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### Studies for Strings A string Ensemble Technique Manual

Donald Arthur Nitz

*The University of Montana*

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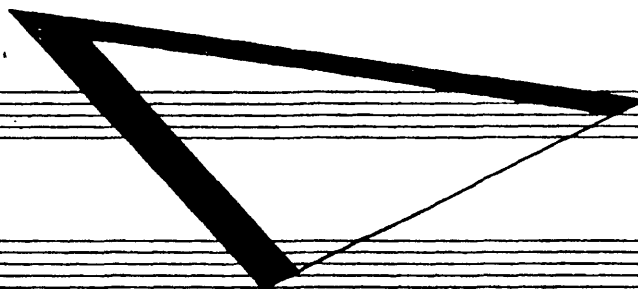
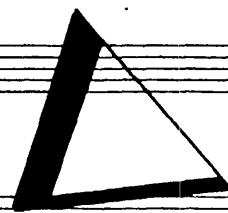
**tringos**

a string ensemble

technique manual

by

**D**onald **N**itz



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# PART I: Finger Patterns

1. 2-3 Pattern

Violins: a. b. c. d.

Violas: (violas & cellos alone)

Cellos: I Pos. 2 4 3 1 3 1 3 III Pos. 4 1 4 I Pos. 4 1 4 III Pos. 4 1 4

Bass: 4 1 4 I Pos. 4 1 4 III Pos. 4 1 4

2. 1-2 Pattern

Violins: a. b. c. d.

Violas: (violas & cellos alone)

Cellos: I. 2 4 0 III. 2 1 3

Bass: 2 1 4 0 1 3

3. 3-4 Pattern (high)

Violins: a. b. c. d.

Violas: (violas & cellos alone)

Cellos: 2 4 0 3 2 3 4 0 4 0 2 3 2 3

Bass: 4 2 4 4 1 2 4 1 2 2 4 1 2

4. 3-4 Pattern (low)

Violins: a. b. c. d.

Violas: (violas & cellos alone)

Cellos: III. 1 3 1 2 I. 2 3

Bass: 1 4 4 2 4 4 2 4 2 4 2 4



# Chromatic Finger Patterns

may be used with bowing patterns on preceding page

1. First Pattern

Violins: a. b. c. d.

Violas: (violas & cellos alone)

Cellos: 1 2 3

Basses: 1 2 3 4

2. Second Pattern

Violins: a. b. c. d.

Violas: (violas & cellos alone)

Cellos: 1 2 3 4

Basses: 1 1 2 4

3. Third Pattern

Violins: a. b. c. d.

Violas: (violas & cellos alone)

Cellos: II. 2 3 4

Basses: III. 1 2 3 4

#### 4. Fourth Pattern

Handwritten musical score for '4. Fourth Pattern'. The score is written for four staves: Treble, Alto, Tenor, and Bass clefs. It features a complex melodic line with many accidentals (sharps and naturals) and fingerings. The key signature is D major. The piece is divided into measures labeled 'a.', 'b.', 'c.', and 'd.'. A note in measure 'd.' of the Alto staff is marked '(violas & cellos alone)'. The score includes various musical notations such as slurs, ties, and dynamic markings.

#### 5. Variant in chromatic playing

Handwritten musical score for '5. Variant in chromatic playing'. The score is written for four staves: Treble, Alto, Tenor, and Bass clefs. It features a chromatic scale with many accidentals and fingerings. The key signature is D major. The piece is divided into measures labeled 'a.', 'b.', 'c.', and 'd.'. The score includes various musical notations such as slurs, ties, and dynamic markings.

#### 6. Chromatic Scale

Handwritten musical score for '6. Chromatic Scale'. The score is written for four staves: Treble, Alto, Tenor, and Bass clefs. It features a chromatic scale with many accidentals and fingerings. The key signature is D major. The piece is divided into measures labeled 'a.', 'b.', 'c.', and 'd.'. The score includes various musical notations such as slurs, ties, and dynamic markings.

Handwritten musical score for '6. Chromatic Scale' (continued). The score is written for four staves: Treble, Alto, Tenor, and Bass clefs. It features a chromatic scale with many accidentals and fingerings. The key signature is D major. The piece is divided into measures labeled 'a.', 'b.', 'c.', and 'd.'. The score includes various musical notations such as slurs, ties, and dynamic markings.

# Menuetto

W.A. Mozart, K.355

Allegretto non troppo

*dolce*

violin I  
violin II  
viola  
cello  
bass



*marcato* (29) 2

(37) 4

20

\*

# Augmented Second Finger Patterns

1. First Pattern

violin

violas

cellos

basses

I: 1 3 4 0

II: 1 4 1 3

III: 1 4 1 3

(violas & cellos alone)

3 0

2. Second Pattern

violin

violas

cellos

basses

(violas & cellos alone)

3. Third Pattern

violin

violas

cellos

basses

I. 3 4 1

III. 1 3 1 4

(violas & cellos alone)



# Diminished and Augmented Fifths

1. Examples

violin  
viola  
cello  
bass

2. Exercises

violin  
viola  
cello  
bass

3. Diminished Seventh Arpeggios (mm = position of finger must be changed)

violin  
viola  
cello  
bass

# Part II: Shifting Studies

## 1. Scales on one String

*a. Sol G*

Violins  
Violas  
Cellos  
Basses

This system contains the first four staves of the musical score. The top staff is for violins, the second for violas, the third for cellos, and the fourth for basses. The key signature is one sharp (F#) and the time signature is common time (C). The piece is titled 'a. Sol G'. Each staff contains a scale starting on the G string, with fingerings indicated by numbers 1-4. The scale is written in both ascending and descending directions across the system. The first measure of each staff shows the starting notes and fingerings: Violins (1 2 1 2), Violas (1 2 1 2), Cellos (1 3 1 2), and Basses (1 4 1 2).

*b. Sol D*

Violins  
Violas  
Cellos  
Basses

This system contains the next four staves of the musical score. The key signature changes to two sharps (F# and C#). The piece is titled 'b. Sol D'. Each staff contains a scale starting on the D string, with fingerings indicated by numbers 1-4. The scale is written in both ascending and descending directions. The first measure of each staff shows the starting notes and fingerings: Violins (3 4 3 4), Violas (3 4 3 4), Cellos (1 3 1 2), and Basses (2 0 1).

Violins  
Violas  
Cellos  
Basses

This system continues the musical score for 'c. Sol A'. It contains four staves with scales on the A string. The key signature is two sharps (F# and C#). The scale is written in both ascending and descending directions. The first measure of each staff shows the starting notes and fingerings: Violins (2 3 2 3 etc.), Violas (2 3 2 3 etc.), Cellos (2 4 2 3 etc.), and Basses (1 4 1 2 etc.).

*c. Sol A*

Violins  
Violas  
Cellos  
Basses

This system contains the final four staves of the musical score. The key signature changes to three sharps (F#, C#, and G#). The piece is titled 'c. Sol A'. Each staff contains a scale starting on the A string, with fingerings indicated by numbers 1-4. The scale is written in both ascending and descending directions. The first measure of each staff shows the starting notes and fingerings: Violins (1 2 1 2), Violas (1 3 1 2), and Cellos (1 2).

Handwritten musical score for the first system, featuring five staves. The notation includes various fingerings and dynamic markings:

- Staff 1: *Sol E* (Violin I), with fingerings 3 4 3 4.
- Staff 2: *Sol C* (Violin II), with fingerings 5 4 3 4.
- Staff 3: *Sol C* (Violas), with fingerings 1 3 1 2 and a note: *(Violas and cellos play separately)*.
- Staff 4: *Sol D* (Violoncello), with fingerings 1 0 1 4 1.
- Staff 5: *Sol E* (Double Bass), with fingerings 1 3 1 2.

Handwritten musical score for the second system, featuring five staves. The notation includes various fingerings and dynamic markings:

- Staff 1: *Sol E* (Violin I), with fingerings 2 3 2 3.
- Staff 2: *Sol C* (Violin II), with fingerings 2 4 3 4.
- Staff 3: *Sol C* (Violas), with fingerings 3 4 3 4.
- Staff 4: *Sol D* (Violoncello), with fingerings 1 4 1 2.
- Staff 5: *Sol E* (Double Bass), with fingerings 1 4 3 4.

Handwritten musical score for the third system, titled "2. Arpeggios in Position". It features five staves with complex arpeggiated patterns and chord diagrams:

- Staff 1: Treble clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 2: Treble clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 3: Bass clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 4: Bass clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 5: Bass clef, with notes and fingerings 1 3 1 4 2 4 2.

Handwritten musical score for the fourth system, featuring five staves with complex arpeggiated patterns and chord diagrams:

- Staff 1: Treble clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 2: Treble clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 3: Bass clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 4: Bass clef, with notes and fingerings 1 3 1 4 2 4 2.
- Staff 5: Bass clef, with notes and fingerings 1 3 1 4 2 4 2.

g. *VI:* 1 2 3 *h. VII:* 1 2 3 *i. II:* 1 3 1 *VII:* 1 2 3

*II:* 1 2 3 *8va. III:* 1 2 3 *k. VI:* 1 2 3 *8va. VII:* 1 2 3 *II:* 1 2 3 *8va. III:* 1 2 3

3. Shifting Exercises on the Harmonic a. slurring variations

b. *Sul G.*

Repeat on all strings.  
b. slurring variations

### 4. Octave Relationships in Position

Handwritten musical score for '4. Octave Relationships in Position'. The score is written for four staves: Treble Clef (Violin I), Alto Clef (Violin II), Bass Clef (Cello), and Bass Clef (Double Bass). The music is in C major and 4/4 time. It consists of eight measures. Fingerings are indicated by numbers 1-4. Position changes are marked with Roman numerals: III, II, IV, III, II, III, I, II. A 'stretch' marking is present in the fifth measure. The bottom of the page contains a sequence of Roman numerals: II: 4 1 4, III: 4 1 4, III: 4 1 4, II: 4 1 4, IV: 3 1 3, III: 4 1 4, IV: 4 1 4, II: 4 1 4.

### 5. Flesch Exercise

Handwritten musical score for '5. Flesch Exercise'. The score is written for four staves: Violins (Treble Clef), Basses (Bass Clef), Violas (Alto Clef), and Cellos (Bass Clef). The music is in C major and 4/4 time. It consists of three measures. Fingerings are indicated by numbers 1-4. Position changes are marked with Roman numerals: III, IV, II. The exercise is a chromatic scale in eighth notes.



# PART III: Chord Studies

## 1. Simple chord progressions, major mode

Violins II, Viola, Cello & Bass

a. C major      e. G major      e. D major.

I IV V I V I      I V<sub>6</sub> I IV<sub>6</sub> II<sub>6</sub> V I      I IV I<sub>6</sub> II I<sub>6</sub> V I

d. F major.      e. B<sup>b</sup> major

I V IV IV<sup>4-3</sup> I      I VII III II<sub>6</sub> I<sub>6</sub> V I

Transpose these and following studies one-half and one full step higher and lower. Always listen carefully for pure tuning.

## 2. Chord progressions, minor mode

a. A minor      e. e minor      e. B minor

I VII II II<sub>6</sub> I<sub>6</sub> V I      I V<sub>6</sub> I IV<sub>6</sub> III<sub>6</sub> V I      I VII<sub>6</sub> I<sub>6</sub> III<sub>6</sub> IV I I

d. D minor      e. G minor

I VII III<sub>6</sub> I<sub>6</sub> IV I I      I IV V III III<sub>6</sub> IV I I

### 3. Diatonic Modulations (change of key center)

a. C major to A minor      b. A minor to C major.

Violins II

Viola

cello & bass

This section contains two measures of music. The first measure shows a modulation from C major to A minor, and the second measure shows a modulation from A minor back to C major. The notation is written for Violins II, Viola, and Cello & Bass.

c. G major to D major      d. D major to G major.

This section contains two measures of music. The first measure shows a modulation from G major to D major, and the second measure shows a modulation from D major back to G major. The notation is written for Violins II, Viola, and Cello & Bass.

### 4. Chromatic Modulations and Chord progressions

a. C major to E<sup>b</sup> major.      b. C major to B major.

\* and violins E\* is fingered same as F<sup>4</sup>.

This section contains two measures of music. The first measure shows a chromatic modulation from C major to E-flat major, and the second measure shows a chromatic modulation from C major to B major. The notation is written for Violins II, Viola, and Cello & Bass. A note in the second measure is marked with an asterisk and a note that it is fingered the same as F4.

# Two Chorales

## 1. Nicht So Traurig, Nicht so Sehn

J. S. Bach

violin I  
violin II  
viola  
cello + bass

mp p mf

6 6 # 5 5# # 6 5 6 5 9 3 4 # 6 # 6

This system contains the first four measures of the piece. It features four staves: Violin I, Violin II, Viola, and Cello/Bass. The key signature is one sharp (F#) and the time signature is common time (C). Dynamics include mezzo-piano (mp), piano (p), and mezzo-forte (mf). Fingerings are indicated by numbers 1-5. The Cello/Bass staff includes a double bar line at the end of the first measure.

dim. f-p

5 6 3 4 6 6 4 3 4 2 6 5 # 6 5

This system contains measures 5 through 10. It features four staves. Dynamics include *dim.* (diminuendo) and *f-p* (fortissimo-piano). Fingerings are indicated by numbers 1-5. The Cello/Bass staff includes a double bar line at the end of measure 7.

# 6 5 9 6 6 4 5 #

This system contains measures 11 through 14. It features four staves. Fingerings are indicated by numbers 1-5. The Cello/Bass staff includes a double bar line at the end of measure 12.

2. Es ist nun Aus mit Meinem Leben

J. S. Bach

violin I  
violin II  
Viola  
cello  
Bass

6 9 7 8 7 6 5 6 6 5 9 8 6 6 8 7

cresc. mf mf f dim  
cresc. mf mf f dim  
cresc. mf mf f dim

5 4 6 6 9 3 4 6 4 5 4 6 8 7 4 6 5 5 8 7 6

rit. p  
rit. p  
rit. p

5 6 4 3

# Adoramus Te

Palestrina

String I (Violin I) *p* *mp*  
String II (Violin II) *p* *mp*  
Viola *p* *mp*  
Cello & Double Bass *p* *mp*

*mf* *cresc.*  
*mf* *cresc.*  
*mf* *cresc.*

*p* *mf* *mf*  
*p* *mf* *mp*  
*p* *mf* *mf*

*dim.* *p*  
*dim.* *p*  
*dim.* *p.*

# PART IV: Rhythmic Studies

## 1. Dotted Rhythms

all instrs.  
unison

a. 

b. 

c. 

d. (in 2) 

e. (in 2) 

f. (in 2) 

## 2. Rests and syncopation

a. 

b. 

c. 

d. 

e. 

f. in 2 

## 3. Sight Reading Drills

a. 

b. 

c. 

d. 

e. 

*f.*

*g (in 6)*

4. Changes in Meter.

*pa.*

*c.*

*d. slow*

*f.*

STUDIES FOR STRINGS

A String Ensemble Technique Manual

by

Donald Nitz

B.A. Carleton College, 1953

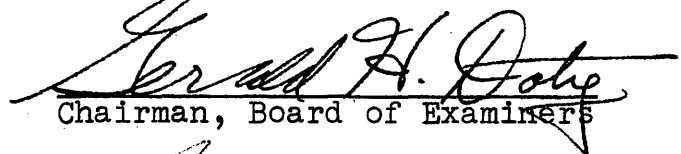
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Date



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## CHAPTER I

### INTRODUCTION

It is the purpose of this manual to provide technical material for a medium-advanced or advanced school string orchestra. Before attempting to make use of this manual, a class should know how to play in all the common keys, and have some facility in the playing in the higher positions. Throughout the manual problems of bowing, articulation, intonation, shifting, and rhythm are treated in the light of the entire string ensemble, composed of violins, violas, cellos, and string basses. The studies are especially valuable to those string students who do not study privately.

No attempt is made to present long exercises in a pseudo-musical style of the type found in Wohlfahrt, Kayser, Klengel, and others. Most of the European-style advanced string method books are for individual instruction, and they do not take into consideration the possibility of a heterogeneous string class, nor do they provide material covering problems unique to ensemble playing. The author has endeavored here to present simple material which concentrates upon one problem at a time--short exercises designed solely for drill in the various problems presented throughout the manual. The students are not required to spend time

learning a complicated series of notes; the passages are written in a simple, clear manner and in many cases have a variety of bowings indicated for one short group of notes.

For source material, the author has made a survey of available publications for both class and individual string instruction. In the first section of the manual the finger pattern system of Bornoff is used as a model, although it has been concentrated within a few pages, while still including all the various bowing and articulation possibilities, thus eliminating much of the repetition of notes found in the original Bornoff methods<sup>1</sup>. The finger pattern idea is extended to include exercises in the proper playing of chromatic, augmented second, and melodic minor passages. Other method books were used only as references to determine scale and arpeggio fingerings, and alternate fingerings, and to verify certain bowing and articulation procedures. The few musical examples were included only for their obvious illustrations of the various problems, or because of their adaptability for employment in intonation drill or warm-up exercises.

The manual is unique in that it is designed as a technical companion to school orchestra literature; in the main there is little actual music, the emphasis is placed upon

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<sup>1</sup>Geroge Bornoff, Finger Patterns, A Basic Method for Violin. Toronto, Gordon V. Thompson, Ltd., n.d.

purely physical problems. The book's highly concentrated nature, plus the fact that there are various ways in which any given exercise may be played, makes it ideal for use in a school group over a long period of time. The exercises in intonation, for example, will merit much repetition, as will those in bowing and articulation, which may be taught in increasing complexity and at greatly varied tempos. Thus the manual gets away from that type of exercise, which, when once learned, produces no incentive for further repetition.

The manual is divided into four general sections; the first concentrates upon finger placement and bowing styles; the second section is composed of scales and arpeggios in the higher positions, emphasizing correct shifting and intonation. The third section is devoted to ensemble intonation problems, with harmonic passages and compositions illustrating various styles of chord writing. The last part is a series of short rhythmic exercises and seeks to improve rhythmic sight reading. A fully instrumentated string orchestra is, of course, the ideal group with which to use this manual; however, all harmonized material will be effective with a minimum of two violins, one viola, and one cello. Bass and cello parts are unison or in octaves throughout. All unison material is usable with any combination of string instruments.

In practical applications of this manual, it is

recommended that the first two sections be used in daily practice. One or two finger patterns should be practiced at each rehearsal period, and as the patterns become more familiar to the students, increasingly complicated bowing and articulation patterns should be added. The scales and arpeggios of the second section should be practiced as purely technical drill, and may be varied and augmented as the director sees fit. None of the exercises should be practiced without being conscious of possible application in orchestral literature. It must be emphasized that the exercises are not ends in themselves; without the carry-over into musical literature the entire point of the manual is lost. The third section should be used as "warm-up" material. The purpose of the harmonized exercises is to instill a sense of tonality in the orchestra members, to develop a keen sense of intonation, and to build the string class into a unified, well-blended, and precise ensemble.

String classes which wish to make use of this book should definitely be beyond the beginning stages of study. They should be able to read notes and accidentals, and have a good knowledge of the basic rudiments of music. The manual does not attempt to teach basic musicianship or the fundamentals of string playing; rather it seeks to extend the facility and technical capacity of the class as a whole. Many of the studies are written in higher positions. While it is conceivable that students who have had no work

in the higher positions may be able to learn them from material presented here, it is recommended that the class learn the fundamentals of position playing from a method which treats them in a more detailed and gradual manner. Of course the nature of the material included in the manual precludes its use as the principal rehearsal material of any group. If used with discretion, and in conjunction with other materials, the manual should not become boresome to the students; rather it should become a useful technical means to better ensemble playing.

## CHAPTER II

### PART I: FINGER PATTERNS

There are several reasons for including finger pattern exercises in a book which is designed for an advanced string class. First, the students will review correct spacing of fingers in the light of a more advanced technique and a better ear for intonation. Second, the students are required to play these simple exercises as part of an ensemble, and careful listening on the part of the instructor and the entire ensemble will greatly improve the intonation of the group. Third, the practice of finger patterns facilitates playing in various keys. Often among students with no "picture of the piano keyboard" in their minds, the playing of proper half-steps and whole-steps becomes a problem of major importance. A word or so from the instructor as to which finger pattern to use greatly facilitates rehearsal procedure in such cases.

The use of alternate fingerings in the cello and bass parts gives students the opportunity to practice shifting to and from the higher positions, avoiding the crossing of strings on each pattern.



## DIATONIC FINGER PATTERNS

For the violins and violas, the six diatonic finger patterns represent diatonic scale-like passages with half-step intervals between the second and third fingers, the first and second fingers, the third and fourth fingers, plus the all-whole-step patterns. The designations "3-4 Pattern (high)", and "3-4 Pattern (low)" represent common occurrences of the third and fourth finger half-step in both flat and sharp keys. The designations "Whole-step Pattern (high)", and "Whole-step Pattern (low)" represent the whole-step patterns which often occur in sharp and flat keys, respectively.

The use of varied bowing patterns with the finger patterns provides much useful variation in the practice of the finger patterns. After the six patterns are learned and can be played from memory and with facility, the instructor is advised to begin combining them with the various bowing patterns. This procedure not only prevents the material from becoming dull to the students, but also provides opportunity for developing a good bow arm. As the patterns become more automatic the student will concentrate more and more upon the bowing; not without careful listening, however, lest the intonation begin to suffer. As the students practice these bowing patterns in a group, the crispness

and precision of the entire group should greatly improve. The instructor should make sure that all students in the ensemble play the bowings in the same manner, so that the group will play in a unified, precise style.

Directions for playing the various bowing patterns are indicated, and the instructor may greatly vary and augment the bowing material to meet special needs, at his discretion.

### CHROMATIC FINGER PATTERNS

The chromatic finger patterns are designed for use as a supplement to the diatonic finger patterns. The violin and viola students will gain valuable experience in sliding the fingers in passages of chromatic nature. While this problem is not so great for the cello and bass students, they will nevertheless gain a better understanding of how to finger such passages, and in addition they will provide a lower octave of tones, helping the violins and violas to play better in tune.

The four chromatic patterns are systematically organized, each pattern concentrating upon the sliding of a particular finger on each string. The finger to be shifted in each pattern starts out one-half step from the preceding finger, and slides a half-step, after which the next finger is placed a half-step above that. Thus the finger which is shifted is always within a half-step from the preceding or

succeeding finger. This plan lessens the possibility of the finger sliding too far, and generally encourages good intonation.

Beginning with the second pattern, the basses must either begin to shift positions or to change strings; likewise beginning with the third pattern the cellos will be forced to shift positions or to change strings on each pattern. Fingerings are included for both procedures, but the students will soon discover that it is much easier to shift than it is to play the rather awkward passages on two strings, especially if the slurring and bowing patterns are used in conjunction with these patterns.

Most of the bowing patterns included with the diatonic finger patterns can be used with the chromatic patterns, however it is recommended that the emphasis be placed upon good intonation, varying the patterns only when the students have become quite familiar with the form and mechanics of chromatic playing. Slurring variants are very useful in that students will be required to slide the fingers quickly and surely, in order not to let the actual sliding be heard, and to define each tone clearly. Other bowings, such as spiccato and staccato can be employed, but it will be more difficult to listen carefully to the intonation of each note with these types of bowing.

In this section an exercise is included which illustrates for the violins and violas the technique of placing

the fingers all a half-step apart. This "cello fingering" has its uses in many orchestral works, and this exercise should serve to acquaint the students with this type of chromatic playing.

A chromatic scale has been included which covers the entire first position range of all the instruments. Because of the varied ranges of the instruments, it was necessary to write large skips in the scales of the lower instruments, and to require the use of third position in the bass part.

The Mozart Menuetto was inserted because the author felt that it provided a perfect illustration in the practical use of chromatic playing<sup>1</sup>. Though it is difficult for inexperienced players, all voices have interesting, chromatic passages which should provide a challenge to any group.

#### AUGMENTED SECOND AND MELODIC MINOR FINGER PATTERNS

Much standard orchestral literature makes use of augmented second intervals and passages written in the melodic minor mode. These intervals present special problems for young string players because of the difficulty of reaching and hearing them correctly. Following the previously established format of the manual, the problems are presented

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<sup>1</sup>Wolfgang Amadeus Mozart: Piano Pieces (Urtext), Menuetto, pp. 66-67. New York: Edwin F. Kalmus, n.d.

in finger pattern form. Three augmented second patterns are presented which illustrate the step-and-a-half stretch between the first and second, the second and third, and the third and fourth fingers on the higher instruments. Cellos and basses must employ extensions and position shifts in order to play the passages correctly. In several cases alternate fingerings are given.

Two patterns illustrate in a simple form the construction of a passage in melodic minor, where the sixth and seventh degrees of a scale are raised as the notes ascend to the tonic, and are lowered as they descend. Violins and violas will find that they have to change the position of certain fingers in mid-pattern, and the cellos and basses will have to change fingers and employ extensions and shifts in order to play the passages in tune. It might be well for the instructor to play along with the class at first, in order to set the intonation and force the class to alter the descending line in the correct manner.

#### DIMINISHED AND AUGMENTED FIFTHS

Especially for the violin and viola students the problem of playing the interval of a diminished or augmented fifth in tune sometimes becomes quite serious, even though the students may otherwise be conscious of good intonation. It is the purpose of these short studies to give students a

method of playing these intervals by using adjacent fingers, rather than by crossing the string diagonally with one finger. Should a director encounter such a passage in orchestral literature, a few minutes' rehearsal of these exercises should provide a correct and sure method of execution of these intervals.

The first exercise consists of examples of various diminished and augmented fifths which the student may encounter in musical passages. The next group of studies contains examples of how these intervals should be resolved, that is, how they should be connected with a musical phrase. The main purpose of all the exercises is to eliminate the diagonal crossing of strings with one finger.

Musical passages containing diminished seventh chords and arpeggios are difficult to play well because they often require a change in the position of certain fingers. In the third exercise these fingers which must change position are indicated by jagged lines, which draw the problem to the students' attention. Again, the cello and bass students must employ shifts of position and finger extensions in order to play the intervals correctly.

## CHAPTER III

### PART II: SHIFTING STUDIES

The purpose of this second general section is to offer practical studies in the higher positions. The exercises are fragmentary and non-musical in nature, and concentrate only upon the physical problems of going from one position to another with flexibility, confidence, and good intonation. If the class has had little or no experience in position playing, it is recommended that the instructor first use a method book in which the students are presented a clear, logical approach to the fundamentals of position playing. Violin and viola students should have a fair reading knowledge of third position, and the cello and bass students should be able to play in second, third, and fourth positions before attempting to play the material in this manual.

The several exercises in this section are composed of scales, arpeggios, and a few special exercises designed to give students flexibility and confidence in position playing. Scales and arpeggios are used for the bulk of this section because the intonation problems are not as difficult as in other types of studies. Students can usually tell whether a major scale or broken chord is in tune, thus he is better

able to criticize his own playing, and to correct mistakes in shifting and finger placement himself.

#### SCALES ON ONE STRING

In this group of studies, the students must play a one-octave major scale on one string, shifting position with every other note. This procedure takes the student through first, third, fifth, and seventh positions in each scale, providing valuable ear training, a flexible wrist, and confidence in shifting. After students have gotten over the initial shock of being required to shift as high as seventh position, they will soon find that these exercises are not physically as hard as they had supposed. However, much repetition is necessary in order to get the intonation to a fine point. It might be wise for the instructor to play along with the class for a few times in order to speed this process. Slurring and bowing patterns from Part I can be employed with these scales to good advantage, as soon as the students become adept at playing them.

There are three scales on each string, and the first scale begins with the first finger on all instruments. For the violins, violas, and cellos, the second scale begins with the second finger, and the third scale begins with the third finger for the violins and violas. Thus, as far as is possible, each finger gets a chance to "lead" in the shifting, though this becomes impractical in the latter



scales for the cellos and basses. The basses play the third scale in each series on more than one string, because of the impracticality of requiring such a high position at the upper end of the scale. The third scale is also quite awkward for the cellos, but they will be in a sense "carried along" by the rest of the orchestra. Especially on the A string, the third scale ascends to a  $D_2$ , providing for the cellos good experience in the high register of the instrument.

Since many of the notes go into the high registers of the instruments, and out of practical reading range for the usual viola and cello clefs, the author has written some of the scales wholly or partly in the treble and tenor clefs, respectively. Until the students understand the form and mechanics of these scales there will undoubtedly be some confusion if they do not already read these clefs well. Once the over-all plan of the exercises is learned, however, the students will have to do a minimum of actual reading, and will tend to depend more upon the ear for playing them in tune. It is well, however, to emphasize the need for viola and cello students to learn the new clef, as they shall surely encounter it in advanced orchestral literature.

## ARPEGGIOS IN POSITIONS

The purpose of these studies is to clarify the cross-string relationships in the higher positions. Many times a student will unnecessarily shift positions to play a note or passage that can more easily be reached across the strings, while remaining in the same position.

The twelve arpeggios begin with C major; each succeeding one begins one half-step higher, and the last arpeggio is in the key of B major. The violins will have the experience of playing the broken chords from the third through the seventh positions on all strings. The first eight exercises begin, for the violins, on the G string with the first finger, each going through two octaves, the hand remaining in the same position. The four remaining exercises all begin on the D string in fourth or fifth position, and require a shift to seventh or eighth position in order to play the highest notes. "8va" transpositions are required in the last three exercises to facilitate reading and to give the violin students practice in octave transpositions.

The violas begin the first exercise on the open C string, and with each succeeding exercise the position raises one-half step, the final exercise being in the sixth position. The first note of the last broken chord is still

played on the C string, and the fingering remains constant throughout. The topmost notes in the last three exercises are written in treble clef.

Except for the first broken chord, the cellos must shift in each exercise. The fingering plan is the one most commonly used for the three-octave arpeggio in cello playing, however, with minor modifications the plan works well for playing the two-octave arpeggio. The students will undoubtedly at first be confused, but should understand the fingering plan if the instructor points out the various places where the shifts occur. Students should especially note that the highest three notes of each group require a downward shift of one position in order to be played in tune. String and position changes are indicated in the music, but some special help will probably be necessary before the students understand fully the correct shifting patterns. Beginning with the G major exercise for cello the fingering plan changes, because the last five arpeggios must start on the G string. Tenor clef is employed in the last three exercises.

For the string basses, the author has followed the plan of shifting mostly on the D and A strings; the high notes of each arpeggio are prepared by shifts on the lower strings so that the topmost notes lie more easily under the fingers. Practical applications of this technique are numerous,

especially in classic school compositions where the bass and cello parts are often doubled. The last three exercises are written with an alternate lower octave, because the extremely high register of the upper octave is very difficult and impractical for young bass players.

The uses of some of the easier bowing patterns in conjunction with these exercises will provide an element of variety and will lead to greater carry-over into musical literature.

#### SHIFTING EXERCISES ON THE HARMONIC<sup>1</sup>

These two short exercises are designed to develop a free wrist and arm movement. The first study is concerned mainly with the wrist, because in order to place each finger successively on the half-string harmonic, the wrist must be relaxed and flexible. Various bowing patterns included will offer a variety and demand more accurate changes between notes. The second exercise will develop the accuracy of the shifting arm; to shift from first position to the harmonic and back again demands a great deal of accuracy, especially in order to obtain a clear harmonic note. Slurring variations are provided for more accurate and quick shifting.

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<sup>1</sup>Suggested by Gerald Doty, personal interview.

## OCTAVE RELATIONSHIPS AND FLESCH EXERCISE

When young string players first make a study of the higher positions, they tend many times to think only in terms of up and down one string; they do not see the relationships of various intervals across the strings in the same position. The previous exercises in arpeggios should make the students understand the cross-string relationships of thirds and fourths, but the octave relationships will probably remain unclear. This exercise should do much toward clarification of just how intervals of an octave can be fingered in the higher positions. The plan of the exercise follows a C major scale, beginning in third position for the violins and violas, each note of the scale coupled with its higher or lower octave. The plan becomes a bit more awkward for the cellos and basses, but then octaves are in any case more difficult to play on these instruments.

The Flesch exercise seeks to make sure that students cross the strings perpendicularly, and play perfect fifths<sup>2</sup>. The exercise is written in third position for the violins and violas, but must go into fourth and fifth positions for the cellos and basses. All fingers and combinations of the cross-string movement are used, and the notes are slurred

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<sup>2</sup>Demonstrated by Eugene Andrie, personal interview.

in order to coordinate the movement of the bow with the finger movement. Violins and basses must play this exercise together, then the violas and cellos, because the arrangement of open strings on the various instruments precludes the writing of this study for the entire ensemble at once.

## CHAPTER IV

### PART III: CHORD STUDIES

It is the author's contention that a string choir can be treated in the same manner as a vocal choir with respect to "warming up", developing the habit of listening for good intonation, and developing a sharp sense of tonality.

The first group of exercises consists of ten very easy chord progressions, in various keys, five in the major mode and five in the minor mode. No attempt was made to make the progressions melodically interesting; the emphasis should be placed upon playing the chords perfectly in tune, and upon listening for the relationship between the chords. It is recommended that no piano accompaniment be used with these studies, so that the students will develop ears for pure, untempered harmony, and will be required to listen more carefully to their own playing. The students are directed to transpose each exercise higher and lower, one-half and one full step. Though student string players are not usually required to transpose music in the course of solo or orchestral playing, this procedure will make them listen all the more carefully for correct intonation, and will tend to make them think in harmonic rather than in melodic lines.

The next four exercises are simple modulations, from C major to A major, from A minor to C major, from G major to D major, and from D major to G major. These studies may also be transposed as the director sees fit. Through careful playing of these short examples students will be able to hear how the tonal center of a musical passage may be changed. In each case the tonality of the original key is well established before the modulation itself is accomplished.

The third group of exercises consists of brief chromatic chord passages which will familiarize students with progressions using altered chords, Neapolitan sixths, and enharmonics. Good intonation will be more difficult in these studies, despite the fact that the voice leading is smooth.

To conclude this section, three chorale-type compositions have been included. Two chorales of J. S. Bach, Nicht So Traurig, Nicht So Sehr, and Es Ist Nun Aus Mit Meinem Leben were chosen because of the chromatic nature of the voices, and because of the melodic interest in the inner parts<sup>1</sup>. The inner parts were realized from the original figured bass by the author. Dynamic indications

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<sup>1</sup>Woldemar Bargiel (ed.), Bach: Vierstimmige Kirchengesänge, Vol. 8, pp. 269, 278. Berlin: Ed. Bote and G. Bock, n.d.



were also inserted by the author. The Adoramus Te of Palestrina was copied verbatim, and bowings and dynamic markings were inserted by the author<sup>2</sup>. This selection is especially valuable for the purpose of hearing the modal harmonies and experiencing the clear, uncluttered style of this type of composition.

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<sup>2</sup>Florence M. Martin (ed.), Noels Old and New, Auditorium Series No. 39, p. 25. Chicago: Hall and McCreary Co., n.d..

## CHAPTER V

### PART IV: RHYTHMIC STUDIES

In this final section of the manual the author has endeavored to present within short, technically simple phrases some of the common rhythmic problems that tend to confuse students in sight reading. It would defeat the purpose of these studies if each exercise were "learned" by constant repetition or by rote from demonstration on the part of the director. Each exercise should be attacked with no previous demonstration; the students should be forced to fit the notes into the right places with only a measured beat to guide them. Only in this way will string groups become rhythmically secure enough to dispense with rote learning of all but the most difficult rhythmic patterns.

The first twelve exercises deal with dotted rhythms, rests and synchopations. These common patterns seem to be the most difficult for young musicians. Each problem is first presented simply, then in a more complicated manner. Only the more common meters of 2/4, 3/4, 4/4, and 6/8 are used here.

The next seven exercises treat various rhythmic problems in combination with each other, resulting in some quite tricky passages. Occasional practice of these phrases

should lead to rhythmic solidity on the part of the entire group. The last eight studies contain examples of meter changes, which are most commonly found in contemporary works. The last few years have seen an increasing amount of music written by contemporary composers for amateur or school groups, and many of the modern techniques, such as frequent meter changes, tend to mystify and confuse students. These short studies show clearly how these changes are accomplished, and are technically simple enough so that a student may devote his thinking only to the rhythmic problem. The author has tried to write these exercises so that the meter changes are necessary to the contour of the phrase and do not seem contrived or "fit in" to any group of notes.

All of these exercises are short--eight measures or less--and make no great technical demands on the students. All instruments play in unison, thus everyone can concentrate most fully only on the rhythmic problems. Occasional practice of these studies should do much to increase the sight reading ability and rhythmic precision of a string orchestra.

## CHAPTER VI

### CONCLUSIONS

In writing and compiling this string orchestra manual, the author has attempted to fill what he has considered a void among available publications for advanced string groups. There are many excellent method books for string classes, from the beginning stages through the second and third years of instruction, but after that there seems to be little published material, except a few scale or exercise books, which are too often written for both string and wind instruments, and which therefore cannot include problems which are peculiar to the stringed instruments. Though all string students should be encouraged to study privately after a year or so of class instruction, many small communities have no available private teachers, and there are always students in any community who are interested but cannot afford private instruction. The rapid expansion of string programs in the public schools of this country is leading to a great shortage of private teachers, and thus more and more of the technical work must be done in the school orchestra rehearsals. Even in a group where a majority of the students study privately, those who do not study will soon fall behind the others, and eventually pull the quality of the entire group down, unless the director makes

an effort to see that the whole ensemble has some purely technical drill, and sees to it that every member of the group grows in technical facility.

The manual strives to fill this need, by presenting many exercises of a purely technical nature, concentrating only upon the problem at hand, and not requiring the students to learn a complicated series of notes before getting to the essence of the problem. Nearly all of the exercises are very short, and most of them can be varied in one way or another, in order to provide a variation or a slightly different approach to the problem. Designed primarily for use by a junior high or senior high school string orchestra as a supplement to the performance music, the book contains useful "warm-up" material for use at the beginning of the rehearsal hour, as well as technical material for use during the course of the rehearsal, for a few minutes a day, or as problems come up in the performance music. It would become extremely boresome and discouraging to the students if this manual were used for more than a few minutes daily. Admittedly the material does not have a great deal of interest to students who would rather play good music, however they can be made to realize that regular practice of purely technical material can lead to greater mastery of the orchestral literature.

This volume was written only for a string orchestra,

and does not include parts for woodwind, brass, or percussion instruments. The reasons for this are obvious: many problems which string players encounter are peculiar only to the stringed instruments, with few similarities to other types of orchestral instruments. Problems of bowing, articulation, positions, and intonation, to name only a few, must be treated in a special way for the stringed instruments, and an attempt to adapt parts for wind instruments would only result in awkwardness for all concerned. Most school orchestras have special periods devoted to string sectional rehearsing, and it is during this time that the director should pay particular attention to problems that pertain only to the string players, and make use of drill material written especially for stringed instruments.

Thus the author hopes that this book will make a contribution to music education that is in many ways unique and original. The emphasis on purely technical problems, the use of a minimum of notes in the exercises, and the over-all concentrated nature of the manual are the features which the author believes are quite unique in the field, and which will fill a specific need in the school music programs of this country.

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