

THE CREATION OF HARMONIC AND RHYTHMIC TENSION IN THE
SONATE FOR CLARINET AND PIANO, FIRST MOVEMENT, OF PAUL HINDEMITH

by 680

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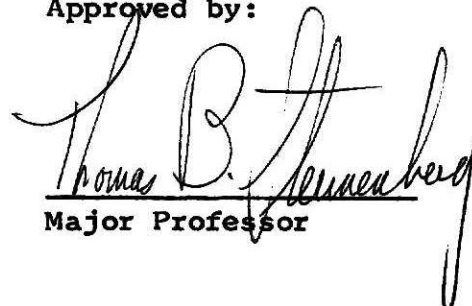
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INTRODUCTION

The purpose of this paper is to study the means by which Hindemith creates harmonic and rhythmic tensions in a typical work. The Sonata for Clarinet and Piano not only qualifies, but the author has gained familiarity with the work through performance.

Paul Hindemith was born in Hanau, Germany, in 1895. He received his early musical education under Arnold Mendelssohn and Bernhard Sekles at the Hoch Conservatory. In 1915 Hindemith became concertmaster of the Frankfurt Opera. He joined Licco Arma in 1921 to organize the Arma String Quartet in which Hindemith played viola for eight years. He was first recognized as a composer through his compositions for the Quartet. Hindemith was promoted to conductor of the Frankfurt Opera in 1923. From 1927-37 he taught master classes in composition at the Berlin Hochschule. Hindemith's music was considered subversive by the Nazi government. He was labeled as a cultural Bolshevik; and, as a result, his music was banned in Germany. Alfred Rosenberg, Chief of the Nazi Foreign Affairs Bureau, stated in Die Musik (January, 1935) that: "When a man like Hindemith commits the foulest perversion of German music we have the right to reject him. The accomplishments of such an artist . . . and the laurels received by him in that now-overthrown Republic, are by right of no value to our movement."¹ In 1935 Hindemith was

¹Milton Cross, David Ewen, Encyclopedia of the Great Composers and Their Music, p. 386.

commissioned by the Turkish government to reorganize the musical life of that country. From 1935-37 he spent a great deal of time in Turkey drawing up the blueprints for a complete system of music education from the elementary to the college level. His accomplishments included the formation of several orchestras. From 1935-37 Hindemith taught composition alternately at both the Berlin Hochschule and the Conservatory of Ankara in Turkey.² He left Germany permanently in 1938, settled first in Switzerland, then in the United States in 1940. Hindemith joined the music faculty of Yale University and continued his activities as a composer, theorist, teacher, historian, conductor, and violist. In 1949 Hindemith returned to Germany for a brief visit, and at that time he received wide acclaim. He established his permanent residence in Zurich, Switzerland in 1953. Hindemith joined the University of Zurich as a member of the music faculty and made many appearances as a guest conductor. In 1954 he was the recipient of the \$35,000 Sibelius Award. Hindemith returned to the United States in 1959 to conduct a series of concerts featuring his works. He died in Frankfurt, Germany on December 28, 1963.

Hindemith composed in all musical forms. Because he was quite proficient on many instruments, Hindemith chose to write for a variety of musical instruments.³ He generated a style of music designated as Gebrauchsmusik, a term which means "music

²"Paul Hindemith." Encyclopedia Brittanica.

³John T. Howard, This Modern Music, p. 159.

for use." This new and simplified music was intended to search out and involve musical listeners and performers wherever they might be found.⁴

Composers during the early part of the century lacked a systematic approach to their work. Hindemith found it necessary to establish a standard by which he could judge the compositions of his students. As a result, he wrote various texts on theory and composition. His most important text is The Craft of Musical Composition, a two volume work published in 1937.

Leonard G. Ratner states this:

Hindemith, in his theoretical work, The Craft of Musical Composition, has made a notable contribution toward a harmonic system in which traditional and contemporary values can be reconciled and evaluated in relation to each other. In his idea of the two-voice contrapuntal framework he has proposed a norm for texture; in his idea of harmonic fluctuation he has provided a harmonic scheme for organizing basic structural units.⁵

This paper is based on the material found in The Craft of Musical Composition.

Hindemith's style of composition is described thusly by Aaron Copland in his book entitled Our New Music:

It wasn't until the neo-classic trend caught up with him that Hindemith knew best how to exploit his natural gifts . . . He wrote a kind of linear counterpoint that infused new life into ancient contrapuntal procedures. He composed long and intricate and pseudo-Bachlike melodies, accompanying them with unmistakably twentieth century harmonies. His natural bent for rhythmic energy attached itself to the insistent sixteenth-note motion of a Handelian "concerto

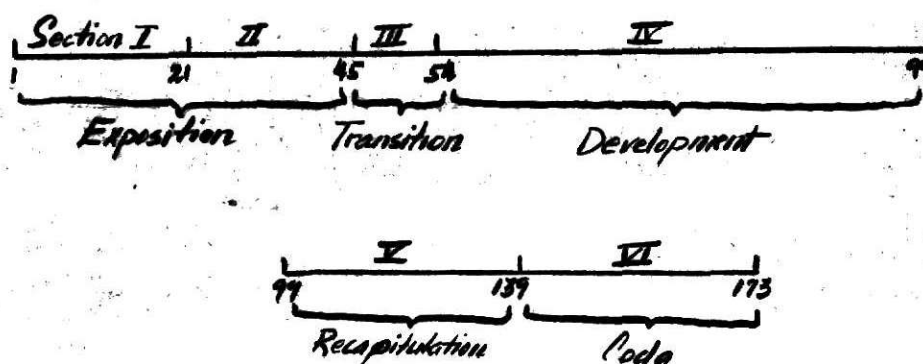
⁴Marion N. Scott, Groves Dictionary of Music and Musicians, 5th edition. 1954.

⁵Leonard G. Ratner, Music, The Listener's Art, p. 310.

grosso." He renounced all tonal ambiguity, beginning and ending pieces squarely on the tonic. His forms were sharply defined, each section of each piece having its own clear meaning as in the works of the eighteenth century masters.⁶

This description fits the Sonata for Clarinet and Piano perfectly. The first movement is written in a sectional manner paralleling the sonata-allegro form except for a transition between the exposition and the development.

Fig. 1.



Hindemith states that harmonic development occurs, and is molded within, a linear framework.⁷ This framework is established by the contrapuntal interaction of the bass line and the most important upper voice. The bass line constitutes the foundation upon which the entire harmonic structure is based, and, as such, it shows the full expanse of the composer's

⁶ Aaron Copland, Our New Music, p. 111-12.

⁷ Paul Hindemith, The Craft of Musical Composition, p. 113.

thoughts.

Copland makes this comment on Hindemith's melodic lines:

The bounding melodic line, the contrapuntal texture, the lack of any sentimental hubbub--the general build-up of the music on classical principles, all indicate that the Latin ideals of Busoni have taken hold in the most talented representative of young German music.⁸

Regarding the use of dissonance, Joseph Machlis says this: "Consonance unites, dissonance separates. Composers began to use dissonance to separate the independent lines, to set them off against one another."⁹

Hindemith uses this dissonance to build harmonic tension in his music. Of special importance to this study is the graduated scale of consonance and dissonance, which he refers to as Series Two.¹⁰

Fig. 2.



⁸ Copland, op.cit., p. 110.

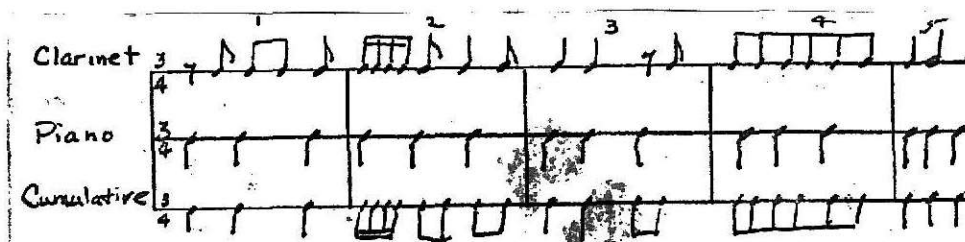
⁹ Joseph Machlis, The Enjoyment of Music, p. 383.

¹⁰ Hindemith, op.cit., p.96.

The degree of tension within any chord is a result of the dissonance established by the intervals in that chord. Hindemith classes each chord according to its degree of tension. A Class I chord contains no seconds, sevenths, or tritones; whereas a Class VI chord is an indeterminate chord with the tritone predominating. The Table of Chord Groups is listed in Appendix A. This analysis will show the use of harmonic tensions as they occur intervallically within the framework of the two-voice counterpoint.

The rhythmic organization of the Sonata for Clarinet and Piano will be presented by means of a cumulative rhythm chart. This chart is based on the premise that a musical measure is derived from a period of silence of specific duration. When a note or a group of notes sounding simultaneously appears within the measure, it creates a rhythmic pulse. When a second note or group of notes appears, it likewise produces a rhythmic pulse. The number of rhythmic pulses appearing within any one measure is an indication of that measure's rhythmic activity, complexity, and tension. These impulses are shown by measures in individual lines and cumulative lines.

Fig. 3.



The first two lines show the rhythmic organization of the clarinet and piano lines respectively. A cumulative total of the separate lines is presented in the third line. The cumulative line displays the rhythmic organization of each phrase.

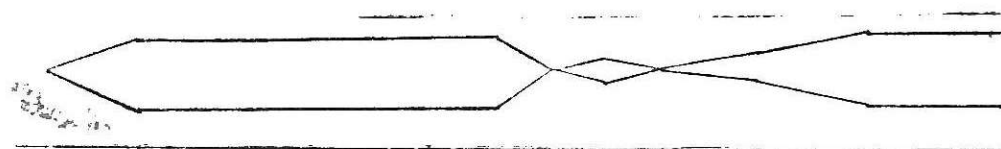
Rhythmic tension is used in conjunction with harmonic tension to create or relieve areas of excitement. Rhythmic tension plays a secondary role in that it introduces or augments the harmonic tension. The relationship of rhythmic to harmonic tension will be shown in this analysis.

EXPLANATION OF PLATE I
Phrase A. Measures 1-7

PLATE I

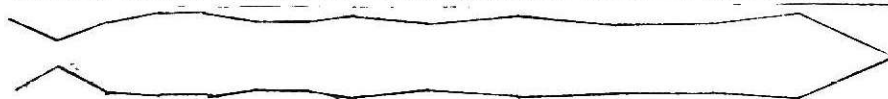
Handwritten musical score for the first system of Plate I. It consists of three staves. The top staff is in treble clef with a 3/4 time signature and contains a melodic line with a slur over measures 1, 2, and 3. The middle staff is in treble clef with a 3/4 time signature and contains a harmonic line. The bottom staff is in bass clef with a 3/4 time signature and contains a bass line. Below the staves, the fingering sequence is written: I, III, — III, — I, I₂, I, I₂, III.

I, III, — III, — I, I₂, I, I₂, III,



Handwritten musical score for the second system of Plate I. It consists of three staves. The top staff is in treble clef with a 3/4 time signature and contains a melodic line with a slur over measures 5, 6, and 7. The middle staff is in treble clef with a 3/4 time signature and contains a harmonic line. The bottom staff is in bass clef with a 3/4 time signature and contains a bass line. Below the staves, the fingering sequence is written: I, II, III, — III, III, III, — III, III.

I, II, III, — III, III, III, — III, III,



EXPOSITION -- SECTION 1

Phrase A is based on a descending bass line which extends conjunctly downward from B flat to C. Over pedal points, Hindemith regards the first moving line above as the lower line of the lineal framework.

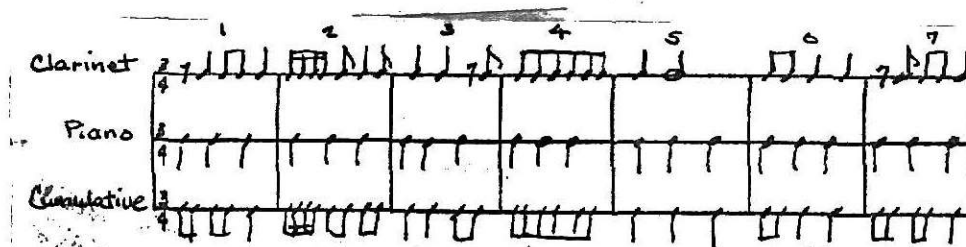
The complete melodic idea consists of two motives and is presented by the clarinet. Motive A basically ascends by fourths and descends the thirds, while Motive B contains a gradually ascending line that extends from A flat to E.

The melodic and bass lines are in contrary motion. The high point of Motive A is the B flat in measure 2 and the high point of Motive B is the C in measure 5. The two motives combine to form a gradually ascending melodic line as opposed to the descending bass.

Harmonic tensions within Phrase A parallel the melodic organization. Motives A and B both open consonantly with class I chords. Harmonic tensions build quickly to class III chords through the main body of each motive and then both close consonantly with class I chords.

The rhythmic organization of Phrase A is presented in Fig. 4.

Fig. 4.



The rhythmic organization of Motive A parallels the melodic organization. The high point of both occurs in measure 2. The increased rhythmic activity of measures 2 and 4 serves to introduce the high points of Motives A and B.

EXPLANATION OF PLATE II
Phrase B. Measures 7-14

PLATE II

Handwritten musical notation for measures 7, 8, 9, and 10. The notation is written on three staves (treble, alto, and bass clefs). Measure 7 is marked with a '7' above the staff. Measure 8 is marked with an '8'. Measures 9 and 10 are marked with '9' and '10' respectively. Below the staves, there is a series of Roman numerals: $I_1 - III_1 I_2 III_2 I_2 - III_2 I_2 III_2 III_2 - III_2 - III_2 - II_1 - III_2 - III_2 -$. Below the numerals is a diagram consisting of a series of connected diamond shapes, representing a sequence of intervals or chords.

Handwritten musical notation for measures 11, 12, 13, and 14. The notation is written on three staves (treble, alto, and bass clefs). Measure 11 is marked with an '11'. Measure 12 is marked with a '12'. Measure 13 is marked with a '13'. Measure 14 is marked with a '14'. Below the staves, there is a series of Roman numerals: $I_1 - III_2 - III_2 - III_2 - III_2 - III_2 - III_2 - III_2 - I_1 I_1$. Below the numerals is a diagram consisting of a series of connected diamond shapes, representing a sequence of intervals or chords.

The bass line descends to a B flat in measure 11 and then returns conjunctly to an F in measure 14.

Motive A of the basic melodic material is developed by repetition, canonic treatment and transposition. The piano introduces Phrase B by presenting Motive A a seventh below the original pitch. The clarinet follows in repetition in measure 9 by playing Motive A a perfect fourth below the original. Canonic treatment is established in measure 11 when the piano begins Motive A on the original pitch and the clarinet follows suit one beat later.

Harmonic tensions are developed within the framework of the bass and the uppermost melodic line. The uppermost line begins in the piano, switches to the clarinet in measure 9, and returns in the piano in measure 11. The melodic line ascends through measures 7-12 in contrary motion to the bass. Contrary motion continues in measures 12-14 as the two lines reverse their respective directions of movement.

Harmonic tensions fluctuate rapidly in measures 7-8 between class I and III chords. The tension remains fairly constant in measures 9-10 because of the added clarinet line. A class I chord in measure 11 closes the section of melodic repetition and introduces a section of canonic treatment. The harmonic tension established in measures 11-13 is relieved in measures 13-14 to parallel the close of Phrase B.

There is an increase of rhythmic activity in Phrase B. The rhythmic activity of measures 7-11 remains fairly constant because of the repetitious nature of the melodic material. The canonic treatment of melodic material in measures 12-13

results in greater rhythmic activity. There is a reduction of rhythmic as well as harmonic tensions at the close of Phrase B.

Fig. 5.

Handwritten musical score for Fig. 5, consisting of two systems. Each system has four staves: Clarinet, Piano R.H., Piano L.H., and Cumulative. The time signature is 3/4.

System 1:

- Clarinet:** Measures 7, 8, 9, 10. Measure 7 has a quarter note, a quarter rest, and a quarter note. Measure 8 has a quarter note, a quarter rest, and a quarter note. Measure 9 has a quarter note, a quarter rest, and a quarter note. Measure 10 has a quarter note, a quarter rest, and a quarter note.
- Piano R.H.:** Measures 7, 8, 9, 10. Measure 7 has a quarter note, a quarter rest, and a quarter note. Measure 8 has a quarter note, a quarter rest, and a quarter note. Measure 9 has a quarter note, a quarter rest, and a quarter note. Measure 10 has a quarter note, a quarter rest, and a quarter note.
- Piano L.H.:** Measures 7, 8, 9, 10. Measure 7 has a quarter note, a quarter rest, and a quarter note. Measure 8 has a quarter note, a quarter rest, and a quarter note. Measure 9 has a quarter note, a quarter rest, and a quarter note. Measure 10 has a quarter note, a quarter rest, and a quarter note.
- Cumulative:** Measures 7, 8, 9, 10. Measure 7 has a quarter note, a quarter rest, and a quarter note. Measure 8 has a quarter note, a quarter rest, and a quarter note. Measure 9 has a quarter note, a quarter rest, and a quarter note. Measure 10 has a quarter note, a quarter rest, and a quarter note.

System 2:

- Clarinet:** Measures 11, 12, 13, 14. Measure 11 has a quarter note, a quarter rest, and a quarter note. Measure 12 has a quarter note, a quarter rest, and a quarter note. Measure 13 has a quarter note, a quarter rest, and a quarter note. Measure 14 has a quarter note, a quarter rest, and a quarter note.
- Piano R.H.:** Measures 11, 12, 13, 14. Measure 11 has a quarter note, a quarter rest, and a quarter note. Measure 12 has a quarter note, a quarter rest, and a quarter note. Measure 13 has a quarter note, a quarter rest, and a quarter note. Measure 14 has a quarter note, a quarter rest, and a quarter note.
- Piano L.H.:** Measures 11, 12, 13, 14. Measure 11 has a quarter note, a quarter rest, and a quarter note. Measure 12 has a quarter note, a quarter rest, and a quarter note. Measure 13 has a quarter note, a quarter rest, and a quarter note. Measure 14 has a quarter note, a quarter rest, and a quarter note.
- Cumulative:** Measures 11, 12, 13, 14. Measure 11 has a quarter note, a quarter rest, and a quarter note. Measure 12 has a quarter note, a quarter rest, and a quarter note. Measure 13 has a quarter note, a quarter rest, and a quarter note. Measure 14 has a quarter note, a quarter rest, and a quarter note.

EXPLANATION OF PLATE III
Phrase C. Measures 14-21

PLATE III

Handwritten musical notation for measures 14, 15, and 17. The notation is written on three staves. Measure 14 is marked with a '3' and a '4' in a circle. Measure 15 is marked with a '3' and a '4' in a circle. Measure 17 is marked with a '3' and a '4' in a circle. The notation includes various musical symbols such as notes, rests, and accidentals. Below the staves, there is a sequence of Roman numerals: I_1 — $I_2 - I_2 III_2 III_1 - I_2 III_1 I_2 III_1 III_2$ — III_2 .

Handwritten musical notation for measures 18, 19, 20, and 21. The notation is written on three staves. Measure 18 is marked with a '3' and a '4' in a circle. Measure 19 is marked with a '3' and a '4' in a circle. Measure 20 is marked with a '3' and a '4' in a circle. Measure 21 is marked with a '3' and a '4' in a circle. The notation includes various musical symbols such as notes, rests, and accidentals. Below the staves, there is a sequence of Roman numerals: $I, III_2, I,$ followed by a horizontal line.

The third phrase is once again based upon a descending bass line.

Motive A of the original melodic idea is shortened to its first two measures and presented three times by the clarinet in quick succession. The third statement of the motive is a variation which leads into Section 11.

The outermost voices of measures 15-19 fall in the piano part and are set in contrary motion to create semi-climatic tension. Melodic tension is established by the rapid repetition of a short melodic figure from Motive A. Harmonic tension opens quietly in measures 14-15 with class I chords and builds to class III chords in measures 15-18. The reduction of melodic and harmonic tensions in measures 19-21 closes Section 1 and prepares Section II.

Rhythmic tensions parallel the harmonic and melodic tensions.

Fig. 6.

Handwritten musical score for measures 14-21, featuring three staves: Clarinet, Piano, and Cumulative. The score is divided into two systems. The first system covers measures 14, 15, 16, and 17. The second system covers measures 18, 19, 20, and 21. Each staff has a 3/4 time signature. The Clarinet part consists of short melodic phrases. The Piano part features a descending bass line and chords. The Cumulative part shows a series of chords and rhythmic patterns. The notation is handwritten and includes various musical symbols such as notes, rests, and bar lines.

The rhythmic pattern of measure 14 aids the harmonic and melodic elements in introducing Phrase C. Rhythmic tension likewise increases in measures 15-18 and is relieved at the close of Phrase C.

EXPLANATION OF PLATE IV
Phrase A. Measures 21-31

PLATE IV

Handwritten musical notation for Plate IV, measures 21 through 29. The notation is arranged in two systems, each with three staves (treble, bass, and a lower staff) and a corresponding geometric diagram below.

Measures 21-24:

- Measure 21: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.
- Measure 22: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.
- Measure 23: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.
- Measure 24: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.

Measures 25-29:

- Measure 25: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.
- Measure 26: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.
- Measure 27: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.
- Measure 28: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.
- Measure 29: Treble clef, 3/4 time, key of B-flat. Notes: B-flat, D, F, B-flat.

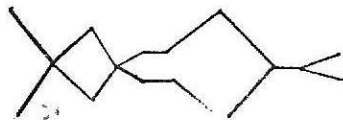
Geometric Diagrams:

- Diagram 1 (Measures 21-24): A series of connected hexagons, each with a horizontal line through its center.
- Diagram 2 (Measures 25-29): A series of connected hexagons, each with a horizontal line through its center.

Handwritten Text:

Handwritten text is present in the first system, including the word "MOTIV" and a series of Roman numerals: I, - III, I, VI, I, III, I, III, - III, I, - III, - I, II, - III, - I, - VI.

Handwritten musical notation on three staves, numbered 30 and 31. The notation includes various notes, rests, and accidentals (sharps and flats). Below the staves, there is a sequence of Roman numerals: $V I, III, I, I_2 - V I - I_2$.



EXPOSITION -- SECTION II

The two-measure pattern of measures 21 and 22 is repeated in measures 23 and 24 to emphasize the beginning of Section II. This brief section is based on a four note bass line which in itself points up the unity of measures 21-24. These four notes constitute Motive A of the bass line. Motive B is a sequentially ascending bass line in the piano which creates tension in contrast to the descending clarinet line.

The second melodic idea likewise consists of two motives and is found in Phrase A. The clarinet presents Motive A in measures 22-25 and Motive B in measures 25 and 26. Motives A and B of the melodic idea relieve tension gradually by means of a sequentially descending line.

Hindemith uses contrary motion throughout Phrase A. The bass and melodic lines move away from each other in measures 21-23 and then return again to their original positions in measures 23 and 24. In Motive B the bass line is constantly ascending as the clarinet line is descending.

The harmonic tension fluctuates rapidly in Motive A between class I, III, and VI chords. Motive B begins quietly in measures 25-28 and builds to a high point of tension in measures 28-31.

The rhythmic organization of Phrase A remains constant through measure 31.

Fig. 7.

Handwritten musical score for measures 21 through 27. The score is written for four staves: Clarinet (Clar.), Piano (Piano), Piano (Piano), and Cymbal (Cym.).

Measures 21-27:

- Clarinet:** Measures 21-24 contain eighth notes. Measure 25 contains a half note. Measure 26 contains a half note. Measure 27 contains a half note.
- Piano (top):** Measures 21-24 contain eighth notes. Measure 25 contains a half note. Measure 26 contains a half note. Measure 27 contains a half note.
- Piano (bottom):** Measures 21-24 contain eighth notes. Measure 25 contains a half note. Measure 26 contains a half note. Measure 27 contains a half note.
- Cymbal:** Measures 21-27 contain eighth notes.

Handwritten musical score for measures 28 through 31. The score is written for four staves: Clarinet (Clar.), Piano (Piano), Piano (Piano), and Cymbal (Cym.).

Measures 28-31:

- Clarinet:** Measures 28-31 contain eighth notes.
- Piano (top):** Measures 28-31 contain eighth notes.
- Piano (bottom):** Measures 28-31 contain eighth notes.
- Cymbal:** Measures 28-31 contain eighth notes.

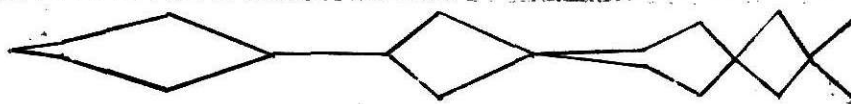
EXPLANATION OF PLATE V

Phrase B. Measures 31-37

PLATE V

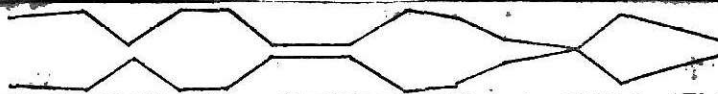
Handwritten musical notation for measures 31, 32, 33, and 34. The notation is written on three staves (treble, alto, and bass clefs) in 3/4 time. The notes are mostly eighth and sixteenth notes, with some rests. The key signature has one sharp (F#).

Below the staves, there is a sequence of Roman numerals: $I, I_2, III, - I, - I, III_2, I, I_2, I_2, III, I, III_2, I, III,$



Handwritten musical notation for measures 35, 36, and 37. The notation is written on three staves (treble, alto, and bass clefs) in 3/4 time. The notes are mostly eighth and sixteenth notes, with some rests. The key signature has one sharp (F#).

Below the staves, there is a sequence of Roman numerals: $III, - III, I, III, III_2, I_2, I_2, III_2, III, II, I, II, I_2$



The bass line in Phrase B consists of two motives. Motive A is the sequentially descending line extending through measure 34. This motive relieves the tension established by the ascending bass line of Phrase A. Motive B consists of a chromatic bass line which descends from B to F sharp. This descending line is in direct contrast to the ascending clarinet line, and the two combine to introduce Phrase C.

The melodic material consists of two motives. In Motive A, Measures 31-33, the clarinet descends sequentially to relieve melodic tension. Motive B begins in measure 34 when Motive A of the second melodic idea is once again established. This time it is presented enharmonically one octave higher by the piano.

The melodic and bass lines of measures 31-34 combine contrapuntally in parallel motion to relieve melodic tension. Melodic tension once again increases in measures 34-37 as a result of the interaction and contrast between the descending bass line, the fluctuating melodic line, and the ascending clarinet line.

The harmonic tension of Motive A is slight. This coincides with the reduction of melodic tension in the clarinet and bass lines. Harmonic tension increases once again in Motive B as does the melodic tension.

The rhythmic activity of Phrase B parallels that of Phrase A and remains constant throughout the phrase.

Fig. 8.

Handwritten musical score for Fig. 8, measures 31-35 and 36-37. The score is written on four staves: Clarinet, Piano R.H., Piano L.H., and Cumulative.

Measures 31-35:

- Clarinet:** Measures 31-35. Measure 31: quarter note, eighth note, quarter note. Measure 32: quarter note, eighth note, quarter note. Measure 33: quarter note, eighth note, quarter note. Measure 34: quarter note, eighth note, quarter note. Measure 35: quarter note, eighth note, quarter note.
- Piano R.H.:** Measures 31-35. Measure 31: quarter note, eighth note, quarter note. Measure 32: quarter note, eighth note, quarter note. Measure 33: quarter note, eighth note, quarter note. Measure 34: quarter note, eighth note, quarter note. Measure 35: quarter note, eighth note, quarter note.
- Piano L.H.:** Measures 31-35. Measure 31: quarter note, eighth note, quarter note. Measure 32: quarter note, eighth note, quarter note. Measure 33: quarter note, eighth note, quarter note. Measure 34: quarter note, eighth note, quarter note. Measure 35: quarter note, eighth note, quarter note.
- Cumulative:** Measures 31-35. Measure 31: quarter note, eighth note, quarter note. Measure 32: quarter note, eighth note, quarter note. Measure 33: quarter note, eighth note, quarter note. Measure 34: quarter note, eighth note, quarter note. Measure 35: quarter note, eighth note, quarter note.

Measures 36-37:

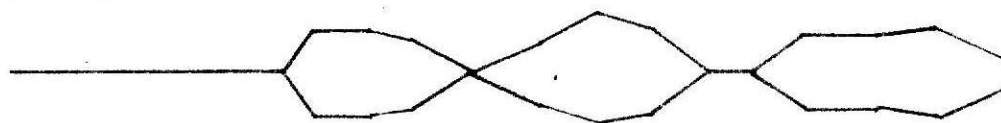
- Clarinet:** Measures 36-37. Measure 36: quarter note, eighth note, quarter note. Measure 37: quarter note, eighth note, quarter note.
- Piano R.H.:** Measures 36-37. Measure 36: quarter note, eighth note, quarter note. Measure 37: quarter note, eighth note, quarter note.
- Piano L.H.:** Measures 36-37. Measure 36: quarter note, eighth note, quarter note. Measure 37: quarter note, eighth note, quarter note.
- Cumulative:** Measures 36-37. Measure 36: quarter note, eighth note, quarter note. Measure 37: quarter note, eighth note, quarter note.

EXPLANATION OF PLATE VI
Phrase C. Measures 37-46.

PLATE VI

Handwritten musical notation for measures 37 to 41, featuring treble, alto, and bass staves with notes, rests, and accidentals. The notation is accompanied by a series of Roman numerals below the staves:

I, I, III₂ - III, I, II_{b3} II₂ III₂ I, - III, - #III₂ II_a



Handwritten musical notation for measures 42 to 46, featuring treble, alto, and bass staves with notes, rests, and accidentals. The notation is accompanied by a series of Roman numerals below the staves:

I₂ #II₂ III₂ I — I, II_b, II₂ I, IV₂ III₂ I,



The rhythmic activity is reduced to the quarter note in measure 37, and it remains fairly constant through measure 43. In measure 44, a triplet figure is introduced in preparation for the new rhythmic style beginning in measure 47.

Fig. 10.

The musical score is handwritten and consists of two systems. The first system covers measures 37 through 43, and the second system covers measures 44 through 46. The instruments are Clarinet (Clar.), Piano, and Cymbal (Cym.).

Measures 37-43:

- Clarinet:** Measures 37-43 feature a steady quarter-note rhythm. The notes are: 37 (G4, A4), 38 (B4, C5), 39 (D5, E5), 40 (F5, G5), 41 (A5, B5), 42 (C6, B5), 43 (A5, G5).
- Piano:** Measures 37-43 feature a steady quarter-note rhythm. The notes are: 37 (F4, E4), 38 (D4, C4), 39 (B3, A3), 40 (G3, F3), 41 (E3, D3), 42 (C3, B2), 43 (A2, G2).
- Cymbal:** Measures 37-43 feature a steady quarter-note rhythm. The notes are: 37 (G4, A4), 38 (B4, C5), 39 (D5, E5), 40 (F5, G5), 41 (A5, B5), 42 (C6, B5), 43 (A5, G5).

Measures 44-46:

- Clarinet:** Measures 44-46 feature a triplet figure. The notes are: 44 (G4, A4, B4), 45 (C5, D5, E5), 46 (F5, G5, A5).
- Piano:** Measures 44-46 feature a steady quarter-note rhythm. The notes are: 44 (F4, E4), 45 (D4, C4), 46 (B3, A3).
- Cymbal:** Measures 44-46 feature a triplet figure. The notes are: 44 (G4, A4, B4), 45 (C5, D5, E5), 46 (F5, G5, A5).

EXPLANATION OF PLATE VII

Transitional Passage. Measures 46-54.

PLATE VII

Handwritten musical notation for measures 46, 47, and 48. The notation is written on three staves (treble, alto, and bass clefs). Measure 46 shows a treble staff with a whole note and a bass staff with a complex melodic line. Measure 47 shows a treble staff with a whole note and a bass staff with a complex melodic line. Measure 48 shows a treble staff with a whole note and a bass staff with a complex melodic line. The notation is heavily scribbled over with ink.

I, _____

Handwritten musical notation for measures 49, 50, and 51. The notation is written on three staves (treble, alto, and bass clefs). Measure 49 shows a treble staff with a whole note and a bass staff with a complex melodic line. Measure 50 shows a treble staff with a whole note and a bass staff with a complex melodic line. Measure 51 shows a treble staff with a whole note and a bass staff with a complex melodic line. The notation is heavily scribbled over with ink.

I, II₂ III, II₂ I, I, II_b, I, I, IV, I,



Handwritten musical score for three staves, measures 52-54. The notation is in treble clef with a key signature of one sharp (F#). Measure 52 contains a melodic line with a slur over the first four notes. Measure 53 contains a melodic line with a slur over the first four notes. Measure 54 contains a melodic line with a slur over the first four notes. The bottom two staves are empty.

I

This short eight measure section is a transitional passage. The bass line consists of two motives. Motive A extends through measure 48, and constitutes the melodic element. In measure 49, the melodic material shifts to the clarinet and piano lines, and the bass descends chromatically. The bass line as a whole opens on an f sharp in measure 46, and ascends to an f sharp in measure 47. It then descends gradually to a g sharp in measure 51.

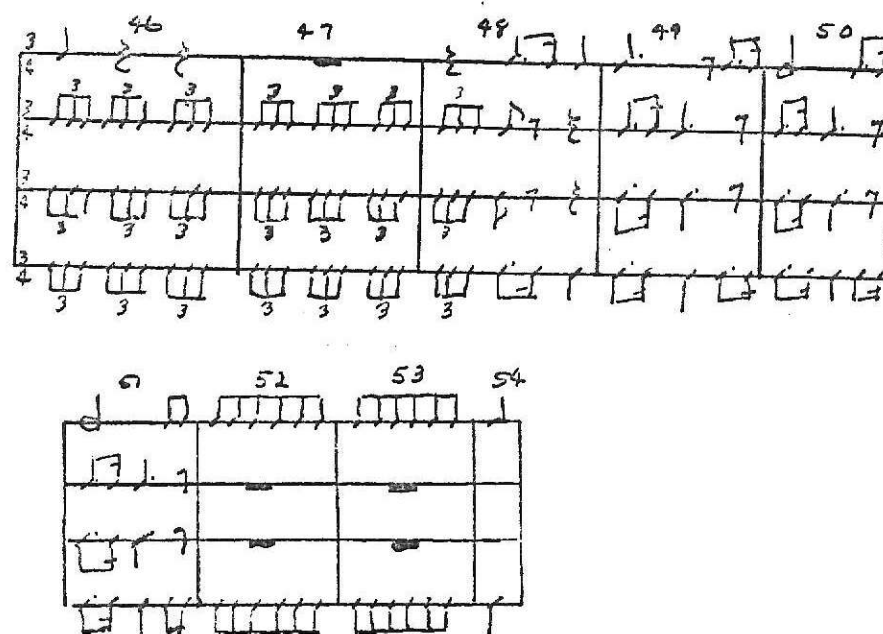
Significant melodic material is lacking because of the transitional nature of the passage. In measures 48-51 the clarinet and piano ascend canonically in a sequential pattern to develop tension. The clarinet relieves this tension in measures 52 and 53 in preparation of Section lll.

The counterpoint of measures 46-48 consists of strictly parallel motion. Contrary motion counterpoint occurs in measures 48-51 as the melodic lines are ascending and the bass line is descending. This contrary motion builds tension which is relieved by the clarinet in measures 52-53.

The increase of contrapuntal and rhythmic tensions in measures 49-51 is closely paralleled by a similar increase of harmonic tension.

The rhythmic plan is shown in Figure 11.

Fig. 11.



The basic rhythm changes to a triplet eighth note pattern in measure 46. This rhythmic pattern prepares the listener for the 9/8 rhythm of measure 54. Rhythmic tension is increased in measures 48-51 by altering the basic rhythmic pattern and introducing sixteenth notes. The rhythmic tension is relaxed in measures 52-53 to coincide with the reduced harmonic and melodic tensions.

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THIS BOOK**

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CONTENTS**

EXPLANATION OF PLATE VIII
Phrase A. Measures 54-66.

PLATE VIII

54 55 56 57

Handwritten musical score for measures 54 through 57. The score is written on four staves. The first staff contains a treble clef and a key signature of one sharp (F#). Measures 54 and 55 are marked with a 'C' time signature, while measures 56 and 57 are marked with a '7' time signature. The second and third staves contain complex melodic lines with many beamed notes. The fourth staff contains a series of rhythmic markings, including vertical lines and horizontal lines, with some letters (I, II, III) written below them. A decorative diamond-shaped ornament is located at the end of the fourth staff.

58 59 60 61

Handwritten musical score for measures 58 through 61. The score is written on four staves. The first staff contains a treble clef and a key signature of one sharp (F#). Measures 58 and 59 are marked with a 'C' time signature, while measures 60 and 61 are marked with a '7' time signature. The second and third staves contain complex melodic lines with many beamed notes. The fourth staff contains a series of rhythmic markings, including vertical lines and horizontal lines, with some letters (I, II, III) written below them.

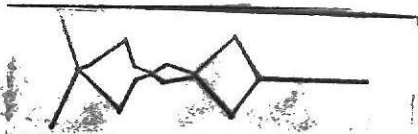
62 63 64

III, -2, III, I, III, III, I, I, I, -II, V, I, V, I, -II, I, III, -2, I, III, II, -.



65 66

VI, -II, I, -2, I, II, I, I.



DEVELOPMENT

The pedal point A in measures 54-56 serves to accentuate the beginning of the development section. Measures 57-60 are based upon a descending bass line similar to the exposition. The bass line of measures 61-65 is taken from the melodic material in the left hand of the piano. This gradually ascending bass line serves to create melodic tension.

The first melodic idea of the development section is taken from the melodic material in measures 1-7 of the exposition. Both melodic ideas contain two similar motives. Motive A ascends by fourths and descends by thirds while Motive B contains a gradually ascending line. The melodic idea is first presented by the clarinet in measures 56-61. It is then repeated by the piano in measures 61-66.

Counterpoint by contrary motion is established in measures 56-61 as the melodic line is gradually ascending and the bass is constantly descending. Contrary motion builds tension gradually through these measures. Tension is increased in measures 61-65 as the bass-melodic line and the accompaniment gradually rise by similar motion.

Harmonic tension is negligible in measures 54-56, but it begins to build in measure 57 as the two voice counterpoint begins its contrary motion. The harmonic tensions of measures 57-65 fluctuate between Class I and III chords.

Figure 12 illustrates the rhythmic organization.

Fig. 12.

Handwritten musical score for measures 54 through 66. The score is organized into three systems, each with four staves: Clarinet (Clar.), Piano (Piano), Piano (Piano), and Cym. (Cym.).

System 1 (Measures 54-58):

- Clar.:** Measures 54-58. Measure 54 has a 3/4 time signature. Measures 55-58 show various rhythmic patterns.
- Piano:** Measures 54-58. Measure 54 has a 9/8 time signature. Measures 55-58 show various rhythmic patterns.
- Piano:** Measures 54-58. Measure 54 has a 9/8 time signature. Measures 55-58 show various rhythmic patterns.
- Cym.:** Measures 54-58. Measure 54 has a 9/8 time signature. Measures 55-58 show various rhythmic patterns.

System 2 (Measures 59-63):

- Clar.:** Measures 59-63. Measure 59 has a 3/4 time signature. Measures 60-63 show various rhythmic patterns.
- Piano:** Measures 59-63. Measure 59 has a 9/8 time signature. Measures 60-63 show various rhythmic patterns.
- Piano:** Measures 59-63. Measure 59 has a 9/8 time signature. Measures 60-63 show various rhythmic patterns.
- Cym.:** Measures 59-63. Measure 59 has a 9/8 time signature. Measures 60-63 show various rhythmic patterns.

System 3 (Measures 64-66):

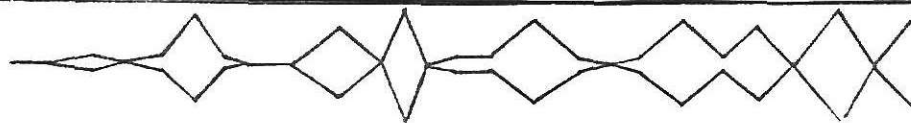
- Clar.:** Measures 64-66. Measure 64 has a 3/4 time signature. Measures 65-66 show various rhythmic patterns.
- Piano:** Measures 64-66. Measure 64 has a 9/8 time signature. Measures 65-66 show various rhythmic patterns.
- Piano:** Measures 64-66. Measure 64 has a 9/8 time signature. Measures 65-66 show various rhythmic patterns.
- Cym.:** Measures 64-66. Measure 64 has a 9/8 time signature. Measures 65-66 show various rhythmic patterns.

The rhythmic organization remains fairly constant through measure 66.

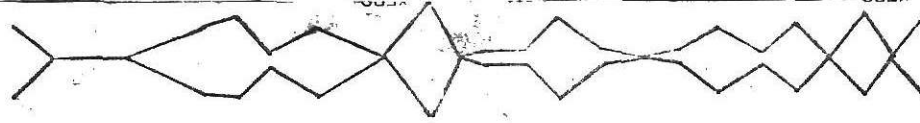
EXPLANATION OF PLATE IX
Phrase B. Measures 66-75.

PLATE IX

Handwritten musical notation for measures 66, 67, and 68. The notation is written on three staves. Measure 66 is in 3/4 time, measure 67 is in 3/4 time, and measure 68 is in 3/4 time. The notation includes various notes, rests, and accidentals (sharps, flats, naturals). Below the staves, there is a sequence of Roman numerals: $I_1 - I_2 I_1 - I_2 I_2 - I_1 III I VI - I_2 I_2 I_2 I_1 - I_2 I_2 I_2 I_1 - I_2 I_2 I_2 I_1 - I_2 I_2 I_2 I_1$.



Handwritten musical notation for measures 69, 70, and 71. The notation is written on three staves. Measure 69 is in 3/4 time, measure 70 is in 3/4 time, and measure 71 is in 3/4 time. The notation includes various notes, rests, and accidentals (sharps, flats, naturals). Below the staves, there is a sequence of Roman numerals: $III, I_1 - I_1 III, - I_2 I_2 III, I_2 I_2 I_1 - I_2 I_2 I_2 I_1 - I_2 I_2 I_2 I_1 - I_2 I_2 I_2 I_1 - I_2 I_2 I_2 I_1$.



Handwritten musical score on three staves, numbered 72 to 75. The notation includes various notes, rests, and accidentals (sharps, flats, naturals). The first staff is in 3/4 time, the second in 9/8, and the third in 7/8. The score concludes with a double bar line and a final chord.

Below the staves, there is a sequence of Roman numerals and subscripts: $\text{III}, \text{I} - \text{I}, \text{III}_2, \text{I}, \text{I} - \text{III}, \text{I} - \text{III}_2, \text{I}, \text{III}_2, \text{III}_2, \text{III}_2, \text{I} - \text{I}.$

At the bottom, there is a diagram consisting of a series of connected geometric shapes, resembling a stylized musical staff or a sequence of notes.

This phrase is based on the motif found in measure 66. The three measure pattern established in measures 67-69 is sequentially repeated in measures 70-72. Measures 73-75 contain a descending bass line in contrast to the ascending clarinet line. These two lines create the tension which introduces Phrase C.

Canonic treatment between the clarinet and piano begins in measures 66 and 67 when the clarinet presents Motive A at the fourth above the original and the piano presents it at the sixth below. This canonic treatment is continued in measures 69 and 70 with the clarinet at the seventh below and the piano at the third below. Tension is created by pitching each successive repetition of Motive A higher in both the clarinet and piano. The ascending clarinet line in measures 72-75 is in contrary motion to the bass line. The two lines combine to introduce Phrase C.

The two voice counterpoint of Phrase B work on the principle of contrary motion. The bass line descends in measures 66-67 as the clarinet line is ascending. Their respective roles are reversed in measure 68. These two lines spread apart again in measures 69-70 and then return in measure 71. The bass line descends steadily in measures 72-75 as the melodic line ascends to the b natural in measure 75. The contrary motion of measures 72-75 builds tension which aids in the introduction of Phrase C.

The harmonic tension continues to fluctuate throughout Phrase B. The chords are all classified as Class I, III, or V chords.

The rhythmic activity remains constant throughout Phrase B.

Fig. 13.

Handwritten musical score for Fig. 13, measures 66-75. The score is written on four staves: Clarinet (Clar.), Piano (Piano), Piano (Piano), and Cymbal (Cym.).

Measures 66-70:

- Clarinet:** Measures 66-70. Measure 66 starts with a 3/4 time signature. Measures 67-70 contain various notes and rests.
- Piano (top):** Measures 66-70. Measure 66 starts with a 9/8 time signature. Measures 67-70 contain various notes and rests.
- Piano (bottom):** Measures 66-70. Measure 66 starts with a 9/8 time signature. Measures 67-70 contain various notes and rests.
- Cymbal:** Measures 66-70. Measure 66 starts with a 9/8 time signature. Measures 67-70 contain various notes and rests.

Measures 71-75:

- Clarinet:** Measures 71-75. Measure 71 starts with a 3/4 time signature. Measures 72-75 contain various notes and rests.
- Piano (top):** Measures 71-75. Measure 71 starts with a 9/8 time signature. Measures 72-75 contain various notes and rests.
- Piano (bottom):** Measures 71-75. Measure 71 starts with a 9/8 time signature. Measures 72-75 contain various notes and rests.
- Cymbal:** Measures 71-75. Measure 71 starts with a 9/8 time signature. Measures 72-75 contain various notes and rests.

EXPLANATION OF PLATE X

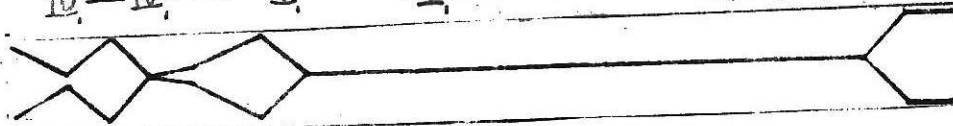
Phrase C. Measures 75-84.

PLATE X

Handwritten musical score for measures 75, 76, and 77. The score is written on three staves. Measure 75 is marked with a forte dynamic (**f**). Measure 77 is marked with a 4-measure rest. Below the staves, there is a line of handwritten text: **H₁ - III - I - III₂ - III - III - III - III - III - III -**

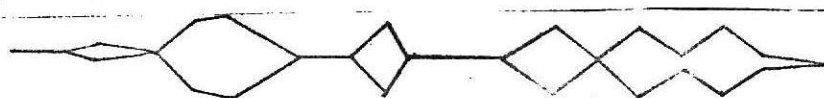


Handwritten musical score for measures 78, 79, and 80. The score is written on three staves. Measure 78 is marked with a forte dynamic (**f**). Measure 79 is marked with a 3-measure rest. Measure 80 is marked with a forte dynamic (**f**). Below the staves, there is a line of handwritten text: **IV - IV - I - I - I - I - I - I - I - I -**



Handwritten musical notation on four staves, numbered 81, 82, 83, and 84. The notation includes various musical symbols such as notes, rests, and accidentals. The first staff (81) shows a melodic line with a slur. The second staff (82) shows a complex rhythmic pattern with many beamed notes. The third staff (83) shows a melodic line with a slur. The fourth staff (84) shows a melodic line with a slur.

I — I, I, III, III, I — I, III, I — III, I, III, I, III, I, I



In Motive A, measures 75-79, the descending piano line is set in contrast to the generally ascending clarinet line. Hindemith considers the pedal point E too stagnant to be considered the bass line. Motive B of the bass outlines a distinctly ascending and descending pattern.

This short phrase canonically throws Motive A of the melodic idea from the clarinet to the piano and then back to the clarinet. Note the rhythmic differences in the melodic material.

For the most part, the bass and melodic lines are set in contrary motion throughout Phrase C. Measure 75 remains contrapuntally motionless as a new pattern is introduced in the piano. The clarinet ascends in measures 76-78 as the piano descends. They descend briefly in parallel motion in measures 78-79, after which the clarinet continues to descend in measures 80-81 as the piano ascends with Motive A of the melodic material. Contrary motion appears in measures 81-82 between the two piano lines. The clarinet once again assumes the melodic lead in measures 82-84, and ascends as the bass line descends.

The increased activity of measures 75-78 is reflected by an increase of harmonic tensions. Class III and Class IV chords predominate throughout these measures. In measures 79-84, the harmonic tension relaxes somewhat and fluctuates rapidly between Class I and Class III chords.

The rhythmic activity likewise increases in Phrase C.

Fig. 13.

The image displays two systems of handwritten musical notation. The first system covers measures 79 through 84, and the second system covers measures 76 through 78. Each system includes staves for Clarinet (Clar.), Piano (Piano), and Cymbal (Cym.).

System 1 (Measures 79-84):

- Clarinet:** Measures 79-84. Measure 80 contains a whole note chord marked 'A'. Measure 81 features a triplet of eighth notes.
- Piano:** Measures 79-84. The part consists of continuous sixteenth-note patterns across all measures.
- Cymbal:** Measures 79-84. The part consists of continuous sixteenth-note patterns across all measures.

System 2 (Measures 76-78):

- Clarinet:** Measures 76-78. Measure 77 contains a triplet of eighth notes.
- Piano:** Measures 76-78. The part consists of continuous sixteenth-note patterns across all measures.
- Cymbal:** Measures 76-78. The part consists of continuous sixteenth-note patterns across all measures.

The rhythmic activity opens fairly evenly, increases in measures 77-81, and then slowly diminishes to measure 84. The high point of harmonic tension and rhythmic activity occurs in measures 77-78.

EXPLANATION OF PLATE XI
Phrase D. Measures 84-93.

Phrase D is composed of two motives. Motive A ascends to measure 87, and then descends through measure 88. Motive B establishes a fairly constant pattern around the G in measures 89-93. This pattern accentuates the close of Phrase A, and prepares the introduction of Phrase E.

New melodic material is introduced in Phrase E to provide a period of rest before the climatic Phrase F. The clarinet carries this melodic material through measure 88, and then gives it to the piano. The melodic line of the piano rises above the clarinet, and maintains that position to the close of Phrase D.

The bass line rises steadily in measures 84-87, but the ever changing clarinet line produces a two voice counterpoint that is a blend between contrary and oblique motion. The two descend in parallel motion in measures 87-88 as the clarinet prepares to hand the melodic line to the piano. The two voice counterpoint of measures 89-93 is established by the piano. Oblique motion is maintained in measures 89-90, and parallel motion appears in measures 91-92, as the two lines descend in anticipation of Phrase E.

The average harmonic tension of Phrase D is greatly increased over that of previous phrases within the development section. The phrase opens quietly, but builds quickly to a high point of tension in measure 85. An average tension of Class III to Class VI chords is maintained from that point to the end of Phrase D.

Figure 14 illustrates the rhythmic activity of Phrase D.

Fig. 14.

Handwritten musical score for measures 84-87. The score is for Clarinet (Clar.), Piano, Piano, and Cymbal (Cym.). Measure 84 starts with a 3/4 time signature. Measures 85, 86, and 87 show complex rhythmic patterns with many beamed notes. The Cymbal part features a series of eighth notes in measures 85 and 86, and a triplet of eighth notes in measure 87.

Handwritten musical score for measures 88-91. The score is for Clarinet (Clar.), Piano, Piano, and Cymbal (Cym.). Measure 88 starts with a 3/4 time signature. Measures 89, 90, and 91 show complex rhythmic patterns with many beamed notes. The Cymbal part features a series of eighth notes in measures 89 and 90, and a triplet of eighth notes in measure 91.

Handwritten musical score for measures 92-93. The score is for Clarinet (Clar.), Piano, Piano, and Cymbal (Cym.). Measure 92 starts with a 3/4 time signature. Measure 93 shows a complex rhythmic pattern with many beamed notes. The Cymbal part features a series of eighth notes in measure 92 and a triplet of eighth notes in measure 93.

Although new melodic material is introduced as a brief interlude of rest, the harmonic and rhythmic tensions continue to build. Phrase D opens quietly, but builds to a high point of rhythmic tension in measure 85. This tension continues

through measure 90, and then begins to taper off in measures 91-93. The average rhythmic tension is higher in phrase D than in the previous phrases of the development section.

EXPLANATION OF PLATE XII

Phrase E. Measures 93-98.

PLATE XII

Handwritten musical notation on three staves, labeled 93, 94, and 95. The notation includes various musical symbols, including notes, rests, and dynamic markings. Below the staves is a series of rhythmic patterns represented by a sequence of vertical lines and horizontal segments.

93 94 95

III, IV, I, II, III, I, IV, VI, III, III, - VI, II, II, I,

Handwritten musical notation on three staves, labeled 96, 97, and 98. The notation includes various musical symbols, including notes, rests, and dynamic markings. Below the staves is a series of rhythmic patterns represented by a sequence of vertical lines and horizontal segments.

96 97 98

III, IV, I, II, III, I, IV, VI, III, III, - VI, II, II, I,

The development section ends with Phrase E. Climatic pitch tension is created by the constantly ascending bass line.

Climatic tension is created melodically by the rapid canonic repetition of a two measure motif from Motive A. Pitch tension is also created by starting each successive set of repetitions one step higher than the previous set.

The rapidly fluctuating nature of the melodic line presents contrary, oblique, and parallel counterpoint at various points in the phrase, but the phrase should generally be considered as being based on parallel motion.

The high degree of harmonic tension established in Phrase D is carried through Phrase E to measure 97. The harmonic tension drops sharply in measure 98 to a Class I chord which prepares the opening of the recapitulation.

Fig. 15.

The figure displays two systems of musical notation for measures 97 and 98. The instruments are Clarinet (Clar.), Piano (Piano), and Contrabass (Cun.).

Measure 97: The Clarinet part features a rapid canonic repetition of a two-measure motif. The Piano part provides harmonic support with chords. The Contrabass part has a constantly ascending bass line.

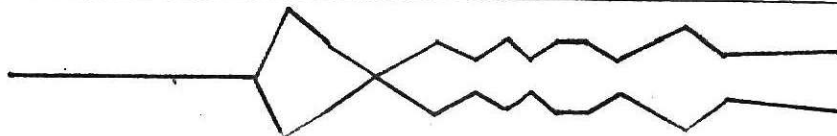
Measure 98: The harmonic tension drops sharply to a Class I chord. The Clarinet part continues with the motif, while the Piano and Contrabass parts provide harmonic support.

The high degree of rhythmic tension established in Phrases C and D is relaxed somewhat in Phrase E. A two measure rhythmic pattern appears with each entrance of the clarinet and parallels the two measure melodic motif.

EXPLANATION OF PLATE XIII
Phrase A. Measures 99-109.

PLATE XIII

Handwritten musical notation for measures 99, 100, 101, and 102. The notation is written on three staves. Measure 99 is marked with a treble clef and a key signature of one flat. Measures 100, 101, and 102 are marked with a bass clef and a key signature of one flat. The notation includes various notes, rests, and accidentals. Below the staves, there is a series of Roman numerals: I, — I, — VII III, I, III, III, III, II, — II, IV, I, II, II, — II.



Handwritten musical notation for measures 103, 104, and 105. The notation is written on three staves. Measure 103 is marked with a treble clef and a key signature of one flat. Measures 104 and 105 are marked with a bass clef and a key signature of one flat. The notation includes various notes, rests, and accidentals. Below the staves, there is a series of Roman numerals: III, I, II, III, — III, — III, I, III, — III, — III.



Handwritten musical notation for measures 106, 107, 108, and 109. The notation is written on three staves (treble, alto, and bass clefs). Measure 106 shows a treble staff with a half note, an alto staff with a half note, and a bass staff with a half note. Measure 107 shows a treble staff with a half note, an alto staff with a half note, and a bass staff with a half note. Measure 108 shows a treble staff with a half note, an alto staff with a half note, and a bass staff with a half note. Measure 109 shows a treble staff with a half note, an alto staff with a half note, and a bass staff with a half note.

Below the musical notation is a sequence of Roman numerals: $III_2, III, -I, -III, -I, -III, I, I, -I, -III, I, VI, I,$

Below the Roman numerals is a diagram consisting of a horizontal line with several diamond shapes connected by lines, representing a sequence of notes or chords.

RECAPITULATION

Measures 99-107 are based on a descending bass line extending from E flat to E flat. This matches the descending bass line in measures 1-7 of the exposition. Motive A of the melodic material is used in measures 108-109 to close phrase A. The motif centers around E flat -- the note which terminates the descending bass line of phrase A, and introduces the bass line of phrase B.

The melodic material is taken from measures 1-7 of the exposition, and is presented at the fourth above the original. Motive A remains the same, but Motive B is altered to accommodate the canonic treatment of the material. The melody is first presented by the clarinet in measures 100-105. The piano enters canonically at the fifth below the original in measure 103. A motif of Motive A is given by the clarinet again in measure 106, and by the piano in measures 107-108 to close phrase A.

Counterpoint by contrary motion opens phrase A, and extends into measure 101. The bass and melodic lines then descend in parallel motion to measure 103, where the piano picks up the melodic line. This contrapuntal pattern is then repeated in measures 103-106. Counterpoint by oblique motion is established in measures 106-107 between the stationary bass and the melodic motifs appearing in the clarinet and the piano. Parallel motion counterpoint appears in measures 107-109 as the piano presents the melodic motif in both clefs.

Phrase A opens consonantly, but quickly builds to an average harmonic tension of Class III chords. This tension extends

through measure 106 because of the tremolo pattern in the piano, and the canonic treatment of the melodic material in measures 103-107. The harmonic tension drops considerably in measures 107-109 as the melodic motif is presented canonically in measures 106-107, and in unison in measures 107-109.

Fig. 16.

The figure displays a handwritten musical score for measures 99 through 109. The score is organized into three systems, each with four staves labeled 'Clar.', 'Piano', 'Piano', and 'Cello.' (labeled as 'Cum.' in the original image). The time signature is 3/4.

- System 1 (Measures 99-103):**
 - Measure 99: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 100: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 101: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 102: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 103: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
- System 2 (Measures 104-107):**
 - Measure 104: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 105: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 106: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 107: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
- System 3 (Measures 108-109):**
 - Measure 108: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.
 - Measure 109: Clarinet has a quarter note, Piano has a half note, Piano has a half note, Cello has a half note.

The most striking difference between the statement of the first melodic idea in the exposition and in the recapitulation is the rhythm. Measures 99-106 are based on a tremolo rhythm. A reduction of rhythmic tension occurs in measures 107-109 in anticipation of phrase B.

EXPLANATION OF PLATE XIV
Phrase B. Measures 109-119.

PLATE XIV

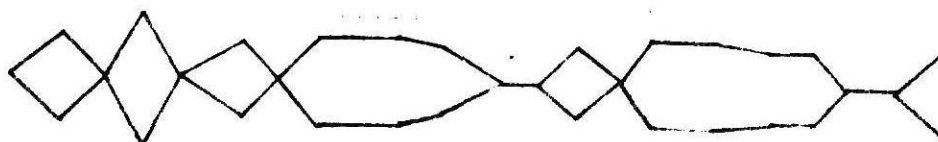
113 114 115 116

I, — I₂ I, I₂ I, — I₂ I, I, — I₂ I, I₂ — I, III₂ I₂



109 110 111 112

I, III₂ I, III I, III₂ — III III, I — III, — I, III₂ — III, — I, — III₂



Handwritten musical score for three staves, measures 117, 118, and 119. The notation includes treble and bass clefs, key signatures, and various musical symbols. Below the staves is a sequence of Roman numerals and a geometric diagram.

Measures 117, 118, and 119 are indicated above the staves.

Below the staves, the following sequence of Roman numerals is written:

$\text{VI } \Pi_2 \text{ I}_2 \text{ V} \quad \text{V V I}_2 \text{ I}_2 \text{ I}_2 \text{ I}_2 \text{ V I, I, I}_2 \text{ I, I}_2$

Below the numerals is a geometric diagram consisting of a series of connected line segments forming a complex, symmetrical shape, possibly representing a musical structure or a mathematical pattern.

As in measures 21-24 of the exposition, a repetitious two measure pattern is used to establish the second melodic idea. This pattern is based upon a four note bass line, and constitutes Motive A. Motive B is the repetitious figure ascending sequentially in measures 113-119. Motive B parallels measures 25-31 of the exposition.

The second melodic idea is taken "verbatim" from measures 22-31 of the exposition, but it is presented at the third above the original. The clarinet carries the melody throughout the phrase.

Hindemith uses contrary motion throughout phrase B. The bass and melodic lines move away from each other in measures 109-111, and then return again to their original positions in measures 112-113. In Motive B the bass line is constantly ascending as the clarinet line is descending.

The harmonic tension fluctuates somewhat in Motive A, but it remains basically in the area of Class III chords. Motive B opens consonantly because of the singular intervals created by the bass and melodic lines. Harmonic tension increases rapidly in measure 116 with the introduction of a third line, and remains high through measure 118. Class I chords predominate in measures 118-119 as the phrase ends.

Fig. 17.

Figure 17 is a musical score for measures 109 through 114. The score is written for four staves: Clarinet (Clar.), Piano (Piano), Piano (Piano), and Cello/Double Bass (Cm.). The Clarinet staff shows a descending melodic line with notes and rests. The Piano staves show a complex accompaniment with many sixteenth notes. The Cello/Double Bass staff shows a steady, rhythmic pattern of eighth notes. Measure numbers 109, 110, 111, 112, 113, 114 are written above the Clarinet staff. A '3/4' time signature is present at the beginning of the first staff.

Fig. 17 (Cont'd)

Handwritten musical score for measures 115-119. The score is written on four staves: Clarinet (Clar.), Piano, Piano, and Cymbal (Cym.).

- Clarinet (Clar.):** Measures 115-119. The notation includes various note values and rests, with measure numbers 115, 116, 117, 118, and 119 written above the staff.
- Piano (first staff):** Measures 115-119. The notation includes various note values and rests.
- Piano (second staff):** Measures 115-119. The notation includes various note values and rests.
- Cymbal (Cym.):** Measures 115-119. The notation includes various note values and rests.

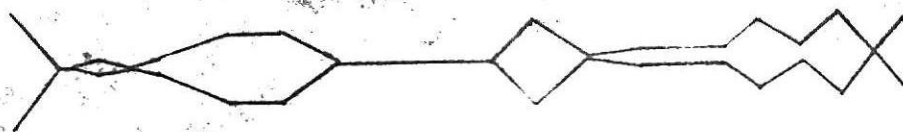
This phrase is rhythmically the same as Phrase A, measures 21-31 of the exposition.

EXPLANATION OF PLATE XV

Phrase C. Measures 119-125.

PLATE XV

Handwritten musical notation for measures 119, 120, 121, and 122. The notation is written on three staves. Below the staves, there is a sequence of Roman numerals and symbols: $V, I, \text{II}, \text{III}, - I, - I, \text{III}_2, I, I_2, I_2, \text{III}, I_2, \text{III}_2, I, \text{IV}_1$.



Handwritten musical notation for measures 123, 124, and 125. The notation is written on three staves. Below the staves, there is a sequence of Roman numerals and symbols: $\text{III}_1 - \text{III}_2, I_2, \text{III}_2 - I, I_2, \text{III}_2, \text{III}, \text{II}_b, \text{IV}, \text{III}, I_2$.



Phrase C parallels Phrase B, measures 31-37, of the exposition. It is presented at the third above the original.

Motive A of the bass line descends sequentially to measure 122, and Motive B continues this downward motion by descending chromatically from E flat to B flat.

The clarinet descends to measure 122 in Motive A of the melodic line. This descent relieves the melodic tension previously established by the clarinet and prepares the introduction of the piano line in measure 122. The piano presents Motive A of the second melodic idea in Motive B.

Parallel motion counterpoint exists in Motive A. Contrary motion appears in Motive B between the outer two piano lines, but it returns to parallel motion at the close of measure 123. The clarinet assumes contrapuntal importance in measure 124, and the contrary motion of measure 124 builds tension in anticipation of Phrase D.

The phrase opens consonantly, and alternates between Class I and Class III chords to measure 122. The introduction of the additional piano lines increases the average harmonic tension to Class III chords throughout the remainder of the phrase.

Fig. 18.

Handwritten musical score for measures 119-125. The score is organized into two systems. The first system covers measures 119, 120, 121, 122, and 123. The second system covers measures 124 and 125. The instruments are Clarinet (Clar.), Piano, Piano, and Cymbal (Cym.).

Measure 119: Clarinet has a quarter note, two eighth notes, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Cymbal has a quarter note, a half note, and a quarter note.

Measure 120: Clarinet has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Cymbal has a quarter note, a half note, and a quarter note.

Measure 121: Clarinet has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Cymbal has a quarter note, a half note, and a quarter note.

Measure 122: Clarinet has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Cymbal has a quarter note, a half note, and a quarter note.

Measure 123: Clarinet has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Cymbal has a quarter note, a half note, and a quarter note.

Measure 124: Clarinet has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Cymbal has a quarter note, a half note, and a quarter note.

Measure 125: Clarinet has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Piano has a quarter note, a half note, and a quarter note. Cymbal has a quarter note, a half note, and a quarter note.

As in measures 31-37 of the exposition, the rhythmic activity remains constant.

EXPLANATION OF PLATE XVI

Phrase D. Measures 125-133.

PLATE XVI

Handwritten musical notation for measures 125 through 129. The notation is written on three staves. Measure 125 is marked with a key signature change to B-flat (b) and a tempo marking 'poco'. Measures 126, 127, 128, and 129 follow. The notation includes various musical symbols such as notes, rests, and dynamic markings like 'p' (piano) and 'f' (forte).

I, — III₂ III₃ I, II₂ IV₂ III₂ I, I, III₂ III₂ II₂ II₂



Handwritten musical notation for measures 130 through 133. The notation is written on three staves. Measure 130 is marked with a key signature change to B-flat (b). Measures 131, 132, and 133 follow. The notation includes various musical symbols such as notes, rests, and dynamic markings like 'p' (piano) and 'f' (forte).

I₂ II₂ III₂ — I, — I, — II₂ IV₂ IV₂ I, IV₂ III₂ —



Phrase D parallels measures 37-45 of the exposition and is presented at the third above the original.

Motive A of the bass line is the pedal point B flat in measures 126-128. The bass line shifts from the pedal point to the right hand of the piano in measure 128, because the pedal point is too stagnant to be considered the bass. Motive B descends chromatically from the B flat in measure 128 to the E flat at the end of the phrase.

The phrase is based melodically on Motive B of the second melodic idea. It develops repetitiously by stating the motif three times in three successive phrases.

The counterpoint is basically oblique. The clarinet descends against the pedal point B flat in Motive A. In Motives B and C, the bass line descends as the melodic line remains fairly constant.

Each motive opens consonantly with Class I chords, but builds quickly to Class III and Class IV chords through the last two measures of the motive.

Fig. 19.

Handwritten musical score for measures 125-129. The score is written on four staves: Clarinet (Clar.), Piano (Piano), Piano (Piano), and Cello/Double Bass (Cem.). The measures are numbered 125, 126, 127, 128, and 129. The notation includes various musical symbols such as notes, rests, and bar lines, indicating a complex melodic and harmonic structure.

Fig. 19. (cont'd)

Handwritten musical score for four staves: Clarinet, Piano, Piano, and Cymbal. The score is divided into four measures. Above the first measure is '130', above the second '131', above the third '132', and above the fourth '133'. The Clarinet staff has a 3/4 time signature and contains eighth notes. The Piano staves have a 3/4 time signature and contain quarter notes. The Cymbal staff has a 3/4 time signature and contains eighth notes. The notation is handwritten and includes various rhythmic markings.

Motives A and B are reduced to a quarter note pattern in contrast to Phrase C. This serves as a break between the rhythmic patterns of Phrases C and E. A triplet pattern is introduced in Motive C in preparation of the rhythmic change.

EXPLANATION OF PLATE XVII
Phrase E. Measures 134-139.

This phrase closes the recapitulation section and introduces the coda. The bass line consists of three sequential figures. Each figure is pitched successively higher and is marked dynamically louder to build the tension which prepares the coda.

The melodic material consists of two brief statements of a motif from Motive A of the first melodic idea. Tension is established by the second statement which is pitched higher than the first in order to parallel the ascending bass line.

Parallel counterpoint rules Phrase E. Brief interludes appear in measures 135 and 137 with the introduction of some oblique motion counterpoint.

The absence of significant contrapuntal motion is matched by a similar lack of harmonic tension. Harmonic tension does appear in measures 135 and 137 between the intervals created by the oblique counterpoint.

Fig. 20.

The musical score for measures 134-139 is presented in a four-staff format. The staves are labeled on the left: Clar. (Clarinet), Piano R.H. (Piano Right Hand), Piano L.H. (Piano Left Hand), and Cbm. (Cello/Double Bass). The measures are numbered 134 through 139 at the top. The Clarinet part features a melodic motif in measures 134, 135, 137, and 138. The Piano R.H. and Piano L.H. parts play a rhythmic accompaniment of eighth notes. The Cbm. part features a bass line with three sequential figures of increasing pitch, marked with dynamic markings (p, mf, f) to build tension.

The increased rhythmic activity combines with the elements of sequentially rising pitch levels increasing dynamically to produce tension. This tension marks the close of the recapitulation and the opening of the coda.

EXPLANATION OF PLATE XVIII

Phrase A. Measures 140-150.

PLATE XVIII

Handwritten musical score for Plate XVIII, measures 140-146. The score is written on three staves (treble, alto, and bass clefs) and includes a figured bass line below the staves. The music is in 3/4 time and features various notes, rests, and accidentals. The figured bass line consists of letters (I, II, III) and numbers (1, 2, 3, 4) indicating fingerings and intervals. The score is divided into measures 140, 141, 142, 143, 144, 145, and 146. The notation is handwritten and includes some corrections and markings. The bottom of the page features a large, stylized, hand-drawn shape resembling a diamond or a cross, with the word "XERO" printed vertically on the right side.

Handwritten musical score for measures 147-150. The score is written on four staves. The first staff is in treble clef, and the second and third staves are in bass clef. The fourth staff is a single line. The measures are numbered 147, 148, 149, and 150. Measure 147 contains a treble staff with a half note G4, a bass staff with a half note F3, and a single line with a half note G2. Measure 148 contains a treble staff with a half note A4, a bass staff with a half note G3, and a single line with a half note A2. Measure 149 contains a treble staff with a half note B4, a bass staff with a half note A3, and a single line with a half note B2. Measure 150 contains a treble staff with a half note C5, a bass staff with a half note B3, and a single line with a half note C2. The single line staff has a bracket under it with the Roman numeral III. The treble staff has a bracket over it with the Roman numeral I.

CODA

Motive A is based upon an ascending bass. The two motives of the bass line overlap in measure 144. Motive B descends through measure 146, and then reverses to settle on the C in measure 148.

The coda opens with a statement of the first melodic idea at the sixth below the original. The rhythmic value of the notes has been completely altered.

The bass and melodic lines ascend in parallel motion through measure 143. The melodic line then descends in contrary motion to close Motive A. Both lines descend in parallel motion to open Motive B, after which the bass remains fairly constant on C as the clarinet moves in oblique motion. The singular melodic line closes the phrase.

Phrase A opens and closes consonantly with only Class III chords appearing throughout the main part of the phrase.

Fig. 21.

Figure 21 is a musical score for measures 140 through 145. The score is written for four parts: Clarinet (Clar.), Piano Right Hand (Piano R.H.), Piano Left Hand (Piano L.H.), and Cymbal (Cym.). The measures are numbered 140, 141, 142, 143, 144, and 145. The Clarinet part features a melodic line with notes and rests, including a triplet in measure 145. The Piano R.H. and L.H. parts provide harmonic support with chords and single notes. The Cymbal part consists of a rhythmic pattern of eighth and sixteenth notes. The score is written on a grand staff with a key signature of one flat (B-flat) and a time signature of 3/4.

Fig. 21. (Cont'd)

Handwritten musical score for measures 146-150. The score is written on four staves: Clarinet (Clar.), Piano Right Hand (Piano RH), Piano Left Hand (Piano LH), and Cymbal (Cym.). The time signature is 3/4. The measures are numbered 146, 147, 148, 149, and 150. The notation includes various rhythmic values (quarter notes, eighth notes, sixteenth notes, rests) and dynamic markings (p, f). The Cymbal part features a consistent rhythmic pattern of eighth notes.

The rhythmic activity of Phrase A is reduced from that of previous phrases. The basic rhythmic pattern revolves around the quarter note.

EXPLANATION OF PLATE XIX
Phrase B. Measures 150-155.

PLATE XIX

Handwritten musical score for Plate XIX, measures 150-155. The score is written on three staves. The first staff contains measure numbers 150, 151, 152, 153, 154, and 155. The second and third staves contain musical notation, including notes, rests, and accidentals. The notation is in a system with a treble clef and a key signature of one flat (B-flat). The score is written in a cursive, handwritten style. Below the staves, there is a series of Roman numerals: I, II, III, I, II, III, II, III, I, II, III, I. These numerals are connected by horizontal lines, suggesting a sequence of chords or a harmonic progression. The entire score is enclosed in a rectangular box.

The bass line is a tonal derivative of the first melodic idea.

There is canonic treatment of the melodic material in Phrase B. The piano introduces the melodic material at the fifth below the original in measure 150 and the piano again introduces it at the second below the original in measure 151.

The contrapuntal texture of measures 150-152 is basically oblique. Contrary motion appears in measure 153, and the phrase closes in measures 154-155 with parallel motion.

Phrase B opens consonantly but builds quickly to Class III chords with the introduction of the canonic material. The Class III chords are maintained through measure 154. A Class I chord closes the phrase and prepares the introduction of Phrase C.

The rhythmic activity parallels Phrase A in that it is basically a quarter note pattern with a few dotted eighths and sixteenths added.

Fig. 22.

Handwritten musical score for measures 150-155. The score is written on four staves: Clarinet (Clar.), Piano Right Hand (Piano R.H.), Piano Left Hand (Piano L.H.), and Cello/Double Bass (Celm.). The time signature is 3/4. The key signature has one flat (B-flat). The score shows the following notes and rests:

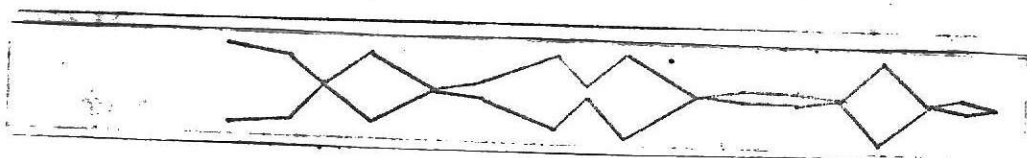
Measure	Clar.	Piano R.H.	Piano L.H.	Celm.
150	G4 (quarter), A4 (quarter), B4 (quarter)	F3 (quarter), G3 (quarter), A3 (quarter)	F3 (quarter), G3 (quarter), A3 (quarter)	F3 (quarter), G3 (quarter), A3 (quarter)
151	A4 (quarter), B4 (quarter), C5 (quarter)	G3 (quarter), A3 (quarter), B3 (quarter)	G3 (quarter), A3 (quarter), B3 (quarter)	G3 (quarter), A3 (quarter), B3 (quarter)
152	B4 (quarter), C5 (quarter), D5 (quarter)	A3 (quarter), B3 (quarter), C4 (quarter)	A3 (quarter), B3 (quarter), C4 (quarter)	A3 (quarter), B3 (quarter), C4 (quarter)
153	C5 (quarter), B4 (quarter), A4 (quarter)	B3 (quarter), A3 (quarter), G3 (quarter)	B3 (quarter), A3 (quarter), G3 (quarter)	B3 (quarter), A3 (quarter), G3 (quarter)
154	A4 (quarter), G4 (quarter), F4 (quarter)	F3 (quarter), E3 (quarter), D3 (quarter)	F3 (quarter), E3 (quarter), D3 (quarter)	F3 (quarter), E3 (quarter), D3 (quarter)
155	G4 (quarter), F4 (quarter), E4 (quarter)	E3 (quarter), D3 (quarter), C3 (quarter)	E3 (quarter), D3 (quarter), C3 (quarter)	E3 (quarter), D3 (quarter), C3 (quarter)

EXPLANATION OF PLATE XX
Phrase C. Measures 155-162.

PLATE XX

Handwritten musical notation for measures 155, 156, 157, and 158. The notation is written on three staves. Below the staves, the following sequence of Roman numerals is written:

$\text{III}_2 \text{ III}_1 \text{ III} \text{ I}_1 - \text{I}_2 \text{ III}_1 \text{ I}_2 \text{ III}_2 \text{ I}_1 - \text{I}_2 \text{ I}_2 \text{ I}_1 \text{ III}_2 \text{ I}_1 \text{ I}_2 \text{ I}_1$



Handwritten musical notation for measures 159, 160, 161, and 162. The notation is written on three staves. Below the staves, the following sequence of Roman numerals is written:

$\text{I}_2 \text{ I}_1 \text{ III}_2 \text{ I}_1 \text{ I}_2 \text{ I}_1 \text{ I}_1 \text{ III}_2 \text{ III}_1 \text{ I}_1 - \text{I}_1$



Phrase C is based on a descending bass line which relieves tension in conjunction with the melodic and rhythmic elements.

A motif is developed from the melodic material of the coda. This motif descends from A flat to F in parallel motion with the bass line to relieve melodic tension.

Parallel motion predominates as the melodic and bass lines both descend to relieve tension.

The harmonic tension continually fluctuates between Class I and Class III chords, but the majority are Class I chords.

Fig. 23.

Clar. 3 155 156 157 158 159

Piano R.H. 3 4

Piano L.H. 3 4

Corn. 3 4

Clar. 3 160 161 162

Piano R.H. 3 4

Piano L.H. 3 4

Corn. 3 4

Unlike the harmonic and melodic tensions, the basic rhythmic tension does not decrease. It actually increases over that of Phrase B. The rhythmic pattern established in measure 156 is carried through measure 159. There is a rhythmic reduction in measures 160-161 which closes the phrase.

EXPLANATION OF PLATE XXI

Phrase D. Measures 162-173.

PLATE XXI

Handwritten musical notation for measures 162 through 166. The notation is written on three staves (treble, alto, and bass clefs). Measure numbers 162, 163, 164, 165, and 166 are written above the staves. The notation includes various musical symbols such as notes, rests, and accidentals. Below the staves, there is a series of Roman numerals indicating the harmonic structure: III_2 , I_2 , I , III_2 , I , VI , III_2 , III_2 , III , I_2 , I .



Handwritten musical notation for measures 167 through 170. The notation is written on three staves (treble, alto, and bass clefs). Measure numbers 167, 168, 169, and 170 are written above the staves. The notation includes various musical symbols such as notes, rests, and accidentals. Below the staves, there is a series of Roman numerals indicating the harmonic structure: III_2 , III , III_2 , I , $-III$, I_2 , I , I , III_2 , IV_2 , III_2 .



Handwritten musical notation on three staves, measures 171, 172, and 173.

Measure 171: Treble clef, key signature of one flat (B-flat). The staff contains a half note chord (F4, B-flat4) and a quarter note chord (F4, B-flat4). The bass staff contains a half note chord (F3, B-flat3) and a quarter note chord (F3, B-flat3).

Measure 172: Treble clef, key signature of one flat (B-flat). The staff contains a half note chord (F4, B-flat4) and a quarter note chord (F4, B-flat4). The bass staff contains a half note chord (F3, B-flat3) and a quarter note chord (F3, B-flat3).

Measure 173: Treble clef, key signature of one flat (B-flat). The staff contains a half note chord (F4, B-flat4) and a quarter note chord (F4, B-flat4). The bass staff contains a half note chord (F3, B-flat3) and a quarter note chord (F3, B-flat3).

Below the staves, there are handwritten labels: III_1 , IV_2 , I, and IV_1 .



The bass line continues the descent started in Phrase C.

A second motif taken from the melodic material of the coda is introduced by the piano in the bass line. The unifying element around which the phrase revolves is the F in the clarinet. At measure 167, the clarinet resumes control of the melodic element with a gradually descending passage which serves to relieve the remaining melodic tension.

Oblique motion counterpoint is maintained through measure 169 as the clarinet remains constant against the descending bass. Both lines descend in parallel motion in measures 170-173.

The harmonic tension continues to fluctuate between basically Class I and Class III chords. The Class IV tension of measure 171 drops sharply in measure 172 to Class I tension which ends the phrase consonantly.

Phrase D exhibits a reduction in rhythmic activity.

Fig. 24.

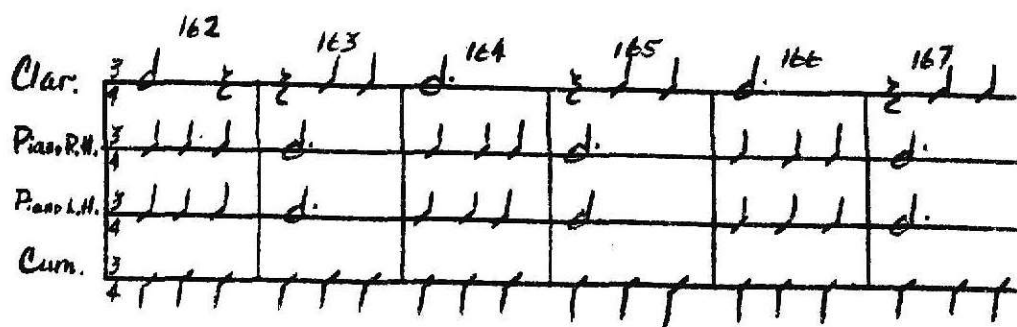


Fig. 24. (Cont'd)

Handwritten musical score for measures 168-173. The score is in 3/4 time and features four staves: Clarinet (Clar.), Piano Right Hand (Piano R.H.), Piano Left Hand (Piano L.H.), and Cymbal (Cym.). Measures 168-171 show a rhythmic pattern of quarter notes and dotted half notes. Measures 172-173 show a dotted half note pattern. The Cymbal part consists of a series of eighth notes.

Phrase D begins with a quarter note pattern. The half note becomes dominant in measures 169-171 and the dotted half note appears in measures 172-173.

CONCLUSION

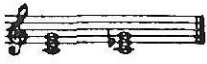
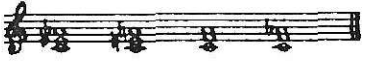
Hindemith builds harmonic tension effectively within the framework of the two part counterpoint. This tension is molded in three respects -- within each individual phrase, within each section of the movement, and within the movement as a whole. The phrases generally open consonantly and build quickly to an average degree of tension characteristic of the phrase. This harmonic tension relaxes in the last few measures of the phrase and the phrase closes consonantly. Hindemith likewise molds the harmonic tension within each section of the movement. The exposition opens consonantly, builds to a high point of harmonic tension in Phrase A of Section II, and then gradually decreases towards the consonant Transition section. The Transition remains consonant as an interlude between the Exposition and Development. The Development section builds harmonic tension to a high point in the last two phrases of the section. The Recapitulation accepts this high level of harmonic tension and gradually decreases it throughout the phrase. The Coda opens consonantly and builds to an average tension of Class III chords throughout the phrase. The final phrase exhibits a slightly higher level of harmonic tension before it closes consonantly. The movement opens consonantly, builds to a high point of harmonic tension at the close of the Development section, and then gradually decreases to the consonant ending.

Rhythmic tension is directly affected by the degree of

rhythmic activity. This tension builds gradually through the first sections of the movement to the Development section. The contrasting clarinet and piano rhythms of the Development section create the most complex rhythmic activity of the movement. A slow decline of rhythmic activity is then evident from the Development section to the ending.

The harmonic and rhythmic elements work in conjunction throughout the movement to mold the music. They combine with the aspects of contrapuntal texture, dynamics, and melodic development to create music.

Table of Chord-Groups

A Chords without Tritone	B Chords containing Tritone
<u>Without minor seconds or major sevenths</u> Root and bass tone are identical  Root lies above the bass tone 	II <u>Without minor seconds or major sevenths</u> <u>The tritone subordinate</u> a. With minor seventh only (no major second) Root and bass tone are identical  b. Containing major seconds or minor sevenths or both 1. Root and bass tone are identical  2. Root lies above the bass tone  3. Containing more than one tritone 
<u>Containing minor seconds or major sevenths or both</u> Root and bass tone are identical   Root lies above the bass tone 	IV <u>Containing minor seconds or major sevenths or both</u> <u>One or more tritones subordinate</u> 1. Root and bass tone are identical  2. Root lies above the bass tone 
<u>Indeterminate</u> 	VI <u>Indeterminate. Tritone predominating</u> 

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THE CREATION OF HARMONIC AND RHYTHMIC TENSION IN THE
SONATE FOR CLARINET AND PIANO, FIRST MOVEMENT, OF PAUL HINDEMITH

by

JAMES EARL DILLEY

B. S., Kansas State University, 1964

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Music

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1969

ABSTRACT

The purpose of this paper is to study the means by which Hindemith creates harmonic and rhythmic tensions in a typical work. The Sonata for Clarinet and Piano has been chosen as suitable material for this report.

To analyze the interaction between harmonic and rhythmic tensions, it is necessary to first study each one individually. Hindemith states that harmonic development occurs, and is molded within, a linear framework. This framework is established by the contrapuntal interaction of the bass line and the most important upper voice. The bass line serves as the foundation upon which the entire harmonic structure is built while the most important upper voice usually constitutes the melodic material. The melodic material is imaginatively handled by canonic, repetitious, and sequential treatment. The harmonic intervals created within this framework possess varying degrees of consonance or dissonance. Hindemith uses this dissonance to build harmonic tension in his music. Each section is analyzed harmonically by studying the bass line, the most important upper voice, the contrapuntal interaction between them, and the harmonic dissonances created.

The rhythmic organization of the Sonata for Clarinet and Piano will be presented by means of a cumulative rhythm chart. This chart is based on the premise that a musical measure is derived from a period of silence of specific duration. When a note or a group of notes sounding simultaneously appears within a measure, it creates a rhythmic pulse. When a second note or

group of notes appears, it likewise produces a rhythmic pulse. The number of rhythmic pulses appearing within any one measure is an indication of that measure's rhythmic activity, complexity, and tension.

The report shows how Hindemith builds harmonic tension within the framework of the two part counterpoint. He uses the same basic pattern for each individual phrase, section of the movement, and within the movement as a whole. This pattern consists of a consonant opening, the building of tension to a high point, and gradual decline to a consonant ending.

Rhythmic tension is directly affected by the degree of rhythmic activity. This tension builds gradually through the first sections of the movement to the Development section. The contrasting clarinet and piano rhythms of the Development section create the most complex rhythmic activity of the movement. A slow decline of rhythmic activity is then evident from the Development section to the ending.

The harmonic and rhythmic elements work in conjunction throughout the movement to mold the music. They combine with the aspects of contrapuntal texture, dynamics, and melodic development.