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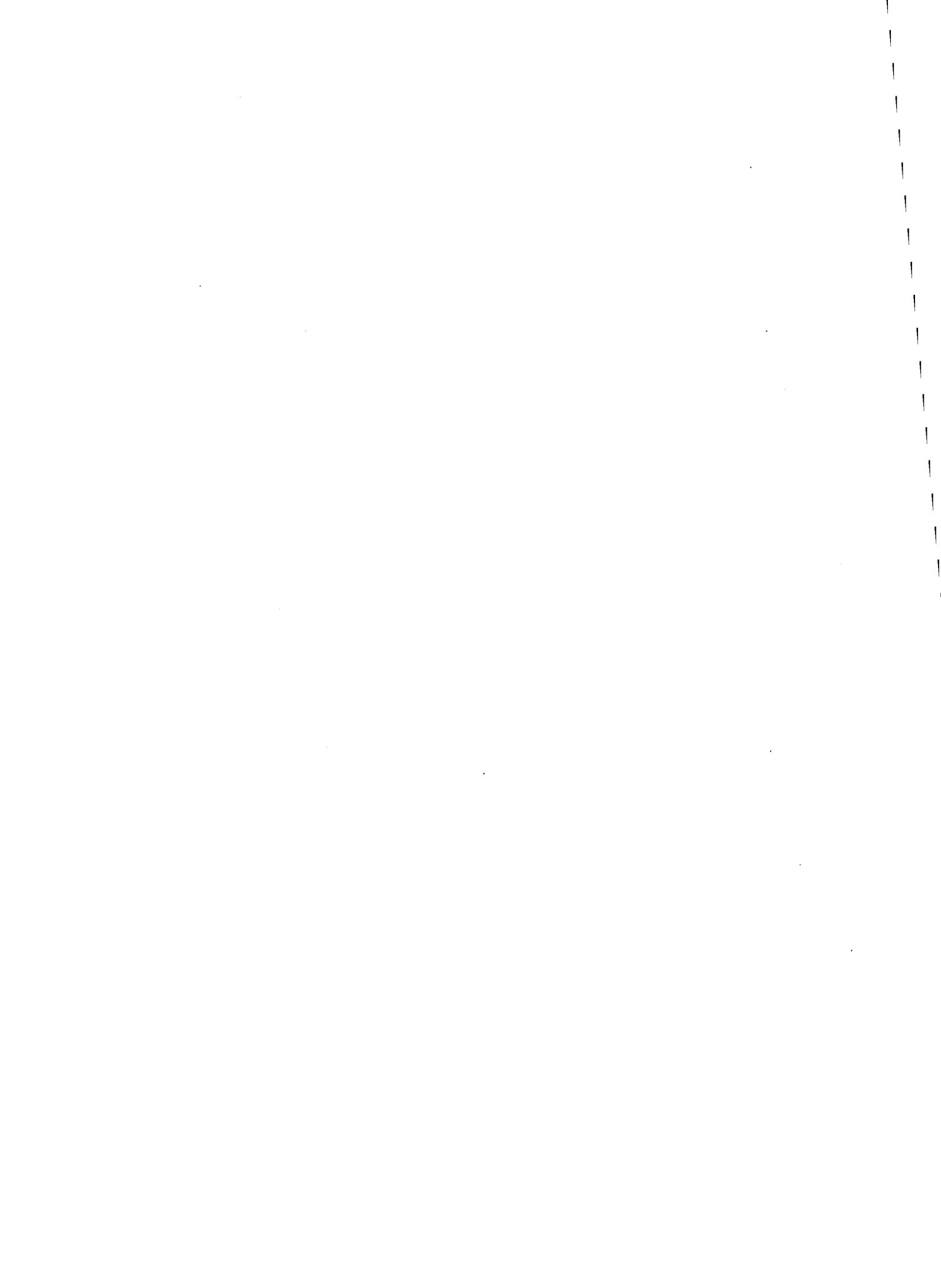
**Anthony, Carl Rheinhardt**

FORMAL DETERMINANTS IN FOUR SELECTED COMPOSITIONS OF LEON  
KIRCHNER

*The University of Arizona*

PH.D. 1984

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FORMAL DETERMINANTS IN FOUR SELECTED COMPOSITIONS  
OF LEON KIRCHNER

by

Carl Rheinhardt Anthony

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A Dissertation Submitted to the Faculty of the  
DEPARTMENT OF MUSIC

In Partial Fulfillment of the Requirements  
For the Degree of

DOCTOR OF PHILOSOPHY  
WITH A MAJOR IN MUSIC THEORY

In the Graduate College  
THE UNIVERSITY OF ARIZONA

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## ABSTRACT

This study was undertaken to determine the underlying formal principles in four works by the American composer, Leon Kirchner. These compositions, Toccata for Strings, Solo Winds, and Percussion, String Quartet No. 2, Concerto for Violin, Cello, Ten Winds, and Percussion, and Music for Orchestra, were felt to be important works in the composer's output and represented a variety of genres.

The first chapter contains a brief summary of Kirchner's compositional style and aesthetic, and a brief biographical sketch. Influenced by the work of Schoenberg, Berg, Bartok, and Stravinsky, his approach to musical composition is highly individual and he consciously avoids being enslaved by the rigors of writing according to some system.

Chapters 2 through 5 present the results of extensive aural and visual analysis of the four works. Each composition is microscopically examined for its basic melodic motives, rhythmic motives, and harmonic materials. Those parameters are then discussed that contribute most significantly to the delineation of form and also those that provide inter- and intra-sectional cohesion and continuity.

Durational factors, specifically tempo, meter, and rhythm contributed the most significantly to formal

delineation in all four works. By contrast, pitch materials provided the most significant degree of inter- and intra-sectional unity in each work.

The results of the findings lead to several conclusions regarding the formal procedures employed in the four selected works of Leon Kirchner. First, although these compositions employ contrasting shapes, they are all unified in their utilization of related basic pitch and durational materials. Second, durational elements are the most useful in formal delineation at all structural levels. Third, although these works do not rely on traditional means to achieve structural unity, other means, such as return of tempos, rhythmic motives, melodic motives, sonorities, and textures, serve the same function as effectively.

## CHAPTER 1

### INTRODUCTION

Hailed by Life magazine in 1956 as one of America's nine outstanding composers, Leon Kirchner today remains a prominent figure in contemporary music.<sup>1</sup> He is not a prolific composer; due to his active schedule as teacher, conductor, and pianist, his total oeuvre consists of just sixteen major works spanning a period of forty years. He has written works in nearly every medium including two piano concerti, three string quartets, several orchestral pieces, and an opera. (For a detailed listing of Kirchner's compositions and recordings see Appendices A and B.)

Born in Brooklyn in 1919, his family soon moved to Los Angeles where he received the majority of his musical training. Here he began his higher education as a pre-medical student. Much to the chagrin of his parents, he soon turned his attention to musical composition after coming in contact with such musical giants as Arnold Schoenberg, Igor Stravinsky, Ernst Toch, and the conductor Otto Klemperer who all were currently residing in Los Angeles.

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<sup>1</sup>"U.S. Composers in a Bright Era," Life, 21 May 1956, p. 146.

According to the composer:

Los Angeles during the middle thirties had become a vortex of musical activity. The Los Angeles Symphony was then under the dynamic and brilliant leadership of Otto Klemperer. A concert was an event. The balconies served as the meeting place for the young and ambitious talents of the city. On Sundays the elite performers of Hollywood, seeking a raison d'etre, formed themselves into a superb reading orchestra and the known and obscure held forth in open rehearsals. Musically the predominant fare was the 19th century. But in the vast reaches of the city were small pockets of composers, everywhere feverishly absorbed in the mysteries of their art.<sup>2</sup>

Kirchner's most important teachers were Schoenberg (UCLA), Ernest Bloch (University of California at Berkeley), and Roger Sessions (New York and later Berkeley). After receiving his Masters degree from the University of California at Berkeley in 1947, he remained there as a lecturer in music. His other academic appointments have included the University of Southern California (1950-54), Mills College in Oakland (1954-61), and his present position at Harvard University beginning in 1961. In 1966 he succeeded Walter Piston as Walter Bigelow Rosen Professor of Music at Harvard.

Among Kirchner's numerous awards and honors are the New York Music Critics Circle Award (String Quartet No. 1 and String Quartet No. 2), the Naumberg Award (Piano Concerto No. 1), and the coveted Pulitzer Prize (1967) for his String Quartet No. 3 for Strings and Electronic Tape. He

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<sup>2</sup>Quoted by Alexander L. Ringer, "Leon Kirchner," Musical Quarterly 43 (January 1957): 2.

has also received a Guggenheim fellowship and commissions from the Ford Foundation, the Fromm Foundation, and the New York Philharmonic. In 1962 he was elected to both the National Institute of Arts and Letters and the American Academy of Arts and Sciences.

### Compositional Style and Aesthetic

Many writers have characterized Kirchner's music as "romantic" or "rhapsodic." Allen Shawn writes: "Kirchner was deeply marked by the styles of Schoenberg, Alban Berg, and Bartok, and his characteristic gesture is a welling up of emotion-laden sound that stirs and unhinges one's most private fears and feelings."<sup>3</sup> Kirchner's approach to musical composition is highly individualized and he consciously avoids being enslaved by the rigors of writing according to some "system." Aaron Copland, an early admirer of his, praises his musical individualism:

Considering the teachers he sought out, Sessions, Bloch, and Schoenberg, and clearly chromatic propensities of his own music, it is rather surprising that Kirchner has not been won over to adopting the twelve-tone system in toto. The fact that he has not is indicative of an independent mind, an independence that shows itself in other aspects of his music.<sup>4</sup>

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<sup>3</sup>Allen Shawn, "Contemporary American Composers," Atlantic, April 1981, p. 117.

<sup>4</sup>Aaron Copland, "Leon Kirchner: Duo for Violin and Piano," Notes 7 (June 1950): 434.

Cohn is another who confirms his independent creative spirit:

This composer has a clarified creative horizon. Each new opus proves him to be unconcerned with the enervating glorification of a system and fully devoted, rather, to the triumph of living music. Kirchner's works reveal the new outline of modern music knowledge. They are neoteric and personal, derived from and conjoined to the past as all important art must be, but free of bald imitation. Kirchner deserves his success; the creative tiara sits well on his head.<sup>5</sup>

Perhaps, Ringer best summarizes Kirchner's growth and development as a composer:

While his style does combine aspects of Schoenberg without the row, Stravinsky without ostinati, Bartok without the folk element, Berg without "Weltschmerz," and Sessions without excessive intellectual scruples, Kirchner proceeds firmly on a road that he has built piece by piece with the power of his own mind and the moral strength derived from both self-confidence and humility.<sup>6</sup>

Kirchner has been outspoken throughout his career concerning ideas of musical composition, musical aesthetics, and art in general. In an interview with New York Times music critic, Eric Salzman, Kirchner expounds his views on the nature of musical composition and its relationship to the audience:

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<sup>5</sup>Arthur Cohn, The Collector's Twentieth-Century Music in the Western Hemisphere (New York: J. B. Lippincott Co., 1961), p. 150.

<sup>6</sup>Ringer, "Leon Kirchner," p. 19.

A few measures, an idea, constitute a gesture; the purpose of the work as a whole is to extend this in time. A phrase sets up the need for balance and extension which is satisfied by what follows. This then constitutes a larger complex which sets up still more implications. The entire piece is built up and forms an entity with infinite implications...

The audience has to remember what has happened before to appreciate what comes next. A great piece of music sets up a kind of anxiety as it unfolds, what will happen next? What follows then produces a kind of catharsis. In this way, music that has real quality stirs something in the human consciousness; if one listens intently, one cannot help but be a changed human being.<sup>7</sup>

In the following statement concerning his only work to date employing non-traditional sound sources, the String Quartet No. 3 for Strings and Electronic Tape, Kirchner denounces some of the current musical trends and reveals the true effect musical creation has on him:

Music is an art, not a science. The recent almost exclusive involvement with the "substantive" and the craze for "verification" or "causal explanation" seems to me to fossilize that art and make it bloodless. This is what I've always tried to avoid. My Quartet No. 3 is not concerned with systems, rules, procedures--or that monstrosity known as "total control." I composed the work because of sheer musical urge. It was fun, and while I composed it I was very conscious of the joy of creating music.<sup>8</sup>

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<sup>7</sup>Eric Salzman, "No System for Him--Kirchner Explains How His Music is Made," New York Times, 21 February 1960, sec. 2 p. 9.

<sup>8</sup>Quoted by Phillip Ramey, "Leon Kirchner: String Quartet No. 3 for Strings and Electronic Tape," record liner notes, Beaux-Arts Quartet, Columbia MS 7284.

Review of the Literature

Research on the music of Leon Kirchner is minimal and primarily restricted to his early works. The numerous reviews of his music that have appeared over the past thirty-five years rarely delve beyond surface description, nor do theoretical journals offer any technical analyses. Three doctoral dissertations deal with analyses of the early solo piano pieces and chamber music with piano. Of these, Nelita True's thorough style analysis of Kirchner's two published solo piano pieces is especially noteworthy.<sup>9</sup> A fourth dissertation concerns itself with the concept of forward thrust as it relates to structure in the String Quartet No. 1 (1949).<sup>10</sup> Current Biography and True's dissertation provide the most detailed biographical information on Kirchner.<sup>11</sup>

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<sup>9</sup>Nelita True, "A Style Analysis of the Published Solo Piano Works of Leon Kirchner" (D.M.A. dissertation, Peabody School of Music, 1976).

<sup>10</sup>Eugene Schweitzer, "Generation in String Quartets of Carter, Sessions, Kirchner, and Schuller: A Concept of Forward Thrust and Its Relationship to Structure in Aurally Complex Styles" (Ph. D. dissertation, University of Rochester, Eastman School of Music, 1966).

<sup>11</sup>Charles Moritz, ed., "Leon Kirchner," Current Biography 28 (December 1967): 25-27.

### Procedures of this Study

Aims and Scope of this Study. It is the intent of this paper to examine in detail the formal procedures employed in four selected works of Leon Kirchner. These compositions are significant works written between the years 1955 and 1969 and have thus far received little or no technical analysis. This study cannot begin to divulge all the various relationships found in these works and thus will be limited to primarily a discussion of the larger levels of formal organization. Another goal of this research is to examine Kirchner's basic compositional materials (harmonies, melodic and rhythmic motives) for any unifying trends in these specific works.

Selection of Compositions. Four works that meet several criteria were chosen for analysis. Each composition is discussed individually and in chronological order as listed below:

Toccata for Strings, Solo Winds, and Percussion (1955)  
String Quartet No. 2 (1958)  
Concerto for Violin, Cello, Ten Winds and Percussion (1960)  
Music for Orchestra (1969)

These compositions represented a variety of genres and were all of moderate length (10 to 20 minutes performance time). Scores were easily accessible and all have been commercially

recorded except the Music for Orchestra.<sup>12</sup> Another factor in the selection process was that each work employed traditional notation and instruments. (There is a short aleatoric passage in the Music for Orchestra that did not pose any analytical problems.)

The first three works span a five-year period, 1955-1960, and could be considered "middle period" works. Music for Orchestra belongs to a later "experimental period" that begins in 1966 with the String Quartet No. 3 for Strings and Electronic Tape. In these works, Kirchner experiments with the fusion of electronic sounds and aleatoric passages with more conventional writing.

Analytical Procedures. The results of extensive aural and visual analysis of the four works are presented in Chapters 2 through 5. Following the introductory remarks concerning each work, the general formal scheme is presented. A meaningful analysis must then include a microscopic examination of the basic material or substance of a work and its growth and development. As Holmboe states: "Musical form is in principle nothing but the latent possibilities of substance realized in the dimension of

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<sup>12</sup>Dr. Karl Miller, formerly of the University of Arizona music faculty, kindly made available his taped radio broadcast of the Music for Orchestra.

time."<sup>13</sup> Within this section, significant melodic and rhythmic motives are examined and harmonic entities are analyzed for set type, density, and interval content. Since Kirchner's music is primarily contrapuntally conceived, only those sonorities that received vertical emphasis through repetition or agogic accent were considered.

A discussion follows of the various parameters, pitch (melody and harmony), duration, dynamics, texture, and timbre, including those that create sectionalization and those that create inter- and intra-sectional unity. Stein corroborates the need for this analytical activity; "Basically analysis involves identifying and relating likenesses on the one hand and distinguishing differences on the other."<sup>14</sup>

Musical examples shown throughout are at concert pitch with the exception of the Bb clarinet and the F horn in the Toccata, and the usual octave transpositions of the piccolo, double bass, and contrabassoon. Charts and tables are included to reinforce or clarify the concepts presented in these chapters.

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<sup>13</sup>Vagn Holmboe, "On Form and Metamorphosis," in The Modern Composer and His World, ed. John Beckwith and Udo Kasemets (Toronto: The University of Toronto Press, 1961), p. 136.

<sup>14</sup>Leon Stein, Structure and Style (Evanston: Summy-Birchard Co., 1962), p. xiii.

Terminology. The following is a list of terms employed in this paper that are not in common usage.

1. Pitch class: "refers to a note and any and all of its octave duplications (including enharmonic equivalents)."<sup>15</sup>

2. Interval class: consists of an interval and its inversions and compound equivalents. There are six interval classes: 1(m2/M7/m9), 2(M2/m7/M9), 3(m3/M6/m10), 4(M3/m6/M10), 5(P4/P5/P11), 6(tritone).<sup>16</sup>

3. Set type: a convenient numerical representation of collections of pitches (used only to label vertical sonorities in this paper). To determine a set type, the pitch classes are arranged in their most compressed form (within an octave) and numbered left to right or vice versa depending on which direction begins with the smallest interval. For example, E F A B = 0157, E G A# B = 0147, etc.<sup>17</sup>

4. Octatonic scale: an eight-note scale consisting of alternating half steps and whole steps. Messaien lists

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<sup>15</sup>Richard Delone et al., Aspects of Twentieth Century Music (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1975), p. 475.

<sup>16</sup>Ibid., p. 474.

<sup>17</sup>Ibid., p. 398.

this scale as the Second Mode of Limited Transposition.<sup>18</sup>  
 Only three transpositions exist of this scale (Ex. 1-1).

No. 1

No. 2

No. 3

Example 1-1. Three Transpositions of the Octatonic Scale

5. Multimeter: the use of more than one meter in a composition.

6. Architectonic symbols: individual movements are divided into I, II. Major divisions are labelled A, B or I, II and subsections a,b or 1,2.

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<sup>18</sup>Olivier Messaien, The Technique of My Musical Language, trans. John Satterfield (Paris: Alphonse Leduc et Cie, 1944), p. 59.

## CHAPTER 2

### TOCCATA FOR STRINGS, SOLO WINDS, AND PERCUSSION

Leon Kirchner's Toccata was written in 1955 on commission by the conductor of the San Francisco Symphony, Enrique Jorda. The piece was later revised and published by Associated Music in 1962. According to one critic, unfortunately, the premiere performance by the San Francisco Symphony in February of 1956, "suffered from an unpardonable lack of preparation and an inexplicable disregard for its characteristic rhythmic aggressiveness."<sup>1</sup> Howard Taubman, New York Times critic, discusses the practical aspects of the Toccata following a performance by the Boston Symphony in Carnegie Hall: "There is a sense of reserve in this music that suggests it will wear well. Not brilliant, it is nevertheless full of vigor and character. Not obviously emotional, it has a kind of tart sensibility."<sup>2</sup>

Four large sections comprise the basic formal plan of the Toccata. Figure 2-1 shows the overall formal design and a generalized scheme of tempo relationships.

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<sup>1</sup>Alexander L. Ringer, "Current Chronicle: San Francisco," The Musical Quarterly 42 (April 1956): 245-246.

<sup>2</sup>Howard Taubman, "Music: Work by Kirchner," New York Times, 18 February 1960, p. 38.

1 mm = 2 measures

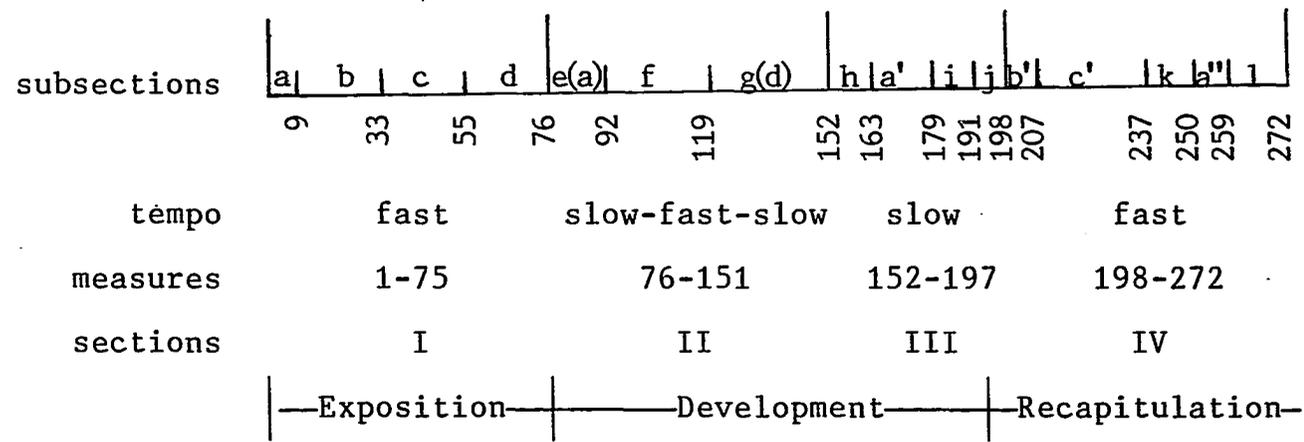


Figure 2-1. Kirchner, Toccata, Form and Generalized Tempo Scheme

The basic plan can be viewed as a ternary structure with a two-part development. (The major division in the development is created by the tempo change.) Similarities to an arch form are also evident in the reversed ordering of expository material in the recapitulation, and an additional statement of the "a" material coming approximately at the halfway point (Fig. 2-2).

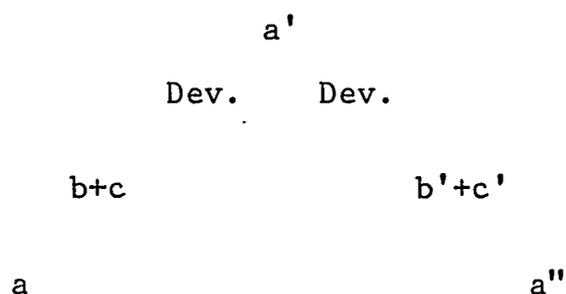


Figure 2-2. Kirchner, Toccata, Arch Form Elements

Prior to proceeding with a more detailed discussion of the formal relationships in the Toccata, it is first necessary to make a careful study of the melodic and rhythmic motives which serve as the basis for the entire composition. Harmonic materials and their relationship to the melodic materials are also treated briefly in this section.

#### Basic Materials

The opening eight measures present all the important melodic and rhythmic ideas around which the entire Toccata

evolves (Ex. 2-1). Some are clearly stated, whereas others are merely implied.

The musical score is arranged in a standard orchestral format. The woodwind section (Oboe, Clarinet in Bb, Bassoon) and brass section (Trumpet in C, Horn in F, Trombone) are at the top. Below them is the Percussion and Celesta. The string section (Violin Solo, Violin I, Violin II, Viola Solo, Viola, Cello, Double Bass) is at the bottom. The tempo is marked 'Allegretto' with a metronome marking of ♩ = 72-76. A box containing the number '5' is placed above the Oboe staff in measure 5. The score shows various dynamics including *pp*, *p*, and *f*, and includes markings for crescendo and accents.

Example 2-1. Kirchner, Toccata, m. 1-8, Basic Material

Melodic Motives. The solo oboe reveals the important melodic motives in the first seven bars. Significant melodic intervals articulated in this initial statement are the ascending and descending minor second (four occurrences), and the ascending and descending minor third (four occurrences). (The descending minor third first appears in an upper part in the violin I and the celeste in measures 7 and 8.) These intervals form the basic cell of the Toccata. Example 2-2 illustrates some of the various shapes of the basic cell.

Main Theme

m. 2      m. 2-3      m. 2-3      m. 5      m. 5-6

Other Variants

m. 13      m. 13      m. 48      m. 65      m. 71  
violin I      viola      violin I      violin I      cello

Example 2-2. Kirchner, Toccata, Basic Cell and Variants

All of these motives are derived from the octatonic scale. Not only does Kirchner employ three-note fragments from these scales in his melodic writing, but larger fragments as well. At climactic points the entire scale is used.

Examples of Kirchner's use of the octatonic scale in the Toccata are shown in Examples 2-3a-b.

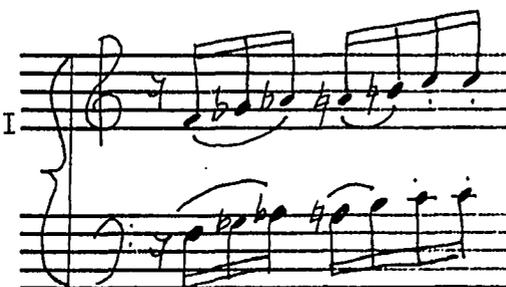
m. 85  
bassoon



m. 111  
violin I



m. 114-115  
violin I, II  
viola  
cello  
bass



m. 140  
violin I, II  
viola



Example 2-3a. Kirchner, Toccata, Octatonic Scale Fragments

The image displays two systems of a musical score. The first system covers measures 144-147 and includes parts for Percussion (T.D., S.D., B.D.), Violins (V.I, V.II), Viola (Va.), Cello (C.), and Double Bass (D.B.). The second system covers measures 248-251 and includes parts for Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Bassoon (Ba.), Trumpet in C (Tpt. in C), Horn in F (Hr. in F), Trombone (Tbn.), Percussion (Tam-Tam), Violins (V.I, V.II), Viola (Va.), Cello (C.), and Double Bass (D.B.). The score contains various musical notations including dynamics (cresc. molto, rit., f), articulation (arco), and performance instructions (T.D., S.D., B.D., J=80 subito). Measure numbers 145, 250, and 251 are clearly marked.

Example 2-3b. Kirchner, Toccata, m. 144-147, 248-251, Complete Octatonic Scales at Climactic Points

Rhythmic Motives. Much like the melodic motives, the basic rhythmic motives are presented in the first eight measures. The most significant idea is the four rhythmically even notes divided into two-note slurs. (The durational values vary from quarters to sixteenths depending on the meter and tempo.) The two-note slur idea first appears in the solo oboe line in measure 5, but does not fully emerge as a four-note motive until measure 9 in the violas. Melodic shapes that are frequently associated with this motive are down-repetition-up or up-repetition-down. Example 2-4 shows the development of the four-note motive.

m. 5 oboe  m. 9 viola 

m. 10-13



10 *accelerando*  
*♩ ♩ (♩ preceding quarter)*

*(molto) tutti*  
*mf crescendo*

*(crescendo)*

m. 76-78

Example 2-4. Kirchner, Toccata, Development of the Four-Note Motive

The four-note motive can also take on various other phrasing patterns, such as four legato or four staccato notes.

Another important rhythmic idea originating from the opening theme is the syncopated motive (Ex. 2-5). This

oboe

Example 2-5. Kirchner, Toccata, m. 3-5, Syncopated Motive

particular motive often assists in highlighting principal melodic lines. Example 2-6 illustrates the growth and development of the syncopated figure.

m. 2  
violin II

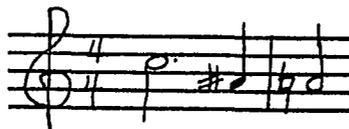
m. 90-91  
oboe

m. 67-69

Example 2-6. Kirchner, Toccata, Development of the Syncopated Motive

A third rhythmic motive that serves to unify the Toccata is the long-short-long motive (  $\text{♩} \cdot \text{♩} \text{♩}$  ). Example 2-7 illustrates this motive as it first appears in the clarinet countermelody in measures 3-4.

Bb Clarinet

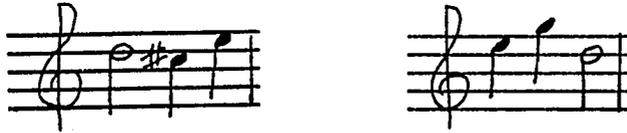


Example 2-7. Kirchner, Toccata, m. 3-4, Long-Short-Long Motive

This motive frequently occurs at crucial cadence points and serves to delineate formal sections. Example 2-8 illustrates this motive acting as a point of punctuation between two sections.

Example 2-8. Kirchner, Toccata, m. 30-33, Long-Short-Long Motive Acting as a Formal Determinant

Other important rhythmic motives,  and , first appear in the solo oboe in measures 2 and 6 (Ex. 2-9).



Example 2-9. Kirchner, Toccata, m. 2,6, Rhythmic Motives

All five rhythmic motives, , , , , , (labelled a-e in Ex. 2-10), occur within a two-measure span at a prominent point in the first development section. Example 2-10 illustrates the union of the five rhythmic motives.

The musical score for Example 2-10 consists of five staves, each with a rhythmic motive labeled a-e. The staves are labeled v.I, v.II, Va., C., and D.B. The notation includes notes, rests, and performance instructions such as 'non div.', 'pizz.', and 'arco'. The motives are: v.I (a) has notes f, a, c, c, c; v.II (b) has notes f, a, d, e, e; Va. (c) has notes d, d, d, d; C. (d) has notes d, d; D.B. (e) has notes e, e, e, e.

Example 2-10. Kirchner, Toccata, m. 141-142, Rhythmic Motives a-e

Harmonic Materials. 107 chords were analyzed in the Toccat for interval content, number of pitch classes contained in a chord, and set type. Chord function was not considered since our traditional concept of "chord progression" is not applicable in Kirchner's music. Sonorities employing four (37 examples) and five (35 examples) pitch classes were most common. Six-note sonorities (23 examples) were less frequent, and seven-note (9 examples) and three-note sonorities (3 examples) were rare.

Most of the four-note sonorities can be simply reduced to a major or minor triad with an added tone either above or below its root or fifth. The most common of the four-note sonorities was the 0147 chord (13 occurrences), which can be viewed as a major triad with an added tone one half step above its root, or a minor triad with an added tone one half step below the fifth. This particular sonority is significant structurally in the Toccat as it is employed during climactic points at the end of the exposition (m. 71) and in the development section (m. 108-110). It also initiates the recapitulation and ends the work. The final chord of the Toccat, illustrated in Example 2-11, is a b minor triad with an added f natural.

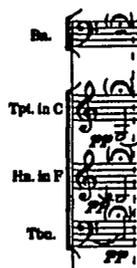
The image displays a musical score for a specific chord in a piece by Kirchner. The score is arranged in a vertical stack of staves, each labeled with an instrument. The instruments listed from top to bottom are: Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Bassoon (Ba.), Trumpet in C (Tpt. in C), Horn in F (Ho. in F), Trombone (Tbn.), Percussion (Perc.), Xylophone (Xyl.), Celesta (Cel.), Violin I (V.I.), Violin II (V.II), Viola (Va.), Cello (C.), and Double Bass (D. B.). The notation includes various musical symbols such as notes, rests, and dynamic markings, indicating the specific sound of the 0147 chord as a final sonority.

Example 2-11. Kirchner, Toccata, m. 272, 0147 Chord as Final Sonority

The majority of five-note sonorities can be reduced to major triads with two added tones or major-minor seventh chords with one added tone. Example 2-12 illustrates a D major-minor seventh chord with an added a<sup>b</sup>--a typical sonority found in the Toccata.

Example 2-12. Kirchner, Toccata, m. 31, Five-Note Sonority

The six- and seven-note harmonies are more complex structures and become meaningless when reduced to triads with added tones. One of the three-note chords in the Toccata, is a root position c minor triad occurring just prior to the coda (Ex. 2-13).



Example 2-13. Kirchner, Toccata, m. 258, Three-Note Sonority

Much like Kirchner's melodic writing, which is unified by a frequent use of the octatonic scale, his harmonies, too, depend often on this scale for their structural basis. 59 of the 107 chords are based on one of the three transpositions of the octatonic scale.

Figure 2-3 is a summary of the interval content of the analyzed chords categorized by interval classes. By a rather wide margin, the minor third is the most commonly

m2	M2	m3	M3	P4	tritone
166	162	261	212	175	139

Figure 2-3. Kirchner, Toccata, Interval Content of Chords

employed interval in chord construction in the Toccata. Perhaps, since the minor third is an important melodic interval, and also the most prominent interval in the octatonic scale (eight occurrences), this might be indicative of

Kirchner's desire to unify his musical space both horizontally and vertically.

### Sectionalizing Elements

Texture. Texture performs an important form-defining role in the Toccata. The first three large sections begin with very sparse textures consisting of three solo contrapuntal lines with punctuating chords in the supporting instruments. Figure 2-4 depicts these textures and the relative positioning of the accompanying chords.

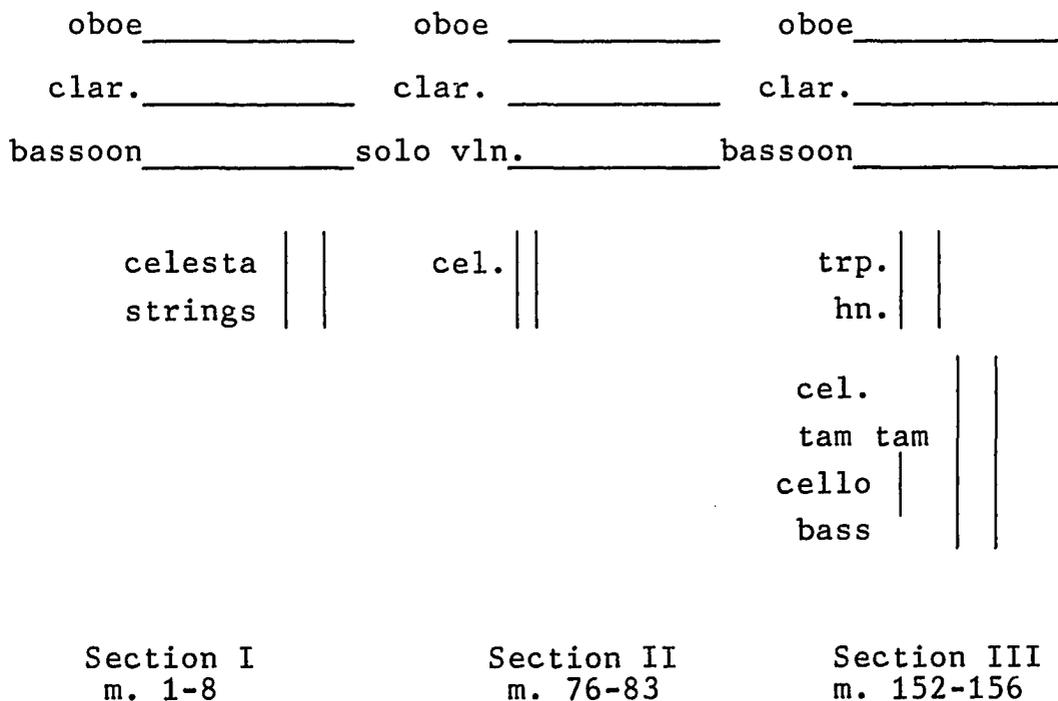
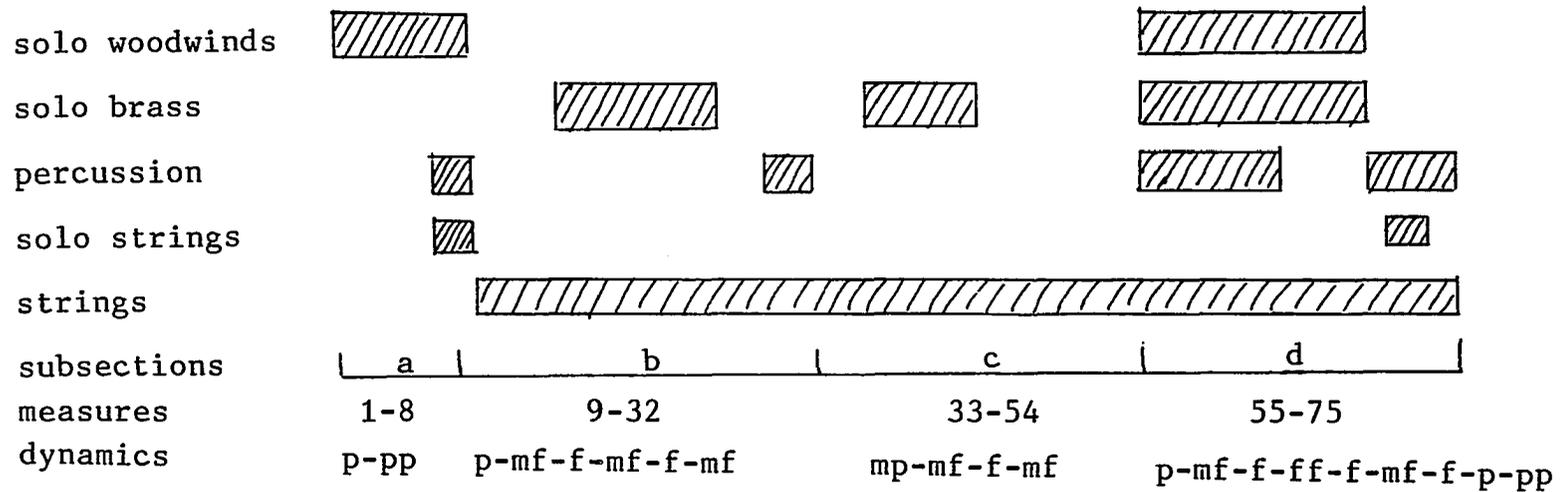


Figure 2-4. Kirchner, Toccata, Initial Textures of Sections I-III

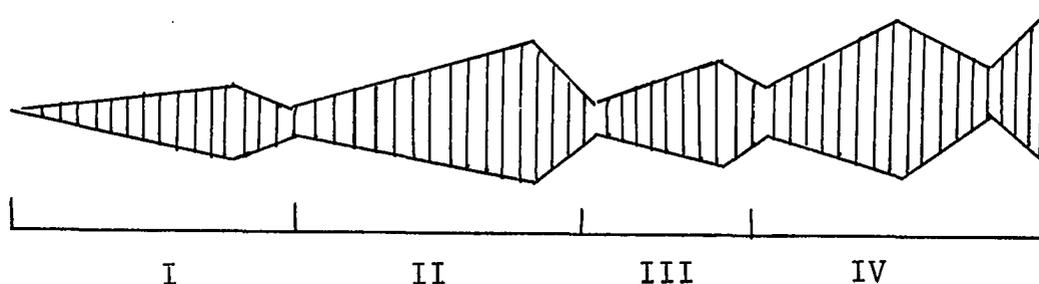
All four sections have slightly different textural plans. Subsection "a" of the first large section, employs a thin texture primarily consisting of three solo woodwinds. The texture thickens slightly in subsection "b," which employs a string texture of two to five voices with two short entrances by the solo brass. Subsection "c" is similar to subsection "b" in its textural design. Subsection "d" represents a sudden thickening which persists until a sudden thinning takes place at the very close of the section. Textural density is generally directly related to volume. Figure 2-5 illustrates the varying textures and their relationship to form and dynamics.



2 mm = 1 measure

Figure 2-5. Kirchner, Toccata, Texture and Its Relationship to Form and Dynamics in Section I

Sections II and III, which comprise the development section, feature consistently thicker textures than Section I. After texturally thin sections, the orchestration thickens to a constant string fabric with frequent superimpositions of brass and woodwind layers. The final section continues the thicker textures of the development until near the end when the original material reappears in its original sparse texture. The coda again employs a thick texture and features a tutti in the final bars. A generalized scheme of the textural plan in the Toccata is shown in Figure 2-6.



1 mm = 2 meas.

Figure 2-6. Kirchner, Toccata, Texture According to Macro-Form

Timbre. The percussion timbre performs a significant role in the articulation of form in the Toccata. Percussion instruments are employed sparingly throughout, but one of their major functions is to signal ends of sections.

(Subsections a, b, c, d, g, h, b', c', k, and a'' are articulated in this manner.) Delineation occurs by either two chords sounded by the celeste, and/or a brief motive by two or three of the non-pitched percussion instruments. Examples 2-14a-d illustrate the role of the percussion timbre as a formal determinant.

The image displays a musical score for Example 2-14a, consisting of two systems of staves. The first system, labeled 'Perc.' (Percussion), contains three staves. The top staff is marked with a circled '30' and contains a melodic line with a dynamic marking of *mf*. The middle and bottom staves are marked with 'B.D.' (Bells) and contain rhythmic patterns. A bracket above the Percussion section is labeled 'T.D.' (Timbre Determinant). The second system, labeled 'V.I.' (Violins I and II), 'Va.' (Viola), 'C.' (Cello), and 'D.B.' (Double Bass), contains five staves. The Violin I and II parts are marked with a circled '30' and *mf*. The Viola part is marked with *mf*. The Cello and Double Bass parts are marked with *mf* and *mp*. The score shows a transition from measures 30 to 33, with various dynamics and articulations.

Example 2-14a. Kirchner, Toccata, m. 30-33, Percussion Timbre as a Formal Determinant

Musical score for Example 2-14b, showing Percussion (Perc.), Cymbal (Cel.), and Double Bass (D.B.) parts. The score is marked "Allargando al" and includes a tempo indication of quarter note = 60. The Percussion part features a "Brush" effect and "S.D." (Soft Determinant) markings. The Cymbal and Double Bass parts also include "S.D." markings and a boxed measure number "75".

Example 2-14b. Kirchner, Toccata, m. 73-75, Percussion as a Formal Determinant

Musical score for Example 2-14c, showing Xylophone (Xyl.), Violin I (V.I.), Violin II (V.II), Viola (Va.), Cello (C.), and Double Bass (D.B.) parts. The Xylophone part is marked "(soft sticks)" and includes "S.D." and "T.D." (Timbral Determinant) markings. The Violin I and II parts are marked "pizz." (pizzicato). The Viola, Cello, and Double Bass parts are marked "col legno". The score includes a boxed measure number "55" and a tempo indication of quarter note = 96.

Example 2-14c. Kirchner, Toccata, m. 54-56, Percussion as a Formal Determinant

The image shows a page of a musical score for Kirchner's *Toccata*, measures 151-153. The score is for a full orchestra and includes percussion. The tempo is marked "J = about 56". The percussion part features a "Cym (brush)" and "Tam-Tam" with dynamic markings like "p" and "pp". The string section (V.I, V.II, Va., C., D.B.) is marked with "pp" and "p". The woodwinds (Ob., Cl. in Bb., Bn., Tpt. in C, Hn. in F) and brass (Tpt. in C, Hn. in F) parts are marked with "mp" and "p".

Example 2-14d. Kirchner, *Toccata*, m. 151-153,  
Percussion as a Formal Determinant

Kirchner often employs a sudden change from a horizontal to a vertical emphasis at ends of sections. Examples 2-15a-b illustrate the abrupt change from contrapuntal textures to chordal ones.

30

Perc. T.D.

R.D.

R.D.

30

v.I

v.II

Va.

C.

D.B.

Example 2-15a. Kirchner, Toccata, m. 30-31, Texture as a Formal Determinant

50

v.I

v.II

Va.

C.

D.B.

Example 2-15b. Kirchner, Toccata, m. 49-53, Texture as a Formal Determinant



few passages that employs asymmetrical and complex rhythmic patterns in the Toccata. This particular excerpt has the atmosphere of Bartok's "night music."

The image displays two systems of a musical score for Kirchner's Toccata, measures 171-175. The first system includes parts for Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Trumpet in C (Tpt. in C), Horn in F (Hn. in F), Trombone (Tbn.), Cello (Cel.), Violin I (V.I.), Violin II (V.II), Viola (Va.), Cello (C.), and Double Bass (D.B.). The second system includes parts for Oboe (Ob.), Clarinet in Bb (Cl. in Bb), Bassoon (Bn.), Solo Violin II (Soli V.II), Violin II (V.II), Viola (Va.), and Cello (C.). The score features complex rhythmic patterns, including triplets and sixteenth notes, and dynamic markings such as *pp*, *mf*, and *p*. Performance instructions like *div.* and *uniz.* are also present.

Example 2-16. Kirchner, Toccata, m. 171-175, Asymmetrical Rhythmic Patterns

One other factor that contributes to form through the duration parameter is the use of fermatas. These fermatas are used in conjunction with ritards and textural thinning to produce significant formal breaks. The first fermata divides the Exposition and Development, and the second is employed at the point of the final return of the "a" theme.

Dynamics. Dynamics, for the most part, conform to tempo and textural changes. Accelerandos are accompanied by an increase in dynamics, and ritards show a decrease in volume. In general, the slower sections employ thinner textures and quieter dynamics, whereas the louder dynamics are reserved for those sections with thicker textures and quicker tempi.

Pitch. The pitch parameter has more significance as a unifying agent primarily due to the consistent employment of the basic cell. Kirchner does achieve variety, however, in the three statements of the "a" theme through transposition of pitch materials, varying tempos, and reorchestration. The original presentation (Ex. 2-1), as previously mentioned, is set for three woodwinds at a moderately slow tempo ( $\text{♩} = 72$ ). The second appearance, which occurs within the development section, employs a slightly quicker tempo, and is reorchestrated for four solo strings with accompanying motives in the woodwinds. The pitches are similar to the

opening statement with a few modifications. The final appearance of the "a" theme is stated in Section IV transposed a perfect fourth higher than the original. This time the woodwinds and solo strings each share half of the theme. Each of these statements is punctuated by similar chords. The first two presentations employ the 0247 sonority, whereas the final statement includes the 0247 as part of a larger six-note chord. The second and third statements of the "a" theme are illustrated in Examples 2-17a-b.

The musical score for Example 2-17a shows the second statement of the "a" theme. It is a score for a full orchestra, including woodwinds and strings. The tempo is marked as quarter note = 48 (♩. 48). The score is divided into measures 163, 165, and 166. The woodwinds (Ob., Cl. in Bb., Ba., Cel.) and strings (V.I., V.II, Va., C., D.B.) play the theme. The score includes performance instructions such as "senza sord.", "Solo", and "tutti". Dynamics include "pp" and "p". The 0247 chord is indicated at the end of the score.

Example 2-17a. Kirchner, Toccata, m. 163-166, Second Statement of "a" Theme Punctuated by 0247 Chord

Ob. *cresc. molto* 250 *J = 92*

Cl. in Bb *cresc. molto*

Ba.

Tpt. in C

Ho. in F

Tbn.

Perc. Tam-Tam

V.I. *cresc. molto* 250 *J = 92*

V.II

Va. *arco cresc. molto*

C. *arco cresc. molto*

D.B. *arco cresc. molto*

Ob. 255

Cl. in Bb

Ba.

Tpt. in C

Ho. in F

Tbn.

Cel.

V.I. *pp div* 255

V.II *pp div*

Va. *pp*

C. *pp* 0247

Example 2-17b. Kirchner, Toccata, m. 248-257, Third Statement of "a" Theme Punctuated by 0247 Chord

Harmonic density is another factor creating contrast in the Toccata. Sections I and II show an equal preference for sonorities consisting of four and five pitch classes. The "slow" movement, Section III, employs primarily four-note sonorities. The thickest sonorities (five-, six-, seven-note chords) appear in the final section or "recapitulation." The following table gives the number of each type of chord analyzed in the Toccata according to section (Fig. 2-8).

Chord Density	Section I	Section II	Section III	Section IV
3-note	0	0	0	3
4-note	9	7	15	6
5-note	9	8	5	13
6-note	5	5	2	11
7-note	0	1	0	8

Figure 2-8. Kirchner, Toccata, Harmonic Density by Section

### Unifying Elements

Texture and Timbre. Texture and timbre function mainly as differentiators of formal units in the Toccata. To an extent, however, these parameters also provide a certain degree of unity. The consistent employment of string timbre (two to five voices) contributes to both intra- and inter-sectional unity. Inter-sectional cohesion is also present at the macro-level in textural plans. Each of the first three sections begin with a thin texture which gradually thickens to a climactic point and then recedes. Another unifying element which appears in every major section is the reduction to a chamber-like texture featuring three or four solo instruments. This is significant because not only does the texture return, but also the principal thematic idea.

Duration. Meter has a strong cohesive effect in the Toccata. Throughout the various tempo variations, the meter remains 4/4 except for one bar of 3/4 and one bar of 2/4. These minute changes are so unobtrusive, however, one hardly perceives these fluctuations when listening to the work. Example 2-18 illustrates the subtle addition of the 3/4 bar.

Example 2-18. Kirchner, Toccata, m. 129-131, 3/4 Bar

Within this rigid metrical framework, simple rhythmic patterns are employed. As mentioned above, the five rhythmic motives are used in various guises throughout each section providing a significant degree of inter- and intra-sectional unity.

Tempo is perhaps more significant as a formal delineator in the Toccata. However, it does provide some inter-sectional unity as well. The basic tempo of  $\text{♩} = 92$  (or 96 in some sections) occurs four different times during

the course of the Toccata.<sup>3</sup> Over half (141) of the total measures (272) are to be performed at 92-96 = ♩.

Pitch. The most important cohesive factor in this work is pitch. As previously stated, the minor third and minor second, which comprise the basic material, provide inter- and intra-sectional unity both in the horizontal and vertical dimension. The octatonic scale is also an important basis for much of the melodic and harmonic writing. Example 2-19 illustrates the interplay of melodic and rhythmic motives from a typical passage in the development section. Important motives are circled and octatonic scale fragments are bracketed.

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<sup>3</sup>Some sections are marked ♩ = 92 instead of ♩ = 92. These are actually equivalent because Kirchner doubles the rhythmic values in these sections.

Ob. *mp cresc.* 125

Cl. in B $\flat$

Ba.

Tpt. in C

Hn. in F

Tbn.

V. I. 125

V. II

Va. *divisi a 3* *pizz.* *unif. arco*

C. *mp cresc.* *unif. arco*

D. B. *mp sub.* *cresc.* *pizz.*

Ob.

Cl. in B $\flat$

Ba.

Tpt. in C *con sord.*

Hn. in F *con sord.*

Tbn. *con sord.*

Xyl. *hard sticks* *soft sticks* *pizz.*

V. I. *pizz.*

V. II. *pizz.*

Va. *pizz.* *arco* *col legno*

C. *col legno*

D. B. *col legno* *arco*

Example 2-19. Kirchner, Toccata, m. 123-128,  
Motivic Development

The Toccata is a highly chromatic work with few references to tonal centers. It would require the average listener several hearings before being able to discern any tonal patterns. Certain pitches, however, are emphasized at crucial points throughout the composition. The overall tonal plan progresses chromatically downward from d to b. Again, the interval of a minor third is significant. In this instance, it serves as the tonal frame for the entire composition. Example 2-20 illustrates significant pitch focal points in the Toccata. The outer tonal framework is



Example 2-20. Kirchner, Toccata, Pitch Focus  
According to Section

quite clear. Examples 2-21a-b illustrate the "d" focus in the opening theme and the b minor (with an added f natural) emphasis in the final chord.



Example 2-21a. Kirchner, Toccata, m. 1-7, "D"  
Tonality in the Opening Phrase



Example 2-21 b. Kirchner, Toccata, m. 272, Final  
"B" Tonality

Following the establishment of the "d" focus in the opening, the emphasis moves to "c#" in Section I through the use of several pedal tones. Example 2-22 illustrates the c# focus at the end of Section I. The c# focus continues into Section II with a highly varied statement of the "a" theme on c#. G# and g $\flat$ , which can be conceived as dominants of c# and c, receive stress again through the use of pedal tones in this section. Section III proceeds to a "c"

The image shows a musical score for two staves, C. (Cello) and D.B. (Double Bass). The tempo is marked 'Allargando al' with a dashed line, and the metronome marking is '♩ = 60'. A boxed measure number '75' is present. The music consists of eighth and sixteenth notes with various articulations and dynamics.

Example 2-22. Kirchner, Toccata, m. 73-75, C# Focus

focus, through the employment of pedal tones once more. After a brief excursion back to c# and its dominant, the c focus returns preceded by a final statement of the main theme on g. The final b focus is reserved for the final chord which is effectively led into by a descending C major scale.

#### Summary

Leon Kirchner's Toccata demonstrates the shaping potential using the bare minimum of musical materials. The opening seven-measure oboe melody is all that is required to articulate the essential melodic and rhythmic patterns upon which the entire Toccata evolves. The basic melodic material consists of a three-note cell whose important intervals are the minor third and minor second. The octatonic scale serves as the source from which these melodic motives are derived and also a basis for much of the harmonic material found in the Toccata.

The basic formal design of the Toccata is ternary with a two-part development section. Arch form elements are apparent in the reversed ordering of thematic material in the recapitulation. Each major section contains a varied return of the original thematic material. Exact repetition is rare in the Toccata. Only sixteen measures from subsection b are restated literally in the recapitulation.

Texture, tempo, and timbre contribute the most significantly to sectionalization in the Toccata. Dynamics, for the most part, conform to changes in texture and tempo. Harmonic density also provides contrast, especially in the final section.

Rhythmic and melodic motives, along with a consistent string timbre, and meter, provide cohesion and continuity in the Toccata. The tonal design which is related intervallically to the melodic and harmonic materials further strengthens the overall unity of the work.

The Toccata is an example of a work shaped by constant reworking and development of pitch and rhythmic materials within the framework of a somewhat traditional formal plan. The subtle balance between lyricism and rhythmic aggressiveness makes this work structurally sound and quite accessible to the listener.

## CHAPTER 3

### STRING QUARTET NO. 2

The String Quartet No. 2 was commissioned by the University of Michigan for the Stanley Quartet in 1958. In the following year, it was given its New York premiere by the Lenox Quartet in a recital sponsored by the Fromm Foundation and the New School for Social Research. One New York critic, Harold Taubman, was favorably impressed with the Quartet and wrote:

There is no sense of strain in this finely proportioned score, no feeling that technique gets in the way of expression... He writes with grace and lightness, with personal and touching lyricism, with sensitivity and virility. His ideas are chosen felicitously for the stringed instruments, and they are worked out in a manner that seems inevitable.<sup>1</sup>

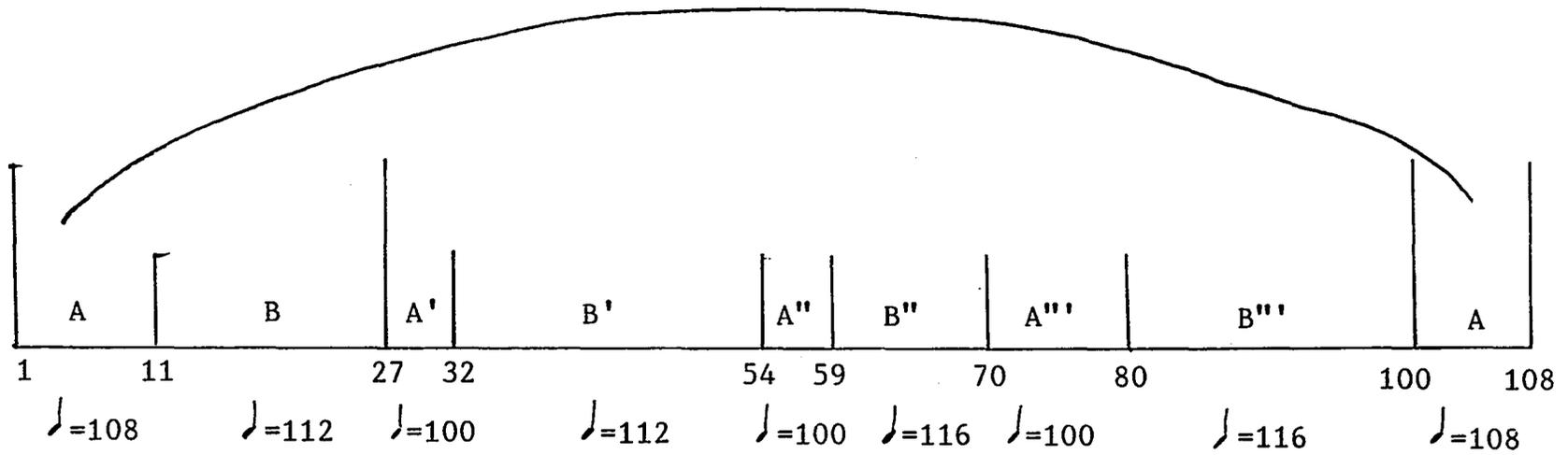
Kirchner's Quartet is a substantial three-movement work, lasting approximately nineteen minutes (Kirchner's indication). Each movement is distinguished by a contrasting tempo; the first is marked "Moderato," the second "Adagio," and the finale "Allegro molto." The movements are to be connected without pause, as indicated by the "attacca" marking found at the end of each of the first two movements.

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<sup>1</sup>Howard Taubman, "Music by U.S. Moderns," New York Times, 24 November 1959, p. 46.

Aside from tempo, the movements are set off by sustained fermata chords. Although they are related in musical materials, each of the movements are discussed separately below due to their contrasting characteristics.

The formal plan of the first movement can be described as an alternation of slow and fast sections. Slow sections are characterized by slower note values (halves, quarters, eighths) and metronome markings ranging from  $100 = \text{♩}$  to  $108 = \text{♩}$ . Quicker note values (thirty-seconds, sixteenths, eighths) and slightly faster tempo markings ( $\text{♩} = 112-116$ ) are employed in the faster sections. The slower sections are also shorter in length, ranging from five to ten measures, as compared to the faster sections which extend from eleven to twenty-two measures. The formal design can be thought of as resembling a double variation or simply a free sonata form. In the latter interpretation, the initial statements of A and B function as the exposition, the next three statements of A and B serve as the development, and the return of the original A comprises the recapitulation. Figure 3-1 illustrates the overall formal plan of the first movement with tempo designations.



Exposition

Development

Recap.

1 measure = 2 mm

Figure 3-1. Kirchner, String Quartet No. 2, Form and Tempo

First Movement: Basic Materials

As in the Tocatta, the basic motives are presented in the initial bars of the Quartet. The essential material of the first movement is shown in Example 3-1.

Moderato (♩ = ca. 108)

rit. a tempo

Violin I  
Violin II  
Viola  
Cello

pp pp p p p

poco rit. a tempo, accel. al

dolce dolce cresc. cresc. dolce p cresc. p cresc.

5

Example 3-1 is a musical score for a string quartet, measures 1-10, A Section. It features four staves: Violin I, Violin II, Viola, and Cello. The tempo is marked as  $\text{♩} = 112$  and  $\text{♩} = 108$ . The dynamics range from *f* (forte) to *p* (piano). The score includes markings for *dim. poco a poco* (diminuendo poco a poco) and *poco rit.* (poco ritardando). A circled measure number '10' is present at the end of the first system.

Example 3-1. Kirchner, String Quartet No. 2, I, m. 1-10, A Section

Melodic Motives. The minor 2nd and minor 3rd function as constructive units for the majority of musical ideas found in the Quartet. The significance of these two intervals is already apparent in the opening measure, as all melodic motion is by minor 2nds and 3rds except for one major 2nd in the cello line (Ex. 3-2).

Example 3-2 is a musical score for a string quartet, measure 1, showing the opening measure. It features four staves: Violin I, Violin II, Viola, and Cello. The tempo is marked as Moderato ( $\text{♩} = \text{ca. } 108$ ) and *rit.* (ritardando). The dynamics range from *pp* (pianissimo) to *p* (piano). The score includes markings for *pp* and *p*.

Example 3-2. Kirchner, String Quartet No. 2, I, m. 1, The Minor 2nd and Minor 3rd as Constructive Intervals

Not only are these two intervals integral to the first measure, but they dominate much of the melodic activity throughout the A section (m. 1-10). Figure 3-2 clearly reveals the relative significance of the minor 2nd and minor 3rd in melodic writing in the opening section.<sup>2</sup>

	m2	M2	m3	M3	P4	A4	P5	m6	M6	m7	M7	P8
Violin I	12	3	4	0	1	2	0	0	0	0	1	0
Violin II	7	3	6	2	3	2	0	1	0	0	0	0
Viola	10	3	2	0	0	0	1	0	0	0	1	0
Cello	17	3	11	0	0	2	0	0	1	1	0	1
Total	46	12	23	2	4	6	1	1	1	1	2	1

Figure 3-2. Kirchner, String Quartet No. 2, I, Melodic Intervals in Measures 1-10

The rising scale topped by the minor 3rd is the initial significant melodic motive presented in the Quartet. Example 3-3 illustrates the first appearance of this motive as stated by the cello in measure one.



Example 3-3. Kirchner, String Quartet No. 2, I, m. 1, Initial Melodic Motive

<sup>2</sup>Repeated tones and intervals spanning rests are not included in the chart. All intervals are designated in their simplest forms, i.e., Aug. 6th = minor 7th, Aug. 2nd = minor 3rd, etc.

Melodic variants of this motive are restricted to the violin I and cello. Transformations of the "main idea" in the A section are shown in Example 3-4

violin I  
m. 3-5

chromatic, inverted

cello  
m. 5-6

expanded intervals

violin I  
m. 6-7

octave displacement, chromatic, inverted

violin I  
m. 7-9

inverted, expanded final interval

violin I  
m. 9-10

retrograde inversion

cello  
m. 10

transposed original

Example 3-4. Kirchner, String Quartet No. 2, I,  
m. 1-10, Development of the Initial Motive

An important motive in the B section stems from the final three notes of the main idea (g-g#-b). Again the intervals of the minor 2nd and 3rd are employed. Example 3-5 illustrates the various transformations of this motive.

cello m. 1    vln. I m. 11    vla. m. 12    vln. I m. 14-15

vln. II m. 15    vln. I m. 19    vln. I m. 19-23

Example 3-5. Kirchner, String Quartet No. 2, I,  
Variants of the B Section Motive

Octatonic scales, as in the Toccatà, play a significant role in the melodic construction of the Quartet. Both motives discussed thus far are derived from these scales. Twenty octatonic scale patterns from four to eight notes in length occur in the first movement. Several of these scale passages from the first movement are shown in Example 3-6.

violin I  
m. 13



violin I  
m. 18



violin I  
cello  
m. 22



Example 3-6. Kirchner, String Quartet No. 2, I,  
Octatonic Scale Passages

Scalar passages employing various other patterns of whole and half steps also occur frequently in the first movement (Ex. 3-7).

violin I  
m. 43



violin I  
m. 82-83



Example 3-7. Kirchner, String Quartet No. 2,  
Non-Octatonic Scale Passages

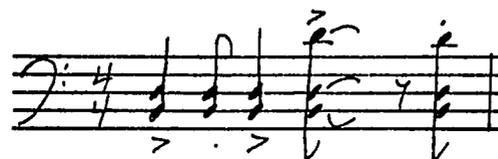
Rhythmic Motives. Several characteristic rhythmic motives serve to unify the first movement. The syncopated motive is the initial significant rhythmic idea to be revealed in the Quartet. The various guises of this motive are shown in Example 3-8.

cello  
m. 1



original statement

cello  
m. 11

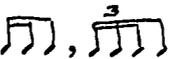


as accompanying motive in B section

violin I  
m. 27

A' section

Example 3-8. Kirchner, String Quartet No. 2, I,  
Syncopated Motive

A second important motive , is employed in each of the B sections. Example 3-9 illustrates the frequent appearance of this motive in an excerpt from the B' section.

Come prima (♩ = 112)

The image displays a musical score for a string quartet, specifically the B Section Motive from Kirchner's String Quartet No. 2, I, measures 32-41. The score is arranged in two systems, each with four staves. The first system (measures 32-34) features a variety of rhythmic patterns and dynamics, including *mf* and *f*. Performance instructions include *pizz.* (pizzicato) and *arco* (arco). The second system (measures 35-37) continues the motif, with a circled measure number '40' at the beginning. It includes dynamic markings like *mf* and *f*, and a specific instruction '(l.h. pizz.)' for the left hand. The notation includes various note values, rests, and articulation marks.

Example 3-9. Kirchner, String Quartet No. 2, I,  
m. 32-41, B Section Motive

Harmonic Materials. Sixty-one chords were analyzed in the first movement for set type and interval content. Kirchner shows a preference for four-note (29 examples) and five-note (19 examples) sonorities which implies a rich harmonic texture considering the medium. Less significant were six-note (8 examples), three-note (3 examples), and seven-note (1 example) sonorities. 0236 and 0347 were the favored four-note sets, each occurring five times in the

first movement. The 0347 chord can be viewed as a triad with both a major and minor third, e.g., C-Eb-E $\flat$ -G. This particular chord has structural significance in the first movement in that it is the initial sonority of the B' and B'' sections, and is contained in the final six-note sonority. The 0236 is a diminished triad with an added note one half step below or above its third, e.g., C-Eb-E $\flat$ -Gb or C-D-Eb-Gb. This sonority has particular significance in the Quartet as it is the most frequently encountered; and more importantly, it is the first and last sonority heard. Example 3-10 illustrates the 0236 chord in its initial occurrence in measure 1.

Moderato (♩ = ca. 108)  
rit.

Violin I  
*p*  $\rightarrow$  *pp*

Violin II  
*p*  $\rightarrow$  *pp*

Viola  
*p*  $\rightarrow$  *pp*

Cello  
*pp*  $\rightarrow$  *>p*

0236

Example 3-10. Kirchner, String Quartet No. 2, I, m. 1, 0236 Chord

The five-note sonority, 01369, and its related six-note sonorities, 013679, 013689, and 013569, are significant

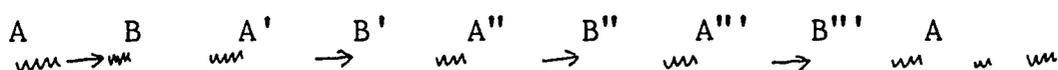
harmonies in the first movement. Each of these chords contains a fully diminished seventh sonority with one or two added tones a half step above or below one of its chord members. These chords delineate sections and are given importance through immediate repetition (Examples 3-11a-b).

Example 3-11a. Kirchner, String Quartet No. 2, I, m. 16-17, Repetition of an 013689 Chord

Example 3-11b. Kirchner, String Quartet No. 2, I, m. 77-79, Repetition of an 01369 Chord

First Movement: Sectionalizing Elements

Duration. Tempo is a significant delineator of macro-form in the first movement. Two basic tempos are employed that connect smoothly from one to the other through the use of accelerandos and ritards. The A sections are characterized by slower tempos, longer note values, and generally more lyrical writing; whereas, the B sections employ quicker note values, a slightly more rapid tempo, and a more aggressive style with numerous accents. Figure 3-3 illustrates the general tempo scheme of the first movement.



A sections ↓ = 100-108

B sections ↓ = 112-116

~~~~ = ritard

→ = accelerando

Figure 3-3. Kirchner, String Quartet No. 2, I, Tempo Plan

Unlike the Toccata, in which the meter remained 4/4 except for two bars, the Quartet employs a multimetric scheme. The first movement changes meter fifty-nine times utilizing the following meters; 2/4, 3/4, 4/4, 5/4, 6/4, 5/8, 7/8, and 9/8. Only the A''' section employs one meter throughout (4/4). 3/4 (28 measures), 4/4 (28 measures), and 7/8 (26 measures) are by far the most widely preferred

meters in the first movement. Meters with fewer number of eighth note beats, 2/4, 5/8, 3/4, and 7/8 occur more frequently in the more rapid B sections, whereas the meters with a greater number of eighth notes, 5/4 and 6/4, are more often reserved for the A sections. 4/4 occurs frequently throughout each section, while 9/8, at the other extreme, is employed just three times. Figure 3-4 illustrates the distribution of meters by section in the first movement.

| Meter     | 2/4 | 5/8 | 3/4 | 7/8 | 4/4 | 9/8 | 5/4 | 6/4 |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|
| A section | 0   | 3   | 1   | 8   | 16  | 1   | 5   | 4   |
| B section | 2   | 8   | 27  | 18  | 12  | 2   | 0   | 0   |
| Total     | 2   | 11  | 28  | 26  | 28  | 3   | 5   | 4   |

Figure 3-4. Kirchner, String Quartet No. 2, I, Meter According to Section

Dynamics. Dynamics tend to conform to fluctuations in tempo. The moderate tempos and slower note values of the A sections are accompanied by a lower dynamic level, whereas the more aggressive B sections are associated with a higher dynamic level. There is an increase in dynamics during accelerandos and a decrease during ritards.

Texture. While tempo and rhythm are primary determinants of macro-structure in the first movement, textural changes provide differentiation at lower levels of formal

organization. The B sections, with the exception of B'', are rather lengthy and divide into subsections. Many of these intra-sectional divisions are created through textural changes. Examples 3-12a-b illustrate sudden thickening at the end of a subsection effected by the repetition of a massive chord, which is then immediately followed by a textural thinning at the beginning of the new subsection.

The image shows a musical score for a string quartet, consisting of four staves. The music is written in a common time signature. The score is divided into three measures. The first measure shows a gradual increase in dynamics from *f* to *sf*. The second measure features a thickening of texture with a massive chord, marked with *p sub.* and *sf*. The third measure shows a textural thinning, marked with *mf* and *pizz.* (pizzicato). The score includes various dynamic markings such as *f*, *sf*, *p*, *mf*, and *sfp*, as well as performance instructions like *sub.* (subito) and *pizz.* (pizzicato). A bracket is drawn under the bottom staff in the second measure.

Example 3-12a. Kirchner, String Quartet No. 2, I, m. 16-18, Intra-Sectional Form Created Through Texture

A musical score for a string quartet, measures 40-41. It consists of four staves. The first staff has a circled measure number '40'. The music is in a complex rhythmic pattern with various note values. Dynamic markings 'mf' are present in several places. A bracket is drawn under the first two staves in the second measure.

Example 3-12b. Kirchner, String Quartet No. 2, I,  
m. 40-41, Intra-Sectional Form Created Through Texture

Example 3-13 illustrates the opposite textural event--the thinning of texture to one melodic strand at the end of a section, followed by an immediate thickening signalling the start of a new section.

A musical score for a string quartet, measures 22-24. It consists of four staves. The music features a variety of textures and dynamics. Performance instructions 'pizz.' and 'arco' are used throughout. Dynamic markings include 'mp', 'mf', and 'f'. A bracket is drawn under the first two staves in the second measure.

Example 3-13. Kirchner, String Quartet No. 2, I,  
m. 22-24, Intra-Sectional Form Created Through Texture

### First Movement: Unifying Elements

Texture and Timbre. Texture and timbre are significant unifying parameters in the first movement. A consistent four-part string texture is employed throughout devoid of any unusual coloristic devices. No mutes are required and only occasionally are pizzicati and harmonics called for. Other than normal legato and staccato articulation, three types of accents are employed, ranging from a slight stress to a heavy accent ( -, >, ^ ). Kirchner specifies accents to be performed relative to the dynamic context in which they occur.

Duration. A second cohesive factor in the first movement is duration. Although meter is fluctuating constantly throughout the movement, the eighth-note pulse serves as the unifying durational unit in all of the meters employed. Naturally, the speed of the eighth note will vary with tempo. The utilization of simple, common rhythmic patterns also provides cohesion within a fluctuating metric scheme, where downbeats are often difficult to discern. Example 3-14 illustrates the use of simple rhythmic patterns within a multimetric scheme.

Example 3-14. Kirchner, String Quartet No. 2, I, m. 67-70, Simple Rhythmic Patterns in Varying Meters

Tempo figures more prominently as a delineator of macro-form, but serves also to provide intra-sectional unity. As was mentioned above, moderate tempos are common to all A sections, whereas quicker tempos are characteristic of the B sections.

A final durational factor providing cohesion is the employment of rhythmic motives. The syncopated motive occurs in all sections and thus provides both intra- and inter-sectional unity. The other important rhythmic motive,  or , is mainly a cohesive element in the B sections.

Pitch. Pitch, acting through melodic motives, is the most significant cohesive parameter in the first movement. Motives constructed from minor 2nds and minor 3rds provide both intra- and inter-sectional unity in a work in



m. 10 Transposed a Perfect 5th Higher

m. 100-102 Restatement at Original Pitch Level

Example 3-15. Kirchner, String Quartet No. 2, I, m. 1-3, 10, 100-102, Three Statements of the A Material

The above excerpts from the first movement have further significance in that each passage relies solely on one of the three transpositions of the octatonic scale for its pitch materials. Measures 1-3 employ the third transposition of the octatonic scale (C#-D-E-F-G-G#-A#-B).<sup>3</sup> The second transposition of the octatonic scale (C-D-Eb-F-F#-G#-A-B) is the basis for measures 8-10.<sup>4</sup> In the final passage, measures 100-102 are based on transposition three, and measures 102-107 use the first transposition (C-Db-Eb-

<sup>3</sup>The final pitch (e) in the 2nd violin in measure 3, is the only note not found in this scale.

<sup>4</sup>In this passage, as shown in Example 3-15b, the instruments, in turn employ octatonic scale pitch materials.

E $\flat$ -F $\sharp$ -G-A-B $\flat$ ). Examples 3-16a-c illustrate the octatonic excerpts found in the first movement.

Moderato (♩ = ca. 108)  
rit. a tempo

Violin I  
*p* *pp* *p*

Violin II  
*p* *pp* *p*

Viola  
*p* *pp* *p*

Cello  
*ppp* *> p* *p*

Example 3-16a. Kirchner, String Quartet No. 2, I,  
m. 1-3, Passage Based on Octatonic Scale No. 3

♩ = 112 poco rit. ♩ = 108 poco rit.

*f* *dim. poco a poco* *p*

*f* *dim. poco a poco* *p*

*dim. poco a poco* *p*

*dim. poco a poco* *p*

Example 3-16b. Kirchner, String Quartet No. 2, I,  
m. 8-10, Passage Based on Octatonic Scale No. 2

#3

100  $\text{♩} = 108$  rit.

*p sempre*

*p sempre*

*p sempre*

arco *p*

a tempo

105 poco allarg.

*ppp*

*ppp*

*ppp*

*ppp*

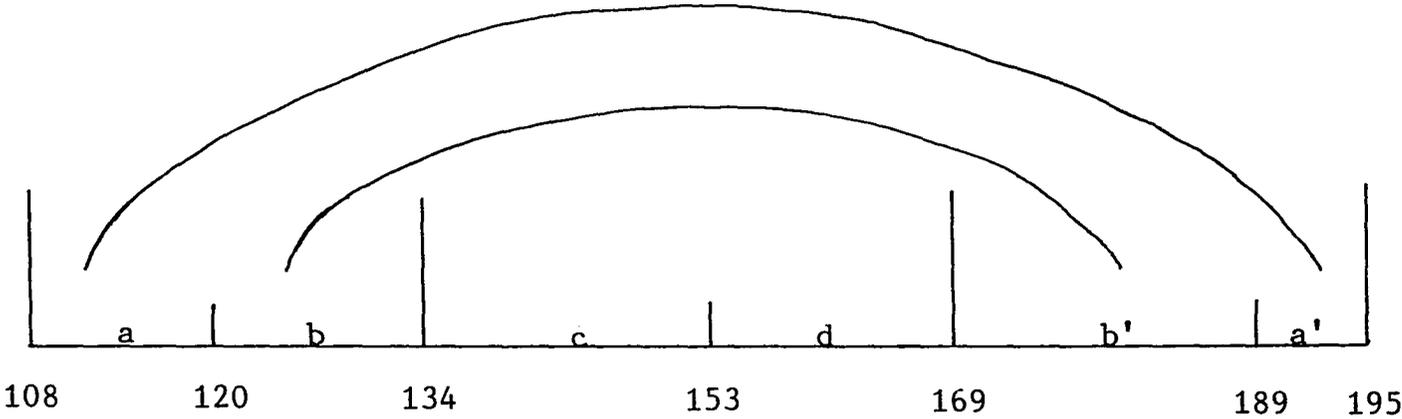
*ppp*

Example 3-16c. Kirchner, String Quartet No. 2, I,  
m. 100-107, Passage Based on Octatonic Scales No. 3 and 1

Second Movement: Basic Materials

The formal plan of the second movement can be viewed as an A-B-A design. The initial A section consists of an expository section followed by a transitional passage to the B section. The B section functions as a development in two parts. Varied restatements of the original A material followed by a short coda comprise the final A section. Figure 3-5 illustrates the formal scheme of the second movement.

1 meas. = 2 mm



Exposition

Development

Recapitulation

Figure 3-5. Kirchner, String Quartet No. 2, II, Formal Plan

Melodic Motives. The ascending major 6th is the initial important interval presented in the second movement. This interval serves the dual purpose of first, providing contrast with the more conjunct melodic materials of the first movement, and more significantly, preserving intervallic unity, as it is the inversion of the minor 3rd. Example 3-17 illustrates the opening bars of this movement in which each instrument takes its turn in presenting the major 6th motive.

Example 3-17. Kirchner, String Quartet No. 2, II, m. 108-110, Major 6th Motive

Scalar writing, both ascending and descending, permeates all sections of the second movement. Some of the scales are octatonic and others are free arrangements of whole and half steps. The utilization of various scale formations in the second movement is shown in Example 3-18.

$\text{♩} = 132$   
 Marcato ( $\text{♩} = 116$ )

Example 3-18. Kirchner, String Quartet No. 2, II, m. 153-157, Scalar Writing

A final significant melodic motive encountered in the second movement is a varied form of the original motive from the first movement--the rising octatonic scale fragment topped by a minor 3rd (E-F-G-G $\sharp$ -B). The minor 3rd, however, is now substituted by the major 6th, previously mentioned as a significant interval in the second movement. Example 3-19 illustrates the transformation of the original A motive from the first movement.

accel.  $\text{♩} = 126$  subito  
 accel. poco a poco  
 senza sord.

130  $\text{p} < \text{mf}$   
 $\text{p} < \text{mf}$   $\text{p} < \text{mf}$   
 $\text{p} < \text{mf}$   $\text{p} < \text{mf}$   
 senza sord.  $\text{mf} < \text{f}$   $\text{mf} < \text{f}$

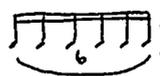
sub.  
 rit.  $\text{♩} = 92$  or less (poco rit. - - - - - )

cresc.  $\text{f}$   
 cresc.  $\text{f}$   
 cresc.  $\text{f}$   
 $\text{mf}$  cresc.  $\text{f}$

$\text{♩} = 126$  (poco rit.)  $\text{♩} = 72$  subito 135 accel. poco a poco

$\text{p dolce}$   
 $\text{p dolce}$   
 $\text{p dolce}$   
 $\text{p dolce}$

Example 3-19. Kirchner, String Quartet No. 2, II,  
 m. 127-136, Transformation of the A Motive From Movement I

Rhythmic Motives. For the purpose of inter-movement unity, Kirchner employs similar rhythmic materials in the second movement to those found in the first movement. , , and syncopated motives occur frequently in the slow movement. The sextuplet figure () , which was not a prominent motive in the first movement, is also encountered throughout the slow movement, and is usually associated with scalar or tremolo figures. Significant rhythmic motives are illustrated in Example 3-20.

accel. - - - - - ♩ = 104  
 senza sord.  
 mf



accel. molto - - - - - ♩ = 60 → ♩ = ♩ = 60 - - - - -  
 p senza sord. mf  
 senza sord. mf  
 p mf  
 p mf mf f mf

Example 3-20. Kirchner, String Quartet No. 2, II, m. 176-183, Rhythmic Motives

Harmonic Materials. Of the forty-eight chords analyzed in the second movement, there is a marked preference for four-note sonorities (29 examples). Less significant are the three-note and five-note chords (7 examples of each), and the six-note chords (5 examples). The most frequently encountered harmony is the 0247 chord, which can be simply described as a major triad with an added whole step above its root, e.g., Ab-Bb-C-Eb. Aside from the characteristic harmonic color of this sonority, timbral significance is achieved through the addition of a harmonic in at least one of the instruments. The structural importance of this harmony is discussed at a later point. Example 3-21 illustrates the first occurrence of this "color" chord in the second measure of this movement.

Adagio (♩ = 92)  
 (senza sord.) poco accel. poco rit.

pp  
con sord.

pp  
con sord.

pp  
con sord.

p  
pizz. arco  
p

p

0247

Example 3-21. Kirchner, String Quartet No. 2, II,  
 m. 108-109, 0247 Chord

Another important sonority in the second movement is the 013569 chord. This sonority can be viewed as a derivative of the 01369, which played an important role in the first movement. The 013569 occurs twice in the second movement, both times immediately following the 0247 chord. The 013569 bears resemblance to the previously discussed 0247 chord in that it also employs at least one high harmonic and occurs at crucial points within the movement--the beginning and the opening bars of the recapitulation. Example 3-22 illustrates the two occurrences of the 013569 chord paired with the 0247 chord.

Example 3-22. Kirchner, String Quartet No. 2, II, m. 108-109, 167-168, 0247 and 013569 Chords

### Second Movement: Sectionalizing Elements

Duration. Temporal relationships serve as important delineators of form in the second movement. The tempo plan is fluid throughout, consisting of thirty-two indicated metronome markings, fourteen accelerandos, fourteen ritards, two allargandos, and seven "subito" indications. Several of the accelerandos and ritards last only a few beats and essentially provide a "rubato" effect within sections. It is the extended accelerandos, ritards, and allargandos that create larger formal divisions. The following examples (Ex. 3-23a-b) illustrate the utilization of an extended accelerando



♩ = 120

*ff* *ff* *ff* *ff*

*pizz.* *pizz. arco*

165

allarg. - - - molto - - - ♩ = 60

*ff* *p* *p sempre*

*con sord.* *p sempre*

*arco* *p* *p*

*Recapitulation*

Example 3-23b. Kirchner, String Quartet No. 2, II, m. 162-168, Allargando as Formal Determinant

As in the first movement, Kirchner employs a multi-metric scheme in the slow movement. Within the eighty-eight bars of the second movement, there are fifty-five changes of meter. The meters employed range from 2/4 through 7/4 and 3/8 through 10/8. 3/4 (25 occurrences) and 4/4 (16 occurrences) are by far the preferred meters. The Exposition and Development tend to incorporate unstable metric patterns (frequent changes), while the Recapitulation employs

a relatively more stable metric scheme. There are eighteen measures of continuous meter change spanning the Exposition and Development, in contrast to twelve continuous measures of 3/4 in the Recapitulation.

Timbre. Another significant formal delineator in the second movement is timbre. The use of sustained chords colored with harmonics occur at crucial points throughout the movement. These chords differentiate subsections a and b, the development and recapitulation, and the second and third movements. Example 3-24 illustrates the use of a "color" chord to delineate subsection a and b in the second movement.

The image shows a musical score for a string quartet. It consists of four staves: two treble clefs (Violin I and Violin II) and two bass clefs (Viola and Cello/Double Bass). The score is in 3/4 time. Above the first staff, there are tempo markings: "a tempo (♩ = 80) quasi pont." followed by "rit. poco a poco al . . . . . ♩ = 72" and then "(120) (♩ = 144) accel." The score includes various musical notations such as notes, rests, and dynamic markings like "p". A specific chord is highlighted with a bracket and labeled "Color Chord". Another section is labeled "Subsection b".

Example 3-24. Kirchner, String Quartet No. 2, II, m. 116-120, Color Chord Used as a Formal Determinant

Another timbral element effecting formal division is the employment of mutes--con sordino versus senza sordino. The use of mutes in at least three of the instruments occurs in both A sections, whereas no mutes are employed in the B section. Figure 3-6 illustrates the use of mutes as a determinant of macro-form in the second movement.

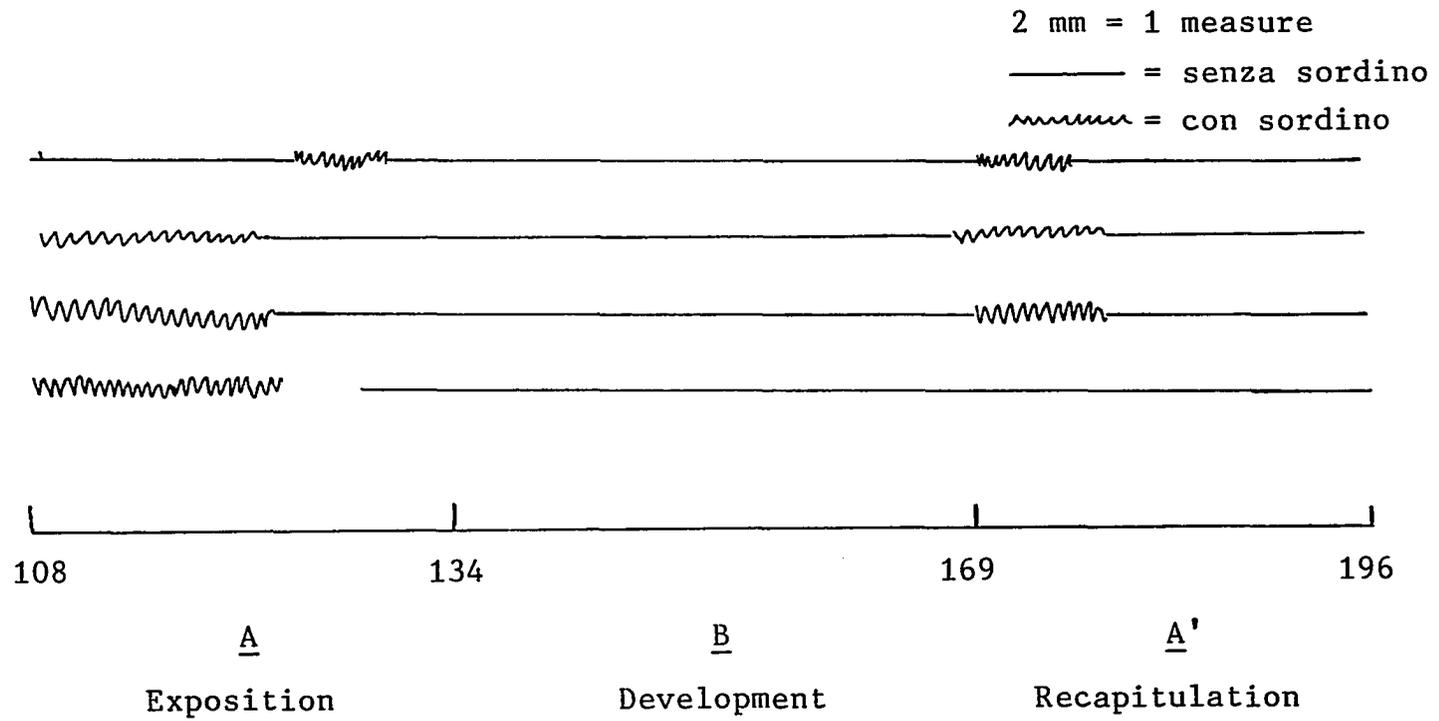


Figure 3-6. Kirchner, String Quartet No. 2, II, Mutes as a Formal Determinant

Pitch. The pitch parameter has more significance as a cohesive element through the constant employment of specific intervals and motives mentioned above. The 0247 chord, however, serves to delineate many of the formal sections in the second movement. It provides a frame for subsection a and the final A section, occurring as first and last sonority in each section. Three of the four occurrences are similarly spelled, Ab(G#)-Bb-C-Eb. At the beginning of the recapitulation, the sonority is transposed a perfect fourth higher as Db(C#)-Eb-F-Ab. Example 3-25 illustrates the framing function of the 0247 sonority in subsection a.

The image displays two systems of musical notation. The first system is marked "Adagio (♩ = 92)" and includes performance directions such as "(senza sord.)", "poco accel.", "poco rit.", and a circled measure number "110" with a tempo change to "♩ = 72". Dynamics include *pp*, *p*, and *pp*. The second system is marked "a tempo" and includes directions like "(poco accel.)" and "(poco rit.)", with a dynamic of *mf*. A bracket labeled "0247" spans the first two measures of the second system. The notation includes various musical symbols such as slurs, accents, and dynamic markings.

The image displays two systems of musical notation for a string quartet. The first system begins with the instruction "poco accel." and a tempo marking of  $\text{♩} = 80$ . A circled number "115" is placed above the first measure. The music continues with "poco rit. al  $\text{♩} = 64$ ". The second system starts with "a tempo ( $\text{♩} = 80$ )" and "quasi pont.". It then transitions to "rit. poco a poco al . . . . .  $\text{♩} = 72$ " and "ord.". The score includes various musical notations such as notes, rests, and dynamic markings like "p". A handwritten number "0247" is located at the bottom right of the second system.

Example 3-25. Kirchner, String Quartet No. 2, II, m. 108-119, 0247 Sonority as Formal Determinant

### Second Movement: Unifying Elements

Pitch. Pitch is an important unifying element in the second movement. Scalar passages, based on octatonic scales and other free arrangements of half steps and whole steps, permeate all sections providing both inter- and intra-sectional cohesion. The interval of the major 6th, both melodically and harmonically, also serves as a unifying

agent in the slow movement. Example 3-26 illustrates the employment of the major 6th in the opening eight bars of the second movement.

Adagio (♩ = 92)  
(senza sord.) poco accel. poco rit. (10) ♩ = 72 poco rit.

pp con sord. p  
con sord. pp p pizz. arco p  
con sord. p

a tempo (poco accel. poco rit.)

poco accel. (115) ♩ = 80 poco rit. al ♩ = 64

p quasi pont. ord.

Example 3-26. Kirchner, String Quartet No. 2, II, m. 108-115, Major 6th as a Unifying Element

The preponderance of four-note sonorities also provides continuity of harmonic density in the second movement. Many of these sonorities can be reduced to simple triads with added tones. One such sonority, the 0247, occurs a total of five times throughout the movement.

Duration. The constant shifting of tempo and metric schemes causing rhythmic fluidity, gives a sense of continuity in the second movement. (There are fifty-five meter changes within the eighty-eight bars.) Only in the final section is there any extended use of one meter--twelve continuous measures of 3/4. Kirchner, however, negates the temporary regularity of meter by employing frequent changes of tempo and rhythmic patterns. Example 3-27 illustrates the conflict of metric regularity and tempo irregularity.

accel. molto - - - - -  $\text{♩} = 60$  - - - - -  $\text{♩} = 60$  - - - - -

The musical score consists of four staves. The top staff is in treble clef, the second and third are in alto clef, and the bottom is in bass clef. The score is divided into two systems. The first system has a dynamic marking of *p* and the instruction *senza sord.*. The second system has a dynamic marking of *mf*. The bottom staff features a complex rhythmic pattern with dynamic markings *p*, *mf*, *p*, *mf*, *mf*, and *f* connected by arrows, indicating a crescendo and decrescendo. The tempo marking *accel. molto* is positioned above the first system, and the tempo  $\text{♩} = 60$  is indicated twice with dashed lines.

Musical score for Kirchner's *String Quartet No. 2, II*, measures 178-191. The score is in 4/4 time and consists of three systems of four staves each.

The first system (measures 178-181) starts with a tempo of quarter note = 92 and a dynamic of forte (*f*). It includes a *rit. poco a poco* instruction.

The second system (measures 182-185) starts with a tempo of quarter note = 69 and a dynamic of piano (*p*), with an *allarg.* instruction.

The third system (measures 186-189) is a *Quasi cadenza* with a tempo of quarter note = 72, *rit. al fine*, and a dynamic of mezzo-piano (*mp*).

Measure numbers 180, 185, and 190 are circled in the original score.

Example 3-27. Kirchner, *String Quartet No. 2, II*, m. 178-191, Flexible Tempo Within a Rigid Metric Framework

Third Movement: Basic Materials

The formal structure of the final movement is similar to the first movement in that both alternate two ideas in contrasting tempos. The third movement differs in that it incorporates a previous passage from the second movement approximately midway through. Figure 3-7 illustrates the formal plan and tempo scheme of the third movement.

- A m. 196-224, ♩ = 116 (Allegro molto)  
B m. 225-239, ♩ = 80  
C m. 240-256, varying tempi, from 2nd mvt.  
A' m. 257-266, ♩ = 116, from A (m. 196-200)  
B' m. 267-276, ♩ = 80  
A'' m. 277-302, ♩ = 116, from A (m. 203-206)  
Coda m. 303-309, Molto espressivo, gradual allargando to end

Form Figure 3-7. Kirchner, String Quartet No. 2, III,

The A' and A'' sections vary from the original A in that each recapitulates a different portion from the opening statement. Tempo unifies the two statements of B. The Coda reflects back on motives and timbres heard in the previous two movements as it gradually slows to the final chord.

Melodic Motives. In the final movement, Kirchner continues to employ melodic material constructed essentially

of smaller intervals, e.g., minor 2nds, major 2nds, and minor 3rds, and in effect the third movement is a synthesis of the previous movements. The reutilization of the major 6th and octatonic scale fragments from previous movements further reinforce the unifying effect of the third movement. The significance of the minor 3rd as a constructive interval both horizontally and vertically is already evident in the opening measure of the final movement (Ex. 3-28).



Example 3-28. Kirchner, String Quartet No. 2, III, m. 196, The Minor 3rd as a Constructive Interval

Rhythmic Motives. The basic rhythmic ideas typically employed in the third movement are straightforward, common rhythmic groupings superimposed over constantly varying meters. Sixteenth note groupings (, frequently triplets (), dotted rhythms (), syncopations (, and other common divisions, all figure prominently in the duration parameter in the final movement. The rhythmic diversity achieved, using simple rhythmic patterns within a changing metric scheme, is shown in Example 3-29.

The image displays three systems of musical notation for a string quartet. Each system consists of four staves: Violin I, Violin II, Viola, and Cello/Double Bass. The first system (measures 213-219) features a complex rhythmic pattern with frequent sixteenth and thirty-second notes. The dynamic marking *mf sempre* is present in all four staves. The second system (measures 215-219) continues the rhythmic complexity, with a circled measure number '215' at the beginning. The third system (measures 217-219) shows further development of the rhythmic patterns, including some triplet-like figures. The notation includes various articulations such as accents and slurs, and dynamic markings like *mf sempre* and *f*.

Example 3-29. Kirchner, String Quartet No. 2, III, m. 213-219, Typical Rhythmic Patterns

Harmonic Materials. As in the first movement, Kirchner employs a rich harmonic texture in the final movement. Four-note (18 examples) and five-note (19 examples) sonorities predominate the musical fabric, with fewer occurrences of three-note (5 examples) and six-note (6 examples) harmonies. The variety of chords is diverse--thirty-one different set types are used and only eleven of these occur more than once.

Important four-note sonorities employed are the 0236 and 0247 chords. The 0236 chord, which was structurally significant in the first two movements, also gains attention in the final movement. It is the first and final sonority heard in this movement. The 0247, which did not occur in the first movement but was the most significant harmony in the slow movement, occurs three times throughout the last movement--most importantly as the penultimate chord. The final two sonorities of the Quartet are shown in Example 3-30.

The image shows a musical score for Kirchner's String Quartet No. 2, III, measures 307-309. The score is for four staves: Violin I, Violin II, Viola, and Cello/Double Bass. The upper staves (Violin I and II) feature complex rhythmic patterns with many sixteenth notes. The lower staves (Viola and Cello/Double Bass) have more melodic lines. Dynamic markings include *p*, *mf*, *dim.*, *slow to fast*, *ff*, and *pizz.* Performance instructions include *arco* and *pliss.* Two specific sonorities are highlighted with brackets and labeled as 0247 and 0236.

Example 3-30. Kirchner, String Quartet No. 2, III, m. 307-309, 0247 and 0236 Used as Final Sonorities

Significant five-note sonorities in the third movement are the 01369 (4 examples) and 02368 (3 examples). The 01369 was significant in the first movement as a repeated chord and occurs only in the B sections in the final movement. The 02368 is paired each time with its variant--0236. These related pairs occur at the outset of the movement, the beginning of the C section, and near the close.

Third Movement: Sectionalizing Elements

Duration. Tempo is the most significant formal determinant in the last movement. Each major formal section not only marks a change in tempo, but tempo plan as well. Each of the three A sections are designated "Allegro molto" and tempo does not fluctuate within the section except for a very brief ritard in the final two beats of the first A section. The B sections are marked = ca. 80 and are characterized by a freer, more rhapsodic tempo plan. Markings such as "wild," "stringendo," "accelerando," and "slow to fast" are common to both B sections. The C section (from the second movement), marked "Adagio," is the most unstable in its tempo plan. All but three of its measures are not affected by sudden shifts in tempo caused by accelerandos and ritards. The Coda, indicated "Molto espressivo," simply slows gradually to the end. The tempo plan of the third movement is shown in Figure 3-8.

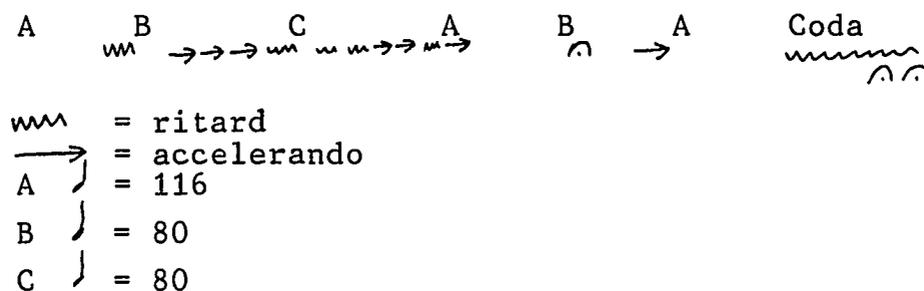


Figure 3-8. Kirchner, String Quartet No. 2, III, Tempo Plan

Meter also contributes to formal delineation in the third movement. There are eighty-one meter changes within the 114 measures causing much rhythmic instability. However, there are passages of metric stability which contribute to formal divisions. Aside from tempo creating a break between the first A and B sections there is also the contrast between constantly changing meters in the A section and metric stability in the opening of the B section. Figure 3-9 illustrates the juxtaposition of variable meters and fixed meters in the third movement.

| A section (final 12 bars) | B section (first 10 bars) |
|---------------------------|---------------------------|
| 8 7 10 3 7 3 7 9 7 9 7 7  | 4 4 4 4 4 4 4 3 3 4       |
| 8 8 8 8 8 4 8 8 8 8 8 8   | 4 4 4 4 4 4 4 4 4 4       |

Figure 3-9. Kirchner, String Quartet No. 2, III, m. 213-234, Metric Plan as a Formal Determinant

Dynamics. Dynamics also contribute to the delineation of macro-form in the third movement. The dynamic range in the A sections extends from "p" to "f" and changes in volume tend to be gradual. By contrast, the B sections use more sudden changes in dynamics, employing indications such as "crescendo molto," "subito piano," "wild," and "appassionato." The dynamic range is also extended to include fortissimo. The final A section (A") unites both plans by incorporating a five-measure fortissimo passage and rhythmic motives from the B section just prior to the Coda.

Third Movement: Unifying Elements

Pitch. Pitch is the most significant cohesive element in the third movement. Octatonic scale fragments occur in all sections except the C section, providing both inter- and intra-sectional unity. Scalar fragments from five to eight notes in length are found in the A sections ascending and descending, whereas complete one- and two-octave scales are employed in the B sections. Example 3-31 illustrates a two-octave octatonic scale in the cello reinforced at the interval of the minor 10th in the second violin.

The image shows a musical score for Example 3-31, consisting of four staves. The first staff is the Violin I part, starting with a circled '270' and the word 'wild'. It features a dynamic marking of *ff* and a tempo change from 'slow' to 'fast' indicated by a double bar line and a note with a longer stem. The second staff is the Violin II part, also starting with *ff* and *mf sub.* dynamics. The third staff is the Viola part, with *ff* and *mf sub.* dynamics. The fourth staff is the Cello part, starting with *ff* and *mf sub.* dynamics. The score shows a two-octave octatonic scale in the cello, reinforced at the interval of the minor 10th in the second violin. The scale is marked with a '10' and a note with a longer stem, indicating the interval. The dynamics range from *ff* to *mf sub.* and back to *ff*.

Example 3-31. Kirchner, String Quartet No. 2, III, m. 270-271, Octatonic Scale Passage

Another unifying element in the pitch parameter is the major 6th. This interval is heard in each of the major sections of the movement, both melodically and harmonically.

In particular, the major 6th C-A occurs frequently and is often repeated for emphasis. Examples 3-32a-c illustrate the incorporation of the major 6th, especially C-A, in the opening A and B sections.

Allegro molto ( $\text{♩} = 116$ )

Example 3-32a. Kirchner, *String Quartet No. 2, III*, m. 196, Implication of the Major 6th in the Opening Motive

229 ♩ = ca. 80

*mf*

*mf*

*mf*

Example 3-32b. Kirchner, String Quartet No. 2, III, m. 220-226, Development of the Major 6th in the A and B Sections

a tempo (♩ = 80-92)

*appass.*

*string.*

235 *string.*

*f*

*f*

*sf*

*appass.*

*ad lib.: slow to fast*

*slow to fast*

*ff*

Example 3-32c. Kirchner, String Quartet No. 2, III, m. 234-235, Further Development of the Major 6th in the B Section

A final unifying interval is the minor 3rd. Melodic outlining of chords constructed solely of minor 3rds, e.g., diminished triads and fully diminished 7th chords, are found in all A sections of the third movement. Two passages

from the initial A section, demonstrating the importance of the minor 3rd in the pitch parameter, are shown in Examples 3-33a-b.

Allegro molto ( $\text{♩} = 116$ )

The musical score consists of four staves. The first system shows the beginning of the passage with various dynamics including *f* and *fzp*. The second system, starting at measure 200, includes dynamics like *p sub.*, *mf*, *fzp*, *fz*, *arco*, *pizz.*, and *mf*. The score concludes with a dynamic marking of *f* in the cello part.

Example 3-33a. Kirchner, String Quartet No. 2, III, m. 196-200, The Minor 3rd as a Unifying Element

The image displays two systems of musical notation for a string quartet. Each system consists of four staves (Violin I, Violin II, Viola, and Cello/Double Bass). The first system includes dynamic markings such as *mf sempre* and *dim. triad*. The second system begins with a circled measure number '215'.

Example 3-33b. Kirchner, *String Quartet No. 2*, III, m. 213-216, The Minor Third as a Unifying Element

Duration. Tempo functions primarily as a formal delineator, but does provide intra-sectional continuity as well. All A sections are characterized by an energetic tempo (Allegro molto  $\text{♩} = 116$ ), while the B sections consistently employ a less rapid tempo ( $\text{♩} = 80$ ).

Meter also contributes to the overall unity of the third movement. The consistent use of common durational patterns within a variable metric framework (81 changes in 114 measures), provides a rhythmic fluidity which pervades the entire movement.

Texture. Texture performs an important unifying role in the final movement. Frequent use of repeated chords provide textural contrast in an otherwise contrapuntally conceived movement. These sonorities are generally accented and can occur as simply a repeated interval played by one instrument, or as much as a five-note chord in three instruments. Several of these repeated sonorities occur in the opening measures of the A section (Ex. 3-34).

Allegro molto (♩ = 116)

The musical score consists of four staves. The top staff is the first violin, the second is the second violin, the third is the viola, and the bottom is the cello and double bass. The music is in 4/4 time and features a complex texture with frequent use of repeated chords and accented sonorities. The tempo is Allegro molto with a quarter note equal to 116 beats per minute. The score includes dynamic markings such as *f*, *mf*, and *p*, and performance instructions like *pizz.* (pizzicato) and *arco* (arco). A circled number 200 is visible above the second staff.

Example 3-34. Kirchner, String Quartet No. 2, III, m. 196-203, Repeated Chord Sonorities

#### Summary

Kirchner's String Quartet No. 2 is a highly structured work, unified through the utilization of interrelated melodic and rhythmic motives. Each of the three movements of the Quartet employs motives similar to those found in the Tocatta. The minor third and minor 2nd are the basic constructive intervals found in all movements, with the major 6th (inversion of the minor 3rd) emerging as a significant interval in the final two movements. The octatonic scale again serves as the basis for much of the melodic and harmonic writing.

A rich harmonic texture, featuring four- and five-note sonorities, permeates the entire score. The most significant four-note chord, 0236, is employed as the initial and final sonority, and appears a total of twelve times

throughout the course of the Quartet. Another important harmonic entity is the five-note sonority, 01369, which occurs eight times, and receives emphasis through several immediate repetitions. Both aforementioned sonorities bear further significance in that they are constructed primarily of minor 3rds.

Unlike the Toccatà, Kirchner employs a multimetric scheme in the Quartet, changing meters 195 times in 309 measures. To counteract the instability found in the meter parameter, Kirchner overlays relatively simple durational patterns.

The formal plans of each of the three movements in the Quartet are unique. All three have one element in common, however, in that they later recapitulate materials heard previously in the movement. Both the first and third movements alternate two ideas in contrasting tempos. Extended developmental sections are common to the first and second movements. Exact repetition is infrequent. Only three measures from the opening movement are restated, while no literal repetition exists in the second movement. The third movement, acting as a unifying movement, restates nine of its measures near the close, and also recapitulates seventeen bars from the second movement.

Tempo is the most significant formal determinant in the String Quartet No.2. Each of the major sections in the

outer movements are delineated through abrupt tempo change, whereas the sections in the slow movement are created in a more subtle manner through accelerandos and allargandos. Less significant factors creating sectionalization in the Quartet are meter (all mvts.), texture (mvt. 1), timbre (mvt. 2), dynamics (mvts. 1 and 3), and pitch (mvt. 2).

Pitch and durational elements, such as meter and rhythm, provide both inter- and intra-movement cohesion in the Quartet. Texture and timbre also contribute to the overall continuity of the work.

In the String Quartet No. 2, Kirchner again successfully fuses twentieth century pitch and durational materials with traditionally based formal designs. The unifying effect of tonal centers is supplanted by recurring melodic motives, rhythmic motives, and coloristic chords carefully positioned throughout the score.

## CHAPTER 4

### CONCERTO FOR VIOLIN, CELLO, TEN WINDS, AND PERCUSSION

The two-movement Concerto for Violin, Cello, Ten Winds and Percussion was commissioned by the Chamber Music Society of Baltimore and completed in 1960. In the fall of 1961, the Fromm Foundation sponsored the New York premiere of the Concerto at the Metropolitan Museum of Art during the opening of the Eighth Congress of the International Society for Musicology. Joining the Kirchner work on this concert of American music were debut performances of compositions by Milton Babbitt and Elliot Carter. Two music critics present, Eric Salzman and Richard Franko Goldman, were most impressed with the Kirchner Concerto. Salzman writes: "Mr. Kirchner's Concerto, strong, vigorous, rich and, perhaps, over-ripe, was another musical world. The composer has always had a gift for welding together the most diverse musical elements and nowhere does he accomplish this with more directness and skill; the work is characteristic and supple."<sup>1</sup> Goldman further praises the merits of the Concerto and Kirchner's compositional technique:

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<sup>1</sup>Eric Salzman, "Music: Three Distinguished Works," New York Times, 7 September 1961, p. 41.

It has the strength of his best work: powerful, almost 'romantic' drive, independence of direction, and a fine sense of sound... As do all of Kirchner's best works, the Concerto for violin, cello, ten winds, and percussion shows great individual character, and has an expressiveness bordering on the rhapsodic. Kirchner seems to be as far away as possible--for a serious composer--from ideas of pure abstraction. He appears to be a composer who is able, even when it is no longer fashionable, to laugh and to weep, show anger and joy. He is certainly not inhibited, and his music is unusual in this day and age for its power to communicate some of the essential things, that have traditionally been associated with all forms of art, but which now are frowned upon as irrelevant curiosities. Kirchner's strength as a composer resides only partly in this power. The substance of his musical thought is solid, his technique and material are sufficiently original and of our times to make it impossible to dismiss him as a belated Romantic or a composer who in any sense looks backwards.<sup>2</sup>

The Concerto is a large work, lasting more than eighteen minutes on disc.<sup>3</sup> The two movements, approximately equal in length, are intended to be connected without pause as indicated by the "attacca" marking between movements. Because the movements are so closely related in melodic, rhythmic, and harmonic materials, and essentially form one structural entity, they are discussed as a whole in this chapter.

Both movements possess remarkably similar formal plans. Each is divided into three large sections, A B A',

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<sup>2</sup>Richard Franko Goldman, "Current Chronicle: New York," The Musical Quarterly 48 (January 1962): 95-96.

<sup>3</sup>The timing of 18'20" was taken from the following recording of the Concerto conducted by Kirchner; Epic LC3830.

which in turn subdivide into several smaller units. The final A' section of the Concerto acts as a double recapitulation, returning materials from both the first and second movements, and consequently, is substantially longer than the previous sections. Cadenza-like passages in the solo violin and cello permeate the B sections in both movements. Figure 4-1 illustrates the formal plans of the individual movements.

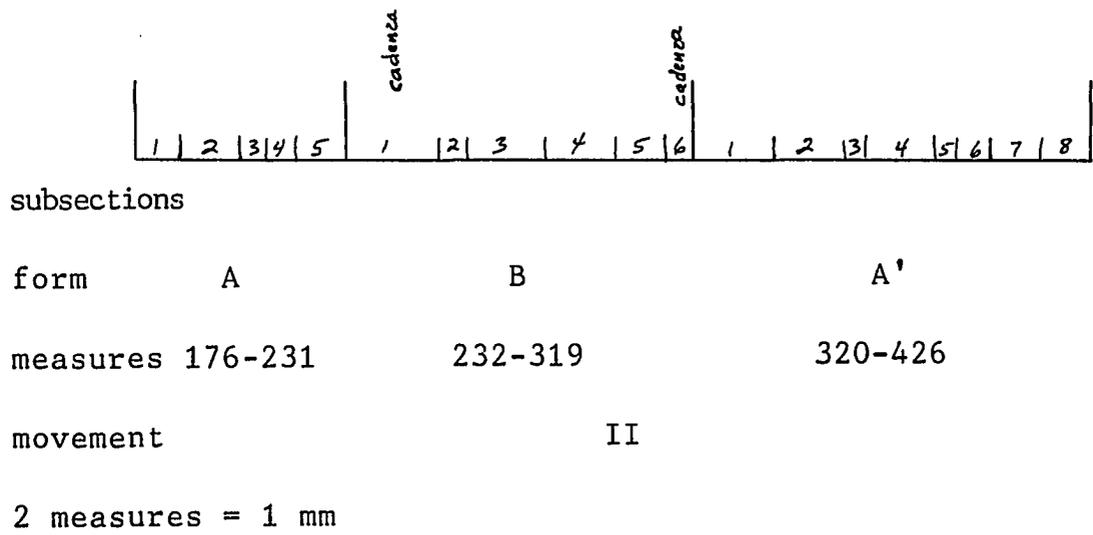
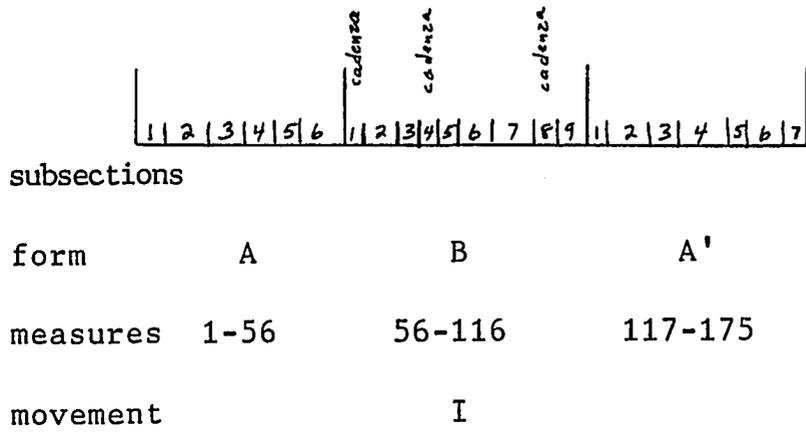


Figure 4-1. Kirchner, Concerto, Form

When viewed as a whole, the Concerto closely resembles an arch form. Both intra- and inter-movement thematic connections are shown in the following diagram (Fig. 4-2). Recurring tempos and rhythmic patterns which further reinforce the arch-like design are also included.

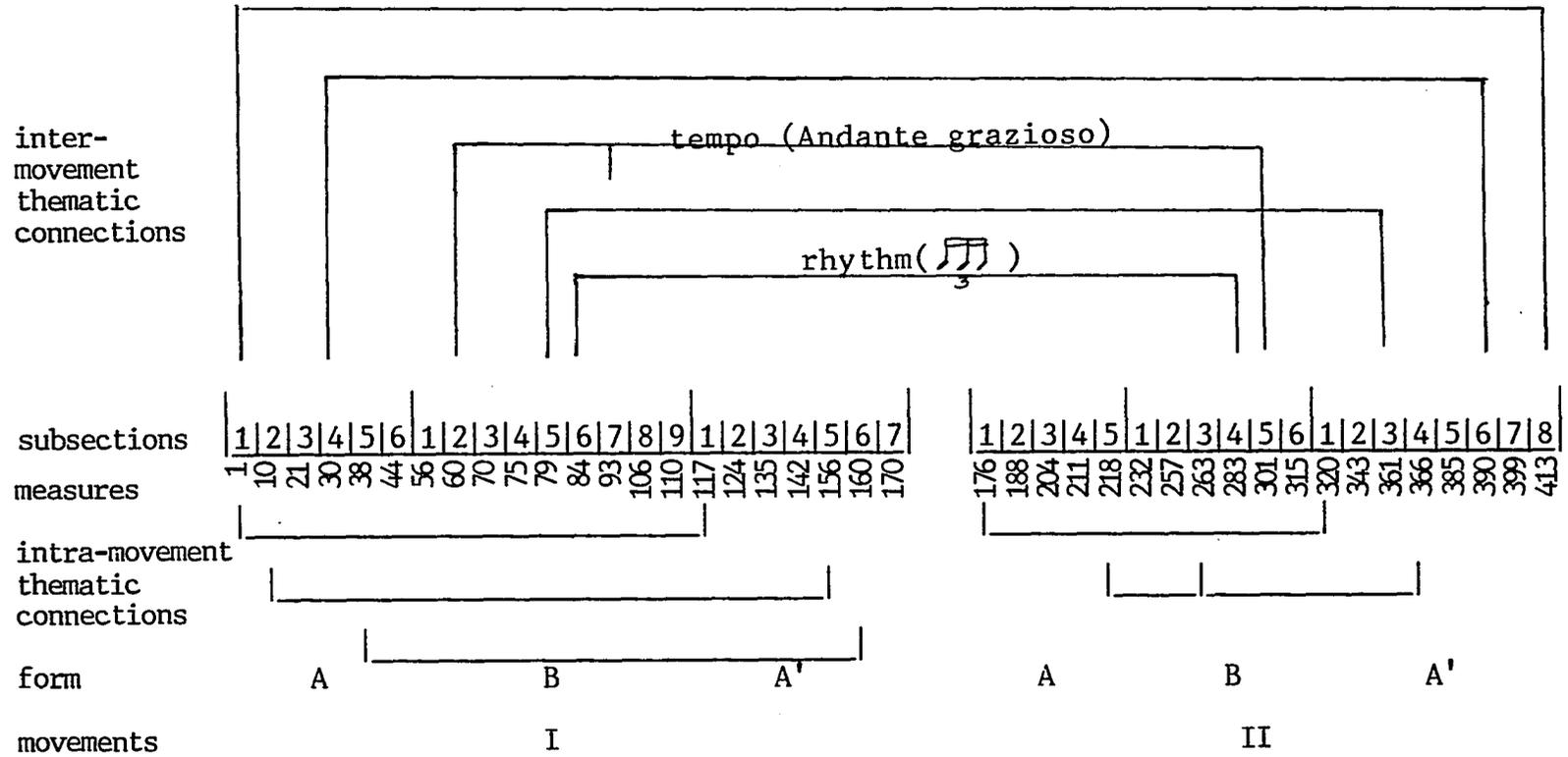


Figure 4-2. Kirchner, Concerto, Inter- and Intra- Movement Thematic Connections

Basic Materials

Melodic Motives. The melodic writing, in general, is far more disjunct in the Concerto than in the Toccata and String Quartet No. 2. The 2nds and 3rds of the earlier works are often expanded into intervals of 7ths, 9ths, and 10ths. Kirchner's utilization of a more disjunct melodic style reveals itself immediately in the opening two bars of the Concerto (Ex. 4-1).

**Allegro ma non troppo** (♩ = 200; ♩ = 100, no faster)

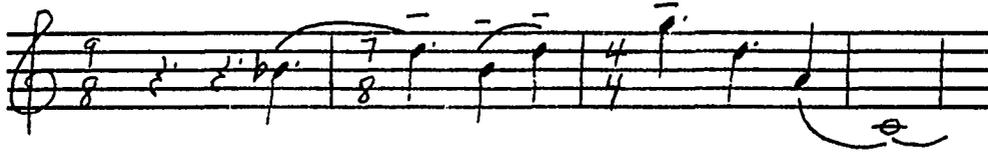
Flute I (Piccolo)  
Oboe  
Clarinet\*  
Bassoon  
Contra-Bassoon  
Horn\*  
Trumpets\*  
Trombones  
Solo Violin  
Solo Cello  
Xylophone  
Glockenspiel  
Antique Cymbals  
Tubular Bells  
Timpani  
Triangle  
Suspended Cymbal  
Tam-tam  
Wood Block  
Temple Block  
Maracas  
Tambourine  
Bongos  
Timbales  
Snare Drum  
Tenor Drum  
Bass Drum  
Celesta

3 + 2 + 2      2 + 3 + 2

**Allegro ma non troppo** (♩ = 200; ♩ = 100, no faster)

Example 4-1. Kirchner, Concerto, I, m. 1-2, Disjunct Melodic Writing

The opening two statements in the solo violin further corroborate the angularity of the linear writing in the Concerto (Ex. 4-2).



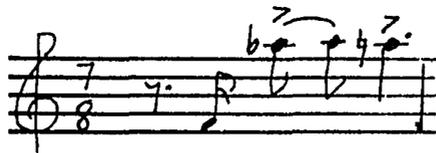
solo violin m. 4-7



solo violin m. 14-16

Example 4-2. Kirchner, Concerto, I, m. 4-7, 14-16,  
Disjunct Melodic Writing

Melodic motives constructed of minor 2nds and minor 3rds, and their inversional and compound equivalents, unify the pitch content of the Concerto. Example 4-3 illustrates the opening motive and its derivatives.



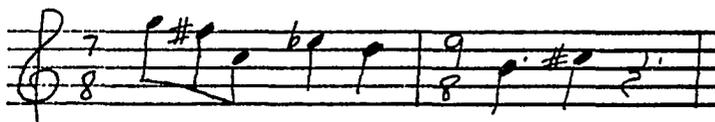
oboe m. 1 (mvt. 1)



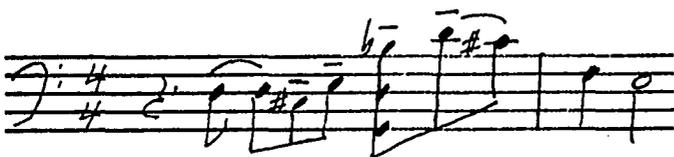
oboe m. 9-12 (mvt. 1)



solo violin m. 14-16 (mvt. 1)



solo violin m. 176-177 (mvt. 2)



solo cello m. 178-179 (mvt. 2)

Example 4-3. Kirchner, *Concerto*, Melodic Motives  
Employing Primarily Minor 2nds and 3rds, and Their Compound  
and Inversional Equivalents

Rhythmic Motives. Two rhythmic motives, which are referred to as "x" and "y" for the remainder of the chapter, also provide cohesion in the Concerto. Motive x is the dotted rhythm,  $\text{♩} \cdot \text{♩}$ , which was also significant in the Toccata and String Quartet No. 2. Both the initial and final rhythmic figures of the Concerto employ the x motive (Ex. 4-4a-b).

Allegro ma non troppo (♩ = 200; ♩ = 100)

Flute 1 (Piccolo)

Oboe

Clarinet<sup>a</sup>

Bassoon

Contra-Bassoon

Horn<sup>a</sup>

Trumpets<sup>a</sup>

Trombones

Solo Violin

Solo Cello

X motive

con sord

pizz.

pizz.

3 + 2 + 2

Example 4-4a. Kirchner, Concerto, I, m. 1, Motive x Employed as Initial Rhythmic Figure

425

The image displays a page of a musical score for Kirchner's Concerto, II, measures 424-426. The score is arranged in a standard orchestral format with multiple staves. The instruments listed on the left are Flute (Fl.), Oboe (Ob.), Clarinet (Cl.), Bassoon (Bsn.), Contrabassoon (C. Bsn.), Horn (Hn.), Trumpet (Tpt.), Trombone (Tbn.), Violin (Vln.), Viola (Vcl.), Bell (Bells), Snare Drum (Timp.), Mallets (Mol.), Wood (Wd.), Bass Drum (B. D.), and Celesta (Cel.). The score includes various musical notations such as notes, rests, and dynamic markings. A specific rhythmic figure is highlighted in the Snare Drum part with an 'X' and the number '425 X'. Above the Snare Drum part, there is a tempo marking 'd. = ♩' with arrows indicating the tempo change. The page number '119' is located in the top right corner.

Example 4-4b. Kirchner, Concerto, II, m. 424-426,  
Motive x Employed as Final Rhythmic Figure

Several rapid notes frequently follow the x motive. These notes usually occur in contrasting instruments causing a pointillistic effect. Two instances of this extension of motive x are shown in Example 4-5.

8

Fl.

Ob.

Cl.

Bsn.

C. Bsn.

Hn.

Tpts. 2

(sord.)

Tbns. 2

Vin.

pizz.

Vcl.

Fl.

Ob.

Cl.

Bsn.

C. Bsn.

Hn.

Tpts. 2

Tbns. 2

3 + 3 + 2 In 4

senza sord. pizz.

senza sord. pizz.

Vin.

Vcl.

Example 4-5. Kirchner, Concerto, I, m. 17, 189-190, Extension of Motive x

A second important rhythmic idea, , is designated motive "y". It is often associated with an ascending or descending melodic contour, the final note of which is a repetition of the previous note ( or ). Motive y is shown in Examples 4-6a-b.

Allegro ma non troppo (♩ = 200; ♩ = 100, no faster!)

Flute 1 (Piccolo)

Oboe

Clarinet<sup>a</sup>

Bassoon

Contra-Bassoon

Horn<sup>a</sup>

Trumpets<sup>a</sup>

Trombones

Solo Violin

Solo Cello

3 + 2 + 2      2 + 3 + 2

Example 4-6a. Kirchner, Concerto, I, m. 1-2, Initial Appearance of Motive y

Vin

Vcl.

Example 4-6b. Kirchner, Concerto, II, m. 276, Motive y

Harmonic Materials. A total of 308 chords were analyzed for set type, harmonic density, and interval content in the Concerto. Kirchner again exploits sonorities containing four pitch classes. The following chart illustrates the breakdown of chord density by movement (Fig. 4-3).

| Chord Density | 1st mvt.<br>no./% | 2nd mvt.<br>no./% | Total<br>no./% |
|---------------|-------------------|-------------------|----------------|
| 3-note chords | 21/17%            | 47/25%            | 68/22%         |
| 4-note chords | 47/38%            | 80/43%            | 127/41%        |
| 5-note chords | 26/21%            | 42/23%            | 68/22%         |
| 6-note chords | 18/15%            | 14/8%             | 32/11%         |
| 7-note chords | 11/9%             | 2/1%              | 13/4%          |
| Total         | 123               | 185               | 308            |

Figure 4-3. Kirchner, Concerto, Harmonic Density

The most significant four-note sonority in the Concerto is the 0236, occurring eleven times in each movement. Besides being the most frequently encountered sonority, the 0236 is also structurally significant in that it is employed as the opening and closing sonority in both movements. (The 0236 also served as the opening and closing sonority in the String Quartet No. 2.) Other important four-note sonorities are the 0369, 0258, 0147, and the five-note chord, 01369. A common element found in all these chords is that they each possess at least two minor 3rds,

once more verifying Kirchner's attempt to unify his melodic and harmonic materials. The 0236, which is essentially a diminished triad with an added tone one halfstep above or below its third, is shown in Example 4-7 as the final chord of the first movement.

Chord Example 4-7. Kirchner, Concerto, I, m. 175, 0236

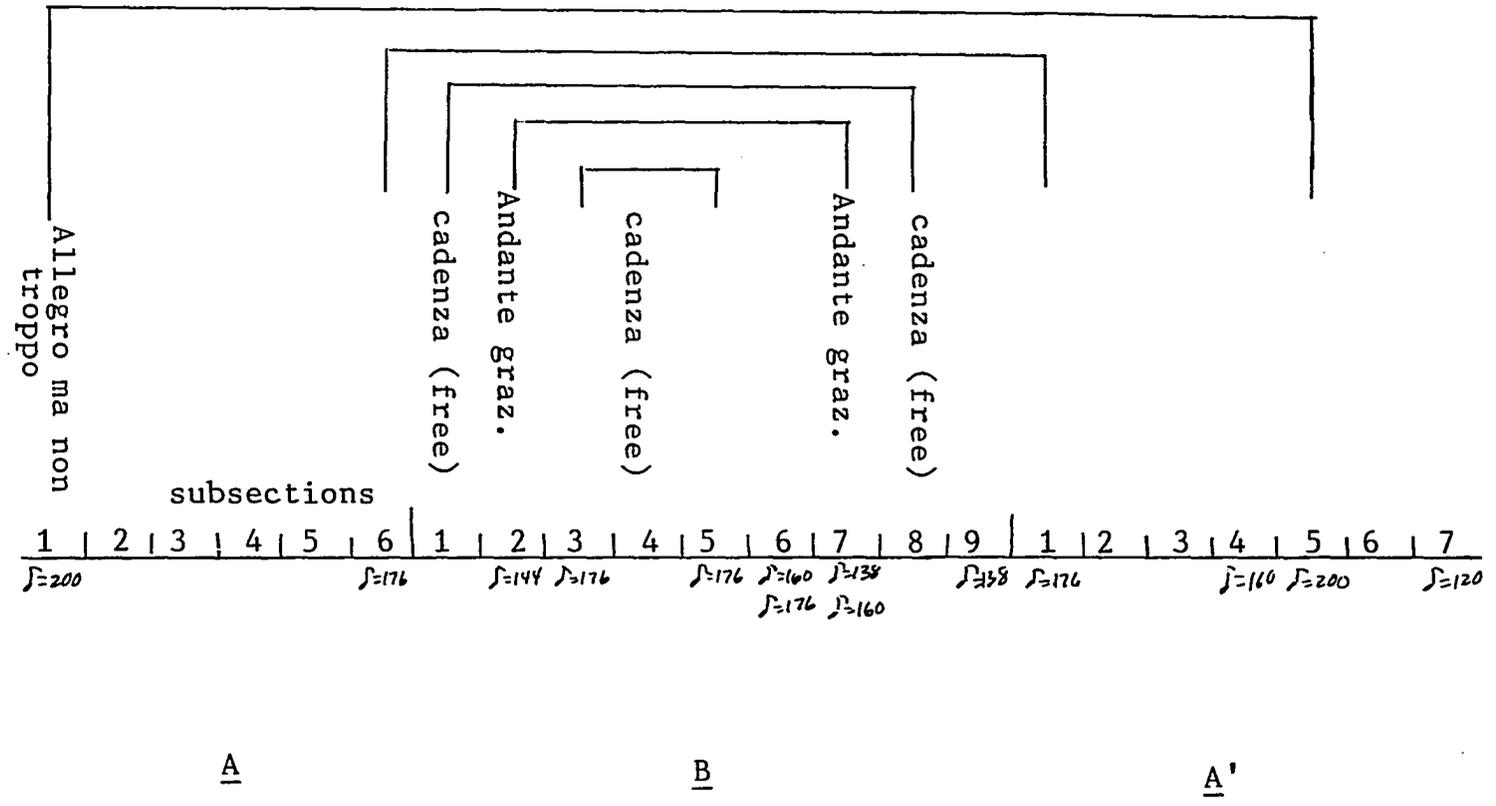
### Sectionalizing Elements

Duration. Tempo is an important delineator of form in the Concerto. It not only differentiates the two movements (the second movement, for the most part, employs slower tempos than the first), but also articulates more than half of the subsections of the Concerto. The two movements are also contrasting in that the second reflects a more unstable tempo scheme than the first. The following chart shows a comparison of tempo fluctuation in the two movements of the Concerto (Fig. 4-4).

| movement | accelerandos | ritards | tempo indications |
|----------|--------------|---------|-------------------|
| 1st      | 8            | 8       | 17                |
| 2nd      | 18           | 12      | 29                |

Figure 4-4. Kirchner, Concerto, Tempo Fluctuation

Macro-form in the first movement is delineated through the utilization of contrasting tempo schemes. Excessive deviations of tempo in the B section are contrasted with fewer changes in the outer A sections. Figure 4-5 illustrates the tempo plan of the first movement and the symmetrical patterns that evolve.



Most of the tempo changes which differentiate subsections in the Concerto, occur rather rapidly. Ritards and accelerandos generally span only one or two measures and occasionally tempo fluctuations are immediate, effected by "subito" indications. More gradual deviations, lasting several measures, generally delineate larger formal sections. The initial A section of the first movement is clearly articulated through the use of an extended ritardando accompanied by a textural thinning (Ex. 4-8).

50 *rit. poco a poco . . . (sempre rit. poco a poco) . . . . .*

Fl.  
Ob.  
Cl.  
Bsn.  
C. Bsn.  
Hn.  
Tpts. 2  
Tbns. 2  
Vin.  
Vcl.

3 + 2 + 2                      3 + 2    3 + 2

*(ritardando)* . . . . . 55 ♩ = 160 (♩ = 80) Quasi cadenza

Fl.

Ob.

Cl.

Bsn.

C. Bsn.

Hr.

Tpta. 2

Tbns. 2

3 + 2 + 2 + 3

Viol.

Vcl.

Quasi cadenza *accel.*

Quasi cadenza *accel.*

arco

*p*

Example 4-8. Kirchner, *Concerto, I*, m. 50-56, Extended Ritard Used as a Formal Determinant

The use of a fermata and a change in texture sets up the return of the A' section in the second movement (Ex. 4-9).

Adagio (♩ = 50)

Fl

Ob

Cl

Bsn

C. Bsn

Hn

Trpt 2

Tbn 2

Viol

Viola

320  
Adagio (♩ = 50)

Pich Perc

Timp

Mtr

Wd

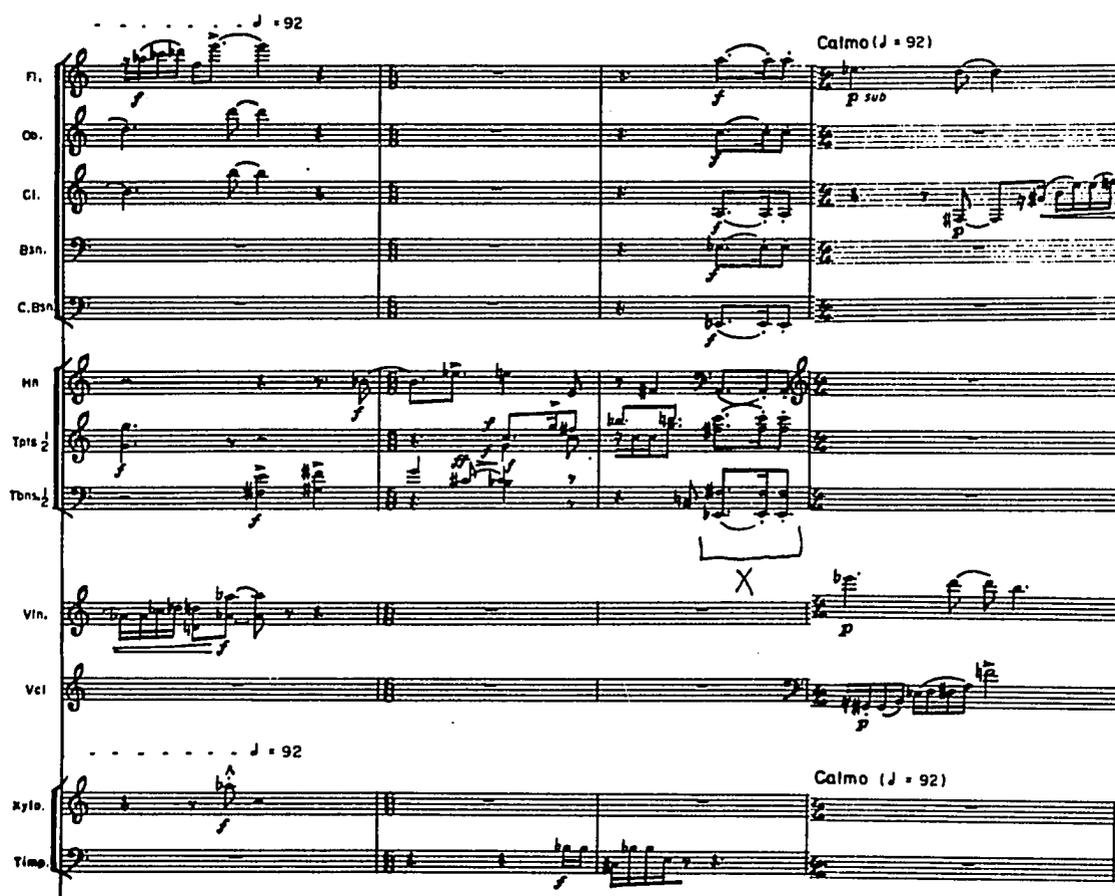
Memb

Cel

*accel. molto* - - - - -  
*slow to . fast . . . . to slow*  
*pizz*

Example 4-9. Kirchner, *Concerto*, II, m. 319-321,  
The Use of a Fermata as a Formal Determinant

The rhythmic motive x, , employed as a punctuating device, also serves as a form-defining element in the Concerto. Example 4-10 illustrates motive x delineating two subsections of the initial A section in the second movement.



The musical score for Example 4-10 is a page from a music manuscript. It features a full orchestral score with parts for Flute (Fl.), Oboe (Ob.), Clarinet (Cl.), Bassoon (Bsn.), Contrabassoon (C.Bsn.), Horn (Hn.), Trumpet 2 (Tpts. 2), Trombone 2 (Tbns. 2), Violin (Vin.), Violoncello (Vcl.), Xylophone (Xylo.), and Timpani (Timp.). The tempo is marked 'Calmo (♩ = 92)'. The score is divided into two subsections by a double bar line at measure 202. The rhythmic motive 'x' (a quarter note followed by two eighth notes) is highlighted in the Violin part at measure 203 and in the Xylophone part at measure 204. The score includes various musical notations such as dynamics (p, p sub), articulation (accents), and phrasing slurs.

Example 4-10. Kirchner, Concerto, II, m. 201-204,  
Motive x Used as a Formal Determinant

Texture. Texture is a significant determinant of both macro- and micro-form in the Concerto. As in its historical predecessor, the Classical Concerto, the contrast between solo and tutti textures serve as important articulators of musical structure. The most obvious example of texture determining form in the Concerto is in the positioning of the violin-cello cadenzas. Both movements use cadenzas to define the outer boundaries of the developmental sections (B sections).<sup>4</sup> Figure 4-6 illustrates the placement of the five cadenzas in the B sections of the Concerto.

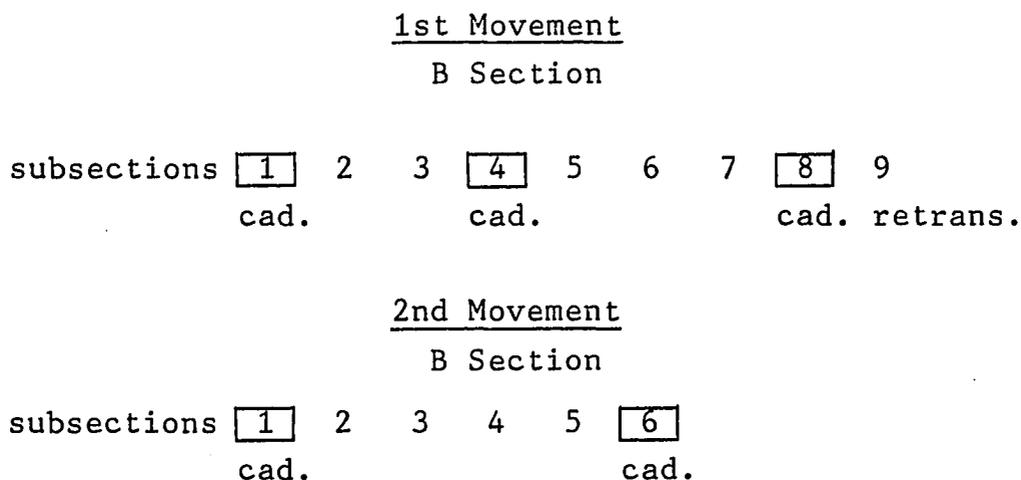


Figure 4-6. Kirchner, Concerto, Cadenza as a Formal Determinant

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<sup>4</sup>In the first movement there is a short retransition section following the cadenza before the return of the A material.

Four of the five "quasi cadenzas" as Kirchner designates these passages, are only four to five bars in length and have occasional light accompaniment in the orchestra. The fifth cadenza, which initiates the B section in the second movement, is the only true cadenza--lasting twenty-three measures and totally void of accompaniment (Ex. 4-11).

Quasi cadenza      Presto (♩ = 120)      235

*accel. molto*      *poco a poco ordinario*      *(ord)*      *♩*

Vln *pizzicato*      *poco a poco ordinario*      *(ord)*

Vcl *pizzicato*      *poco a poco ordinario*      *(ord)*

*accel.*      Prestissimo (♩ = 80)      240

Vln *legato*

Vcl

*poco rit.*      ♩ = 184      245 *poco rit.*

Vln *ritmico*

Vcl

♩ = 92      250 *accel.*

Vln *ritico*

Vcl

♩ = 116

Vin  
Vcl

Example 4-11. Kirchner, Concerto, II, m. 232-254,  
Cadenza 5

Textural changes also affect lower levels of formal organization in the Concerto. Example 4-12 shows the delineation of a subsection in the first movement, through abrupt change from an orchestral to a solo texture.

30

Fl  
Ob  
Cl  
Bsn  
C. Bsn  
Hn  
Tpts 2  
Tbns 2  
Vin  
Vcl

3 + 2 + 2    3 + 2 + 2

Example 4-12. Kirchner, Concerto, I, m. 29-31,  
Subsection Indicated Through Textural Change

Pitch. Pitch has more significance as a cohesive factor in the Concerto, but also assists in the delineation of formal units. The most significant sonority in the Concerto, the 0236, serves to articulate the outer boundaries of the two movements. It occurs as the initial and final chord of the first movement, the initial chord of the second movement, and is contained in the six-note sonority which concludes the work. Example 4-13 illustrates the 0236 employed as the initial sonority in the second movement.

Adagio (♩ = 69)

3 + 2 + 2

0236

Example 4-13. Kirchner, Concerto, II, m. 176, 0236 Chord Used as the Initial Sonority

Kirchner often employs lengthy scalar passages as a means of formal definition in the Concerto. Scalar passages, which were numerous in both the Toccata and String Quartet No. 2, are used sparingly in the Concerto. The first passage, which employs an ascending octatonic scale followed by an ascending chromatic scale, occurs just prior to the final cadenza in the B section of the first movement (Ex. 4-14a). The second example (Ex. 4-14b) sets up the recapitulation of the A section in the second movement with a descending octatonic scale encompassing nearly three octaves.

The musical score for Example 4-14a shows a complex scalar passage across multiple instruments. The flute part is marked with '(Piac. ossia)' and features a series of sixteenth-note runs. The horn, trumpet, and trombone parts are marked with '(con sord.)' and '(senza sord.)'. The violin and violoncello parts provide a rhythmic accompaniment. The score includes a rhythmic diagram '3 + 2 + 2' and performance instructions such as 'flutter poco a poco'.

Example 4-14a. Kirchner, Concerto, I, m. 102-105,  
Scalar Passage Used as a Formal Determinant

Example 4-14b. Kirchner, Concerto, II, m. 319,  
Scalar Passage Used as a Formal Determinant

### Unifying Elements

Pitch. Pitch materials provide a strong cohesive element in a work in which there is little exact repetition. Melodic motives primarily constructed of minor 2nds and minor 3rds, and their compound and inversional equivalents unify each subsection of the Concerto. Especially significant in the vertical dimension is the minor 3rd. The diminished triad, which consists of two superimposed minor 3rds, is contained in more than half (167 examples) of the 308 chords analyzed. An important seven-note sonority, 0134679, which occurs five times throughout the Concerto, contains six minor 3rds and three diminished triads (Ex. 4-15).

Musical score for Example 4-15, showing staves for Horn (Hn.), Trumpet (Tpt.), Trombone (Tbn.), Violin (Vln.), and Viola (Vcl.). The score includes a rehearsal mark "2 + 2 + 3" and a dynamic marking "mf".

Example 4-15. Kirchner, Concerto, I, m. 28, Sonority Constructed Primarily of Minor 3rds

Well-timed return of thematic materials also contributes to overall unity in the Concerto. Kirchner restates the opening measure with slight variations a total of seven times during the course of the work. Figure 4-7 illustrates the relative placement of the seven occurrences.

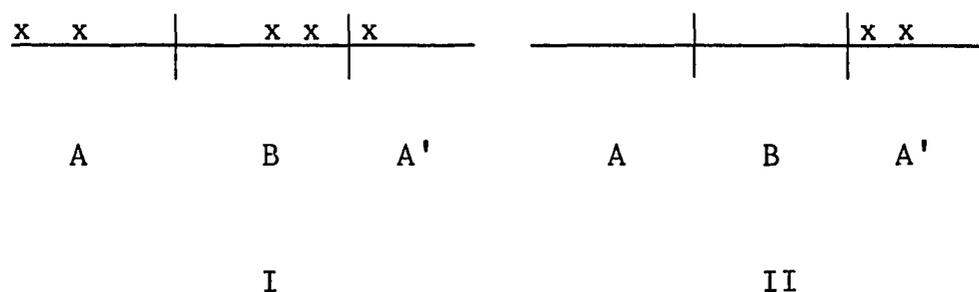


Figure 4-7. Kirchner, Concerto, Statements of the Initial Idea

In each of the seven statements, the ascending minor 10th-ascending minor 2nd (f-ab-a $\flat$ ) is preserved while surrounding pitches, orchestration, and rhythm vary. Example 4-16 illustrates the opening bar and two of its variants.

The musical score for Example 4-16 is presented in three systems, each showing a different orchestration of the same melodic idea. The instruments listed on the left are: Flute 1 (Piccolo), Oboe, Clarinet, Bassoon, Contra-Bassoon, Horn, Trumpets, Trombones, Solo Violin, Solo Cello, Xylophone, and Timpani. The first system is marked "Allegro ma non troppo" with a tempo of quarter note = 200 and half note = 100. The second system is marked "10 a tempo" with a tempo of quarter note = 200. The third system is marked "365". The Solo Violin and Solo Cello parts are marked "pizz" and "3 + 2 + 2". The Trombones part is marked "can sord" and "(sord)". The Xylophone and Timpani parts are marked "365".

Example 4-16. Kirchner, Concerto, m. 1, m. 10, m. 365, Variants of the Main Idea

Duration. The utilization of rhythmic motives also contributes to cohesion and continuity in the Concerto. As previously mentioned, both movements consistently employ two motives, x ( $\text{♩}$ ) and y ( $\text{♩}$ ), thus, providing both intra- and inter-sectional unity (See Examples 4-4a-b and 4-6a-b).

Tempo serves primarily to provide contrast as a result of the numerous indicated fluctuations. Unity is also achieved, however, through the return of specific tempo indications. The opening tempo,  $\text{♩} = 200$ , remains throughout the first five subsections of the A section (m. 1-44), re-occurs toward the end of the first movement (m. 156-170), and makes its final appearance in the final section of the work (m. 390-419). A slightly slower tempo,  $\text{♩} = 176$ , occupies much of the center portion of the first movement and returns in the recapitulation of the second movement. The second movement is unified by the repetition of two slower tempo designations--Adagio ( $\text{♩} = 50-69$ ) and Andante ( $\text{♩} = 69-92$ ).

As in the String Quartet No. 2, Kirchner employs a multimetric scheme in the Concerto. Inter- and intra-sectional unity is achieved through the almost constant unpredictability of downbeats. Order is preserved through the maintenance of the eighth-note pulse and avoidance of complex rhythmic patterns. During the course of the Concerto, there are 263 meter changes within the 426 bars.  $3/4$ ,  $4/4$ ,  $5/8$ ,  $6/8$ , and  $7/8$  are the most commonly employed meters. Example

4-17 illustrates a typical passage in which Kirchner incorporates simple rhythmic patterns over shifting meters.

210 *poco rit. . . .*

Fl.

Ob.

Cl.

Bsn.

C. Bsn.

Hn.

Trpt. 2

Tbn. 2

3 + 2

Vln.

Vcl.

Pich. Perc.

210 *poco rit. . . .*

Tim.

|       |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|
| Met.  | 1 2 | 1 3 | 1 4 | 1 3 | 1 4 |
| Wd.   | 1 2 | 1 3 | 1 4 | 1 3 | 1 4 |
| Memb. | 1 2 | 1 3 | 1 4 | 1 3 | 1 4 |

Col.

Example 4-17. Kirchner, Concerto, II, m. 207-210, Simple Rhythmic Patterns Superimposed Over Shifting Meters

Texture and Timbre. Texture and timbre function primarily as articulators of form in the Concerto. However, these two parameters also contribute to the overall continuity and cohesion. The Concerto is essentially a chamber work, transparently scored, with few orchestral tuttis. One unifying feature is the constancy of the solo violin and cello timbre. Except for a ten-measure orchestral interlude in the final section of the second movement (m. 375-384), the solo instruments are never absent from the musical fabric for more than three bars.

#### Summary

The Concerto for Violin, Cello, Ten Winds, and Percussion is a complex two-movement work unified through the employment of melodic and rhythmic motives similar to those found in the Toccatà and the String Quartet No. 2. Both movements are cast in similar ternary forms with cadenza-like passages for the solo instruments delineating the B sections. When perceived as a whole, the Concerto, is a large arch form. The final section of the second movement performs the dual role of a recapitulation for both movements.

Although the Concerto employs a more disjunct and fragmented melodic style than the two previous works, the basic constructive materials are related. Minor 3rds and



## CHAPTER 5

### MUSIC FOR ORCHESTRA

Commissioned by the New York Philharmonic in honor of their 125th anniversary, Kircher's Music for Orchestra (1969) was premiered in New York City on October 16, 1969 with the composer conducting. Associated Music published the score in the following year. Reviews of the debut performance were especially complimentary of its solid craftsmanship and unique textures and timbres. Winthrop Sargent of the New Yorker magazine writes:

The work is expressive partly because of the deftness and originality of the orchestration but also because of a sort of earnestness that manages to burst through the limitations of the style... On the whole, it has an effect of impressionism-- one can occasionally hear, or imagine, the twitterings of birds, and much of it is expressed in terms of textures and colorings of one sort or another... But there can be no doubt that in it Mr. Kirchner knows exactly where he is going and reaches his goal with extraordinary adroitness.<sup>1</sup>

Harold C. Schonberg, music critic for the New York Times discusses Music for Orchestra from an historical perspective:

As contemporary scores go, Music for Orchestra is a conservative work. It has plenty of dissonance

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<sup>1</sup>Winthrop Sargent, "Musical Events: Prometheus Un-Bounded," New Yorker, 25 October 1969, p. 147.

and even one aleatoric section, but it flirts with tonal centers and even has melody of a Bergian sort. The ghost of Lulu haunts some of the lyric sections. On the whole, though, this is a score so different from what we have been getting lately, so defiantly derriere-guarde, that it actually sounds new. It takes a stand, has a point, goes someplace and stops when it has had its say. Surges of orchestral power alternate with quieter sections, and there is even a feeling of personality... Certainly it establishes the point that not all the traditions of the past are unworkable.<sup>2</sup>

Music for Orchestra is cast in a single movement and lasts approximately thirteen minutes (Kirchner's indication). Besides the usual strings, woodwinds, and brass, the orchestration includes piccolo, English horn, contrabassoon, and tuba. Four or five percussionists are also required to perform on a vast array of instruments such as wind chimes, antique cymbals, bongos, and vibraphone.

The formal plan can be viewed as a three-part structure, A B A', in which the "B" section functions as an extended development containing several subsections. Figure 5-1 illustrates the formal plan with corresponding tempo indications and motives which will be discussed below.

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<sup>2</sup>Harold C. Schonberg, "Music: Philharmonic Offers Leon Kirchner Work," New York Times, 17 October 1969, p.34.

|             |            |                   |                               |
|-------------|------------|-------------------|-------------------------------|
| <u>A</u>    | m. 1-43    |                   |                               |
| <u>a</u>    | m. 1-17    | } = 54            | motives x,y,z                 |
| <u>b</u>    | m. 18-30   | } = 72, 48, 84    | ostinatos                     |
| <u>a'</u>   | m. 31-43   | } = 54            | motives z,y,x                 |
| <u>B</u>    | m. 44-161  | (development)     |                               |
| <u>1</u>    | m. 44-92   | } = 132           | motive x                      |
| <u>2</u>    | m. 93-98   | } = 54            | motives y,z (false recap.)    |
| <u>3</u>    | m. 99-129  | } = 72            | motive z, ostinatos           |
| <u>4</u>    | m. 130-161 | free, } = 54, 88  | ostinatos (aleatoric cadenza) |
| <u>A'</u>   | m. 162-163 | } = 54            | motive x                      |
| <u>Coda</u> | m. 164-180 | } = 132, 152, 144 | motive y (rhythm)             |

Figure 5-1. Kirchner, Music for Orchestra, Form

The final section of the development (m. 130-161) is an aleatoric passage which gives the aural effect of an orchestral cadenza. In this passage, flutes, clarinets, and percussion randomly repeat specified series of pitches, beginning and ending on the conductor's cue. Vertical alignment of notes are not important. Traditionally notated passages, performed by other sections of the orchestra, are superimposed upon the aleatoric textures creating a unique stratification of sound.

### Basic Materials

Melodic Motives. Three intervals, the minor 2nd, minor 3rd, and to a lesser extent the tritone, unify the majority of the melodic writing found in the Music for Orchestra. These intervals and their compound equivalents form the basis of the three important thematic ideas found

in the first seventeen bars (motives x, y, and z). The constant reworking and development of these motives shape the remainder of the work. The "x" idea employs an appoggiatura figure and is transparently scored for solo woodwinds (m. 1-9). The "y" motive utilizes a dotted rhythmic figure, disjunct intervals, a forte dynamic level, and tutti orchestration (m. 9-10). A softer dynamic level, cluster harmonies, and rather free rhythmic patterns employing triplets, characterize the final idea (m. 11). Motives x, y, and z are shown in Example 5-1.



In the closing phrase of the initial A section, the melody in the flutes and celesta consists solely of the three aforementioned intervals except for one major third (Ex. 5-2).

(poco allarg.)

Fl. 1  
Fl. 2  
Ob. 1  
Cl. 1  
Cl. 2  
B. Cl.  
Perc.  
Cel.

*mp*  
*dim. poco a poco*  
*p*

*mp*  
*dim. poco a poco*  
*p*

*mp*  
*dim. poco a poco*  
*p*

*p*  
*p*

*p*

*Ant. Cym.*  
*p*

*p*

Example 5-2. Kirchner, *Music for Orchestra*, p.14, m. 40-43, Closing Phrase of the A Section

Rhythmic Motives. Three rhythmic motives associated with melodic motives x-z lend cohesion in the duration parameter. Motive x employs syncopated figures, motive y, dotted rhythms and syncopation, and motive z, triplet figures (See Ex. 5-1). Example 5-3 illustrates the development

of the rhythmic figures of motive *y* in the false recapitulation section.

*poco meno mosso*  $\text{♩} = 54$

The musical score is arranged in a standard orchestral format. The top section includes Flute (Fl.), Oboe (Obs.), English Horn (E. H.), Clarinet 1 (Cl. 1), Clarinet 2 (Cl. 2), Horns 1 and 2 (Hrn. 1, 2), Trumpet (Tpt.), Percussion (Perc.) with Xylophone (Xylo.), Vibraphone (Vib.), and Glockenspiel (Glock.), and Celesta (Celi.). The bottom section includes Violins 1 and 2 (Vns. 1, 2), Viola (Vla.), Cello (C.), and Bass (B.). The score is marked with a tempo of *poco meno mosso* and a metronome marking of  $\text{♩} = 54$ . Dynamic markings include *f*, *mp*, *p*, and *pp*. Performance instructions include *imprescible entrate* for the Horns and *pizz.* for the Violins. The score shows the development of motive *y* in the false recapitulation section.

Example 5-3. Kirchner, *Music for Orchestra*, p. 23, m. 93-97, Development of Motive *y* Rhythmic Motives

An interesting feature of this work is the extremely thick textures that result from the superimposition of several rhythmic ostinatos. In the following passage from the initial A section, each instrument or group of instruments has its respective ostinato pattern, causing a stratified rhythmic effect (Ex. 5-4).

The musical score for Ex. 5-4 is a complex orchestral passage featuring multiple instruments and groups of instruments, each playing a distinct rhythmic ostinato. The score is organized into several systems:

- Flutes (Fls.):** Two staves (1 and 2) playing a rhythmic pattern with a *cresc. poco a poco* marking.
- Oboes (Obes.):** Two staves (1 and 2) playing a rhythmic pattern.
- E. H. (English Horn):** One staff playing a rhythmic pattern.
- Clarinets (Cia.):** Two staves (1 and 2) playing a rhythmic pattern with a *cresc. poco a poco* marking.
- Bassoons (Bns.):** Two staves (1 and 2) playing a rhythmic pattern.
- Horns (Hns.):** Three staves (1, 2, and 3) playing a rhythmic pattern with a *cresc. poco a poco* marking.
- Timpani (Timp.):** One staff with a *ppp* marking and the instruction "free but asymmetrical in rest intervals and speed of bursts".
- Triangle (Tri.), Snare Drum (Snare drum), and Wood Blocks (Wood Blk.):** Three staves playing rhythmic patterns with a *ppp* marking and a *cresc. poco a poco* marking.
- Violins (Vlns.):** Two staves (1 and 2) playing a rhythmic pattern with a *(cresc. sempre)* marking.
- Viola (Vla.):** One staff playing a rhythmic pattern with a *(cresc. sempre)* marking.
- Cello (C.):** One staff playing a rhythmic pattern with a *(cresc. sempre)* marking.
- Bass (B.):** One staff playing a rhythmic pattern with a *(cresc. sempre)* marking.

The overall texture is extremely thick due to the superimposition of these multiple rhythmic ostinatos, creating a stratified rhythmic effect.

The image displays a page of a musical score for orchestra, specifically Example 5-4 from Kirchner's *Music for Orchestra*, pages 8-9, measures 19-22. The score is characterized by superimposed ostinatos that create rhythmic stratification. The instruments and their parts are as follows:

- Fls. (Flutes):** Two staves, both marked *(cresc. sempre)*.
- Obs. (Oboes):** Two staves, both marked *(cresc. sempre)*.
- E. H. (English Horn):** One staff, marked *(cresc. sempre)*.
- Clas. (Clarinets):** Two staves, both marked *(cresc. sempre)*.
- Bns. (Bassoons):** Two staves, both marked *(cresc. sempre)*.
- Hns. (Horns):** Four staves, all marked *(cresc. sempre)*.
- Tpts. (Trumpets):** One staff, marked *cresc. poco a poco* and *cresc.*
- Tbns. (Trombones):** Three staves, marked *cresc.*
- Timp. (Timpani):** One staff, showing a rhythmic pattern.
- Perc. (Percussion):** One staff, showing a rhythmic pattern.
- Vns. (Violins):** Two staves, both marked *(cresc. sempre)*.
- Vla. (Viola):** One staff, marked *(cresc. sempre)*.
- C. (Cello):** One staff, marked *(cresc. sempre)*.
- B. (Bass):** One staff, marked *(cresc. sempre)*.

The score is written in a single system with multiple staves. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. The overall texture is dense due to the overlapping ostinatos.

Example 5-4. Kirchner, *Music for Orchestra*, p. 8-9, m. 19-22, Superimposed Ostinatos Causing Rhythmic Stratification

Harmonic Materials. The harmonic writing in the Music for Orchestra is quite different from that found in the Toccata, String Quartet No. 2, and the Concerto. Four- and five-note sonorities common to the earlier works are now replaced by massive chords containing six to eleven different pitches. Six-, seven-, and eight-note chords are the most frequently encountered of the 98 sonorities analyzed. The following chart gives a breakdown of chord density in the Music for Orchestra, and clearly reveals Kirchner's preference for dense chord structures (Fig. 5-2).

| Chord Density  | Occurrences |
|----------------|-------------|
| 3-note chords  | 2           |
| 4-note chords  | 6           |
| 5-note chords  | 11          |
| 6-note chords  | 29          |
| 7-note chords  | 19          |
| 8-note chords  | 18          |
| 9-note chords  | 8           |
| 10-note chords | 3           |
| 11-note chords | 2           |
| Total          | 98          |

Figure 5-2. Kirchner, Music for Orchestra, Harmonic Density

Unlike in the earlier works, Kirchner avoids frequent repetition of specific chord types in the Music for Orchestra. No one sonority type occurs more than three times

during the course of the work. However, many of the chords, especially those containing several pitch classes, sound similarly in their cluster-like effect (Ex. 5-5a-b).

The image shows a page of a musical score for an orchestra. The score is for Example 5-5a, which is a 7-note cluster in measure 25. The instruments listed on the left are: E. H., Cls. (1 and 2), B. Cl., Bns., Cbn., Hns. (1, 2, 3, 4), Tbn. (1, 2), Tuba (3), Timp., Vns. (1, 2), Via., C., and B. The score is written in a single system. The cluster is marked with 'pizz.' and 'mf'. The notation shows a series of notes on a staff, with some notes being beamed together. The score is in a 4/4 time signature.

Example 5-5a. Kirchner, Music for Orchestra, p. 11, m. 25, 7-Note Cluster

The image shows a musical score for Example 5-5b, which is a 7-note cluster. The score is arranged in a system with seven staves. From top to bottom, the staves are labeled: Fls. (Flute), Cl. 1 (Clarinet 1), Tpts. (Trumpets), Vns. 1 (Violins 1), Vns. 2 (Violins 2), Via. (Viola), and C. (Cello). The tempo is marked as quarter note = 54. The cluster is marked 'ron sord.' and 'p'. The cluster consists of seven notes: G4, A4, B4, C5, D5, E5, and F5. The notes are distributed across the staves: Fls. (G4), Cl. 1 (A4), Tpts. (B4), Vns. 1 (C5), Vns. 2 (D5), Via. (E5), and C. (F5).

Example 5-5b. Kirchner, Music for Orchestra, p. 22, m. 93, 7-Note Cluster

The final climactic chord of the work is effectively led into by a gradual thickening in harmonic density. Measure 178 begins with a relatively thin sonority containing five pitch classes which increases to a nine-note sonority by the final bar (m. 180). There is little cluster-like effect in the final chord due to the wide spacing, but there still remains a feeling of strong harmonic tension (Ex. 5-6).

allarg. - - - - -

Picc.  
Fls.  
Obs.  
E. H.  
Cls.  
B. Cl.  
Bns.  
Cbn.  
Hns.  
Tpts.  
Tbns.  
Tuba  
Timp.  
Perc.  
Ccl.  
Vns.  
Vla.  
C.  
B.

5 6 8 8 9 9

Example 5-6. Kirchner, Music for Orchestra, p. 44,  
m. 177-180, Increase in Harmonic Density

### Sectionalizing Elements

Duration. Tempo is a significant articulator of both macro- and micro-form in the Music for Orchestra. Three basic tempos, ♩ = 54, ♩ = 72, and ♩ = 132 shape the temporal flow of the piece. The first of these tempos delineates the a and a' of the initial A section, the false recapitulation in the development, and finally the return of A. This tempo also occurs briefly at the start of an accelerando in the aleatoric section. The majority of the b subsection of the initial A section and the third subsection of the B section employ the slightly quicker tempo, ♩ = 72. The fastest tempo, ♩ = 132, appears in the extended opening subsection of the B section and in the coda. Figure 5-3 shows the tempo scheme found in the Music for Orchestra.

|              |                   |
|--------------|-------------------|
| <u>A</u>     |                   |
| a            | ♩ = 54            |
| b            | ♩ = 72, 48, 84    |
| a'           | ♩ = 54            |
| <br><u>B</u> |                   |
| 1            | ♩ = 132           |
| 2            | ♩ = 54            |
| 3            | ♩ = 72            |
| 4            | ♩ = free, 54, 88  |
| A'           | ♩ = 54            |
| coda         | ♩ = 132, 152, 144 |

Figure 5-3. Kirchner, Music for Orchestra, Tempo

The use of fermatas and extended allargandos also contribute to the delineation of formal units. All major divisions and several subsections are articulated by these means. A grand pause effectively sets up the final return of the A material. The following chart indicates the placement of significant ritards and fermatas in relation to form (Fig. 5-4).

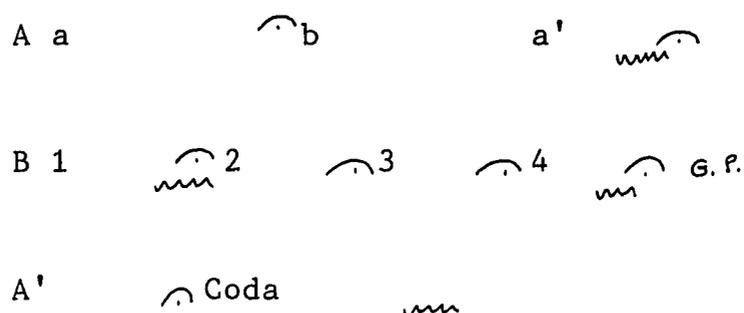


Figure 5-4. Kirchner, Music for Orchestra, Fermatas and Extended Ritards as Formal Determinants

The significant structural division created just prior to the return of the A material is shown in Example 5-7.

The image shows a page of a musical score for orchestra, specifically Example 5-7 from Kirchner's *Music for Orchestra*. The score is arranged in systems. The top system includes Clarinet (Cl.), Bassoon (B. Cl.), and Percussion (Perc.). The Clarinet and Bassoon parts have dynamic markings such as *ad lib. (fast)* and *ad lib. (slow to fast)*. The Percussion part features a Tom-Tom drum. The bottom system includes Violin (Vns.), Viola (Via.), and Cello (C.). The score includes various musical notations, including a tempo marking of quarter note = 54, a *rit.* (ritardando) marking, and a *G.P.* (Grand Pause) marking. A handwritten letter 'A' is present in the first Bassoon staff.

Example 5-7. Kirchner, *Music for Orchestra*, p. 41, m. 157-162, Temporal Factors as Formal Determinants

Meter also contributes to formal definition in the duration parameter. Kirchner employs eight different meters throughout the work, including eight measures in the cadenza section with no indicated signatures. Figure 5-5 lists the meters employed in the *Music for Orchestra* in descending order of frequency.

|                       |    |    |    |    |    |   |      |   |   |
|-----------------------|----|----|----|----|----|---|------|---|---|
| Meter                 | 3  | 5  | 4  | 2  | 6  | 3 | free | 9 | 6 |
|                       | 4  | 4  | 4  | 4  | 4  | 2 |      | 4 | 8 |
| Number of Occurrences | 77 | 31 | 29 | 11 | 11 | 9 | 8    | 1 | 1 |

Figure 5-5. Kirchner, *Music for Orchestra*, Meter Distribution

Metric plans delineate the three subsections of the initial A section. The outer subsections, a and a', reflect stable metric plans with little or no change. By contrast, subsection b employs a more variable metric plan. The predominant meter in each subsection is also different in each case (Fig. 5-6).

$$\begin{array}{l} \text{subsection a} \\ \text{m. 1-17} \end{array} \left[ \begin{array}{cccccccccccccccc} 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 & 5 \\ 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 \end{array} \right]$$

$$\begin{array}{l} \text{subsection b} \\ \text{m. 18-30} \end{array} \left[ \begin{array}{cccccccc} 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 \\ 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 \end{array} \right] 5 \ 2 \left[ \begin{array}{cccc} 3 & 3 & 3 & 3 \\ 4 & 4 & 4 & 4 \end{array} \right]$$

$$\begin{array}{l} \text{subsection a'} \end{array} \left[ \begin{array}{cc} 4 & 4 \\ 4 & 4 \end{array} \right] \left[ \begin{array}{cccccccccccc} 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 & 3 \\ 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 \end{array} \right]$$

Each meter =  
one measure

Figure 5-6. Kirchner, Music for Orchestra, Metric Plan of the A Section

Kirchner also creates sectionalization by using elongated meters at the ends of sections such as 9/4, 6/4, and 3/2 (♩ = basic duration). These meters, in conjunction with ritards and fermatas, assist in adding temporal space which is so often necessary in the articulation of form. Examples 5-8a-b illustrate the utilization of such meters prior to significant structural divisions.

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

- Flutes (Fls.):** Two staves, numbered 1 and 2.
- Oboes (Obs.):** Two staves, numbered 1 and 2.
- E. H. (English Horn):** One staff.
- Bassoon (Bas.):** One staff.
- Clarinet (Cln.):** One staff.
- Horns (Hns.):** Two staves, numbered 1 and 2.
- Trombones (Tbns.):** Three staves, numbered 1, 2, and 3.
- Percussion (Perc.):** One staff, featuring a Tam-Tam.
- Cello (Cel.):** One staff.
- Violins (Vns.):** Two staves, numbered 1 and 2.
- Viola (Vla.):** One staff.
- Contra Bass (C.):** One staff.
- Bass (B.):** One staff.

The score includes various musical notations such as dynamics (e.g., *mf*, *p*, *pp*), articulation marks, and performance instructions like "(con sord.)" for the Trombones. There are also some circled annotations in the Trombone parts.

The image displays a page of a musical score for an orchestra, specifically Example 5-8a from Kirchner's *Music for Orchestra*. The score is arranged in a standard orchestral format with multiple staves for each instrument family. The instruments listed on the left are:

- Fls. (Flutes) 1 and 2
- Ob. 1 (Oboe)
- CL. 1 (Clarinet)
- Cbn. (Cobonnetto)
- Perc. (Percussion)
- Cel. (Cello)
- Vns. (Violins) 1 and 2
- Vla. (Viola)
- C. (Cello)
- B. (Bass)

The score is written in a common time signature (C) and features a variety of rhythmic patterns, including long, sustained notes and complex rhythmic figures. The Percussion part includes a section for Wind chimes, with the instruction "Wind chimes (pless)" and "add more Wind chimes (as available)". The Cello part is circled in red, and the word "attacca" is written at the end of the staff. The Bass part also has "attacca" written at the end of the staff.

Example 5-8a. Kirchner, *Music for Orchestra*, p. 32-33, m. 122-129, Elongated Meters Prior to the Cadenza

The image shows a page of a musical score for an orchestra. The instruments listed on the left are Clarinet (Clas.), Bass Clarinet (B. Cl.), Bassoon (Bns. 1 and 2), Percussion (Perc.), Violin (Vns. 1 and 2), Viola (Via.), and Cello (C.). The score is written in a single system with multiple staves. Key markings include 'rit.' (ritardando) and 'G.P.' (Grand Pause) at the top right. Dynamic markings such as 'mf' (mezzo-forte) and 'p' (piano) are used throughout. Performance instructions like 'ad lib. (fast)', 'ad lib. (slow to fast)', and '(entrance approx.)' are present. The number '54' is written in a box at the top right. The score shows complex rhythmic patterns and melodic lines for each instrument.

Example 5-8b. Kirchner, *Music for Orchestra*, p. 41, m. 154-162, Elongated Meters Prior to the Return of A

Texture. Two basic textures assist in the formal shaping of the *Music for Orchestra*. The predominant texture consists of one main idea with supporting accompaniment. By contrast, the second texture superimposes several ostinato-like patterns creating a multi-layered, rhythmically free fabric which almost sounds chaotic. Subsection b of the initial A section and the aleatoric cadenza passage are both constructed of such textures. These two textures are combined prior to and toward the end of the cadenza section, providing a smooth transition to and from the aleatoric passage. Example 5-9 shows the superimposition of these two textures anticipating the cadenza.

SEGMENT B\* duration: ca.  $\frac{1}{2}$

ad lib.

Fl. 1  
*p dim. poco a poco* **ffff**

Fl. 2  
*p dim. poco a poco* **ffff**

Fl. 3 (Picc.)  
*p dim. poco a poco* **ffff**

Ob. 1

E. H.

Cl. s.

B. Cl.

Hrn. 1/2  
3

Cel.

Vns. 1  
2

Vla.

C.

B.

Example 5-9. Kirchner, *Music for Orchestra*, p. 31, m. 120-121, Textural Stratification

Timbre. The use of unique percussion instruments help delineate two important structural divisions in the Music for Orchestra. The minor 3rd sounded by the antique cymbals in its initial entrance, punctuates the end of the A section in conjunction with durational elements (Ex. 5-10). A crescendo by the wind chimes for several bars creates a second significant division indicating the arrival of the cadenza.



Lower levels of formal organization are also delineated through change in timbre. Motives x (woodwinds), y (tutti), and z (woodwinds) are differentiated by these means.

#### Unifying Elements

Pitch. Pitch is the most significant unifying factor in the Music for Orchestra. As previously mentioned, the intervals of the minor 2nd, minor 3rd, and the tritone form the basic cells upon which the three principal ideas (motives x-z) evolve (See Ex. 5-1). All three motives reappear in various guises throughout the work providing both continuity and cohesion. Motive x (appoggiatura figure), which is first presented in measures 1-9 as a kind of "klangfarbenmelodie" by the woodwinds, receives its first extended developmental treatment in the first portion of the B section (m. 44-92). In the opening sixteen bars of this section, the x idea is freely stated in even sixteenths by the second violins at the original pitch level. The first violins and percussion provide a counterpoint based on the primary intervals of motive x (m 2nd, m 3rd, and tritone). Example 5-11 illustrates the development of motive x.

Musical score for Percussion (Perc.), Cello (Cel.), Solo Violin (Solo Vn.), and Violins (Vns.). The Percussion part includes a Vibraphone (Vib.) part with a circled melodic line. The Solo Violin part is marked "(con sord.)" and "p sempre". The Violins are marked "senza sord." and "p". The Cello part is empty. The Solo Violin part includes a tempo marking of  $\text{♩} = 132$ .

Musical score for Percussion (Perc.), Violins (Vns.), Viola (Via.), Cello (C.), and Bass (B.). The Percussion part includes a Vibraphone (Vib.) part with a circled melodic line and a Conga (Ant. Cym.) part. The Violins are marked "p". The Viola part is marked "p". The Cello and Bass parts are empty.

The image displays three systems of musical notation for an orchestral score. The first system includes Percussion (Perc.) and Violins (Vns. 1 and 2). The Percussion part features staves for Glockenspiel (Glock.), Vibraphone (Vibr.), Bells, and Anvil/Cymbal (Ant. Cym.), all marked with a piano (*p*) dynamic. The Violin parts show complex rhythmic patterns with some notes circled. The second system continues the Percussion and Violin parts, with the Violin 2 part having several notes circled. The third system introduces the Clarinet (Cl.) part, which includes a tempo marking of  $\text{♩} = \text{♩} = \text{ca } 88$  and a performance instruction  $\text{[G]} = 2$ . The Percussion and Violin parts continue in this system, with the Violin 2 part again having circled notes.

Example 5-11. Kirchner, Music for Orchestra, p. 14-16, m. 44-59, Development of Motive x

Kirchner's preference for dense harmonic structures employing six or more pitch classes also contributes to inter- and intra-sectional unity. By employing three- and four-note cluster sonorities, even the more sparsely scored sections give the aural impression of a dense harmonic style (Ex. 5-12).

The musical score for Example 5-12 is divided into two systems, each beginning with a tempo marking of quarter note = 54 sub. The first system includes parts for Piccolo, Flute, Oboe, English Horn, Clarinets (1 and 2), Bass Clarinet, Horns (1 and 3), Trumpets (1 and 3), Percussion, and Xylophone. The second system includes parts for Violins (1 and 2). The score features dense harmonic structures with cluster sonorities, indicated by 'con sord.' and 'pizz.' markings.

Example 5-12. Kirchner, *Music for Orchestra*, p. 12, m. 31-34, Clusters Employed in Thinly Scored Passages

Duration. Temporal elements function mainly as formal delineators in the Music for Orchestra, but do provide a certain degree of unity as well. The three rhythmic ideas associated with motives x-z (syncopated figure, dotted rhythm, and triplets), all contribute to intra- and inter-sectional cohesion.

Durational factors provide continuity in the extended B section in two ways; first, stability in the tempo parameter unifies the two middle subsections, and secondly, constant sixteenth notes employed in at least one instrument assist in the unification of the two outer subsections. Example 5-13 illustrates the employment of constant groups of sixteenth notes to unify subsection 1 of the B section.

The image shows a musical score for Example 5-13, which is a section of the B section of the *Music for Orchestra*. The score is written for several instruments and includes the following parts:

- Clv.** (Clarinet): The top staff, starting with a tempo marking of  $\text{♩} = 132$  and an *accel. poco a poco* instruction. It features a melodic line with dynamic markings such as *p* and *sf*.
- Tpts.** (Trumpets): Staves 1, 2, and 3, playing a rhythmic accompaniment of sixteenth notes. Dynamic markings include *pp sf* and *sf*.
- Tbn. I** (Trombone I): Staff 1, playing a rhythmic accompaniment of sixteenth notes with dynamic markings like *pp sf* and *sf*.
- Perc.** (Percussion): Includes parts for Glockenspiel (Glock.) and Vibraphone (Vib.), both playing rhythmic patterns with dynamic markings like *pp sf*.
- Vns.** (Violins): Staves 1 and 2, playing a rhythmic accompaniment of sixteenth notes with dynamic markings like *pp sf* and *sf*.
- Via.** (Violas): Staff 1, playing a rhythmic accompaniment of sixteenth notes with dynamic markings like *pp sf* and *sf*.

The score is characterized by a consistent use of sixteenth-note patterns across multiple instruments, which helps unify the subsection. The tempo is marked as  $\text{♩} = 132$  and the overall dynamics range from *pp* (pianissimo) to *sf* (sforzando).

**H** (accel. sempre) -

Obu.  
Clu.  
Bsu.  
Tpts. 1 2  
3  
Tbns. 1 2  
3  
Perc. Glock.  
Vibr.  
Bells  
Vns. 1  
2  
Vla.

Example 5-13. Kirchner, Music for Orchestra, p. 17, m. 63-70, Rhythm as a Unifying Factor

The well-timed return of sections employing 5/4 meters and  $\downarrow = 54$  tempo indications also contributes to continuity in the Music for Orchestra. Figure 5-7 illustrates the relative positioning of these sections.

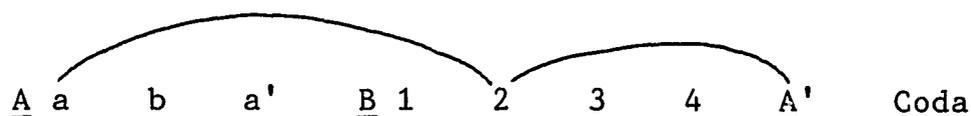


Figure 5-7. Kirchner, Music for Orchestra, Sections Employing 5/4 Meter and ♩ = 54 Tempo Indication

### Summary

Kirchner's Music for Orchestra is scored for a large ensemble requiring a wide range of percussion instruments. The single-movement work is cast in a ternary design, A B A' Coda, with the B section functioning as an extended development. The inclusion of an aleatoric cadenza-like passage makes this particular composition the most unique of the four works under discussion.

Measures 1-12 present three basic ideas (motives x-z), which ultimately determine the overall shape of the work. Each of these motives are unique in their melodic, rhythmic, textural, timbral, and dynamic characteristics. All three ideas are unified, however, in that they are primarily constructed of three intervals (minor 2nd, minor 3rd, and tritone).

The harmonic language of the Music for Orchestra is extremely dense by comparison to the earlier three works. Sonorities containing six, seven, and eight pitch classes are

typical, while examples of nine-, ten-, and eleven-note chords are not uncommon. No specific sonority receives more than three repetitions.

Durational elements are the most significant factors creating sectionalization in the Music for Orchestra. Fermatas and lengthy ritards are important delineators of macro-form, while meter and tempo determine lower levels of formal organization. Less significant differential elements are texture and timbre.

Pitch and durational materials provide both inter- and intra-sectional cohesion in the Music for Orchestra. Tempo, meter, harmony, and repetition of interrelated melodic and rhythmic motives aid the listener in forming associative relationships in this work.

## CHAPTER 6

### SUMMARY AND CONCLUSIONS

#### Summary

This study was undertaken to determine the underlying formal principles in four works by the American composer, Leon Kirchner. These works were felt to be important in the composer's output and also represented a variety of genres. More significantly, these scores had not yet received in-depth analyses either in journals or dissertations.

Each work was extensively analyzed both visually and aurally for its basic melodic motives, rhythmic motives, and harmonic materials. Those parameters were then discussed that contributed most significantly to the delineation of form and also those that provided inter- and intra-sectional cohesion and continuity.

All four compositions were consistent in presenting the basic melodic and rhythmic material within the opening measures. Thematic material was constructed of short motives built primarily of minor 2nds and minor 3rds. The last two movements of the String Quartet No. 2 and the Concerto extended the range of these basic intervals to include their inversions and compound equivalents--the major 6th, minor

9th, and minor 10th. Passages employing octatonic scales were also quite prevalent in all works except the Music for Orchestra. The most commonly employed rhythmic motives in each work were syncopated and dotted figures. Relatively simple rhythmic patterns superimposed over frequently shifting meters were found in all works but the Toccata.

Dense harmonic structures containing four and five pitch classes were the most common in the Toccata, String Quartet No. 2, and the Concerto. Music for Orchestra exploited an even richer harmonic texture employing six-, seven-, and eight-note sonorities. Most of the four- and five-note chords could be reduced to simple triads with added tones. The most important interval used in chord building was the minor 3rd.

Although each work possessed its own ultimate shape, the general formal plans were quite similar. With the exception of the outer movements of the String Quartet No. 2, whose designs consisted of the alternation of two contrasting blocks of material, each work was cast in a ternary scheme. The B sections in each case functioned as multi-sectional developments. Arch-like relationships further strengthened the structural designs of both the Toccata and Concerto.

Durational factors, specifically tempo, meter, and rhythm contributed the most significantly to formal delineation in all four works. Less important sectionalizing

parameters were dynamics, texture, and timbre. Pitch was the least obvious parameter creating differentiation.

By contrast, pitch materials provided the most significant degree of inter- and intra-sectional unity in each work. Duration, texture, and timbre were less obvious as unifying elements.

### Conclusions

The results of the findings summarized above lead to several conclusions regarding the formal procedures employed in four selected works of Leon Kirchner. First, although these four compositions employ contrasting genres, textures, and ultimate shapes, they are all unified in their utilization of related basic pitch and durational materials. Recurring melodic and harmonic intervals, and rhythmic patterns serve to integrate and solidify each of the compositions. Further research is needed to discover if this common bond exists in other Kirchner works as well.

Second, durational elements are the most useful in formal delineation at all structural levels. All four compositions strongly rely on tempo, fermatas, ritards, accelerandos, and rhythm in the articulation of form. Texture is also a prominent determinant of macro-form in the Music for Orchestra and the Concerto.

Third, although these works do not rely on traditional means to achieve structural unity (tonal relationships,

repetition of large blocks of thematic material, etc.), other means serve the same function as effectively. Kirchner rarely literally restates his material and one is aware of a state of constant development and growth while listening to his works. Through return of tempi, rhythmic motives, melodic motives, sonorities, and textures, Kirchner is able to erect solidly organized sound structures.

APPENDIX A

WORKS OF LEON KIRCHNER

"Letter" for soprano and piano(1943)

"The Times are Nightfall" for soprano and piano(1943)

"Dawn" for chorus and organ(1943-46)

Piece for Piano and Orchestra(1946)

Duo for Violin and Piano(1947) Mercury Music Corporation,  
New York, Copyright 1950.

Piano Sonata(1948) Boelke-Bomart, Inc., Hillsdale, New York,  
Copyright 1950, 24 pp.

Little Suite for Piano(1949) Mercury Music Corporation, New  
York, Copyright 1950, 6 pp.

String Quartet No. 1(1949) Mercury Music Corporation, New  
York, Copyright 1950, 38 pp.

"Of Obedience" for soprano and piano(1950)

"The Runner" for soprano and piano(1950)

Sinfonia for orchestra(1951) Mercury Music Corporation, New  
York, Copyright 1955, 92 pp.

Sonata Concertante for Violin and Piano(1952) Mercury Music  
Corporation, New York, Copyright 1955, 28 pp.

Trio for Violin, Cello, and Piano(1954) Associated Music  
Publishers, Inc., New York, Copyright 1964, 22 pp.

Toccata for Strings, Solo Winds, and Percussion(1955)  
Associated Music Publishers, Inc., New York, Copyright  
1962, 45 pp.

Piano Concerto No. 1(1956) Associated Music Publishers, Inc.,  
New York, Copyright 1978, 93 pp.

Scenes for an Opera(1957)

String Quartet No. 2(1958) Associated Music Publishers, Inc.,  
New York, Copyright 1963, 38 pp.

Concerto for Violin, Cello, Ten Winds and Percussion(1960)  
Associated Music Publishers, Inc., New York, Copyright  
1962, 129 pp.

Piano Concerto No. 2(1963) Associated Music Publishers, Inc.  
New York, Copyright 1967, 110 pp.

Fanfare for Brass Trio(1965) Associated Music Publishers,  
Inc., New York, Copyright 1974, 4 pp.

String Quartet No. 3 for Strings and Electronic Tape(1966)  
Associated Music Publishers, Inc., New York, Copyright  
1971, 18 pp.

Words from Wordsworth for chorus(1966) Associated Music  
Publishers, Inc., New York, Copyright 1968, 8 pp.

Music for Orchestra(1969) Associated Music Publishers, Inc.,  
New York, Copyright 1970, 44 pp.

Flutings for Solo Flute and Optional Percussion from the  
opera "Lily"(1973) Associated Music Publishers, Inc.,  
New York, Copyright 1980, 2 pp.

Lily for Violin, Viola, Cello, Woodwind Quintet, Celesta,  
Piano, Percussion and Voice(1973)

Lily an Opera in three acts(1977) Associated Music Publishers,  
Inc., New York

Music for Flute and Orchestra(1978)

Music for Flute and String Quartet(1982)

APPENDIX B

RECORDINGS

Concerto for Violin, Cello, Ten Winds, and Percussion,  
Tossy Spivakovsky, violin; Aldo Parisot, cello; Leon  
Kirchner, conductor, Epic LC 3830.

Duo for Violin and Piano, Ralph Hollander, violin; Leon  
Kirchner, piano, Bartok Recording Studio, New York.

Piano Concerto No. 1, Leon Kirchner, piano; New York Phil-  
harmonic Orchestra; Dimitri Mitropoulos, conductor,  
New World Records NW 286.

Sonata Concertante for Violin and Piano, Jaime Laredo,  
violin; Ruth Laredo, piano, Desto DC 7151.

Sonata for Piano, Leon Fleisher, piano, Epic LC 3862.

String Quartet No. 1, American Art Quartet, Columbia ML 4893.

String Quartet No. 2, Lenox String Quartet, Columbia MQ  
32740

String Quartet No. 3 for String Quartet and Electronic Tape,  
Concord String Quartet, Vox SVBX 5306.

Tocatta for Strings, Solo Winds, and Percussion, Louisville  
Orchestra; Jorge Meister, conductor, LS 683.

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- \_\_\_\_\_. Music for Orchestra(1969). New York: Associated Music Publishers, Inc., 1970, 44 pp.
- \_\_\_\_\_. Music for Orchestra. Los Angeles Philharmonic, Zubin Mehta, conductor, tape.
- \_\_\_\_\_. String Quartet No. 2(1958). New York: Associated Music Publishers, Inc., 1963, 38 pp.
- \_\_\_\_\_. String Quartet No. 2. Lenox String Quartet, Columbia MQ 32740.
- \_\_\_\_\_. Tocatta for Strings, Solo Winds, and Percussion (1955). New York: Associated Music Publishers, Inc., 1962, 45 pp.
- \_\_\_\_\_. Tocatta for Strings, Solo Winds, and Percussion. Louisville Orchestra, Jorge Meister, conductor, LS 683.

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