

THE COMPOSITIONAL TECHNIQUES AND MUSICAL
DEVICES USED IN "TWO DANCES FOR ORCHESTRA"

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INTRODUCTION

The twelve-tone technique is one of the important twentieth century developments in the art of organizing musical sounds. The concepts of this technique were developed in the early 1920's by Schoenberg, Berg, Hauer, Webern and others. Although there is now a substantial amount of fine literature written with this technique, much of it is at a high level of difficulty for the performer. The contrapuntal nature and widely separated melodic intervals of much of this music also makes it somewhat difficult for the listener to comprehend.

Structures and patterns which are relatively easy for performers to play and which may be readily comprehended by the listener have been used in this author's composition, "Two Dances for Orchestra." Although not intended for beginners, the lively but simple rhythms and uncomplicated patterns should be well within the reach of a good high school orchestra.

The purpose of this report is to discuss some of the problems, considerations, and procedures used in writing "Two Dances for Orchestra."

I

DEFINITION OF TERMS

Terms used to describe various procedures inherent in the composition of twelve-tone music have not yet been completely standardized, even though composers have been using the technique for nearly fifty years. References to twelve-tone music in the context of this report refer to serial procedures using all of the tones of the semitonal scale.

The following list contains the definitions of some of the terms used in this report.

SET. Any specific linear ordering of the twelve tones of the semitonal scale.

PRIME SET. The original set or any of its transpositions.

SET-FORM. Any one of the possible linear aspects (prime, retrograde, inversion, or retrograde-inversion) of a set in any of its possible transpositions.

SET-COMPLEX. All possible set-forms which can be generated from a prime set.

SIMULTANIEITIES. Any group of tones sounding at approximately the same time, i.e. a chord.

According to Perle, the basic principles of twelve-tone music can be described by four postulates.

The four postulates are:

1. The set comprises all twelve notes of the semitonal scale, arranged in a specific linear order.
2. No note appears more than once within the set.
3. The set is statable in any of its linear aspects: prime, inversion, retrograde, and retrograde-inversion.
4. The set, in each of its four transformations (i.e., linear aspects),¹ is statable upon any degree of the semitonal scale.

Most of the mechanisms of twelve-tone procedure are directed toward avoiding the simultaneous occurrence of a note and its octave. This is not a great problem in the linear presentation of a single set; but when two or more set-forms are used together, or a single set is used in canon with itself, the octave relationship becomes difficult to avoid. In such cases, the octave tends to confuse the interval relationships of the notes of the set, or draw undue attention to a single note. The effect has been likened to a cross relation in tonal music.²

In examining a set such as the prime set shown in Fig. 7b, it becomes apparent that only twelve different tones are present. It is also evident that in conventional

¹George Perle, Serial Composition and Atonality, (Berkeley and Los Angeles: Allyn and Bacon, Inc., 1964), p. 3.

²Ibid. p. 109.

notation, each of the tones may have two or more enharmonic spellings. Unlike major, minor or modal scales, enharmonic spelling has no meaning in a twelve-tone set. For example: A sharp and B flat have exactly the same meaning. It is advantageous when working with a set to eliminate enharmonic spellings. Each tone then has only one spelling. One way of reducing the possible spellings to only one for each note is to use numbers for each of the twelve tones as shown in Fig. 7a. The numbers can then be arranged to represent a set as in Fig. 7b.

The principle of the twelve-tone aggregate is one of the most useful devices for insuring that undesirable octave relationships will not occur. Figure 1 is an example of a twelve-tone aggregate in the first movement of "Two Dances for Orchestra." The upper voice is the beginning of a statement of one of the set-forms. The three simultanieties below it complete the twelve-tone aggregate but are not part of the same statement of the set-form. Figure 2 is an example from the second movement in which several voices combine to form a twelve-tone aggregate representing a single set-form. Twelve-tone aggregates may also be formed by combining segments of several different set-forms.

The set serves two main functions in twelve-tone music. One of these functions is as the source of all

melodic and thematic elements of the composition. The most obvious melodic use of the set is simply the quotation of one of the set-forms as a theme or melody. An example of this type may be seen in the flute part in the opening measures of the first movement. See Fig. 3. The repetition of segments or single notes of the set prolongs the statement of the set but does not disturb the interval relationships between the notes of the set. In other cases, the set may be divided into several segments, each with some distinctive melodic or motivic function. In such cases, the remaining notes which are not being employed melodically are retired to the "background" as in Fig. 4, or are presented as countermelody as in Fig. 2. An apparent melody not directly derived from the set is the result of the process of generating simultanieties. See Fig. 5. The notes in the upper voice were selected from among the notes of each simultaniety. The upper voice is not a part of any set-form although each simultaniety is a succeeding three-note segment of one of the set-forms.

The second function of the set is to serve as the source of simultanieties. Various segments of the set may be sounded simultaneously. Figure 6 shows some of the possible simultanieties that can be derived from the prime set shown. These are produced in accordance with the principle of the twelve-tone aggregate.

II

CONSIDERATIONS IN THE CONSTRUCTION OF A SET

The set is the underlying structural element of any twelve-tone composition. This fact implies that the nature of any twelve-tone composition is dependent upon the nature of its set. The usefulness of a set as the source of melodic and thematic material for a composition depends to a large degree on the uniqueness of the interval relationships between the notes of its various segments. It is important that the set contain interval patterns which may be easily recognized.

Another important consideration is the effect of the simultaneous sounding of the tones of the various segments of the set. The interval relationships of various set segments determine the harmonic character of the composition. Although "harmonic" in this sense may imply the use of chords, it does not necessarily imply harmonic progression in the traditional sense, or even the use of triadic structures.

If the pitch content of the first half of a set is mutually exclusive of the pitch content of the first half of one of its related set-forms, the two sets may be played simultaneously without the accidental occurrence of

an octave relationship. This useful and desirable feature is called combinatoriality. Shown below are two set-forms from the set-complex in Fig. 7f (a prime and a retrograde-inversion) which illustrate the principle of combinatoriality.

P:	0	5	1	9	8	4	--	6	11	7	3	2	10
RI:	11	7	6	2	10	3	--	5	1	0	8	4	9

The first half of the prime set does not contain any notes that are contained in the first half of the retrograde-inversion. Thus the two sets can be combined without the possibility of an octave relationship occurring. Sets of various types display varying degrees of combinatoriality and in constructing a set for a particular composition, it is often desirable although not always necessary, to plan for a relatively high degree of combinatoriality. Sets with notes selected at random are likely to have a low degree of combinatoriality or perhaps none at all. There are four distinct classes of combinatorial sets.

First order combinatorial sets have the following content in their first half: 0 1 2 3 4 5, 0 2 3 4 5 7, or 0 2 4 5 7 9. First order sets yield a total of four combinatorial set-forms per set-complex. Figure 8a is an example of a First order set. Second order sets have the following content in their first half: 0 1 2 6 7 8. Second order sets yield a total of eight combinatorial set-forms. See Fig. 8b. Third order sets have the following content in their first half: 0 1 4 5 8 9.

Third order sets yield a total of twelve combinatorial set-forms. See Fig. 8c. Fourth order sets have the following content in their first half: 0 2 4 6 8 10. All set-forms are combinatorial in a fourth order set. See Fig. 8d. The six pitch numbers given as the content for half of a combinatorial set may be presented in any order as long as they are the only pitches used. In each case, the second half of the set consists of the remaining unused notes of the semitonal scale.

Ease in using the combinatorial feature of the set can be facilitated by the construction of a set-complex in the following manner. The notes of the chromatic scale beginning with the first note of the set, "D" in this case, are numbered from 0 to 11. See Fig. 7a. The number equivalents of the notes of the set are entered in the top of the set-complex square. See Fig. 7c. This is the prime set. The inversion of the set, proceeding down the left side from "0", is produced by the formula, $12 - \underline{y} = \underline{x}$, Where y is each element of the prime set in turn from left to right and x is each corresponding (first, second, third, etc.) element of the inversion from top to bottom in the left column. See Fig 7d. The remaining transpositions of the prime set are produced by the formula a + b = d. If d is equal to or greater than 12, then d - 12 = d, where a is the first element of the set being produced beginning

with one of the elements of the inversion at the left of the set-complex, b is each element of the first prime set in turn, and d is the corresponding element of the set-form being produced. Here are two examples for the second prime set from the top of the set-complex.

$$\begin{array}{l} a + b = d \\ 7 + 5 = 12 \quad 12 = 12, \text{ so } 12 - 12 = 0 \end{array}$$

The second element of this set is "0". See Fig. 7e.

$$\begin{array}{l} a + b = d \\ 7 + 1 = 8 \end{array}$$

Since 8 is less than 12, the second part of the formula does not apply and 8 is the third element of this set.

See Fig. 7e.

The completed set-complex should have a line of zeros running diagonally from upper left to lower right. Prime sets are read left to right, retrograde sets from right to left. Inversions are read top to bottom, and retrograde-inversions bottom to top. All possible set-forms and all possible transpositions are represented in the set-complex. See. Fig. 7f.

The pitch key can be used to translate the set-complex back into conventional notation. See Fig. 7a.

The set used in "Two Dances for Orchestra," seen in the first measure of the flute part, is a Third order combinatorial set beginning on "D". It proceeds by alternately larger and smaller intervals. This allows for a certain consistency of dissonance but results in somewhat

angular melodic lines except in cases where melodic figures are derived by indirect means. The contour of the second half of the set resembles that of the first half. See. Fig. 7b.

III

THE RHYTHMIC AND FORMAL ELEMENTS

In the previous discussion of twelve-tone procedures, it has been implied that in atonal twelve-tone music, each of the tones of the set receive equal emphasis, i.e. no tone is allowed to be more prominent than any other. This, however, in actual practice is not always practical or even desirable. It is in this aspect of twelve-tone composition that rhythm often plays a most important part. Rhythmic pattern, applied to the set or segments of it, may be used to give emphasis and shape to the interval patterns of the set.

The flute part in measures 1-16 of the first movement shows how a distinctive rhythm pattern groups the notes of the set into clearly defined phrases. (see score) Another example of the unifying effect of rhythm can be seen in measures 25-31 of the same movement. The use of rhythm to establish phrasing in a different context can be seen in measures 93-96 of the second movement. In measures 125-130 of the second movement, rhythm creates phrasing for both the tutti and the overlapping solo parts. Two instances in which rhythm plays an important part in establishing

cadences can be seen at measures 16-18 and measures 43-46 in the second movement.

A feature which is important to the success of any composition is the construction of sound patterns which can be readily comprehended by the listener. The established patterns may be extensively modified in the course of the composition, but they should not be totally obscured. The characteristics of the rhythmic patterns in the composition "Two Dances for Orchestra" are used as one of the positive identifying features of the sound patterns. The distinctive influence of the various rhythmic patterns also plays an important part in the development of the forms of the two movements. Form, it may be noted, is really rhythm on a larger scale.

The first movement is basically a two part form with introduction, transition, and coda. The first part is in three sections, each of which has a characteristic rhythm and instrumentation. The second part of the form is in two sections. Both parts of the second section have the same rhythmic accompaniment. The second section of this part is an inverted canon of the first section. The coda is made from material of the introduction combined with rhythmic material from the second part. The diagram in Fig. 9 shows characteristic rhythms and prominent features of the instrumentation in each of the sections.

The second movement is essentially a rondo with five sections designated alternately "Marked" and "Smoothly." Each section is subdivided into several subsections. As in the first movement, the various sections are set apart by their distinctive rhythm patterns. In some of the instances where a section is repeated, the instrumentation also serves as an identifying feature. See Fig. 10.

IV

THE SKETCHES

In discussing the initial sketches of "Two Dances for Orchestra," it may be well to point out that although the various aspects are discussed separately, they were all considered simultaneously for the part they were to play in the composition as a whole. In the early stages, operations involving the set were carried out using the numerical equivalents of the notes. This was done to facilitate the construction of the necessary twelve-tone aggregates.

Since the rhythm is one of the primary forces in the construction of the form, one of the first operations was the notation of the rhythm of the entire composition. This rhythmic framework included both primary thematic rhythms and the rhythms of the subordinate and accompanying parts.

The next stage involved the arrangement of the numerical equivalents of the various set-forms on the rhythmic framework. Set-forms were selected from the set-complex to approximate the predetermined melodic contours and to form the desired twelve-tone aggregates.

The process of transferring this rhythm and number

sketch to a simple sketch in conventional notation allowed an opportunity to improve the voice leading in cases where simultanieties occurred. Voice leading was changed in accordance with the principle of the twelve-tone aggregate. Figure 11 is an example of the way the notes of a twelve-tone aggregate can be arranged for better voice leading. An examination of the score will reveal that this composition has a basically two-voiced texture, although the two active parts are not necessarily always contrapuntal lines.

V

TIMBRE AND TEXTURE

The final aspect of the composition is the development of the orchestration. It was planned from the beginning that timbre would play an important part in the development of the form. Orchestral color and texture generally change with the beginning of each new section of the form. Where a section of the form calls for a return to certain thematic elements, similar orchestration is also used.

The orchestra consists of two flutes, two oboes, two clarinets in B flat, bass clarinet, two bassoons, four horns in F, three trumpets in B flat, three trombones, tuba, two timpani, percussion and strings. To allow for the possibility that a given school orchestra may have insufficient horns or oboes, divided parts for these instruments are kept to a minimum.

The orchestration of melodies is of several basic types. Measures 1-16 in the first movement illustrate the presentation of a melody in octaves in the woodwinds. (see score) In this case, the string tremolo adds extra support and color to the woodwinds. Woodwinds in octaves in measures 62-77 in the same movement provide an example

of a more powerful sound. Low woodwinds and cellos in unison are used in measures 55-60 of the second movement. A different sound is obtained by presenting the melody in fifths in the trumpets in measures 61-64 of the second movement. The same idea is expanded to include the woodwinds in measures 138-141.

Simultanieties for orchestra are of two basic types: those for full orchestra and those for sections. Figure 12 shows an example of the distribution of the notes in a chord for the woodwind section. Balance is not difficult here because of the low dynamic level. A similar arrangement is seen in the chord for the brass section in Fig. 13. The chord for strings in Fig. 14 makes use of the dynamic flexibility of the strings. They maintain a coherent sound while going from forte to mezzo-piano. The highest and lowest notes of this chord are relatively close together.

Chords for full orchestra can be classified according to dynamic level. Figure 15 is an example of a wide-spread chord at piano. The divided strings are marked one degree louder for balance. A forte chord for full orchestra is shown in Fig. 16. The fortissimo chord in Fig. 17 has a percussive quality. In a chord of short duration such as this one, perfect balance is not as critical as in more sustained chords. This exception to perfect balance is also evident in the chord in Fig. 18. This is also a percussive sounding chord and it is unique in that it contains all twelve tones.

VI

SUGGESTIONS FOR PERFORMANCE

Phrasing and dynamic contrast are two elements which require special attention in the performance of "Two Dances for Orchestra." The rhythm patterns in this composition are periodic. Many of the phrases are clearly outlined by the rhythm and often they are four measures in length. These phrase structures are similar to those found in more familiar types of music.

The first movement should be played in a graceful manner. The regular phrasing in the opening measures should draw attention to the melodic groupings. In measures 25-31, the brass serves as an echo to the wood-winds. Muting the trumpets is important here. The phrase groups in measures 33-47 should be broad and flowing. Motion of the inner voices must not be obscured. Care should be taken to see that the rhythmic accompaniment beginning in measure 54 is kept at a very low dynamic level so that the melodic part can soar in long phrases above it. Proper balance for the canon in measure 80 requires that the first trumpet be muted. The chords from measure 122 on must be taken very softly so that the glockenspiel, which has the main melodic line, can be clearly heard.

In the first section of the second movement, angular melodic phrases are punctuated by loud, percussive chords. Strong dynamic contrast and vigorous rhythmic drive should characterize this passage and the others like it. The last four measures of each of the "Marked" sections deserve special attention. The melodic line of the low woodwinds and cellos leads to the click of the woodblock or, as in the last section, to the sharp pizzicato of the strings. The smoothness of the phrasing in the second and fourth sections is in sharp contrast to the vigorousness of the first, third and fifth sections. Special care should be taken in drawing out the phrases and in observing the dynamic markings. The crescendos in measures 125-137 should be drawn out smoothly.

It is hoped that "Two Dances for Orchestra" will be a rewarding experience for both performer and listener and that it may serve as a worthwhile introduction to twelve-tone music for the high school orchestra.

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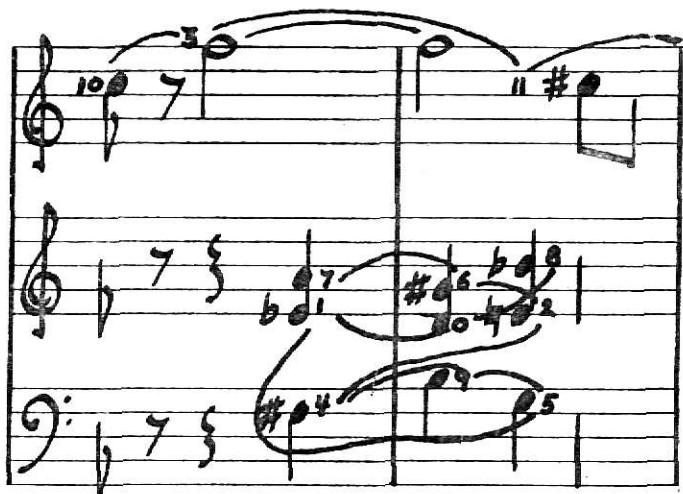


Fig. 1--First Movement,
measures 41-42.

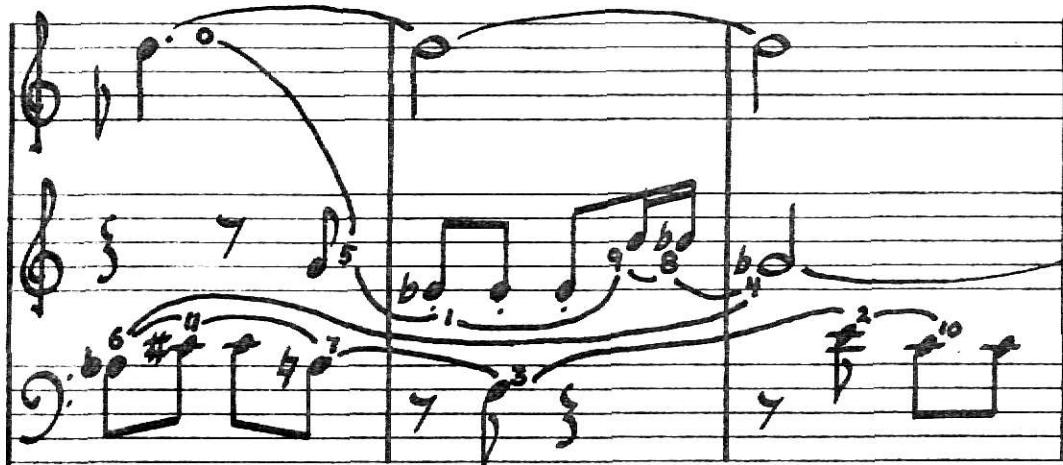


Fig. 2--Second Movement,
measures 16-18.



Fig. 3--First Movement,
measures 1-16.

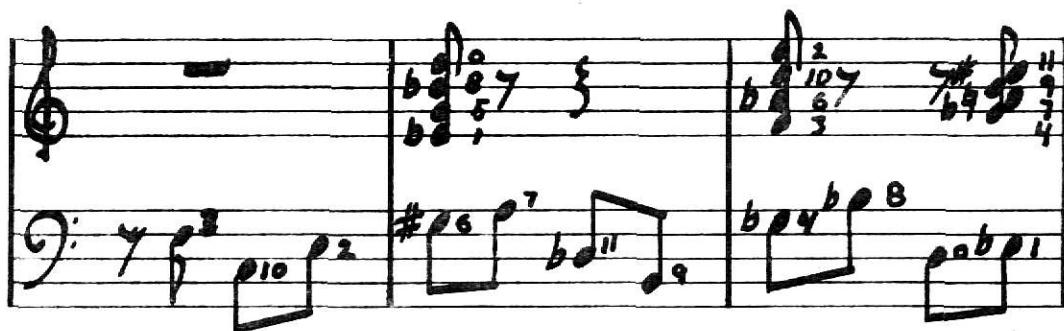


Fig. 4--Second movement,
measures 148-150.



Fig. 5--First Movement,
measures 34-36.

PRIME SET: 0 5 1 9 8 4 6 11 7 3 2 10

0	9	6	3
5	8	11	2
1	4	7	10

0	5	1	3
9	8	4	2
6	11	7	10

0	5	1
9	8	4
6	11	7
3	2	10

0	8	7
5	4	3
1	6	2
9	11	10

0	9	8	4
5	6	11	7
1	3	2	10

0	5	1	9
8	4	6	11
7	3	2	10

Fig. 6--Simultaneities derived from the set using
the principle of the twelve-tone aggregate.

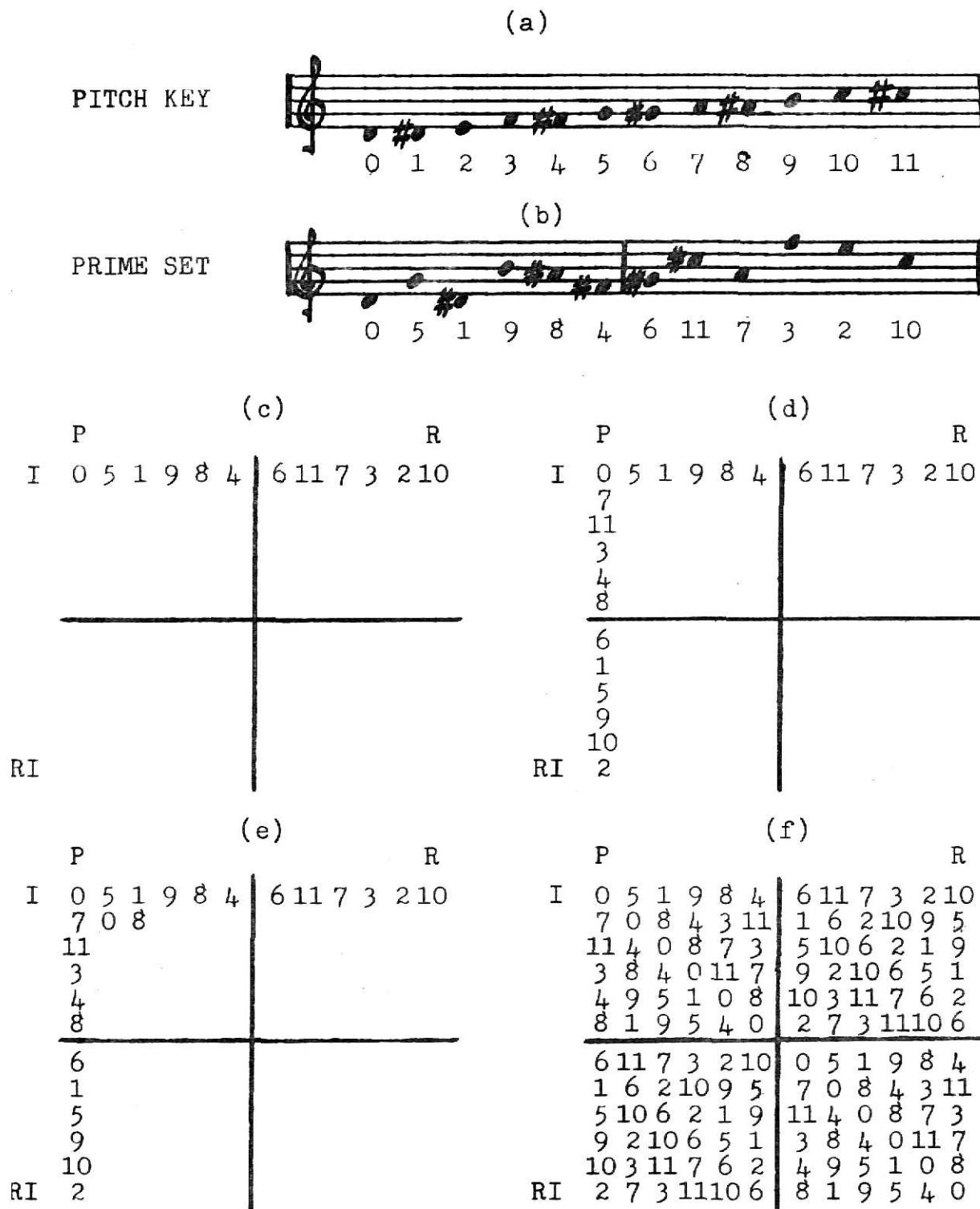


Fig. 7.—Construction of the set-complex.

(a)

FIRST ORDER:

*	*
0 5 2 3 7 4	1011 8 1 6 9
7 0 9 10 2 11	5 6 3 8 1 4
10 3 0 1 5 2	8 9 6 11 4 7
9 2 11 0 4 1	7 8 5 10 3 6
5 10 7 8 0 9	3 4 1 6 11 2
8 1 10 11 3 0	6 7 4 9 2 5
2 7 4 5 9 6	0 1 10 3 8 11
1 6 3 4 8 5	11 0 9 2 7 10
4 9 6 7 11 8	2 3 0 5 10 1
11 4 1 2 6 3	9 10 7 0 5 8
6 11 8 9 1 10	4 5 2 7 0 3
3 8 5 6 10 7	1 2 11 4 9 0
*	*

(b)

SECOND ORDER:

*	*	*	*
0 2 7 6 1 8	11 3 9 5 4 10		
10 0 5 4 11 6	9 1 7 3 2 8		
5 7 0 11 6 1	4 8 2 10 9 3		
6 8 1 0 7 2	5 9 3 11 10 4		
11 1 6 5 0 7	10 2 8 4 3 9		
4 6 11 10 5 0	3 7 1 9 8 2		
1 3 8 7 2 9	0 4 10 6 5 11		
9 11 4 3 10 5	8 0 6 2 1 7		
3 5 10 9 4 11	2 6 0 8 7 1		
7 9 2 1 8 3	6 10 4 0 11 5		
8 10 3 2 9 4	7 11 5 1 0 6		
2 4 9 8 3 10	1 5 11 7 6 0		
*	*		

(c)

THIRD ORDER:

*	*	*	*	*	*
0 8 5 9 4 1	6 11 2 7 3 10				
4 0 9 1 8 5	10 3 6 11 7 2				
7 3 0 4 11 8	1 6 9 2 10 5				
3 11 8 0 7 4	9 2 5 10 6 1				
8 4 1 5 0 9	2 7 10 3 11 6				
11 7 4 8 3 0	5 10 1 6 2 9				
6 2 11 3 10 7	0 5 8 1 9 4				
1 9 6 10 5 2	7 0 3 8 4 11				
10 6 3 7 2 11	4 9 0 5 1 8				
5 1 10 2 9 6	11 4 7 0 8 3				
9 5 2 6 1 10	3 8 11 4 0 7				
2 10 7 11 6 3	8 1 4 9 5 0				
*	*				

(d)

FOURTH ORDER:

*	*	*	*	*	*	*	*	*	*
0 10 2 6 8 4	5 9 7 3 11 1								
2 0 4 8 10 6	7 11 9 5 1 3								
10 8 0 4 6 2	3 7 5 1 9 11								
6 4 8 0 2 10	11 3 1 9 5 7								
4 2 6 10 1 8	9 1 11 7 3 5								
8 6 10 2 4 0	1 5 3 11 7 9								
7 5 9 1 3 11	0 4 2 10 6 8								
3 1 5 9 11 7	8 0 10 6 2 4								
5 3 7 11 1 9	10 2 0 8 4 6								
9 7 11 3 5 1	2 6 4 0 8 10								
1 11 3 7 9 5	6 10 8 4 0 2								
11 9 1 5 7 3	4 8 6 2 10 0								
*	*								

* Combinatorial Set-forms.

Fig. 8.--Combinatorial sets.

I. FALSE WALTZ

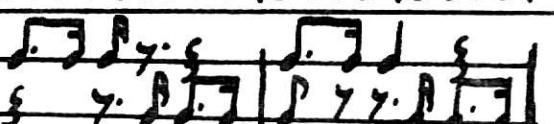
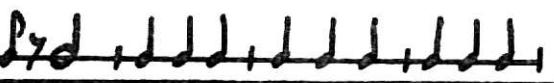
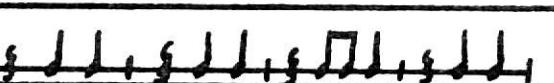
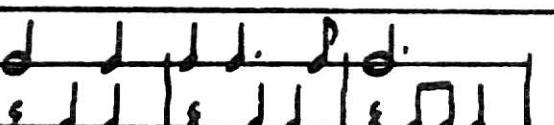
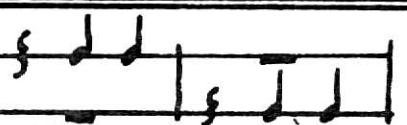
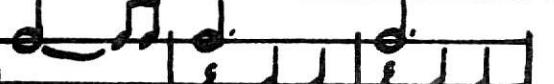
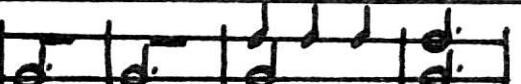
MEASURE	INSTRUMENTATION	CHARACTERISTIC RHYTHM
ntro.	1 Woodwind Solo with String tremolo.	
a 17	Woodwind and String Melody Hn. and Bn. Accompaniment.	
b 25	Woodwinds alternating with brasses.	
c 33	Full Orchestra	
	41 Woodwind solo and String accompaniment.	
ans.	54 Strings, Horns and Tuba	
d 62	Woodwind Solo. Strings, Horn and Tuba accompaniment	
d' 78	Trumpets in inverted canon. Strings, Horns and Tuba accompaniment.	
ans.	97 Woodwinds alternating with Strings and Brasses	
da	101 Woodwinds solo. Strings and low Woodwinds accpt.	
	122 Glock. solo Full Orch accompaniment.	

Fig. 9

II. CAKEWALK

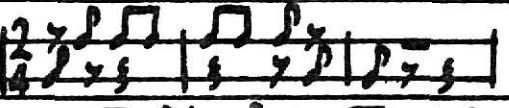
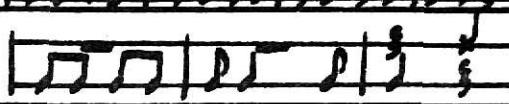
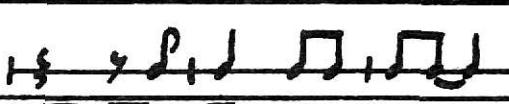
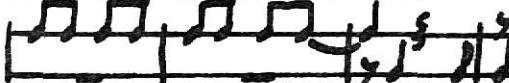
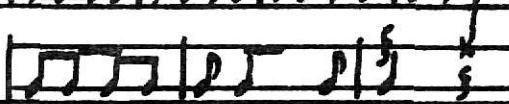
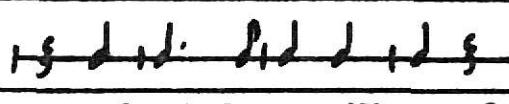
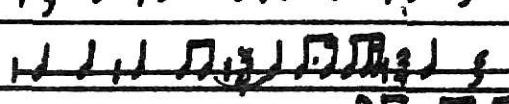
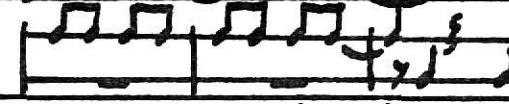
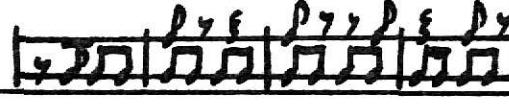
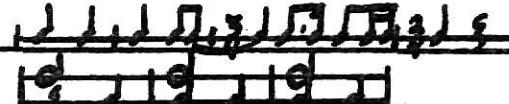
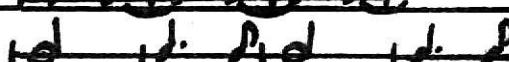
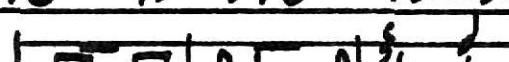
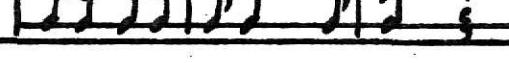
MEASURE	INSTRUMENTATION	CHARACTERISTIC RHYTHM
Intro.	1 Strings and Woodwinds alternating with Brasses	
	7 Woodwinds	
A	19 Tpt. solo followed by Full Orchestra chords	
	33 Full Orchestra	
	43 Low Woodwinds and Celli ending with woodblock	
B	47 Celli and Tpt. alternating with Full Orchestra	
A	61 Tpt. solo followed by Full Orchestra chords	
	71 Full Orchestra	
	81 Low Woodwinds and Celli ending with woodblock	
C	86 Vln. Solo alternating with Brasses	
	100 Flute solo (transition)	
	103 Repeat 86 with Full Orchestra	
A'	119 Full Orchestra	
	125 Crescendo, Full Orchestra alternating Vln. and Fl. solo	
	138 Tpt. and Woodwind solo alternating Full Orch. chords	
	148 Bass Clar. and Celli (transition)	
Coda	153 Full Orchestra	
	160 Full Orchestra	
	167 Full Orchestra	
	175 Low Woodwinds and Celli ending with pizz.	

Fig. 10

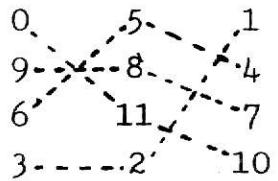


Fig. 11--Twelve-tone aggregate showing improved voice leading.



Fig. 12--First Movement,
measure 97.

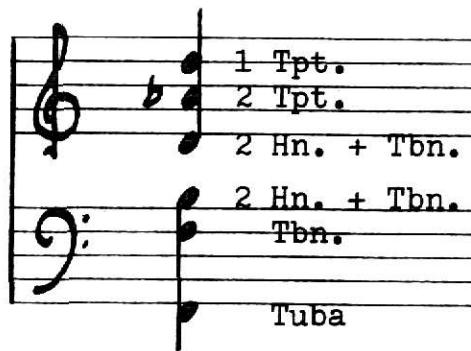


Fig. 13--Second Movement,
measure 87.

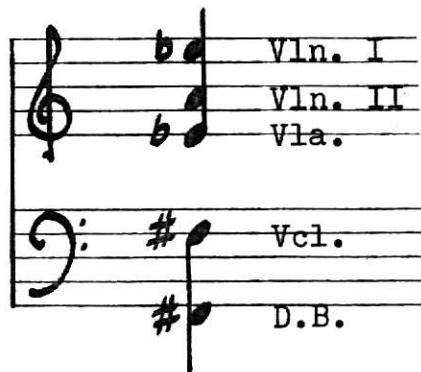


Fig. 14--First Movement,
measure 41.

Fig. 15--First Movement,
measure 126.

Fig. 16--First Movement,
measure 34.

Musical score for Fig. 17, Second Movement, measure 22. The score consists of two systems of music. The first system shows parts for Flute (Fl.), Oboe (Ob.), Clarinet (Cl.), Bassoon (B.Bn.), Trombone (Tbn.), and Tuba. The second system shows parts for Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Trombone (Tbn.), and Double Bass (D.B.). Measure 22 starts with a forte dynamic.

Fig. 17--Second Movement,
measure 22.

Musical score for Fig. 18, Second Movement, measure 85. The score consists of two systems of music. The first system shows parts for Flute (2 Fl.), Oboe (2 Ob.), Clarinet (2 Cl.), Bassoon (2 Bn.), Trombone (2 Tbn.), and Tuba. The second system shows parts for Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Trombone (Tbn. + Tuba), Timpani (Timp.), and Double Bass (D.B.). Measure 85 features a prominent brass section with multiple instruments per part.

Fig. 18--Second Movement,
measure 85.

THE COMPOSITIONAL TECHNIQUES AND MUSICAL
DEVICES USED IN "TWO DANCES FOR ORCHESTRA"

by

Ernest L. Pearson, Jr.

B. S., Union College, 1969
Lincoln, Nebraska

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF MUSIC

Department of Music

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1972

INTRODUCTION: The twelve-tone technique is one of the important twentieth century developments in the art of organizing musical sounds. The composition "Two Dances for Orchestra", which is a twelve-tone composition, was written for ease of comprehension by the listener and for ease of performance by high school musicians.

I. DEFINITION OF TERMS: The terms used to describe the various procedures inherent in the composition of twelve-tone music have not yet been completely standardized; therefore, it is necessary to define terms as they are used in "Two Dances for Orchestra". The set in twelve-tone music is the source of all melodic and harmonic details.

II. CONSIDERATIONS IN THE CONSTRUCTION OF A SET: The construction of a set must take into consideration desired melodic features as well as simultaneous sonorities. Sets may be non-combinatorial or may have one of four distinct degrees of combinatoriality. The possibility of using two or more set-forms together makes combinatoriality a desirable feature and ease in using the combinatorial feature is facilitated by the construction of a set-complex.

III. THE RHYTHMIC AND FORMAL ELEMENTS: Rhythm in twelve-tone music plays an important part in the development of phrasing and the establishment of cadences. In "Two Dances for Orchestra", it is also treated as one of the formal elements. The first movement is basically a two part form with introduction, transition, and coda; while the second movement is essentially a rondo with five sections alternately designated "Marked" and "Smoothly".

IV. THE SKETCHES: The initial sketches began with the notation of the rhythm of the entire composition. The numerical equivalents of the notes of the set were then arranged on the rhythmic framework and finally translated into a simple sketch in conventional notation.

V. TIMBRE AND TEXTURE: Changes in timbre are intended to play an important part in the development of the form. There are two primary aspects of the orchestration: (1) the orchestration of melodic passages, and (2) the distribution of the notes of chords to the various instruments of the orchestra for balance at various dynamic levels.

VI. SUGGESTIONS FOR PERFORMANCE: Phrasing and dynamic contrast are elements which require special attention in "Two Dances for Orchestra". The first movement should be played in a graceful manner. The second movement should be played with lively, vigorous rhythms and sharp dynamic contrasts.

ERNEST L. PEARSON, JR.

TWO DANCES FOR ORCHESTRA

1972

I FALSE WALTZ

II CAKEWALK

duration: ca. 6:00

INSTRUMENTATION

2 Flutes

2 Oboes

2 Clarinets in B flat

1 Bass Clarinet in B flat

2 Bassoons

4 Horns in F

3 Trumpets in B flat

3 Trombones

1 Tuba

2 Timpani

Snare Drum

Bass Drum

Glockenspiel

Cymbals

Wood Block

Violins I & II

Violas

Violoncellos

Double Basses

LD
2668
RH
1972
P43
v.2
c.2
Document

I. False Waltz

Languidly mm d=100.

Flutes I II

Oboes I II

Clarinets in B^b I II

Bass Clarinet in B^b

Bassoons I II

Horns in F I III II IV

Trumpets in B^b I II III

Trombones I II

Bass Trombone Tuba

Timpani

Snare Drum

Percussion

Bass Drum

Glockenspiel

Languidly mm d=100.

with mutes

Violins I II

Violas

Violoncellos

Double Basses

5 6 7 8

Flutes I
Flutes II
Oboes I
Oboes II
Clarinets I
Clarinets II
Bass Clar.
Bassoons I
Bassoons II
Horns I III
Horns II IV
Trumpets I
Trumpets II III
Trombones I
Trombones II
Bass Trombone
Tuba
Timpani
Percussion
Glock.

Violins I
Violins II
Violas
Violoncellos
Double Basses

Flutes I
II *mf*

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone
Tuba

Timpani

Percussion

Glock.

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock

Violins I II

Violas

Violoncellos

Double Basses

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock

Violins I II

Violas

Violoncellos

Double Basses

17 18 19 20

mutes off

Pizz.

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Phone 762-0615 No. Hollywood, Calif.

22 23 27

Flutes I
Flutes II

Oboes I
Oboes II

Clarinets I
Clarinets II

Bass Clar.

Bassoons I
Bassoons II

Horns I III
Horns II IV

Trumpets I

Trombones II III

Trombones I
Trombones II

Bass Trombone

Tuba

Timpani

Percussion

Clock

27 22 23 27

Violins I
Violins II

Violas

Violoncellos

Double Basses

Flutes I
Flutes II
Oboes I
Oboes II
Clarinets I
Clarinets II
Bass. Clar.
Bassoons I
Bassoons II
Horns I III
Horns II IV
Trumpets I
Trumpets II III
Trombones I
Trombones II
Bass Trombone
Tuba
Timpani
Percussion
Glock

25 26 27 28

Violins I
Violins II
Violas
Violoncellos
Double Basses

25 26 27 28

Flutes I II

Oboes I II

Clarinets I II

Bass. Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock

Violins I II

Violas

Violoncellos

Double Basses

Measure 29: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I plays eighth-note pairs. Horns play eighth-note pairs. Trumpet I and II play eighth-note pairs. Trombone I and II play eighth-note pairs. Bass Trombone/Tuba play eighth-note pairs. Timpani play eighth-note pairs. Percussion rests. Glock rests.

Measure 30: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I rests. Bassoon II rests. Horns play eighth-note pairs. Trumpet I and II play eighth-note pairs. Trombone I and II play eighth-note pairs. Bass Trombone/Tuba rests. Timpani rests. Percussion rests. Glock rests.

Measure 31: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I rests. Bassoon II rests. Horns play eighth-note pairs. Trumpet I and II play eighth-note pairs. Trombone I and II play eighth-note pairs. Bass Trombone/Tuba rests. Timpani rests. Percussion rests. Glock rests.

Measure 32: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I rests. Bassoon II rests. Horns play eighth-note pairs. Trumpet I and II play eighth-note pairs. Trombone I and II play eighth-note pairs. Bass Trombone/Tuba plays eighth-note pairs. Timpani rests. Percussion rests. Glock rests. Dynamics: ff, f, ff, mf, arco. Mutes off markings are present on the trumpet and trombone staves. Measure 32 ends with 'mf' and a fermata over the bassoon and double bass staves.

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock

Violins I II

Violas

Violoncellos

Double Basses

Flutes I
Flutes II

Oboes I
Oboes II

Clarinets I
Clarinets II

Bass Clar.

Bassoons I
Bassoons II

Horns I III
Horns II IV

Trumpets I
Trumpets II III

Trombones I
Trombones II

Bass Trombone
Tuba

Timpani

Percussion

Glock.

Violins I
Violins II

Violas

Violoncellos

Double Basses

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock

Violins I II

Violas

Violoncellos

Double Basses

41 42 43 44

45

Flutes I
Flutes II
Oboes I
Oboes II
Clarinets I
Clarinets II
Bass Clar.
Bassoons I
Bassoons II
Horns I III
Horns II IV
Trumpets I
Trumpets II III
Trombones I
Trombones II
Bass Trombone
Tuba
Timpani
Percussion
Glock

Violins I
Violins II
Violas
Violoncellos
Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion

Glock.

Violins I
II

Violas

Violoncellos

Double Basses

49 50 51 52

53 54 55 56

Flutes I
Flutes II

Oboes I
Oboes II

Clarinets I
Clarinets II

Bass Clar.

Bassoons I
Bassoons II

Horns I III
Horns II IV

Trumpets I
Trumpets II III

Trombones I
Trombones II

Bass Trombone
Tuba

Timpani

S.D.
Percussion

Glock

Violins I
Violins II

Violas

Violoncellos

Double Basses

57 58 59 60

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone
Tuba

Timpani

Percussion

Glock.

Violins I
II

Violas

Violoncellos

Double Basses

67 62 63 64

Flutes I
Flutes II
Oboes I
Oboes II
Clarinets I
Clarinets II
Bass. Clar.
Bassoons I
Bassoons II
Horns I III
Horns II IV
Trumpets I
Trumpets II III
Trombones I
Trombones II
Bass Trombone
Tuba
Timpani
Percussion
Glock.

67 62 63 64

Violins I {
Violins II {
Violas {
Violoncellos {
Double Basses {

65 66 67 68

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III simile II IV simile

Trumpets I II III

Trombones I II

Bass Trombone Tuba simile

Timpani

Percussion simile

Glock.

65 66 67 68

Violins I simile II

Violas simile

Violoncellos simile

Double Basses simile

69 70 71 72

Flutes I
II

Oboes I
II

Clarinets I
II

Bass. Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I

Trombones II III
I
II

Bass Trombone
Tuba

Timpani

Percussion

Glock

69 70 71 72

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone
Tuba

Timpani

Percussion

Glock

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion

Glock

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion

Glock

Violins I
II

Violas I
II

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone
Tuba

Timpani

Percussion

Glock

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone
Tuba

Timpani

Percussion

Glock

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I II

Oboes I II

Clarinets I II

Bass Clar

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock

Violins I II

Violas

Violoncellos

Double Basses

89 90 91 92

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion

Glock

Violins I
II

Violas

Violoncellos

Double Basses

This image shows a handwritten musical score for an orchestra and strings. The score is divided into four staves, each containing four measures. The instruments listed on the left are Flutes, Oboes, Clarinets, Bass Clar., Bassoons, Horns, Trumpets, Trombones, Bass Trombone, Tuba, Timpani, Percussion, and Glock. The first two staves cover the woodwind section, while the last two staves cover the brass and percussion section. The strings section is listed on the right, under Violins I, Violins II, Violas, Violoncellos, and Double Basses. Measure 93 starts with Flutes I and II, followed by Oboes I and II, Clarinets I and II, Bass Clar., Bassoons I and II, and Horns I III and II IV. Measure 94 follows with Oboes I and II, Clarinets I and II, Bass Clar., Bassoons I and II, and Horns I III and II IV. Measure 95 continues with Oboes I and II, Clarinets I and II, Bass Clar., Bassoons I and II, and Horns I III and II IV. Measure 96 concludes the section with Oboes I and II, Clarinets I and II, Bass Clar., Bassoons I and II, and Horns I III and II IV. The strings section begins in measure 93 with Violins I and II, followed by Violas, Violoncellos, and Double Basses. Measures 94 through 96 show the continuation of the string section's parts.

Flutes I Flutes II

Oboes I Oboes II

Clarinets I Clarinets II

Bass Clar.

Bassoons I Bassoons II

Horns I Horns III

Horns II Horns IV

Trumpets I

Trumpets II Trumpets III

Trombones I

Trombones II

Bass Trombone

Tuba

Timpani

Percussion

Glock.

Violins I

Violins II

Violas

Violoncellos

Double Basses

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock.

Violins I II

Violas

Violoncellos

Double Basses

Measure 101: Flutes I play a sustained note at p . Flutes II play a sustained note at p . Oboes I and II are silent. Clarinets I play a sustained note at p . Clarinets II play a sustained note at p . Bass Clar. is silent. Bassoons I play a sustained note at p . Bassoons II play a sustained note at p . Horns I and III play a sustained note at p . Horns II and IV play a sustained note at p . Trumpets I and II play a sustained note at p . Trombones I and II play a sustained note at p . Bass Trombone and Tuba play a sustained note at p . Timpani play a sustained note at p . Percussion plays a sustained note at p . Glock. plays a sustained note at p . Violins I play a sustained note at ppp . Violins II play a sustained note at ppp . Violas play a sustained note at p . Violoncellos play a sustained note at p . Double Basses play a sustained note at p .

Measure 102: Flutes I play a sustained note at f . Flutes II play a sustained note at f . Oboes I and II are silent. Clarinets I play a sustained note at f . Clarinets II play a sustained note at f . Bass Clar. is silent. Bassoons I play a sustained note at p . Bassoons II play a sustained note at p . Horns I and III play a sustained note at p . Horns II and IV play a sustained note at p . Trumpets I and II play a sustained note at p . Trombones I and II play a sustained note at p . Bass Trombone and Tuba play a sustained note at p . Timpani play a sustained note at p . Percussion plays a sustained note at p . Glock. plays a sustained note at p . Violins I play a sustained note at ff . Violins II play a sustained note at ff . Violas play a sustained note at f . Violoncellos play a sustained note at f . Double Basses play a sustained note at f .

Measure 103: Flutes I play a sustained note at fp . Flutes II play a sustained note at fp . Oboes I and II play a sustained note at pp . Clarinets I play a sustained note at $b\text{f}$. Clarinets II play a sustained note at $b\text{f}$. Bass Clar. is silent. Bassoons I play a sustained note at p . Bassoons II play a sustained note at p . Horns I and III play a sustained note at p . Horns II and IV play a sustained note at p . Trumpets I and II play a sustained note at p . Trombones I and II play a sustained note at p . Bass Trombone and Tuba play a sustained note at p . Timpani play a sustained note at p . Percussion plays a sustained note at p . Glock. plays a sustained note at p . Violins I play a sustained note at fp . Violins II play a sustained note at fp . Violas play a sustained note at $pizz. b$. Violoncellos play a sustained note at $pizz. b$. Double Basses play a sustained note at $pizz. b$.

Measure 104: Flutes I play a sustained note at fp . Flutes II play a sustained note at fp . Oboes I and II play a sustained note at f . Clarinets I play a sustained note at $b\text{f}$. Clarinets II play a sustained note at $b\text{f}$. Bass Clar. is silent. Bassoons I play a sustained note at p . Bassoons II play a sustained note at p . Horns I and III play a sustained note at p . Horns II and IV play a sustained note at p . Trumpets I and II play a sustained note at p . Trombones I and II play a sustained note at p . Bass Trombone and Tuba play a sustained note at p . Timpani play a sustained note at p . Percussion plays a sustained note at p . Glock. plays a sustained note at p . Violins I play a sustained note at $b\text{f}$. Violins II play a sustained note at $b\text{f}$. Violas play a sustained note at f . Violoncellos play a sustained note at $b\text{f}$. Double Basses play a sustained note at $b\text{f}$.

Flutes I II
Oboes I II
Clarinets I II
Bass Clar.
Bassoons I II
Horns I III II IV
Trumpets I II III
Trombones I II
Bass Trombone
Tuba
Timpani
Percussion
Glock.

105 106 107 108

Violins I II
arco.
Violas
Violoncellos
Double Basses

105 106 107 108

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion

Glock.

Violins I II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass. Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion

Glock

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass. Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion

Glock.

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass. Clar.

Bassoons I
II

Horns I
II
III
IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion

Glock

Violins I
II

Violas

Violoncellos

Double Basses

II. Cakewalk

Marked mm. 1-152-177

Flutes I II

Oboes I II

Clarinets in B♭ I II

Bass Clar. in B♭

Bassoons I II

Horns in F I III II IV

Trumpets in B♭ I II III

Trombones I II

Bass Trombone

Tuba

Timpani G, D, ff sec.

Snare Drum

Percussion Bass Drum

Cymbals

Wood Block ff sec.

Marked mm. 1-152-177

Violins I II

Violas

Violoncellos

Double Basses

5 6 7 8

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

S.D. Percussion B.D.

Cym. W.B.

Violins I II

Violas

Violoncellos

Double Basses

Flutes I

Flutes II

Oboes I

Oboes II

Clarinets I

Clarinets II

Bass Clar.

Bassoons I

Bassoons II

Horns I

Horns III

Horns II

Horns IV

Trumpets I

Trumpets II

Trombones I

Trombones II

Bass Trombone

Tuba

Timpani

S.D.
Percussion

B.D.

Cym.
w.B.

Violins I

Violins II

Violas

Violoncellos

Double Basses

10

11

12

Handwritten musical score for orchestra, page 35, measures 73-76.

The score includes parts for Flutes I & II, Oboes I & II, Clarinets I & II, Bass Clar., Bassoons I & II, Horns I & III, II & IV, Trumpets I & II, Trombones I & II, Bass Trombone, Tuba, Timpani, Percussion (bd), Cym. w. B., Violins I & II, Violas, Violoncellos, and Double Basses.

Measure 73: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I plays eighth-note pairs. Bassoon II rests. Horns I & III play eighth-note pairs. Horns II & IV rest. Trombones I & II play eighth-note pairs. Bass Trombone and Tuba play eighth-note pairs. Timpani rests. Percussion (bd) rests. Cym. w. B. rests.

Measure 74: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I rests. Bassoon II plays eighth-note pairs. Horns I & III rest. Horns II & IV play eighth-note pairs. Trombones I & II play eighth-note pairs. Bass Trombone and Tuba play eighth-note pairs. Timpani rests. Percussion (bd) rests. Cym. w. B. rests.

Measure 75: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I rests. Bassoon II plays eighth-note pairs. Horns I & III rest. Horns II & IV play eighth-note pairs. Trombones I & II play eighth-note pairs. Bass Trombone and Tuba play eighth-note pairs. Timpani rests. Percussion (bd) rests. Cym. w. B. rests.

Measure 76: Flutes play eighth-note pairs. Oboes play eighth-note pairs. Clarinets play eighth-note pairs. Bassoon I rests. Bassoon II plays eighth-note pairs. Horns I & III rest. Horns II & IV play eighth-note pairs. Trombones I & II play eighth-note pairs. Bass Trombone and Tuba play eighth-note pairs. Timpani rests. Percussion (bd) rests. Cym. w. B. rests.

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

S.D.
Percussion

B.D.

Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

S.D.
Percussion

B.D.

Cym.
w. B.

Violins I
II

Violas

Violoncellos

Double Basses

25 26 27 28

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion S.D.
B.D.

Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

29 30 31 32

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone
Tuba

Timpani

S.D.
Percussion
B.D.
Cym.
W.B.

29 30 31 32

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion S.D.
S.D.
Gym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion SD B.D

Cymbals W.B

Violins I II

Violas

Violoncellos

Double Basses

37 38 39 40

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion S.D. B.D. Cym. w.B.

Violins I II

Violas

Violoncellos

Double Basses

45 46 47 Smoothly 48

Flutes I *a1.* | | |
II *mf* | | |

Oboes I *a2.* | | |
II *mf* | | |

Clarinets I *a2.* | | |
II *mf* | | |

Bass Clar. | | | |
Bassoons I | | |
II | | |

Horns I III | | |
II IV | | |

Trumpets I | | |
II III | | |

Trombones I | | |
II | | |

Bass Trombone | | |
Tuba | | |

Timpani | | |
Percussion | | |
B.D. | | |
Cym. | | |
W.D. | | |

45 46 47 Smoothly 48

Violins I { *pizz.* | | |
II { *pizz.* *mf* | | |

Violas { *pizz.* *mf* | | |

Violoncellos | | | |
Double Basses | | | |

WB. *ff*

pizz. | | |
mf | | |

44

53 54 55 56

Flutes I II

Oboes I II mp

Clarinets I II mp

Bass Clar.

Bassoons I II mp a2. mf

Horns I III II IV mp

Trumpets I II III

Trombones I II

Bass Trombone Tuba mp

Timpani

S.D. Percussion B.D. Cym. W.B.

Violins I II mp

Violas mp

Violoncellos mp

Double Basses mp

Flutes I
II

Oboes I
II

Clarinets I
II

Bass. Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion *s.d.*
b.d.

Cym.
w.b.

Violins I
II

Violas

Violoncellos

Double Basses

This image shows a handwritten musical score for an orchestra and strings. The score is divided into four staves, each containing four measures. The instruments listed on the left are Flutes, Oboes, Clarinets, Bass Clar., Bassoons, Horns, Trumpets, Trombones, Bass Trombone, Tuba, Timpani, Percussion (s.d., b.d.), Cym. (w.b.), Violins, Violas, Violoncellos, and Double Basses. Measures 57 and 58 show mostly rests or simple rhythmic patterns. Measures 59 and 60 feature more complex patterns, particularly in the woodwind section (Flutes, Oboes, Clarinets) and the brass section (Horns, Trumpets, Trombones). The strings (Violins, Violas, Violoncellos, Double Basses) provide harmonic support with sustained notes and rhythmic patterns. Measure 60 includes a dynamic marking of *f*.

61 Marked

	61	62	63	64
Flutes I	-	-	-	-
Flutes II	-	-	-	-
Oboes I	f	-	-	-
Oboes II	-	-	-	-
Clarinets I	f	-	-	-
Clarinets II	f	-	-	-
Bass Clar.	f	-	-	-
Bassoons I	f	-	-	-
Bassoons II	f	-	-	-
Horns I III	f	-	-	-
Horns II IV	f	-	-	-
Trumpets I	f	f	f	f
Trumpets II III	f	f	f	f
Trombones I	-	-	-	-
Trombones II	-	-	-	-
Bass Trombone	b	-	-	-
Tuba	b	-	-	-
Timpani	-	-	-	-
Percussion S.D.	f	-	-	-
Percussion B.D.	-	-	-	-
Cym.	-	-	-	-
W.B.	-	-	-	-

61 Marked

	61	62	63	64
Violins I	f	-	-	div. f
Violins II	f	-	-	div. ff
Violas	b	-	-	-
Violoncellos	b	-	-	-
Double Basses	b	-	-	-

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion S.D.
B.D.

Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

69 70 71 72

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

S.D. Percussion D.D. Cym. w. B.

Violins I II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

S.D.
Percussion
B.D.

Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion S.D. C.D. Cym W.B.

Violins I II

Violas

Violoncellos

Double Basses

Flutes I
Flutes II
Oboes I
Oboes II
Clarinets I
Clarinets II
Bass Clar.
Bassoons I
Bassoons II
Horns I III
Horns II IV
Trumpets I
Trumpets II III
Trombones I
Trombones II
Bass Trombone
Tuba
Timpani
Percussion S.D.
Percussion D.D.
Cym w.B.
Violins I
Violins II
Violas
Violoncellos
Double Basses

81 82 83 84

pizz.
pizz.
pizz.
pizz.
mf

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

S.D. Percussion B.D., Cym. W.B.

Smoothly

G to B

Violins I II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion S.D.
B.D.

Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

88 89 90 91

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion S.D.
S.D.
Cym
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

Measures 92-95 are shown for the woodwinds and brass section. Measures 92-95 are shown for the strings.

Flutes I
Flutes II

Oboes I
Oboes II

Clarinets I
Clarinets II

Bass Clar.

Bassoons I
Bassoons II

Horns I II
Horns III IV

Trumpets I
Trumpets II III

Trombones I
Trombones II

Bass Trombone

Tuba

Timpani

s.d.
Percussion
b.d.
cym.
w.b.

96 97 98 99

Violins I
Violins II

Violas

Violoncellos

Double Basses

Flutes I I. Solo II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III

II IV

Trumpets I

II III

Trombones I II

Bass Trombone

Tuba

Timpani

S.D.
Percussion

B.D.

Cym.

W.B.

Violins I II

Violas

Violoncellos

Double Basses

100 101 102 103

Flutes I
Flutes II

Oboes I
Oboes II

Clarinets I
Clarinets II

Bass Clar.

Bassoons I
Bassoons II

Horns I III
Horns II IV

Trumpets I
Trumpets II III

Trombones I
Trombones II

Bass Trombone
Tuba

Timpani

S.D.
Percussion
B.D.

Cym.
W.B.

Violins I
Violins II

Violas

Violoncellos

Double Basses

104 105 106 107

104 105 106 107

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

ass Trombone

Tuba

Timpani

S.D.
Percussion
B.D.

Cym.
W.B.

Violins I {

Violins II {

Violas {

Violoncellos {

Double Basses {

Flutes I II

Oboes I II

Clarinets I II

Bass Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion S.D. B.D. Cym. w.B.

Violins I II

Violas

Violoncellos

Double Basses

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Flutes I II

Oboes I II

Clarinets I II

Bass. Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion SD BD Cym. w. B.

Violins I II

Violas

Violoncellos

Double Basses

66 67 68 69 Marked

Flutes I II

Oboes I II

Clarinets I II

Bass. Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

Percussion SD BD Cym. w. B.

Violins I II

Violas

Violoncellos

Double Basses

66 67 68 69 Marked

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion S.D.
B.D.
Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I 124 125 126 127

II

Oboes I 124 I. cresc.

II

Clarinets I 124 cresc.

II

Bass Clar.

Bassoons I 124 cresc.

II

Horns I 124 cresc.

II IV

Trumpets I 124 cresc.

II III

Trombones I 124 cresc.

II

Bass Trombone

Tuba

Timpani

S.D.
Percussion

B.D.

Cym.

W.B.

Violins I 124 125 126 127

II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion SD
BD

Cym.
W.B.

(128) (129) (130) (131)

Violins I
II

Violas

Violoncellos

Double Basses

(128) (129) (130) (131)

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

Percussion
B.D.
Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

Flutes I 136 137 138 139

II

Oboes I — — — —

II

Clarinets I — — — —

II

Bass. Clar.

Bassoons I — — — —

II

Horns I — — — —

III

II IV

Trumpets I — — — —

II III

Trombones I — — — —

II

Bass Trombone

Tuba

Timpani

Percussion *S.D.*
B.D.

Cym.
W.B.

Violins I 136 137 138 139

II

Violas

Violoncellos

Double Basses

Flutes I

Flutes II

Oboes I

Oboes II

Clarinets I

Clarinets II

Bass. Clar.

Bassoons I

Bassoons II

Horns I

Horns III

Horns II

Horns IV

Trumpets I

Trumpets II

Trombones I

Trombones II

Bass Trombone

Tuba

Timpani

Percussion S.D.

Percussion B.D.

Cymbals Cym.

W.B.

Violins I

Violins II

Violas

Violoncellos

Double Basses

Flutes I
Flutes II

Oboes I
Oboes II

Clarinets I
Clarinets II

Bass Clar.

Bassoons I
Bassoons II

Horns I III
Horns II IV

Trumpets I
Trumpets II III

Trombones I
Trombones II

Bass Trombone

Tuba

Timpani

S.D.
Percussion

B.D.
Cym.
W.B.

Violins I
Violins II

Violas

Violoncellos

Double Basses

144 145 146 147

144 145 146 147

148 149 150 151

Flutes I II

Oboes I II

Clarinets I II

Bass. Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone

Tuba

Timpani

S.D.
Percussion
B.D.
Cym.
W.B.

B to A^b *E^b to E^f*

148 149 150 151

Violins I II

Violas

Violoncellos

Double Basses

Flutes I
Flutes II
Oboes I
Oboes II
Clarinets I
Clarinets II
Bass Clar.
Bassoons I
Bassoons II
Horns I III
Horns II IV
Trumpets I
Trumpets II III
Trombones I
Trombones II
Bass Trombone
Tuba
Timpani
Percussion
S.D.
B.P.
Cym.
W.B.

152 153 154 155

Violins I
Violins II
Violas
Violoncellos
Double Basses

152 153 154 155

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone
Tuba

Timpani

s.d.
Percussion
B.D.
Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

156 157 158 159

156 157 158 159

pizz.

Flutes I Flutes II

Oboes I Oboes II

Clarinets I Clarinets II

Bass. Clar.

Bassoons I Bassoons II

Horns I Horns III

Horns II Horns IV

Trumpets I

Trumpets II Trumpets III

Trombones I Trombones II

Bass Trombone

Tuba

Timpani

Percussion S.D.
B.D.
Cym.
w.B.

Violins I Violins II

Violas

Violoncellos

Double Basses

(160) (161) (162) (163)

div. arco. f
div. arco. ff

unis. ff
unis. ff

164 165 166 167

Flutes I II

Oboes I II

Clarinets I II

Bass. Clar.

Bassoons I II

Horns I III II IV

Trumpets I II III

Trombones I II

Bass Trombone Tuba

Timpani

S.D. Percussion B.D. Cym. W.B.

164 165 166 167

Violins I II

Violas

Violoncellos

Double Basses

Flutes I
II

Oboes I
II

Clarinets I
II

Bass Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

S.D.
Percussion
B.D.
Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses

172 173 174 175

Flutes I f f f f
Flutes II f f
Oboes I f f f f
Oboes II f f
Clarinets I f f f f
Clarinets II f f
Bass Clar. f f f f
Bassoons I f f f f
Bassoons II f f
Horns I f f f f
Horns III f f
Horns II f f f f
Horns IV f f
Trumpets I f f f f
Trumpets II f f f f
Trombones I f f f f
Trombones II f f
Bass Trombone f f f f
Tuba f f
Timpani f f f f
Percussion f f f f
G.D. f f f f
Cym. f f f f
W.B. f f f f

172 173 174 175

Violins I f f f f
Violins II f f f f
Violas f f f f
Violoncellos f f f f
Double Basses f f f f

Flutes I
II

Oboes I
II

Clarinets I
II

Bass. Clar.

Bassoons I
II

Horns I III
II IV

Trumpets I
II III

Trombones I
II

Bass Trombone

Tuba

Timpani

S.D.
Percussion
B.D.
Cym.
W.B.

Violins I
II

Violas

Violoncellos

Double Basses