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TEXTURE AS A STRUCTURAL DETERMINANT IN SELECTED WORKS OF BÉLA BARTÓK

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ABSTRACT

The objective of the thesis was to determine if texture functions as a structural device in three compositions by Bela Bartok. Articulation of form by textural placement and manipulation was the primary concern of the study. Methods for textural organization were grouped under three categories: textures related to thematic material, textures related to form, and manipulation of textural constituents as related to form.

The following works were selected for textural analysis:

Miraculous Mandarin (1919)

Music for Strings, Percussion and Celesta (1936)

Concerto for Orchestra (1943)

Each composition was subjected to formal analysis. Definitions of texture types then were established, and specific textures were labeled. The data were organized and placed in tables listing texture types, formal units, average textural lengths, and durations and percentages of use; the information was subjected to analysis according to the methods for textural organization.

It was found that texture is a structural determinant in the three compositions. Although texture was not the only parameter that contributed to the delineation of form, it did articulate single phrases, phrase groups, and sections. Textural progressions, contrasting textures, and contrasting textural rhythms were found to be prominent techniques for differentiating and shaping formal units.

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CHAPTER I

INTRODUCTION

The Problem

The objective of the thesis is to determine the extent to which texture functions as a structural device in three compositions by Béla Bartók. The study primarily investigates the role of texture in articulating form; this entails an examination of textural manipulations within and between formal units on various structural levels. Several methods for projecting texture as an organizational parameter are listed below.

A. Textures related to thematic material
    1. Textures used as a thematic unit
    2. Textures associated with a theme (thematic idea)
B. Textures related to form
    1. Textures used as a primary means of contrast between sections
    2. Contrasts of textural stability between sections
    3. Specific textures or texture changes associated with particular section types (e.g., homophonic with thematic sections, polyphonic with transitional sections, or hybrid textures with developmental sections)
C. Manipulation of textural constituents (as related to form)
    1. Textural progressions of increasing or decreasing complexity

2. Textural progressions by a change of density within a single texture

The study is concerned primarily with techniques of textural organization rather than style. The works chosen for investigation are:

Miraculous Mandarin (1919)

Music for Strings, Percussion and Celesta (1936)

Concerto for Orchestra (1943)[1]

The extended length of each composition provides adequate opportunity for textural development; the large ensembles provide adequate opportunities for textural variety.

Definition of Terms

Definitions of "texture," of related terminology, and of texture types have been established as a basis for analysis. Dr. Willi Apel, writing in The Harvard Dictionary of Music, defines texture as consisting of horizontal and vertical elements.[2] Walter Piston defines texture as

> . . . what components or elements make up the fabric of music . . . such features as melody, harmonic background or accompaniment, contrapuntal lines, chords, etc.[3]

Anne Carothers Hall states that

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[1]The compositions will be referred to subsequently as Mandarin, MSPC, and Concerto, respectively.

[2]Willi Apel, "Texture," The Harvard Dictionary of Music, 2nd ed. (Cambridge, Mass: Harvard University Press, 1973), p. 842.

[3]Walter Piston, Orchestration (New York: Norton, 1955), p. 356.

> The number of concurrently sounding constituents, their disposition, and the relations between them create the characteristics and qualities of musical texture.[4]

Because these definitions fundamentally agree, they are combined for the purposes of this study. Thus, texture is defined as the arrangement and interaction of the horizontal and vertical events (i.e., pitches, chords, lines) that constitute musical sound.

Before proceeding to the specific textures, additional terms must be defined.

Line--a succession of durations and pitches perceived as a unit. A unison does not form another line; an octave doubling does, however.[5]

Voice--a succession of durations and pitch intervals perceived as a unit. A single voice includes a line and all its melodic doublings at any interval.[6]

Horizontal density--the number of attacks per unit of time

Vertical density--the number of lines sounding (layers)

Blocked--an abrupt change of texture

Terraced--a progression from one texture to another with one or more intermediate textures

Tapered--a gradual and continuous change from one texture to another

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[4]Anne Carothers Hall, Texture in Violin Concertos of Stravinsky, Berg, Schoenberg, and Bartók (Ann Arbor, Michigan: University Microfilms, 1971), p. 1.

[5]Ibid., p. 16.

[6]Ibid., p. 10.

Dovetailed--an overlapping of textures. One texture is ending while another is beginning

Textural progression--"a directed series of changes that effects either growth or recession in one or more aspects of music . . ."[7]

Textural rhythm--temporal patterning and frequency of textural changes[8]

The specific textures to be defined are monophonic, chordal, homophonic, heterophonic, polyrhythmic, polyphonic, contrapuntal, polythematic, hybrid types, and compound types. Texture sub-types are necessary in some instances.

Research has yielded the following composite definitions.[9]

Monophonic (MON)

1. Contains a single element ranging from a sustained tone to a melodic line
2. Emphasizes horizontal movement
3. Simplest of all textures

Sub-Type 1: A single melody, played in unison, by two or more instruments

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[7] Ibid., p. 12.

[8] Ibid., p. 18.

[9] The definitions and format of the definitions are based primarily on those found in A Comparative Textural Analysis of Selected Orchestral Works of William Walton and Paul Hindemith, by Jay C. Decker; The Harvard Dictionary of Music, edited by Willi Apel; and Orchestration, by Walter Piston. Additional references that aided the formation of these definitions are included in the bibligraphy.

Sub-Type 2: A single melody doubled in parallel intervals, which provides emphasis or thickening, but which does not create a new voice

Heterophonic (HET)

Simultaneous presentation of different versions of the same melody

Chordal (CHO)

1. Emphasizes vertical sonorities
2. Usually employs similar motion of lines
3. Pitch successions independent of voice-leading
4. Similar rhythms in all voices (homorhythmic)
5. May involve one prominent voice as a result of register

Sub-Type: Dissimilar rhythmic patterns in all voices (hetero-rhythmic)

Homophonic (HOM)

1. Contains two elements: Melody and accompaniment
2. Rhythmic differentiation of primary importance
3. A single melody, played in succession, by at least two instruments, but not with overlapping or imitation

Sub-Type: Contains an added counter-melody or secondary melody (often fragmentary)

Contrapuntal (CPT)

1. Imitative presentation of melodic units of similar design and equal importance
2. May involve overlapping entrances
3. May include minimal accompanying material

Polyphonic (POL)

1. Simultaneous use of two or more voices of near equal importance
2. Emphasizes horizontal movement
3. Rhythmic differentiation of primary importance
4. May include minimal accompanying material

Polyrhythmic (PRH)

1. Simultaneous use of contrasting rhythms in different voices
2. Usually emphasizes rhythmic variety for special effect

Polythematic (PTH)

1. Simultaneous use of two or more independent and previously established thematic units
2. Emphasizes horizontal movement
3. May include minimal accompanying material

Hybrid Textures (HYB)

Attributes of two or more textures combined into a single texture[10]

Compound Textures (COM)

Simultaneous presentation of two or more distinct textures

It is assumed that a texture becomes more complex as its elements become more independent or as more elements are added. The monophonic texture is the simplest type because it consists of a single element.

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[10]Chorale writing, as associated with the style of J. S. Bach, combines the homorhythm of the chordal texture with the voice-leading and horizontal emphasis of the polyphonic texture.

Being elaborations of a single element, the chordal and heterophonic textures are more complex than the monophonic. The relative complexities of chordal and heterophonic types are dependent upon density and activity level. The homophonic texture is next in complexity because it contains two distinct elements, a melody (foreground) and an accompaniment (background). The contrapuntal texture contains at least two successive and equally important presentations of a single idea, challenging foreground-background analysis. The polyphonic, the polyrhythmic, and the polythematic textures are more complex than the contrapuntal type. Each of these textures presents two or more independent voices of near equal importance.

As textures become more complex, more tension is created. In addition, as more systematic texture changes are made, or as the texture becomes more ambiguous, greater expectation of change is created. For example, the obscuring of the foreground-background relationship in the contrapuntal, polyphonic, polyrhythmic, and polythematic textures creates an expectation of change to a simpler texture. The relative complexities of the hybrid and complex types are dependent upon the textures that are combined in these types. A hybrid combining homophonic and contrapuntal textures is more complex than either homophonic or contrapuntal textures but is less complex than a polyphonic one. Homophony in a hybrid implies a well-defined foreground-background relationship, and a contrapuntal texture in the same hybrid implies that either the foreground or the background contains prominent use of imitation. Because the hybrid retains the foreground-background relationship of homophony, it

is less complex than the nearly equal and independent voices of a polyphonic texture. The relative complexities of all texture types are subject to the musical context and cannot be assigned absolute values.

The Need for the Study

There is little literature on musical organization by means other than pitch, and research is needed to determine the extent to which texture has functioned in this capacity. Richard Delone supports the need for additional research on texture when he points out that

> delineation of form through texture rather than through tonality and/or melodic themes has taken on an unprecedented significance in a great deal of twentieth-century composition . . . .[11]

Delone provides evidence of the structural use of texture in Webern and adds that

> In much twentieth-century music . . . texture has assumed a dominant position in the delineation of form and the creation of continuity.[12]

Anne Carothers Hall suggests the structural significance of texture when she says

> Not only does texture differentiate structural units, by changing between them, but, at least equally important, texture shapes structural units, by changing within them.[13]

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[11]Richard Delone, Vernon Kliewer, Horace Reisberg, Mary Wennerstrom, Allen Winold, and Gary Wittlich, Aspects of Twentieth-Century Music, ed. Gary Wittlich (Englewood Cliffs: Prentice-Hall, 1975), p. 67.

[12]Ibid., p. 88.

[13]Hall, op. cit., p. 10.

The organizational potential of texture should be explored from a theoretical viewpoint for advantages and disadvantages.

The procedures adopted in the present study may be applied to the works of other composers, and common uses of texture may be classified (e.g., according to function, medium, style). From the classification, the areas that need further research can be determined, and new uses of texture can be investigated and developed.

Procedure for Analysis

Collection and Treatment of Data

The initial step was to analyze the form of the compositions.[14] Following the establishment of definitions for texture prototypes, specific textures were labeled. Tables listing texture types, durations, average lengths, and percentages of use were constructed for each composition. In the tables, no distinction is made between basic textures and their sub-types. The data are based on the length of segments in measures, and the calculations are rounded-off to the nearest integer.

The portion of each "Durations and Percentages of Use" table labeled "Without Hybrids" excludes the hybrid category in the tabulation of durations and percentages. The textures contained within the hybrids are counted separately; if a hybrid contains two textures, the number of measures in the hybrid is added to both texture categories. Examination and comparison of both portions of each table, with and without hybrids,

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[14] The forms of the compositions are labeled in Appendix A.

yields a more accurate account of the textural preference than would be yielded by an examination of only one portion of each table. A comparison of both portions of the tables provides information concerning the textures that are used in the hybrid types.

Problems of Textural Interpretation

Problems were encountered in labeling some textures. For example, some common orchestration techniques appear to be heterophonic. In the second movement of the MSPC, measures 495-504, the string groups are playing sixteenth-note scalar passages at a rapid tempo (♩ =168), and the contrabasses play fragments of the passages and punctuate each passage with a glissando. The passage is not considered heterophonic because sixteenth-note passages at the designated tempo would be difficult to perform on the contrabass.

Audibility of the lines is a primary criterion for identifying textures. In the MSPC, projection of the contrapuntal texture is complicated by the composer's specified seating plan for the two string groups. Measures 5-15 of the second movement present antiphonally what is primarily a monophonic line. The spatial separation of the string groups creates the impression of imitation; therefore, the unit is labeled contrapuntal.

The first unaccompanied statement of a fugue or imitative passage is problematic. Tempo and length of the subject affect the textural status and are taken into consideration. If the tempo is slow and the subject is relatively long, the subject is considered monophonic; at

fast tempos or with a short subject, the subject is considered as part of the contrapuntal texture. The initial statement of the fugue subject in the MSPC's first movement is labeled monophonic, because of the length of the subject (35 eighth-notes) and the moderate tempo (♪ =116-112). The fugue subject of the transition in the Concerto's fifth movement is labeled contrapuntal, because of the length of the subject (14 eighth-notes) and the rapid tempo (♩ =134-148).

CHAPTER II

PRESENTATION AND EVALUATION OF DATA

Textural Preference

The textural vocabulary makes prominent use of seven of the ten basic texture types: monophonic, chordal, homophonic, heterophonic, contrapuntal, polyphonic, and hybrid. There is a consistent use of these seven textures in the three compositions (refer to Appendix C, p. 73). The polyrhythmic texture is not used; the compound texture is used once in the third movement of the MSPC, and the polythematic texture is confined to the first movement of the Concerto.

Homophony is preferred in the three compositions. Only in the first movement of the MSPC and in the fifth movement of the Concerto does Bartók abandon his predilection for homophonic writing. The computations that exclude hybrids show that the MSPC and the Concerto have secondary emphases on contrapuntal textures, whereas the Mandarin has a secondary emphasis on heterophonic textures.

In the first four movements of the Concerto, homophony is used in at least 50 percent of the measures. The last movement shows a predominance of hybrid textures (48 percent), and the first and second movements have secondary emphases on this type. Monophonic and hybrid textures share the divided secondary emphasis of the third movement (19 percent each). No significant secondary texture exists in the fourth movement, and the fifth movement has a secondary emphasis on homophony. The

primary emphasis of the hybrids varies among the movements: contrapuntal and homophonic in the first, fourth, and fifth movements; contrapuntal, homophonic, and heterophonic in the third movement; and all types except monophonic in the second movement.

Homophony and hybrids are the preferred textures in the Mandarin, being used in 56 and 28.5 percent of the measures. The computations that exclude hybrid textures show a predominance of homophony (63 percent) without a significant secondary texture. These computations indicate a preference for homophonic and heterophonic types within the hybrids.

Homophony is the predominant texture in all of the MSPC movements except the first, which is primarily contrapuntal (38 percent). Homophony is never used in more than 40 percent of each movement. Secondary emphases in the first, third, and fourth movements are on hybrid textures; in the second movement, contrapuntal (27 percent) and hybrid (20 percent) types are secondary. The hybrids of the first movement make prominent use of contrapuntal and polyphonic textures, whereas the hybrids of each of the remaining movements make prominent use of contrapuntal, heterophonic, and homophonic textures.

Organization by Textural Preference

Contrasts and progressions of textures are prominent organizational techniques, although contrasts predominate.[1] Contrasts differentiate between adjacent structural units, marking the formal

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[1]The data pertaining to the discussion of texture emphasis is in Appendix C.

divisions. Main formal units are shaped from within by contrasts between internal units. A progressive change in textural preference usually anticipates the predominance of a texture in the succeeding formal unit.

Contrast

In the development of the Concerto's first movement, contrapuntal textures contrast the prominent homophony of the other formal units (Appendix C). The contrast provides variety and creates tension which is relaxed with the return to homophony in the recapitulation. The recapitulation contrasts polyphony in the principal theme area with homophony in the secondary theme area.

Contrast also projects the second movement's ternary structure; the B section's chordal and polyphonic emphasis relieves the homophony of the A sections (refer to the computations excluding hybrid textures). In addition, the introduction and coda provide textural contrast to the neighboring A sections, so that the movement is projected as a series of contrasting textural preferences.

The Concerto's fifth movement uses contrasts between main formal units and between sections within the recapitulation. The development section has the highest percentage of contrapuntal textures; it is the only one of the three units in which homophony is not used in over half of the measures (refer to the computations excluding hybrid textures). Within the recapitulation, the principal theme and retransition have a strong secondary emphasis on contrapuntal textures (27 and 43.5 percent) and contrast the second theme's prominent homophony and absence of any significant contrapuntal emphasis (8 percent).

The ternary form of the MSPC's first movement is arranged with contrasting adjacent sections. The polyphonic emphasis of the B section provides relief from the counterpoint of the A sections (Appendix C).

The high percentage of homophonic textures in the B section contrasts with the A sections, which contain no homophonic textures. Within the coda, polyphonic textures predominate; thus, the whole movement presents an alternation of contrapuntal and polyphonic emphases.

The second movement uses contrast to differentiate between main formal units as well as between the theme sections of the exposition. Contrapuntal textures are stressed in the exposition and coda, whereas homophonic textures are stressed in the development and recapitulation. The predominance of counterpoint in the exposition's principal theme establishes a contrast to the homophony of the secondary theme.

The arch form of the MSPC's third movement is projected by the use of a contrasting textural emphasis in the middle section. The computations that exclude hybrid textures show that the C section is the only section that is predominantly contrapuntal, although no single texture is used in over 30 percent of the measures; four different texture types are used in at least 17 percent of the measures.

Progression

Progressive changes in textural preference provide another technique for organization. For example, the exposition of the Concerto's fifth movement has a primary emphasis on homophonic textures with an increasing secondary emphasis on contrapuntal ones. The development section has a progressive decrease in the contrapuntal emphasis as the homophony

increases in anticipation of the recapitulation (subsections 2-4). Throughout the exposition of the MSPC's second movement, there is a progression from a contrapuntal to a homophonic emphasis. The development section begins with homophony that was prepared for in the exposition, after which the contrapuntal texture increases in importance. By the third subsection of the development, the two textures are almost equal in percentage of use. Following such transformations, the theme sections of the recapitulation provide increased stability of textural preference.

The Miraculous Mandarin shows little organization by textural contrast or progression (Appendix C). The influence of textural organization in the Mandarin is strongest in the category of textural change. The outer sections (A and F) place more emphasis on polyphonic textures than do the inner sections. A change in the secondary emphasis from chordal to heterophonic is evident in the computations without hybrid textures (sections A through E). As a result of the progressive increase in heterophonic textures, the high percentage of homophonic textures in A and TR1 (85 and 94 percent) gradually decreases to 56 percent by the final section.

Average Textural Lengths

Average textural lengths of the three compositions are similar, although the number of textural segments is diverse. Six-measure average lengths are preferred in the Mandarin and the MSPC, and a seven-measure average length is preferred in the Concerto; the number of textural segments is 94, 172, and 261, respectively. Each of the compositions ends

with a unit (Mandarin) or movement (MSPC and Concerto) that projects a greater average length than the beginning unit or movement.

Within the Concerto and the MSPC, movements with rapid tempos exhibit longer textural segments, whereas movements with slow tempos exhibit shorter textural segments (refer to Appendix B). An examination of average textural lengths in the Concerto shows that from the first to the third movement the average length decreases; from the third to the fifth movement the average length increases. This textural arch, with the central movement containing the shortest average length, is reflected in the tempo scheme (i.e., ♩. =88, ♩ =74, ♩ =73-64, ♩ =114, and ♩ =134-146). Adjacent movements of the MSPC use different average textural lengths that correspond to the tempos (i.e., four measures, 𝅗𝅥 =116-112; seven measures, ♩ =138-144; four measures, ♩ =66; and five measures, 𝅗𝅥 =130).

Organization by Textural Rhythm

Implied by average textural lengths, textural rhythms contribute significantly to the form building process.[2] Contrast of textural rhythm is a primary organizational technique which differentiates and shapes adjacent formal units. An accelerating textural rhythm is often used to prepare for a change of formal unit, whereas a slowing textural rhythm frequently stabilizes the end of a composition, movement, or section. Textural rhythm progressions are of secondary importance.

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[2]The data pertaining to the discussion of textural rhythm is contained in Appendix B.

Contrast

Organization by contrast is prominent in all of the Concerto movements except the fourth. Each of the main formal units in the first movement exhibits a contrast of textural rhythm (Appendix B). In the exposition, contrasting average textural lengths differentiate the two theme areas. Adjacent sections of the recapitulation project contrasting textural lengths, although the two theme areas share the same average length. In the development section, the fast textural rhythms of subsections one and four contrast with the slower rhythms of subsections two and three; the faster textural rhythms connect the development to the adjacent units. The ternary form of the second movement is reflected in the textural rhythms. The B section contrasts with the surrounding sections and has the shortest average textural length. The third movement is an arch form in which the central C section has the largest number of textural segments and the shortest average textural length (the fastest textural rhythm). No consistent use of contrast is established in the fourth movement: different average lengths are used in the first three sections, whereas the last three sections exhibit increased stability. Each of the main formal units in the fifth movement exhibits a contrast of textural rhythm. The theme areas of the exposition have contrasting average textural lengths as do the theme areas of the recapitulation and the adjacent subsections of the development.

In the MSPC, contrast is also a prominent technique of organization. The first movement's ternary form is projected by contrasting textural rhythms in adjacent sections; the B section has the shortest average

length and the greatest number of textural segments. The textural rhythm of the second movement's development section is much slower than those of the exposition and of the development. Within the exposition and recapitulation, contrasting average textural lengths are projected by the principal and secondary themes. The arch form of the third movement is arranged with the fastest textural rhythm in the middle section; the C section has the greatest number of segments and the shortest average textural length. Adjacent sections of the fourth movement are contrasted; however, the last two sections have the same average textural length, creating greater stability at the end of the movement.

Although consistent contrast between adjacent sections of the Mandarin is lacking, the grouping of sections by similar textural rhythms achieves unity on a higher level. The central group (sections B, TR2, and TR3) has a fast textural rhythm, and the beginning group (Introduction and sections A and TR1) and the final group (sections D, E, and F) have greater stability of textural length.

Progression

Although the technique is not used prominently or consistently, progressions of textural rhythms are used sometimes to prepare for a change of formal unit or to shape a composition or a unit. Most of the significant textural rhythm progressions cannot be inferred from the "Average Textural Length" tables; these progressions occur within units that have not been subdivided (e.g., the principal theme area of a sonata-form movement).

In the MSPC's second movement, the divisions within the main formal units progress to shorter average lengths (e.g., development: subsection one, fifteen measures; subsection three, eight measures). The averages show each unit's tendency to quicken the textural rhythm and to progress toward less stability of textural length in preparation for the next formal unit.

Increases in average textural lengths are evident in the exposition and development of the Concerto's first movement, whereas the same average textural length is used at the beginning and the end of the recapitulation. In the Concerto's second movement, the subdivisions of the A sections progress to shorter lengths in preparation for the next main formal unit. Average textural lengths exhibit an overall decrease in the exposition and in the recapitulation of the Concerto's fifth movement.

The "Average Textural Length" tables do not show the placement and progression of specific textural lengths within some of the structural units. For example, in the MSPC's second movement, some sections and subsections are organized by textural rhythm progressions. The movement primarily uses an accelerating textural rhythm (refer to Appendix A: principal theme and secondary theme of the exposition, principal theme and parts a and b of the secondary theme in the recapitulation, and coda); one slowing textural rhythm appears in the transition of the exposition. Similar textural rhythm progressions are used in the MSPC's fourth movement (e.g., sections A, C, D, G, and A''') and in the Concerto (e.g., fifth movement: principal theme of the exposition, second theme of the

recapitulation; third movement: A, B, and B'; and fourth movement: B, C, B', and A'').

Summary

The significance of textural organization is increased by the combined use of average textural lengths and of textural preference. The two ternary movements and the arch form movement of the MSPC use contrasting textures and contrasting textural lengths in their central sections. The contrast of textural emphasis in the first and second themes of the MSPC's second movement is reflected in the differing average textural lengths (first theme, four measures; second theme, nine measures). In the development section of the Concerto's first movement, the contrapuntal emphasis and six-measure average textural length contrast with the exposition's homophonic emphasis and nine-measure average length. The contrasting use of contrapuntal textures in the development's second subsection (the fifth movement of the Concerto) is reflected in that subsection's contrasting average textural length of twenty-six measures.

CHAPTER III

TEXTURE CHANGE

The contributions of texture change to the form building process can be observed in the shaping of structural units by patterned texture changes or by changes within a single texture. Examples of both types of texture change, and combinations thereof, are prevalent in the three compositions. In the Mandarin, Bartók shows a preference for changes within a texture and for combinations of texture change, but he shows no such preference in the other two compositions under study. Although many of the examples occur in connecting units (e.g., links, bridges, and transitions), texture change is not confined to units of a particular function. An attempt has been made to select examples that are representative of the various kinds of texture change.

Change Within a Texture

Changes within a texture are most often effected by a change in the number of voices or lines (layering or vertical density) or by a change in the activity level (horizontal density). In the three compositions under study, Bartók prefers layering techniques, although he consistently manipulates the horizontal density in contrapuntal textures.

Vertical Density

Increasing vertical density is used to connect formal units, creating tension and an expectation of change; decreasing vertical

density is used to achieve closure. A change in the number of instrumental doublings (timbral density) also can lend direction to a progression.

The Concerto's first movement contains a textural progression that increases the number of lines and instruments within a homophonic texture (example 1: measures 63-75).[1] The progression connects the introduction to the first theme of the exposition. Unison doublings of the woodwind motive, which is introduced by the bassoon in measure 63, are added in measures 63-71 and increase the timbral density. In measures 72-75, the vertical density is increased as more woodwind lines (octave doublings) are added to the texture. The increased density creates tension that is resolved with the arrival of a simpler texture. An increased rate of texture change, an accelerando, and an increase in dynamics also direct the progression.

The second movement of the MSPC contains another example of increased vertical density (example 2: measures 272-280). In the Concerto example, tension is increased in preparation for a new musical unit. The increased density in the present example's homophonic texture produces an antecedent-consequent type structure; measures 272-275 are answered in measures 276-279 by a unit containing similar melodic figures, but with the addition of six lines and five instruments.

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[1]The reader is referred to the scores of the three compositions as the lengths of the examples preclude their inclusion in the text. Call numbers for the scores are: Concerto, M1042, .B37, 1946, copy 2; Mandarin, M1520, .B27M54, 1955a; and MSPC, M1105, .B264M9, 1939.

The antecedent-consequent structure is used to achieve a different effect in the Mandarin (example 3: measures 266-272). Measures 266-268 present a theme in a relatively sparse texture containing five lines and three voices. As the theme is repeated and extended, the density is increased to eight lines and four voices in measure 268 and to ten lines and four voices in measure 272. The increasing density prepares for the change to a more complex hybrid texture in measure 273.

The progression from the MSPC's third movement heightens the effect of closure by a reduction in the number of lines in the texture (example 4: measures 36-42). The polyphonic texture is stable until measure 41, where a reduction in the number of lines commences; the celesta, harp, and strings drop out successively. Decreasing complexity, from eleven lines and six voices to five lines and three voices, prepares for a change of texture and effects a cadence (measures 43-45). A change is signaled when the celesta drops out in measure 41; however, the texture is stable until the rate of change (textural rhythm) increases in measure 42. The quickened textural rhythm is analogous to the change in harmonic rhythm which often occurs in the harmonic cadences associated with functional tonality of the eighteenth and nineteenth centuries.

At the end of the Mandarin's Introduction, decreasing vertical density within a texture produces closure (example 5: measures 67-75). The passage progresses from thirteen lines and four voices in measure 67, to ten lines and four voices in measure 69, to six lines and three voices in measure 72, and to three lines and two voices in measure 75. Resolution into a chordal texture is effected at measure 76.

Increasing density followed by decreasing density provides a connection between the C and B' sections in the third movement of the MSPC (example 6: measures 55-63). The passage begins with two lines in measure 55, increases to fourteen by measure 57, and is reduced again by measure 63. As the density decreases, another texture begins in measure 60, overlapping the texture of the present example.

Horizontal Density

Progressions of horizontal densities are produced most often by decreasing a contrapuntal texture's time interval of imitation. Again, increased activity and tension levels frequently create an expectation of change; progressions exhibiting decreased activity levels usually produce closure.

Increases of horizontal density prepare for a resolution into a monophonic texture, effecting a cadence in measure 65 (example 7: MSPC, II, measures 40-65). The example begins with a contrapuntal texture in which the time interval of imitation decreases from a quarter-note to an eighth-note (measures 41-53). The resulting increase in the activity level is continued with the constant eighth-note motion in measure 56. The time interval of imitation then decreases from a half-note to a dotted quarter-note and finally to a quarter-note (measures 58-61).

The fourth movement of the MSPC shows an increase in the horizontal density (example 8: measures 184-192). The imitations in the contrapuntal texture begin with no overlap (measure 184) and move through an overlap of one quarter-note to an overlap of two quarter-notes (measures 190-191); again, the progression resolves into a monophonic texture.

A decrease in the horizontal density produces a cadential effect and closes the B section of the Mandarin (example 9: measures 206-211). The eighth-note motion in the flute becomes fragmented (measure 207) and slows into single eighth-note attacks, with increasing durations between attacks (measures 208-210). The timpani's eighth-note motion slows into quarter-notes (measure 210), and the dyads in the bassoon and horn are separated by successively longer rests (from four eighth-notes to nine eighth-notes).

Changes in Vertical and Horizontal Densities

Most examples of change within a texture combine changes both in the rhythmic activity and in the number of lines or instruments. The previous examples have concentrated primarily on situations in which one type of density change predominates, although some of the examples used to illustrate one type of change do exhibit a combination of types. The following examples illustrate changes in both density types.

Increasing horizontal density succeeded by increasing vertical density comprises the first transition of the Mandarin (example 10: TR1, measures 129-160). The homophonic texture of measures 129-152 increases in rhythmic activity. In measures 152-160, the homophonic texture builds in vertical density. An abrupt increase from seven lines and three voices to nineteen lines and six voices begins this passage, followed by increases in the timbral density (measures 157-160). When the foreground is nearly obscured by the accompaniment, the increased density of the entire passage resolves into a chordal texture at measure 161. In addition to the increased vertical density internally,

the passage in measures 153-160 shows an increased horizontal density (rhythmic activity) as compared to measures 129-152.

Increasing vertical and horizontal densities within a hybrid texture connect subsection two of the development section to subsection three (example 11: Concerto, I, measures 258-271). The number of imitative lines increases in the first phrase (measures 258-264) and is answered by a similar phrase (measures 265-271); the time interval of imitation is reduced in the contrapuntal portion of the texture and increases the number of lines and the instrumentation in the accompaniment (woodwind section). The interval of imitation is reduced from a distance of three eighth-notes to two eighth-notes, and the lines of the accompaniment increase from two to five (measures 263-269). The overall density increases from seven lines and three voices to eleven lines and seven voices (measures 263-271), thus preparing for the texture change in measure 272.

The final measures of the Concerto exhibit increases in both horizontal and vertical densities (example 12: V, measures 616-625). Beginning with successive half-note attacks, the rhythm of the phrase progresses to eighth-note motion. The overall vertical density is increased from four lines and two voices to fifteen lines and five voices (measures 616-624). Within the second half of the phrase (measures 621-624), there is an increase from seven to fifteen lines and an increased rate of density change.

Change of Texture

Progressions involving changes of texture type are created by changes in textural rhythm, by changes in the complexity of texture type, or by a combination. An increase in complexity often signals a change to a different texture type, whereas a decrease in the complexity is often a part of a cadential process. A change in the textural rhythm can aid in the effect of a progression.

Organization of Phrases and Phrase Combinations

Increasing complexity begins the development section of the Concerto's first movement (example 13: measures 231-248). The progression begins with an alternation of monophonic and homophonic textures and proceeds to a hybrid which combines polyphonic and contrapuntal types. The two imitative voices become homorhythmic (measure 247) in preparation for the cadence (measure 248).

A decrease in the complexity of texture types creates a cadential effect at the end of the MSPC's second movement (example 14: measures 510-520). The polyphonic texture of measures 510-513 is succeeded by a contrapuntal texture (measures 514-516) that in turn is succeeded by a homophonic texture (measures 517-520). Tension created by the polyphonic texture is reduced in the contrapuntal texture, where a prominent line serves as an imitated foreground. The contrapuntal subject becomes the foreground of the homophonic texture and completes the progression.

The first movement of the MSPC has a cadential progression of decreasing complexity that is effected by a decrease in the rate of

texture change (example 15: measures 56-64). The progression consists of a textural alternation of monophonic and homophonic textures in which the textural segments increase in length from one measure (measures 56-58) to two measures (measures 59-64). The cadential progression functions as a bridge and prepares the entrance of the A' section. The alternation completes a larger progression from a polyphonic texture (measure 45) through a simpler homophonic texture.

The E section of the Mandarin is a textural arch of increasing, then decreasing textural complexity (example 16: measures 405-422). Beginning with a monophonic texture (measure 405), the music progresses through homophonic (measure 406) to hybrid textures (measure 414). Following the hybrid, the progression decreases in complexity from homophonic to monophonic (measures 417-422).

Textural Organization on a Larger Level

The Introduction of the Mandarin uses textures of increasing complexity (example 17: measures 1-35). The work begins with a monophonic texture and moves to a hybrid combining polyphonic and heterophonic textures (measures 3-10). At measure 11, the hybrid becomes an accompaniment for a homophonic texture (melodic interest in the trombone). The trumpet's entrance at measure 24 divides the foreground and transforms the texture into a hybrid of contrapuntal and homophonic types. The foreground becomes obscured at measure 33, where a hybrid of polyphonic and heterophonic textures begins. Lines added to increasingly complex textures build the tension until a change to a simpler homophonic

texture occurs at measure 35. The motion toward the cadence is emphasized by a quickened textural rhythm and a resulting decrease in textural lengths (homophonic texture, thirteen measures; second hybrid, nine measures; third hybrid, two measures).

The ending of the Concerto's first movement is increasingly complex (example 18: measures 488-521). The progression begins with the principal theme statement in a homophonic texture (measures 488-494), moves to a hybrid combining polyphonic and contrapuntal textures (measures 495-509), reaches a climax in a polyphonic texture (measures 510-513), and ends with a homophonic texture (measure 514). At measure 514, a textural cadence begins the coda and features an alternation of homophonic and monophonic textures. Within the coda, the segments become longer again (from three one-measure segments, to one three-measure segment, and finally to one two-measure segment).

The end of the exposition in the MSPC's second movement is designed as a textural arch: increasing complexity is followed by decreasing complexity (example 19: measures 113-182). Part of the progression functions as a bridge and prepares the entrance of the exposition's codetta, which cadences with a change of textural rhythm. The music progresses from chordal (measure 113), to homophonic (measures 115-127), to contrapuntal (measure 127). As the subject is shortened, the minimal accompaniment of the contrapuntal texture becomes more prominent (increased activity level); the changes transform the texture into a hybrid of contrapuntal and homophonic textures (measure 135). A polyphonic texture is reached in measure 142, completing the first half of

the arch progression. Following the polyphonic texture, there is a decrease in complexity to contrapuntal (measures 150-152) and homophonic textures (measures 153-155). A textural alternation in the codetta contrasts simple and complex textures. The alternation begins with homophonic and monophonic types (measures 155-169) and progresses to a hybrid (measures 170-172) that is followed by an alteration of chordal and homophonic textures. Closure is produced by the codetta's textural alternation and increased rate of texture change. The progression is analogous to a phrase of traditional functional harmony in which there is a progression toward the dominant followed by a cadence containing a change in the harmonic rhythm.

Examples Combining Change of Texture And Change Within a Texture

Most progressions combine the techniques common to changes of texture type and to changes within a texture. Changes within a texture often effect a change of texture type, and both textures may exist as part of a progression on another level. Many of the examples of the previous section combine both types of change; however, there is a predominance of texture change just as the predominant technique of the first section examples is change within a texture. The following examples combine the techniques more equally.

Example 20

The beginning of the Concerto's final movement presents a progression involving both an increase in the complexity of texture type

and an increase in the vertical density (measures 1-44). The texture types progress from monophonic to chordal to homophonic and to polyphonic. Within the homophonic texture, increasing vertical density leads to the polyphonic texture. Beginning with the perpetuum mobile theme in measure 8, three more similar entries are added to the homophonic texture at successively higher pitch levels (measures 12, 16, and 21); previous theme statements continue as new ones are added. At measure 32, the horn attacks divide the foreground interest and transform the texture into a polyphonic one. More lines are added to the polyphonic texture (measures 36-42), creating an expectation for a return to a simpler texture; this expectation is fulfilled in measure 44.

Example 21

A textural progression connects the D and B' sections of the MSPC's fourth movement (measures 114-136). The progression begins with an alternation of homophonic and monophonic textures in which the textural segments are reduced from one-measure to half-measure lengths. A contrapuntal texture follows, with decreasing (measures 121-128) and then increasing vertical density (measures 128-135). Accompanying the decreased density is a change in the time interval of imitation (horizontal density). As a result of the increase in the complexity of texture types and of the density manipulations within the contrapuntal texture, the music progresses to a homophonic texture, which begins the B' section (measure 136).

Example 22

Decreasing complexity is illustrated in a transition section from the MSPC's fourth movement; the music begins with a hybrid (contrapuntal and homophonic), progresses through a contrapuntal, and concludes with a monophonic texture (measures 15-25). Within the contrapuntal texture, the horizontal density decreases then increases. The time interval of imitation progresses from a dotted quarter-note to a half-note (measures 19-20) and then from a dotted quarter-note to a quarter-note (measures 22-23). In measures 24 and 25, the imitative lines merge, resolving into a monophonic texture. The progression functions as a bridge to the B section.

Example 23

In the Concerto's third movement (the second part of the A section), the texture types progress from complex to simple: from hybrid to homophonic and then from hybrid to homophonic to monophonic (measures 22-33). In addition, the first hybrid of contrapuntal and homophonic textures decreases in vertical density and quickens its textural rhythm. The first segment of the hybrid uses six lines in the imitation over a span of five measures (measures 22-26); the second segment uses five lines over a span of three measures (measures 26-28); and the third segment uses three lines over a span of two measures (measures 28-29). A textural cadence is effected by decreasing density and by an increase in the textural rhythm (measures 29-33). The progression connects the A and B sections.

Example 24

The texture change techniques are combined to shape section 3 of the Mandarin (measures 244-288). Beginning with an alternation of homophonic and hybrid textures, the music moves through another homophonic texture (measures 268-272) to a polyphonic one (measures 273-275). Following the increased complexity, the music progresses by decreasing complexity from a hybrid to a homophonic and to a chordal texture (measures 276-286).

Density changes coincide with the arch of texture types. Increasing density, within the first part of the progression, leads to the polyphonic texture (refer to example 3, p. 24); and decreasing vertical and horizontal densities, within the second part of the progression, answer the previous textural growth and produce closure. The latter part of the progression illustrates the interdependence of texture changes and changes within a texture; the changes within the textures are events that create the new texture types.

Example 25

The Introduction of the Mandarin is organized by two progressions that together form an antecedent-consequent type structure (measures 1-76). A textural progression of increasing complexity is followed by an arch progression; the antecedent portion is discussed on page 29 (refer to example 17). The second part of this larger structure is increasingly complex; it leads to a polyphonic texture, followed by decreasing textural complexity (example 25). The slightly greater length of the

second progression and the more varied textural design answer the first progression's steadily increasing complexity.

The second progression increases from homophonic to hybrid to polyphonic and decreases through a hybrid, which is interrupted briefly by a homophonic texture, to chordal. Increasing vertical density (measures 43-49) produces the polyphonic texture, after which decreasing vertical density produces closure (refer to example 5, p. 24).

Summary

Texture change is significant in shaping structural units of varying lengths. The structures of phrases, phrase combinations, and sections are projected and determined by manipulations of textural constituents. Changes within a texture usually organize units on smaller structural levels; changes between textures affect units on various structural levels.

Of the types of texture change, little consistency is evident in the use of blocked, tapered, and terraced types; however, terraced and tapered types are the most common. The prominence of gradual texture changes between formal units provides an overall continuity within each of the compositions.

Often no change of texture occurs between formal units; for example, the change from exposition to development does not always coincide with a texture change. Of the 48 changes between main formal units, 17 (35 percent) exhibit no change of texture. The statistic does not account for situations in which a change within a texture prepares for a change of formal unit.

The sonata-form movements retain textures only twice (13 percent) at the 15 main unit changes, whereas the part forms retain textures at 40 percent of the main unit changes. The texture retentions in the part form movements disguise structural divisions and achieve continuity. Of the 33 changes between internal units (i.e., lower case letter designations in part forms and units within the exposition, development, and recapitulation of sonata-form movements), 11 show no evidence of change of texture. A comparison of this 33 percent figure with the 35 percent figure for main formal unit changes indicates little attempt to differentiate between units on contrasting structural levels by the association of unit changes and texture changes. The only systematic contrast occurs in the Concerto's first movement, where the internal units of the exposition and development use a change of texture and those of the recapitulation do not.

CHAPTER IV

CONCLUSION

Textures Related to Thematic Material

Bartók has made little attempt to link texture to thematic material. Most often, the composer presents a theme in a relatively simple texture; thematic repetitions exhibit different textural settings and provide contrasting moods. In the MSPC, he presents the greatest number of examples of a theme recurring in the same textural setting. The second theme of the second movement is presented in a homophonic setting, while the principal theme is presented in contrapuntal, polyphonic, and homophonic settings. Throughout the composition, the cyclic theme of the first movement appears in varied textural settings. In the third movement of the same composition, the first movement theme, which occurs most often in a homophonic setting, is used to punctuate each section of the arch form. In the rondo movement, he presents the A section theme in a homophonic setting when it appears in the A sections; however, he presents the same theme in a contrapuntal setting in the F section.

Textures Related to Form

Contrast of textural emphasis is a common organizational technique in both the Concerto and the MSPC, especially between theme sections in the sonata-form movements. For example, the recapitulations of the

Concerto's first and fifth movements and the exposition of the MSPC's second movement use contrasting textural emphases between theme sections. The two ternary movements are arranged with contrasting textural emphases in the B section; however, the rondos and the arch form movements show less consistency of organization by textural emphasis.

Organization by contrast of textural rhythm is consistently associated with movements of a particular form. The central sections of the ternary and arch forms provide a contrast to the other sections; the contrast emphasizes a significant structural division and provides relief from the textural rhythms of surrounding sections. Except for the recapitulation of the Concerto's first movement, the theme areas of the sonata-form movements are differentiated by contrasting textural rhythms. The rondo forms use contrasting textural rhythms between all except the final sections; the latter show increased stability.

Manipulation of Textural Constituents

The placement of textural progressions in structurally important positions (e.g., between sections, and at the end of compositions) shows the significance of textural organization. In all of the compositions, textural manipulations and progressions connect formal units. Thematic sections generally contain stable textural segments, and transitions and bridges generally employ textural progressions; however, an apparently stable thematic section may function as part of a progression on a higher structural level.

Textural organization is used prominently in the three sonata-form movements. The expositions and codas of these movements end with textural progressions that effect closure (refer to the textures as outlined in Appendix A and to examples 12, 14, 18, and 19, pp. 27, 28, and 30, respectively). In addition, all of the recapitulations are prepared by textural progressions, as are the thematic sections following the transitions and retransitions (refer to the textures as outlined in Appendix A and example 7, p. 25).

Of the two ternary forms, the MSPC movement makes more prominent use of organization by textural progression than the Concerto movement. Progressions shape the sections of the MSPC movement and provide connections between them (refer to example 15, p. 29).

Sections of the arch form movements contain significant instances of textural shaping. Textural progressions are prominent in three of the sections of the Concerto's third movement (refer to the textures as outlined in Appendix A: sections A, C, and B') and in the A and C sections of the MSPC's third movement (refer to examples 4 and 6, pp. 24-25).

The two rondos show design by texture in many of the formal units. The Concerto's fourth movement rondo uses a patterned textural succession in the A and B sections. In each section, the theme is presented homophonically and is followed immediately by a varied repetition in a textural hybrid of increased complexity (refer to the textures as outlined in Appendix A); the A'' and B' sections present patterns that begin with a homophonic texture, progress to a more complex texture, and

return to a homophonic texture. The MSPC's fourth movement rondo uses progressions primarily to prepare succeeding formal units (refer to examples 21 and 22, pp. 32-33). Progression by textural density is a prominent organizational technique in the A', B', and B'' sections (refer to example 8, p. 25).

The composer uses textural progressions to organize introductions, transitions, and theme sections (refer to examples 5, 9, 17, and 25, pp. 24, 26, 29, and 34, respectively) in the Mandarin. There are more large level progressions in the outer sections (Introduction, TR1, and sections A, E, and F) than in the inner sections, reflecting an increased textural stability in the center of the composition.

Texture is a structural determinant in the three Bartók compositions; it articulates phrases, phrase groups, and sections. Formal units are differentiated by the use of contrasting textures and textural rhythms, and there is some consistency in associating textures with particular sections. Although Bartók uses tonal centers or tonal reference points, functional tonality is replaced by an abundance of textural progressions that provide direction and achieve closure.

BIBLIOGRAPHY

BIBLIOGRAPHY

Apel, Willi. "Chordal Style," "Contrapuntal," "Heterophony," "Homorhythmic," "Monophony," "Polyphony," "Polyrhythm," "Polythematic," "Texture." Harvard Dictionary of Music, 2nd ed., ed. Willi Apel. Cambridge, Mass.: Harvard University Press, 1973.

Christ, William, Richard Delone, Vernon Kliewer, Lewis Rowell, and William Thomson. Materials and Structure of Music, vol. I and II. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.

Decker, J. A Comparative Textural Analysis of Selected Orchestral Works of William Walton and Paul Hindemith. Ann Arbor, Michigan: University Microfilms, 1971.

Delone, Richard, Vernon Kliewer, Horace Reisberg, Mary Wennerstrom, Allen Winold. Aspects of Twentieth-Century Music, ed. Gary Wittlich. Englewood Cliffs, New Jersey: Prentice-Hall, 1975.

Delone, Richard. Music--Patterns and Style. Reading, Mass.: Addison-Wesley, 1971.

Hall, Anne Carothers. Texture in Violin Concertos of Stravinsky, Berg, Schoenberg, and Bartók. Ph.D. dissertation, University of Michigan. Ann Arbor, Mich.: University Microfilms, 1971.

Kroo, Gyorgy. A Guide to Bartók, tr. Ruth Pataki and Maria Steiner. Budapest: Athenaeum Printing House, 1974.

Lendavi, Erno. Béla Bartók: An Analysis of His Music. London: Kahn and Averill, 1971.

McKay, George F. Creative Orchestration. Boston: Allyn and Bacon, 1963.

Piston, Walter. Orchestration, 1st ed. New York: Norton, 1955.

Stevens, Halsey. The Life and Music of Béla Bartók, Rev. ed. New York: Oxford University Press, 1964.

Scores

Bartók, Béla. Concerto for Orchestra. England: Boosey and Hawkes, 1974.

_____. Music for String Instruments, Percussion and Celesta. New York: Boosey and Hawkes, 1939.

_____. The Miraculous Mandarin. New York: Boosey and Hawkes, 1955.

APPENDICES

APPENDIX A

APPENDIX A

TABLE A-1

TEXTURES AND FORMAL UNITS--

Concerto for Orchestra
(First Movement)

Form: Sonata		
Unit	Measures	Texture
INTRODUCTION	1- 6	MON
	6- 11	HOM
	12- 16	MON
	16- 21	HOM
	22- 29	MON
	29- 50	HOM
	51- 57	HYB(het+hom)
	58- 75	HOM
EXPOSITION		
Principal Theme	76	MON
	77- 78	HOM
	79	MON
	80- 93	HOM
	94	SIL*
Transition	95-109	HOM
	110-121	HYB(cpt+hom)
	122	HOM
	123-133	HYB(cpt+pth)
	134-148	HOM
Secondary Theme	149-154	CHD
	155-188	HOM
	189-191	MON
	192-197	HYB(het+hom)
	198-209	HOM
Codetta	210-223	HYB(cpt+hom)
	224-226	HOM
	227-230	MON

* A full measure rest is abbreviated SIL.

TABLE A-1 (continued)

Unit	Measures	Texture
DEVELOPMENT		
Subsection 1	231-232	MON
	233-236	HOM
	237-238	MON
	239-241	HOM
	242-248	HYB(cpt+pol)
Subsection 2	248-257	CPT
	258-271	HYB(cpt+hom)
Subsection 3	272	MON
	273-301	HOM
	302-311	HYB(cpt+hom)
	312	MON
Subsection 4	313-315	HET
	316-318	HYB(hom+pth)
	319-321	MON
	322	CPT
	323-324	HYB(cpt+hom)
	325-340	CPT
	340-341	MON
	342	HOM
	343	MON
	344	HOM
	345	MON
	346	HOM
	347-385	CPT
	386-389	HYB(cpt+hom)
	390-395	MON
RECAPITULATION		
Secondary Theme	396	CHD
	397-422	HOM
	423	MON
	424-446	HOM
	446-454	CPT
	455	HOM
	456-462	HYB(het+hom)
	462-466	HOM

TABLE A-2

TEXTURES AND FORMAL UNITS--

Concerto for Orchestra
(Second Movement)

Form: Ternary		
Unit	Measures	Texture
INTRO	1- 8	MON
A		
a	9- 24	HOM
b	25- 45	HOM
c	45- 47	HOM
	48- 51	HYB(het+hom)
	52- 57	HOM
	58- 59	MON
d	60- 63	HOM
	64- 65	HET
	66- 77	HOM
	77- 81	HYB(het+hom)
	81- 89	HOM
e	90-104	HYB(het+hom)
	105-109	HOM
	109-112	HYB(het+hom)
	113-116	HOM
	117	HYB(cpt+hom)
	118-122	HOM
B	123-126	HYB(chd+pol)
	126-128	HOM
	129-132	HYB(chd+pol)
	132-134	HOM
	135-138	HYB(chd+pol)
	138-139	HOM
	139-144	HYB(chd+pol)
	144-146	HOM
	147	MON
	148-156	HYB(chd+pol)
	156-158	HOM
	159-164	HYB(cpt+hom)

TABLE A-2 (continued)

Unit	Measures	Texture
A'		
a	165-180	HOM
b	181-188	HYB(hom+pol)
	189-192	HYB(het+hom+pol)
	193-195	HYB(hom+pol)
	195-197	HOM
c	198	HOM
	199-200	HYB(het+hom)
	201-205	HYB(het+pol)
	2 5-212	HOM
d	212-215	HOM
	216-217	HYB(het+hom)
	218	HOM
	219-223	HYB(het+pol)
	223-228	HOM
e	228-244	HYB(het+hom)
	244-248	HOM
	249	HYB(cpt+hom)
	250-252	HOM
CODA	253-257	CHD
	258-260	HOM
	261-263	MON

TABLE A-3

TEXTURES AND FORMAL UNITS--

Concerto for Orchestra
(Third Movement)

Form: Arch

Unit	Measures	Texture
A	1- 4	MON
	5- 9	CPT
	10- 18	HYB(het+hom)
	19- 20	MON
	21	HOM
	22- 29	HYB(cpt+hom)
	29- 30	HOM
	31	HYB(cpt+hom)
	32	HOM
	33	MON
B	34- 44	HOM
	45- 47	POL
	48- 61	HOM
C	62	MON
	63- 64	HOM
	65	MON
	66	HOM
	67	MON
	68- 72	HOM
	73	MON
	74	HOM
	75	MON
	76	HOM
	77	MON
	78	HOM
	79	MON
	80- 83	HOM
B'	84- 91	CPT
	92- 93	MON
	94	HYB(het+hom)
	95	HOM
	96	HYB(het+hom)
	97- 99	HOM
	100	MON

TABLE A-3 (continued)

Unit	Measures	Texture
A'	101-105	MON
	106-110	HYB(cpt+hom)
	111	MON
	112-126	HOM
	127	MON
	128	HOM

TABLE A-4

TEXTURES AND FORMAL UNITS--

Concerto for Orchestra
(Fourth Movement)

Form: Rondo		
Unit	Measures	Texture
A	1- 3	MON
	4- 12	HOM
	13- 20	HYB(hom+pol)
	21- 24	HOM
	25- 32	HYB(cpt+hom)
	33- 42	HOM
B	43- 50	HOM
	51- 58	HYB(cpt+hom)
	59- 60	POL
	61	MON
A'	62- 67	HOM
	68	CPT
	69- 75	HOM
C	75- 84	HOM
	85- 86	CHD
	87- 89	HOM
	90- 91	MON
	92-103	HOM
	104-105	CHD
	106-112	HOM
	112-113	CHD
	114-119	HOM
B'	120-127	HOM
	128-131	CPT
	132-135	HOM
A''	136-143	HOM
	144-149	HYB(cpt+hom)
	150-151	HOM

TABLE A-5

TEXTURES AND FORMAL UNITS--

Concerto for Orchestra
(Fifth Movement)

Form: Sonata		
Unit	Measures	Texture
INTRODUCTION	1- 4	MON
EXPOSITION		
Principal Theme	5- 7	CHD
	8- 31	HOM
	32- 43	POL
	44- 50	HOM
	51	CHD
	52- 58	HYB(cpt+hom)
	59- 73	HYB(hom+pol)
	74- 78	HOM
	78- 86	CPT
	87- 88	CHD
	89- 95	HOM
	96-108	HYB(cpt+hom)
	108-112	HOM
	112-126	HYB(cpt+hom)
	126-132	HOM
	132-137	HYB(hom+pol)
	138-144	HOM
	145-147	MON
Transition	148-161	CPT
	161-171	HOM
	172	MON
	173-175	HOM
	176-188	HYB(chd+cpt)
	188-191	HOM
	192-195	HYB(het+hom)
Secondary Theme	196-200	HOM
	201-234	HYB(cpt+hom)
	234-243	HOM

TABLE A-5 (continued)

Unit	Measures	Texture
Codetta	244-248	HOM
	249-254	CHD
	255	MON
DEVELOPMENT		
Subsection 1	256-258	CHD
	259-265	HOM
Subsection 2	265-313	HYB(cpt+hom)
	314-317	HYB(cpt+het)
Subsection 3	317-321	HYB(cpt+hom)
	321-324	HOM
	325-328	HYB(cpt+hom)
	329-332	HOM
	333-337	HYB(cpt+hom+pol)
	338-344	HOM
	344-352	CPT
	353-356	HYB(het+hom)
Subsection 4	356-364	CPT
	365-378	HOM
	379-383	CHD
RECAPITULATION		
Principal Theme	384-407	HOM
	408	CHD
	409-410	MON
	411	POL
	412	CHD
	413-415	HOM
	416-417	MON
	418-425	POL
	426-429	HYB(cpt+hom)
	430-432	CHD
	433-468	HYB(cpt+hom)
	469-482	HYB(hom+pol)

TABLE A-5 (continued)

Unit	Measures	Texture
Retransition	482-498	HYB(cpt+hom)
	498-504	HOM
	505-525	HYB(cpt+hom)
	525-534	HOM
	535-555	HYB(cpt+hom)
Secondary Theme	556-572	HOM
	573-574	HYB(het+pol)
	575	POL
	576-580	HYB(het+pol)
	581	POL
	582-583	HYB(het+pol)
	584	POL
	585-588	HYB(het+pol)
	589-594	CPT
	594-597	HOM
	598-602	MON
	603	HOM
CODA	604-609	HYB(cpt+hom)
	609-625	HOM

TABLE A-6

TEXTURES AND FORMAL UNITS--

Miraculous Mandarin

Unit	Measures	Texture
INTRO	1- 2	MON
	3- 10	HYB(het+pol)
	11- 23	HOM
	24- 32	HYB(cpt+hom)
	33- 34	HYB(het+pol)
	35- 38	HOM
	39- 49	HYB(cpt+hom)
	49- 62	POL
	62- 65	HYB(het+hom)
	66	HOM
	67- 75	HYB(het+hom)
A	76- 79	CHD
	80- 93	HOM
	94- 95	CHD
	96-104	HOM
	105	CHD
	106-122	HOM
	123	HYB(het+hom)
	124-126	HOM
TR1	127-128	CHD
	129-160	HOM
B	161-162	CHD
	162-166	HOM
	167-168	HYB(het+hom)
	169	HOM
	170-171	CHD
	172-181	HOM
	182-184	CHD
	185-197	HOM
	198-200	CHD
	201-203	HYB(het+hom)
	204-205	HOM
	206-210	CHD

TABLE A-6 (continued)

Unit	Measures	Texture
TR2	211	CHD
	212-224	HOM
	225-227	HYB(het+hom)
	228-230	HOM
	231-233	HYB(het+hom)
	234-240	HOM
	241	MON
	242-243	HOM
C	244-250	HOM
	251-252	HYB(het+hom)
	253-256	HOM
	257	HYB(het+hom)
	258-259	HOM
	260-263	HYB(het+hom)
	264-272	HOM
	273-275	POL
	276-279	HYB(het+hom)
	280-282	HOM
	283-286	CHD
TR3	287	HOM
	288	HYB(het+hom)
	289-290	HOM
	291	HYB(het+hom)
	292-293	HOM
	294-295	HYB(het+hom)
	296-299	HOM
	300-311	HYB(het+hom)
D	312-323	HYB(het+hom)
	324	CHD
	325-327	HOM
	328-332	HYB(het+hom)
	333-336	CHD
E	337	HET
	338-339	HOM
	340	HET
	341-349	HOM
	350	MON
	351-360	HOM

TABLE A-6 (continued)

Unit	Measures	Texture
(E)	361-362	HYB(het+hom)
	363-364	HOM
	365-367	HYB(cpt+hom+pol)
	368-387	HOM
	388-389	HET
	390-403	HYB(het+hom)
	404	HOM
	405	MON
	406-413	HOM
	414-416	HYB(het+hom)
	417-421	HOM
	422-424	MON
	425-431	HYB(cpt+hom)
	432-456	HOM
	457-464	HYB(het+hom)
F	465-485	HYB(het+hom)
	486-488	CHD
	489-515	HOM
	516	HYB(het+hom)
	517	HOM
	518	HYB(het+hom)
	519-532	HOM
	532-547	POL
	548-560	HYB(het+hom+pol)
	561-589	HOM
	589-600	POL
	601-605	HOM
	606-609	CHD

TABLE A-7

TEXTURES AND FORMAL UNITS--

Music for Strings, Percussion and Celesta
(First Movement)

Form: Ternary		
Unit	Measures	Texture
A	1- 4	MON
	5- 8	CPT
	9- 21	HYB(cpt+pol)
	21- 24	CPT
	24- 26	POL
B	27- 32	CPT
	32- 33	POL
	34- 37	CPT
	38- 40	HOM
	41- 51	POL
	52- 55	HOM
	56	MON
	57	HOM
	58	MON
	59- 60	HOM
	61- 62	MON
	63- 64	HOM
A'	65- 77	CPT
CODA	78- 81	HYB(hom+pol)
	82- 85	CPT
	86- 88	HYB(het+pol)

TABLE A-8

TEXTURES AND FORMAL UNITS--

Music for Strings, Percussion and Celesta
(Second Movement)

Form: Sonata		
Unit	Measures	Texture
EXPOSITION		
Principal Theme	1- 5	MON
	6- 16	CPT
	17- 18	CHD
	19- 21	MON
	22- 23	HOM
	24- 27	CPT
Transition	28- 31	HOM
	32- 40	HYB(cpt+hom)
	41- 64	CPT
	65- 66	MON
	67	SIL
Secondary Theme a	68- 85	HOM
	86- 94	HYB(cpt+hom)
	94-110	CPT
Secondary Theme b	111-112	CPT
	113-114	CHD
	115-127	HOM
	127-134	CPT
	135-142	HYB(cpt+hom)
	142-149	POL
	150-152	CPT
	153-155	HOM
Codetta	155-159	HOM
	160-164	MON
	165-167	HOM
	168-170	MON
	170-172	HYB(cpt+pol)
	173-175	CHD
	176-177	HOM
	178-182	CHD

TABLE A-8 (continued)

Unit	Measures	Texture
DEVELOPMENT		
Subsection 1	183-187	MON
	188-195	CPT
	195-198	HYB(chd+pol)
	199-242	HYB(het+hom)
Subsection 2	243-248	CPT
	249-252	HYB(chd+pol)
	253-263	CPT
	264-279	HOM
	280-281	MON
	282-286	POL
	287-297	HOM
	298-302	MON
	303-310	HOM
Subsection 3	310-317	HOM
	318-325	CPT
	326-339	POL
	340-343	CPT
	343-348	HOM
	349-350	MON
	351-355	CPT
	356-371	HOM
	372	SIL
RECAPITULATION		
Principal Theme	373-384	HOM
	385-393	HYB(cpt+hom)
	394-397	HOM
Retransition	397-404	HYB(cpt+hom)
	405-413	CPT
Secondary Theme a	413-427	HOM
	428-429	POL
	430-431	MON
	432	POL
	433	MON
	434-436	POL

TABLE A-8 (continued)

Unit	Measures	Texture
(Secondary Theme a)	437	MON
	438-439	POL
	440	MON
	441-445	CPT
	446-448	HET
Secondary Theme b	450-456	HYB(het+hom)
	457-464	HOM
	465	MON
	466-470	HOM
	471-474	MON
	475-479	POL
	479-487	HOM
	488-490	MON
CODA	490-505	CPT
	506-508	MON
	509-513	POL
	514-516	CPT
	517-520	HOM

TABLE A-9

TEXTURES AND FORMAL UNITS--

Music for Strings, Percussion and Celesta
(Third Movement)

Form: Arch

Unit	Measures	Texture
A	1- 3	MON
	4-13	HOM
	14-17	HYB(cpt+hom)
	17-19	HOM
B	20-21	CHD
	22-27	HYB(het+hom)
	28-31	HYB(cpt+het+hom)
	31-34	HOM
C	35	HOM
	36-42	POL
	43	CPT
	44	HOM
	45	CHD
	46	HOM
	47	HYB(het+hom)
	48-50	HOM
	51-53	HYB(cpt+hom)
	54	HYB(het+hom)
	55-60	HYB(chd+cpt)
	61-62	COM(cpt+mon)
B'	63	COM(cpt+mon)
	64	HOM
	65-73	HYB(cpt+hom)
	74	HOM
A'	75-82	HOM

TABLE A-10

TEXTURES AND FORMAL UNITS--

Music for Strings, Percussion and Celesta
(Fourth Movement)

Form: Modified Rondo		
Unit	Measures	Texture
A	1	MON
	2- 4	CHD
	5- 14	HOM
	15- 18	HYB(cpt+hom)
	19- 24	CPT
	25	MON
B	26- 27	MON
	28- 36	HOM
	37- 43	CHD
A'	44- 51	HOM
C	52	MON
	53- 58	HOM
	58	MON
	59- 60	HOM
	61	POL
	62- 63	MON
	64- 66	HOM
	66	MON
	67- 69	HOM
	70	MON
	71- 74	HOM
A''	74- 82	HOM
D	83- 84	CHD
	85-103	HOM
	103-112	HYB(cpt+hom)
	113-114	HOM
	115	MON
	116	HOM
	117	MON
	118	HOM
	119	MON
	119-120	HOM
	120	MON
	121-135	CPT

TABLE A-10 (continued)

Unit	Measures	Texture
B'	136-141	HOM
	142-158	HYB(het+hom)
	159-180	HYB(cpt+het+hom)
	181-183	HET
	184-191	CPT
	192-197	MON
	198-203	HOM
E	204-209	HOM
	210-215	HYB(hom+pol)
	215-229	CPT
	230	HYB(chd+pol)
	231	CHD
	232-233	HOM
	234	MON
	235-244	CPT
A'''	244-247	HOM
	248-262	HYB(cpt+hom)
	262-263	MON
	264-268	HOM
	269-275	HYB(cpt+hom)
	276-282	HOM
	283	CPT
	284-285	HOM

APPENDIX B

APPENDIX B

TABLE B-1

AVERAGE TEXTURAL LENGTHS--

Concerto for Orchestra

Unit	Number of Segments	Average Length*
MOVEMENT I	74	7
MOVEMENT II	47	6
MOVEMENT III	39	3
MOVEMENT IV	24	6
MOVEMENT V	77	8
First Movement		
INTRODUCTION	8	9
EXPOSITION	18	9
Principal Theme	5	4
Transition	5	11
Secondary Theme	5	12
Codetta	3	7
DEVELOPMENT	26	6
Subsection 1	5	3
Subsection 2	2	12
Subsection 3	4	10
Subsection 4	15	6
RECAPITULATION	19	6
Secondary Theme	8	9
Retransition	9	2
Principal Theme	3	9
CODA	2	4
Second Movement		
INTRODUCTION	1	8
A	16	7
a	1	17
b	1	17
c	4	4
d	5	6
e	6	6

* The lengths of the textural segments are given in numbers of measures.

TABLE B-1 (continued)

Unit	Number of Segments	Average Length
	(Second Movement)	
B	12	4
A'	16	6
a	1	16
b	4	4
c	4	4
d	5	3
e	4	6
CODA	3	4
	Third Movement	
A	10	3
B	3	9
C	14	2
B'	7	3
A'	6	5
	Fourth Movement	
A	6	7
B	4	5
A'	3	4
C	9	5
B'	3	5
A''	3	6
	Fifth Movement	
INTRODUCTION	1	4
EXPOSITION	30	8
Principal Theme	18	8
Transition	7	7
Secondary Theme	3	16
Codetta	3	4
DEVELOPMENT	15	8
Subsection 1	2	5
Subsection 2	2	26
Subsection 3	8	5
Subsection 4	3	9

TABLE B-1 (continued)

Unit	Number of Segments	Average Length
	(Fifth Movement)	
RECAPITULATION	29	8
Principal Theme	12	8
Retransition	5	15
Secondary Theme	12	4
CODA	2	11

TABLE B-2

AVERAGE TEXTURAL LENGTHS--

Miraculous Mandarin

Unit	Number of Segments	Average Length
INTRO	11	7
A	8	6
TR1	1	17
B	12	4
TR2	9	4
C	11	4
TR3	8	3
D	5	5
E	21	6
F	14	10

TABLE B-3

AVERAGE TEXTURAL LENGTHS--

Music for Strings, Percussion and Celesta

Unit	Number of Segments	Average Length
MOVEMENT I	22	4
MOVEMENT II	75	7
MOVEMENT III	21	4
MOVEMENT IV	54	5
	First Movement	
A	5	5
B	12	3
A'	1	13
CODA	4	3
	Second Movement	
EXPOSITION	28	10
Principal Theme	6	5
Transition	5	8
Secondary Theme a	3	14
Secondary Theme b	8	6
Codetta	8	4
DEVELOPMENT	19	19
Subsection 1	4	15
Subsection 2	9	7
Subsection 3	8	8
RECAPITULATION	22	5
Principal Theme	3	8
Retransition	2	8
Secondary Theme a	9	4
Secondary Theme b	8	5
CODA	5	6
	Third Movement	
A	4	5
B	4	4
C	12	2
B'	4	3
A'	1	8

TABLE B-3 (continued)

Unit	Number of Segments	Average Length
	Fourth Movement	
A	6	4
B	3	6
A'	1	8
C	11	2
A''	1	9
D	12	4
B'	7	10
E	8	5
A'''	8	5

APPENDIX C

APPENDIX C

TABLE C-1

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	787	47	HOM	1258	56
HYB	561	33	CPT	513	23
CPT	137	8	POL	158	7
MON	112	7	HET	117	5
CHD	45	3	MON	112	5
POL	33	2	CHD	79	3
PTH	7	0	PTH	21	1
HET	5	0	SIL	1	0
SIL	1	0			
Total	1688	100	Total	2259	100

TABLE C-2

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(First Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	263	50	HOM	341	54
HYB	110	21	CPT	162	26
CPT	74	14	MON	50	8
MON	50	10	POL	25	4
CHD	9	2	HET	22	4
PTH	7	1	PTH	21	3
HET	3	1	CHD	9	1
SIL	1	0	SIL	1	0
Total	521	100	Total	631	100

TABLE C-3

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(First Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
INTRO	HOM	52	69.3	HOM	59	72
	MON	16	21.3	MON	16	19.5
	HYB	7	9.3	HET	7	8.5
	Total	75	100.0	Total	82	100.0
EXPO	HOM	96	61	HOM	128	64
	HYB	43	28	CPT	37	19
	MON	9	6	PTH	11	5.5
	CHD	6	4	MON	9	4.5
	SIL	1	1	CHD	6	3
				HET	6	3
				SIL	1	1
	Total	155	100	Total	198	100.0
DEV	CPT	65	39	CPT	101	50
	HOM	39	23.5	HOM	72	35
	HYB	39	23.5	MON	19	9
	MON	19	12	POL	6	3
	HET	3	2	HET	3	1.5
				PTH	3	1.5
	Total	165	100.0	Total	204	100.0
RECAP	HOM	72	61	HOM	78	56
	HYB	21	18	CPT	24	18
	CPT	9	8	POL	19	14
	PTH	7	6	PTH	7	5
	POL	4	3	HET	6	4
	CHD	3	2	CHD	3	2
	MON	2	2	MON	2	1
	Total	118	100	Total	139	100

TABLE C-3 (continued)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
CODA	HOM	4	50	HOM	4	50
	MON	4	50	MON	4	50
	Total	8	100	Total	8	100

TABLE C-4

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(First Movement, Exposition)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Principal Theme	HOM	16	84	HOM	16	84
	MON	2	11	MON	2	11
	SIL	1	5	SIL	1	5
	Total	19	100	Total	19	100
Transition	HOM	31	57	HOM	43	56
	HYB	23	43	CPT	23	30
				PTH	11	14
	Total	54	100	Total	77	100
Secondary Theme	HOM	46	75	HOM	52	78
	HYB	6	10	CHD	6	9
	CHD	6	10	HET	6	9
	MON	3	5	MON	3	4
	Total	61	100	Total	67	100
Codetta	HYB	14	67	HOM	17	49
	MON	4	19	CPT	14	40
	HOM	3	14	MON	4	11
	Total	21	100	Total	35	100

TABLE C-5

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(First Movement, Development)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Subsection 1	HYB	7	41	CPT	7	29
	HOM	6	35	POL	7	29
	MON	4	24	HOM	6	25
				MON	4	17
	Total	17	100	Total	24	100
Subsection 2	HYB	14	58	CPT	24	63
	CPT	10	42	HOM	14	37
	Total	24	100	Total	38	100
Subsection 3	HOM	29	71	HOM	39	76
	HYB	10	24	CPT	10	20
	MON	2	5	MON	2	4
	Total	41	100	Total	51	100
Subsection 4	CPT	55	66	CPT	61	66.3
	MON	13	16	MON	13	14.1
	HYB	9	10	HOM	12	13
	HOM	3	4	HET	3	3.3
	HET	3	4	PTH	3	3.3
	Total	83	100	Total	92	100.0

TABLE C-6

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(First Movement, Recapitulation)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Secondary Theme	HOM	53	75	HOM	60	77
	CPT	9	13	CPT	9	12
	HYB	7	10	HET	7	9
	CHD	1	1	CHD	1	1
	MON	1	1	MON	1	1
	Total	71	100	Total	78	100
Retransition	HOM	11	52	HOM	11	52
	PTH	7	33	PTH	7	33
	CHD	2	10	CHD	2	10
	MON	1	5	MON	1	5
	Total	21	100	Total	21	100
Principal Theme	POL	15	58	POL	19	63.3
	HOM	7	27	HOM	7	23.3
	HYB	4	15	CPT	4	13.3
	Total	26	100	Total	30	100.0

TABLE C-7

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Second Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	143	54	HOM	212	58
HYB	99	38	HET	61	17
MON	14	5	POL	44	12
CHD	5	2	CHD	27	7
HET	2	1	MON	14	4
			CPT	8	2
Total	263	100	Total	366	100

TABLE C-8

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Second Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
INTRO	MON	8	100	MON	8	100
A	HOM	82	72	HOM	110	78
	HYB	28	24	HET	29	20
	MON	2	2	MON	2	1
	HET	2	2	CPT	1	1
	Total	114	100	Total	142	100
B	HYB	28	67	CHD	22	31
	HOM	13	31	POL	22	31
	MON	1	2	HOM	19	28
				CPT	6	9
				MON	1	1
	Total	42	100	Total	70	100
A'	HOM	45	51	HOM	80	59
	HYB	43	49	HET	32	24
				POL	22	16
				CPT	1	1
	Total	88	100	Total	135	100
CODA	CHD	5	46	CHD	5	46
	HOM	3	27	HOM	3	27
	MON	3	27	MON	3	27
	Total	11	100	Total	11	100

TABLE C-9

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Third Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	64	50	HOM	88	58
MON	24	19	CPT	26	17
HYB	24	19	MON	24	16
CPT	13	10	HET	11	7
POL	3	2	POL	3	2
Total	128	100	Total	152	100

TABLE C-10

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Third Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
A	HYB	17	51	HOM	21	42
	MON	7	21	CPT	13	26
	CPT	5	15	HET	9	18
	HOM	4	12	MON	7	14
	Total	33	100	Total	50	100
B	HOM	25	89	HOM	25	89
	POL	3	11	POL	3	11
	Total	28	100	Total	28	100
C	HOM	15	68	HOM	15	68
	MON	7	32	MON	7	32
	Total	22	100	Total	22	100
B'	CPT	8	47	CPT	8	42
	HOM	4	23	HOM	6	32
	MON	3	18	MON	3	16
	HYB	2	12	HET	2	10
	Total	17	100	Total	19	100
A'	HOM	16	57	HOM	21	64
	MON	7	25	MON	7	21
	HYB	5	18	CPT	5	15
	Total	28	100	Total	33	100

TABLE C-11

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Fourth Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	102	68	HOM	132	73
HYB	30	20	CPT	27	15
MON	6	4	POL	10	6
CHD	6	4	MON	6	3
CPT	5	3	CHD	6	3
POL	2	1			
Total	151	100	Total	181	100

TABLE C-12

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Fourth Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
A	HOM	23	57	HOM	40	69
	HYB	16	38	CPT	8	14
	MON	3	5	POL	8	14
				MON	2	3
	Total	42	100	Total	58	100
B	HOM	8	42	HOM	16	59
	HYB	8	42	CPT	8	30
	POL	2	11	POL	2	7
	MON	1	5	MON	1	4
	Total	19	100	Total	27	100
A'	HOM	12	92	HOM	12	92
	CPT	1	8	CPT	1	8
	Total	13	100	Total	13	100
C	HOM	37	82	HOM	37	82
	CHD	6	13	CHD	6	13
	MON	2	5	MON	2	5
	Total	16	100	Total	16	100
A''	HOM	10	62.5	HOM	16	73
	HYB	6	37.5	CPT	6	27
	Total	16	100.0	Total	22	100

TABLE C-13

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Fifth Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HYB	299	48	HOM	485	52
HOM	215	34	CPT	290	31
CPT	45	7	POL	76	8
CHD	25	4	CHD	37	4
POL	24	4	HET	23	3
MON	18	3	MON	18	2
Total	625	100	Total	929	100

TABLE C-14

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Fifth Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
INTRO	MON	4	100	MON	4	100
EXPO	HYB	103	41	HOM	188	53
	HOM	98	38	CPT	100	28
	CPT	22	9	POL	33	9
	CHD	12	5	CHD	24	7
	POL	12	5	MON	5	1
	MON	5	2	HET	4	1
	Total	251	100	Total	354	100
DEV	HYB	68	53	HOM	99	49
	HOM	34	27	CPT	83	41
	CPT	18	14	CHD	8	4
	CHD	8	6	HET	6	3
				POL	5	3
	Total	128	100	Total	201	100
RECAP	HYB	123	56	HOM	176	51
	HOM	66	30	CPT	102	30
	MON	9	4	POL	38	11
	POL	12	5.4	HET	13	4
	CHD	5	2.3	MON	9	3
	CPT	5	2.3	CHD	5	1
	Total	220	100.0	Total	343	100
CODA	HOM	17	77	HOM	22	81
	HYB	5	23	CPT	5	19
	Total	22	100	Total	27	100

TABLE C-15

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Fifth Movement, Exposition)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Principal Theme	HOM	60	42	HOM	114	58
	HYB	54	38	CPT	40	20
	POL	12	8	POL	35	18
	CPT	9	6	CHD	5	2.5
	CHD	5	4	MON	3	1.5
	MON	3	2			
	Total	143	100	Total	197	100.0
Transition	HOM	18	38	CPT	26	41
	HYB	15	31	HOM	21	33
	CPT	14	29	CHD	12	19
	MON	1	2	HET	3	5
				MON	1	2
	Total	48	100	Total	63	100
Secondary Theme	HYB	33	69	HOM	48	59
	HOM	15	31	CPT	33	41
	Total	48	100	Total	81	100
Codetta	CHD	6	50	CHD	6	50
	HOM	5	42	HOM	5	42
	MON	1	8	MON	1	8
	Total	12	100	Total	12	100

TABLE C-16

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Fifth Movement, Development)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Subsection 1	HOM	6	67	HOM	6	67
	CHD	3	33	CHD	3	33
	Total	9	100	Total	9	100
Subsection 2	HYB	52	100	CPT	52	50
				HOM	49	47
				HET	3	3
	Total	52	100	Total	104	100
Subsection 3	HOM	15	38.5	HOM	30	51
	HYB	15	38.5	CPT	21	36
	CPT	9	23	POL	5	8
				HET	3	5
	Total	39	100.0	Total	59	100
Subsection 4	HOM	14	50	HOM	14	50
	CPT	9	32	CPT	9	32
	CHD	5	18	CHD	5	18
	Total	28	100	Total	28	100

TABLE C-17

DURATIONS AND PERCENTAGES OF USE--

Concerto for Orchestra
(Fifth Movement, Recapitulation)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Principal Theme	HYB	55	54	HOM	64	42
	HOM	24	25	CPT	41	27
	POL	12	12	POL	37	25
	CHD	5	5	CHD	5	3
	MON	4	4	MON	4	3
	Total	98	100	Total	151	100
Retransition	HYB	57	77	HOM	74	56.5
	HOM	17	23	CPT	57	43.5
	Total	74	100	Total	131	100.0
Secondary Theme	HOM	25	52.1	HOM	38	62.3
	HYB	13	27.1	HET	13	21.3
	CPT	5	10.4	MON	5	8.2
	MON	5	10.4	CPT	5	8.2
	Total	48	100.0	Total	61	100.0

TABLE C-18

DURATIONS AND PERCENTAGES OF USE--

Miraculous Mandarin

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	341	56	HOM	503	63
HYB	174	28.5	HET	146	18
POL	43	7	POL	69	9
CHD	41	7	CHD	41	5
MON	8	1	CPT	30	4
HET	4	0.5	MON	8	1
Total	609	100.0	Total	797	100

TABLE C-19

DURATIONS AND PERCENTAGES OF USE--

Miraculous Mandarin
(Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
INTRO	HYB	43	57	HOM	51	43
	HOM	18	24	HET	23	19
	POL	12	16	POL	22	19
	MON	2	3	CPT	20	17
				MON	2	2
	Total	75	100	Total	118	100
A	HOM	43	84	HOM	44	85
	CHD	7	14	CHD	7	13
	HYB	1	2	HET	1	2
	Total	51	100	Total	52	100
TR1	HOM	32	94	HOM	32	94
	CHD	2	6	CHD	2	6
	Total	34	100	Total	34	100
B	HOM	30	60	HOM	35	64
	CHD	15	30	CHD	15	27
	HYB	5	5	HET	5	9
	Total	50	100	Total	55	100
TR2	HOM	25	76	HOM	31	79
	HYB	6	18	HET	6	15
	CHD	1	3	CHD	1	3
	MON	1	3	MON	1	3
	Total	33	100	Total	39	100
C	HOM	25	58	HOM	36	67
	HYB	11	26	HET	11	20
	CHD	4	9	CHD	4	7
	POL	3	7	POL	3	6
	Total	43	100	Total	54	100

TABLE C-19 (continued)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
TR3	HYB	16	64	HOM	25	61
	HOM	9	36	HET	16	39
	Total	25	100	Total	41	100
D	HYB	17	68	HOM	20	48
	CHD	5	20	HET	17	40
	HOM	3	12	CHD	5	12
	Total	25	100	Total	42	100
E	HOM	82	64	HOM	119	70
	HYB	37	29	HET	31	19
	MON	5	4	CPT	10	6
	HET	4	3	MON	5	3
				POL	3	2
	Total	128	100	Total	168	100
F	HOM	74	51	HOM	110	56
	HYB	36	25	POL	41	21
	POL	28	19	HET	36	19
	CHD	7	5	CHD	7	4
	Total	145	100	Total	194	100

TABLE C-20

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	332	33	HOM	520	42
CPT	235	24	CPT	373	30.2
HYB	231	24	HET	109	9
MON	80	8	POL	103	8.4
POL	69	7	MON	83	7
CHD	27	3	CHD	42	3.4
HET	6	1	SIL	3	0
COM	3	0			
SIL	3	0			
Total	976	100	Total	1233	100.0

TABLE C-21

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(First Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
CPT	33	38	CPT	45	43
HYB	18	20	POL	33	31
POL	16	18	HOM	16	15
HOM	12	14	MON	9	9
MON	9	10	HET	2	2
Total	88	100	Total	105	100

TABLE C-22

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(First Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
A	HYB	12	47	CPT	19	50
	CPT	7	30	POL	15	39
	MON	4	15	MON	4	11
	POL	3	8			
	Total	26	100	Total	38	100
B	POL	13	34	POL	13	34
	HOM	12	32	HOM	12	32
	CPT	9	23	CPT	9	23
	MON	4	11	MON	4	11
	Total	38	100	Total	38	100
A'	CPT	13	100	CPT	13	100
CODA	HYB	6	55	POL	6	35
	CPT	4	36	CPT	4	23.5
	MON	1	9	HOM	4	23.5
				HET	2	12
				MON	1	6
	Total	11	100	Total	17	100.0

TABLE C-23

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Second Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	163	31	HOM	253	41
CPT	147	27	CPT	190	30
HYB	102	20	POL	56	9
MON	47	9	HET	54	9
POL	45	9	MON	47	8
CHD	11	2	CHD	19	3
HET	3	1	SIL	3	0
SIL	3	1			
Total	520	100	Total	622	100

TABLE C-24

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Second Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
EXPO	CPT	71	39	CPT	95	46
	HOM	48	26	HOM	71	34
	HYB	26	14	MON	18	9
	MON	18	10	CHD	11	5
	CHD	11	6	POL	11	5
	POL	8	4	SIL	2	1
	SIL	2	1			
	Total	182	100	Total	208	100
DEV	HOM	59	31	HOM	102	42.2
	HYB	52	27	CPT	46	19
	CPT	46	24	HET	44	18.2
	POL	19	10	POL	27	11.2
	MON	14	7	MON	14	6
	SIL	1	1	CHD	8	3.3
				SIL	1	0
	Total	190	100	Total	242	100.0
RECAP	HOM	52	44	HOM	76	54
	HYB	24	21	CPT	30	21
	CPT	13	11	POL	13	9
	POL	13	11	MON	12	8
	MON	12	10	HET	10	7
	HET	3	3			
	Total	117	100	Total	141	100
CODA	CPT	19	61	CPT	19	61
	POL	5	16	POL	5	16
	HOM	4	13	HOM	4	13
	MON	3	10	MON	3	10
	Total	31	100	Total	31	100

TABLE C-25

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Second Movement, Exposition)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Principal Theme	CPT	15	56	CPT	15	56
	MON	8	30	MON	8	30
	HOM	2	7	HOM	2	7
	CHD	2	7	CHD	2	7
	Total	27	100	Total	27	100
Transition	CPT	24	60	CPT	33	67
	HYB	9	22.5	HOM	13	27
	HOM	4	10	MON	2	4
	MON	2	5	SIL	1	2
	SIL	1	2.5			
	Total	40	100.0	Total	49	100
Secondary Theme	HOM	32	37	HOM	47	46
	CPT	30	35	CPT	45	44
	HYB	15	17	POL	8	8
	POL	8	9	CHD	2	2
	CHD	2	2			
	Total	87	100	Total	102	100
Secondary Theme a	HOM	18	42	HOM	26	51
	CPT	17	40	CPT	25	49
	HYB	8	18			
	Total	43	100	Total	51	100

TABLE C-25 (continued)

Unit	Texture Duration		%	Texture Duration		%
	With Hybrids			Without Hybrids		
Secondary Theme b	HOM	14	32	HOM	21	41
	CPT	13	29.5	CPT	20	39
	POL	8	18	POL	8	16
	HYB	7	16	CHD	4	2
	CHD	2	4.5			
	Total	44	100.0	Total	51	100
Codetta	HOM	10	36	HOM	10	32
	CHD	8	28	CHD	8	26
	MON	7	25	MON	7	22
	HYB	3	11	POL	3	10
				CPT	3	10
	Total	28	100	Total	31	100

TABLE C-26

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Second Movement, Development)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Subsection 1	HYB	48	80	HOM	44	40
	CPT	7	12	HET	44	40
	MON	5	8	CPT	7	7
				MON	5	5
				POL	4	4
				CHD	4	4
	Total	60	100	Total	108	100
Subsection 2	HOM	34	51	HOM	34	48
	CPT	17	25.3	CPT	17	24
	MON	7	10.4	POL	9	12.6
	POL	5	7.4	MON	7	9.8
	HYB	4	6	CHD	4	5.6
	Total	67	100.0	Total	71	100.0
Subsection 3	HOM	24	38	HOM	24	38
	CPT	22	35	CPT	22	35
	POL	14	22	POL	14	22
	MON	2	2	MON	2	3
	SIL	1	2	SIL	1	2
	Total	63	100	Total	63	100

TABLE C-27

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Second Movement, Recapitulation)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
Principal Theme	HOM	15	62.5	HOM	24	73
	HYB	9	37.5	CPT	9	27
	Total	24	100.0	Total	33	100
Retransition	CPT	8	50	CPT	16	67
	HYB	8	50	HOM	8	33
	Total	16	100	Total	24	100
Secondary Theme	HOM	37	48	HOM	44	52
	POL	14	18	POL	14	17
	MON	11	14	MON	11	13
	HYB	7	9	HET	10	12
	CPT	5	7	CPT	5	6
	HET	3	4			
	Total	77	100	Total	84	100
Secondary Theme a	HOM	15	42	HOM	15	42
	POL	9	25	POL	9	25
	CPT	5	14	CPT	5	14
	MON	4	11	MON	4	11
	HET	3	8	HET	3	8
	Total	36	100	Total	36	100
Secondary Theme b	HOM	21	52.5	HOM	28	59.5
	MON	8	20	MON	8	17
	HYB	7	17.5	HET	7	15
	POL	4	10	POL	4	8.5
	Total	40	100.0	Total	47	100.0

TABLE C-28

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Third Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	33	40	HOM	59	49
HYB	32	39	CPT	28	23
POL	7	8	HET	11	9
MON	3	4	CHD	9	8
CHD	3	4	POL	7	6
COM	3	4	MON	6	5
CPT	1	1			
Total	82	100	Total	120	100

TABLE C-29

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Third Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
A	HOM	13	68	HOM	16	72
	MON	3	16	MON	3	14
	HYB	3	16	CPT	3	14
	Total	19	100	Total	22	100
B	HYB	9	60	HOM	13	49
	HOM	4	27	HET	9	33
	CHD	2	13	CPT	3	11
				CHD	2	7
	Total	15	100	Total	27	100
C	HYB	11	39	CPT	12	29
	POL	7	25	HOM	11	27
	HOM	6	21	CHD	7	17
	COM	2	7	POL	7	17
	CHD	1	4	HET	2	5
	CPT	1	4	MON	2	5
	Total	28	100	Total	42	100
B'	HYB	9	75	HOM	11	50
	HOM	2	17	CPT	10	45
	COM	1	8	MON	1	5
	Total	12	100	Total	22	100
A'	HOM	8	100	HOM	8	100

TABLE C-30

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Fourth Movement)

Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids	
HOM	114	40	HOM	192	50
HYB	79	28	CPT	110	28
CPT	54	19	HET	42	11
MON	21	7	MON	21	5
CHD	13	5	CHD	14	4
HET	3	1	POL	7	2
POL	1	0			
Total	285	100	Total	386	100

TABLE C-31

DURATIONS AND PERCENTAGES OF USE--

Music for Strings, Percussion and Celesta
(Fourth Movement, Main Formal Units)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
A	HOM	10	40	HOM	14	48
	CPT	6	24	CPT	10	35
	HYB	4	16	CHD	3	10
	CHD	3	12	MON	2	7
	MON	2	8			
	Total	25	100	Total	29	100
B	HOM	9	50	HOM	9	50
	CHD	7	39	CHD	7	39
	MON	2	11	MON	2	11
	Total	18	100	Total	18	100
A'	HOM	8	100	HOM	8	100
C	HOM	16	73	HOM	16	73
	MON	5	23	MON	5	23
	POL	1	4	POL	1	4
	Total	22	100	Total	22	100
A''	HOM	9	100	HOM	9	100
D	HOM	24	45	HOM	33	53
	CPT	15	28	CPT	24	39
	HYB	9	17	MON	3	5
	MON	3	6	CHD	2	3
	CHD	2	4			
	Total	53	100	Total	62	100

TABLE C-31 (continued)

Unit	Texture	Duration	%	Texture	Duration	%
	With Hybrids			Without Hybrids		
B'	HYB	39	57	HOM	51	39.5
	HOM	12	18	HET	42	33.5
	CPT	8	12	CPT	30	23
	MON	6	9	MON	6	5
	HET	3	4			
	Total	68	100	Total	129	100.0
E	CPT	24	60	CPT	24	52
	HOM	8	20	HOM	13	29
	HYB	6	15	POL	6	13
	CHD	1	2.5	CHD	2	4
	MON	1	2.5	MON	1	2
	Total	40	100.0	Total	46	100
A'''	HYB	21	50	HOM	39	62
	HOM	18	43	CPT	22	35
	MON	2	5	MON	2	3
	CPT	1	2			
	Total	42	100	Total	63	100

VITA

Reed Kelley Holmes was born in Oak Ridge, Tennessee, on August 20, 1952. He attended elementary school in that city and was graduated from Oak Ridge High School in 1970. The following September he entered the University of Tennessee at Knoxville, and in June 1974, he received a Bachelor of Music degree in Music Theory.

In the fall of 1974, he accepted a graduate assistantship at the University of Tennessee and began study toward a Master's degree. He was a recipient of the David Van Vactor Composition Scholarship, received an alumni fellowship, and in the fall of 1975, he accepted a teaching assistantship. He received the Master of Music degree in August 1976. He is a member of Phi Kappa Phi and Pi Beta Lambda.

He is married to the former Lynn Colleen Cochran of Oak Ridge, Tennessee.