

STRING QUARTET: ANALYSIS

by

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A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

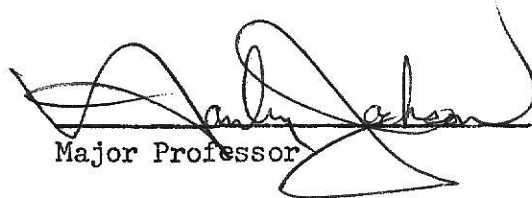
MASTER OF MUSIC

Department of Music

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1973

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## INTRODUCTION

This report is an analysis of the composition String Quartet (1973), a four-movement work submitted in partial fulfillment of the requirements for the degree Master of Music in composition and theory. The composer's objectives in writing this string quartet were twofold:

(1) To create a large, monothematic work on a theme of particular personal interest and inspiration to the composer.

(2) To write a neo-classical string quartet as a means of defining and illustrating a thorough understanding of a principal vehicle for compositional expression not only in the classical period but throughout the various historical eras since that time.

The composition was not written for performance by any particular ensemble. It is believed that the work, though difficult in some respects, is within the artistic and technical grasp of an average ensemble of professional musicians.

## I. MEDIUM

The performance medium for which this work was composed is the traditional string quartet. The instrumentation, therefore, consists of first violin, second violin, viola, and cello.

## II. MELODY

The most significant parameter of the work, in the opinion of its composer, is the melodic aspect. The work is monothematic, and the theme is a ten-note melody which is the musical realization of the surname of the dedicatee, Dr. Robert A. Steinbauer.

Four of the ten letters (E, B, A, E) occur normally in the contemporary seven-letter musical alphabet. In order to transliterate the remaining six letters (S, T, I, N, U, R) to musical pitch names, the composer used the table presented in Willi Apel's article on German lute tablature in the Harvard Dictionary of Music. The diagram and its accompanying explanation appear below:

		Frets							
		0	1	2	3	4	5	6	7
Courses	{ g'	5	e	k	p	v	**	ē	Ƒ
	{ d'	4	d	i	o	t	*	ḍ	ī
	{ a	3	c	h	n	s	z	ċ	h̄
	{ f	2	b	g	m	r	y	ḃ	ḡ
	{ c	1	a	f	l	q	x	ā	ī
	{ G	7	2	3	4	5	6	7	8

This system is much more awkward than the others, mainly because it was originally designed (15th cent.) for a lute with only five courses and was broadened later (16th cent.) by the inclusion of signs for the sixth (lowest) course. [Apel refers here to the horizontal line of numbers at the bottom of the diagram, 1, 2, 3...8, which represent the signs used for the lowest string.] The table here shows the most common system of designation: figures 1-5 for the open courses (read from bottom to top); the letters of the alphabet (completed by two special signs designated here \* and \*\*) for the frets 1-5; the same letters with dashes for the higher frets. The table shows that, e.g., the sign h denotes the tone b (two semitones above a), and the sign x the tone f (five semitones above c).<sup>1</sup>

<sup>1</sup>Willi Apel, "Tablature," Harvard Dictionary of Music, 2d ed., rev. (Cambridge: Belknap Press of Harvard University Press, 1969), p. 831.

Hence, the reader can determine for himself that the letter s would represent the pitch c# (four semitones above a), t would represent f# (four semitones above d), i would be e (two semitones above d), n would be c (three semitones above a), and r would represent a (four semitones above f). Since the letter u was not included in the German lute tablature, the composer substituted the letter y, which would represent b (four semitones higher than g).

Therefore, the musical realization of the name Steinbauer would be c#, f#, e, e, c, b, a, b, e, a; a particularly fortunate arrangement of pitches which the composer found not only very workable but also quite attractive musically. After consideration of various octave transpositions, these ten pitch names were notated by the composer in the following arrangement:



As can be seen in the above example, the melody ranges a perfect eleventh. There are instances of both conjunct and disjunct motion, and the melodic contour can be diagrammed as follows:



The intervals between successive melody notes are particularly well-suited to the composer's quartal and tonal style of writing. This schedule of interval relationships and direction of motion can be seen below:

↑ P4, ↓ M2, ↓ P8, ↑ m6, ↓ m2, ↓ M2, ↑ M2, ↑ P4, ↑ P4

Other melodic material is used in the work but will not be as thoroughly discussed in this analysis. Instances of melody other than

the ten-note theme discussed above include the following:

The subordinant theme group and the closing theme in the first movement.

The cadenza movement (movement III).

The second and third theme groups in the fourth movement.

These melodic materials, like the principal theme of the work, will be specifically located in terms of measure numbers in the portion of this analysis which will deal with form (Chapter VII).

### III. HARMONY

The harmony of this work is basically quartal (chords built with fourths as opposed to thirds). Since two perfect fourths together create a minor seventh, there will be found many instances of this interval as well. Also in abundance are the inversions of these intervals, the perfect fifth and major second, respectively.

Although the piece is not in a particular "key," as such, the theme does tend to center around and focus upon the tone a (a feature conveniently consistent with the Hindemithian character of the composer's style).

Since there is usually an implied tonal center, the composer has also implied certain tonal relationships harmonically (tonic-dominant, for example), particularly to reinforce traditional classical formal structures. Specific instances of such harmonic implications will be cited in the section on form (Chapter VII).

Of additional interest harmonically are several passages which are constructed over a chromatically moving bass line. Specific instances will be cited in the section on form (Chapter VII) and will include the principal theme group in the first movement and the first two sections of the second movement.



#### IV. TEXTURE

The texture is often in four parts due to the size of the performing ensemble. There are, however, instances of solo writing, particularly in the cadenza movement (movement III). In addition there are often situations in which all four participants are playing double stops simultaneously, creating an eight-part texture. See, for example, the coda sections of both the first and last movements.

The work is primarily homophonic, though a notable exception to this is the fugal third variation in the second movement. There are also instances of contrapuntal imitation in the development and coda sections of the first movement.

## V. RHYTHM

The rhythmic construction of the principal theme is varied as it makes its appearances throughout the work. In its original form, as the principal theme group of the first movement, it is notated as follows:



Thus, the first movement is dealing with a seven-measure, asymmetrical theme. Indeed, the asymmetry of thematic construction is maintained throughout the work.

The ostinato technique (applied both to rhythm and to pitch) is used harmonically in many instances. An example of this is the entire last movement, in which a different ostinato is used in each of the three theme groups.

Syncopation and hemiola are used quite often as rhythmic devices. These effects are usually achieved by means of bow groupings and/or accentuation.

The tempo marking of the first movement is "Andante, ma non troppo" ( $\text{♩} = 60$ ) with occasional flexibility, and the meter is a duple-simple  $\frac{2}{2}$  throughout the movement. The second movement is in four sections with the following tempo and metric markings:

"Allegretto scherzando" ( $\text{♩} = 60$ ),  $\frac{3}{4}$ .

"Allegretto grazioso" ( $\text{♩} = 112$ ),  $\frac{12}{8}$ .

"Andante maestoso" ( $\text{♩} = 72$ ),  $\frac{2}{2}$ .

"Lento e misterioso" ( $\text{♩} = 54$ ),  $\frac{4}{4}$ .

An instance of particular interest rhythmically is the sudden change for

only one measure (measure 33) to a  $\frac{2}{4}$  meter. This is an application of the scherzo technique implied by the tempo marking for that section. The tempo indication for the third movement is "Allegro risoluto" ( $\text{♩} = 108$ ). This movement is by far the most flexible of the four in terms of rhythmic considerations, an application of the cadenza technique which is the basis for this brief movement. The fourth and final movement is marked "Molto vivace" ( $\text{♩} = 100$ ). In this movement the meter fluctuates among  $\frac{5}{8}$ ,  $\frac{6}{8}$ ,  $\frac{9}{8}$ , and  $\frac{2}{2}$ . An examination of the score will reveal fifty-one metric indications in the space of 184 measures (an average of about one every three and one-half measures).

The total duration of the work is about sixteen minutes and thirty-eight seconds. The schedule of movements with their respective performance times appears below:

- I Ca. 6:46
- II Ca. 4:26
- III Ca. 1:04
- IV Ca. 4:22

## VI. SPECIAL EFFECTS

Special idiomatic effects found in this work include the following:

Glissando  
Pizzicato  
Martellato  
Punta d'arco  
Con sordino  
Non vibrato  
Spiccato  
Finger tremolo  
Trills  
Double stops  
Triple stops  
Natural harmonics  
Artificial harmonics

In addition there are numerous instances of arpeggiation across the strings of the quartal harmonic constructions.

All four instruments are required to play to the lower extreme in terms of range, and the upper range limits for the four instruments are indicated below:

First violin	 <p>8va<sub>7</sub></p>
Second violin	 <p>8va<sub>7</sub></p>
Viola	 <p>8va<sub>7</sub></p>
Cello	 <p>8va<sub>7</sub></p>

## VII. FORM

The formal plans applied to the individual movements of this four-movement composition are Sonata-Allegro, Variations, Cadenza (introductory), and Sonata-Rondo, respectively. Hence, the work follows the traditional overall formal scheme for the classical string quartet (though the third movement is a bit exceptional in this regard).

The general formal construction of the first movement is outlined below:

<u>Measures</u>	<u>Sections</u>
1- 97	EXPOSITION (97 measures)
96-150	DEVELOPMENT (55 measures)
151-192	RECAPITULATION (42 measures)
191-203	CODA (13 measures)

The composer would like to point out the Fibonacci relationship in the number of measures which constitute each of the above-mentioned sections. That is, the coda is thirteen measures, the recapitulation forty-two, the development fifty-five (the sum of thirteen and forty-two), and the exposition ninety-seven (the sum of forty-two and fifty-five). This circumstance is mentioned as yet another ramification of the neo-classical nature of the composition. An outline of the more specific subdivisions within each of these major sections is presented on the following page:

EXPOSITION

- 1- 55 First Exposition (55 measures).
- 1- 26 Principal Theme Group (tonal center: a).
    - 1- 7 Principal theme.
    - 7- 13 Principal theme in retrograde.
    - 14- 20 Principal theme ornamented.
    - 20- 26 Principal theme ornamented in retrograde.
  - 27- 34 Transition.
  - 35- 46 Subordinant Theme Group (tonal center: e).
    - 35- 46 Subordinant theme.
  - 47- 50 Transition.
  - 50- 55 Closing Theme.
- 56- 97 Exposition Repeated (42 measures).
- 56- 68 Principal Theme Group (tonal center: a).
    - 56- 62 Principal theme with principal theme ornamented.
    - 62- 68 Principal theme in retrograde with principal theme ornamented in retrograde.
  - 69- 76 Transition.
  - 77- 88 Subordinant Theme Group (tonal center: e).
    - 77- 88 Subordinant theme.
  - 89- 92 Transition.
  - 92- 97 Closing Theme.

DEVELOPMENT

- 96-136 Manipulation of Thematic Material.
- 137-143 False Reprise.
- 143-150 Retransition.

RECAPITULATION

- 151-163 Principal Theme Group (tonal center: d).
  - 151-157 Principal theme with principal theme ornamented.
  - 157-163 Principal theme in retrograde with principal theme ornamented in retrograde.
- 164-171 Transition.
- 172-183 Subordinant Theme Group (tonal center: a).
  - 172-183 Subordinant theme.
- 184-187 Transition.
- 187-192 Closing Theme.

CODA

- 191-197 Principal Theme in Stretto.
- 197-203 Cadential Extension.

As was mentioned in the section on harmony (Chapter III), the principal theme appears in conjunction with a chromatically descending harmonic basis (ascending in the retrograde statements). The span covered by this chromatic line is a tritone (d# to a in the exposition and g# to d in the recapitulation).

The second movement is a set of four variations. The composer felt it unnecessary, if not redundant, to precede these variations with a straightforward statement of the ten-note theme since it constituted the principal theme group of the first movement. Variation I is in the style of a scherzo (though it is not paired with a trio, as is the traditional scherzo). The following diagram represents its construction:

- 1- 7 Introduction.
- 8-16 Theme on a tonality over chromatically descending cello line (d# to a).
- 17-27 Transition.
- 28-36 Theme on eb (d#) tonality against chromatically descending first violin line (a to d#).
- 37-47 Transition.
- 48-56 Theme ornamented on a tonality against chromatically descending line (d# to a) in second violin.
- 57-64 Codetta.

Measures 65-68 are transitional material to the second variation, which is pastoral in character. It, too, is ternary in construction and can be diagrammed as follows:

- 69 Introduction.
- 70-74 Theme on a tonality against chromatically descending line (d# to a) in viola.
- 75-79 Theme on eb (d#) tonality against chromatically descending cello line (a to d#).
- 80-84 Theme ornamented on a tonality against chromatically descending line (d# to a) in viola.
- 85-88 Codetta.

Measure 89 serves as a transition to Variation III, which is fugal (although it is not a complete fugue). It might be likened to the exposition, one episode, and the final section of a classical fugue in four

voices. The principal components of this fugal variation are the following:

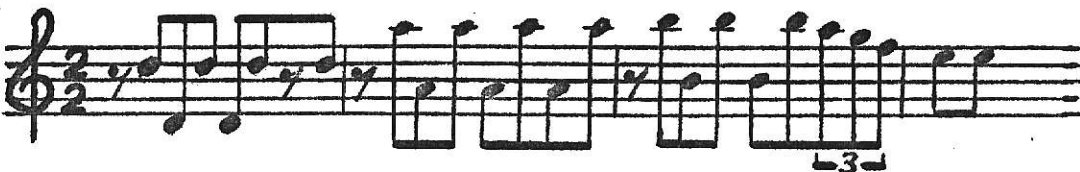
Subject



Counter-subject I



Counter-subject II



Counter-subject III



The construction of this third variation can be observed in the diagram below:

EXPOSITION

- |         |  |
|---------|--|
| 90- 94  | Subject in viola (doubled for two measures by first violin).   |
| 94- 98  | Subject in cello, counter-subject I in viola.  |
| 98-102  | Episodic passage. Counter-subject I in cello, counter-subject II in viola.   |
| 102-106 | Subject in second violin (with metric displacement), counter-subject II in cello, counter-subject III in viola.    |
| 106-110 | Subject in first violin, counter-subject I in second violin, counter-subject III in cello, free material in viola. |



EPISODE

- 111-115 Counter-subject I material stated in imitation by first violin and viola with counter-subject II material played simultaneously by second violin.

FINAL SECTION

- 116-125 Subject stated in stretto by all four voices.  
 116-125 Subject on a in augmentation in cello.  
 116-120 Subject on e with metric displacement in second violin.  
 117-121 Subject on a with metric displacement in viola (imitating second violin).  
 118-119 Subject on e in diminution in first violin.  
 122-125 Final three notes of subject stated by each instrument in stretto fashion.

The traditional "double rallentando" effect is used to conclude this third variation, with the deceptive cadence in measure 121 being followed by the "a tempo" in measure 122. The variation comes to a full cadence on an open fifth sound (a and e), which is tied across the bar line to create an elision with Variation IV. This fourth variation is a coloristic (in the sense that it exploits timbre possibilities) exercise utilizing many of the special effects listed in the preceeding section of this analysis (Chapter VI: Special Effects). The theme is stated by the viola on a in measures 126-135. There follows a one-measure interlude, after which the entire first half of the variation is stated in retrograde (measures 137-146).

The third movement, in the style of a cadenza for the first violin, is the shortest of the four and serves as an introduction to the fourth movement. Measures 1-10 constitute a dialogue between first violin and cello, punctuated by heavily accented double stops in the other parts. Measures 11 and 12 act as a brief interlude to the cadenza-like passage for first violin in measures 13-19. Measures 19-23 consist of

the same kind of heavily-accented double stops which appeared in measures 11 and 12. The second half of measure 23 begins what might appear to be a retrograde but is actually only an abbreviated allusion to a true retrograde. The movement concludes with the "martellato" arpeggios in the first violin over an implied dominant (e), and the music should continue without pause to the fourth movement in observance of the direction "Attacca subito il Rondo."

The fourth and final movement of this composition is in Sonata-Rondo form, although the middle section is not as developmental as in the classical Sonata-Rondo. An alphabetic representation of the structure of this movement would be A-B-A-C-A-B-A-coda, and it can be outlined as follows:

#### EXPOSITION

- 1- 13 Principal Theme Group (theme in cello, tonal center: a).
  - 1- 3 Introduction.
  - 4- 6 Principal theme in retrograde. (Note: Rhythm of principal theme is retrograde within itself.)
  - 7 Interlude.
  - 8- 10 Principal theme.
  - 11- 13 Codetta (same as 1-3).
- 14- 18 Transition.
- 19- 37 Subordinant Theme Group (theme in first violin, tonal center: e).
  - 19- 21 Introduction.
  - 22- 28 Antecedent phrase.
  - 29 Interlude.
  - 30- 37 Consequent phrase.
- 38- 42 Retransition.
- 43- 55 Principal Theme Group (theme in second violin, tonal center: a).
  - 43- 45 Introduction.
  - 46- 48 Principal theme in retrograde.
  - 49 Interlude.
  - 50- 52 Principal theme.
  - 53- 55 Codetta (same as 43-45).
- 56- 62 Transition.

#### MIDDLE SECTION

- 63- 67 Introduction.
- 68- 87 Third Theme Group (theme in viola, tonal center: eb).
- 88- 94 Retransition.

RECAPITULATION

- 95-107 Principal Theme Group (theme in viola, tonal center: a).  
     95- 97 Introduction.  
     98-100 Principal theme in retrograde.  
     101 Interlude.  
     102-104 Principal theme.  
     105-107 Codetta (same as 95-97).  
 108-112 Transition.  
 113-131 Subordinant Theme Group (theme in cello, tonal center: d).  
     113-115 Introduction.  
     116-122 Antecedent phrase.  
     123 Interlude.  
     124-131 Consequent phrase.  
 132-136 Retransition.  
 137-149 Principal Theme Group (theme in first violin, tonal center: a).  
     137-139 Introduction.  
     140-142 Principal theme in retrograde.  
     143 Interlude.  
     144-146 Principal theme.  
     147-149 Codetta (same as 137-139).  
 150-156 Transition.

CODA

- 157-161 Introduction (ostinato accompaniment material from middle section).  
 162-174 Principal theme (in first violin over ostinato from middle section).  
 175-184 Principal theme (in unison with sound-mass cadence to A major triad).

## VIII. STYLE

The style of this string quartet is a twentieth-century style, although a conservative one for 1973. In terms of its level of dissonance (a factor which is obviously an unavoidably relative one), the work is in a medium range.

If one were to draw a parallel to the style of any other composer, the most logical citation would probably be Hindemith. The particular work which has been the subject of this analysis is definitely monothematic and neo-classical in style, thus fulfilling the composer's primary objectives as they were outlined in the introductory remarks preceeding the analysis.

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INTRODUCTION: This report is an analysis of the composition String Quartet (1973), a four-movement work submitted in partial fulfillment of the requirements for the degree Master of Music in composition and theory. The composer's objectives in writing this string quartet were twofold: (1) To create a large, monothematic work on a theme of particular personal interest and inspiration to the composer. (2) To write a neo-classical string quartet as a means of defining and illustrating a thorough understanding of a principal vehicle for compositional expression not only in the classical period but throughout the various historical eras since that time. The composition was not written for performance by any particular ensemble. It is believed that the work, though difficult in some respects, is within the artistic and technical grasp of an average ensemble of professional musicians.

- I. MEDIUM: The performance medium for which this work was composed is the traditional string quartet.
- II. MELODY: The most significant parameter of the work, in the opinion of its composer, is the melodic aspect. The work is monothematic, and the theme is a ten-note melody which is the musical realization of the surname of the dedicatee, Dr. Robert A. Steinbauer.

III. HARMONY: The harmony of this work is basically quartal. Although the piece is not in a particular "key," as such, the theme does tend to center around and focus upon the tone a. Since there is usually an implied tonal center, the composer has also implied certain tonal relationships harmonically (tonic-dominant, for example), particularly to reinforce traditional classical formal structures.

IV. TEXTURE: The texture is often in four parts due to the size of the performing ensemble. There are, however, instances of solo writing. In addition there are often situations in which all four participants are playing double stops simultaneously. The work is primarily homophonic, though a notable exception to this is the fugal third variation in the second movement.

V. RHYTHM: The rhythmic construction of the principal theme is varied as it makes its appearances throughout the work. The ostinato technique is used harmonically in many instances. Syncopation and hemiola are used quite often as rhythmic devices. The tempo markings and durational values of the four movements are listed below:

Andante, ma non troppo (ca. 6:46)  
 Allegretto scherzando -- Allegretto grazioso -- Andante  
 maestoso -- Lento e misterioso (ca. 4:26)  
 Allegro risoluto (ca. 1:04)  
 Molto vivace (ca. 4:22)

The total duration of the work is about sixteen minutes and thirty-eight seconds.

VI. SPECIAL EFFECTS: Special idiomatic effects found in this work include the following: glissando, pizzicato, martellato, punta

d'arco, con sordino, non vibrato, spiccato, finger tremolo, trills, double stops, triple stops, natural harmonics, artificial harmonics, and arpeggiation across the strings of the quartal harmonic constructions.

VII. FORM: The formal plans applied to the individual movements of this four-movement composition are Sonata-Allegro, Variations, Cadenza (introductory), and Sonata-Rondo, respectively. Hence, the work follows the traditional overall formal scheme for the classical string quartet (though the third movement is a bit exceptional in this regard).

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