRD MOVEMENT

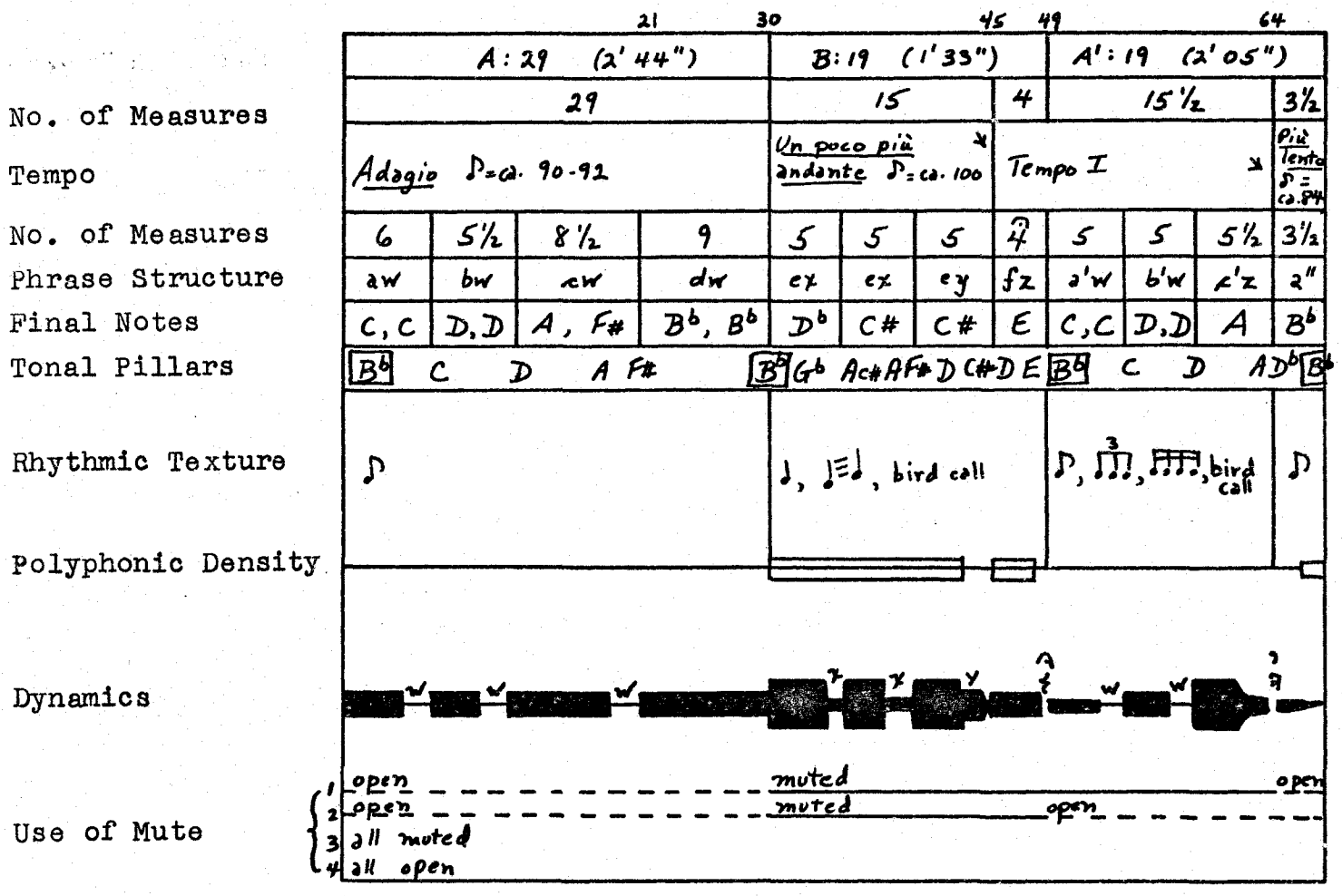
Melodia

1. Form and Harmony

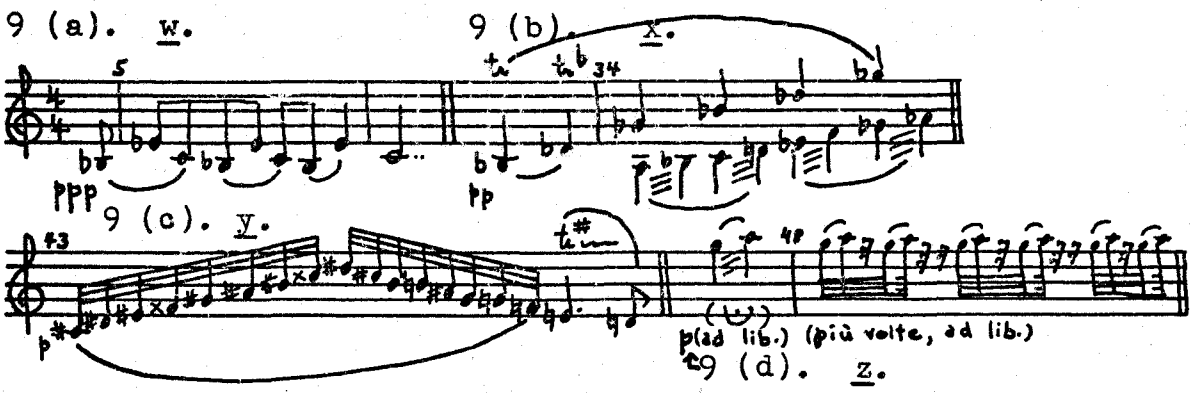
The third movement is cast in ternary form: ABA'. It is one of Bartók's most elegant "night music" movements, of which the original is the fourth movement from his piano suite Out of Doors (1926).[1] The A section is a lovely monophonic song of four phrases, each ending with a similar "rhyme cell," marked "w" on Graph 3 on page 48. The muted, slightly faster B section is a sensitive four-phrase modal chorale-like melody, harmonized with chords, trills, and fingered tremolos. Again, each phrase contains a rhyme cell at the end, the first two (tremolos) marked "x," the next one, a scalar passage which sounds like the rushing wind, marked "y," and the last, a bird call, marked "z" (see Example 9 (a-d) on page 49). Then follows A', a four-phrase variation on A. (The original tempo resumes in the fourth phrase of B.) In section A', the first two phrases, marked a'w and b'w, are variations on the respective phrases aw and bw of A. The third phrase c'z is a variation on c of A, but with the bird call rhyme cell z of B.

[1] Halsey Stevens, The Life and Music of Béla Bartók (New York: Oxford University Press, 1953), pp. 134-135.

Graph 3. Third Movement: Melodia: Ternary Form. Formal Superimpositions: Tempo, Phrase Structure, Final Notes, Tonal Pillars, Rhythmic Texture, Polyphonic Density, Dynamics, Use of Mute.



Example 9 (a-d). Rhyme cells w, x, y, and z.



A second variation on a of A, in a tempo slightly slower than Tempo I, takes the place of a variation on the phrase d, creating the effect of a coda. The music vanishes in double harmonics without the rhyme cell ending. The divisions of the movement are very clear. In A the phrase lengths are irregular and the harmony is ambiguous, while B, the chorale, contains phrases of equal lengths, the fourth phrase being extended to approximately the length of five measures through the use of two fermate, and the harmony is more functional than in A. Section B is the area of climax of this movement, but there is no single dramatic moment of climax. The rapturous, somewhat shortened A' section again features phrases of various lengths and even more ambiguous harmony than in A.

The coda effect is achieved by 1) use of the bird call rhyme cell z from B (instead of w), 2) the use of a caesura over the sixteenth rest in measure 64, 3) the use of the phrase a instead of one based on d, and 4) the use of a slightly slower tempo.

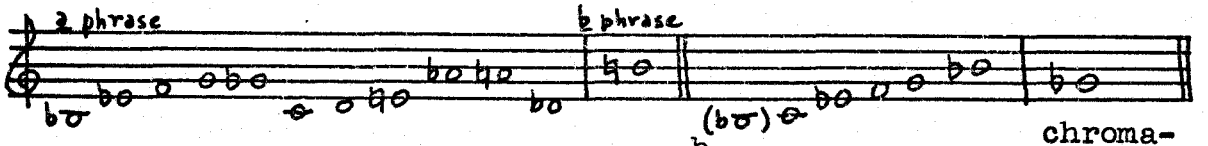
The timings of the three sections of the movement account for the following aural proportions and percentages: A:B:A' = 164:93:125 = approximately 5:3:4. A (2'44") = 43%, B (1'33") = 24%, and A' (2'05") = 33%. More clearly than in either of the previous two movements, the various parameters as shown on Graph 3 on page 48 tend to support the ternary form. Only tempo blurs the ABA' outline.

The scale used at the beginning of the movement and again at A' (see Example 10 (a) on page 51) seems to approximate the Mixolydian mode on B^{b}; a strongly pentatonic character prevails in the first measure, except for the chromatic escape tone G^{b}. The chorale melody of the B section can be interpreted enharmonically to be in the Dorian mode on E, with three cadences on $C^{\#}$, the sixth scale degree, and the last one on E, the tonic (see Example 10 (b) on page 51). The range of the chorale melody (see Example 10 (c)) is a perfect fifth (enharmonic). The ambitus of the scale (id est mode) seems to be $C^{\#}$-$C^{\#}$ as defined by the scalar rhyme cell y; the character of the scalar passage is that of the Lydian mode, due to some chromatic alterations. Since E is a tritone away from B^{b}, the tonal level on which the A section is built, and since Bartók so frequently chose the tritone level for a development section or a middle section in a movement, E seems more likely than any of the other tones in the chorale melody to be the main and final tonal pillar in the B section.

Root movement between tonal pillars, in order of

Example 10 (a-c). Melodic characteristics.

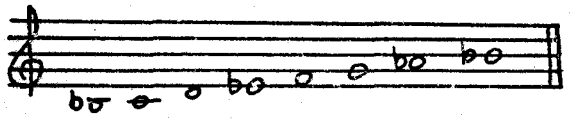
10 (a). Order of introduction of twelve tones:



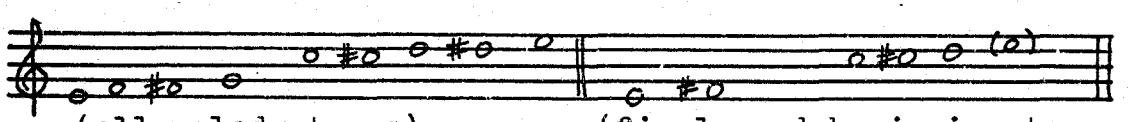
Arrangement of first 6 tones, showing pentatonic basis:

chromatic escape tone

Scale of A section: Mixolydian on B^b:

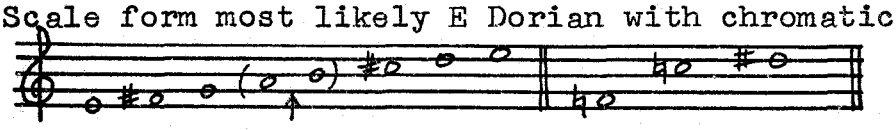


Scale of B section melody only (enharmonic), using E as final:



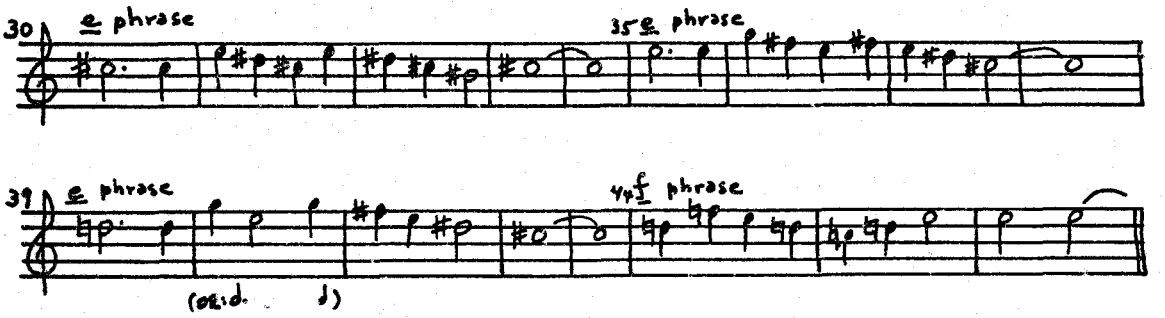
(all melody tones) (finals and beginning tones only)

Scale form most likely E Dorian with chromatic alterations:

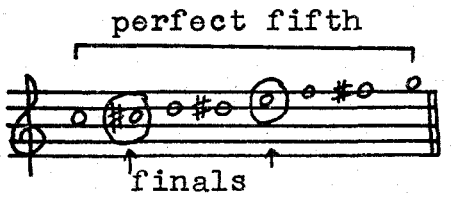


gap + chromatic alterations

10 (b). Chorale melody (enharmonic):

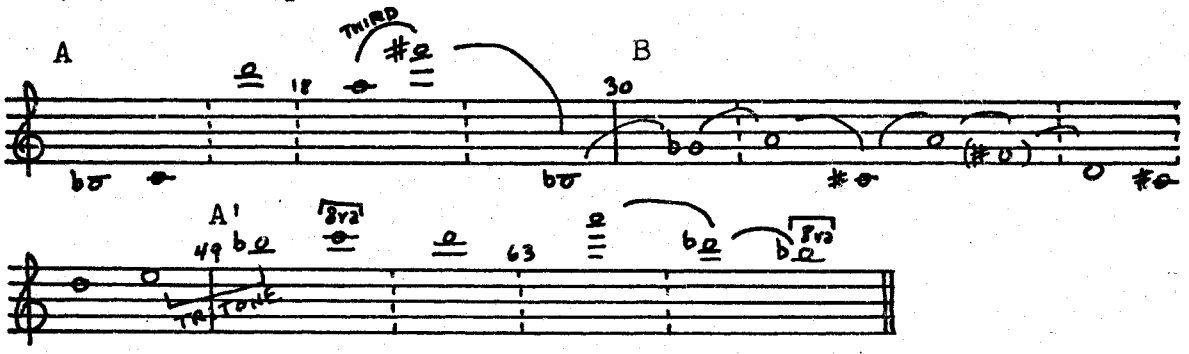


10 (c). Melody range (enharmonic):

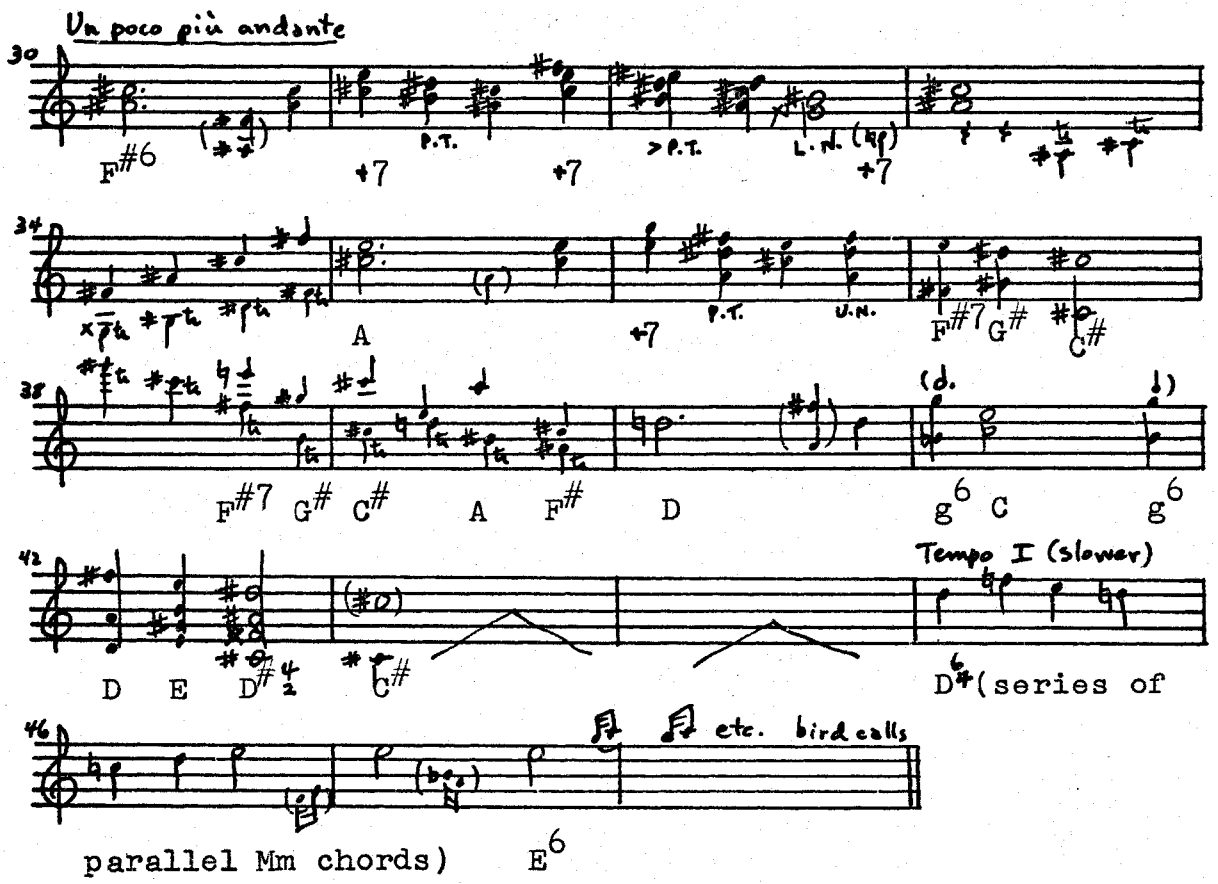


Example 11 (a-b). Harmony.

11 (a). Tonal pillars of entire movement:



11 (b). Chorale harmonization (e harmonic):



decreasing frequency of occurrence, proceeds by third, by step, by perfect fourth or fifth, and by tritone (see Example 11 (a) on page 52). If the chorale harmonization (Example 11 (b) on page 52) is perceived enharmonically in E Dorian, the basic pattern is: phrase 1: $F^{\#}$ (II); phrase 2: A-$C^{\#}$ minor (IV-VI); phrase 3: D-$C^{\#}$ major-minor (VII-VI); and phrase 4: D-E major-minor (VII-I). The rhyme cells provide colorful harmonies between the four phrases of the chorale itself during the rhyme cells. The parenthetical harmony of the B section results from the abundance of inversions, the use of planing (especially unresolved seventh chords, measures 45-46), and the frequency of major-minor chords and change of mode. This accounts in part for the somewhat restless, yet hypnotic character of this section. Although the B section is more functional than the A section, it never comes to a concrete resting point, but rather "hovers" about the implied tonal levels. Non-harmonic tones have meaning as such only in the B section; the harmonic implications in the A and A' sections are too indistinct and ambiguous for the definition of some tones as non-harmonic and others as chord tones. Note the leading tone relationship of the note A at the end of the first bird call rhyme cell z and the note B^{b} which occurs at the beginning of the A' section (measures 48-49).

The spacing of the vertical interval of a tenth in measures 30-36 creates a hollow effect, as do the

chromatically varied scalar passage in measures 43-44 and the double stops of a perfect fifth in harmonics at the end.

2. Motives and Melody

The A section is reminiscent of the opening violin solo monologue in the second movement of Bartók's Violin Sonata No. 1, as well as of the second theme of the first movement of the work under discussion. The B section is reminiscent of the chorale sections in the slow movements of his Fifth Quartet and the use of the tremolo harks back to the fifth variation in the slow movement of his Violin Concerto. Probably the chorale melody was not borrowed from an existing source but rather was newly composed by Bartók, since he rarely used actual quotations from any sources (including his collection of more than a thousand folk melodies) in his later works. Folk elements present are the Magyar melodic fourth, the pentatonic character of the opening phrase, and the imitation of the cimbalom[1] in the tremolos of the B section.

Contrasts between the A and B sections include those of tempo, phrase length, scale (id est mode), rhythmic texture (A is based on eighth notes, B on quarter notes and tremolos), polyphonic density (A is monophonic, B poly- and

[1]The cimbalom is a dulcimer-like Hungarian folk instrument always played in tremolo style with two mallets.

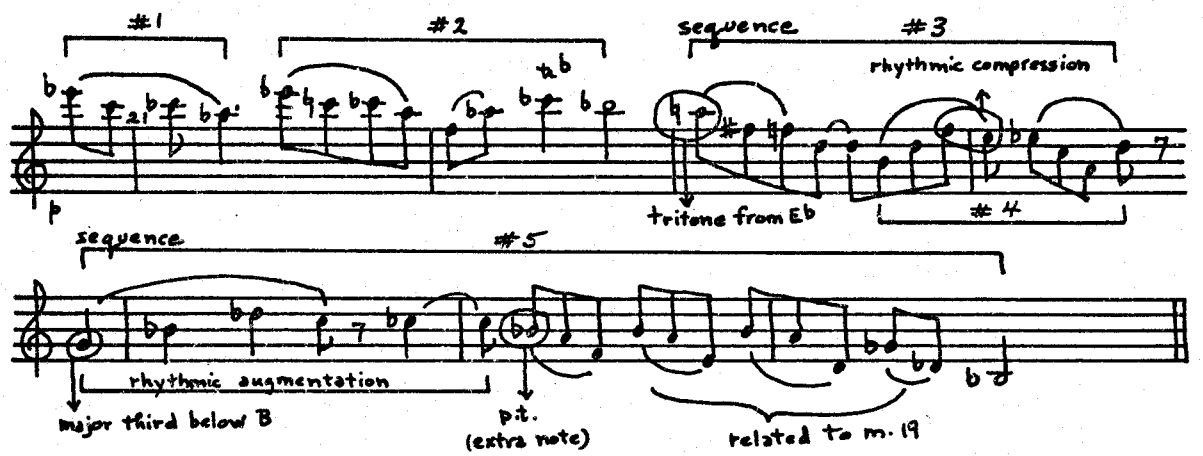
homophonic), dynamics (A is basically piano, B mezzo piano), use of mute (A is open, B muted in two of the four mute-use possibilities), melodic curve (A moves around more than B), and ambitus (A has a greater range than B). Both A and B contain four phrases, of which the first three resemble each other and the fourth is somewhat different in melodic curve. In A, phrases a, b, and c rise in the center and fall toward the end (each starting on a successively higher pitch level), while phrase d starts high and descends to a low B^{b} cadence. In B the first three phrases (see Example 10 (b) on page 51) have similar shapes and harmonizations (marked "e" on Graph 3 on page 48) and all end on $C^{\#}$, while the fourth phrase, f, is slower, lower, and entirely planed, as well as having a slightly different shape and final note, E. The tessitura of A stays both higher and lower for longer periods in A than in B. The melodic interval of a tritone is found in A (measures 1, 7, 12, and 26--once in each phrase) but not in B.

Among the changes which characterize A' as a variation of A are the use of 1) more elaborate rhythmic figures, 2) melodic embellishments, including expansion and compression of intervals, octave displacement, and internal phrase extensions, 3) almost twice as many melodic tritone intervals as in A (measures 49, 54 and 56, 59 and 60, 65 and 66), 4) higher range and tessitura both than in A (the highest note in the movement is F in the last double stop), 5) wider dynamic range than in A, even though the phrase lengths are shorter

as is the overall timing, and 6) all of the effects cited previously which are meant to suggest a coda.

The A section itself contains some immediate development and variation of the initial phrase; in a sense, phrases b, c, and d are all extensions of the phrase a idea. Phrase d is a particularly good example of extensions, rhythmic alterations, and sequences (see Example 12 below); other techniques used in A include intervallic expansion and compression and variations of the rhyme cell w, the latter characterized by its rhythm, implied 3/8 meter, and slurring, more than by certain pitches.

Example 12. Phrase d in section A: immediate development.



Cell #2 extends cell #1, same level.
Cell #3 extends cell #2 (with rhythmic compression), tritone below (sequence).
Cell #5 extends cell #4 (particle of cell #3), with rhythmic augmentation and extra note (passing tone), major third below (sequence).

3. Rhythm

As has been noted, the differences in rhythmic texture between sections help provide contrast and thus support for the ternary form. The A section contains, in addition to rhythmic augmentation and compression, many subtle, implied meter changes in addition to the uniform implied meter of phrase w. The A' section uses as variations of rhythm exchanges of duplets for triplets (exempli gratia measure 49), free rhapsodic variation (exempli gratia measure 60), and rhythms caused by the melodic decoration of long notes (exempli gratia measure 50).

In B, the effect of a fermata over the final note of each chorale phrase is created by the use of the rhyme cells x, y, and z. The trills and tremolos, as noted previously, have as much rhythmic as melodic function. The syncopation in measure 44 caused by the eighth rest creates the impression in measures 43-44 of 9/8 plus 7/8 meter rather than two measures of 4/4. The freedom of the bird call (più volta, ad libitum) provides rhythmic interest by temporarily suspending meter. The harmonic rhythm is slow throughout the movement, including A and A', to the extent that a harmonic outline may be perceived.

4. Compositional Devices

The use of the mute is left to the discretion of the performer. There are four opportunities for its use (see Graph 3 on page 48): 1) play with mute on from measure 30 to the middle of 64--this appears in the printed score as the preferred use; 2) play with mute on for measures 30-48 only--this appears in the printed score as an ad libitum alternative; 3) play the movement entirely with mute; and 4) play it entirely without mute. Bartók mentioned these last two alternatives to Menuhin in a letter, an extract of which appears in the introductory remarks to the printed score. Aside from general considerations of timbre, mood, and dynamic level, the use of the mute as in the first option helps to emphasize the coda effect, while its use as in the second option tends to emphasize the B section contrast of the ternary form.

The special "night music" string-instrument devices present include harmonics, tremolos, trills, and bird calls, as well as the idiomatic veiled color of the high positions on the G, D, and A strings. This movement appears to be the easiest of the four to play, but great difficulties arise in attempting to both play the tenths in the B section in tune and yet execute the tremolos properly. The dynamic level in the B section seems to be greater than mezzo piano, due both to the increase in number of voices and the constant activity of the tremolos and trills.

CHAPTER IV

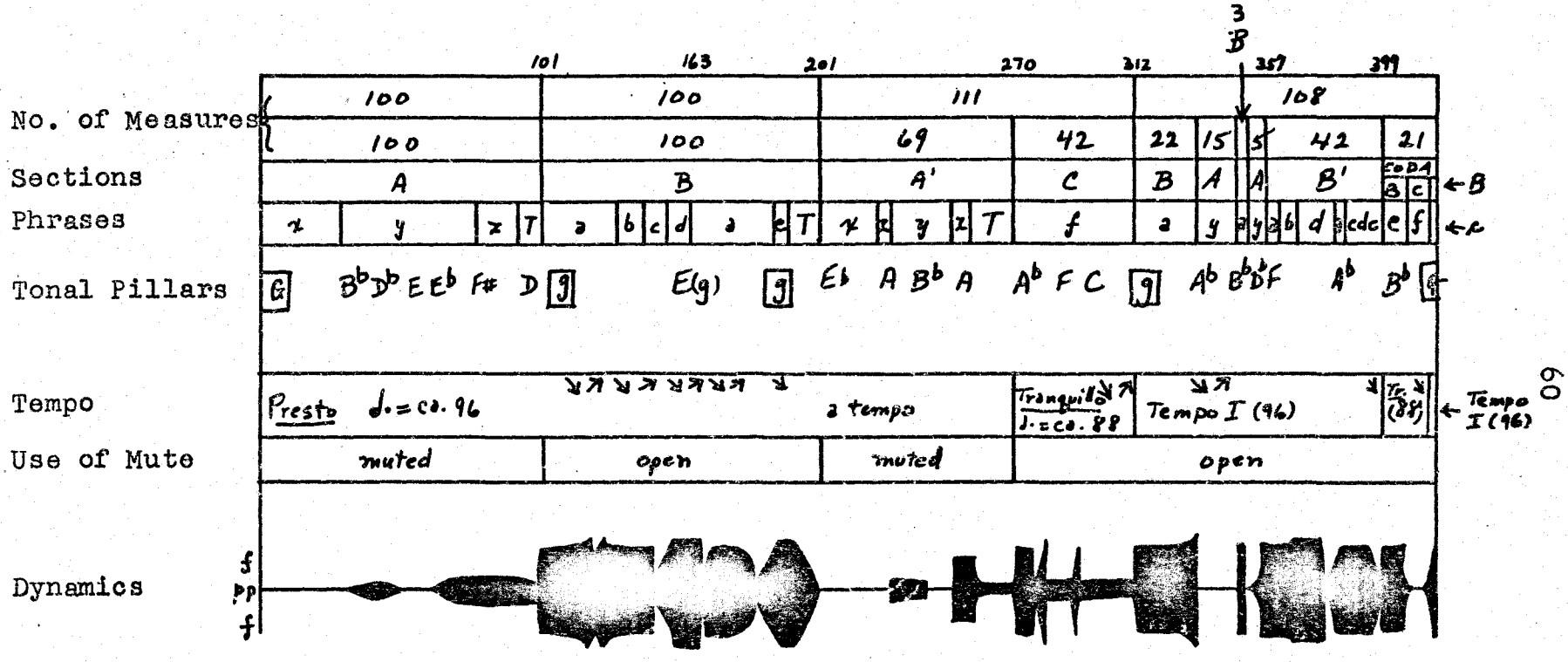
ANALYSIS OF FOURTH MOVEMENT

Presto

1. Form and Harmony

The fourth movement is in the form of a rondo, with unusual fragmentation of the rondo sections in the latter part of the movement (perhaps suggesting a relation to arch form). It could be called either a rondo-fantasy, or a rondo with a development section near the end: A, B, A', Development, B', Coda. The tonal pillars G major and G minor tend to define the movement in four large, more or less equal, segments, each lasting a little more than a minute: 1) A, 2) B, 3) A' and C, and 4) Development of B and A, B', and Coda (see Graph 4 on page 60). However, some parameters tend to define the following division of the movement into four parts: 1) A, 2) B, 3) A', and 4) New Material (C), Development of B and A, and Coda. These parameters are: 1) the use of open strings plucked with the left hand (marked phrase T on graph 4 on page 60) to link A, B, A', and C; 2) the mute changes during the same phrases T; and 3) the strong A^b (Neapolitan level) tonal pillars which appear at measures 270 (section C), 334 (an A section), and 385 (the second part of

Graph 4. Fourth Movement: Presto: Rondo Form. Formal Superimpositions: Sections, Phrases, Tonal Pillars, Tempo, Use of Mute, Dynamics.



B"). Tempo and dynamics tend to support either plan of dividing the movement into four large sections, since they are uniquely associated with the motivic material. The tempo change to tranquillo, ♩. = circa 88, is associated with section C (plus the first eight measures of the coda, which is B material). The A material is presented basically at a pianissimo level, B material at a forte level, and C material at a piano level of dynamics.

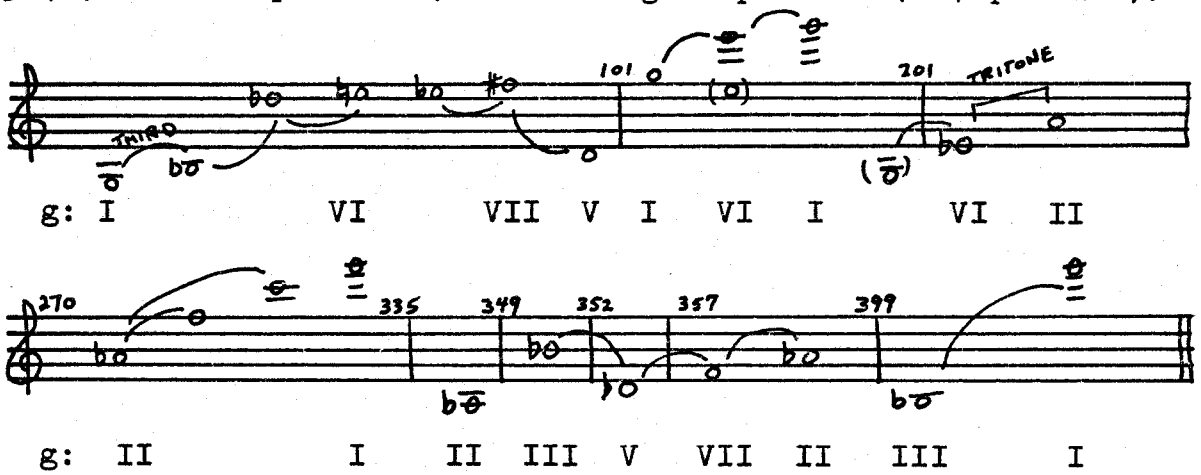
The total number of measures containing A material is 189 (45%); B material is found in 179 measures (43%); and C material occurs in 50 measures (12%). In terms of actual elapsed time, the total of B material approaches that of A, because it contains many short-term tempo alterations such as ritardandi. Since the C material is entirely in a slower tempo, the percentage of C material in time becomes somewhat larger, while that of both A and B become somewhat smaller.

The root movement between the tonal pillars, in order of decreasing frequency of occurrence, is: by third, by step, by perfect fourth or fifth, and by tritone (see Example 13 (a) on page 62), the same priority of intervals as is found in the first and third movements; the second movement favors the root movement priority: by step, by perfect fourth or fifth, by third, and by tritone.

Planing is used in the form of parallel double stops in the following measures: major or minor sixths, measures 120-123, 125-127, and 330-332; perfect fifths, measures

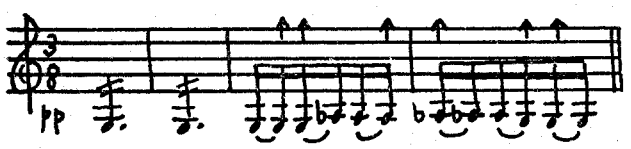
Example 13. Harmony.

13 (a). Tonal pillars (note strong Neapolitan (II) pillars).

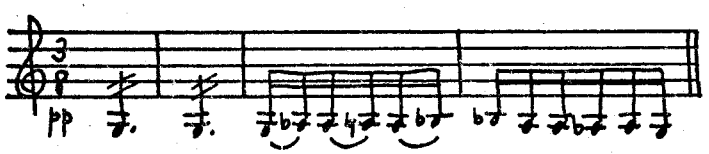


13 (b). Use of quarter-tones.

Original version (beginning):



Printed version (beginning), showing expanded intervals:



201-220 and 245-248; tritones (glissando), measures 354-256; and major ninths, measures 249-251 and 403-405. These measures understandably exhibit less harmonic function than other parts of the movement.

Quarter-tones were used in the fourth movement in the original manuscript, now located in the Bartók archives in New York City, but they do not appear in the published score. Ove Nordwall, in an article entitled "The Original Version of Bartók's Sonata for Solo Violin," includes the original versions of essentially all of the measures involving quarter-tones; the ones not given are the parallel measures in repeats and extensions of the same material (see Example 13 (b) on page 62).[1] The sections involving the use of quarter-tones are: A (x, y, and z), measures 1-92, and A' (x), measures 201-220. The microtones function as a structural device: the movement proceeds from microtonic chromaticism in the beginning to major diatonicism at the end. However,

> Even before he sent the completed score to Menuhin, Bartók had some doubts about the practicability of these passages, and in the half-page appendix of 'alternatives' that he provided at the end of the manuscript he noted down the ordinary chromatic version that appears in the published score. Menuhin shared Bartók's doubts, and feeling that the technical problem of giving the microtones adequate definition on the muted G string in fast tempo was too difficult, if not impossible, to solve, he has always performed the ordinary chromatic version. Unfortunately it was not established before Bartók's death whether he wished this version to appear as the definitive and sole text in the published score, and Menuhin, although still doubtful of the effectiveness of the

[1] Ove Nordwall, "The Original Version of Bartók's Sonata for Solo Violin," Tempo, LXXIV (Autumn 1965), p. 2-4.

> microtonal version, now feels that this version should have been printed beside the alternative, "if only as a curiosity."[1]

Robert Mann was the first artist to record the microtonal version; Yehudi Menuhin recorded, of course, the printed one.

2. Motives and Melody

This movement is reminiscent of Bartók's Divertimento for Strings and of the last movements of both of his earlier Sonatas for Violin and Piano. A few short segments in this movement recall moments in the previous movements: measures 46-49 recall measure 110 of the first movement (Tempo di Ciaccona) and measures 85-92 recall measures 111 and 114 of the first movement, while measures 185-188 recall measure 102 of the second movement (Fuga).

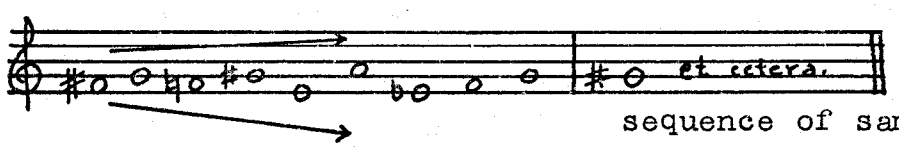
Sections A and B contain the phrases x, y, z, and T and a, b, c, d, e, and T respectively; T is a transition phrase. Section C contains the sole phrase f which is presented three times. Various rearrangements of and changes in the phrases take place in the course of the many alternations of A, B, and C material, especially during the latter part of the movement, as can be seen from Graph 4 on page 60. In general, both the sections and the phrases within them become increasingly shorter as the movement progresses.

Section A, phrase x contains extensions, sequences,

[1] Ibid., p. 3.

and repetitions of the opening motive; phrase y is a form of intervallic expansion of phrase x (compare measures 33-34 with 3-4); and phrase z contains a sequence under the drone $F^{\#}$, followed by transitions (phrase T). Section B, phrase a contains a sequence with extension, and a folk-like subphrase once on D and once on A, elaborating phrase a. Phrase b contains a sequence on a motive which "fans out" from $F^{\#}$, hidden by octave displacement (see Example 14 below). Phrase c contains a sequence on measures 139-141 which involves both compression of length and extension of the motive. Phrase d is a joyful double stop passage in E major which is extended by a sequence hidden again by octave displacement and repetitions in octave displacement of the motive $D^{\#}$-$F^{\#}$. Phrase a returns to begin the second part of B in measure 163; phrase a is developed by a series of three sequences, an example of development of variation already occurring during a statement section, so typical of Bartók. Phrase e is a short rhythmic figure in G minor, followed by the transition phrase T.

Example 14. Measures 128-133 actually form the following, hidden by octave displacement:



sequence of same.

Section A' is a version of A on E^{b} instead of on G, shortened by thirty-one measures. Phrase x is two-thirds as long as it was in the original, and is now presented in

parallel perfect fifths. Phrases z and y are rearranged, with z occurring next, interrupted by y. Part of y also occurs in parallel fifths. The transition phrase T occurs for the last time here. Section C features the lyrical phrase f first on A^b, then in inversion on C (in F), linked by a sequence version (in measures 289-291) of measures 278-280. Then phrase f is presented in the original form on C in imitation, with extensions, again involving a sequence on measures 278-280, this time with octave displacement.

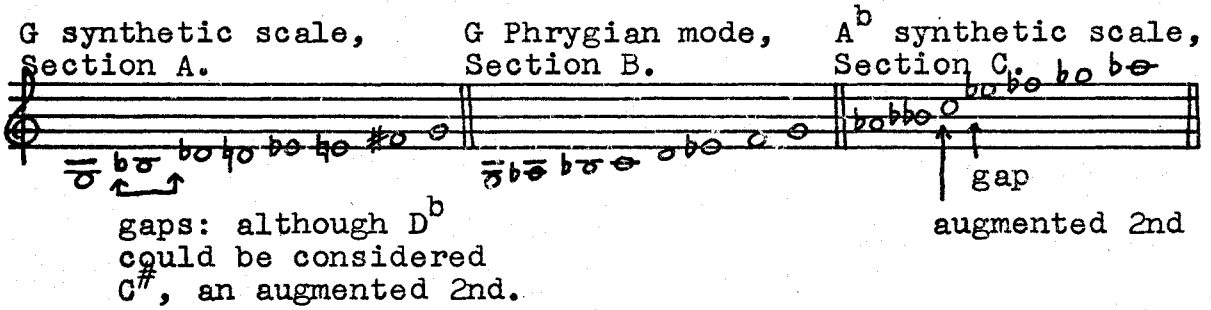
Next occur two sets of alternations between B and A material. Ba appears for twenty-two measures on G, then Ay appears for fifteen measures on A^b. Ba appears again but in a compressed and truncated form for only three measures on B^b, then Ay appears for five measures only on D^b in a parallel tritone version of its appearance, beginning in measure 334. These four shortened sections are followed by a restatement of B, with rearranged and fragmented phrases. Section B is designated B' here because, especially when it is linked with the phrase e material of the coda, it contains all of the phrases found in the original B section statement. Phrase a on B^b is represented by the first motive only, for five measures; phrase b on B natural is an inverted, shortened version of the original. Phrase d occurs next, with the repeated minor third now inverted to $F^{\#}$-$D^{\#}$, compressed and extended. The repeat of phrase a begins deceptively on A^b, but appears for only two measures; motives from phrases c (one measure)

and d (two measures) follow in close alternation, followed by phrase c again, extended. The coda (tranquillo) begins with Be material on B^b in slightly altered form, thus completing the restatement of B', making the coda seem less well defined as a separate section of the movement. Next follows an eight-measure version of phrase f of C, also on B^b, involving compression (elimination of the second measure), rhythmic change (♫♫ instead of ♩.♪ in measure 408), and reversal of measures 409-410 (see original, measures 273-274) with extension, pianississimo. Tempo I resumes for the last five measures, using a motive from Bc.

Each of the main motivic sections A, B, and C is based on its own scale or mode (see Example 15 on page 68). Section A is based on what some would term a "gapped synthetic scale." This section is very chromatic, especially if the quarter-tone version is used. Note the chromatic scales in measures 336-337 and 354-356. The tonal pillars in this section yield another synthetic scale: G, B^b, D^b, D natural, E^b, E natural, $F^{\#}$, and G, basically G minor. Section B is in the Phrygian mode on G, harmonized as G minor with a flat leading tone. Section C is built on the gapped synthetic scale A^b, B^{bb}, C, E^b, F^b, G^b, G natural, and A^b, having as its basis A^b major because of the major triad A^b-C-E^b. The scale in the last five measures of the movement is interesting, for it gradually shifts from one mode on G to another. The first octave contains G Phrygian mode; the second, G

natural minor through the changes A natural and E natural; and the third, G major, containing, however, B^{b} and the diminished third changing tones $C^{\#}$ and E^{b}, so typical of the mature Bartók.

Example 15. Scales associated with sections A, B, and C.



Certain sizes of intervals characterize the material in each section. Section A material contains small intervals, especially the minor second. Within the section B material, phrases are differentiated in this respect: phrase a is characterized by the perfect fourth and major second; phrase b, d, and e, by wide leaps; and phrase c is scalar. Section C material is characterized by the major and minor third and minor second.

The pitch range widens with each succeeding section, and, within section A, with each succeeding phrase, thus:

Section	Phrase	Range
A	x	minor seventh (g to f'^{b})
	y	octave plus tritone (b^{b} to e''^{b})
	z	octave plus minor sixth (b^{b} to $f^{\#}''$)

Total of A: octave plus major seventh (g to $f^{\#}''$)

Section	Phrase	Range
B	a	two octaves plus major seventh (g to $f^{\#'''}$)
	b	three octaves (g to g''')
	c	two octaves plus tritone (c' to $f^{\#'''}$)
	d	three octaves plus minor second ($g^{\#}$ to a'''')
	e	two octaves plus minor second (g to $a^{b''}$)

Total of B: two octaves plus major second (g to a''')

C	f	three octaves plus major sixth (g to $f^{b''''}$)

Total of C, and of the entire movement: the above. The highest note in the movement ($f^{b''''}$) occurs in the eleventh measure of the C section, which is exactly two-thirds of the way through the movement.

The movement has a lighter polyphonic texture than the preceding movements, especially the first and second ones. One voice is predominant, with some chords, and a few passages in double stops, mostly planed (id est in parallel motion) and thus with lessened contrapuntal value.

Folk influences include the melodic augmented second, especially in section C, repetition a fourth below (exempli gratia measure 123), the many Magyar melodic fourths (exempli gratia measures 103-104, 107, and especially 110-117), and the rhythm ♫. in section B, phrase b.

3. Rhythm

Rhythmic texture is used to help differentiate the various sections. A contains virtually nothing but motoric sixteenth notes. Within B the phrases are differentiated as

follows: phrase a, a dotted figure in hemiola; phrase b, ♫. ; phrase c, sixteenth notes; phrase d, ♫♫ ; and phrase e, ♫ and ♩ . Section C (tranquillo) contains the dotted figure ♫♪♪ .

Metric shifts occur frequently throughout the movement. Hemiola is associated with B (phrases a, b, and last part of d); it is also created through augmentation in measures 302-303. Other metric shifts include the aural perception of various metric patterns in the following measures: measures 21-27 form six measures of 2/8 plus four measures of 3/16 and one measure of 2/8; measures 87-96 form eleven measures of 2/8 plus one measure each of 3/8 and 5/8; measures 177-184 form six measures of 2/4; measures 185-188 form the pattern 3/8 2/8 2/8 2/8 2/8 1/8; measures 345-348 form a rhythmic accelerando, thus: 6/16 4/16 3/16 3/16 2/16 2/16 2/16 2/16; and measures 399-406 form the pattern 4/8 3/8 3/8 2/8 2/8 4/8 4/8 2/8.

4. Compositional Devices

Interesting devices in this movement include 1) the use of the mute, 2) the use of left-hand plucked open strings in the phrase T transitions, which function to allow the player to put on or take off the mute and to turn the page with his right hand, 3) the slide in measure 383 between two tones a minor third apart, and 4) the glissando in measures 355-356 in tritones. Drones are not used as conspicuously as

in the first and second movements; however, there is more conscious use of open strings in other contexts (left-hand pizzicato in phrase T, and some open string sixteenth-note repetitions in the A material). Open string drones used include those in measures 232 (A), 234-238 (D), 338 (D), and 344 (E). Drones on fingered pitches include those in measures 80-86 ($F^{\#}$), 221-225 (A), 226-227 (B^{b}), 229 (B natural), 302-304 (A^{b}), and 341 (E^{b}).

Difficulties for the player include the punta d'arco tremolo bowing with its interspersed patterns of slurring, the intonation problems associated with the reach of a tenth in the first position in measures 85 and 405, and the fingering of quarter-tones, if the microtonal version is used.

CONCLUSION

Following is a summary of style elements perceived through analysis of the work. The movements complement and balance each other in terms of dynamics, tempo, length, and texture; however, there is no cyclical element beyond that of a few instances of motivic cells recalled from previous movements. The division of the movements into sections is somewhat ambiguous, though always clear with respect to at least one parameter. In the work as a whole, root movement by third predominates, followed by step, by perfect fourth or fifth, and by tritone, except in the second movement, where root movement by step predominates, followed by perfect fourth or fifth, by third, and last by tritone.

Vertical harmony is generated by mode and by synthetic and pentatonic scales, and by counterpoint, which is very important in accounting for the harmony between tonal pillars. Major and minor forms of the same chord appear often, either together or in succession. The harmonic rhythm in general is not fast. The use of planing contributes to harmonic ambiguity. All twelve chromatic semitones are not only used in each movement, but introduced promptly near the beginning of each movement. Repeats of sections or phrases are virtually always shorter, on a higher tonal level, and phrases within

sections are often rearranged (exempli gratia the intertwining of themes in the first movement just before the coda, or the rearrangement of phrases in B' of the last movement). Immediate development occurs after the introduction of nearly every motivic idea through sequence, inversion, expansion and compression of intervals, extension and fragmentation, and free melodic embellishment. Most of the phrases and sections have a similar melodic contour, the center being higher than either the beginning or the end.

The range of the composition as a whole is nearly four octaves; the highest pitch in each movement is reached only once in that movement. The pitch e'''' (or f^{b}'''') is the highest note in the first, second, and fourth movements, while for the third movement it is f''''. Folk elements readily recognizable include the Magyar melodic fourth, repetition of a phrase a fifth higher, and the rhythm or . Metric shifts occur frequently; as a special usage, hemiola is associated particularly with one particular phrase-motive in the last movement. Rhythmic density (id est amount of rhythmic activity) is greatest, naturally, in the areas of climax. Regular rhythmic variations include augmentation and diminution; irregular or free variations include 1) expansion and compression, 2) triplet version of a duple original and vice versa, 3) altered details of rhythm, exempli gratia length of dotted note in a dotted figure, and 4) repeated notes. Most of the idiomatic violin special effects are

present, with the exception of off-string bowings such as spiccato. Two text-painting devices are used: the imitation of the cimbalom and of bird calls. The dynamic range is very wide, ranging from ppp to sff.

Bartók's Sonata for Solo Violin has the following elements of style in common with Baroque compositions of a similar nature, especially those by Bach: 1) the general principle of contrast; 2) the number (four) and order (slow-fast-slow-fast arranged in two pairs of approximately equal length) of movements of the sonata da chiesa; 3) the "picardy third" endings of the outer movements; 4) many similar chords and figurations; 5)  texture appearing quite often; 6) chaconne rhythm, meter, and tempo (Tempo di ciaccona) and gigue triple meter and motoric rhythm (Presto); 7) frequency of contrapuntal devices; and 8) basically one steady tempo prevailing in each movement (the tempo changes are all most subtle and do not exceed 20% change in either direction from the original).

Bartók's most mature style is well illustrated by this Sonata: he returned to more conventional forms; there is an atmosphere of great control in his later works and analysis reveals much conscious planning and balancing of effects without necessarily rigid adherence to traditional classical proportions within each movement. The use of continuous variation technique is so subtle, so seemingly natural and inevitable, that the listener is often not

consciously aware of its richness. The work is based on tonality and function and is less abstract than many previous works, such as the Third and Fourth Quartets and even the much earlier Sonatas Nos. 1 and 2 for Violin and Piano. The tritone assumes less importance, structurally and melodically, than it had had in some earlier works. The use of contrapuntal devices is especially characteristic of his last period; he had become an admirer of Bach (note the amount of counterpoint in both the Concerto for Orchestra and the Third Piano Concerto, the works which were composed just prior to and just after this Sonata). Folk materials had been so completely absorbed by Bartók that they became an unconscious part of his creative process, and could not have been excluded, even on purpose, from a conservative work of "pure" music such as this piece. Thus the work is infused, but mostly indirectly, with folk elements.

The structure is sound; it has both unity and variety. The work is serious but not overbearing, clever but not vulgar. It is full of dance-like rhythms and special effects, especially at places where the counterpoint could have become tedious.

While the work is not designed per se to demonstrate the performer's technical prowess, it is very much a violinist's piece; it sounds well for the instrument. Because many passages do lie conveniently for the violinist, the performer is enabled to do more than just play the notes (a problem

with some other works in the repertory for unaccompanied violin). For these reasons, listeners who have tended to avoid performance of works for violin alone because of the unpleasant and awkward visual and aural effect produced by an artist obviously struggling with the music find such a welcome and refreshing change in Bartók's Sonata for Solo Violin.

BIBLIOGRAPHY

Music

Bartók, Béla. Sonata for Solo Violin. London: Boosey & Hawkes, 1947.

Books

Demény, János, ed. Béla Bartók - letters. Translated from the Hungarian by Péter Balabán and István Farkas; translation revised by Elisabeth West and Colin Mason. Budapest: Corvina, 1971.

Helm, Everett Burton. Béla Bartók in Selbstzeugnissen und Bilddokumenten. Reinbeck bei Hamburg: Rowohlt, 1968.

Lendvai, Ernö. Béla Bartók: An Analysis of His Music. London: Kahn and Averill, 1971.

Moreux, Serge. Béla Bartók; sa vie, ses oeuvres, son langage. Paris: Richard-Masse, 1949.

Stevens, Halsey. The Life and Music of Béla Bartók. New York: Oxford University Press, 1953.

Szabolcsi, Bence. Béla Bartók. Leipzig: Reclam, 1968.

Ujfalussy, Jósef. Béla Bartók. Translated by Ruth Pataki. Budapest: Corvina Press, 1971.

Articles

Doflein, Eric. "Über Bartóks letzte Lebensjahre." Mersmann-Festschrift. Kassel, 1957. (Pp. 30-43.)

Nordwall, Ove. "The Original Version of Bartók's Sonata for Solo Violin." Tempo, LXXIV (Autumn, 1965), 2-4.

Petrovitsch, Brigitte. "Studien zur Musik für Violine Solo 1945-1970." Band LXVIII of Kölner Beiträge zur Musikforschung. Edited by Heinrich Hüschen. Regensburg: Gustav Bosse Verlag, 1972.

Twittenhoff, W. "Das Violinkonzert von Béla Bartók." Mersmann-Festschrift. Kassel, 1957. (Pp. 143-157.)

DISCOGRAPHY

Bartók: Sonata for Solo Violin

Banat, Gabriel. Cutty 102.

Bress, Hyman. Folkways 3354.

Garay, György. Eterna 8 20 401.

Gertler, André. Artia S-711, Supraphon SUA 10481, Angel 35091.

Gitlis, Ivry. Dover 5211.

* Mann, Robert. Bartók Records 916.

Menuhin, Yehudi. Electrola E 80544.

Ricci, Ruggiero. London STS-15153.

The following recording was slated "to appear in the near future," according to the (1965) Ove Nordwall article cited in Chapter IV, and included in the bibliography:

* Kolisch, Rudolf. Wergo-Schallplatten.

* = original version (with quarter-tones)