Junior High School

CURRICULUM GUIDE

CHORAL MUSIC

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TABLE OF CONTENTS

CHAPTER ONE – Introduction / 1

- Rationale for Fine Arts / 3
- Philosophy for Music Education / 4
- Goals of the Secondary Music Program / 5
- Goals of the Choral Music Program / 6
- Required/Elective Components / 7
  - The Elective Component / 8

CHAPTER TWO – Choral Music Program / 11

- Overview of the Junior High Choral Music Program / 13
  - Curricular Components of the Junior High Choral Music Program / 14
- Vocal Skills / 15
- Aural Skills / 16
- Interpretive Skills / 17
  - Interpretive Performance Skills Common to All Levels / 17
  - Interpretive Skills Specific to Choral Music / 17
- Theoretical Skills / 18
- Synthesis Skills / 20
  - Literature / 20
  - Interpretation / 21
- Authorized Learning Resources – Choral Music / 22
  - Basic Learning Resources / 23
  - Recommended Learning Resources / 25
  - Supplementary Learning Resources / 26

CHAPTER THREE – Implementing the Program / 37

- Enrolment of Students / 39
  - Objectives / 39
- Scheduling / 40
- Planning / 40
  - Suggested Planning Pattern for Choral Music Teachers / 41
- Classroom Management / 43
- Facilities / 45
  - Building Requirements / 45
  - Textual Materials / 46
  - Equipment / 46
  - Furniture / 47

CHAPTER FOUR – Teaching Techniques and Learning Activities / 49

The Adolescent Singer / 51

Attitude / 51
Rapid Physical Changes / 51
Choice of Repertoire / 51
Sense of Pride / 52

Singing Vowels / 53

Diphthongs / 55

Triphthongs / 56

Intonation / 57

Blend / 58

Articulation / 58

Tonal Focus / 59

Phrasing / 60

Breath Control and Posture / 61

Balance / 61

CHAPTER FIVE – Evaluation / 63

Evaluation / 65

Suggested Methods of Evaluation / 67

CHAPTER SIX – Professional Resources / 69

The Choral Lending Library / 71

What is the Choral Library? / 71
Who Can Use the Library? / 71
Where is the Library? / 71

Professional Organizations / 72

Alberta Choral Federation / 72
The Fine Arts Council of the Alberta Teachers' Association / 72

APPENDICES / 73

"The Development of a Contemporary, Eclectic Theory for the Training and Cultivation of the Junior High School Male Changing Voice" – article by Dr. John M. Cooksey, Parts I, II, III and IV / 75

Sample Lesson Plan (Level II) / 114

Grade 7 Choral Music Exam / 117

Grade 7 Final Practical Test / 119

Sample Letter / 122

Working with a Budget / 123

Inventory / 124

GLOSSARY

CHAPTER ONE

Introduction

RATIONALE FOR FINE ARTS

The fine arts embraces music, art and drama without obscuring their uniqueness. Each has a body of content, partly derived from tradition and partly developed from the insights and interests of those involved. Each has its own mode of expression and makes its own contribution to society, necessitating the inclusion of the arts as separate subject areas in the school program.

There are fundamental principles that apply to all three. Specifically, the student is involved as a creator, a performer, an historian, a critic and a consumer. Throughout the grades, an articulated fine arts program should enhance the depth and breadth of expression and intuitive response. The maturing student learns to appreciate, to understand, to create and to criticize with discrimination products of the mind, the voice, the hand, and the body.

PHILOSOPHY FOR MUSIC EDUCATION

The systematic development of musical skills, knowledge and perception contributes to the total development of the individual.

The sense of meaning in music can be developed by the student as:

PERFORMER

Performance is an active process involving the development and application of musical skills, knowledge and perceptions.

LISTENER, EVALUATOR, CONSUMER, HISTORIAN

These experiences develop an understanding of music and musicians of the past and present.

COMPOSER

The organization of the elements of music into an intrinsically satisfying composition generates aesthetic creativity and perception.

Music is accessible to all, and as students become sensitive to its expressive elements, they may develop insight into human feelings. Music education should begin at an early age and continue to encourage creative expression through performance, listening and composition.

GOALS OF THE SECONDARY MUSIC PROGRAM

- To develop skills in listening, performing and using notational systems.
- To encourage students to strive for musical excellence, individually and as members of groups.
- To enable students to understand, evaluate and appreciate a variety of music.
- To provide experiences that will foster the development of self-expression, creativity and communication through music.
- To make students aware of the history of music and the implications of music in our society.

GOALS OF THE CHORAL MUSIC PROGRAM

The Choral Music Program will help students to develop competencies and to strive for excellence, within the limits of their individual capabilities, in the following areas:

SINGING	To discover, develop and evaluate their talents and abilities relative to singing, and to establish and reinforce correct vocal techniques and skills.
READING	To interpret rhythm, melody, harmony, form, and expression as they appear in musical notation through both cognitive and psychomotor responses.
LISTENING	To develop the ability to make aesthetic judgments based on critical listening and analysis of music.
CREATING	To develop an additional avenue of self-expression by composing, improvising, and interpreting music.
VALUING	To become aware of the history of music and the implications of music in our society with respect to music careers; its avocational and leisure uses; and to grow in the appreciation, understanding, and enjoyment of music as a source of personal fulfilment.
PLAYING	To develop functional instrumental skills as an aid to individualized vocal practice.

REQUIRED/ELECTIVE COMPONENTS

The required component encompasses the knowledge, skills and attitudes that all students in the program should be expected to acquire.

The elective component is designed to provide opportunities to adapt and enhance the required portion of the program to meet the diverse needs and capabilities of individual students. It encourages the adaptation of content, teaching strategies, instructional time, evaluation activities and learning resources to meet specific individual student and/or group needs. The elective component provides for enrichment and for additional assistance to individual students, as necessary.

The maximum time allotment for the elective component of the Junior High Music Program shall be 30 percent of the instructional time.

The following list of strategies may be employed in order to address the elective component of the curriculum. These strategies are recognized as an integral part of a successful music program.

ENRICHMENT

- **Explore Required Concepts More Deeply**
  - repertoire
  - solos
  - small ensembles
  - research projects
  - master class
  - using recordings for extension and analysis of studied pieces
  - computer (theory, MIDI tutors)
  - guest artists
- **Explore Alternative Topics**
  - repertoire
  - sight reading
  - doubling parts
  - library research
  - jazz
  - orchestra
  - computer
  - keyboard
  - electronic music
  - avant-garde/ aleatoric music
- **Provide More Cognitively Demanding Activities**
  - arranging/ composing
  - improvising
  - researching
  - critiquing (records, performances, etc.)
- **Have Students Define Their Own Issues**
  - project (research)
  - private lessons
  - concert attendance
  - videos
- **Encourage Cross-age Tutoring**
  - section leaders
  - small ensembles
  - student conductors
  - student demonstrators
  - peer coaching

REMEDIATION

- **Enhance Self–Confidence**
  - repertoire
  - clinics
  - music field trips
  - concert tours
  - switch sections
  - solos
  - small ensembles
  - workshops
- **Provide Concrete Examples/Visual Aids**
  - listening exercises
  - videos
  - filmstrips/films
  - teacher demonstration
  - student demonstration
- **Use More Highly Structured Teaching Procedures**
  - alternative resource materials
  - études
  - vocalizing
  - eurythmics
- **Provide Less Cognitively Demanding Activities**
  - repertoire selection
  - instrument part assignment
  - review known repertoire
  - reduce tempo
- **Have Students Define Their Own Issues**
  - student set goals
- **Use Varied Modes of Communication**
  - visual/ image (picture)/ gesture (action)
  - aural
  - written
  - movement
- **Provide Feedback Loops**
  - peer evaluation
  - teacher evaluation
  - audio-recording analysis
  - video-recording analysis
- **Encourage Practice**
  - private practice
  - practice techniques
  - repetition

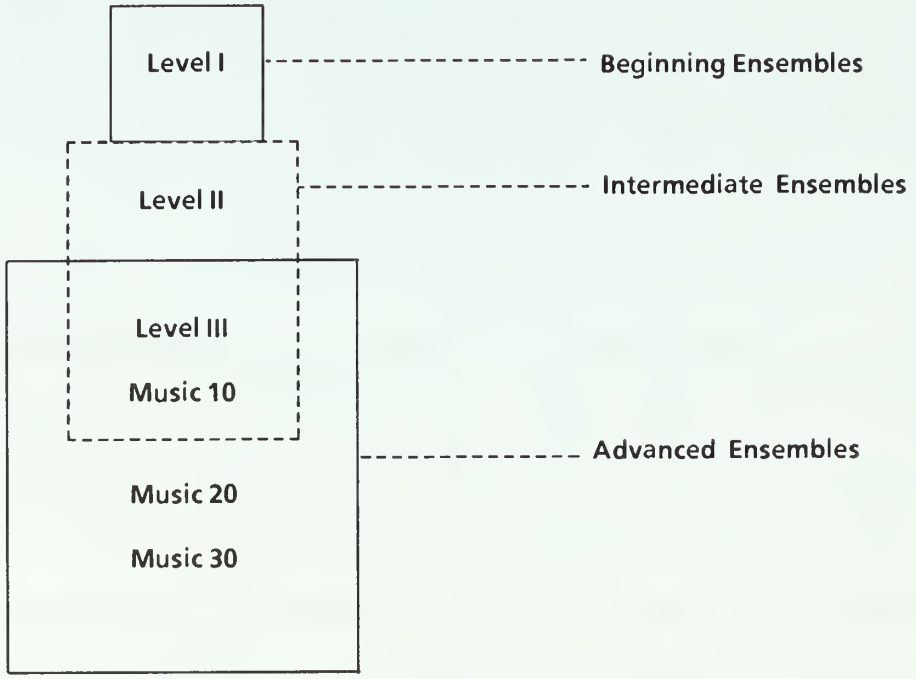
CHAPTER TWO

Choral Music Program

OVERVIEW OF THE JUNIOR HIGH CHORAL MUSIC PROGRAM

The components of the Junior High Choral Music Program consist of vocal, aural, theoretical, interpretive and synthesis skills. These skills are divided into three levels. Levels I, II and III correspond to the first, second and third years of the program; typically Grades 7, 8 and 9. Designed as complementary courses (75 hours per year minimum), it is expected that Level III will be achieved by the end of three years in the program. This constitutes the expected competency entry level for Music 10.

SECONDARY MUSIC ORGANIZATIONAL CHART



It should be noted that the Junior High Choral Music Program goes much beyond the rehearsal of music for performance. It is intended to develop skills that will prepare students for the Senior High Choral Music Program.

CURRICULAR COMPONENTS OF THE JUNIOR HIGH CHORAL MUSIC PROGRAM

The goals of the Junior High Choral Music Program are achieved through the use of the following curricular components:

	VOCAL SKILLS	AURAL SKILLS		THEORETICAL SKILLS	INTERPRETIVE SKILLS	SYNTHESIS SKILLS
		EAR TRAINING	SIGHT SINGING			
SINGING	♪	♪	♪		♪	♪
LISTENING	♪	♪	♪			♪
READING	♪		♪	♪	♪	♪
CREATING				♪	♪	
VALUING	♪					♪
PLAYING				♪		

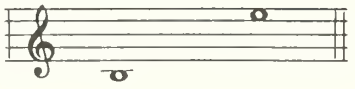
♪ Indicates areas of emphasis

VOCAL SKILLS

Some vocal skill objectives are common to all levels.

The student will:

- understand the use and care of the vocal instrument.
- develop proper breath control.
- demonstrate pure and unified vowel sounds and properly formed consonants.
- recognize when the voice is in tune with other voices or instruments.
- demonstrate accurate attaches and releases.
- hear other voices and control the individual solo voice to achieve the desired group tone.
- understand and demonstrate proper musical phrasing.

LEVEL I	LEVEL II	LEVEL III
The student will: • successfully perform his or her part in canon or unison with descant selection • produce a good vocal tone within the range indicated 	The student will: • successfully perform his or her part in a canon, unison with descant, or a two- or three-part selection • continue to increase vocal range (see Level I)	The student will: • successfully perform, as a member of a duet or trio, his or her part in a two- or three-part selection • continue to increase vocal range (see Level I)

AURAL SKILLS

LEVEL I	LEVEL II	LEVEL III
The student will:	The student will:	The student will:
• match pitches	• match pitches	• match pitches
• echo a five-note melody based on the first five notes of a major scale or the pentatonic scale (*do* or *la* based) after it has been played or sung three times	• echo a six-note melody based on a diatonic major scale after it has been played or sung three times	• echo a six-note melody based on a diatonic major scale or an harmonic minor scale after it has been played or sung three times
• identify, after two hearings, the following melodic intervals: major 2nd, ascending and descending major 3rd, ascending perfect 4th, ascending perfect 5th, ascending perfect 8th, ascending minor 3rd, ascending and descending	• identify, after two hearings, all intervals from Level I as well as the following: minor 2nd, ascending and descending	• sing ascending intervals within the octave: M2, M3, m3, P4, P5, M6, P8
• sing the bottom note of an harmonic interval of a major third, a perfect fifth, and an octave after hearing it played twice	• sing the bottom note of an harmonic interval as in Level I, plus m3, P4, M6 after hearing it played twice	• sing a specified note of a major triad (bottom, middle, top) after hearing it played twice
• sight read a four measure melody applying the intervals studied	• sight read a specified part of a four to eight measure melody applying the intervals studied	• sight read a specified part of a four to eight measure melody based on a diatonic scale

INTERPRETIVE SKILLS

INTERPRETIVE PERFORMANCE SKILLS COMMON TO ALL LEVELS

The student will:

- recognize that the phrase is the musical equivalent of a sentence.
- identify and perform phrases, achieving musical sensitivity through stylistic practices such as:

  a) development of intensity; i.e., tension and release
  b) adding flexibility of tempo; i.e., rallentando, rubato, accelerando
  c) adding dynamic contrast to repeated phrases or figures and extended passages or selections.

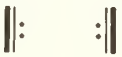
- develop an awareness of balance, blend and texture within the ensemble.
- perform stylistically the repertoire chosen from various historical periods and genres.

INTERPRETIVE SKILLS SPECIFIC TO CHORAL MUSIC

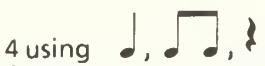
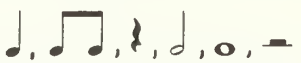
The student will:

- phrase according to the sense of the literary and musical phrase.
- stress the appropriate syllable in words of more than one syllable.
- not stress unimportant words (i.e., a, the, and, to).
- demonstrate the function of onomatopoeia in colouring sound words such as ring, crunch, crackle, bang.
- use dynamics as a device in word colouring (e.g., soft, strong, big, little).
- use nuance and facial expression as aids to storytelling and picture painting in songs.
- use varied articulation as an aid to word colouring (e.g., staccato, legato, marcato).

THEORETICAL SKILLS

LEVEL I	LEVEL II	LEVEL III
The student will:	The student will:	The student will:
• identify by letter name the notes of the treble and bass staff	• identify sharps, flats, and their naturals and explain their function	• review note letter names, sharps, flats, and naturals from Levels I and II
• recognize and interpret: a steady beat at a slow and fast tempo rest and note values  time signatures 2/4 3/4 4/4 rhythmic patterns associated with the literature being used the tie, the fermata, and the pick-up note (anacrusis)	• recognize and interpret:  D.C., D.S.  	• recognize and interpret:  note and rest values and time signatures from Levels I and II plus time signatures applicable to the literature being studied
• conduct a two, three, and four beat pattern	• conduct patterns of the repertoire being studied	• conduct a beat pattern following music being played or sung

Theoretical Skills (cont'd)

LEVEL I	LEVEL II	LEVEL III
The student will:	The student will:	The student will:
• write two bars of rhythmic dictation: 4 using  4 (percussive or melodic presentation)	• write two bars of rhythmic dictation: 4 using  4 (percussive or melodic presentation)	• write two bars of rhythmic dictation: 2 3 4 (add ) 4 4 4 (percussive or melodic presentation)
• identify any harmonic interval by number	• construct a major scale and will identify the major and perfect intervals	• play a major or minor triad based on any note on the keyboard
• identify the white keys of the piano by letter names	• identify individual notes on the keyboard from written notation, including identification of black notes enharmonically	• play a simple C major melody on the keyboard from notation
• identify dynamic markings, tempo terms (e.g., allegro, andante) and other terms as related to the repertoire being studied	• identify expressive markings in repertoire being studied	• identify expressive markings in repertoire being studied
• demonstrate an understanding of the layout of a choral score and will follow a specific part	• demonstrate an understanding of the layout of a choral score and follow a specific part	• demonstrate an understanding of the layout of a choral score and follow a specific part

SYNTHESIS SKILLS

LITERATURE

Selection, study and performance of repertoire is an integral component of the Junior High Choral Music Program. The curricular components culminate with the performance of the literature.

As a **consumer** of choral literature, the student will:

- recognize and understand the musical form employed in studied repertoire.
- evaluate compositions and performances on the basis of criteria set by the teacher.

As a **performer** of choral literature, the student will:

- recognize and understand the musical form employed in studied repertoire.
- analyze performance problems and take appropriate measures to resolve them.
- perform a solo and/or sing in a small ensemble.

In the identification of a choral music literature list, it is important to include the study of music of all styles, forms, periods, and cultures. Music with a sacred text or of a religious origin has an important place in the history of music. It comprises a substantial portion of music literature, and plays an important role in music education. The sacred music on the supplementary literature lists has been selected on the basis of its musical and educational value. However, teachers must be sensitive to children of differing religious backgrounds and to community beliefs.

Prior to the selection of any choral literature with a religious perspective, teachers should consider whether a student or students will be made uncomfortable either through participation in or exclusion from the choral activity. Tolerance, understanding and respect for diversity should be guiding principles in the selection of choral music.

At each level, it is suggested that a number of selections be chosen from literature lists (see pp. 30 to 36 for approved supplementary literature selections).

List A: Unison
List B: SA (Soprano, Alto)/Unison with Descant
List C: SSA (Soprano, Soprano, Alto)
List D: SAB (Soprano, Alto, Baritone)

Listings of appropriate solos and ensembles are available from many sources including festival organizations, music educators' associations and music publishing companies. The music educator is given latitude to select other materials at levels congruent with the teaching/learning experience. Consideration should be given to Canadian content and music from other languages and cultures.

INTERPRETATION

As stated in the Program of Studies, the selection, study and performance of repertoire is an integral component of the instructional music program. It is through the syntheses of the aural, technical-theoretical, and interpretive skills in the performance of quality literature that students can experience meaningful musical development.

The educator must assume a major responsibility for the musical growth of the student through the selection of literature and the personal preparation of that literature. The thoughtful and intelligent analysis of a given selection will prepare the educator to lead the students through a meaningful, musical, learning experience. Having an understanding of the form and direction of a composition thus allows for the consideration of how musical meaning is to be communicated to the ensemble. The art of conducting is too often neglected as a means of communication to young students. The student must also assume a role beyond the mere provision of psychomotor skills required to perform a certain sequence of notes at a certain speed, given a printed dynamic level and articulation. It is the responsibility of the student to have enough understanding of a composition as a whole to determine his or her particular role at any given time.

There is a variety of ways to analyze a score that will allow the educator to develop a better understanding of a composition and to be more effective in the rehearsal. The educator must take the time to do a structural analysis of each score.

Each student's musical growth, as well as improved performance on a particular selection, can be enhanced by some well-guided aural responses. They should be able to indicate the growth of tension and the point of release, hear modulations in diatonic music, detect variations in a melodic structure, understand the individual part at any particular point (melodic, harmonic, rhythmic, etc.), as well as its context within the score.

The educator must understand conducting. It is a necessary form of non-verbal communication that is constantly relaying musical information to the choral ensemble.

To help further the development of one's skills and insights in the interpretation of music, it is vital to listen to recordings of as much literature as possible and attend live performances.

AUTHORIZED LEARNING RESOURCES – CHORAL MUSIC

DEFINITIONS

Learning resources fall into three categories: basic, recommended and supplementary. In terms of provincial policy, learning resources are those print, nonprint and electronic software materials used by teachers or students to facilitate teaching and learning.

Basic learning resources are those learning resources approved by Alberta Education as the most appropriate for meeting the majority of goals and objectives of courses, or substantial components of courses outlined in the provincial programs of studies.

AND

Those productivity software programs (e.g., word processors, spread sheets, data bases, integrated programs) approved by Alberta Education that can be used to achieve important objectives across two or more grade levels, subject areas, or programs.

Recommended learning resources are those learning resources approved by Alberta Education because they complement basic learning resources by making an important contribution to the attainment of one or more of the major goals of courses outlined in the provincial programs of studies.

Supplementary learning resources are those learning resources approved by Alberta Education because they support courses outlined in the provincial programs of studies by enriching or reinforcing the learning experience.

AVAILABILITY

The learning resources listed in the following pages are available for purchase from the Learning Resources Distributing Centre, unless otherwise noted.

BASIC LEARNING RESOURCES

Level I	Level II	Level III
An Introduction to Sight Singing: A Structured Approach to Reading Music Arkis, Stanley and Schuckman, Herman. New York: Carl Fischer, 1967. – Lessons 1-5 ***Practical Theory*** Feldstein, Sandy. Sherman Oaks, California: Alfred Publishing Co. Inc., 1982. Student Textbook/Workbooks: ***Volume 1*** ***Complete*** (Teacher's Edition; contains Volumes 1, 2 and 3) Software: ***Volume 1*** Book and 2 Diskettes ***Complete*** (Teacher's Edition; contains Volumes 1, 2 and 3 and 6 Diskettes) Note: Also for General and Instrumental Music Programs.	***An Introduction to Sight Singing: A Structured Approach to Reading Music*** Arkis, Stanley and Schuckman, Herman. New York: Carl Fischer, 1967. – Lessons 6-15 ***Practical Theory*** Feldstein, Sandy. Sherman Oaks, California: Alfred Publishing Co. Inc., 1982. Student Textbook/Workbooks: ***Volume 2*** ***Complete*** (Teacher's Edition; contains Volumes 1, 2 and 3) Software: ***Volume 2*** Book and 2 Diskettes ***Complete*** (Teacher's Edition; contains Volumes 1, 2 and 3 and 6 Diskettes) Note: Also for General and Instrumental Music Programs.	***An Introduction to Sight Singing: A Structured Approach to Reading Music*** Arkis, Stanley and Schuckman, Herman. New York: Carl Fischer, 1967. – Lessons 16-26 ***Practical Theory*** Feldstein, Sandy. Sherman Oaks, California: Alfred Publishing Co. Inc., 1982. Student Textbook/Workbooks: ***Volume 3*** ***Complete*** (Teacher's Edition; contains Volumes 1, 2 and 3) Software: ***Volume 3*** Book and 2 Diskettes ***Complete*** (Teacher's Edition; contains Volumes 1, 2 and 3 and 6 Diskettes) Note: Also for General and Instrumental Music Programs.
This program is designed to provide students with the rudiments of musical theory and elementary harmony in compositions in a concise, practical manner. The program includes six disks used in conjunction with a workbook to present concepts and provide drill and practice as well as review. The disks and the student workbook must be used together in order to use the package most effectively.		

BASIC LEARNING RESOURCES (cont'd)

Level I	Level II	Level III
Theory for Beginners Wharram, Barbara. Oakville, Ontario: The Frederick Harris Music Company, 1974. Note: Also for General Music Program.	*Theory for Beginners* Wharram, Barbara. Oakville, Ontario: The Frederick Harris Music Company, 1974. Note: Also for General Music Program.	*Theory for Beginners* Wharram, Barbara. Oakville, Ontario: The Frederick Harris Music Company, 1974. Note: Also for General Music Program.

RECOMMENDED LEARNING RESOURCES

Level I	Level II	Level III
Choral Method: 333 Reading Exercises Kodaly, Zoltan. Willowdale, Ontario: Boosey & Hawkes (Canada) Limited, 1972.	***Choral Method: 333 Reading Exercises*** Kodaly, Zoltan. Willowdale, Ontario: Boosey & Hawkes (Canada) Limited, 1972.	***Choral Method: 333 Reading Exercises*** Kodaly, Zoltan. Willowdale, Ontario: Boosey & Hawkes (Canada) Limited, 1972.
Music Theory Volume 1 St. Paul, Minnesota: MECC (Minnesota Educational Computing Consortium), 1983. – Diskette – Print Manual Note: Granted Basic status for Instrumental Music Program.	***Music Theory Volume 1*** St. Paul, Minnesota: MECC (Minnesota Educational Computing Consortium), 1983. – Diskette – Print Manual Note: Granted Basic status for Instrumental Music Program.	***Music Theory Volume 1*** St. Paul, Minnesota: MECC (Minnesota Educational Computing Consortium), 1983. – Diskette – Print Manual Note: Granted Basic status for Instrumental Music Program.
This program is designed to provide individualized practice in three main areas of music theory: terminology, rhythm, and pitch. It provides effective drill and practice activities in basic concepts of music theory and ear training. The program assumes students have a foundation in music theory.		
Reflections of Canada Volume I "Pine Tree Gently Sigh": 45 Two-Part Arrangements of Canadian Folk Songs Bray, Kenneth, Tefler, Nancy and Wuensch, Gerhard. Oakville, Ontario: The Frederick Harris Music Co., Limited, 1985.	***Reflections of Canada Volume I "Pine Tree Gently Sigh": 45 Two-Part Arrangements of Canadian Folk Songs*** Bray, Kenneth, Tefler, Nancy and Wuensch, Gerhard. Oakville, Ontario: The Frederick Harris Music Co., Limited, 1985.	***Simply Sung: Folk Songs Arranged in Three Parts for Young Singers*** Goetze, Mary. London: Schott Music Corporation, 1984.

SUPPLEMENTARY LEARNING RESOURCES

AVAILABILITY

Supplementary learning resources are NOT stocked by the Learning Resources Distributing Centre. Please check with your favourite music store for these titles. If unobtainable from music stores, supplementary learning resources may be ordered on a special order basis from the Learning Resources Distributing Centre.

SUPPLEMENTARY STUDENT RESOURCES

Folk Songs of Canada I
Folk Songs of Canada II
Fowke, Edith Fulton and Johnston, Richard. Waterloo, Ontario: Waterloo Music Company Limited, 1954, 1967.
– Piano/Vocal Editions
Note: Also for General Music Program.

Maestroscope Music Theory Series:
Albuquerque, New Mexico: Maestro Music Inc., 1983.
Note: Also for General and Instrumental Music Programs.

Music Theory Level I
This program is a series of computer assisted lessons designed to teach the fundamentals of music theory to beginning students. The lessons cover note names, note values, time signatures, musical terms, and rhythms. The content is appropriate for the novice music student.

Music Theory Level II
This program is designed to teach students the fundamentals of music theory and continues the concepts introduced in ***Music Theory Level I***. The topics include reviewing sharps and flats, identification of intervals, interval ear training, major scales, major key signatures, major and minor seconds and thirds, major and minor triads, and transposition. The main weaknesses include: the lack of a management system; the lack of sufficient variety, quantitative information and assistance in the feedback; and the lack of student support materials.

Music Theory Level III
This program is designed to teach students the fundamentals of music theory and continues the concepts introduced in ***Music Theory Levels I and II***. The range of topics includes: reviewing intervals; chromatic, augmented, and diminished intervals; inversions of triads; scale degrees; minor key signatures; syncopation; double sharps and flats; and melodic, harmonic, and natural minor scales.

SUPPLEMENTARY STUDENT RESOURCES (cont'd)

The Music Class Series:
Owatonna, Minnesota: Wenger Corporation, 1985.

The Music Class Series: Note Reading
Note Reading & Staff Note Reading
Keyboard Note Reading
Note: Also for General and Instrumental Music Programs.

This series is designed to teach students to read notes on any clef in any position and in any piece of music. The lessons include note reading, staff note reading, keyboard note reading, chromatic keyboard note reading, and speed reading. The range of content provides an introduction to basic note reading skills and allows the student unlimited practice in identifying individual notes. The range of content is limited to coverage of individual notes and does not include practice in triads, chords, etc.

The Music Class Series: Rhythm
Rhythm I with Mr. Metro Gnome
Rhythm II with Mr. Metro Gnome
Rhythm III with Mr. Metro Gnome
Rhythm IV with Mr. Metro Gnome
Note: Also for General and Instrumental Music Programs.

This series is designed to help students learn and experiment with basic rhythms and to create rhythmic patterns. The content covers principles of rhythm involving quarter, half, whole, eighth, dotted, and sixteenth notes. The range of content in this program provides an introduction to basic rhythms and allows the student to experiment with rhythmic patterns.

Sing the Sea: A Collection of Ten Songs from Newfoundland for Junior and Intermediate Choirs
Cook, D.F. (Arr.). Waterloo, Ontario: Waterloo Music Company Limited, 1986.

SUPPLEMENTARY TEACHER RESOURCES

Building the Voice as an Instrument with a Studio Reference Handbook
Wormhoudt, Pearl S. Oskaloosa, Iowa: William Penn College, 1981

Canada is . . . Music, 7-8
Good, Jan; Skilling, Douglas; and Stewart, Daphiny. Toronto: Gordon V. Thompson Music, 1985.
– Teacher Guide Book
Note: Complete series granted Recommended status for General Music Program.

Choral Conducting Symposium, 2nd Edition
Decker, Harold A., and Herford, Julius (Eds.). Englewood Cliffs, New Jersey: Prentice-Hall Ltd., 1988.

Choral Music Education, Second Edition
Roe, Paul F. Englewood Cliffs, New Jersey: Prentice-Hall Ltd., 1983.

Foundations of Music Education
Abeles, Harold F.; Hoffer, Charles R.; and Klotman, Robert H. New York: Schirmer Books, 1984.
Note: Also for Instrumental Music Program.

The Free Voice, A Guide to Natural Singing
Reid, Cornelius L. New York: The Joseph Patelson Music House, 1971

Full-Throated Ease: A Concise Guide to Easy Singing
Lawson, James T. Melville, New York: Belwin-Mills Publishing Corp., 1955.

The Modern Conductor, Fourth Edition
Green, Elizabeth A.H. Englewood Cliffs, New Jersey: Prentice-Hall Ltd., 1987.
Note: Also for Instrumental Music Program.

Reaching the Special Learner Through Music
Nocera, Sona D. Morristown, New Jersey: Silver Burdett Company, 1979.
Note: Also for General and Instrumental Music Programs.

SUPPLEMENTARY TEACHER RESOURCES (cont'd)

Ready-to-Use Music Activities Kit
Adair, Audrey J. West Nyack, New York: Parker Publishing Company, Inc., 1984.

The Singer's Manual of English Diction
Marshall, Madeleine. New York: Schirmer Books, 1953.

SUPPLEMENTARY LITERATURE

The charts on the following pages contain approved literature selections:

List A: Unison
List B: SA (Soprano, Alto)/Unison with Descant
List C: SSA (Soprano, Soprano, Alto)
List D: SAB (Soprano, Alto, Baritone)

Note: Please refer to page 20 for selection guidelines.

SUPPLEMENTARY LITERATURE

LIST A: UNISON

Title	Composer/Arranger	Publisher	Octavo Number
Art Thou Troubled? (Dove Sei.)	Handel	Novello & Company Ltd.	16 0066 04
Boats of Mine	Miller	Harold Flammer Inc.	1A 5006
Child of the Universe	Cassils	Kappa Music Publications	No number (1981)
Flocks in Pastures Green Abiding	Bach/James	Oxford University Press	1631
Joy (Adapted from 'Seligkeit')	Schubert	Elkin & Company Ltd.	16 0109 01
I Would Sing, Sing, Sing	Lovelace	Harold Flammer Inc.	E 5143
The Little Birch Tree	Goetze	Boosey & Hawkes	6130
Sing We a Carol Low	Butler	Carl Fischer Inc.	CM 8092
Thanks Be to Thee	Handel/Christiansen	Neil A. Kjos Music Co.	5103
What Cheer? Good Cheer!	Warlock	Boosey & Hawkes	OCUB5314

SUPPLEMENTARY LITERATURE

LIST B: SA (Soprano, Alto)/UNISON WITH DESCANT

Title	Composer/Arranger	Publisher	Octavo Number
A-Rovin'	Crocker	Jenson Publications, Inc.	471-01012
The Bagpipe Carol	Arr. Barthelson	Skidmore Music Co. Inc.	SK 4022
Calm and Lovely	Schubert/Caldwell	Carl Fischer Inc.	CM 7873
Calypso Carol	Fleming	Leslie Music Supply	2050
Canadian Boat Song	Arr. Tapscott	BMI Canada Ltd.	C 285
Carol of the Children	Rutter	Hinshaw Music Inc.	HMC-605
Cat!	Ydstie	Neil A. Kjos, Jr.	GC 89
Chinook	Walker	Gordon V. Thompson Music	G 164
Evening Prayer, Duet from Hänsel and Gretel	Humperdinck	Leslie Music Supply	2003
Five Eyes	Gibbs	Boosey & Hawkes Inc.	17103
Flying Free	Besig	Shawnee Press Inc.	E 239
Gaelic Song	Irish Folk Song/Arr. Cromie	Theodore Presser Company	312-40799
The Gift	Eilers	Belwin-Mills Publishing Corp.	SCHCH 359
Gipsies	Rowley	Boosey & Hawkes	71558
Go Tell It! (A Song for All Seasons)	Arr. Artman	Bourne	B231696-352
Hallelujah, Glory Hallelujah	Sleeth	The Sacred Music Press	S-5768

LIST B: SA (Soprano, Alto)/UNISON WITH DESCANT (cont'd)

Title	Composer/Arranger	Publisher	Octavo Number
Happy Holiday	Berlin/Lojeski	Hal Leonard Publishing Corporation	08600205
How Far is it to Bethlehem?	Traditional/Arr. Coates	Shawnee Press Inc.	E-160
I Hear Bells	Chaplin/Coates	Shawnee Press Inc.	E-65
I Know Where I'm Goin'	Irish Folk Song/Arr. Moore	Beckenhorst Press Inc.	BP 111
Jericho	Spiritual/Arr. Fleisher	Harold Flammer Inc.	E5171
The Lamb	Younger	Frederick Harris Music Co. Ltd.	HC 2001
Lay Your Hand Upon Me, Gently, Lord	Murray	Belwin-Mills Publishing Corp.	SCHCH 7757
The Lord is My Shepherd	Smart	Leslie Music Supply	2008
Movin' On	Hannisian	Shawnee Press Inc.	E-114
No Golden Carriage, No Bright Toy	Martin	Heritage Music Press	H5006
The One Perfect Love	Lokensgard	Beckenhorst Press, Inc.	BP 1218
Plenty Good Room	Spiritual/Arr. Hardwicke	Alexander Broude, Inc.	TC802
Prayer of St. Francis	Litz	Choristers Guild	CGA-242
Pussywillows, Cat-tails	Lightfoot/Fortune	Warner Bros. Publications Inc. Distributed by Jenson Publications, Inc.	WB-108 481-20310
Rock That Cradle!	Arr. White	Hinshaw Music Inc.	HMC-453

LIST B: SA (Soprano, Alto)/UNISON WITH DESCANT (cont'd)

Title	Composer/Arranger	Publisher	Octavo Number
Simple Gifts (Shaker Song)	Arr. Copland	Boosey & Hawkes Inc.	17115
Sing!	Robertson	Jenson Publications, Inc.	404-19012
Sing a Song of Thanks and Joy	Hopson	The Sacred Music Press	S-5780
Three Happy Seasons – Spring is a Happy Time – Lazy Summer – Autumn Joy	Belyea	Leslie Music Supply	 2052 1127 2051
Three Russian Folk Songs – Black-Earth Country – The Crane – By the Streamlet	Arr. Roff	Carl Fischer Inc.	CM7959
Velvet Shoes	Thompson	G. Schirmer Inc.	ECS 2526
The Water is Wide	Arr. Zaninelli	Shawnee Press Inc.	E-83
Were You There on That Christmas Night?	Sleeth	Hope Publishing Company	CF 190
Westering Home	Arr. Roberton	G. Schirmer Inc.	10492
What Shall We Name Him?	Snyder	Studio P/R Inc.	V7828
Wintertime Aglow	Snyder	Studio P/R Inc.	V7905

SUPPLEMENTARY LITERATURE

LIST C: SAA (Soprano, Soprano, Alto)

Title	Composer/Arranger	Publisher	Octavo Number
Butterfly Roses	Myers/Norred	Jenson Publications, Inc.	412-02023
Coulters Candy	Scottish Lullaby/Arr. De Cormier	Lawson-Gould Music Publishers, Inc.	51621
Go into the World	Sleeth	Choristers Guild	CGA-209
Go' Way From My Window	American Folk Song/Arr. Artman	Hinshaw Music Inc.	HMC-426
Green Pastures	Sanderson/Spencer	Boosey & Hawkes Inc.	1691
My Lord, What a Morning	Spiritual/Arr. Page	Hinshaw Music Inc.	HMC-266
Now Let the Heavens Be Joyful	Arr. Ziegenhals	Hope Publishing Company	JR 220
Oh, Dear! What Can the Matter Be?	English Folk Song/Arr. Carter	Somerset Press	SP 763
Praise Ye the Lord of Hosts	Saint-Säens/Eilers	Jenson Publications, Inc.	402-16043
Sing Alleluia, Sing	Knowles	Jenson Publications, Inc.	417-19013
Sing to Him a Song of Love	Spevacek	Jenson Publications, Inc.	423-19013
Slumber Still	Ades	Hinshaw Music Inc.	HMC-727
Something Told the Wild Geese	Vance	Belwin-Mills Publishing Corp.	2206
Spread Joy	Sleeth	Carl Fischer Inc.	CM 7781
Star Light, Star Bright	Eilers	Jenson Publications, Inc.	402-19023
Sugar and Spice for Christmas	Ades	Shawnee Press Inc.	GB 23
The Time of Singing	Knowles	Jenson Publications, Inc.	417-20013

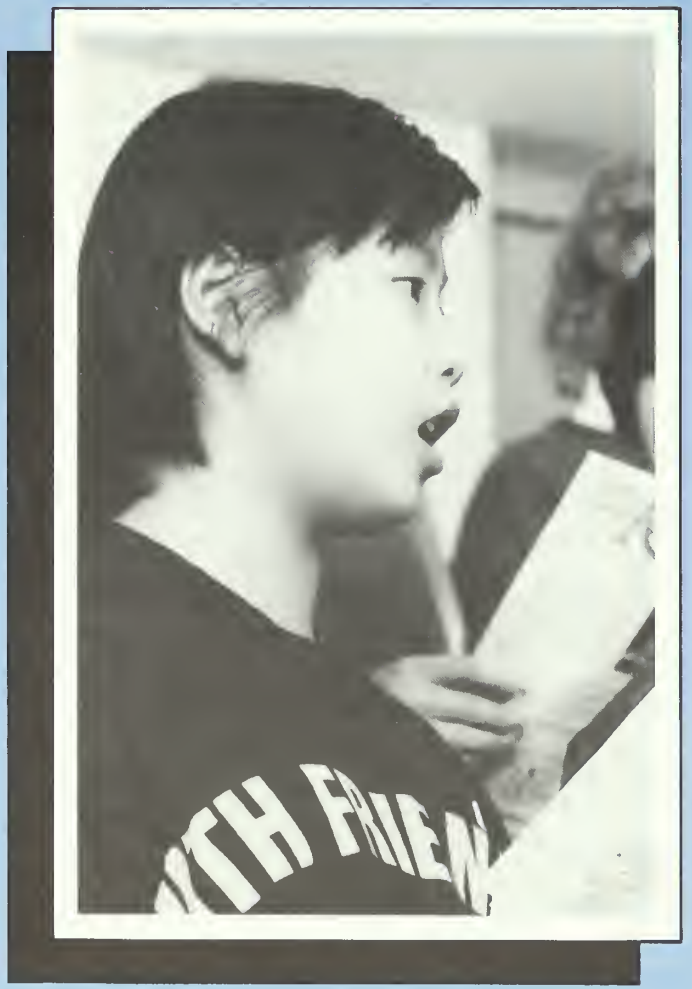
SUPPLEMENTARY LITERATURE

LIST D: SAB (Soprano, Alto, Baritone)

Title	Composer/Arranger	Publisher	Octavo Number
Dona Nobis Pacem	Arr. Hopson	Agape	HH 3903
Everybody Needs a Friend	Emerson	Jenson Publications, Inc.	403-05020
For Unto Us a Child is Born	North	Alfred Publishing Co. Inc.	6955
Gentle Wind	Sobaje	Elkan-Vogel, Inc.	362-03326
Gonna Rise Up Singin'	Besig	Shawnee Press Inc.	D-254
Hitch Your Dream to the Morning Star	Butler	Hal Leonard Publishing Corporation	08017501
In Stiller Nacht	Brahms/Weck	Somerset Press	SP 780
It is a Good Thing to Give Thanks	Butler	Agape	EB 9213
It Was a Lover and His Lass	Morely/Rodgers	Hal Leonard Publishing Corporation	08603329
Jonah!	Eilers	Jenson Publications, Inc.	402-10010
Ladybug	Stein/Eilers	Jenson Publications, Inc.	402-12010
Let Heavenly Music Fill This Place	Young	Harold Flammer, Inc.	D-5265
Ode to Joy	Beethoven/Emerson	Jenson Publications, Inc.	403-15020
Peter Gray	Traditional/Arr. Parker	Hinshaw Music Inc.	HMC-660
Ragtime Sing-Along	Perry	Jenson Publications, Inc.	423-18020
River, Sing Your Song	Butler	Richmond Music Press, Inc.	TEV-54

LIST D: SAB (Soprano, Alto, Baritone) (cont'd)

Title	Composer/Arranger	Publisher	Octavo Number
Sanctus, from "German Mass in F"	Schubert/Weck	Somerset Press	SP 767
Send Down the Rain	Eilers	Jenson Publications, Inc.	402-19030
Shenandoah	Spevacek	Jenson Publications, Inc.	437-19040
Sing for Joy	Purcell/Hopson	Jenson Publications, Inc.	433-19010
Sinner Man	Spiritual/Arr. Emerson	Jenson Publications, Inc.	403-19010
Turn Back, O Man (from "Godspell")	Schwartz/Leyden	The Music of the Times Publishing Corp.	i4067b



CHAPTER THREE

Implementing the Program

ENROLMENT OF STUDENTS

Enrolment of choral students should be undertaken with the following objectives and considerations clearly in mind:

OBJECTIVES

1. **Enrol the maximum number of potentially successful students.**
   It is a legitimate goal to develop a strong choral program. The strength of this program is very much related to the involvement of the maximum number of students.

2. **Engage the interest and support of informed and committed administration, parents, and the community.**
   Part of the enrolment process involves contact with the parents of prospective choral students. The purpose of this contact is to answer their questions and, even more important, to present the choral program as an extension of the elementary music program.

SCHEDULING

This curriculum was designed to be presented in a minimum of 75 hours of classroom time. This translates (approximately) to three 40-minute periods per week throughout the school year. Wherever possible, semestering of the program should be discouraged. Singing is a skill that requires ongoing practice. The interruption to this practice which results from semestering makes the building of a successful program difficult, if not impossible.

PLANNING

The planning of a choral music program requires constant referral to the program objectives to ensure that these are being achieved through the literature being studied and rehearsed. The number of objectives listed, particularly under Aural Skills and Theoretical Skills, may appear onerous at first glance. However, all of these can be achieved in a few minutes of each class period, either through specific skill-building activities or through highlighting these skills and concepts through the study of choral literature. This relationship of skills and concepts to the literature being studied provides greater relevance to students.

SUGGESTED PLANNING PATTERN FOR CHORAL MUSIC TEACHERS

A YEAR AHEAD:

- Prepare a long-range plan
- Prepare a course outline and evaluation scheme for distribution to students
- Choose literature which will be useful for teaching specific concepts and skills outlined in the program of studies
- Outline a sequence for skill and concept development
- Give students a schedule of concert dates, written and practical tests, and major assignments
- Order films, books, and related teaching materials (good films are often booked a year ahead)
- Explore possibilities for field trips, guest speakers and clinicians
- Book concert facilities
- Clear concert dates with the school administration
- Prepare annual budget. Update the inventory (see appendices, pp. 123 and 124).

A MONTH AHEAD:

- Prepare a unit plan
- Know the number of classes you will have each month, taking into account interruptions such as holidays, assemblies, meetings, etc.
- Complete arrangements for study tours, guest speakers and clinicians
- Plan and order materials needed for bulletin boards
- Schedule audio-visual equipment services
- Keep parents well informed of ongoing activities (see appendices, p. 122).

A WEEK AHEAD:

- Prepare weekly lesson plans
- Ensure that each piece will receive the required amount of rehearsal time
- Plan sight singing and aural skills exercises that will relate to the literature to be rehearsed
- Confirm arrangement for field trips, guest speakers, and equipment services
- Complete bulletin board plans
- Prepare teaching materials

A DAY OR TWO AHEAD:

- Prepare daily lesson plans (see appendices, pp. 114 to 116, for sample lesson plan)
- Plan warm-ups and aural skills activities that are related to the literature to be rehearsed
- Decide what portions of what pieces will be rehearsed and in what order
- Put up bulletin board displays
- Assemble required teaching materials

TWO OR THREE WEEKS BEFORE A CONCERT:

Do a complete run-through of the concert. This allows the teacher and students to form a concept of the sequence of the concert. It also gives the teacher an indication of how best to use the remaining rehearsal time.

DRESS REHEARSAL:

Sing through as much as possible non-stop. Attempt to instil confidence in your singers. Work out any remaining logistical problems.

CLASSROOM MANAGEMENT

The majority of activities in a music classroom take place in group settings. The concepts of sharing, cooperating, and participatory decision making are integral to successful classroom operation. Discipline is essential to music and to the educational process. The classes in which discipline is not a problem are invariably taught by teachers who are well-organized, enthusiastic about music, and eager to have students learn.

The teacher who is successful in motivating students to learn and who does not have to be overly concerned about "discipline" has these attributes:

- a love of music
- a love of young people
- a strong belief and drive in what is being taught (learned)
- regard and respect for students ("I care about you.")
- a sensitivity to students' interests and response to learning
- honesty
- fairness
- courage to be an adult friend

As self-discipline is fostered, the learner uses these opportunities to become involved in making music. Less time is then devoted to behaviour problems that disrupt the class. In addition to self-discipline, other goals the teacher hopes to foster in the student are respect for others, personal responsibility for behaviour, and dedication to and love of music.

A positive mental attitude on the part of the teacher can bring desired results. Assume that the students want to learn and that they want to participate. Have high expectations of what students can do. This motivates students to do their best and to improve their musicianship. During class or rehearsal, let students know you expect them to be responsive, caring, and working musicians.

Prepare and organize your lessons. In some classes it may be necessary to plan options for students. If everyone in class is expected to solve a problem in the same way, some students are going to be discouraged and others bored. Make alternative responses available.

Structure and plan your music lessons so that the students are challenged to their capacity, and perhaps beyond. Though you may have short bits of relaxation as needed, continually challenge student achievement.

Be consistent from day to day. This conveys to students what you expect of them and what they can expect of you. Poor discipline is invited by forbidding certain behaviour one day and allowing it the next.

Be sensitive to the personal feelings of the students. In the morning, they may feel fresh and enthusiastic, but later in the day, tired and restless. Little learning takes place when students are forced to stick with an activity beyond their interest or endurance. This is also true of the activities of a week or a season when the type of activity must be varied to keep sustained interest.

Discussion should be brief and clear. Sometimes the word "no" is all that is needed. You do not always need to give a lengthy explanation to justify why you do something or do not allow something. Making music is far more important than talking about it.

Adapted by permission of: *Music Education Guide* by Dr. Delmer W. Aebischer
Oregon Department of Education
Salem, Oregon, 1975.

FACILITIES

At the outset, program costs may be high until capital equipment is acquired to satisfy basic minimums. Purchases and designs of equipment, music, method books, and facilities should be made, as far as possible, with future enrolment figures as well as present needs of the program in mind.

BUILDING REQUIREMENTS

The music building or wing is unique in requirements of space and design. The overall floor space is not the single most important requirement. Consideration should be given to acoustics, climate control, illumination and ancillary rooms for storage and administrative and operational purposes.

Some requirements to be considered are:

a) The main rehearsal area should be spacious enough to accommodate the largest group that will use the room.
b) Rehearsal areas should be located or constructed so that they will be sound-isolated from other areas of the school.
c) Special attention to rate of reverberation and sound distribution should be provided when planning rooms. When planning new facilities or remodeling older facilities, it is suggested that architects consult with acoustical engineers.
d) A reliable system of climate control is desirable.
e) Adequate lighting should be provided in all rehearsal and work areas.
f) Equipment should be stored in areas that can be locked easily and securely.

Adapted from Ulrich, Homer and Committee. ***Music Building, Rooms, and Equipment.*** Washington, D.C.: Music Educators National Conference, 1966, MENC Publication Number is 321-09144.

TEXTUAL MATERIALS

a) Each student should have a personal copy of each of the following:

i. music folder with name, grade and section printed on it
ii. theory method book
iii. sight singing book
iv. choral repertoire being studied

EQUIPMENT

a) High fidelity tape recording, phonograph, and playback equipment of sufficient quality to meet the special needs of the music program:

i. The typical tape machine is designed for recording and reproduction of speech only, and will prove to be unsatisfactory when the higher degree of fidelity required for recording and reproduction of music is taken into consideration. Reproduction of musical sound should be the first criterion in selection of microphones, tape machines, and playback equipment. Consideration in selection of recording tape should be given only to the top lines of reputable manufacturers, since tape of poor quality may possess numerous characteristics likely to result in undesirable sound distortion, stretching, or loss of significant portions of the recorded material due to breakage.

ii. Although some commercially assembled record players are satisfactory, the assembly of individual components will usually result in the ability to tailor installations more exactly to meet the needs and purposes of the particular situation for which the equipment is purchased. Expert advice should be sought in such matters as amplifier wattage and capability, turntable, cartridge, and stylus choice, selection and enclosure of speaker systems, and compatibility of components.

b) Metronome.

c) A tuning device such as the StroboConn, Strobotuner, Electrotuner.

d) Adequate lined and unlined chalkboard and sufficient bulletin boards.

e) Piano, tuned to A-440.

FURNITURE

a) Chairs

Enough chairs should be provided for the largest group using the main rehearsal room, plus additional chairs for practice and ancillary rooms. Chairs should have straight or nearly straight seats and backs, and should be constructed so that they are difficult to tilt backward, in order to encourage good posture.

b) Music Stands

A minimum of one music stand should be available for every two players.

Stands of the heavier, permanent, adjustable type, constructed of durable metal will prove to be far more serviceable for use in the band room than the light, folding types usually purchased for use as auxiliaries, or for home practice, or performance situations where easy portability is necessary. An important factor to be considered in choosing music stands for any purpose is ease of adjustment.

c) Conductor's podium stand and stool.

d) Full-length mirror.

e) Choral risers.

CHAPTER FOUR

Teaching Techniques and Learning Activities

THE ADOLESCENT SINGER

The adolescent years are times when a great many developmental changes are taking place in the teenagers' voices. Unfortunately, what often happens is that their voices regress rather than progress during this time. Some of the reasons for this are:

ATTITUDE

- They are often shy about the sound they are producing — they rarely wish to be leaders.
- They may wish to try their hardest, but are sensitive to peer pressures.
- Their sense of responsibility and dedication may not be fully developed.

Teachers should work to build a group that students are proud to belong to.

RAPID PHYSICAL CHANGES

- These often cause breathiness and flatting.

For further information on the junior high male changing voice, see appendices, pp. 75 to 113, for article "The Development of a Contemporary, Eclectic Theory for the Training and Cultivation of the Junior High School Male Changing Voice" by Dr. John M. Cooksey, the American Choral Directors' Association.

CHOICE OF REPERTOIRE

Adolescents would, for the most part, sing nothing but "pop" tunes. Because they wish to sound like the artists who recorded the song, they develop unpleasant habits related to singing, such as scooping and gliding, vowel distortions, breathiness, and a nasal quality.

In most cases, even if students complain initially about your choice of repertoire, they will grow to appreciate it, if it offers a challenge (high standard) and if the reward of singing it well is there.

SENSE OF PRIDE

Many groups develop a sense of pride, and in doing so they feel the need to oversing. Enthusiasm for singing is in no way synonymous with forcing the voice. One can sing with energy and vitality and still treat the instrument with care. Energy comes from the whole body, not from the throat where a forced tone will be produced.

In working with the adolescent singer, the teacher is encouraged to be:

- **PATIENT**
  A good choir does not develop overnight. It takes time to develop the rapport and the tone that you desire.

- **CONSISTENT**
  Consistency in expectations, discipline and classroom management is very important.

- **DISCERNING**
  Never let errors go by repeatedly. It is pointless to sing the same song over and over, never making any corrections, or correcting an error one time and letting it go by the next time.

- **ENTHUSIASTIC**
  Be enthusiastic about the repertoire chosen and about the joy derived from singing beautiful music.

- **ENCOURAGING**
  Try to build from the positive happenings in class. Take time to praise when there is an improvement.

SINGING VOWELS

The tone produced is a result of the shaping of each vowel. Improving tone quality is synonymous with improving the vowels.

The throat must be open. How does an open throat feel?

Try yawning with the mouth closed.

Take a surprise breath.

The area at the back of the tongue, with the soft palate raised and the larynx down, is the resonating area, which must be open and free from tension. With the jaw dropped freely and the soft palate raised, the mouth will open ↕ and not ↔ . (Remember, singing is a north-south art, not east-west.) This prevents the flow of air through the nose, and facilitates the easy flow of air through the mouth.

- Vowel tones can be **bright or dark**.
- ○ produces a **darker** vowel tone.
- ⬭ produces a **brighter** vowel tone.
- Some vowels are naturally brighter, and some are naturally darker.

The following chart by Dr. David Stocker shows vowel sounds moving from darkest to brightest.

Darkest **Brightest**

[u]	[ʊ]	[o]	[a]	[a]	[ɑ]	[ʌ]	[ɝ]	[ɛ]	[æ]	[e]	[I]	[i]
oo	oo	oh	aw	o	ah	u	er	e	a	a	i	ee
moon	hood	hope	hawk	hot	hard	but	her	set	hat	hate	hit	beat

Vowel Modification means finding the vowel shape that is best suited to the tone you want to produce. There are basically two vowel shapes with some modifications.

a)  Oval shape as in "ah"

b)  Round shape as in "oh"

Any vowel that is shaped wider than these shapes would produce a very bright vowel tone.

The following chart shows what shape each vowel sound should have:

Oval			Round		
[a]	ah	– water	[u]	oo	– soon
[a]	aw	– lawn	[o]	oh	– hope
[Λ]	u	– under			
[ɜ]	eu	– her			
[æ]	a	– flat			
[ϵ]	e	– better			
[I]	i	– lit			
[ə]		– the (neutral sound)			
[ii]	ee	– meet			

DIPHTHONGS

The diphthongs are combinations of two vowel sounds together. Never try to blend these two distinct vowel sounds into one combination vowel. We must hear them as two pure vowel tones. Usually the first vowel is held through most of the word, and the second vowel is added just before moving to the consonant.

1. Round

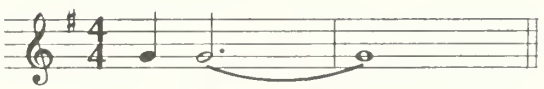
[ra ——————————und]

DIPHTHONGS

OW as in **NOW**	:	ah ——————oh [ao]
OU as in **ROUND**	:	ah ——————oo [au]
A as in **HOLIDAY**	:	eh ——————ee [ei]
I as in **I** or **TRY**	:	ah ——————ih [aɪ]
OH as in **SLOW**	:	oh ——————oo [u]
UNE or **EW** as in **TUNE** or **NEW**	:	ih ——————oo [ɪu]
OY or **OICE** as in **TOY** or **REJOICE**	:	oh ——————ih [ɪ]
URE as in **NATURE**	:	oo ——————eu [a]
EAR as in **FEAR**	:	eh ——————eu [ə]
AIR as in **FAIR**	:	eh ——————eu [ɛə]

Sometimes the first vowel is held for a short while and the second vowel for most of the diphthong.

2. New



[NI — u ——————————]

TRIPHTHONGS

Thriphthongs consist of three distinct vowel sounds.

Examples:

OUR as in **FLOUR**	:ah oo eu	[auə]
IRE as in **FIRE**	:ah I eu	[aiə]

INTONATION

Intonation problems are caused by poor singing habits or situations. These are major problems in a group, as out of tune singing causes discomfort for the audience. Unfortunately, students who sing in choirs that consistently sing out of tune will eventually be unable to discriminate between sounds that are in-tune, and sounds that are not in-tune.

Reasons for intonation problems:

1. **Lack of breath support** can cause flatting or sharping. Breathing deeply with the rib cage extended and using abdominal support of the air flow should solve this problem.

2. **Singing from the throat** will cause flatting or sharping. Throat pushing increases volume but distorts the vowel sounds and causes the singer to lose control of the pitch. Keeping an open throat and a relaxed, free jaw will remedy this.

3. **Poor posture** can hinder the support system and cause flatting. Standing tall, with the shoulders back and relaxed and the feet slightly apart, is advisable.

4. **Singing descending scale passages** can cause flatting; fa to mi is an especially tricky interval. The singers should feel the sensation of singing upward as they sing descending passages.

5. **Intervalic jumps** can cause intonation problems. It is recommended that students keep an open throat and not let the tone slip back into the throat, losing its focus. A slight accent on the first note, with a lifting of the tone on the second note, should help decrease problems with intervalic jumps.

6. **Singing so loudly that others singing in the group cannot be heard** will often cause intonation problems and a lack of blend. The students should listen louder than they sing. **"Listen to the person who is standing next to the person who is standing beside you."**

7. **Shaping vowels improperly** can cause intonation problems — or what sounds like an intonation problem — because the tone does not blend with the tone of other choir members' voices.

8. **In some cases, there is a lack of ability to hear sounds correctly.** Students with this problem must learn to listen to those around them and softly try to match pitches with singers who have stronger voices.

BLEND

Blend is the uniformity of vowel tone within your group. Blend is achieved when each member of the group shapes each vowel in exactly the same manner while singing at the same dynamic levels. Without blend, you do not have a choir; only many soloists singing together.

ARTICULATION

The beauty of the text can only be appreciated through expressively articulated singing.

1. The singer should strive to use **onomatopoeia** to bring the words to life.
2. Consonant sounds should be **crisp** and uniform.
3. The accent must fall on the correct syllable.
4. Beware of over-accented final syllables of phrases, as this can destroy the phrase line.
5. Consonant sounds such as **m**, **n**, and **ng** add richness to the tone by aiding in tonal focus. Use these consonant sounds; e.g., **Amen** Ah—**mennnnn.**
6. Guard against singing harsh **r's.** Form this consonant with your tongue rather than your lips.

TONAL FOCUS

Well produced tone should be rich, round, and ringing. These qualities are present in a tone that is being focused properly.

Steps to follow in focusing the tone:

1. Lift the roof of the mouth.

2. Drop the jaw slightly.

3. Raise the soft palate.

4. The larynx should be down.

5. The throat should be open.

6. Arch the tone out through the **"invisible hole"** in the roof of the mouth. Use **ng** to work on tonal focus.

7. Beware of words that end in **w**; e.g., **now Nah-oo**.

8. Differentiate between d and **t**. The unvoiced consonant is formed on the tip of the tongue. **D** is formed further back on the tongue and is voiced.

PHRASING

1. A phrase is a musical sentence. The text will generally dictate the phrase length. Usually, the text is divided into four-bar phrases. The adolescent singer should be able to manage a four-bar phrase on one breath without a great deal of difficulty. If the singers are to perform a phrase that is beyond their breathing capabilities, then they must stagger their breathing. A phrase should have some shape dynamically. Each phrase should have a note (word) toward which you are moving. Legato phrases must stretch the vowel sounds from one consonant to the next so that the line moves 
not | | | | | | as this produces syllabic singing.

2. **Staggered breathing** is breathing in the middle of a word while continuing to move the lips as if still singing. Do not stagger breath on a held note.

Note: If music is to reflect your interpretation, add some personal musical touches in tempo changes, dynamics and style.

BREATH CONTROL AND POSTURE

1. **Good posture greatly aids breath support.** Stand tall with the shoulders down and back, arms relaxed at the side. Work toward muscular development of the abdomen. Weight should be evenly distributed between both feet. Never stand with the feet far apart and hands behind the back, as this decreases capacity to take in air. For rehearsal purposes, good sitting posture can produce similar results in tone production.

2. **Breathing properly** can be a problem for all singers, as there is sometimes difficulty in understanding just where the air should go.

   a) Always breathe with an open throat.
   b) Keep the shoulders down and allow the rib cage to expand.
   c) Use the abdominal muscles to support the breath and keep the rib cage expanded while exhaling.
   d) **Breathing Exercises**
      - Hold your hands in the air and breathe in. This shows how your body should be filling with air.
      - Breathe in over a period of 10 to 15 seconds, and then let the air out over the same period. At the end of this time, using abdominal muscles, say **k, k, k,** and then hiss the remaining air out.
      - Panting is an excellent exercise to develop abdominal muscle control.
   e) Do not let too much air out too quickly, or you will be left without air in the middle of a phrase.

BALANCE

Balance does not mean that all parts are equal in volume. It does mean that the melody line must be slightly predominant. Descant parts should not overpower the melody.

CHAPTER FIVE

Evaluation

EVALUATION

The purpose of evaluation is to make the learning process more meaningful. Evaluation can be both an informal and a formal occurrence in the classroom, but it is most effective when it is well-planned and fulfils a definite purpose. Continuity in the teaching-learning process is maintained when there is a close relationship between evaluation and the objectives of the curriculum.

The development of an objectives-based, sequential music program facilitates evaluation of musical learning. Success in the teaching-learning process occurs in programs in which objectives are so clearly expressed that they can be evaluated systematically. Evaluation must focus on the assessment of the students' progress as it relates to the objectives of the curriculum.

Proper evaluation of the students' progress can take place only when the teacher uses and fosters the development of all three areas of learning: **cognitive**, **psychomotor**, and **affective**. The three areas of learning should be treated individually for diagnostic purposes to ensure comprehensive evaluation. The evaluation process requires that the teacher identify **the intent of the evaluation in relation to the objectives as set out in the course**; identify **the vehicle through which the evaluation will be given**; identify **the content of the evaluation**; identify the **types of grading procedure to be employed**; and, finally, identify **the implications of the results as they relate to the teaching-learning process**.

In the **cognitive domain**, the teacher can assess: **singing**, **reading**, **writing**, **listening**, **creating**, and **playing**.

In the **affective domain**, the teacher can use the following categories as guides in the teaching-learning process: **process**, **belief**, **response**, **attitude**, **interest**, **preference**, **empathy** and **value**.

Evaluation is essential since it provides feedback for both the student and the teacher. The teacher must view feedback as evaluating teacher effectiveness, appropriateness of testing methods and teaching materials, suitability of objectives, and organization of learning experiences.

Evaluation should be an ongoing process rather than an isolated occurrence designed to grade students for system reporting periods. Evaluation is most effective when there is variety and balance between the various tests and evaluative instruments, and when the summative mark is meaningful for every music student. In an effective evaluation program, one can expect to find well-maintained cumulative records that provide an accurate account of the students' progress in various areas. The following items should be considered significant in arriving at a summative mark:

1. Progress in ear training, sight reading, performance, and cognitive understanding in a series of practical and written tests.
2. Contributions made by the students in class, both as members of the ensemble and as individuals.
3. Initiative shown in the students' individual practise outside of school time.
4. Growth in attitude, leadership, and value judgment.

In constructing evaluation instruments, the following must be considered:

1. that tests be planned in advance;
2. that tests measure specifics taught during instruction time;
3. that tests contribute to the teaching-learning process;
4. that tests reflect the objectives set forth in the curriculum;
5. that tests measure that which they are designed to measure;
6. that tests are suitable for the kinds of learning that the teacher is seeking to evaluate;
7. that tests reflect good organization and ease of administration.

The two major categories of evaluative instruments are teacher-made and standardized tests. Teacher-made tests (objective or subjective; oral or written) are important in measuring the students' assessment relative to objectives set for the course. Standardized tests are given to discover differences in students' accumulated musical ability and talent.

SUGGESTED METHODS OF EVALUATION

1. **ANECDOTAL RECORDS:** Teacher-recorded charts and checklists of student achievements; brief notes about student efforts, attitudes, interests, contributions, and application.

2. **TESTS:** Written, performance, and listening tests.

3. **PORTFOLIOS:** Compositions, arrangements, concerts attended and evaluated.

4. **WRITTEN ASSIGNMENTS** and **ORAL PRESENTATIONS**.

5. **STUDENT SELF-EVALUATION:** Practise/performance.

6. **PEER-EVALUATION:** Develop perceptions and value judgments.

The attainment of the skills outlined in the curriculum can be evaluated through written and practical tests. Several samples follow in the appendices, pp. 117 to 121.

CHAPTER SIX

Professional Resources

THE CHORAL LENDING LIBRARY

Albertans are fortunate to be able to make use of the **Choral Lending Library** operated by the Alberta Choral Federation.

WHAT IS THE CHORAL LIBRARY?

The library contains over 3,000 titles. Categories include:

a) **Seasonal Literature:** Christmas, Lent, and Easter; all voicings
b) **Sacred Music:** unison through mixed voicings
c) **Secular Music:** unison through mixed voicings
d) **Mass:** sections and complete works

WHO CAN USE THE LIBRARY?

The library is open for use by all Albertans. Multiple copies of selections will be loaned to Albertans according to the following regulations:

a) There will be a handling charge of $1.00 per title borrowed (plus postage if music is mailed to the borrower).
b) A maximum of five adult or three children's selections (or a combination of these to a maximum of five selections) may be borrowed at one time.
c) The maximum length of loan shall be three months.
d) Borrowers may request up to ten single copies 'on approval', the only charge being the cost of postage. The maximum length of 'on approval' loans shall be one month.
e) Borrowers are responsible for paying for the replacement of lost or badly damaged copies.

WHERE IS THE LIBRARY?

The library is located in the offices of the Alberta Choral Federation. The address is:

The Alberta Choral Federation
10136 - 100 Street
Edmonton, Alberta
T5J 0P1
Telephone: 428-1096

Its hours of operation are:

Monday to Friday: 1:00 p.m. to 5:00 p.m.
Saturday 10:00 a.m. to 1:00 p.m.

PROFESSIONAL ORGANIZATIONS

Choral music teachers can become members of a number of professional organizations that provide new ideas, interesting publications, and valuable contact with other teachers.

ALBERTA CHORAL FEDERATION

This organization provides many services to singers, choral directors, and teachers. Activities include a fall conference and a February workshop. Services include a **Workshops by Request** program and choral library services. For further information, contact:

Executive Director
Alberta Choral Federation
Suite 608, 10136 - 100 Street
Edmonton, Alberta
T5J 0P1
Telephone: 428-1096

Members of the Alberta Choral Federation are also eligible for membership in the Association of Canadian Choral Conductors, a national body that acts as a forum for the exchange of ideas among Canadian choral directors.

The Association of Canadian Choral Conductors' members are also eligible for a reduced membership rate in the American Choral Directors' Association. Members of this organization receive an excellent monthly journal, The Choral Journal.

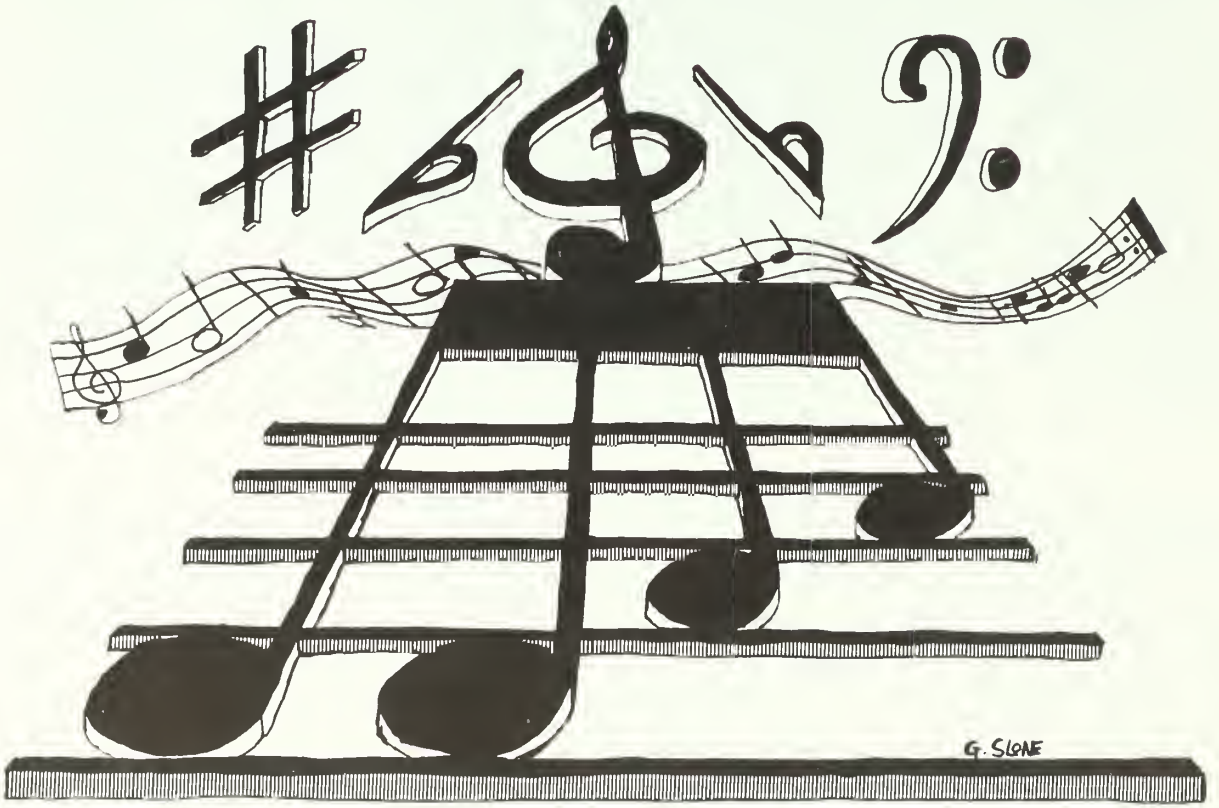
THE FINE ARTS COUNCIL OF THE ALBERTA TEACHERS' ASSOCIATION

The ATA Fine Arts Council provides a newsletter, a journal, and an annual conference. The council's mandate encompasses art, music, drama, and dance. For further information, contact:

The Alberta Teachers' Association
Barnett House, 11010 - 142 Street
Edmonton, Alberta
T5N 2R1
Telephone: 453-2411

APPENDICES

THE DEVELOPMENT OF A CONTEMPORARY, ECLECTIC THEORY FOR THE TRAINING AND CULTIVATION OF THE JUNIOR HIGH SCHOOL MALE CHANGING VOICE



"The Development of a Contemporary, Eclectic Theory for the Training and Cultivation of the Junior High School Male Changing Voice" by Dr. John M. Cooksey is reprinted from ***The Choral Journal*** (Vol. 18, nos. 2-5) with permission from the American Choral Directors' Association.

The illustration on this page is reprinted courtesy of Gordon Slone. The artist was a Grade 12 student at Jasper Place Composite High School, Edmonton, Alberta. The illustration first appeared on the cover of Cooksey's article reprinted by the Alberta Choral Directors' Association, 1979.

The Development of a Contemporary, Eclectic Theory For The Training And Cultivation of The Junior High School Male Changing Voice

PART I: EXISTING THEORIES

DR. JOHN M. COOKSEY

Dr. Cooksey is Assistant Professor of Choral Music Education at California State University, Fullerton, where he conducts the Men's and Women's Choirs. He teaches a Choral Practicum course at Peralta Junior High School, Orange, supervises student teachers, and is in demand both as a clinician and adjudicator in the Southern California region. Before coming to CSUF, Dr. Cooksey taught choral music for seven years in the secondary schools of Tampa, Florida. He was conductor of the Illinois Summer Youth Music Junior High School Choir for two summers, and has had extensive teaching experience with junior high school boys' choirs. Presently, Dr. Cooksey serves as Chairman of the National ACDA Subcommittee on Children's and Boys' Choirs, and is a member of the ACDA Western Region President's Board of Officers.

The phenomenon of voice change in adolescence is not a product of contemporary society and culture. In Greek and Roman times the nobility sought ways to preserve the boy-like qualities of the singing voice. They were fascinated with its powerful and unusual sound. Weiss reports that methods of castration were applied as early as 2000 B.C. . . . and reached their apex in Italy during the seventeenth and eighteenth centuries. (1) Until the development of the secular solo song and the opera, the main concern seemed to be . . . how to keep the boy's voice from changing. Later on, "when male voices become important for the opera and concert stage as well as for the male chorus, interest centered on the successful transformation of the boy's voice into that of an adult." (2) In the latter part of the nineteenth century a major controversy(3) arose between Manuel Garcia, an Italian singing teacher, and Sir Morell MacKenzie, a well-known English laryngologist and voice physiologist, on whether or not the pubescent changing voice should be exercised. Garcia proposed that the voice should be rested during its mutational period. MacKenzie, differing from this point of view, stated that since the change was gradual, the voice *should* be exercised and developed . . . provided proper training could be administered. The controversy between the two men and their rival camps continued well into the early part of the twentieth century. Evidence of this well documented, particularly by Weiss(4) and Ducan MacKenzie, (5) MacKenzie reports that Dr. C. H. Moody, Organist of Ripon Cathedral, England, and proponent of the traditional "voice break" theory (derived from Garcia's studies . . . the term, "break" referring to the point at which time the voice changes from soprano to baritone, etc.) favored a three year rest period, and other leading choirmasters of the time apparently agreed with him. This view was reinforced by the prevailing practices in other European countries . . . members of such famous groups as the Vienna Boy's choir were dropped as their voices began to change. No encouragement was given for further vocal training during puberty. It was not until the 1930's(6) that a change in attitude, particularly in England, began to take place, Dr. April Winn, H. M. Staff Inspector of Music in the Public Schools of England, promoted a new view of the question, encouraging publishers to write music to fit the narrow limits of the male changing voice. Not long after this, Duncan McKenzie,(7) an authority on youth choirs in England, introduced his "alto-tenor plan . . . a new theory for developing and training the male adolescent voice during mutation.

In America, the problem of the male changing voice came into focus when the junior high school came into existence during the early 1900's. The question was not whether the young adolescent male should sing during mutation, but rather how the voice should be classified and trained during that time. W. L. Tomlins (1914), (8) and Hollis Dan (1918), (9) introduced songbooks containing limited-range parts for the changing voice. Later, Osborne McConathy,(10) likewise edited a Silver Burdett songbook series containing some selections for this voice. In the 1930's and 1940's such well-known music educators as Karl Gehrkens,(11) James Mursell and Mabelle Glenn,(12) Mae Nightingale, (13) and Genevieve Rorke(14) recognized some of the problems of the male voice mutation . . . its "break," limited range, etc . . . but no concerted effort was made to study the problem from a scientific viewpoint.

In the 1950's and 1960's three distinctive theories about the junior high school male changing voice emerged. The proponents of these ideas seemed to be at opposite poles from one another . . . and the predictable result among members of the choral profession was confusion and frustration. Irvin Cooper, Professor of Music Education at Florida State University, Tallahassee, Florida, proposed the cambiata plan. Dr. Frederick Swanson, director of the Moline, Illinois Boy's Choir, conducted a major research project . . . discovering the "adolescent bass." Duncan McKenzie, former H. M. Staff Inspector of Music, Ministry of Education, England, continued to espouse a "middle-of-the-road" alto-tenor approach. Each proponent was persuasive and articulate, and each produced convincing empirical evidence supporting his own views! Consequently, diverse ideas were discussed and debated, and no restrictions in certain areas were forthcoming. Some of the more controversial points for debate involved the following questions:

1. The Voice change: Is it erratic, fast, unpredictable . . . or slow and gradual?
2. Does the rate of voice change determine the mature adult voice classification? That is, if the voice changes gradually and slowly, will a tenor voice emerge?
3. How does voice training during this period determine the outcome of voice classification? If the high registers of the newly changed baritone voices are exercised, will this eventually produce more tenors? Likewise, if the lower registers are developed, will there be more basses?
4. When the oice first changes, can notes in the lower part of the bass clef be sung with resonance and power . . . can they be sung at all?
5. Should 30% - 40% of all newly changed male voices be considered basses . . . able to sing in the lower part of the bass clef?
6. Can baritones comfortably sing to f(first space, treble clef, above middle c)?
7. Does the singing voice "break" during its change in adolescence?

8. Is the quality of the changing voice ugly, thin raucous, and coarse?
9. Is there a "blank spot" in the range (approximately around middle c) where notes can't be produced? Does this happen in the first stage of change?
10. After the second change (to baritone), does the voice move up in pitch range?
11. Does the male voice lack flexibility and agility for rapid pitch articulation during its mutation?
12. Are the part divisions in TTBB, SATB music appropriate for junior high school adolescent males?
13. Is there a pattern to the rate, scope, and sequence of voice changes . . . or does mutation apply itself uniquely to each individual?
14. Should teachers only audition junior high school boys in groups so that correct voice classifications can be made?

In the 1970's there has been a renewed interest in the issues concerning the adolescent male changing voice. Many members of the profession have recognized the fact that serious re-assessments concerning the classification, vocal training and development of the adolescent male singer need to be made. I strongly feel that we, as a profession, must arrive at consensus regarding many of the unresolved questions mentioned above. There must be a full-scale attack on these problems . . . lots of open discussions, local, regional, national symposiums, serious research projects, and continuing dialogue based upon scientific, as well as, and empirical evidence. It is unfortunate that in many geographic regions of this country junior high school choral enrollments and male interest in choral singing is declining . . . and that some of those young men who are at present participating in vocal music programs are dropping out, either from boredom, frustration, or lack of interest. This kind of situation need not exist! As a profession, we need to study, assimilate, evaluate, and build upon the ideas of the leading spokesmen in the field. We must also look to other sciences such as laryngology, acoustics, speech pathology, and phonetics for ideas. We must dig for ideas in extant research studies, dispassionately discuss the proposals of junior high choral experts, and *freely* share our own opinions. We should not be afraid to hammer out *practical* ways for solving some of the issues raised by the experts. In short, we must develop a contemporary eclectic practical approach for the training and cultivation of the junior high school male changing voice.

The purpose of this article will be to present and compare some of the important tenets held by Irvin Cooper, Frederick Swanson, and Duncan McKenzie. In succeeding articles I shall suggest some new ideas based upon my own teaching experience and more recent scientific research. In the course of the upcoming discussions, a framework for an eclectic theory dealing with the training and cultivation of the junior high school male changing voice will be laid. It is hoped that the profession will react *positively* to these comments, and that everyone will feel free to explore in depth some of the issues raised. Actually, we are all of the same purpose! We want to make it possible for junior high male singers to be challenged, motivated, and "turned on" to choral music. The time to "get our act together" is now!

Finally, let it be said that at the present time the complexities of some aspects of mutational voice changes outweigh and defy scientific and empirical solutions, in this regard, it is foolish to attach ourselves to one school of thought. It will be far more beneficial to all of us to first see the differences *and* points of agreement between the leading theorists . . . then arrive at commonly acceptable grounds from which further research, dialogue, and evaluation can produce additional insights. The differences in the following theories should become self-evident after the first expert's point of view is presented. An effort will be made at the end of these discussions to point out especially the areas of agreement between the theorists.

A. The Irvin Cooper Theory

In the 1950's and early 1960's Dr. Irvin Cooper (now deceased), as Professor of Music Education at Florida State University, Tallahassee, Florida, made many distinguishing and long lasting contributions to junior high school choral music, not the least of which was a thorough-going, practical methodology for dealing with the junior high school boy's changing voice. For many years, Dr. Cooper directed a parochial junior high school choir (in addition to his assignments at FSU) in Tallahassee, and was in great demand as a lecturer and clinician throughout the United States, Canada, and Europe. His articles and music arrangements are well known in this country, as is his book, *Teaching Junior High School Music,*(15) which has served as a useful guide to junior high teachers throughout the past decade. Having studied under Dr. Cooper during my undergraduate days, I found him to be a rare, warm, and dynamic teacher, both of college students and junior high school young people. It is not surprising, therefore, to see his followers still maintaining an active stance in promoting his methodology around the country.

Dr. Cooper was primarily concerned with describing and dealing with the mutational aspects of voice change and noting its corresponding effects on the quality, range, tessitura, and agility of the young male adolescent voice during puberty. He felt that the majority of junior high school teachers needed to understand the problem more clearly, and the profession as a whole should develop new criteria for selecting choral music appropriate for this young singer. The following discussion summarizes his viewpoints in these areas.

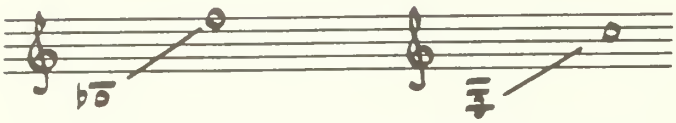
1. *Voice Mutation, Quality, Range, Tessitura, and Union Singing.*

As voice mutation first begins, a) the quality of the boy's lower tones becomes richer and thicker; b) the lower range extends downward considerably, and the singer becomes unable to sing high tones comfortably. While girls' voices during this period are inclined to be thin and sometimes shrill, the male voice in its first change has a "rich and 'trifle woolly' sound, provided it is controlled in volume and not permitted to become strident from sheer vocal exuberance of the boys."(16) Coining the term, "cambiata," to refer to this type of voice, Cooper insists that its vocal range and quality should not be confused with other "parallel" classifications, such as alto-tenor or boy alto.

In Grade 7 the majority of boys enter the process of the first change. Cooper states that the process can come earlier . . . or later. He adds that voice mutation begins much earlier today than it did twenty-five years ago; hence, most music materials written at that time are outdated and unuseable. As the cambiata voice develops its range diminishes and becomes suspended between soprano and baritone. Figure 1 shows Cooper's range differentiation between female/male sopranos and cambiata voices. The reader should note that Cooper does not differentiate between female altos and sopranos during grades 7-9 . . . as voice classifications. He assigns all girls to the B-flat to *fl* range shown.

Figure 1: Cooper Ranges for the Unchanged and Changing Voice(17)

SOPRANO CAMBIATA (CAMBIATE, pl.)



(1) Girls' and boys' Un-Changed Voices

(2) Boys' voices in the First Change

Cooper states that these ranges apply in 90% of the cases studied(18) and that the cambiata develops a very distinctive, typically recognizable voice quality. This first stage of mutation may last anywhere from a few months to two years. Accordingly, a large percentage of boys in the 8th grade may also be expected to be included in the cambiata classification.

Cooper finds that the voice in its first stage of mutation "presents an aural illusion of sounding an octave lower than is actually the case... and sometimes correct classification can only be achieved by comparing this voice with a known bass or baritone singing at the octave."(19) Cooper comments further about this phenomenon:

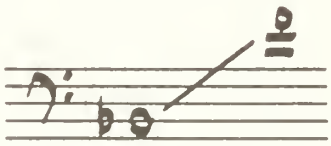
> "The number of cambiata voices classified in error as light basses is legion. As a result of this, some ridiculous malpractices are perpetuated, because boys so classified actually sing a bass part an octave higher than written, with an upper limit of printed middle c. In such cases the group sings SATB material with boys' voices in the second change (baritones) singing the tenor part, while voices in the first change sing the bass part which in reality sounds higher than the tenor. The sound is most disconcerting. Youngsters sense it does not sound right and appear self-conscious and uncomfortable."(20)

If the cambiata voice is classified properly, and is allowed to develop within its own particular range, it will become the pitch-anchor for the rest of the choir. Cambiate learn their notes more quickly and seldom vary in pitch thereafter. In this regard Cooper warns that choral directors must teach new parts carefully. These young boys can learn the wrong notes just as easily as the right ones!

After a summer period of activity (typically following the eighth grade year), the cambiata voice frequently changes to baritone. Cooper says that since the vocal cords are subjected quite often to strenuous activity during this time, the change is accelerated... but even so, it takes several weeks to a month or so for it to "settle." Figure 2 shows the "typical" baritone range:

Figure 2: Cooper's Baritone Range (21)

BARITONE



(3) Boys in the Second Change

Cooper describes the baritone quality as pleasing but sustaining "little body or volume except in the upper register." (22) It has little resemblance to the adult singer and lacks agility... especially for articulating fast moving pitches separated by wide intervallic leaps. Furthermore, one should not consider this voice to be a "bass" or "tenor." It is only past grade nine that maturing tenors and basses emerge.

In summary. the voice begins its mutation in the seventh grade and settles into the second change after the eighth grade year (typically). Basses are rare. Consequently, cambiate, number-wise in grades seven and eight, but baritones appear to balance the situation in the ninth grade.

For voice classification purposes, Cooper recommends a rather unique system of group testing. To avoid the "illusive octave" problem he thinks it is best to follow the method outlined below. Once the cambiata is identified, individual testing should be done at various times during the school year. Cooper's testing procedure:

1. Prepare the class by explaining what the process is all about.
2. Have the boys sing alone; they should be grouped together for testing purposes.
3. Listen for the baritones first. All boys sing "Suwanee River" in B-flat major. As boys sing, one by one, voices obviously singing in the lower octave will be silenced until none of these are left.
4. The boys remaining are either sopranos or cambiate.
5. Have the group remaining sing the song once again, pitched this time in the key of G-flat major. Silence the sopranos one by one. Cambiate will not be able to sing in this range.
6. Now, only the cambiata voices remain.
7. This entire procedure should be done in five to ten minutes.

In comparing voice ranges and tessituras of all parts, Cooper calls unison singing a fruitless enterprise. To see why, the reader should examine Figure 3, which shows Cooper's tessituras (comfortable singing ranges) for all parts.

Figure 3: Cooper's Singing Tessituraas for Junior High School Voices.(23)

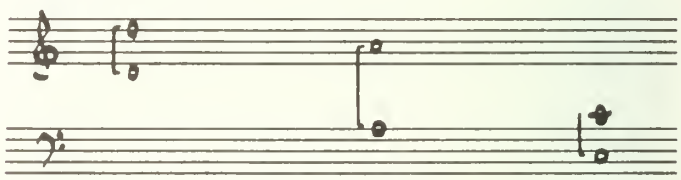
(1) Girls and Boy Sopranos

(2) Cambiate

(3) Baritones

Figure 4 shows the tessituras in a different way. One can see that there is minimal overlapping between all three parts.

Figure 4: Visual Representation between the Three Cooper Junior High Vocal Tessituras.



(1) Girls and Boy Sopranos

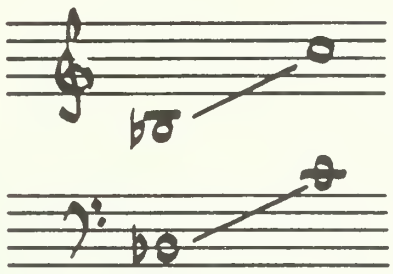
(2) Cambiate

(3) Baritones

While the baritone and soprano tessituras are somewhat compatible (with a one octave differentiation) for unison singing, the cambiata tessitura fits neither part. It lies at the lower extreme of the soprano tessitura, and the upper part of the baritone tessitura. Going a step further, if one examined the *ranges* of these voices where unison singing is possible, the composite unison compass of a ninth would emerge. (See Figure 5) Here again, the registers simply don't match, making unison singing a very difficult activity to sustain.

Figure 5: Cooper's Composite Unison Ranges for Junior High Mixed Choirs(24)

SOPRANO - CAMBIATA



BARITONE

2. *Selection of Proper Choral Literature for the Changing Voice and Baritone*

In selecting literature appropriate for mixed choirs which include the cambiata singer, range seems the most important criterion as far as Cooper is concerned. As previously mentioned, unison parts are usually not appropriate because of the limited cambiata range. In SATB music, the tenor parts are traditionally *too* low for the cambiata . . . the alto parts, too high. If the cambiata is forced out of his normal pitch range, the voice will strain and possibly "break." Cooper also points out that little published music is available which challenges the *upper* register of the baritone. Also, much SATB, SAB music contains ranges which are *too low* for the voice. Finally, four other criteria for selecting choral music suitable for Junior high choirs are mentioned by Cooper:

a. There should be interesting parts for all singers. Music for junior highs becomes dull if it only provides harmonic support for a melodic line . . . all parts, therefore, should be written in a quasi-contrapuntal style, with sequential-type patterns, either melodic or rhythmic dominating. This also prevents cambiate and baritones from "jumping" to the melody line, as is often the case with homophonic-style music.

b. Intervallic progressions should be examined carefully. The Cooper approach to writing singable music for the cambiata, et al., includes attention to difficult intervallic progressions. While melodic diatonic intervals of the 2nd, 3rd, 4th, 5th, or minor 6th are comfortable to articulate, leaps of augmented intervals and the diminished 4th are extremely difficult. Cooper observes that the diminished 5th is very effective if resolved immediately. Finally, "an octave is very strong and effective, and quite singable, but the notes preceding and succeeding the leap should lie within the confines of the leap."(25)

c. Articulation speed should be taken into account. Sopranos are flexible, but the speed of articulation for the cambiate slows down. Cooper recommends slower tempos to combat this problem. He also says that the baritones' articulation speed is even shorter than that of the cambiate.

d. The suitability of the text and the musical integrity of the music should be considered. Junior high young people will sing texts which are relevant and interesting to them. Trite songs about love will not do!

3. *Summary*

In summary, Dr. Cooper advocates a cambiate plan which takes into account the range, tessitura, and shifting quality of the adolescent boy's changing voice. His approach pinpoints vocal problems of the junior high male and allows for a distinctive compositional structure (apart from the "standard" SATB arrangements) in the choral music he sings.

B. *The Frederick Swanson Theory*

Since the late 1950's, Dr. Frederick J. Swanson, retired director of the Moline, Illinois Boy's Choir, has been a leading spokesman and authority on the junior high school adolescent male changing voice. His publications, which include the book, *Music Teaching in the Junior High and Middle School*,(26) are numerous, and today he remains quite active conducting clinics and workshops throughout the country. Dr. Swanson has enjoyed a long and distinguished career in the junior high school vocal music. Through his teaching experiences and research efforts, he has developed a comprehensive methodology concerning the adolescent voice, and these ideas have provided the backdrop for considerable discussion within the profession.

In reporting the results of his doctoral dissertation,(27) completed in 1959, Dr. Swanson found that the voice change in adolescents is directly related to the onset and development of the primary and secondary sexual characteristics during puberty. The most useful predictors of voice change were the secondary sexual characteristics, such as the growth of pubic hair. Using a Davenport Scale,(28) Swanson compared voice change to this factor as he worked throughout a full school year with a large group of junior high boys. High correlations were found between the two variables. Other outcomes of the study, related to voice mutation and methodology, will be discussed shortly. It should be noted that these results produced some controversy within the profession, but provided Dr. Swanson with the basic framework for the theory and methodology which he has advocated up until the present time.

1. *Voice Mutation, Classification . . . "The Adolescent Bass"*

Dr. Swanson is especially concerned about the profession's involvement with the problems of the male changing voice. He has sought over the years to encourage choral teachers to realize the true potential of these young singers. He feels that the junior high young men are capable of much more than is normally expected, and that they can produce exciting musical results if their voice limitations *and* possibilities are recognized. In testing voices, checking ranges, describing voice qualities, Dr. Swanson comes to the following conclusions:(29)

1. The rate of the voice change is very rapid, not gradual. The voice can change over the summer, or even within a few weeks. Swanson says, "Boys sometimes make the transition from treble to changed-bass very quickly and very radically, and the good teacher must change materials and techniques just as rapidly."(30)

2. Swanson strongly feels that the male voice does not lower gradually, as Cooper claims, but drops at least an octave at the onset of mutation. He says that the new bass clef, A1 (First space in bass clef) to G (fourth space, bass clef) or A. It is not even unusual for these "new Basses" to sing low E1's (below the bass staff) with comfort and ease. Swanson says that 30%-40% of eighth and ninth grade boys follow this pattern, and that music teachers sensitive to this mutation effect could, by careful use of the "vocal fry" method, (31) develop a number of contra-basses.

3. Swanson reports that many new basses also have their treble ranges intact, but in a significant number of cases there

are blank spots or areas around middle c where no notes can be produced. When the boys try to sing in this area, their voices squeak or possibly break, and extreme strain occurs. This condition, in some cases, can last as long as a full school year.

4. When the voice first changes, it can be course, unmanageable, and uncertain. The teacher must segregate the voice from the girls' voices and give it the attention and training it deserves. By use of falsetto technique, vocalizing from treble tones down through the break area, the two registers of the newly changed voice can be merged. This process takes a long time, however, and in the initial stages of this exercise, the voice, approaching the area of silence from above, may drop a complete octave. Eventually, the two voices will overlap, and for a time the young man can produce singing tones over a range of three octaves.

5. Dr. Swanson also comments about the terms, cambiata, alto-tenor, and tenor, used so often in junior high school voice classifications. Before the change into the bass clef, the boy alto voice (unchanged) is usually light and approximates the treble quality of females. Its range extends from G (just below middle c) to fl (Top line, treble clef). Since the voice does not change gradually, the cambiata term becomes a misnomer, for as a part, it "anticipates the emergence of the adult tenor or bass voice by 'moving the voice (boy alto) down' to its *lowest* possible treble register."(32) Swanson says that there can be a few tenor voices in junior high school, and that these voices can sing from D (3rd line, bass clef) to e (first line, treble clef) quite comfortably. Their "break" occurs at f (first space, treble clef), and they have no blank spots in the middle c area. The lowest tones of this voice thin out at D and E... overall, Swanson feels that the tenor combines falsetto and full voice to produce an unusual quality and color of sound.

2. *Selection of Music*

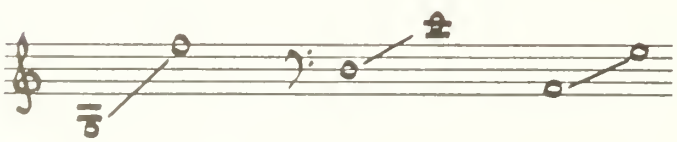
Dr. Swanson has suggested that because of the limited bass range of the newly changed voice, choral directors must develop their arranging skills so that realistic parts can be written for this voice. Like Cooper, he would like to see basses singing interesting lines. He recommends interval separations between the lower two parts of 3rds and 6ths. The range of the bass part should be limited to the A1-G compass when the voice first changes. After some training (usually a few weeks), it can be expanded... both in the lower and upper extreme registers.

In SATB music, the tenor part, Swanson says, will be troublesome because its range will be too low for the boy altos. In SACB (C-Cambiata) music, the cambiata part will be too high for the "true tenor" (unless he can sing falsetto), and too low for the boy-alto, who then must exercise only the lower part of his singing voice. In short, homogenous groupings of these voices (Boy-alto, true tenor, and "new bass") are recommended. Choral materials can then be developed to accommodate the individual needs of each voice classification.

3. *Summary*

Figure 6 shows the approximate ranges for the boy-alto, tenor, and newly changed bass voice.

Figure 6: *Swanson Ranges for Male Junior High Voices* (33)



(1) Boy Alto (2) Tenor (3) Bass

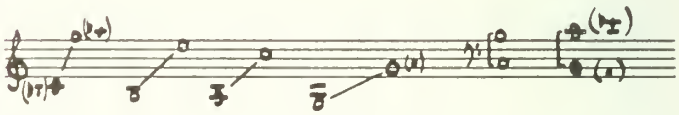
Dr. Swanson has proposed some rather unique ideas about the junior high school adolescent male changing voice. He feels that in mutation, the voice changes fast, develops first in the lower part of the bass clef, and concurrently maintains a treble voice and blank spot around middle c. Vocal materials and methodology should therefore be geared in the initial stages of change towards homogeneous groupings of students.

C. *The Duncan McKenzie Theory*

Duncan McKenzie, a respected musician and music educator, authored a major work, *Training the Boy's Changing Voice*,(34) to present his concept of the adolescent changing voice. This book represents one of the major efforts in choral music education to deal with the unique problems of junior high male singers. Known as the "alto-tenor" plan, McKenzie's theory emerges as he comments about how the voice changes. The term, alto-tenor, describes the boy's voice after it has lowered to the stage when the changed voice begins to develop. As a vocal part, the alto-tenor term designates a range of notes from G (4th space, bass clef) to g (2nd line, treble clef), an octave above. "The criterion for determining that the alto-tenor stage has been reached is the ability to sing low F, together with the development of a timbre peculiarly associated with the changing voice when it has reached this stage."(35) McKenzie believes that all male voices go through this stage of development... that their voices do not suddenly drop into the lower bass clef once the mutation process begins. The voice generally follows a gradual lowering into the bass clef, and there is a corresponding change in quality as this happens. McKenzie says that the speaking voice is the most reliable indicator of the change; as its pitch lowers, so does the range of the singing voice, the former slightly preceding that of the latter. As the muscles of the larynx develop during this time, some breaks or pitch uncertainties in the changing alto-tenor voice may persist; this condition disappears as the voice matures.

McKenzie recognizes that the boy voice quality remains as the change takes place. As the voice lowers, it passes from soprano to soprano II to alto. As the next step, it assumes a distinctive quality (as I mentioned earlier)... not a boy's or a man's! When the speaking voice reaches this stage, the singing voice is at the late alto stage. This signals the advent soon of the alto-tenor sound. As the changed voice develops (from the alto-tenor). the boy's voice disappears entirely, and lower tones are added to the range. After that, the voice may lose some of its bottom tones and add pitches in the upper range. In effect, it "moves up." Only after this stage can one be assured that the voice has truly settled. (The moving up process most often occurs in the high school years). At that point, the voice's range can only be extended by extensive training. Figure 7 shows how the ranges of the adolescent boy's voice develop.

Figure 7: McKenzie Range Chart for the Developing Male Voice (36)



Sop. I Boys | Sop. II Boys | Alto Boys | Alto-tenor | Junior High Baritone(a) (b)

Generally speaking, timbre should be the determining factor for voice classification (Bass or tenor) when the changed voice has developed... but range is a more important factor before this. Also, if the boy remains in the alto-tenor classification from a few months to a year, his voice may be

developing towards bass; if it stays there longer than a year, it may be moving to tenor. In other words, a rapid lowering indicates a change to bass, a slow lowering, a change to tenor. McKenize says that since the tenor voice develops so slowly, it is hard to tell exactly when the alto-tenor becomes a tenor. He warns teachers to treat this voice with care since it matures too late. In high school one might find the following types of tenor voices: 1) the alto-tenor whose voice has no qualities of the adult sound, but whose range has slipped down to C (Octave below middle c); 2) the tenor whose voice has some timbre in it and passes into falsetto easily around e or f in the treble clef (Just above middle c); 3) the tenor whose voice as it develops sings easily from C (second space bass clef) to high f or g (above middle c)... it has the possibilities of developing into high baritone as well.

McKenzie agrees with Cooper that the junior high school bass is rare. The majority of changed voices in junior high are high, medium, and low baritones. Only when the adolescent boy reaches high school will his voice begin to take on characteristics of the true adult bass or tenor. Regarding Cooper's cambiata plan, McKenzie states that it is suitable for the potential tenor (slowly changing voice), but poses problems for the new baritone since the upper limit of this voice is high (1st space, treble clef). Cooper's cambiata parts would therefore be written too high. McKenzie also states that Cooper's range for the baritone voice extends too high; he recommends the D to d tessitura... unless the newly changed voice can negotiate the upper pitch compass in falsetto.

A few additional points should be mentioned concerning McKenzie's theory:

a. He recommends downward vocalization as the voice goes through its alto-tenor stage to baritone. Where ranges overlap, the boy should try to bring his unchanged voice as low as possible before switching to full voice. A register change usually occurs somewhere around middle c.

b. McKenzie believes that the alto-tenor voice lacks enough strength and quality to balance other parts in SATB singing.

c. Quickly changing voices outnumber slowly changing voices; hence, there will always be a problem with the alto-tenor part. In choosing choral materials for the mixed choir, SATB arrangements would be possible to perform, but the standard tenor lines would be too low for the alto-tenor, unless that voice was in its final phase of mutation. TTBB music would be adaptable, for high alto-tenors could sing Tenor II, and low alto-tenors and baritones could sing Baritone I. (The reader should note at this point that McKenzie is dividing the alto-tenor mutation into two stages; he is unclear in pinpointing ranges for these stages.)

In summary, McKenzie advocates a "middle of the road" position regarding the junior high voice classification and mutation process. The alto-tenor voice can change quickly (By this he means one semester to one year) or slowly, but in any case it will follow the same sequential development process. While growth rates may differ, all voices need to sing in the areas where the most comfortable tones can be produced. The alto-tenor plan seems to allow much flexibility in this respect.

D. *Discussion*

It should be obvious to the reader that there are numerous differences between Cooper, Swanson, and McKenzie on vital issues. When one examines the theories closely, however, some points of agreement do emerge:

1. The voice change occurs at the onset of puberty, and is directly related to the development of primary and secondary sexual characteristics.
2. Most currently published literature is inadequate to fit the range and tessitura of the male changing voice.
3. Irregular growth rates in the vocal mechanism can make the voice unpredictable and difficult to control, particularly if it is forced into the wrong pitch range.
4. In groups of boys between the ages of 12 and 15, one might expect to find voices in many different stages of growth.
5. The rate in which voice changes occur vary with individuals.
6. Individual and group voice testing is necessary.
7. Teachers should help students to understand their voices during the change.
8. It is very important to establish good singing habits during this time.

The Cooper, Swanson, and McKenzie theories raise a number of unanswered questions regarding adolescent voice mutation. The issues, listed in the beginning of this article, need resolution. If we are to develop a contemporary, eclectic theory, we must establish a basic, cohesive framework of concepts and ideas. We must also look to other areas such as medicine, laryngology, acoustics, speech pathology, etc., for information. Scientific as well as empirical validation is required. Furthermore, we must examine the physiological and psychological variables, and isolate solvable problems. Do we know, for example, what causes the mutational process to begin, how long it lasts, what its actual rate of change is, and how it specifically affects vocal range, voice quality, register development, and vocal flexibility and agility? Can the beginning of voice mutation be predicted? How does mutation correlate with other physiological and psychological changes in the adolescent? Cooper, Swanson, and McKenzie have made some valuable contributions in these areas, but additional scientific and empirical data are needed. In my next articles, I shall report some of my own findings regarding adolescent voice mutation, then show how these results, along with the theorists' ideas, might form the basis for a contemporary, eclectic theory. Some practical suggestions about voice training and methodology within the rehearsal situation will be presented, and suggestions about selecting choral materials suitable for the changing voice will be made.

I sincerely hope that these articles will give the profession additional insights into the junior high school male changing voice phenomenon, and provide a stimulus for further research and discussion in this vital area.

FOOTNOTES

1 Desc A. Weiss, "The Pubertal Change of the Human Voice," **Folia Phoniatrica**, Vol. 2(1950), p. 126.
2. **Ibid.** p. 127.
3. **Ibid.**
4. **Ibid.** pp. 126-129.
5. Duncan McKenzie, **Training the Boy's Changing Voice** (London: Bradford and Dickens, Drayton House, 1956), pp. 3-24.
6. **Ibid.** pp. 10-15.
7. **Ibid.**
8. **Ibid.** p. 8
9. **Ibid.**
10. **Ibid.** p. 9.
11. Karl Gehrkens, **Music in the Junior High School** (Boston: C. C. Birchard and Co., 1936), p. 72.
12. James L. Mursell and Mabelle Glenn, **The Psychology of School Music Teaching** (New York: Silver Burdett Co., 1938), p. 295.
13. Mae Nightingale, **Troubadors: A Collection of Four-Part Choruses** (New York: Carl Fischer, 1939).

14. Genevieve A. Rorke, **Choral Teaching at the Junior High School Level** (Chicago: Hall and McCreary Co.).
15. Irvin Cooper and Karl O. Kuersteiner, **Teaching Junior High School Music** (Boston: Allyn and Bacon, Inc., 1965).
16. **Ibid.** p. 18.
17. **Ibid.** p. 15.
18. **Ibid.** p. 16.
19. **Ibid.** p. 19.
20. **Ibid.**
21. **Ibid.** p. 15.
22. **Ibid.** p. 22.
23. **Ibid.** p. 17.
24. **Ibid.** p. 16.
25. Ibid. p. 25.
26. Frederick J. Swanson, **Music Teaching in the Junior High and Middle School** (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1973).
27. Frederick Swanson, "Voice Mutation in the Adolescent Male: An Experiment in Guiding the Voice Development of Adolescent Boys in General Music Classes" (unpublished Ph.D. Dissertation, University of Wisconsin, 1959).
28. **Ibid.** pp. 36-37.
29. Swanson, **Music Teaching in the Junior High and Middle School,** p. 188.
30. Frederick Swanson, "The Proper Care and Feeding of Changing Voices," **Music Educators Journal,** Vol. 48 (1961), p. 63.
31. Frederick Swanson, "The Vanishing Basso Profundo Fry Tones," **The Choral Journal,** Vol. 17, No. 5(1977), pp. 5-10.
32. Swanson, "The Proper Care of Feeding of Changing Voices," p. 66.
33. **Ibid.** pp. 63-66.
34. McKenzie, **Training the Boy's Changing Voice.**
35. **Ibid.** p. 20.
36. **Ibid.** pp. 30, 32.

The Development of a Contemporary, Eclectic Theory For The Training And Cultivation of The Junior High School Male Changing Voice

PART II
SCIENTIFIC AND EMPIRICAL FINDINGS; SOME TENTATIVE SOLUTIONS

DR. JOHN M. COOKSEY

In order to resolve some of the controversial issues related to the adolescent male changing voice and arrive at some degree of consensus, the profession needs some scientific and empirical answers to the following questions:

1. How does the mutational process in the voice relate to other physiological changes in the body during adolescence?
2. What causes the mutational process in the voice to begin? How long does it last? What is the rate of change?
3. What are the effects of mutation on a) voice quality, b) range and tessitura, c) register changes and transitions, and d) vocal flexibility/agility?

In the past we have relied upon the results of our own empirical investigations to solve some of the above-mentioned problems. The fields of laryngology, endoctrinology, medicine, and speech pathology may offer some new insights into our dilemma . . . as may several but very significant European longitudinal research studies. As we gather more information from these sources, our perspective on the unique problems of adolescent voice mutation will broaden, and new areas for concensus and "further discussion" will emerge. From this will also come a statement of tenets and concepts which will comprise the basic framework of the new contemporary, clectic theory of adolescent voice change.

A. Voice Mutation and Related Physiological Changes in the Male Adolescent

Voice mutation is intricately related to psycho-physiological changes which take place during the teen-age years. It is especially important to carefully define terminology related to these events. The term, "adolescence," for example, comes from the Latin verb, "adolescere,"(1) meaning to grow into maturity. It is often used 1) to describe changing attitudes and beliefs on socio-cultural phenomena, 2) to designate a period of development, 3) or to set up a certain chonological age span in which specified biological and physiological changes occur. Hurlock (2) presents adolescence from the standpoint of chronology: 1) Pre-adolescence, 10-12 years of age; 2) Early Adolescence, 13-16 years of age; and 3) Late Adolescence, 17-21 years of age. Other scientists give somewhat different figures, depending upon what criteria they are using. Hence, there is some confusion about what adolescence means as it relates to specific periods of physiological development. It is certain that individual development patterns, biologically and psychologically speaking, differ considerably during these stages, so it is probably wise to view adolescence as a general, all-encompassing period of time, occurring between the ages of 11 and 20.

In this article we are primarily concerned with the period in adolescence called puberty. This is the time when psychological and physiological changes are taking place. Such changes include 1) development of the primary and secondary sexual characteristics; 2) rapid growth in height, weight, skeletal structure, and other body parts; 3) dramatic endocrine gland secretions affecting basic body metabolism, blood pressure, pulse rate, and general body growth; and 4) major mutation of the speaking and singing voice. The climax of puberty (preceded by two years of rapid growth in the areas just listed) is marked in males by certain indicators of sexual maturity; live spermatozoa (male reproduction cells) in the urine, and the appearance and certain growth attainments of pubic hair over specific areas of the body. After sexual maturity is achieved, the physiological changes continue, but at a much slower pace. Thus, it is hard to attach physiological definitions to post-pubertal stages, but the onset and developmet periods (pubescence) of puberty *can* be analyzed with a certain degree of precision. Fortunately, this is the time when the most dramatic changes in the voice are taking place.

Tanner (3) reports that in the male, the onset and primary development phases in puberty take place on the average between 12½ and 15 years of age. Adams(4) says 10(11) to (15)16 years . . . Rogers(5), 11 to 15 years. The onset and rate of development during this cycle is highly variable in individuals, however, and depends upon such factors as genetics, diet, general health, and socio-economical variants. The onset of puberty is triggered by hormones primarily related to the pituitary and sex glands. The anterior lobe of the pituitary gland secretes hormones that stimulate the thyroid, adrenal, and gonad glands. This in turn causes a number of physiological changes in boys:

1. Growth in height and weight: Tanner(6) reports a gain in height of about 7.9 inches (range: 3.9-11.7 inches) accompanied by a gain of weight of about 44 pounds (range: 15-66 pounds). The peak velocity of height growth averages 4 inches per year, which is the rate the boy was growing at age 2. Tanner says (and other sources agree), "The time at which this maximum velocity is reached averages about 14 years, though it may lie anywhere between 12 and 17."(7)
2. Skeletal development: This is closely tied to sexual development. The ossification and growth in size of the bones corresponds to the dramatic pubertal changes in the primary and secondary sexual characteristics.
3. Strength: There is a significant increase in the amount of strength and muscular development between 13 and 16.
4. Growth of vital organs: The lungs almost double in size and vital capacity. The heart increases in size, thus affecting pulse rate, basal metabolic rates, and energy requirements.
5. Skin glands: The soft skin of childhood becomes thicker, and the pores become enlarged. The sweat glands become more active, and the sebaceous glands produce associated skin disturbances.
6. Fat thickens: There is a pronounced reduction in the amount of fat over the thorax, abdomen, and back during childhood, but this increases in boys after about the 10th year, and begins to decline when pubertal climax occurs.
7. Sexual development: (Most closely tied to voice mutation). The reproductive organs attain functional maturity during this stage. In boys, the first observable sign of pubertal change is an increase in the size of

the testes, penis, and scrotum. The average growth spurt begins at about 12½ and reaches its peak shortly after age 14; however, the onset may occur anywhere from 10½ to 16 years of age.(8) The appearance of pigmental hair (paralleling, but following the primary sexual development) occurs in 80 per cent of males between the ages of 11 and 15. The rate of growth varies among individuals . . . with the average time for a dense growth about three years.(9) There is a change in both the color and texture of the hair with puberty; it "becomes darker, and the downy hair of the corners of the upper lips becomes noticeable. This development eventually forms a mustache of coarse and more heavily pigmented hair. Pubic hair appears after the testes are well underway. Axillary hair does not appear until the development of the pubic hair is nearly complete."(10)

8. Voice change and sexual development: Weiss,(11) Brodnitz,(12) Boone,(13) Garrison,(14) and many more scientific researchers say that voice change in the male is intricately tied to and dependent upon sexual development during puberty. Tanner states:
"The enlargement of the larynx in boys appears to occur at about the same time as the spurt in sitting height, and the voice begins to deepen perceptibly during the period when the development of the penis is nearing completion. Probably the chief cause of the enlargement of the cartilage cells of the thyroid and cricoid cartilages (enclosing the vocal cords) comparable to the response of the acromial and acetabular cartilages to sex hormones. The voice change is a gradual *one and is often not complete until adolescence is practically over; probably the laryngeal muscles develop in size and strength fairly late."*(15)
Swanson also reports that voice change is directly related to the mauration of the primary sex organs. "It was also found that, while all secondary sexual characteristics were correlated with voice change, the most highly correlated and hence most usetul in predicting advancement into mutation proved to be the growth of pubic hair, signs of voice mutation appearing no earlier than stage 2 nor later than stage 4 of the Davenport scale."(16)

In summary, one must understand that voice mutation is dependent upon several physiological factors (such glandular activity and sexual development) which exert a powerful influence on all bodily processes during certain crucial periods of time included in the teen-age years. The better one understands the relationship of these factors, the better chance one has of gaining new insights into the processes of voice mutation.

B. Mutational Changes Related to the Organs of Phonation During Puberty

The mutation of the voice is intricately tied with pubertal changes in the male. Glandular secretions, chiefly related to the pituitary, hypophysis, adrenal, and sexual glands, stimulate accelerated growth activity in the body, and especially in the appearance and development of the primary and secondary characteristics. Hormone balance shifts during this time, and dramatic changes take place in the organs of phonation. These changes begin to occur at the beginning of pubescence and reach a climax at puberty . . . then taper off but continue to occur on a more gradual basis after sexual maturity. Gradually, the changes begin at age 12-13, reach a climax at 14, then taper off at 15. There is much individual variance, however, for some boys, the changes may begin as early as 11 years of age . . . or end say, at 16 years of age. In the majority of cases, the *most dramatic* physiological changes occur within the time frame of 1½ to 2½ years.

Weiss (17) lists the following changes in the organs of phonation during the most active phase of pubertal development in the male:

1. There is a great increase of breathing capacity. Both the length and the circumference of the chest increases rapidly.
2. The neck increases in length and width. Weiss feels that at first this may disturb extrinsic muscle function related to phonation control. The lengthening of the neck also leads to a relative descent of the larynx, especially in individuals with deep voices. "This creates a greater length and width of the pharyngeal tube, thus enlarging this part of the resonatory system."(18) The oro-pharynx also enlarges during this time, and coupled with the changes in the length of the pharyngeal tube, produces changes in vocal timbre. All of this bears a strong correlation with changes in voice classifications.
3. Under the influence of the sex hormones, the larynx enlarges considerably. It does not double in size, as some people have reported, but the *length* of the vocal cords enclosed within it increases by about 1 cm (in females, 3-4 mm). Larngoscopic studies conducted by Brodnitz(19) confirm Weiss's observations. Going further, Weiss points out that the "basic difference between the pubertal development of the male and the female larynx concerns the main direction of their growth."(20) Until puberty, they are equal in size, but "during its pubertal development the male larynx grows especially in the anterio-posterior direction, leading to the protrusion of the 'pomum Adami' (Adam's Apple), the distinct lengthening of the vocal cords, and the narrowing of the angle formed by both plates of the thyroidal cartilage. All these features are more pronounced in individuals with deep voices, and may appear even in females in that same category."(21) In general the female larynx increases more in height than in width, and thus is less visible from an external vantage point.

In summary, Weiss, Brodniz, et al., say that there is an increase in size of all the organs concerned with voice production. This results in a deepening of the voice quality, a descent in range of about an octave for males (two or three notes for the female), and an increase of breathing capacity and resonance which produces more voice power and vocal intensity.

C. Sequential Voice Development, Range, Voice Breaks, and Relationships with Changes in the Speaking Voice

In this section I shall report the findings of Weiss (who did a monumental, comprehensive survey of research data related to voice mutation)(22) and other researchers (generally in the fields of medicine and speech pathology) who have done more recent work in studying the mutational phenomena of the adolescent voice.*

Weiss's review (prepared for the International Association for Logopedics and Phoniatrics) ot 334 studies pertaining

*I shall not report the results of several fine doctoral projects in music education since these studies support the theories of voice change already well-known to the profession. In this section I want to give the readership a broader view of the crucial issues of voice change; this can only be done by presenting research findings heretofore given only casual attention by the theorists. If the reader is interested in examining music education research on voice change, I recommend the Coffman,(23) Span,(24) Wilson,(25) Taylor,(26) Gustafson,(27) Joseph,(28) and Swanson(29) studies.

to adolescents voice mutation indicates that the exact beginning of voice mutation is hard to pinpoint since there are only slight premutational changes, such as some loss of vocal power, a slight lowering of pitch in the upper register, and very small timbre indications. These changes begin as early as 10 years of age in boys, but the main phase occurs several years later. Some voice development may appear before the characteristic signs of sexual puberty, but in general, the primary voice changes parallel "the appearance of pubic hair, hair in the armpits, ejaculation, growth of the penis, hair on the upper lip, and coarsening of the features."(30) Weiss strongly supports the idea that voice developing corresponds best to skeletal age which can be measured scientifically.

The correlation between the changes in the speaking voice and the singing voice seems to be rather substantial, but somewhat inprecise. Duncan McKenzie, in his theory of voice change, said that the speaking voice was the most reliable indicator of voice change in the adolescent. To a degree, this is true, but Weiss says that the two areas should be studied separately since the speaking voice changes faster than the singing voice, and the initial onset of its change *precedes* that of the singing voice. The average duration of the most dramatic mutation in the speaking voice is 3-6 months, and not more than 12 or 13 months. In the singing voice, the most dramatic changes in quality and range *may* extend over a one to two year period. Margaret Greene, in her book, *The Voice and Its Disorders,*(31) backs this up and goes further in stating that this is not often understood by voice teachers. Both Weiss and Greene urge caution in analyzing and comparing speaking with singing voices during puberty. In other studies, Garrison (32) and Adams (33) maintain that the speaking voice change is not an accurate index for use in developmental studies since there is no satisfactory way of evaluating it objectively. "It could be studied if a recording device were used for comparing the depth and other qualities of the voice at varying stages of development. In this connection, it should be pointed out that it is the progressive deepening of the speaking voice, rather than the absolute pitch that is significant as an indication of progress toward maturity, since the voices of young men at maturity will vary widely in pitch and other qualities."(34) Primary emphasis here is given to the quality of the change in the speaking voice, rather than the lowering of its pitch. As the speaking voice matures, there is a general *but not continuous* downward trend of pitch during mutation. Herein lies an important difference between the development of the peaking and singing voices. Occasionally boys will speak at somewhat *higher* pitch levels than on previous days; some fluctuation then, in the mean pitch of the speaking voice can be expected, whereas in the singing voice, this does not usually occur.

Studies by Hollien,(35) Duffy,(36) Van Oordt, (38) and others indicate that as the speaking voice gradually descends, it is restricted for a time (during the greatest period of pubertal development) in pitch range. The mean frequency range of the speaking voice *after* its most dramatic pitch descent lies approximately four semitones above the lowest physiological point in the singing range. (The pitch of the speaking voice lowers from about middle c in the boy's voice at 10 years of age, to about F just below middle c at 14 years of age, to C at 18 years of age.) Basically then, the speaking voice pitch remains at the lower part of the singing range. Along with the lowering of pitch in the speaking voice comes a change in the quality of the sound. A certain huskiness produced by the incomplete closure of the glottis becomes apparent, but as the cords thicken and grow in length, this timbre gradually changes to approximate the adult male sound.

Regarding the sequence of events with the singing voice, Hollien, et al., say that its pitch essentially goes down one octave during the most active phase of mutation, and that its timbre gradually changes from light and childlike to adult. They stress that the pitch of the singing voice follows a continuous path downward (does not fluctuate pitch-wise as is the case with the speaking voice). Weiss states,

> "The transformation of the boy's singing voice during mutation seems to take the following direction. First, a gradual lowering of the lower limit, with steadiness of the higher notes (mostly premutational); then the high notes become unsteady and gradually get lost while the low notes slowly become steady (main phase); after the stabilization of the low notes, the high notes of the new range become steady."(39)

The duration of the mutation of the singing voice is much longer than that of the speaking voice. For the majority of boys, it occurs between the ages of 12 and 15. Pedrey, (40) Hollien,(41) and many others report that singing voices are in their greatest period of change during the 13th to 14th years, and that the shift to the lower octave proceeds on a gradual basis, "settling" or stabilizing by age 15. Changes in timbre and range continue at least 2-3 years beyond this point however, and in some cases, boys lose their lower tones and gain higher ones as their voices mature. (This seems to parellel some of Duncan McKenzie's ideas). In any case, the first noticeable changes in range and quality of the adolescent male voice generally begin at age 12, reach a climax at 14-15, and continue to develop, though less dramatically, for several years afterward. On the basis of this information, laryngologists and speech pathologists do not recommend voice classification for the male before 18 or 19; likewise, they caution against serious voice study until several years after puberty.(41A)

On the matter of predicting whether or not a voice will become a bass or tenor, there seems to be inconclusive research data. There is some support for those who say that slower changing voices usually develop into tenors, and that early, fast maturing boys will eventually develop into basses. In any case, one must carefully monitor the range and tessitura of the voice as it develops . . . then understand that proper classification also depends upon such factors as timbre and register development, as affected by vocal fold length and thickness (Van Deinse) (42), the size of the enclosing framework of cartilage for the vocal cords, and the height and size of the basic pharyngeal resonation cavities.

Voice mutation follows a predictable pattern during puberty. The boy's singing voice passes slowly from soprano to alto, to several stages of tenor (cambiata), then on to baritone. Likewise, the quality of the voice changes from a childlike sound (which reaches a certain stage of richness and beauty just before the period of change), to alto (11-12 years of age), to a "cross" between alto and baritone (13-14 years of age), to light baritone (14-15 years of age), and finally, to a more settled baritone, tenor or bass sound (16-19 years of age). Vennard(43) and Brodnitz(44) go so far to say that one should expect the majority of all voices to fit the "middle" classification (baritone) . . . that real basses and tenors are rare indeed. As far as range is concerned, the voice descends a 6th from G (below middle c) in the boy alto, to C(B1) for the newly changed baritone voice. The top limits of the male range drop from d1-f1 (upper treble clef) to d (just above middle c). From this point the range may extend in both directions. These outer range limits do not change suddenly or radically, but correlate strongly with the stages of voice development just outlined.

Finally, much has been said about the voice "break" during adolescence. On the basis of the studies reported in the Weiss article, voice breaks do not occur more often in adolescent males. Quite to the contrary, the break occurs just as often during childhood, so *this more conspicuous* occurrence

(though not as frequent as often reported) during adolescence does not signal voice change or correlate highly with it. If the voice is forced out of its natural register, however, as in singing, octave fluctuations associated with "breaking" can occur. In a 1970 study, Duffy,(45) using phonellegraphic techniques, perceived voice breaks as sudden changes in vocal quality, rather than pitch fluctuations. Recorded speech samples showed that frequency breaks were not acoustical correlates of pitch breaks. They indicated, however, that the voice quality of the adolescent male becomes "rougher" during the initial stages of puberty.

In summary, the change of the speaking voice often becomes more noticeable before the change in the singing voice, and takes a shorter length of time to "settle." In the initial stages, however, it provides a good signal that the singing voice mutation is about to begin. Singing voice mutation proceeds less dramatically than the speaking voice change, but follows a regular sequence of development, both in terms of range and timbre. Growth rates in individuals are often unpredictable and variable, however. In addition, the pitch of the speaking voice normally lies above the lowest pitch limit of the singing range, but it is unclear how this relationship maintains itself during the most active stages of voice mutation. Finally, voice breaks do occur at changing register points (lift points) during mutation, but are not more numerous during this time unless the voice is forced outside its normal pitch range.

D. Important Recent Research Pertaining to Adolescent Voice Changes

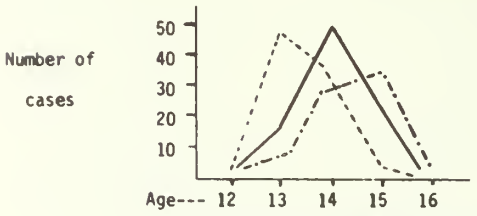
1. *The Naidr, Zobril, and Sevcik Study*(46)

In the early 1960's, Drs. Naidr, Zboril, and Sevcik, of Czechoslovakia, conducted a significant longitudinal study of male adolescent voice mutation. They investigated the onset and rate of pubertal voice changes in 100 boys, all of whom were students at a boarding school. Testing was begun when the boys were all 11 years of age, and continued at regulai four month intervals until they were 16. Changes in the singing and speaking voice were correlated with the development of the primary and secondary sexual characteristics, and concomitant anatomical developments in the larynx, body height and weight were measured. Because environmental factors and extraneous variables were so well controlled, this study offers our profession some valid insights into the complex process of adolescent voice mutation.

a. *Changes in the Speaking and Singing Voice*

The researchers found that voice mutation occurs in three easily defined stages, with the maximum number of changes falling during the ages of 13, 14, and 15. The mutation process, which lasted on the average for 13 months, began at age 13 in the majority of cases, reached a high point or crux of change at age 14, then tapered dramatically by age 15. Individual vocal changes were, of course, beginning and ending at different times within the total five-year period, so these figures represent averages. For instance, if a boy began his period of voice change, say at 13 years, 0 months, his voice (on the average) would end its primary mutation at 14 years, 1 month. Likewise, if a young man's change began at 13 years, 11 months, it should end at 15 years, 0 months. Considering the fact that averages are being used here, one can see that the most significant changes are, indeed, taking place during the late 13th and early 14th years: this would be equivalent to our junior high grade 8. Figure 1 shows how the majority of the cases were distributed within each of the three mutation stages in this study.

FIGURE 1
THE COURSE OF THE MUTATION STAGES



Key: The Beginning of Mutation, Stage I: ----------
The Highpoint of Mutation, Stage II: ————
The End of Mutation, Stage III: -.-.-.-.-.-.-.-.

Source: Jan Naidr, Miroslav Zboril, Karel Sevcik, "Die puberstalen Veranderungen der Stimme bei Jungen im Verlauf von 5 Jahren," ("Pubertal Voice Changes in boys over a Period of 5 years"), Folia Phoniatrica, Vol. 17(1965), p. 2. Used by permission.

From this chart one can see that most boys began mutation (Stage I) at 13, but many also began Stage I. at 14, and a few at 15. The highpoint of mutation (Stage II) was reached by a few boys at 13, but a steep jump in cases occurred at 14, then a quick decline by 15. For the end of mutation (Stage III), a few cases appeared at 13, but the majority were reported at age 14 and 15. Finally, Naidr, et. al., state that the greatest amount of vocal, sexual, and bodily growth occurs on the average of 7 months, between the beginning (Stage I) and high point (Stage II) of mutation, then continues on a more gradual decline for 6 months. They also say that growth and development in the singing voice continues for several years after its initial stabilization at Stage III.

Turning to some descriptive statistics, Table 1 contains a summary of the findings related to the changes in the speaking and singing voices of the 100 subjects.

TABLE 1
OVERALL VIEW OF THE VOICE CHANGES

Before Mutation

Boy's Voice: 12 years old (the last year without change in 90 per cent of cases)

Speaking Voice: c# 1 (middle c) average tone; 268 Hz average frequency

Singing Voice: f# (below middle c) to d2 (4th line, treble clef) average range: 180-580 Hz average frequency range; 21.29 semitones, average range

Stage I. Beginning of Mutation

Principal Feature: Lowering of the *Upper* limit of range

Speaking Voice: b (just below middle c) average tone; 23 Hz and 1.64 semitones, average lowering; 245 Hz average frequency

Singing Voice: f (4th line, bass clef) to a1 (2nd space, treble clef) average range; 169-437 Hz average frequency range; 17.20 semitones, average range; Lower limit of range descends average of 11 Hz, 1 semitone; Upper limit of range descends 143 Hz, 4.4 semitones.

Stage II. Highpoint of Mutation

Principal Feature: Narrowing of the Singing Range

Speaking Voice: a (5th line, bass clef) average tone; 30 Hz and 2.38 semitones, average lowering; 215 Hz average frequency

Singing Voice: d# (3rd line, bass clef) to f1 (1st space, treble clef) range; 150-349 Hz average frequency range; 15.27 semitones, average range; Lower limit of range descends average of 19 Hz, 2.38 semitones; Upper limit of range descends 88 Hz, 4.2 semitones.

Stage III. End of Mutation

Principal Feature: Lowering of the Lower Limit of the Singing Range

Speaking Voice: f (4th line, bass clef) average tone; 42 Hz and 3.39 semitones, average lowering; 173 Hz average frequency

Singing Voice: B flat (2nd line, bass clef) to C# 1 (middle c) average range; 177-277 Hz average frequency range; 15.91 semitones, average range; Lower Limit of range rescends 33 Hz, 4 semitones; Upper Limit of range descends 72 Hz, 4 semitones.

(Note: Equal Tempered Chromatic Scale used, a1 (2nd space, treble clef) equal 435 Hz).

The average speaking tone of the average range of the singing voice in mutation stages I, II, and III are very similar to those of 13, 14, and 15 year olds, respectively.

(Note: Age Charts are not included in Table 1, but are given in the study).

The lower border of the singing range and speaking voice descend in ever increasing intervals. while the lowering of the upper limits descend in decreasing intervals; thus, the activity of the mutation process gradually shifts from the high tones to the low tones. During mutation the speaking voice falls 95 Hz in frequency from C# 1 to f, or 7.6 semitones. The lower limit of the singing voice descends in course of mutation 7.26 semitones, or 63 Hz. The upper limit descends 12.19 semitones, or 303 Hz. The overall range of the voice is significantly reduced at Stage II, then begins to expand during Stage III. The mutation process takes about an average of 13 month (S.D. 4.44) during which the first half, from I to II, is somewhat longer (7 months) and more frenetic.

Figures 2 and 3 give a visual representation of the premutatonial and mutational singing ranges, according to developmental phases and age groups respectively. Notes in parentheses give the inclusive top and bottom range deviations from the mean tone (unbracketed) for 66 per cent of the cases analyzed.

FIGURE 2

AVERAGE RANGE OF THE SINGING VOICE DURING THE MUTATION STAGES

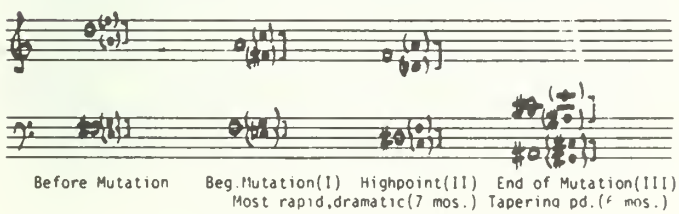
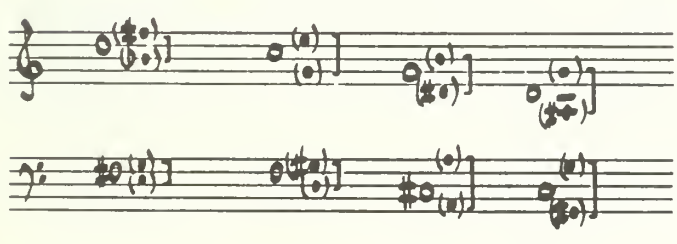


FIGURE 3

AVERAGE RANGE OF THE SINGING VOICE ACCORDING TO AGE GROUPS:



In examining the two figures one should see that there are small differences in overall ranges between mutation stages and age groups. This is to be expected. I was surprised that the two were so closely correlated! Looking further, Figure 3 (age groups) shows wider pitch deviation for extreme upper and lower range limits than Figure 2 (Mutation Chart). (See 13 year range compared to Stage I range, for example). This indicates that there are wider individual disparities in range if only age is used as a criterion. The pubertal mutation stages (I-III) show less deviation in range extremes; hence, they would be a more valid indicator of stabilized, sequential growth patterns in voice development. One should also notice that the greatest range of deviation from mean tone occurs in the *upper* range limit extremes in all stages (Both figures). The lower range limit deviations are much smaller, which indicates much more stability in lower register development throughout the period of voice mutation. Apparently the lower range limits increase with much less individual variancy during puberty. Finally, one should see that the deviations from mean pitches in both the upper and lower range limits contract significantly in Stage III, thus indicating less individual variancy and more range stability.

b. Larynx. Body Height and Weight, and Pubertal Changes

The investigation of the larynx was conducted both externally and with indirect laryngoscopy, and three different types of measurement were taken. The first symptom of the onset of mutational changes was growth in the overall height of the larynx. The thyroid cartilage (Adam's Apple) became visible in 40 per cent of the cases by Stage II. The vocal cords maintained a moderate length until the transition period between Stages II and III when there was maximal growth and extension. All told, the most significant increases in larynx development took place between the ages of 13 and 14, but growth continued well beyond this time. (Naidr says that vocal development continues until the adolescent reaches 18 or 19 years of age).

Tables 2 and 3 show the average body height and weight of the 100 boys in relation to their ages. Growth rates in both areas seem to be steady throughout the period of change.

TABLE 2

AVERAGE BODY HEIGHT OF BOYS IN CM (INCHES) IN RELATION TO AGE

	Mean (average)	Sigma •••• (Standard Deviation)
12 years	148 cm (58.2 in.)	± 6.4 cm
13 years	153 cm (60.3 in.)	± 7.4 cm
14 years	162 cm (63.7 in.)	± 7.6 cm
15 years	166 cm (65.3 in.)	± 6.7 cm

TABLE 3

AVERAGE BODY WEIGHT OF BOYS IN KG (LBS.) IN RELATION TO AGE

	Mean (average)	Sigma •••• (Standard Deviation)
12 years	37.8 kg (83.16 lbs.)	± 5.29 kg.
13 years	44.2 kg. (97.24 lbs.)	± 6.68 kg.
14 years	51.0 kg. (112.2 lbs.)	± 7.54 kg.
15 years	57.2 kg. (125.84 lbs.)	± 7.34 kg.

••••Sigma means the Standard Deviation from the Mean. Look at Table 2, for example. A 12 year old's average height is 148 cm (58.2 inches), but one sigma (standard deviation) above the mean or average is 184.4 cm, one s.d. below is 141.6. 66 per cent of all 12 year olds tested measured between 141.6 and 154.4 cm, with the average coming out at 148 cm. Each sigma equals 33 per cent of total number tested. If one chooses to go 2 sigmas above (+) or below (—) the M (average), the per-

centages change to 48 per cent of total population measured above the mean, 48 per cent below for a total of 96 per cent of total boys tested. Standard deviation is a measure of the extent of individual differences around the mean.

Finally, Naidr reports that the whole puberty process encompasses the three stages of vocal change, but that the complete development picture should be described in terms of five stages: I. Boy's voice, prepubescence; II. Begin Mutation (Stage I), pubescence; III. Highpoint of Mutation (Stage II), pubescence; IV. End of Mutation (Stage III), pubescence; V. Development of the Adult Male Voice, postpubescence.

In summary, Naidr, et al., established that the principal voice changes occur in the first half of pubertal growth, when the increase in height is the greatest, but is somewhat in advance of the increase in size of the larynx. Voice changes first become evident by the lowering of the upper limit of the singing voice, then as a narrowing of the voice range, and finally a renewed extension. The overall characteristics of the individual stages of pubertal and laryngeal change are as follows:

I. Beginning of the change (12-13 years): Striking loss of hign tones, striking changes in the thyroid cartilage, the epigottis, and the vocal cords. Maximal increase in height.

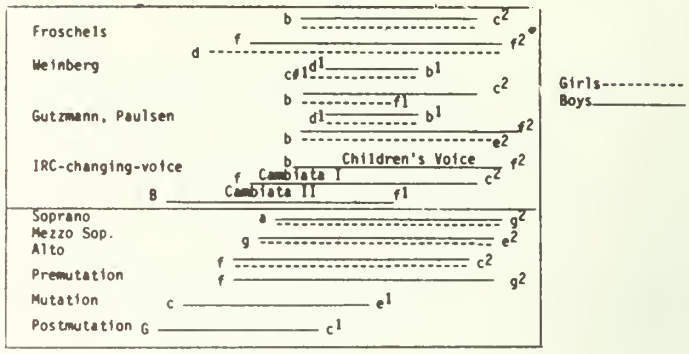
II. Crux of the Change (13-14 years): Significant restriction of the voice range, clearly prominent thyroid cartilage, large epigottis. Maximal increase in weight.

III. End of Change (14-15 years): The voice reaches its full depth, and range extension begins. Maximal length of vocal cords, and maximal growth of larynx in all dimensions. Further increase in weight; cessation of height increases.

2. The Frank and Sparber Studies 47, 48, 49

In a period of ten years Dr. Frank (University Otolayrngology Clinic, Vienna, Austria) and Professor Sparber (College of Music, Vienna, Austria) examined the voices of 5000 children between the ages of 7 and 14 to determine changes in vocal singing ranges. They found that the acceleration of pubertal development is paralleled by an acceleration of vocal development, and that three stages of growth in the voice can be identified: Pre-mutation (corresponding to stages I and II in the Naidr study), Mutation (Stage II of the Naidr study) . . . newly changed baritone voice, and Postmutation (stage in which the timbre of the voice develops into adult quality). Frank and Sparber say that only after several years of continued growth during Postmutation can proper voice classification be made and ...al training of the singing voice begun. Table 4 shows the F. and Sparber ranges for their mutation stages; these are compared to those of other studies. Of special interest is the IRC chart (International Research Committee for the Study of Changing Voice Phenomena) which shows ranges for the Cambiata I and II to be almost identical with Irvin Cooper's cambiata and baritone, respectively. Frank and Sparber say that the Cambiata I designation equals their Premutational voice, Cambiata II equals their mutational voice

TABLE 4
VOICE RANGES FOR CHILDREN
7 AND 14 YEARS OF AGE



Key: The values for children's ranges of earlier authors (upper lines: 7 year old vocal ranges; lower lines: 14 year old ranges) are compared with more recent investigations (IRC) for the 7 and 14 year old age groups, and with those of the present study. Note: small letters of pitches represent the octave below middle c. c1 is middle c, etc.

Source: Dr. F. Frank, and Professor M. Sparber, "Stimmumfange bei Kindern aus neuer Sicht," ("Vocal Ranges in Children from a New Perspective"), Folia Phoniatrica, Vol. 22 (1970), p. 400. Used by Permission.

In another study on voice changes,(50) Frank and Sparber followed the vocal development of 130 male boarding school students from about age 10 through 16. The researchers compared body height, singing ranges, breath capacity (as measured by a spirometer) and voice quality (as measured by sonographic analysis) in the Premutational, Mutational, and Postmutational stages. They found that the changing voice (Premutational Stage) has 3 registered (modal, falsetto, whistle) and that there are distinguishing qualities of sounds for each of the three stages of voice mutation. Unfortunately, they do not present data for the 130 cases; instead, 5 case studies are reported. What is especially interesting to me is that sonographic analysis revealed 3 registers in the changing voice. One would expect the modal and falsetto registers to appear, but distinguishing frequency premutations were produced *above* the falsetto range (See Vennard's comments on the whistle register (51). I also think that it is significant that distinguishing tone characteristics show up for the changing voice vs. the baritone voice vs. the more developed changed adult voice. These results seem to support the findings of the Naidr study, and confirm some of the principal ideas of Duncan McKenzie and Irvin Cooper.

E. Building a Contemporary, Eclectic Theory on the Junior High Male Changing Voice

I. Discussion

Thus far I have reviewed a large amount of information related to many aspects of voice mutation. In a previous article some prominent theorists on the junior high changing voice were given, and controversial issues were discussed. In this report I have attempted to present a much broader perspective on the *physiological* complexities associated with pubertal voice change. I believe that a truly integrated approach can be achieved if these factors are taken into account. Recent research in fields other than music education has produced new insights into many previously unsolved problems. Hence, it is time to integrate these ideas so that practical approaches to the training and cultivation of the junior high male voice can be pursued.

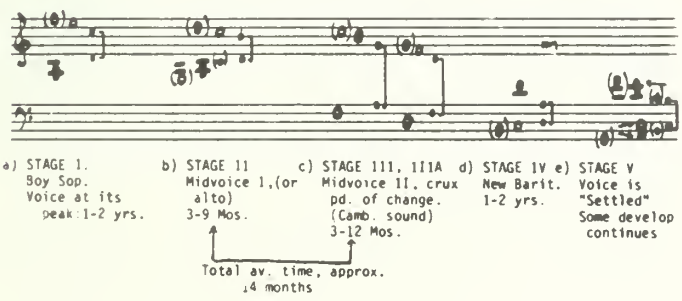
Having presented the theorists' ideas, physiological information, and research findings, I will now make a few comments of my own regarding the changing voice, then give some summaries of the stages of voice development which I feel should be included as the basic framework of the Contemporary, Eclectic Theory. Finally, some tenets and concepts based on all the findings will be listed.

2. A Few Empirical Observations

In my own teaching experience with junior high boys, I have found that voice mutation occurs most dramatically in the 8th grade for the majority, and usually tapers off considerably by the middle of the 9th grade year. It is tricky business to detect the beginning of the change since the vocal cords and larynx do not grow suddenly . . . overnight. Instead, the voice changes take place gradually at first (usually in the 7th grade, age 12-13, then *accelerate* during a 3-12 month period on the average (from 13-14 years). It is during this time of accelerated growth (not just with the voice, but also with other physiological phenomena) that the voice changes become *most noticeable.* I suppose that these changes *are* dramatic and rapid if considered as one part of the overall development growth of the individual. Too often, however, the early signs associated with the beginning stages of voice mutation are not recognized (such as the loss of higher notes, increasing breathiness in the sound, etc.), and full attention is given only to the crux period of mutation. Granted, in some cases, dramatic voice changes do take place, and within a very short length of time. It is certainly true that some boys go through the change much more rapidly than others, and that for each grade and year one *will* find voices in all stages of development. Individual variations on the theme are the rule, not the exception in junior high school. These variations, however, *do conform* to a stable sequence or pattern of events. Thus voice mutation does occur in identifiable development stages. It is the *rate of change* and the entry/exit points of pubertal voice development which are so variable.

I consider the factors of range, tessitura, and vocal timbre to be the most important ingredients of each stage of vocal development in the adolescent male. If these elements can be dealt with effectively, chances are the voice will remain a healthy instrument throughout its period of change. Figure 4 shows range/tessitura guidelines for five stages of voice development. These are "guidelines" and should be interpreted as such. The range and tessitura limitations shown in Stage III parallel the results of the Naidr and Sparber studies, but also reflect the theories of Irvin Cooper and Duncan McKenzie. The new baritone range presented in Stage IV correlates strongly with the majority of opinions expressed in the current music education literature on the changing voice.

FIGURE 4
RANGES AND TESSITURAS
FOR THE CHANGING MALE VOICE*



*Bracketed notes — tessituras

3. Summary of the Five Stages of Voice Development

Figure 4 shows the approximate ranges and comfortable singing tessituras for the male adolescent voice during five stages of development. To explain what happens during those stages, I have devised brief summaries which are included in Table 5.

TABLE 5
FIVE STAGES OF VOICE DEVELOPMENT
IN THE ADOLESCENT MALE

STAGE I. Premutation

a. Height of pre-pubertal period. Lasts approximately 1-2 years. Grade 6; extends into part of Grade 7. Age span: usually 10-12 years of age.

b. Speaking voice: mean (av.) pitch frequency, about middle c.

c. Physiological factors: growth spurt not yet begun. Some "baby" fat on body frame.

d. Singing voice: A rich, full quality sound . . . soprano quality. Reaches pinnacle of beauty, power, and intensity during this time. Range expansion of the childhood voice at its maximum.

STAGE II. Early Mutation

a. Initial pubertal period. May last on the average of 3-9 months. The majority of boys in this stage are found in grade 7, or early grade 8. Age span: occurs for the majority sometime within the 12-13 year old period.

*****Onset of pubertal sexual and voice changes can not be predicted with precision. The exact entry point into this stage is highly variable across the total population of individuals.**

b. Speaking voice: Begins to lower, and timbre becomes rougher, darker. Mean frequency pitch about B (below middle c). This becomes noticeable before the voice changes begin.

c. Physiological factors: Hormone secretions begin to trigger many changes . . . amount of body fat increases; height and weight begin to increase (See Naidr Study report in this article); vocal cords begin to grow (lengthen and thicken); cartilage structure and muscles around the cords develop; initial stages of sexual development begin to occur . . . such as the increase in the size of the primary sexual organs, and the first appearance of pubic hair.

d. Singing voice: This stage is hard to identify, since the voice is really not changing drastically, either in range or quality. I find that there is a variable loss of high tones during this time, and increasing breathiness and strain, especially above c (3rd space, treble clef). There is so little body or resonance in the extreme lower part of the range, however. Since boys are typically assigned an alto part if they sing with a mixed choir, *or* they psychologically begin to "feel wierd" about singing high notes (in junior high, it might not be the "macho" thing to do!), the teacher (unless he/she tests each individual voice regularly) may fail to detect this important preliminary phase of voice change. I might add that boys need much encouragement to sing with confidence during this time; all too often, they become uncertain singers, and lose interest in singing.

STAGE III, IIIA. High Mutation

a. Height of the pubertal period. May last 3-12 months. The majority of boys in III. IIIA are found in the 8th grade. Age span: usually 13-14 years of age.

b. Speaking voice: becomes noticeably huskier and lowers in pitch. Mean frequency pitch: A (5th line, bass clef).

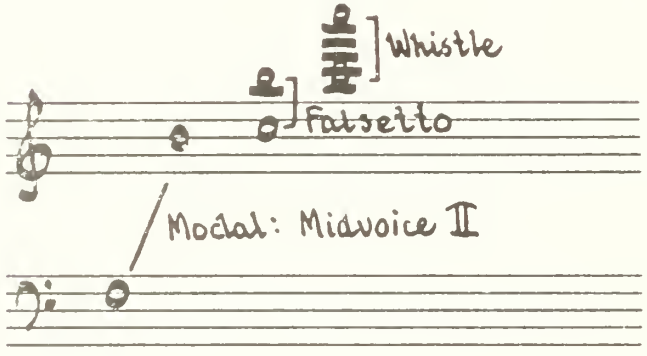
c. Physiological factors: Clearly prominent "Adam's Apple." Continuing increase in height, and maximal increase in weight. Many boys show disparities in body proportions during this time. Lungs, head growth rapid. Breath capacity increasing. Maximum development in primary sexual characteristics, and continued growth of the secondary sexual features. The "climax" of puberty occurs towards the end of this stage.

d. Singing voice: The voice loses agility, becomes harder to manage. Range and tessitura restrictions. Extremely crucial period for *careful voice cultivation*. External and internal muscle structure related to the larynx reaching maximum development. There are coordination problems with the control of sound, particularly if the voice is forced to sing out of its restricted range. This is the time when many vocal problems are created, and serious voice dysphonias appear.

I think the quality of the voice is unique during this period, and easy to distinguish from boy soprano, midvoice I, or mature baritone. It can have a harsh edge if too much exuberance is allowed, be exceptionally breathy and weak if not encouraged, or be quite startling in its beauty and richness if cultivated properly!

The development of register differentiations occurs quite dramatically during this time. The falsetto register emerges, and the modal register maintains the timbre I described above. (My definition of register:(52) Adjustment of the larynx which produces tones of a particular quality, for particular demands of range, dynamics, etc.). In some voices, a whistle register is present. In testing male voices at Peralta Junior High School, Orange, California, in the spring of 1977, I discovered this unusual voice phenomen. Direct sonographic analysis confirms the existence of this register. The whistle sound is very distinctive, and occurs *above* the developing falsetto range. It is produced with much strain, but nevertheless approximates a major third to octave range above high c. Only about 35 per cent of the boys (Midvoice II) I tested could produce these unique sounds. Figure 5 shows the three registers (modal, falsetto, and whistle) for one test case. Again, this is an unusual phenomenon; most of the boys who could sing this register could only produce two or three notes.

FIGURE 5
MODAL, FALSETTO. AND WHISTLE REGISTERS IN ONE TEST CASE



e. IIIA: I see this as a quick transition stage to the newly changed baritone voice. It happens often in the spring of the 8th grade year . . . and may last for only a few weeks to a month or more. The voice often slips down a minor third in range (from F to D, bass clef), but still retains midvoice II quality in the upper register. The baritone quality can be recognized during this time, and evolves most noticeably in the lower half of the singing range. Top notes of midvoice II now being produced with more and more strain, and the register lift point is beginning to appear. (d above middle c).

STAGE IV. Postmutational Period

a. End of the most dramatic stage of pubertal development. This "settling" period begins most often near the end of the 8th grade or beginning of the 9th grade, and may extend into high school. Time span: 1-2 years. Age: begins late 14th year (early 15th). extends to 16 or 17.

b. Speaking Voice: has lowered to approximately E or D. Adult sound still not fully apparent.

c. Physiological changes: Weight increases level off. Cessation of growth in height. Primary and secondary sexual characteristics are reaching their height of development. There is a dense growth of pubic hair, and axillary hair appears. The vocal cords are reaching their maximum length (have grown 1 cm since Stage I); resonation cavities reach maximum size. Facial hair begins to appear/develop. Chest and shoulder dimensions continue to increase.

d. Singing voice: The quality is a bit difficult to describe. The childlike-soprano qualities are gone, but the fully developed adult sound is not yet present. Resonation capabilities in the lower register extremes are not yet fully realized; thus, the power and intensity in notes below B flat (2nd line, bass clef) must still be developed. The voice remains light, but approximates the mid-baritone sound.

A definite register lift point appears at d (above middle c) in many cases. Sometimes several notes in this area are difficult to produce without strain. Although the falsetto register is quite apparent in most of these voices, the transition area between full voice and falsetto (c-e, f) causes problems in pitch and quality. Sometimes these pitches can not be produced at all unless proper training to bridge the registers is provided. Some boys also cannot produce the falsetto register at all. If the voice has been cultivated in its previous development stages, sometimes there is a very smooth natural transition into falsetto. Also, if a voice is destined to become a tenor, the lift point may begin to develop somewhere around e-f (above middle c).

Finally, the vocal agility is somewhat limited in Stage IV. These newly changed voices may have difficulties in negotiating fast moving intervallic leaps of more than a 4th or 5th.

STAGE V. Early Adult Phase

a. Consolidation, and gradual extended development in some physiological areas. Begins at age 17 or 18, and extends for an undetermined time . . . past the high school years.

b. Physiological changes: There continues to be development of the chest, shoulders, muscles, and axillary hair continues to increase in density. Height and weight is usually stable. as is body metabolism, heart rate, etc.

c. Singing voice: Body and resonance of the tone increases, and characteristic adult qualities emerge. Voice classification is easier to determine, and there is a general expansion of range capacity if the proper training is administered. If the voice is destined to become tenor, some of its lower notes may disappear. The vocal instrument is "ripe for private voice instruction." Vocal agility. resonance, and power increases significantly.

4. *Statement of Tenets and Concepts for the Contemporary, Eclectic Theory on the Junior High Male Changing Voice*

I hope these comments will encourage choral directors

to integrate and expand the various parameters of knowledge related to the classification and cultivation of the junior high male changing voice. With continued discussion and additional research efforts, this framework of ideas can be modified and expanded.

A. The individuality and uniqueness of the voice and person should be recognized during the period of adolescent voice mutation. Healthy concepts about singing arise from the young man's increased understanding about his vocal capabilities and limitations. He should be fully informed about the physiological aspects of mutation and its concomitant effects on range, tessitura, and voice quality. This can be a true adventure for the young man, not a nightmare!

B. In order to understand voice mutation, concomitant physiological changes related to sexual development, skeletal growth, increases in body height and weight, and basic metabolic fluctuations should be delineated. (See pp. 1-5) Mutational changes related to the organs of phonation during puberty must also be described. (See pp. 5-7).

C. The pubertal stages of sexual development closely parallel the stages of voice mutation. The most dramatic changes in the singing voice occur at the climax of puberty.

D. The speaking voice changes faster than the singing voice, but it is a fairly reliable indicator (timbre-wise) of the initial and high point phases of the singing voice mutation. The initial onset of change in the speaking voice precedes that of the singing voice.

E. The mean frequency pitch of the speaking voice lies near the bottom of the voice range, but more research is needed to confirm its exact relationship to the singing range during the most active phases of mutation.

F. Voice breaks do not occur more often during adolencence, unless the voice is forced out of its normal singing range. If voice breaks are interpreted in terms of vocal quality variations (increased huskiness or use of the "fry"). higher incidents of this phenomenon can be expected during the first phases of voice development.

G. Occurrence of voice breaks in the adolescent do not necessarily signal the onset of voice mutation.

H. Singing voice mutation proceeds at various rates through a predictable, sequential pattern of stages. The onset of vocal development is also variable and is genetically predetermined, but some environmental factors (health, diet, etc.) may also play an important role.

I. The changes in range, tessitura, and timbre follow a 5-stage pattern of development. See Figure 4 and Table 5, pp. 22-27.

J. The length of the period encompassing the most noticeable voice changes (Stages II, III) averages about 14 months.

K. For the majority of boys, mutation begins at 12-13 years of age, reaches its most active phase between 13 and 14, then tapers off between 15 and 17/18. The newly changed voice usually appears between 14 and 15, but "settles" for one to two years afterwards.

L. Triggered by hormone secretions, the first stage of voice mutation occurs at different times in different individuals. It is often difficult to detect at first. The upper range limit descends, but the timbre of the voice changes only slightly. There is also an increase in breathiness and strain in the upper extreme register.

M. There tends to be more stability and less individual variations in the lower range limits throughout the different stages of voice mutation. In the *upper* range limits there is great variations throughout the first three stages, but this stabilizes dramatically in Stage 4 (See Figure 2, p. 15).

N. Age is not as reliable an indicator for voice classification as the pubertal stages outlined in this article. Neither is grade level . . . but both criteria are important. At any one grade level, one might expect to encounter boys experiencing any of the first four stages of voice mutation. The general tendency is as follows, however: 1) Grade 7: Boy sopranos and Midvoice I in the majority; 2) Grade 8: Midvoice I and II in the majority, with a significant increase in the spring of the newly changed baritone voice.

O. The quality of the singing voice can be differentiated in each stage of development. I. Rich soprano; II. Midvoice I, some alto characteristics, increasing breathiness on top notes . . . sound is somewhat darker; III. Midvoice II, approximates ingredients of treble and baritone sounds, but retains distinctive quality all its own; IV. Newly changed baritone sound, light, thin, and not yet truly settled; V. Early adult phase, voice is more powerful, resonant, and more closely resembles the adult baritone, bass, or tenor sound.

P. The range limitation narrows significantly during the Midvoice II (Stage III) phase. Because its compass includes for the most part the lower register of the female voice, and the upper register of the newly changed baritone voice, unison singing if difficult to achieve . . . particularly in grade 8 where the midvoice II's are most numerous. Similarly, tenor parts in SATB music present problems since their range/tessituras are sometimes too low; likewise, the alto parts may be too high.

Q. In Stages II-IV (Midvoice I - new Baritone), the voice loses some pitch/rhythmic/dynamic agility and flexibility. The rapid growth and extension of the vocal cords and surrounding muscle/cartilage structure has a lot to do with this.

R. Register definitions (modal, falsetto, whistle) become clear during the high mutation period (Stage III, midvoice II).

S. In predicting future voice classifications, there is some evidence to support experts' claims that voices which mature early/quickly will become basses, and those which mature later and/or slowly will become high baritones or tenors. Some researchers say that the majority of voices will be baritones . . . and that true basses and tenors are rare. In any case, increased training and practice WILL NOT PRODUCE A CERTAIN TYPE OF VOICE. This is primarily genetically predetermined. I might add that the upper register lift point may supply us with a better clue about voice classification. If the "gears shift" at middle c or d, the voice is probably a bass or baritone, but if the primary lift occurs at e or f (lower part of the treble clef). there are possibilities it will become a tenor.

T. The training and cultivation of the changing voice should begin with the comfortable singing range/tessitura which each individual has, regardless of the stage of mutation. It is important to consolidate the comfortable middle range through each stage of mutation so that vocal problems and hyper-functional disorders will not occur. One should let the voice quality, flexibility develop gradually. The proper exercise of the voice in its comfortable range will eventually result in an extended range, but it will not speed up the mutation process! Proper exercise will also lead to comfortable register transitions.

At present, there are conflicting opinions about whether or not the voice should be vocalized from the falsetto register to modal register (and vice versa). Many teachers use this technique with the changing voice to extend range and achieve smooth transition between registers. I feel that if the voice is firmly in control of its comfortable middle range, this technique may be useful. It must be applied with care, however, to avoid hyperfunctional vocal disorders later on. Unfortunately, I have found that the technique often causes vocal strain

DEVELOPMENT . . .

in the early and middle stages of voice change because of the complex laryngeal, muscular operations which must accompany the vocal register transitions. (More about this in part III).

U. Most laryngologists and speech pathologists say that private voice study should not begin before the male is 17 or 18 years of age. They believe that the voice should not be strained or overly worked before it has a chance to settle.

The writer feels that the choral director must give some individual training to the voice as it develops; however, in most cases. prolonged, intensive private study should not begin until the voice "settles."

V. Choral literature must be chosen to satisfy the vocal capabilities in each stage of mutation. Voices should not be taxed to problematic limits, especially in terms of breath support. range/tessitura. and volume/intensity.

FOOTNOTES

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4. James F. Adams, Ed., **Understanding Adolescence** (Boston: Allyn and Bacon, Inc., 1971), p. 49.
5. Rogers, **op. cit.**, p. 83.
6. Tanner, **op. cit.**, pp. 1.
7. **Ibid.**
8. **Ibid.**, p. 83.
9. **Ibid.**
10. **Ibid.**, pp. 64-65.
11. Deso A. Weiss, "The Pubertal Change of the Human Voice," **Folia Phoniatrica**, Vol. 2, No. 3 (1950), p. 129.
12. Friedrich S. Brodnitz, **Vocal Rehabilitation** (Rochester, Minn.: Custom Printing Inc., (1965), p. 24.
13. Daniel Boone, **The Voice and Voice Therapy** (Englewood, Cliffs, N.J.: Prentice-Hall, Inc., (1971), p. 59.
14. Karl C. Garrison, **Psychology of Adolescence** (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1965), p. 70.
15. Tanner, **op. cit.**, p. 34.
16. Frederick Swanson, "Voice Mutation in the Adolescent Male: An Experiment in Guiding the Voice Development of Adolescent Boys in General Music Classes" (unpublished Ph.D. Dissertation, University of Wisconsin, 1959), p. 217.
17. Weiss, **op cit.**, pp. 130-131
18. **Ibid.**, p. 130
19. Brodnitz, **op. cit.**, p. 25.
20. Weiss, **op. cit.**, p. 130.
21. **Ibid.**, p. 131
22. Weiss, **op. cit.**, pp. 126-159.
23. Wesley S. Coffman, "A Study of the Incidence and Characteristics of Boys' Voice Change in Grades Four, Five and Six, and implications for School Music Materials Deriving Therefrom" (unpublished in Dissertation, Florida State University, 1968).
24. James F. Spann, "A Study of the Incidence, Characteristics, and Choral Potential of Changing Voices in Selected Schools of Brazil" (unpublished Ph.D. Dissertation, Florida State University, 1968).
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26. Gaylord L. Taylor, "The Problems of the Changing Voice and the Literature for Junior High School Mixed Chorus" (unpublished Ed.D. Dissertation, Colorado State College, 1966).
27. John M. Gustafson, "A Study Relating to the Boy's Changing Voice: Its Incidence, Training, and Function in Choral Music" (unpublished Ph.D. Dissertation, Florida State University, 1956).
28. Warren Joseph, "A Summation of the Research Pertaining to Vocal Growth," **Journal of Research in Music Education**, Vol. 13 (Summer, 1965), pp. 93-100.
29. Swanson, **op. cit.**
30. Welss, **op. cit.**, p. 133.
31. Margaret Greene, **The Voice and Its Disorders** (Philadelphia, Pa.: J. B. Lippincott Co., 1972), p. 99.
32. Garrison, **op. cit.**, pp. 70-71.
33. Adms, **op. cit.**, pp. 62-63.
34. Garrison, **op. cit.**, pp. 70-71.
35. Harry Hollien and E. Malcik, "Evaluation of Cross-section Studies of Adolescent Voice Change in Males," **Speech Monographs**, Vol. 34 (1967), pp. 80-84.
36. R. J. Duffy, "A Description and Perception of Frequency Breaks (Voice Breaks) in Female Speakers," **Language and Speech**, Vol. 13, No. 3 (1970). pp. 151-161.
37. Charles P. Pedrey, "A Study of Voice Change in Boys Between the Ages of Eleven and Sixteen," **Speech Monographs**, Vol. 12 (1945), pp. 30-36.
38. H. W. Van Oordt, and H. A. Dvost, "Development of the Frequency Range in Children," **Folia Phoniatrica**, Vol. 15 (1963), pp. 289-298.
39. Weiss, **op. cit.**, p. 140.
40. Pedrey, **op. cit.**
41. Hollien, **op. cit.**

41-A: "Voice Classification": Considered in this context, means that adult classifications (such as tenor, baritone, bass) should not be applied until after the voice "settles." The writer feels that the various developmental stages of the changing male voice should be recognized; then the voice can be classified according to the particular criteria applicable for each stage. The label, "baritone," may be applied to the junior high male voice, but the term does not hold the same meaning as its adult counterpart. Serious Voice Study": This means that a student takes private voice lessons on a regular basis and engages in various solo and concert performances.

42. J. B. Van Deinse, "Problems of the Singing Voice," **Folia Phoniatrica**, Vol. 26 (1974) pp. 428-434.
43. William Vennard, **Singing, the Mechanism and the Technic** (New York: Carl Fischer, Inc., 1967), p. 78.
44. Brodnitz, **op. cit.**, p. 59.
45. Duffy, **op. cit.**
46. Jan Naidr, Miroslav Zboril, and Karel Sevcik, "Die pubertalen Veranderungen der Stimme bei Jungen im Verlauf von 5 Jahren," ("Pubertal Voice Changes in Boys over a Period of 5 Years"), **Folia Phoniatrica**, Vol. 17 (1965), pp. 1-18. Note: Translations of this article are available from Dr. Cooksey, California State University, Fullerton, California.
47. F, Frank, and M. Sparber, "Stimmumfange bei Kindern aus neuer Sicht" ("Vocal Ranges in Children from a New Perspective"), **Folia Phoniatrica**, Vol. 22 (1970), pp. 397-402.
48. ————, "Die Pramutationsstimme, die Mutationsstimme und die Postmutationsstimme in Sonagramm" ("The Premutation Voice, the Mutation Voice, and the Postmutation Voice in the Sonagram"), **Folia Phoniatrica**, Vol. 22 (1970), pp. 425-433.
49. ————, "New Sound Analysis Information on Yodeling, from the Point of View of Phoniatrics and Music Teaching," **Folia Phoniatrica**, Vol. 24, No. 3 (1972), pp. 161-168.
50. Frank and Sparber, "The Premutation Voice, the Mutation Voice, and the Postmutation Voice in the Sonagram.
51. Venard, **op. cit.**, p. 67.
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The Development of a Contemporary, Eclectic Theory For The Training And Cultivation of The Junior High School Male Changing Voice

PART III

DEVELOPING AN INTEGRATED APPROACH TO THE CARE AND TRAINING OF THE JUNIOR HIGH SCHOOL MALE CHANGING VOICE

DR. JOHN M. COOKSEY

The ideas offered by the Eclectic, Contemporary Theory of Male Adolescent Voice Change form a basic framework of integrated concepts which focus upon range, tessitura, register delineation, and voice quality as primary factors in voice development. If the young male can sing in the comfortable area of his range throughout the period of mutation, his voice and tone quality will develop naturally and to the maximum degee ... PROVIDED that proper principles of correct tone production are applied. The challenge then becomes one of developing techniques and methodologies to train the voice during each phase of the mutational process. It is important that the choral director establish an integrated approach in this endeavor; that is, that he or she accept the basaic premises and tenets of the Eclectic, Contemporary Theory, then seek to utilize a *variety* of methods derived from several "pedagogical schools of thought" to support these ideas. Such an approach would rest first and foremost on the key factors, mentioned above (range, tessitura, etc.), but also take into account the various physiological complexities associated with pubertal voice mutation. Because of the many challenges involved ... such as the wide variability of range, tessitura, register delineation, and vocal agility among individuals ... the task of dealing with these adolescent voices in the choral situation becomes highly complex, and at times, extremely difficult. While it is beyond the scope of this article to present a detailed, thorough-going methodology, it is hoped that enough information will be given to enable and encourage the junior high school choal director to 1) recognize and acknowledge the special vocal needs of the junior high school male singer, and 2) develop his or her own integrated system for preserving and training the voice throughout its various stages of mutation. As understanding and insight is achieved, the entire singing experience for the junior high male becomes positive, healthy, and exciting! As a result, the young man becomes more encouraged to continue his participation in choral activities later on in life. He is not "turned off" to being a part of the school choir, and he seeks aggressively to expand his musical experiences in many areas. This writer believes that realistic and practical approaches to training and dealing with the changing voice *can* be accomplished in the choral situation.

The art of singing calls for a complex coordination of mental (cognitive), emotions (affective), and physical (psychomotor) skills governod by each individual's own level of "musical" judgment. Correct phrasing, beautiful tone, distinct enunciation, correct breathing, accurate pitch, and dynamic variety come as a result of carefully analyzing the "ingredients" of the singing process so that a proper sequence of learning can take place. After one has delineated areas for study, a vocabulary of skills can be developed. In singing, training often proceeds in a logical fashion from learning simple concepts and skills related to technique (posture, breath control, then tone control, etc.) to mastering the finer points of style and interpretive musical expression. In the junior high choral field especially, one must first attend to the "basics" of good tone production so that a strong foundation can be developed for the further refinement of vocal skills. The art of choral music makes many demands upon the vocal capabilities of young singers, so it behooves the junior high choral director to give special emphasis to the voice and its cultivation. This begins with 1) classifying the changing voice according to the criteria representing each of the five stages of Voice Mutation (See Article 2 of this series); 2) training the voice according to certain well-defined, workable principles of good tone production; 3) exercising the voice in each stage of its development to achieve good tone quality and resonance, maximum pitch agility and range extension, smooth register transitions, and adequate dynamic-rhythmic flexibility; and finally, 4) choosing choral literature which suits the needs and limitations of the changing voice in each of its mutational stages.

The following outline expands this approach and provides the basic framework within which the junior high choral director can devise his/her own methodology.*

A. Voice Classification and Analysis
   1. Establishing criteria for voice classification: Quality, range, tessitura, register development as important considerations.
   2. Classifying the voice according to the five stages of voice development.
   3. Auditioning and Testing Voices: Individual and Group Methods

B. Understanding the Basic Principles of Good Tone Production
   1. Phonation: Some Physiology
   2. Principles of Good Posture and Breath Support
   3. Methods of applying the above principles

C. Exercising the Voice During Its Mutational Stages
   1. Building Good Tone Quality and Resonance
   2. Building Interallic, Dynamic, Rhythmic Vocal Flexibility and Agility
   3. Range Extension and Register Transitions

The rest of this article will follow the above outline and present ideas which will support the tenets of the Eclectic, Contemporary Theory. Concepts, principles, and methods will thus be considered within the context of an integrated approach.

A. VOICE CLASSIFICATION AND ANALYSIS

1. *Establishing Criteria for Voice Classification*

The junior high male voice should be classified according to the criteria representing each of the five previously defined stages (See Article 2) of voice development. The most important factors for classification are range, tessitura, voice quality, and register development. Range refers to the entire compass of notes which can be sung by the individual Tessitura designates that part of the singer's range (compass) "in which he sings with the most ease and beauty."(1) Voice quality is a very subjective term and refers to the overall nature and color of the sound, as determined by the reinforce-

*Because of space limitations, the topic of choral literature wil be dealt with in another article.

ment of certain harmonic partials within the harmonic spectrum produced for any single note at any given instance in time. "Register" is also difficult to interpret. I shall use it to refer to "the adjustment of the larynx which produces tones of a particular quality, for particular demands of range, dynamics, etc."(2) Control of the intrinsic and extrinsic musculature of the larynx determines the degree of consistency and quality of the sound within a certain pitch region (myo-elastic phenomenon) . . . but so does the degree of air pressure (aero-dynamic phenomenon) exerted through the glottic opening between the cords. There are indeed many adjustments of the myo-elastic and aero-dynamic forces within the larynx as phonation occurs. The consistency of certain adjustments producing smooth transitions between tones within certain pitch regions determines register composition. The same forces are at work when one sings through the lower, middle, and upper sections of the entire singing range. In singing, many experts recognize the existence of three registers: modal (chest), falsetto, and middle (Overlap of the modal and falsetto registers . . . sometimes referred to as "head" register3.(3) Rubin, et al.,(4) determined there are distinct differences within the laryngeal musculature when the modal versus the falsetto registers are produced. The crucial difference is that in the falsetto register, a smaller amount of thyro-arytenoid substance (part of the actual cord muscle) is thrown into vibration and that the vocal cords are activated by a less powerful air blast. In the lower (Modal) register the thyro-arytenoid muscles strike against each other in phonation with varying force, but "in phase." In the uppermost regions (approaching the "break" area) of the modal register, the vocal cords are in a state of maximum tension . . . then, in the untrained singer especially, the main mass of the thyro-arytenoids (cords) relax somewhat and the pure falsetto vibratory pattern appears. The break between the two registers occurs when the muscular adjustment is not smooth. For the "mature" male singer, there may be 1½ to 2 octaves of modal register, with the transition area to Head Register between middle c and f. f# the head register may continue . . . but the falsetto may take over at this point, and most certainly between a and c (above middle c). NOTE: IN THE UNTRAINED SINGER, there may be little or no head register, and the "break" to falsetto may occur around d or e (just above middle c). The falsetto register, then, may extend up the scale to high g (just above the treble staff), or a few notes beyond. The falsetto register appears during the Midvoice II Stage and becomes most noticeable by the time the Baritone Stage is reached. In many cases, the head register (blending the qualities of modal and falsetto registers) . . . "middle" . . . does not appear, and there is a decided break just above middle c where the falsetto takes over. If proper vocal training has transpired before and during Midvoice II, Baritone stages, the transition area (head register) becomes more negotiable, and the young voice can make a smooth transition to falsetto.*

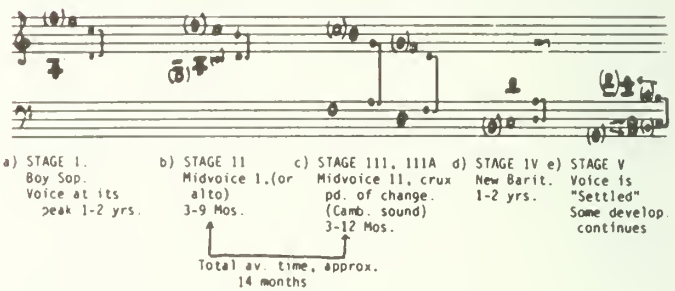
For adult voice classification, the singer's frequency range is ultimately the determinant, along with tessitura and voice quality. Vennard(5) and others feel that the "lift point" between the modal and head registers . . . Or modal and falsetto (where the head register . . . blend of modal and falsetto . . . has not been developed) is a less important consideration. Basses would have a lower "lift point" (exact place where the quality change is noticeable), say middle c, than a baritone (d-e), or tenor (e-f). Sundberg adds that the voice designation really is "established by the shape, size, and musculature of the vocal folds."(6) It should be obvious to the reader at this point that the traditional adult voice classification will not fit the junior high male voice since all the factors mentioned prior to this point (range, tessitura, register development, quality) are in a state of flux due to the growth of the vocal mechanism and the total body processes during adolescence. Instead, the junior high choral director should use the four basic criteria, and apply them to the five stages of voice mutation described in Article 2 of this series. While tendencies toward bass, baritone, and tenor will become more obvious as the voice matures, the teacher would be wise to view the male voice as a growing, developing mechanism which has not yet reached full maturity.

2. *Classifying the Male Voice According to the Five Stages of Voice Development*

The five stages of voice mutation offer a point of reference and outline from which crucial decisions about the possibilities (range, tessitura, part assignment, etc.) of each voice can be made. While some voices may not "fit" *any* of the categories, the majority should *approximate* the various stages presented below. Figure 1 shows the Ranges and Tessituras for the changing male voice during mutations, and Table 1 gives a brief summary for each stage, highlighting the criteria for voice classification that have been discussed thus far in this article.

FIGURE 1

RANGES AND TESSITURAS FOR THE CHANGING MALE VOICE*



*Bracketed notes — tessituras

TABLE 1

SUMMARY OF THE FIVE STAGES OF VOICE DEVELOPMENT IN THE ADOLESCENT MALE

Stage I, Premutation: Boy Soprano Classification

a. Pre-pubertal period. May extend into 7th grade.
b. Mean average pitch frequency of speaking voice about middle c or b.
c. Singing voice: Full, rich sound, soprano-like sound. Voice reaches pinnacle of development for childhood. Range and Tessitura: See Figure 1. Register: Only modal sound of soprano-like quality throughout range. No lift points apparent yet.
d. Usually sings soprano part, but may also manage some harmony parts, Sop. II or Alto.
e. Very flexible/agile, with good capability for dynamic variation.

*(This matter will be discussed in greater detail later on. The reader should note that the terms middle and head registers are being used to describe the same vocal phenomena in males. A different situation exists in women's voices. Here the transition area from chest (modal) to middle registers occurs between middle c and f, f# above. The middle register extends to c or d, e (octave above middle c) where the head register . . . IN THIS CASE, A DIFFERENT REGISTER . . . takes over and extends upward another octave. At the point of high c (above the treble clef), the falsetto (some call this the whistle register) register begins. Hence, the terms middle and head registers are not synonymous . . . as is the case with the male singer.)

Stage II, Early Mutation: Midvoice I (or Alto)

a. Initial pubertal period. Grade 7 or early Grade 8. For the majority, occurs between ages 12 and 13.
b. Speaking voice begins to lower. Mean average pitch: a or b. Speaking voice timbre becomes a little rougher, darker . . . but still light.
c. Singing voice: Variable loss of high tones in the range, and increasing breathiness and strain, especially above c1 (3rd space, treble clef). There is little body or resonance in the extreme *lower* part of the range.
Register: Only the modal still apparent, but some points of quality changes becoming evident, around B flat to c1 (3rd line, 3rd space, respectively, treble clef)
d. Usually sings the alto part, but still has most color and power in the mid-range area, d (just above middle c) to b o c1 just above.
e. Volume capabilities begin to diminish

NOTE: A very difficult stage to detect since the voice still has not undergone pronounced changes, either in range, register development, or quality. Some teachers, unfortunately ask these students to sing in the upper range when it actually is in the process of diminishing, both in terms of volume and quality. Listen for breathiness and increased strain in this area. Also watch for visible signs of vocal discomfort as the student sings in this register.

Stage III, IIIA, High Mutation: Midvoice II Classification

a. Height of pubertal period. The majority of boys in this stage are found in the eighth grade. Age span: 13-14 years of age.
b. Speaking voice becomes noticeably huskier and lower in pitch. Mean frequency pitch: a or g just below middle c.
c. Singing voice: Extremely crucial period for careful voice training. The voice loses agility and becomes harder to manage. There are coordination problems related to the external and internal growth of the laryngeal muscles.. The quality of the sound becomes "unique" and stabilizes for a time. It can have a harsh edge if too much exuberance is allowed, be exceptionally breathy and weak if not encouraged, or be quite startling in its beauty and richness if cultivated properly; that is, if the voice is encouraged to develop within its own natural pitch tessitura.
Register differentiation becomes apparent as the falsetto register emerges (around b. c1, d1 area in treble clef).
d. Crucial period for part assignment. Standard alto parts sometimes too high; tenor parts too low.
e. Surprising volume capabilities, if cultivated properly. Maximum power of sound produced between A (below middle c) and g (2nd line, treble clef).

STAGE IIIA

The baritone quality can be recognized during this time, and evolves most noticeably in the lower half of the singing range. The modal register begins to take on its characteristic quality in pitches located in the bass clef range, but the young singer retains much of the midvoice II quality and range in the middle c to g (2nd line, treble clef) or a range.

Stage IV, Postmutational Period: New Baritone Classification

a. A "settling" period. Often begins near the end of the 8th grade or beginning of the 9th grade, and can extend to the 10th or 11th grade. Age: late 14th year (early 15th year), extending to 16 or 17.
b. Speaking voice has lowered to approximately E or D (bass clef). Adult sound still not fully apparent.
c. Singing voice: See Figure 1 for range and tessitura. The quality is difficult to describe since resonation capabilities in the lower register extremes are not yet fully developed. The voice remains light, but approximates the mid-baritone sound. It is huskier than the Midvoice II sound, has a definite register lift point (middle c or d), and typically can not sing without strain in or above that area. The passagio region extends from middle c to possibly e or f above. While this transition area may be difficult for the young voice to negotiate, register breaks can possibly be avoided with proper vocal training. Some voices can sing from the modal to head (middle) . . . middle c to f or g . . . to falsetto without undue strain.
d. Vocal agility is usually limited. These recently changed voices may have difficulty in negotiating fast moving parts containing intervallic leaps of more than a perfect 4th or 5th.
e. Assigned to baritone part. Sometimes (and often!) SATB bass parts are too low.
f. Volume capabilities are somewhat limited at first since the voice is light; however, the dynamic compass increases dramatically if proper training is applied.

Stage V, Early Adult Phase: Adult Tenor, Baritone, Bass Qualities Emerge

a. May occur in the latter part of the 9th grade, but most often occurs after the male reaches 17 or 18 years of age.
b. Speaking voice approximates the adult sound.
c. Singing voice: Body and resonance of the tone increases, and characteristic adult qualities emerge. Vocal agility, resonance, and power increases significantly.
d. Must be assigned to tenor, baritone, or bass parts, depending upon voice classification.

3. *Auditioning and Testing Voices: Individual and Group Methods*

To classify the male voice according to the stages of mutation, and to discover the capabilities of the voice, individual testing is a necessity. Although this might be a time-consuming, logistical problem for the choral director, the results are well worth the effort. Allowing about ten to fifteen minutes with each student, the teacher can assess the following factors: range, tessitura, voice quality, register development, speaking voice pitch, posture and breath control, volume capabilities, dynamic-rhythmic agility, pitch agility, tonal memory, diction, intonation, sight singing ability, outstanding personality characteristics, and vocal strengths and weaknesses. At first glance, this list appears imposing, but all of the factors may be evaluated if the audition is properly organized and executed. To evaluate the junior high male singer using the criteria listed, the choral director may consider the following procedure:

1. Student enters room . . . has already completed a "general information" part of his audition card. (This gives you pertinent details about his musical background: choral experience, instrumental lessons, etc.). *Talk* to him to put him at ease. Call him by name and ask him a few questions, perhaps about his grade in school, what sports he likes, etc. By carefully listening to the pitch of his speaking voice, you can get some idea of where to begin matching tones; that is, if the voice sounds low and has a husky quality, begin the matching tone exercise at C or D in the bass clef.
2. Ask the student to stand several feet from the piano, facing you, but unable to see the keyboard. Students "psych" themselves out when they watch the notes going higher, etc.

DEVELOPMENT . . .

3. Matching tones . . . Begin somewhere close to the pitch of the speaking voice. (which is usually about a 3rd or 4th above the lowest point in the student's singing range.) Find comfortable pitches for them to sing initially. This builds confidence. and begins the audition on a positive basis. Ask the student to sing an open vowel (lah. for example) on several pitches. Recommended beginning tones are:

   Boy Soprano: d to f or g (above middle c)
   Midvoice I: c to e or f (above middle c)
   Midvoice II: B flat (below middle c) to c or d (just above middle c)
   New Baritone: C to F (bass clef)

   Encourage the student to project the sound with energy and confidence. You may want to sing with him a little to get him started. Be positive and enthusiastic. Unless YOU project confidence, the student may not give you an accurate "reading" of what he's really capable of doing.
4. If the student matches pitch easily. ask him to sing a simple four note exercise on "mah:" 1 2 3 4 3 2 1 (diatonic scale tones: ♩ = 60). Voice the "m" only on the initial note of the pattern. Begin again in a comfortable singing area and descend/ascend by ½ steps, using the same sequence each time. (Check for range. tessitura. breath support. vocal control, voice projection. and register changes).
5. To check for tessitura, diction. vocal problems. breath control. volume. and intonation. ask the student to sing "My Country 'Tis of Thee" ("America"). Since this song is familiar(to many students and has a limited range (major sixth). it is especially good in the initial audition. Be careful to begin in a comfortable key!

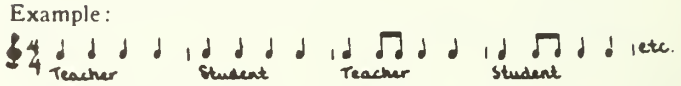
   Boy Soprano: Key of e or f (beginning tones just above middle c)
   Midvoice I: Key or d or c.
   Midvoice II: Key of B flat or c.
   New Baritone: Key of D or E (Bass clef).

   Be flexible and listen for the comfortable "lie" of the voice. If you are not sure about the mutation stage of the voice (having listened to the speaking voice. and conducted the matching tone. four note exercises), try several keys. using the guidelines given above.
6. Next. try some quick flexibility exercises and also check for register changes. Sing the 1 3 5 1 (octave above) 5 3 1 pattern on "pah" with eighth notes (♪ = 120). ascending and descending by ½ steps using the saame sequence.

   NOTE: For midvoice II. the span of an octave is difficult to negotiate. Try the following exercise instead:

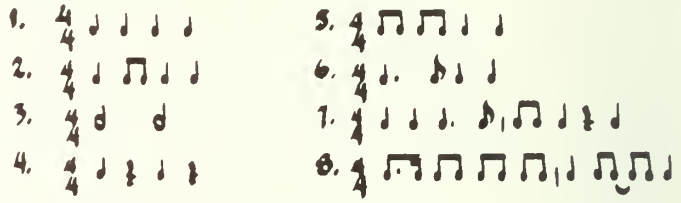
   Another exercise for all boys: 1 3 5 3 1 (♩ = 120), beginning at C (bass clef) for baritone, middle c for midvoice I, B flat (just below middle c) for midvoice II, and e or f for boy sopranos. Using the same pattern ascend, then descend by ½ steps. Sing this on the syllable "pah."
7. Tonal memory test: Play three-note, stepwise patterns, and ask students to sing them back to you. Then go for triads. and gradually work for larger intervallic separations. Next. go to 4 or 5 sequences. Ex.: 123. 321. 234. 432, 135. 531, 145. etc., 13531. 12345, 12543. etc. Add accidentals. if the student is really good!
8. Rhythmic memory, Sense of tempo: Use a call-response technique, clapping simple quarter, half, eighth note patterns. The student listens and claps the patterns in tempo, in sequence, not losing the feeling for the basic pulse.

Example:



Next, use dotted patterns, rests, then syncopations. Go to two measure sequences. using the same call-response method.

The reader may be interested in using the following patterns which I have devised: (They are graded. from easy to very difficult)



***(The writer expresses great appreciation to Professor Rodger Vaughan. Coordinator of Music Theory, California State University. Fullerton, for doing all the music notation work for the articles in this series.)

9. You could close the audition with sight singing. In junior high. many young boys will not be able to do this. since few have adequate musical backgrounds. I find the tonal and rhythmic exercises provide essential information about the musicianship of the male singer. If he has a good tonal memory and excellent rhythmic control, he will be a real asset to your choir . . . and will learn to read music quickly, if given the proper training!

It should take the director only about ten to fifteen minutes to complete the above procedures if the pacing is fast, and the criteria to be tested are listed on an audition card for each student. The next test may be less detailed. You will want to spot check for range/tessitura modifications, particularly if the student is in the 8th grade and his voice has entered the midvoice II classification.

Unfortunately. many teachers do not have the time or resources (Student assistants. choral aides) to implement full-scale individual auditions at the beginning of the school year. If "group testing" has to be done. during the regular choral period. voices must be assigned to their respective parts very quickly. Otherwise, students may lose interest. While I prefer individual testing. the following group testing procedure is recommended:

1. For mixed chorus: grades 8-9. divide the class into two groups. boys on one side of the room, girls on the other.
2. Ask everyone to sing "America" in the key of C. The range of a major 6:h in C fits the vocal ranges reasonably well for all parts. Junior high girls, midvoice I's and II's sing in the treble clef compass, while baritones double the pitches an octave lower. You may wish to use another "limited range" song. If so, be sure that its pitch compass does not extend beyond the limits, B flat (just below middle c) to g or a (treble clef).
3. Ask the boys to sing alone . . . in C. Listen for voices singing in the octave BELOW middle c. As you walk around. point to the boys in the section who are singin the lower octave and tell them to stop singing. These are your baritones.
4. Those identified as baritones sing alone as a group. Check for any errors you might have made!

5. Ask the remaining boys (after the baritones are seated together as a section) to sing "America" in f or g (above middle c). Walk through the section and point to those who are obviously singing in the upper octave. These are unchanged boy sopranos . . . or possibly midvoice I's. Assign these voices to a treble part (alto preferably, for social reasons). Boys are very self conscious in the 8th grade, and in a "mixed choir" situation do not want to be "identified" with the soprano part. For this reason, the teacher may even want to assign these voices to tenor, realizing, of course, that this part will be *too low* part of the time. In any case, the boys should be seated with the rest of the male section. The following diagram shows one way to seat these students, taking these factors into account

Soprano	Baritone	Midvoice II	Alto

x = unchanged voices and midvoice I's

6. For confirmation, boy sopranos (unchanged voices) sing "America" in f or g. The remaining voices should be midvoice II's. Ask *them* to sing "America" in B flat (below middle c), then assign them to the tenor part. (The limitations of this part as it appears in most SATB music will be discussed in the last article of this series.
7. For girls, ask them to sing "America" in G. Pick out the strongest, most developed voices, and ask that they sing "America" in c or B flat (below middle c). Voices which are strong in both the upper and lower registers may be evenly divided between alto and soprano. Remaining voices balance between alto and soprano.

   NOTE: Girls' voices are also maturing at this age, and have not "settled" into the alto classification.
8. Ask newly assigned altos to sing "America" in B flat, then g. The sopranos do the same. Listen for uniformity of sound within and between the groups. Listen for BALANCE. Essentially, there will not be a great difference in quality or volume between the sections.
9. Finally, everyone sings "America" in c, to establish a feeling of unity and confidence!

NOTE: The above procedure can be done quickly and efficiently, with practice! The teacher may elect to sing only the first part of "America" in some instances so that the students will not get bored by singing the song so many times!

For boy's glee (grades 7-9), the same principles should apply, with newly changed voices being assigned to baritone I, II; midvoice II's to tenor I or II; and boy sopranos, midvoice I's to tenor I. Variations will occur for two and three part music. The main idea is to separate unchanged (boy sopranos), changing (midvoice I and II), and newly changed (baritones) voices so that unified sections may be established right away. This allows the choral director much flexibility in teaching whatever music he/she has selected (Be it scored for unison, two, three, or four parts.) It also instills excitement and confidence in the young singers as they begin to learn about the capabilities and limitations of their own singing voices.

B. UNDERSTANDING THE BASIC PRINCIPLES OF GOOD TONE PRODUCTION

1. *Phonation: Some Physiology*

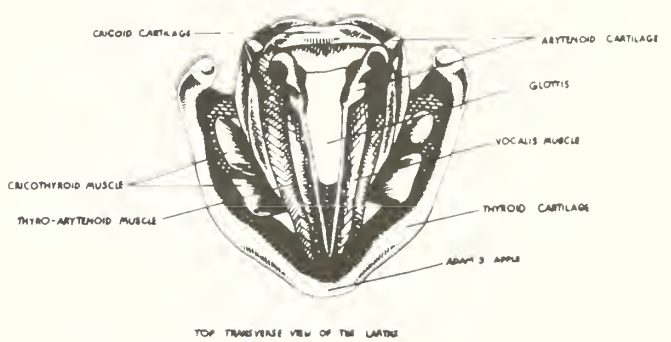
After voices have been tested and assigned to sections (parts), the choral director must devise ways to train and cultivate the changing male voice so that it may develop and grow in a healthy manner. Besides choosing appropriate choral music which suits the vocal limitations of the junior high singer, individual group procedures should be implemented for promoting good phonation/tone production. This means that the choral director must understand some physiology and principles of phonation. If he/she knows how the vocal instrument works, principles of good tone production may be established quickly, and efficiently applied in the rehearsal situation.

The entire physiological-accoustical system related to voice production is in a state of flux during junior high school. As stated previously, the larynx (organ of phonation) and its associated musculature is growing and developing at a rapid rate, so extreme care must be exercised to insure the proper balance between breathing and phonation. John Sundberg, in an excellent article, "The Acoustics of the Singing Voice,"(7) states that phonation involves three major units: a power supply (lungs), an oscillator (the vocal folds), and a resonator (the vocal tract).(8) Phonation begins with the activation of the vocal folds, but proper breathing sets up this function:

> "The main voice function of the lungs is to produce an excess of air pressure, thereby generating an air stream. The air passes through the glottis, a space at the base of the larynx between the two vocal folds (which are often called the vocal cords but are actually elastic infoldings of the mucous membrane lining the larynx.). The front end of each vocal fold is attached to the thyroid cartilage, or Adam's apple. (See Figure 2) The back end of each is attached to one of the two small arytenoid cartilages, which are mobile, moving to separate the folds (for breathing), to bring them together, and to stretch them. The vocal folds have a function apart from that of producing sound: they protect the lungs from any small objects entrained in the inspired airstream. Just above the vocal folds are the two "false" vocal folds, which are engaged when someone holds his breath with an overpressure of air in the lungs. The vocal folds (Figure 3) are at the bottom of the tube-shaped larynx, which fits into the pharynx, the wider cavity that leads from the mouth to the esophagus. The roof of the pharynx is the velum, or soft palate, which in turn is the door to the nasal cavity. When the velum is in its raised position (which is to say during the sounding of all vowels except the nasalized ones), the passage to the nose is closed and air moves out through the mouth."(9)

FIGURE 2***

TOP TRANSVERSE VIEW OF THE LARYNX



TOP TRANSVERSE VIEW OF THE LARYNX

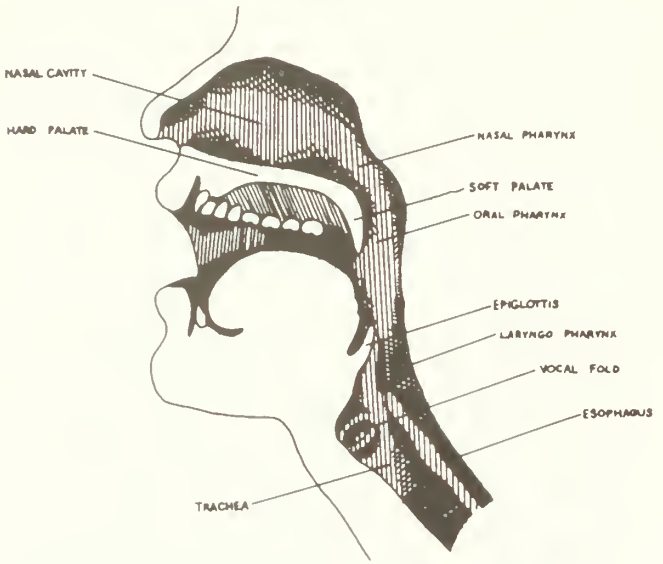
After the vocal folds have been activated by the column of air pressure, sound waves are created and travel through the vocal tract (The laryngo-, oro-, and naso-pharynx areas,

plus the mouth: SEE FIGURE 3), which constitutes a resonance chamber. The shape of the tract (except the nasopharynx) is adjustable, and changes according to the positions of the articulators: the lips, jaw, tongue, and the larynx. This in turn affects the quality, and produces the unique character of each singing tone.

A widely accepted theory (Myoelastic-aerodynamic principle)(10) for voice production makes it clear that Sundberg's idea of phonation is highly accurate, and should be understood by those dealing with human voice production:

FIGURE 3***

PRIMARY RESONANCE AREAS



***Both drawings by Tricia Smith, CSUF art student.

> "With the glottis closed and an airstream issuing from the lungs, the excess pressure below the glottis forces the vocal folds apart; the air passing between the folds generates a Bernoulli force that, along with the mechanical properties of the folds, almost immediately closes the glottis. The pressure differential builds up again, forcing the vocal folds apart again. The cycle of opening and closing, in which the vocal folds act somewhat like the vibrating lips of a brass-instrument player, feeds a train of air pulses into the vocal tract. The frequency of the vibration is determined by the air pressure in the lungs and by the vocal folds' mechanical properties, which are regulated by a large number of laryngeal muscles. In general, the higher the lung pressure is and the thinner and more stretched the vocal folds are, the higher is the frequency at which the folds vibrate and emit air pulses. The train of pulses produces a rapidly oscillating air pressure in the vocal tract; in other words, a sound. Its pitch is a manifestation of the vibratory frequency."(11)

With the proper balance and control of air pressure against the vocal folds (which are controlled by extrinsic muscles . . . that is, those that move the larynx in relation to adjacent organs . . . and intrinsic muscles . . . those that are responsible for actual laryngeal function), maximum phonation efficiency can be achieved. In the junior high area, this is, often not the case. Young singers often "overblow" the cords; that is, force too much air pressure through the glottis at any given moment. This causes vocal strain, and sometimes increased breathiness. Physiologically, the excess subglottis pressure affects the proper coordination between the extrinsic and intrinsic musculature of the larynx, and this in turn sets up laryngeal actions which impair the efficient operations of the vocal mechanism later on in life. For these reasons, it behooves the junior high choral director to give special attention to teaching his/her students proper breathing for singing.

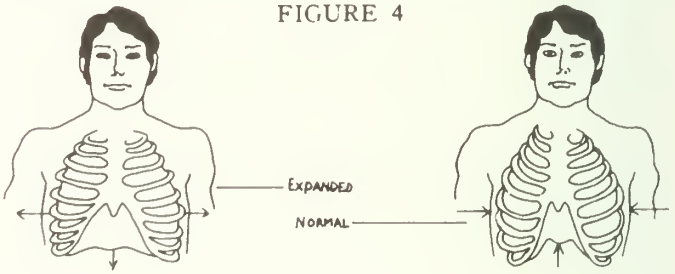
2. Considering the Power Supply . . . Teaching Principles of Good Posture and Breath Support

Unfortunately, many vocal problems of adolescent males begin with some malfunction of the bodily organs and muscles associated with breathing. Because of the continuing growth in the size of the thorax and associated muscles (Mainly intercostal, diaphragmatic, and abdominal) during puberty, proper coordination between these muscles during singing is sometimes difficult to achieve. It is very important, therefore, to establish correct habits in this area.

The act of breathing involves at least two major phases, inspiration and expiration (inhalation and exhalation). During inspiration, the thorax expands, and the lungs fill with air from the bottom lobe to the top. As air fills the lungs, the walls of the thorax (chest) expand, aided by the upward pulling of the external set of intercostal muscles. "The slope of the ribs is such that pulling them up moves the sternum forward and also expands the rib cage sideward."(12) Simultaneously, the diaphram (large dome shaped muscle that provides a floor for the thorax and separates the heart and lungs from the abdominal viscera) contracts and lowers itself, increasing the capacity of the thorax. When the diaphram drops, it presses down upon the stomach viscera, thus encouraging muscular abdominal expansion. In the expiratory phase, the internal intercostal muscles pull the ribs of the chest back into place; the abdominal muscles (four sets), resisted and steadied in their contraction by the diaphram, compress the viscera, causing it to press against all the abdominal surfaces (including the diaphragm). If the fibers of the diaphragm are relaxed, the visceral pressure will push the diaphragm upward to decrease the thoracic area, increase the internal pressure, and thus force the air out.

To teach this concept to young junior high boys, I first give a very "simple" explanation of the breathing process. I draw a figure (See Figure 4), speak of chest expansion, stomach relaxation-expansion, and contraction of the diaphragm when the air comes into the body. I am careful to tell them that they *can not feel* the diaphragm! Upon expiration, there is a slight squeezing action felt just below the sternum (epigastrium muscle) continuing down to the lower abdominal area. I'm careful not to let the students work too hard at this. I do, however, allow them to exagerate the basic muscular actions in the initial stages of the lesson.

FIGURE 4



I ALWAYS seek to avoid excessive chest (clavicular or abdominal ("belly") breathing. Younger boys (7th and 8th graders) may have a tendency to pull up the shoulders when they first try this technique, and older boys (ninth graders) may overwork the lower abdominal muscles.

After my initial explanation and demonstration, I ask the boys to place the palm of their hand just below the sternum on the epigastrium area (upper abdominal region), then follow the procedures listed: (NOTE: Be sure to show them *when* to breathe, and for how long, by the conducting gesture. That is, move the arms apart to indicate inspiration.

then bring them back together during the expiration phase.)

1. Inhale by audibly sucking air in through puckered lips. (This controls the *rate* of air flow going to the lungs, and permits the chest and abdominal areas to expand gradually.) GUARD AGAINST excessive throat tension here. Inhale slowly and evenly. You may wish to count to four, or show how long you want inhalation to last by indicating this with your conducting gesture.
   At the end of inhalation, immediately expel the air by hissing, "sssss." (Do not lock the throat area or tense abdominal muscles unduly at the moment just before expiration; also, do not hold ("(lock") the air just before exhalation.) The entire inspiration and expiration process should be thought of as a continuous action.
2. Repeat . . . checking for relaxation in the upper part of the body, particularly the throat and stomach area during inhalation.
3. Suck the air in, hiss "sss" . . . then connect with a voice (sung) sound, "sah." The hiss may take place for a count or two, after which the "sah" sound begins. The "sah" tone should be a comfortable note for all voices. If a mixed choir is participating in this exercise, use middle c (octave below for baritones). If you are working with separate/individual voices: use f (above middle c) for boy sopranos and midvoice I's; middle c for midvoice II's; F (below middle c) for baritones.
4. Now inhale (sucking the air in), expell the air on whispered "hah." This eliminates the lip area as the focal point for expelling the air, and allows the student to feel the upward flow of air in the back of the throat area.
   Next, inhale on whispered "ah" and expel on whispered "hah."
5. Inhale, whispered "ah," and connect immediately upon expiration with the sung sound, "hah," on a comfortable tone. (See #3).
6. Gradually eliminate the whispered "ah" (Inhalation) so that a normal, noiseless inspiration of air is accomplished. Along with the elimination of inspiratory air noise, there should develop a well-coordinated intercostal, diaphrammatic-abdominal action which serves to direct the air pressure at the proper rate and intensity through the glottis. The resulting tone should be rich and unforced.
7. Try steps 4-6 in different tempos.

It may take several sessions, particularly in a large group situation, to go through all the steps outlined above. Not everyone will catch on right away, so individual help sessions will be necessary. It is important also to identify certain key problems which seem to occur quite often among young junior high boys. Some of these are:

1. Failure to hold the chest up, relax the abdominal area during inhalation.
2. Shallow breathing: too much chest action, raising shoulders. To combat this problem, move the boy's shoulders physically as he breathes. If the shoulders can remain in a relaxed position, proper chest and abdominal expansion can take place. Other techniques for solving the problem: ask the student to lie down on the floor and breathe with a book placed on his epigastrium. Since the shoulders can not move upward in this position, excess tension in the upper torso is easily eliminated, and the focal point for inhalation becomes the abdominal region.
3. Reverse muscular action . . . that is, the stomach pulls inward as the student breathes. To solve this, place the student's hand on your stomach (just below the sternum), and your hand on his . . . then breathe together. He will catch on right away that the stomach relaxes and comes out during inhalation . . . It does not tighten, or draw itself inward. The teacher might also apply some pressure inward upon the student's epigastrium during EXHALATION, then *release* the pressure just as the student inhales. Sometimes this helps to establish the proper concept of contraction-expansion: inhalation = expansion; Exhalation = contraction.
4. Consciously pushing the stomach in or out. This can easily occur, if one uses the techniques I have suggested for teaching proper breathing. Be sure throughout the lesson that the male does not "muscle" the air in or out. The "sucking" of air (See Step 1, teaching breathing techniques) controls the rate of intake so that exaggerated muscular actions will not occur.

Vennard states that the "muscles of posture will work by themselves if we know what they should be accomplishing and concentrate on that."(13) This does not mean that certain principles of good posture should be ignored! Good posture reveals a confident appearance and "provides a body readiness for the coordination that is needed to aid artistic communication through singing. With the proper posture it is possible to insure increased efficiency of the vocal and breathing mechanism. For good posture, the head, chest and pelvis should be supported by the spine in such a way that they align themselves one under the other . . . head erect and chest high. The position of the head and shoulder allow the jaw to be free, not pulled back into the throat. This liberates the organs in the neck. The high chest implies that the shoulders go back, but they should relax and be comfortable."(14)

To teach the above concepts:

1. Rest the body weight easily on slightly parted feet. Watch out for feet which are too close together, or aligned exactly evenly. One foot should be placed slightly in front of the other.
2. Raise the arms above the head, then lower them slowly (keeping them extended) on either side of the body, holding the chest up and shoulders back as the arms descend. Be sure the body does not tense or become "locked" in a soldier-like position. To check for this, ask the group to raise their bodies on the tips of their toes, then return slowly to the original standing position.

Watch out for the following problems:

1. Slumping shoulders and slouching (collapsed chest): A book on the head helps! Try the arm stretch up and down again.
2. Jutting chin and locked jaw; head tilted too far up: Rotate the head around as the student sings. Book on the head will also help.
3. Standing on one leg! Raise the body on tips of toes, then come back down gradually.
4. Hands folded: Allow arms, hands to hang naturally at the sides of the body.

C. EXERCISING THE VOICE DURING ITS MUTATIONAL STAGES

1. *Building Good Tone Quality and Resonance*

Once the principles of good psture and breathing have been established, good tone quality and resonance must be developed in the changing voice. This means that the proper *coordination* between the sub-glottic air pressure, extrinsic and intrinsic muscular control of the vocal folds, and articula-

tion within the resonance areas must be achieved. With the young male singer, care must be taken so that an excessive amount of air is not forced through the glottic area (space between the vocal folds) at one time, or that the extrinsic muscles of the larynx, neck, chin area are overworked. Most often, these problems occur because the young singer tries to reach notes that are out of range, or becomes overexuberant as he produces notes in the forte dynamic range. "Control" is the key concept here, for the vocal cords must constantly adjust and "approximate" properly according to the dynamic and pitch demands of the music itself. (NOTE: in the normal larynx, the elasticity of the vocal cords can be increased simply by the opposing actions of the thyroid muscles and their antagonists, the cricothyroid muscles. (See Figure 2). The former tend to shorten the vocal folds, and the latter to elongate them. The pitch of the tone is determined by the tension of the vocal cords, the size of the glottic opening, and the amount of air pressure passing through. The cords approximate in varying degrees, depending upon range, dynamic, and register demands.)

It is important to secure the correct balance between air pressure, cord tension, and overall energy level input into the sound as the voice passes through its various stages of mutation. If too much air pressure is applied, the cords cannot approximate properly, and excessive tension is created within the laryngeal muscles to compensate. If too little energy and air pressure is generated, the more typical, breathy, thin sound will persist. I think it is important that the choral director work for the mezzo-forte to forte sound first, concentrating on the exercises in the EASIEST singing tessitura of the voice . . . *before* going after range extension and register transitions, pitch agility, etc. After all, the young man, regardless of his stage of voice mutation, must gain enough confidence to "trust" his voice. This can only come when he knows (with some assurance!) what kind of a sound will be forthcoming as he attempts phonation in various parts of his range. With confidence comes energy, projection, and vitality. Too often it is easier to neglect the phychological factors involved . . . the insecurities produced by the rapid physiological and psychological changes taking place . . . as attempts are made to get the vocal instrument functioning properly. If the young singer can learn to "sing out" with energy (avoiding strain) on the notes that are most comfortable for him to sing, the task of refining and cultivating the sound becomes much easier. It is better, I feel, to risk some "over-energizing" at first, however, in order to establish the self-confidence of the singer and "vitalize" the sound. With junior high males, it is extremely difficult to work in the reverse way; that is, establish refinement, control, and careful pianissimos *before* realizing the forte possibilities of the vocal instrument.

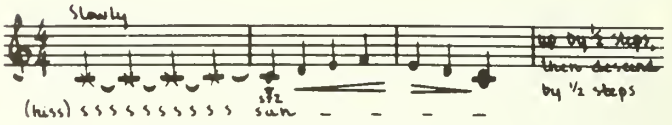
There are a number of exercises which will help establish good energy levels in the tone, balanced articulation between air pressure and vocal cord functions, and pleasing resonance in the sound. Here are a few which I have used with some success:

a. Work at sustained, single tones first . . . on the fundamental vowels (ah, ah, ee, oh, oo), mezzo-forte level. Later on, vary the dynamics. Next, to develop breath support and unify the sound, sing a diatonic 1 2 3 4 3 2 1 pattern on single sustained open vowels, repeating the sequence, ascending then descending, by half-steps.

To energize the sound, try the following:

1) Hiss, then connect with vowel "ah" or "oh" at sfz dynamic level, and sustain on one pitch level. (Use pitches which are comfortable for midvoice I, II, baritone, boy soprano) Next, hiss, then connect with "ah" or "oh" vowel, singing the 1 2 3 4 3 2 1 pattern, sustaining the last note.

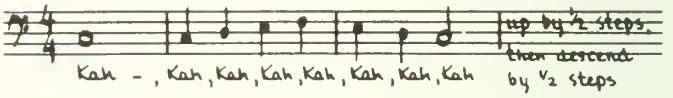
Ex.: Midvoice II (Beginning tones for Boy Soprano, midvoice I: d or e above middle c; for baritone, D, in the bass clef)



2) Try the same exercise, buzzing the "v" sound with the lips (instead of "ssss" sound), making sure the tongue continues to touch the lower inside teeth. Try "vvvvvah," then "vvvvvvoh" at first. Once these are mastered, other vowels can be used.

b. To develop energy in the sound, sing "Kah" (with lots of "K") on sustained notes in the comfortable tessitura. Then sing the 1 2 3 4 3 2 1 pattern(articulating the "k" on each note. (= 60). Repeat the sequence, ascending then descending by half-steps. Try this exercise using different dynamic levels.

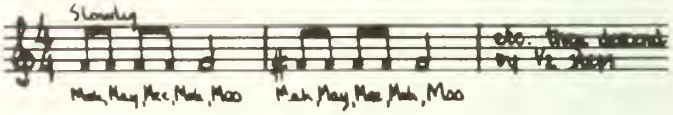
Ex. Baritone Voice (See "a." exercise for beginning pitches for other voices)



Note: In this exercise the "k" releases the back of the tongue when the sound is produced, thereby helping to keep the larynx down.

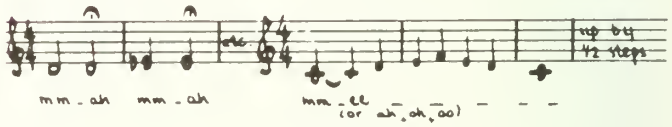
c. To develop vowel consistency, good resonance in the naso-pharyngeal cavity, and unity of sound in the mid-range, try the following:

Ex. Midvoice I, and Boy Soprano (See "a." for beginning pitches for other voices).



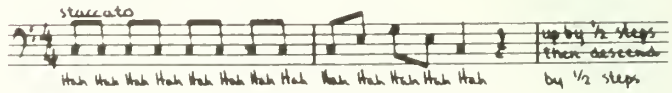
NOTE: For best results, 1) stress the importance of singing on the vowel; 2) vocalize within the middle range of the voice; 3) move smoothly from one vowel to another; 4) *listen* carefully and strive for uniform production within the group.

For improved resonance, also try: Ex. Midvoice II.



d. For working on the balance of air pressure versus proper cord resistance, and building energy in the sound: (This must be done LIGHTLY, keeping all voiced tones in a comfortable range.)

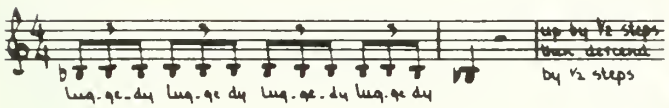
Ex. Baritone Voice.



This exercise can be done in unison, with a mixed choir, provided the melodic sequence is begun in the middle c (Octave below for baritones) area. If the sequence is repeated, ascending, then descending by half-steps, care must be taken to avoid singing beyond the upper and lower limits of the changing voice range.

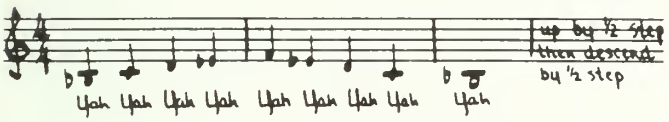
e. To build resonance and projection, keep the tongue and jaw flexible, and maintain a low larynx position, try the "luggedy, luggedy, luggedy, luggedy, lah" exercise! This one is especially good for midvoice II's and baritones.

Ex. Midvoice II



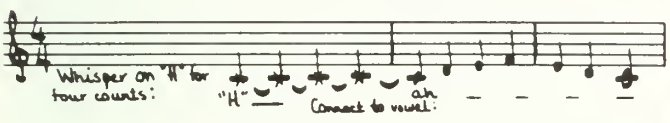
f. For flexible jaw, vital sound projection, proper energy level, try the following exercise. This one can be adapted to the comfortable singing ranges of midvoice I, and baritone.

Ex. Midvoice II



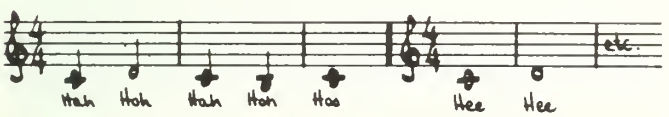
g. To develop proper glottic pressure and breath support: (especially good for midvoice II, and baritones.)

Ex. Midvoice II (Adapt to comfortable ranges of midvoice I, boy soprano, and baritone).



Also, try "Hah, Hoh, Hee, etc." on sustained tones, getting immediately to the vowel sound on each pitch. The aspirate "h" helps to prevent "locking" the vocal cords before the attack.

Ex. Midvoice II (Adapt to comfortable ranges of midvoice I, boy soprano, and baritone)

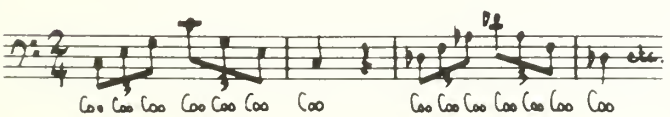


2. Building Intervallic/Dynamic, Rhythmic Vocal Flexibility and Agility

After the proper confidence, energy level, and coordination between air pressure and the vocal mechanism are establishd in the COMFORTABLE singing range, the above exercises (a.-g.) can be used throughout the developing pitch range. Vocalises for improving intervallic/dynamic, rhythmic agility can also be utilized. As in the above exercises, the following vocalises should begin in the most comfortable singing area of the voice:

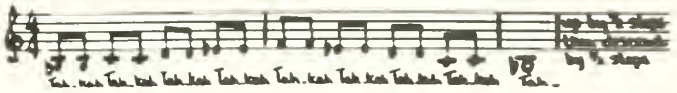
a. For lightness, good vocal cord approximation for expanding the range, and rhythmic-pitch agility: (Place the finger lightly on the upper ridge of the thyroid cartilage . . . Adam's Apple . . . and check for excessive throat tension and raising of the larynx. Each student should do this as he sings the exercise.)

Ex. Baritone (For midoice II, this should only be done within the F to a/b flat range.)

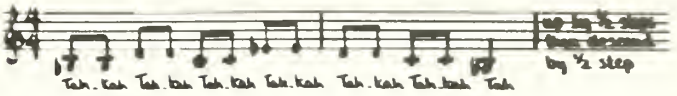


b. For precise articulation, pitch agility, and energy: (Vary the dynamic levels).

Ex. Midvoice II (Good exercise for all voices).

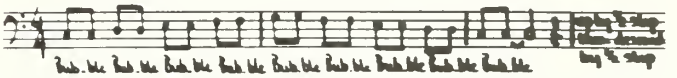


Also:



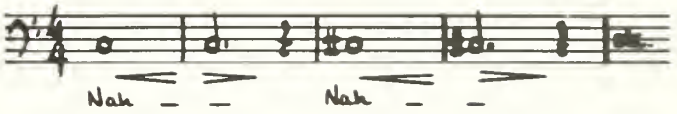
Finally, try the same patterns in the first exercise above using the word, "bubble." Place one finger on the "Adams Apple" again, feeling how it stays in place as the range extends upward *and* downward. (Avoids excessive tension in the throat, as long as the sound remains light.) This is an especially good exercise for the newly changed, baritone voice.

Ex. Baritone Voice (Good exercise for all voices).



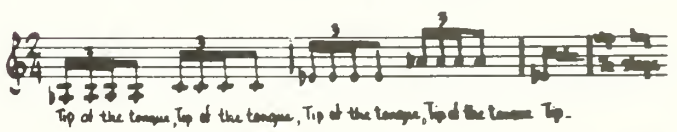
c. Sustained notes, with gradual crescendos, decrescendos. Builds dynamic control. Try the same exercise, varying the tempo.

Ex. Baritone Voice (Good exercise for all voices).



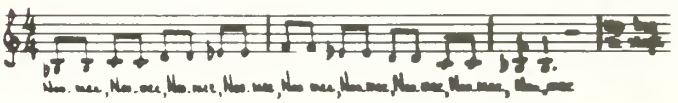
d. For lip articulation, lightness, building consistency throughout the range without strain:

Ex. Midvoice II (Begin on comfortable tones in lower part of ranges of other voices).



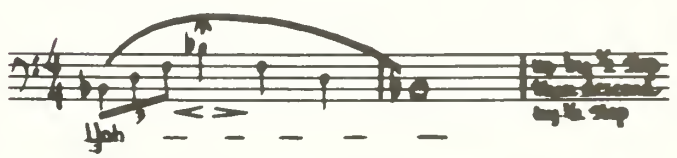
e. For resonance and pitch agility: Try various moving patterns on the syllables, "noo mee."

Ex. Midvoice II (Begin in lower part of comfortable range for other voices).



f. For consistent tone throughout the range, dynamic flexibility, and developing richness, depth in the tone:

Ex. Baritone Voice (Must begin on low F or G for midvoice II).

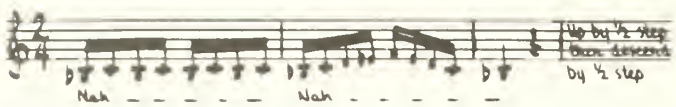


g. For energy, dynamic control, rhythmic agility:

Ex. Baritone Voice (Should begin on F, G or A tor midvoice II).

h. For rhythmic flexibility.

Ex. Midvoice II (Begin at comfortable pitch with other voices).



3. *Register Transitions and Range Extension*

As the midvoice I and II lose high notes, and lower tones begin to develop, vocalises should be given which encourages the continued exercise, control, and coordination of the intrinsic-extrinsic muscles of the larynx. With proper exercise, the voice will develop the way it should, in spite of the fact that the vocal cords are lengthening dramatically, and the cartilage structure enclosing the vocal mechanism is expanding and growing larger. The choral director must be on the alert to recognize not only changes in vocal range, but also changes in the quality and compass of notes within the characteristic modal range. As the voice reaches the midvoice II stage of mutation, the normal singing range is constricted, but another register appears *above* this . . . beginning somewhere around note a (2nd space, treble clef) to d or e above. These notes have a characteristic sound that is quite different from the normal singing tones of the modal register. Hence, they are called "falsetto" tones, and are recognized as a separate vocal register in the male. The falsetto register differentiates itself even more dramatically by the time the voice reaches the newly changed baritone phase of its development. As stated previously in this article, the transition area (middle/head register) between the modal and falsetto registers poses special problems for the young singer. As the upper limits of the modal range are reached, the vocal cords must thin (have less area approximation), yet be properly tense. A re-adjustment then takes place as the voice moves into the falsetto register. There is a different laryngeal intrinsic muscular response. The folds approximate with tight, posterior vocal process adduction; the posterior cartilaginous portion is so tightly adducted that there is little or no posterior vibration; the lateral portions of the thyro-arytenoid muscles are *not* contracted. The inner vocalis section is extremely tightened and contracted around the vocal ligament. "The main mass of the thyro-arytenoid muscles lies laterally and does not appear to be participating in the vibratory activity."(15) Rubin states that the "controlled, selective contraction and relaxation of the thyro-arytenoid muscles will effect a graduated and *smooth transition* from 100% utilitzation of the thyro-arythenoids in the modal (lower) register to a range of perhaps 10% to 60% in falsetto."(16) In other words, by proper vocal training, the two registers can be melded together within the passagio region, and excessive tension and voice breaks can be avoided. The question, of course, is how this may best be achieved, *without* doing damage or creating vocal problems for the young singer. I feel this issue is so important, AND controversial, that it should be given an in-depth review . . . perhaps in another article where several positions could be adequately stated. My own feeling is that vocal strain should be avoided if at all possible. Hence, when the young baritone singer is called upon to sing high e's and f's, he should be able to use the falsetto register to provide relief, if necessary! In working the transition region (perhaps d, just above middle c, to f or g), vocalises should be given which allow the intrinsic musculature to adjust, as it is approached from below, as well as from above. If care is not taken, *prolonged* vocalization in the falsetto region, descending downward into the modal region, can create vocal strain and tension, especially since the newly developing musculature of the larynx is not ready to accommodate such intensive coordination demands. Teachers who thoughtlessly use this technique can create serious vocal habits which may remain with the singer, even after his voice reaches full maturity. At the same time, if the singer attempts to carry too much intensity and weight in the sound from modal to falsetto, the same kinds of problems can occur. With careful supervision and consistent practice (over a long period of time), the young singer *can* learn to thin the cords properly in singing from the modal to falsetto registers. He *can* learn to use the falsetto mechanism to extend his range, and to bridge the transition area between the two registers. In order to do this, it is important that he vocalise BOTH from the top (falsetto) down . . . into modal . . . and from the bottom (modal) to the top (falsetto). This is a difficult task, fraught with possible pitfalls and problems. With some reservations, I offer a few suggestions for vocalises to extend range and help with register transitions.

a. Vocalizing from the top down. Try the yawn-sigh approach. Ask the students to "almost" yawn, then immediately connect with a high-pitched sigh, beginning on the aspirated "H" and descending immediately in pitch. The aspirate sound prevents the cords from "locking" together at the initial point of phonation. Next, repeat the procedure, but this time, end up on a sustained pitch in the modal register.

b. Use "whee" and "who," sliding from falsetto to modal, sustaining a final tone in the modal register.

c. To extend range, negotiate the passagio region, from modal to falsetto: try exercise "b.," beginning, however, in the modal region and sliding upward into falsetto. Next, sing ascending scale-wise patterns, using the first the vowel "ee" and later the vowel "oo." The cords "thin" best on the "ee" vowel, but good control in the modal region must first be achieved.

d. Using the "ee" and "ay" vowels, vocalise from the modal to falsetto registers . . . using arpeggios, or step-wise diatonic patterns. Begin with a very light sound, allowing the voice to "flip" registers without undue strain. The light sound must have energy, however, and can not be insipid!

I remind the reader that I expressed reservations about using the falsetto vocalization during time of voice change.

It is important the young singer have his voice firmly in control in its comfortable middle range BEFORE applying the vocalises given above.

CLOSING MOMENTS

The choral director's sensitivity to the vocal needs of the junior high school male will produce positive and exciting results. Boys will sing better, maintain a healthier attitude about themselves as individuals, and probably continue to participate in some phase of vocal music throughout their secondary school experience. While it may not be practical or possible to work regularly on an individual basis, small group experiences within curriculum can and should be managed. It is imperative that the junior high choral director 1) establish basic approaches to voice classification and analysis; 2) apply principles of good tone production on an individual and group basis; and 3) exercise the male voice during its mutational stages so that good tone quality, resonance, intervallic-rhythmic vocal agility, and smooth register transitions can be achieved. By using a systematic, long-range "blueprint" for action, vocal development will proceed on a natural course, without interruption or undue strain. If the teacher recognizes the developmental factors associated with voice change, training and cultivating the vocal mechanism becomes much easier. The purpose of this article has been to present a workable, beginning "blueprint" for a methodology, based upon the concepts and principles of the Eclectic, Contemporary Theory of Voice Mutation in the Adolescent Male. While, doubtless, many problems and questions remain, I hope that we, as a profession, can agree on many of the basic premises presented in these articles. If the basic tenets and concepts are acceptable to the majority, a comprehensive, integrated approach to the care and training of the junior high school male changing voice can become a reality.

FOOTNOTES

1. William Vennard, **Singing, the Mechanism and the Technic** (New York: Carl Fischer, Inc., 1967), p. 234.
2. **Ibid.** p. 248.
3. **Ibid.** p. 69.
4. Henry J. Rubin, and Charles C. Hirt, "The Falsetto. A High Speed Cinematographic Study," **The Laryngoscope,** Vol. 70, No. 9 (1966), pp. 1305-1324.
5. Vennard. **op. cit.,** p. 77.
6. Johan Sundberg, "The Acoustics of the Singing Voice," **Scientific American,** Vol. 236, No. 3 (1977), pp. 82-91.
7. **Ibid.**
8. **Ibid.** p. 82.
9. **Ibid.**
10. Vennard, **op. cit.,** pp. 59, 240.
11. Sundberg, **op. cit.,** p. 82.
12. Vennard, **op. cit.,** p. 21.
13. **Ibid.** p. 19.
14. **Ibid.**
15. Rubin, **op. cit.,** pp. 1309-1310.
16. **Ibid.** p. 1323.

The Development of a Contemporary, Eclectic Theory For The Training And Cultivation of The Junior High School Male Changing Voice

PART IV
SELECTING MUSIC FOR THE JUNIOR HIGH SCHOOL MALE CHANGING VOICE

DR. JOHN M. COOKSEY

Choral literature must be chosen to suit the unique vocal capabilities of boys undergoing voice change in junior high school, so principles for the selection of music must be derived from the basic concepts of the Eclectic, Contemporary Theory. At the same time, *quality* music of lasting value must also be considered. Such criteria as the composer's craftsmanship (how he combines the melodic, harmonic, and rhythmic elements, or welds together the text and music), the worth of the text itself (independent merit, how clearly it expresses the meaning of an idea, etc.), and other educational factors (historical worth, whether or not it can stand intensive practice, etc.) must be taken into account. After all, one of our aims as choral directors and music educators is to strive for authentic, expressive musical performances of quality music literature. We must also be sure that our students have educational, meaningful rehearsal experience along the way. None of this can happen, however, unless the vocal instrument is functioning properly. At the junior high school level, technical phonation factors MUST be considered. If the voice is forced to function in a way that it shouldn't, unsatisfactory musical results are bound to occur. It is here that so many problems arise. Until our country's outstanding composers and music arrangers RECOGNIZE and UNDERSTAND the unique needs of the male changing voice, all of us who teach at the junior high school level will continue to experience the typical difficulties of finding USABLE, quality music for our junior high choirs. This is an unfortunate situation which need not exist . . . but composers must first hear of our concerns and be made to realize that we have come to some degree of consensus regarding the vocal abilities of junior high school singers. A concerted effort on a national scale could produce positive results. In order to lay the groundwork for such a movement, choral directors and experts in the field should organize, possibly by division in conjunction with the Standing Committee on Junior High Choral Music and meet at the 1979 National ACDA Convention to discuss ways to improve the current situation. Unless an effort of this kind is made on a national level, I believe current conditions will continue to exist.

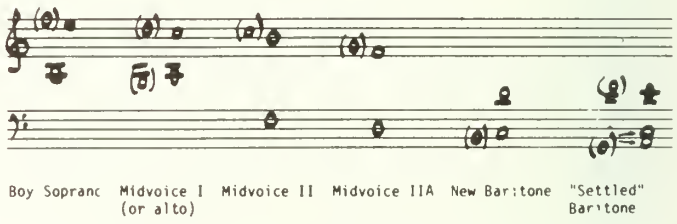
I hope this article will lend some credence to the above idea and bring to light some mutual concerns which many of us have. As a first step towards this goal, I should like to 1) present guidelines for selecting music to fit the vocal capabilities of junior high boys: 2) discuss typical problems with standard SATB. TTBB, etc. arrangements; 3) review the efforts of some publishers to produce music especially designed for the changing voice; 4) discuss flexibility in voicing as a viable approach to arranging music for junior high choirs; and 5) make some recommendations of currently published music which can be used for junior high singers. Hopefully, this article will encourage our membership to voice its concerns so that music composers, publishers, and arrangers will make a renewed effort to serve the unique needs of junior high choral groups.

A. PRINCIPLES FOR SELECTING MUSIC TO FIT THE NEEDS OF THE JUNIOR HIGH SCHOOL MALE SINGER

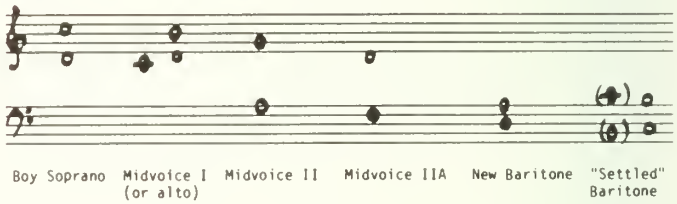
The basic framework of concepts included in the Eclectic, Contemporary Theory provide guidelines for selecting music to fit the vocal capabilities of the junior high male singers. Some principles derived from these guidelines include the following:

1. The training and cultivation of the changing voice should begin with the comfortable singing range and tessitura which each individual has, regardless of the stage of mutation. It is important to consolidate the comfortable middle range through each stage of mutation so that vocal problems and hyper-functional disorders will not occur. Hence:

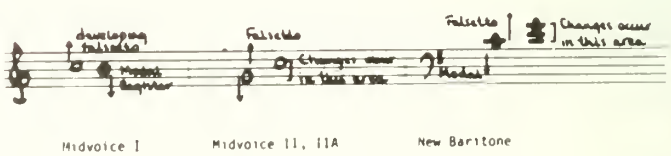
a. the ranges for each vocal part in the printed score should match the following ranges: 1



b. the tessituras for each vocal part in the printed score should coincide as much as possible to the following guidelines:



2. Care should be taken to avoid music demanding numerous and/or sudden register transitions (modal to falsetto, for example), particularly during the midvoice II, IIA, and newly changed baritone stages of mutation. Physical, laryngeal adjustments do have to take place when the voice ascends from the modal to falsetto registers . . . and vice versa. Since the falsetto register emerges quite clearly during the midvoice II phase, and is clearly defined in the baritone stage, music must be selected which does not hinder this growth process, or aggravate strain in the intrinsic muscular action of the larynx. Key points for the register changes are:



3. During mutation the voice loses some pitch, rhythmic, and dynamic flexibility. The rapid extension and growth of the vocal cords and surrounding muscle/cartilage

structures has a lot to do with this. Therefore, each vocal part in the printed score should be examined to make sure that extreme demands are not placed on the vocal instrument during this period. I would avoid selections, for example, which obviously demand great breadth, sustained intensity and force in the sound. (Ex. "How Lovely is Thy Dwelling Place," Brahms). Also, be careful not to select music which calls for great dynamic variation. Young singers, once they gain some degree of vocal confidence, like to shout! At the same time, boys have problems with slow building intensities where sustained vocal control must be exerted in order to achieve proper musical effect. (Rachmaninoff's "Ave Maria" Ed. Cramer, Marks Music Co. is a good example of this principle). Junior high boys can not manage music with such great technical demands.

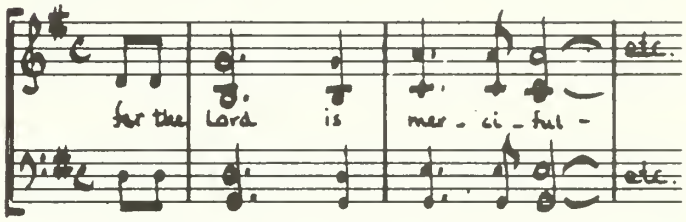
In considering pitch agility and rhythmic precision, be wary of music which contains rapidly shifting harmonies, fast moving rhythms, and angular pitch relationships. The bass line, for example, in Bach's "Break Forth, O Beauteous Heavenly Light" (Ed. Shaw/Parker, G. Schirmer), is very difficult to negotiate. Octave leaps, chromatic patterns, rapid, angular pitch changes, and rhythmic movement combine to present challenging performance problems. Similarly, the tenor line poses pitch and rhythmic problems for the midvoice II. While not impossible to sing, this music must be reserved for very advanced students. Even so, it presents formidable challenges and vocal pitfalls for the developing male voice. The young baritone, for instance, is carried to its upper limits in several two bar phrases (Ex. "Usher in the morning."), then must slowly ascend chromatically later on (..."Our confidence and joy shall be"). This calls for solid vocal technique and control. For this piece, chances are great that the less mature male voice will strain, thus raising the larynx (and chin) to an extreme degree as high notes are sung. This is a good example of using the wrong extrinsic/intrinsic laryngeal muscles and create poor vocal habits.

4. The demands of phrasing especially for breath control and support must be carefully examined. Young boys have a tendency to expend too much air too soon. Long phrases in the upper range, for example, will cause undue strain and tension if proper breath support is not utilized. Unfortunately, some Renaissance music falls into this category. The range might be right, however, some phrases would require great sustaining power which young voices have not yet developed. (The reader should refer to an excellent article, "Renaissance Music for Junior High Singers."(2) by John Drotleff, for suggestions of Renaissance pieces which *are* suitable for junior high voices to perform). An additional complicating factor is the tessitura of the music, which may be too high. Combining long phrases with high tessituras will cause serious vocal problems. This is particularly the case with the newly changed baritone voice. If the tessitura in the middle c area, and long phrases must also be negotiated, the baritone will strain to get the notes and rely upon the wrong muscular action in the neck and laryngeal areas. Soon an automatic muscular and habitual response is established. Thus, the young singer has a vocal habit which may be nearly impossible to break later on.

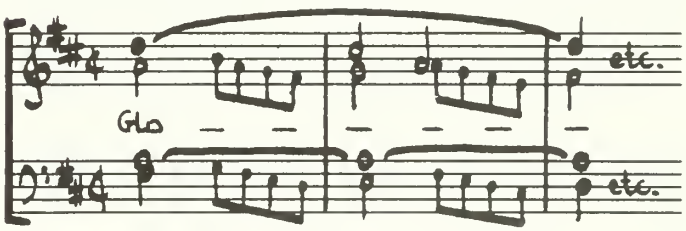
B. THE PROBLEMS WITH PUBLISHED MUSIC

According to the criteria listed above, much of the choral music published today is unsuitable for use in the junior high school. This problem becomes evident when one tries to find music containing the current ranges for the midvoice II, IIA, and newly changed baritone voices. After close examination, other problems in the areas of vocal flexibility, phrasing, etc., also become apparent. Regardless of voicing, these problems may persist, as the following examples will show:

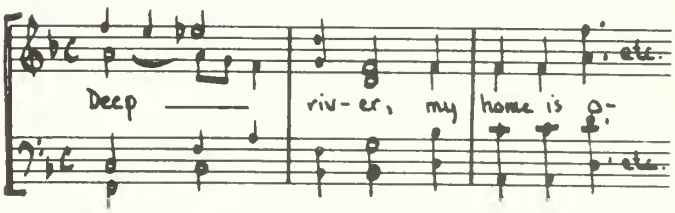
1. *SATB Music* . . . most often written with the adult voice in mind.
   a. The range and tessitura of the tenor part is often *too low* for midvoice II.



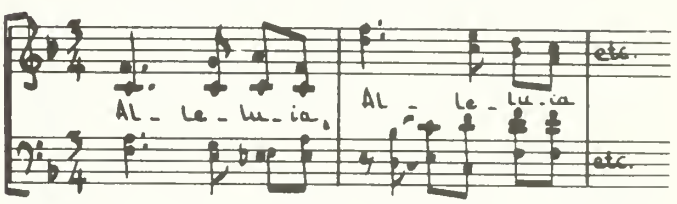
   b. The alto part is too high for the midvoice II tessitura, although it may often "fit" the midvoice I range.



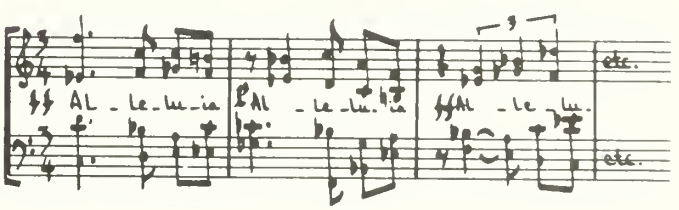
   c. The bass (baritone) part is often too low for the newly changed baritone voice. Tessituras can likewise be unmanageable.



   d. The alto part may require abrupt pitch/register changes affecting the range/register for midvoice II. (Assumes Midvoice II is assigned to sing alto).

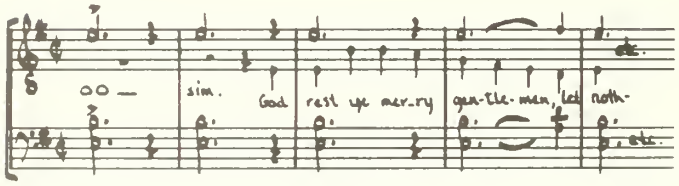


   e. Dynamic, pitch, and rythmic demands may be extreme.

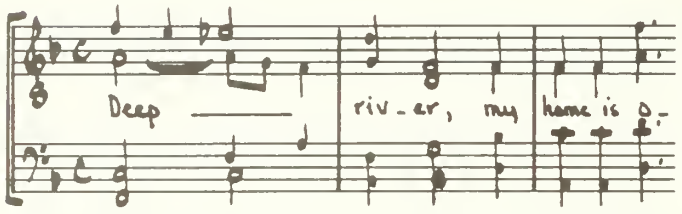


DEVELOPMENT . . .

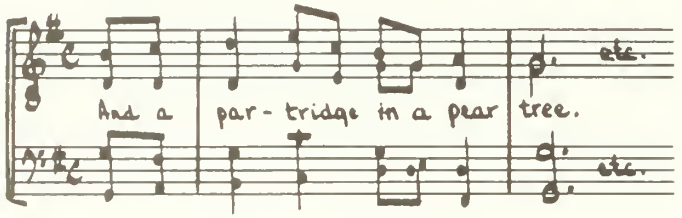
2. *TTB Music* . . . also written with the adult voice in mind.
   a. Sometimes the range and tessitura of the "lead" tenor part may fluctuate dropping too low for the midvoice II.



   b. The tenor I part, if sung down an octave may be too low (tessitura-wise) for the unchanged male voice. Sung at given pitch, it may be too high.



   c. The Bass II part is usually quite low for the newly changed baritone voice.



3. *SSA Music* . . .

Some directors use SSA music with 7th-8th grade mixed choirs, provided there are *few* changed voices in the groups. While unchanged voices can sing this music, care must be taken to 1) select music appropriate for young male interests; 2) assign the boys to a singing part that is socially acceptable . . . many boys in junior high school do not want to sing the top "soprano" part in a mixed chorus situation . . . and 3) check the appropriateness of vocal tessituras.

If there are changing voices in the choir, range problems will occur. The junior high choral director must also keep in mind that music of this type is written indigenously for female voices and their characteristic sound. SSA arrangements do not suit the midvoice II and baritone tone production, no matter how much the ranges are modified.

4. *SAB Music* . . .

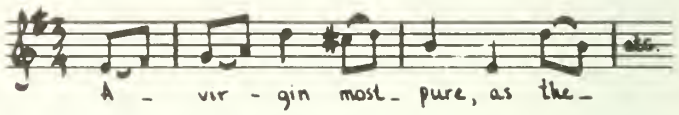
SAB arrangements are sometimes used by junior high choral directors, particularly those whose mixed choirs have few boys enrolled. If there are changing voices (midvoice II, IIA), however, none of the parts will work. In many arrangements, baritone ranges and tessituras may fluctuate greatly, depending in part on the composer's knowledge of the limitations of the young changed voice. SAB music also leaves much to be desired from a "musical" standpoint. The harmonic sonorities are less satisfying, and vocal textures are thin.

5. *Unison and Two Part Music* . . .

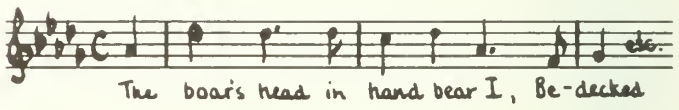
Many unison songs may be used in the 7th grade because there are fewer changing male voices. Big problems arise in the 8th grade since the midvoice II's are often in the majority. The strongest, most comfortable singing ranges for those voices lie *between* the lower part of the treble clef pitch compass, and the upper part of the bass clef compass . . . fitting neither soprano, alto, or baritone tessituras. Hence, it is quite difficult to achieve a well-produced composite unison sound from *all* the parts simultaneously. The comfortable midvoice II tessitura is low for female voices, and high for baritone voices.

If unison songs are attempted, for example with 8th-9th grade mixed choirs, an overall composite RANGE, B flat (baritones doubling an octave below) just below middle c to g/a (treble clef), must be employed. This is obviously a "limiting" factor since most tunes utilize a wider range compass. Some examples will illustrate this point:

Example 1: Unison tune that does not fit all voice ranges.



Example 2: Unison tune that *does* fit all voice ranges.



The composite unison range (B flat- g/a) for all parts, while usable, presents a low singing tessitura for female voices, but may work well with newly changed baritone voices (singing an octave lower) . . . as long as the majority of the notes do not stay in the B flat (2nd line, bass clef) to C area. (The most comfortable tessitura for baritone is D to A).

Many two part arrangements work well for girls' voices, unchanged, and midvoice I boys' voices. Problems with range and tessitura again arise if midvoice II, IIA, and baritone voices are considered. The soprano and alto parts are often too high (and too low if doubled an octave below) for the midvoice II and IIA. There are problems also for the newly changed baritone voice which must double either soprano or alto an octave lower, Usually the soprano part does not stay within the comfortable baritone tessitura (D-A), the majority of its notes occurring well above that pitch compass. The tessitura of the alto part is usually too low (B flat to f, for example).

C. SOME RECENT EFFORTS BY PUBLISHERS AND COMPOSERS TO WRITE MUSIC SUITABLE FOR THE JUNIOR HIGH BOY'S CHANGING VOICE

In recent years there has been a growing effort on the part of a few music publishers to produce music especially adapted to the needs of the junior high school changing voice. Thus far, junior high choral directors have taken a somewhat cautious attitude about this development. Questions have been raised about 1) the suitability of texts, 2) the relevance of some of the song material, 3) the quality of part writing, and 4) the criteria applied for the use of certain ranges and tessituras. There have also been philosophical questions about whether or not certain "original" choral music should be arranged. I view all of this in a positive context, and feel that as long as we hold high standards for choral craftsmanship in arranging, the quality of writing will continue to improve. We must, however, be sure that while we *question*, we also *encourage* publishers and composers to continue their efforts in this area. With *some* publishers, texts and song materials are becoming more relevant. "Dated" material still abounds, but more original work is beginning to appear. Finally, some music educators are beginning to

make major composers in this country AWARE of the unique vocal abilities/limitations of junior high male voices. As a consequence, quality arranging is on the upswing. An examination of the work of some of these composers/arrangers will illustrate what is happening currently.

1. General Words and Music Co., Neil A. Kjos Jr., Publisher, San Diego, California, and Park Ridge, Illinois.

The GWM Co. has recently published a contemporary four-part collection of songs (Ten in all; also available in single copies) entitled, *Cambiata Contemporal!* Its editor is Theron Kirk, Director of Choral Music at San Antonio College, San Antonio, Texas. Arrangers include Kent Newbury, Lloyd Pfautsch, Salli Terri, Bob Burroughs, Don Matthews, John Bavicchi, Theron Kirk, and Irma June and Sue Karen Wink. The editor in the foreword states that this collection contains many different styles of contemporary writing intended to "give young musicians the pleasure and challenge of performing music of today written especially for them by some of the outstanding choral composers of the present time."(3) The editor recognizes the range limitations for the changing voice but does not actually give any specific data, or cite sources (expert opinion, research studies, etc.) to support and validate the actual ranges employed. It is unclear exactly what range and tessitura criteria the editor recommends for either the changing voice or baritone. Nevertheless, this collection is a good one, and deserves to be given serious consideration by junior high school directors. It will become more apparent, as these songs are examined, how closely they match the principles derived from the Eclectic, Contemporary Theory.

a. *Range and Tessitura Criteria*:

The composers use the term, cambiata, to stand for the usual tenor part classification. In general, the ranges and tessituras correspond closely with those designed for midvoice II. Tessituras remain in the A (below middle c) to f (first space, treble clef) area, and do not deviate from this for the most part. Ranges are reasonable, and no notes are given outside the midvoice II range. In several selections, however, the baritone tessitura is rather high, F/G to middle c/d. (Examples: "Lovers Love the Spring," by Lloyd Pfautsch, and sections of "This is Our Land," by Bob Burroughs).

b. *Register transitions*:

There are no problems here since the ranges/tessituras fit the changing voice.

c. *Pitch, Rhythmic, Dynamic Agility Requirements*:

Some of these selections would be very difficult for beginning singers. (Example: "Psalm 98," by John Bavicchi). Much rhythmic and dynamic flexibility is needed for Salli Terri's "Oh, Freedom," and Pfautsch's "Lovers Love the Spring."

d. *Demands of Phrasing*:

"This is Our Land," by Bob Burroughs requires much in the way of sustaining ability and tone control, particularly in the first two sections. The same could be said for Bavicchi's "Psalm 98." In general, the phrasing requirements are reasonable for the other selections.

e. *Suitability of Texts, Composer's Craftsmanship, Level of Difficulty, and General Appeal*:

Most of the texts are appropriate for junior high choirs, with one possible exception. The arrangements vary somewhat in quality and interest. For the most part, the more difficult selections are also better arranged and offer more in the way of educational value. On the other hand, the technical demands of some of these pieces present real problems for unskilled singers; therefore, I would recommend this collection for more advanced groups.

2. Studio Publications, Recordings, Inc. 224 S. Lebanon St., Lebanon, Indiana.

Studio P/R is publishing a "Studio Cambiata Series" for SACB and SATB Choirs; arrangers for these separate octavos include Walter Ehret and John Welch. No specific explanations are given about the use of the term, cambiata, and no ranges for that voice are listed. Because of past differences among experts regarding the capabilities of the changing voice, it seems appropriate for publishers to list ranges for that voice (especially when they use the term, cambiata) and also cite sources to validate whatever special criteria are applied.

The sixteen selections included thus far in this series do seem to meet many of the vocal requirements for the midvoice II and newly changed baritone voice:

a. *Range and Tessitura Criteria*:

The ranges and tessituras of the baritone parts are generally moderate. High baritone tessitura occur in a number of the Ehret arrangements: "Ain't It Great to be Crazy," "Dunderbeck," and the first sections of "Our Saviour on Earth Now is Born" and "My Lord, What a Morning." There are a number of selections where the tessitura for the cambiata part is low: Welch's "Over the River," "No Lov'lier Countryside," and "Were You There." Some notes in each of these selections go below the lower range boundary for the midvoice II.

b. *Register transitions*:

"Blow Ye Winds," by John Welch is very problematic in this respect. On the first page, the cambiata line, if sung in the treble clef octave, requires changes to falsetto; and if dropped an octave, becomes too low generally to be sung at all. The line MUST be sung an octave lower on the second page to avoid undue strain in the upper modal or lower falsetto areas.

c. *Pitch, Rhythmic, Dynamic Agility Requirements*:

For the most part, these selections do not make unreasonable demands on the changing midvoice II or newly changed baritone voices.

d. *Demands of Phrasing*:

"My Lord, What a Morning," by Ehret. and "Were You There," by Welch are difficult.

e. *Suitability of Texts, Composer's Craftsmanship, Level of Difficulty and General Appeal*:

Several of these arrangements could be more musically interesting. The quality and relevance of such pieces as "Over the River," "No Lov'lier Countryside," and "Laff It Off," are questionable. Most of these songs are not difficult, but their educational value may be problematic. Some junior high young people may not be able to identify with such songs as "It's Me, O Lord," or "Ain't It Great to be Crazy!" Generally, such spirituals as "Were You There," "Chariot's Coming," "Climbin' Up the Mountain," and "My Lord, What a Morning," represent better performance possibilities for the beginning mixed 8th-9th grade choir.

3. Jenson Publications, Inc., 2880 So. 171st. St., New Berlin, Wisconsin.

Jenson Publications has recently produced a record album, "The Best of 78," containing mostly contemporary pop and

rock tunes arranged especially for young voices. A packet of choral scores for the album is also available. Arrangers for this series includes Ruth Artman, John Carter, Joyce Eilers, Jack Kunz, Ed Robertson, and Roger Emerson. The record brochure gives a short synopsis of each piece, recommending certain part assignments for the unchanged as well as the changing male voice. Ranges are given, and variety of voicing is achieved by assigning treble voices to the upper two parts, and baritones and changing voices to a limited range lower part. The composite range for all parts includes F (bass clef) to e1 (top space, treble clef). The publishers recommend the third part (F below middle c, and sometimes D, to d/e just above middle c) range for both changing and newly changed baritone voices. Roman numeral designations are given for each part so that several options for part assignments can be made. There is a generous doubling of parts, and melodies are not always assigned to the top voice (Part I).

These publishers have managed to secure copyright permission to arrange several fairly recent well-known pop hits for young voices. Included in the series are the Donnie and Marie Osmond hits. "A Little Bit Country, A Little Bit Rock 'n Roll" (2 and 3 part arrangements), and "May Tomorrow Be a Perfect Day" (2 part, 3 part, and SATB arrangements available). Among other hits are three part arrangements of "Shower the People You Love With Love," "I Write Songs," "Reach," and "Sinner Man."

Looking at these selections from the standpoint of the principles of the Eclectic, Contemporary Theory, the following observations can be made:

a. *Range and Tessitura Criteria*:

Roger Emerson's arrangements are primarily written for 7th-8th grade mixed choirs which have midvoice II's in the majority. The F (below middle c) to d (just above middle c) range is recommended by the arranger for *all* changing and changed voices, so vocal compromises must obviously be made. (Note: The arranger is very aware of the problems here for the baritone voice, and in a recent communication with me, expressed a desire to write future arrangements designed to include the lower baritone range). Under these restrictions, the newly changed baritone voice must sing in the upper range area. The midvoice II, however, sings comfortably in its middle to lower pitch compass. There are possibilities in several of these arrangements for the baritone to double the soprano part (Part I) an octave lower, thus allowing some alternative for that voice to sing in a more extended range. (Before doing this, one must be sure that the tessitura is right . . . but since the top part does not usually go above d, the baritone can manage this very well). In all fairness, it should also be pointed out that the arranger actually modifies his own criteria in some of the arrangements. "Sinner Man," for example, contains a C (octave below middle c) to d (just above middle c) range for the baritone . . . with added notes to take care of the limited midvoice II when the Part III range extends below F (4th line. bass clef).

Other arrangers for Jenson Publications, such as Eilers and Kunz, seems to be less consistent in their approach to writing music for the midvoice II and baritone voices. Ranges and tessituras vary in their appropriateness for junior high male voices.

b. *Register Transitions*:

This becomes a problem for the baritone in some instances where Part III is written in the middle c to d area. Some voices may strain or lose resonance because of the close proximity to the "lift" point. (Place where the baritone voice may change registers).

c. *Pitch, Rhythmic, Dynamic Agility Requirements*:

As is the case with most pop arrangements, nuances in some vocal articulations can not be notated. Hence, pitch and rhythmic subtleties are sometimes lost . . . especially when young junior high singers try to duplicate them. The choral conductor must then decide on a literal translation of the score or a slightly modified version, depending on his/her tastes. Generally, however, these arrangements are adequately notated and closely approximate the popular renditions often heard on professional recordings. Surprisingly, they are not too difficult, and junior high singers may easily meet the pitch, rhythmic, and dynamic agility requirements.

d. *Demands of Phrasing*:

There are very few problems in this area.

e. *Suitability of Texts, Composer's Craftsmanship, Level of Difficulty, and General Appeal*:

These songs will appeal to young junior high singers. The Emerson arrangements are especially well done and are not too technically difficult for 7th and 8th grade mixed groups. There are serious questions, philosophically speaking, about the educational value of songs written in the "pop" idiom, but I will not make a judgment about this! If the choral director wishes to include pop music in his/her choir's repertoire, these songs deserve serious consideration. Unfortunately, the three-part arrangements do not always satisfy the range/tessitura requirements for the newly changed baritone voice.

4. Cambiata Press, P.O. Box 1151, Conway, Arkansas. Donald L. Collins, Editor, Arranger.

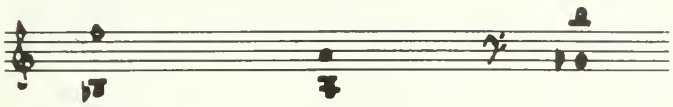
The efforts of Cambiata Press represents the most comprehensive and concentrated approach by any publisher to write vocal materials especially suitable for the Cambiata and newly changed baritone voice. Editor Don L. Collins, studied with Irvin Cooper at Florida State University, and has adapted many of his ideas in the presently-published arrangements and choral sight reading materials for junior high singers. Dr. Collins is also an Associate Professor of Choral Music Education at the University of Central Arkansas in Conway, and is the Founder/Director of the Arkansas Boy's Choir (which consists of boy sopranos, boy altos, cambiata and baritone singers). He conducts the Cambiata Singers (selected from the membership of the Arkansas Boy's Choir) who demonstrate the effectiveness of choral music written according to the tenets of the Cooper-Cambiata concept. The "Singers" have just made a stereo album entitled, "Man's Music," which is now being distributed nationally by Cambiata Press. All the literature performed on the record is published by the same publisher, and recommended for boys' choirs, as well as mixed choral groups. (The upper parts are written so that they can be sung by boy sopranos and altos, or female sopranos and altos.

Cambiata Press's latest release is a new sight reading book. *The Adolescent Reading Singer.* Compiled and edited by Don Collins, this publicaation utilizes the Kodaly-Curwen hand sign and solfege systems to teach music reading to junior high singers. It is especially recommended for choral groups with changing voices. In the area of choral music, Cambiata Press is currently publishing five basic series of octavos. They are: I. "Music of the Masters" (includes arranged versions of original "master" works); II. "Sing" Series (includes secular and sacred music written especially for district and state choral festivals); III. "Life is Living Up Love" Series (includes folk, folk-rock, and rock-secular tunes); IV. "Man's Music" Series (consists of folk songs arranged from various countries, and hymn arrangements); and finally, V. "Spirituals" Series.

All of the octavos included in the various series are cross-referenced according to Series Titles and Voicing. A publisher's catalog of these works is readily available. In addition, guidelines for submitting manuscripts for possible publication are listed in a separate pamphlet. Music published by Cambiata Press must conform to the following criteria:

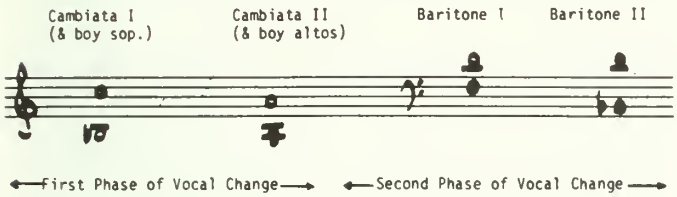
DEVELOPMENT . . .

1) Range:



Girls and Boys Unchanged Voices (Identical to Cooper) | Cambiata, First Phase (Cooper's range is F to c^1) | Baritone, Second Phase of Change (Cooper's range is B flat to f)

Music just for boys includes the following ranges:



2) Voicing:

Unison songs contain the composite B flat to a range, with the baritone doubling an octave below.

SC(C refers to a part written for changing voices) voicing is for small and/or young singing groups who have no baritones. The girls sing one part, and the cambiatas the other.

SC(optional B) voicing: With or without baritones.

SAC (optional B) voicing: Two parts for girls to sing.

SCB voicing: Where there are few girls. Boys sing in two parts.

SACB voicing: For full mixed choir.

CB, CBB, CCBB voicing: For male groups only.

There are approximately one hundred choral selections now available for the junior high choral director. In addition to Collins and Cooper, arrangers include Austin Lovelace, Katherine K. Davis, Theron Kirk, Paul Williams, James McCray, Walter Ehret, Bob Burroughs, Beryl Vick, David Penninger, and Eugene Butler. All composers are given the above range and voicing criteria, and are also asked to write contrapuntally since the Cooper approach assumes that young inexperienced singers will lose interest if not given an interesting melody line. (NOTE: I disagree with this. The melodic approach to part writing produces constantly changing textures/densities of sound. This sometimes interferes with the development of choral blend and the singer's awareness of harmonic movement. Occasionally, unmusical results occur. Fortunately, some of the more recent arrangements reflect a more traditional approach to harmonic part writing).

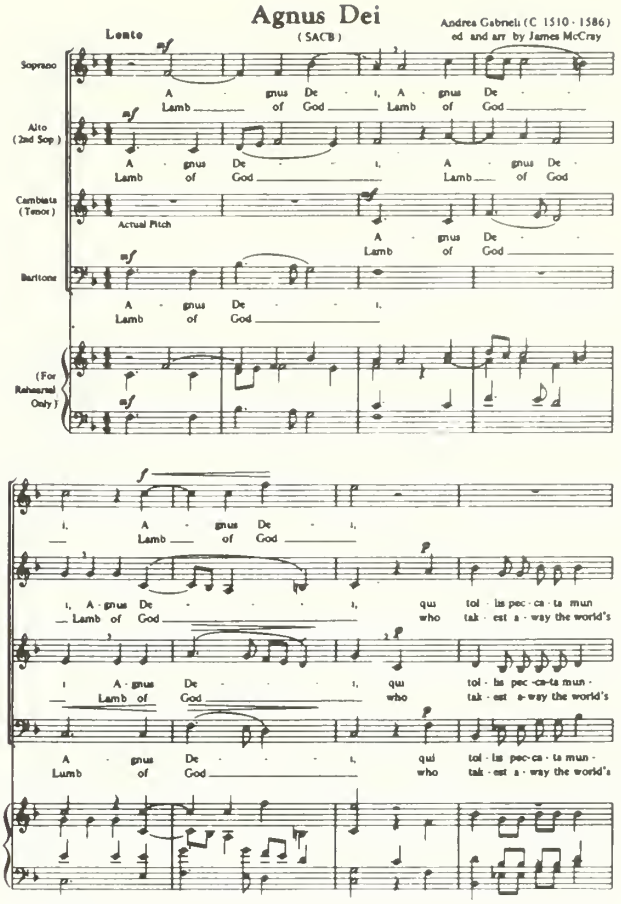
Cambiata Press seems to adhere to many of the principles included in the Eclectic, Contemporary Theory, as the following analysis will show:

a. *Range and Tessitura Criteria*:

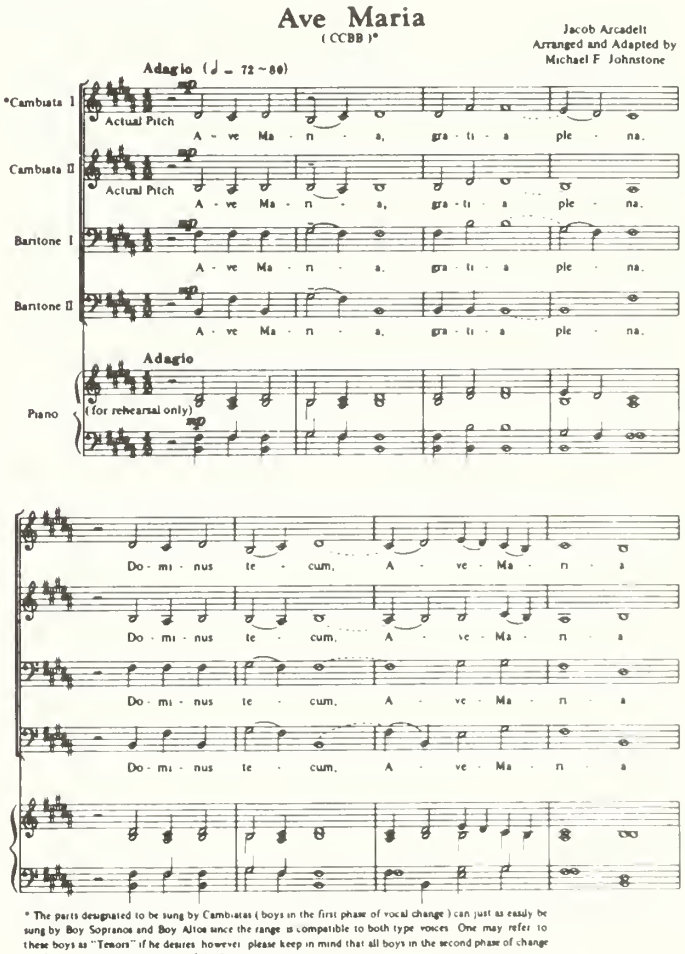
For mixed groups, the midvoice I, and IIA ranges are not included, but the A to a range listed for the boy alto (Cambiata II) closely approximates that of the midvoice I . . . the Cambiata F to a range matches the midvoice II's pitch compass. In examining the parts, one finds the alto suitable for midvoice I. The baritone ranges are excellent, but the tessituras are sometimes too high.

For all-male groups, the Baritone I part (F to d range) matches the midvoice IIA tessitura, but is sometimes high for the newly changed baritone voice.

Example One shows how these ranges are utilized in SACB music:



Example Two shows how the range criteria are applied in CCBB music:



* The parts designated to be sung by Cambiatas (boys in the first phase of vocal change) can just as easily be sung by Boy Sopranos and Boy Altos since the range is compatible to both type voices. One may refer to these boys as "Tenors" if he desires, however, please keep in mind that all boys in the second phase of change will find more success singing one of the Baritone parts.

b. *Register Transitions*:

There are no problems for the unchanged, midvoice I, midvoice II voices. The midvoice IIA may experience difficulties if it is assigned to baritone... since several of these notes would force some tension/harshness in the developing lower chest register

c. *Pitch, Rhythmic, Dynamic Agility Requirements*:

The contrapuntal writing sometimes poses challenges for the young singer, but the majority of this music is arranged by those who obviously know much about the vocal limitations of the adolescent male voice. My main concern lies with the occasional high tessitura of the baritone part where pitch/rhythmic/dynamic agility requirements in the B flat to d area can cause vocal strain. (See the B section of "The Holly and the Ivy... CCB, Collins; and pp. 2-3 of David Riley's SACB arrangement of "Bingo.")

d. *Demands of Phrasing*:

There are few problems in this area.

e. *Suitability of Texts, Composer's Craftsmanship, Level of Difficulty, and General Appeal*:

Most of these arrangements are not too technically difficult for junior high singers to perform. There are a number of selections which should be of interest to junior high directors. These include: "Agnus Dei" (SACB, Gabrieli/McCray), "Integer Vitae" (CCBB, Fleming/Johnstone), "Blessed Is the Man" (SACB, Butler), "The Twenty-Third Psalm" (SACB, Taylor), and "We Sing with Grace in Our Hearts" (SSCB, Collins).

I have noticed an improvement in the quality of arranging in recent years with Cambiata Press. They are becoming more successful in securing very competent and nationally known composers to write music for the changing voice. As a consequence, the arrangements have become more musically interesting and expressive. With the decreasing emphasis on contrapuntal writing (regardless of style), further improvements can be expected. Some of the songs/texts are still somewhat "dated," but the publisher is making efforts to improve this situation. The series, "Sing," for example, is providing some new contemporary tunes which have educational value and appeal for young people. Finally, some comments should be made about the "Music of the Masters" series. Some would object to the arranging of master works for young voices on musical or philosophical grounds. Others would question the appropriateness of such works as Handel's "Surely He Hath Borne Our Griefs," or the famous "Hallelujah Chorus" by the same composer, because young people of junior high age have not yet reached a sufficient maturity level to emotionally and intellectually project the true meaning of these pieces. On the other hand, there are some works which seem to have real educational value for junior high singers. These include the arrangements of Gabrieli's "Agnus Dei" (SACB, McCray), Bach's "Jesu, Joy of Man's Desiring" (CCB, Siltman), and Vivaldi's "Gloria." (SSCB, Collins).

I must compliment Don Collins on his outstanding contributions to the whole area of junior high vocal music. Through his efforts important issues have been discussed, and significant progress has been made towards making others AWARE of the special vocal needs of the junior high school male singer. He, and Cambiata Press, should receive encouragement to continue their efforts in the years ahead.(4)

D. THE NEED FOR FLEXIBILITY IN VOICING FOR JUNIOR HIGH SCHOOL CHORAL MUSIC

The examination of choral literature written especially for the vocal capabilities of junior high male singers reveals an important need for flexibility in voicing so that boys in various stages of voice mutation may continue to sing in a comfortable pitch range, regardless of their particular voice classification. Since junior high boys enter (and leave) the period of change at different times, individual vocal capabilities differ considerably from one grade level to the next. Unchanged voices and midvoice I's are more prevalent in the 7th grade; midvoice II's are in the majority during the 8th grade (but many unchanged and some baritone voices ... particularly by Spring ... will also be found); and newly changed baritones appear in their greatest numbers during the 9th grade year. At any one grade level, different combinations of voices in various stages of mutation may be expected. Because of this, there is a need for a variety of voicing in the choral music these students perform. Optional voicing, as well as two, three, and four part arrangements are needed. This would give the choral director considerable flexibility for meeting the vocal needs of his/her students, and provide an opportunity for the voices to mature more naturally... logically following the growth sequence outlined in the Eclectic, Contemporary theory.

Some recommendations should now be made about optimum groupings for male students, and corresponding choral literature requirements:

a. *Boy's Choirs*:

7th grade boys chorus: This arrangement is recommended. Unison and two part music will generally work; however, there may be problems towards the end of the year when some voices reach the midvoice II stage. Note: It is not unusual to see a few newly changed voices in the 7th grade. Many voices, however, are in the *first* stage of change by the end of the year.

8th grade boys chorus: Many disadvantages: few baritones; many voices with limited ranges. Few choral arrangements to match midvoice II ranges. Variable voicing may work... that is, optional 2-4 part music.

9th grade boys chorus: There are fewer upper range voices by this time. TTBB arrangements won't work. Some TBB, TB arrangements (which are rare!) may be used if there are some midvoice II's in the group.

**7th to 9th grade boys: (Possibly 8th-9th also) I favor this grouping for junior high boys. The voices may simply move to the next lowest part whenever necessary. Furthermore, there is more literature which may be adapted to this particular grouping. HML (High, Medium, Low), TB, TTB, TTBB, CCBB, CBB, variable voicing (2-4 part optional), and even a few SATB arrangements will work. There are disadvantages: 1) getting started into 2-3 part music at the beginning of the year; 2) dealing with younger, more inexperienced singers, along with the "mature" 9th graders! 3) controlling balance.

7th- 8th grade boys: This group may differ because there are fewer baritones; hence, treble music containing reasonable ranges the midvoice II must be found.

b. *Mixed Choirs*:

7th grade: Good grouping. Unchanged voices in the majority. A number of voices will be changing by the end of the first semester, however. Certainly, midvoice I's will be in abundance at this time. Unison, SA, HML music will work.

DEVELOPMENT . . .

8th grade: Big problems with SATB music. SSCB music will work, if there are enough baritones. Majority of voices are in some stage of change . . . difficult to deal with in a mixed chorus situation.

9th grade: Must look for those who can manage the tenor line. Now there are fewer midvoice II's, and more baritones. May have more "settled" voices which can sing below the B flat (2nd line, bass clef).

**8th-9th grade: I recommend this grouping since 1) the girls' voices are more mature at this level and can balance the boys more easily; 2) unchanged voices are in the minority; hence, possible social problems regarding singing "high soprano" are avoided. In the single sex situation, this is not as great a problem. Boys *are* more self conscious when they are around girls at this age! 3) a variety of music may be used: HML. 2 parts. 3 parts, variable voicing (2-4 parts), SSCB, SACB, and some SATB scores.

There are, of course, other groupings (depending on how many boys are in the choir, their particular stages of voice development, etc.) which will work very well, depending on local situations. The point is, that we need a variety of music arranged in various voicings to accommodate these needs.

E. CLOSING COMMENTS, AND SOME OF THE WRITER'S RECOMMENDATIONS OF CHORAL LITERATURE SUITABLE FOR THE JUNIOR HIGH SCHOOL CHANGING MALE VOICE.

At the beginning of this series, I stated my sincere desire to present an Eclectic, Contemporary theory which would form the framework for the cultivation and training of the young junior high school male adolescent voice. Junior high choral feeling of consensus regarding voice classification and training to achieve good tone quality and resonance, maximum pitch/rhythmic/dynamic agility, and smooth register transitions. As I mentioned at the beginning of this article, we must go further than this. It is of great importance that we follow up these principles using *quality* choral literature which will provide our students with meaningful choral aesthetic-educational experiences. At the present time, there is not enough quality choral literature available for the changing voice. There is a special and critical need for well-crafted, original music for beginning junior high choirs. When arrangements are utilized, regardless of voicing, range requirements, etc., they much be relevant, use quality texts, and be musically interesting and expressive. Once junior high students have had a taste of quality music, they will cease to tolerate trite, hackneyed arrangements. We ***should*** give them challenges with the kind of literature we select. Junior high singers are perfectly capable of making beautiful music . . . understanding and singing great music of the past . . . and developing positive attitudes about "good music." I know that I have spent the majority of time talking about the vocal needs of the changing voice, for I feel that unless the vocal instrument is allowed to develop and function properly, truly outstanding musical experiences will not occur. At the same time, I'd like to reiterate what I said earlier in this article:

1. There must be concerted, organized efforts on a national scale to inform publishers, arrangers, composers about the vocal limitations of the changing voice.
2. The choral profession must DEMAND quality music from publishers. As long as there is a market for inferior, inappropriate music, it will continue to be published.
3. The efforts by the publishers reviewed in this article are commended. They should be given further encouragement to continue publishing music especially designed for the changing voice. Other publishers should follow their lead.
4. Outstanding American composers should be informed about specific needs in this area and be encouraged to write and arrange music for the changing voice.
5. Members of the choral profession should meet often, especially at clinics and conventions, to share ideas about quality choral literature that works well with the changing voice.
6. ACDA should do something in an official way to promote quality choral literature for junior high students. Publishers and composers should be contacted . . . special forums organized, etc. Lists should be revised and updated annually. There should be continuous official communication (possibly through the *Choral Journal* about sources, arrangements for quality music which fits the basic principles proposed in the Eclectic, Contemporary theory.

I sincerely hope these articles have been helpful and informative to the profession at-large. Much remains to be done in providing top quality educational choral experiences for junior high young people. With increased understanding of the changing male voice, methods and techniques for training and cultivation may be derived, and quality choral literature utilized.(5)

In closing this series, I would like to make some recommendations of choral literature suitable for the junior high male changing voice. The following list is not meant to be comprehensive, but it is representative of currently published music which works well with junior high singers.

SATB Music for Beginning and Intermediate 8th - 9th Grade Choirs

1. "Adoramus Te," Clement-Greyson, Bourne Co., #ES2.
   Brief, not difficult. Excellent midvoice II, baritone ranges. Good introductory piece to the Renaissance Period.
2. "Alleluia! Sing Praise" (from Cantata 142), J. S. Bach-Hirt, C. Fischer, #CM 7140.
   Exciting accompaniment. Ranges excellent. Good introductory piece to the Baroque Period.
3. "Cantate Domino," Pitoni-Greyson, Bourne Co., #ES 5.
   Not for the beginning of the year. Good Spring selection. Excellent for developing pitch/rhythmic flexibility in all voices. Ranges/tessituras are good.
4. "Carlos Dominquez," Arr. by Ades, Shawnee Press, A-1208.
   Excellent solo/unison section for the midvoice II. Exciting piano accompaniment, very rhythmical. Will have instant appeal.
5. "Fa Una Canzone," O. Vecchi, Lawson-Gould/G. Schirmer Pub., #556.
   This well-known canzonet should be sung in Italian. Develops rhythmic/dynamic flexibility. Some low notes midvoice II in the chorus section.
6. "Four Animal Songs," Gene Koskey (Poems by Ogden Nash), M. Witmark and Sons, #W3681.
   Very appealing to junior highs. Interesting, musically.
7. "Gonna Build a Mountain," Arr. Leyden, TRO: Richmond/Ludlow Pub., #S7011.
   Very appealing selection. A few range compromises have to be made. Dynamic and tessitura demands near the end are difficult. This should be used in the Spring after some degree of vocal control is achieved.
8. "Lord I Trust Thee," G. F. Handel (From "Passion of Christ," 1716; edited by Denys Darlow. English text only), Oxford University Press, #E110.
   ***This piece is a real gem! Very fine part written; good accompaniment; and exciting to sing. Tessitura is high for sopranos in one short section.

9. "O Bone Jesu," Palestrina/Clough-Leighter, E. C. Schirmer, #1166.
   Challenging from the standpoint of developing phrase continuity and intensity. Takes much breath support and control. Use this one in the Spring.
10. "Six Folk Songs," J. Brahms, Arthur Gordon Series/Marks-Belwin Pub., #9.
    These well-known arrangements work well with young changing voices, and the beginning choir. Some tough spots in the area of rhythmic/pitch articulation, but well worth the time to work these out. "I'd Enter Your Garden" and "How Sad Flow the Streams" build phrasing ability; "At Night" builds rhythmic/dynamic agility.

SATB Music for More Advanced 8th-9th Grade Choirs

1. "Ah, Lovely Elsa," Senfl/Kingsbury, Alfred Music.
   Demands vocal flexibility and lightness.
2. "Cantique de Jean Racine," Faure, Broude Brothers Pub.
   Very beautiful. Long phrases. The characteristic junior high sound is enhanced in this piece. Need more mature baritones to control the line.
3. "Consecrate the Place and Day," Lloyd Pfautsch, Lawson-Gould/G. Schirmer, #51420.
   Very rhythmical, exciting, and fast. Needs large choir.
4. "Dear Love, Be Not Unkind," Richard Dering/A. Payson, Frank Music Corp., #F484.
   Beautiful Renaissance piece. Might work for many beginning choirs. Excellent ranges. Phrasing is not too demanding.
5. "Di, Pera Mora Contada," (ed. M. Merrill), Lawson-Gould/G. Schirmer, #51219.
   Good range and phrase requirements. Develops vocal flexibility and control. Use with a smaller ensemble.
6. "Five Canzonets," Jean Berger, Tetra Music Corp./Broude, #A. B. 111.
   Some difficult spots. Interesting text. Harmonic demands are tough. Compromises must be made for midvoice II range in certain places.
7. "Never Tell Thy Love," Houston Bright, Associated Music Publishers, #A 171.
   Some challenging harmonies. Very beautiful piece.
8. "Petite Nymphe Folastre," Clement Janequin, Salabert Pub., EMS 3026.
   A lovely piece. Must be done in French. Surprisingly easy to learn.
9. "Sing Unto God," G. F. Handel-Condie, (from "Judas Maccabaeus"), C. Fischer, #7414.
   Very exciting, rhythmical work. Builds rhythmic/pitch agility. Especially good for the midvoice II. Have a good accompanist for this one!
10. "Speak to One Another of Psalms," Jean Berger, Augsburg Press, #11-0954.
    A Cappella selection which contains beautiful contrasts in texture and phrasing.
11. "Scaramella Va Alla Guerra," (from "Three Frottole"), Josquin Des Prez, ed. P. C. Echols, McAfee Music Corp., M1099.
    Very lovely piece which will appeal to junior high singers. Interesting part movement...exhibits surprisingly modern tonal "feel."
12. "Three Hungarian Folk Songs," Seiber, G. Schirmer, #10715.
    Works well with advanced choirs. Middle selection provides good contrast to the other two pieces included in this group.
13. "Venite Exsultemus Domino," J. Sweetlinck, Summy-Birchard Pub., #5517.
    Difficult, but "wears well" with junior high singers. Ranges for the changing voice are good.
14. "A Virgin Unspotted," William Billings, ed. Pisano, Walton Pub., #2207.
    Possible for beginning groups. Need large choirs for this to "sound."

Two, Three Parts, Variable Voicing for Beginning 8th-9th Grade Choirs:

1. "Calypso Noel," G. Krunnfusz, R. Oliver, Plymouth Music #PCS-884. SATB/SA/TB/TTBB.
   Will work exceptionally well with beginning choirs. Not difficult. Very rhythmical. Triadic harmonies abound.
2. "Calypso Serenade," R. Oliver, Plymouth Music, #PCS-24. SATB/SAB/SA.
   Excellent for Spring. Text is delightful and appeals to junior high students. Easy to learn.
3. "Five Hundred Miles," Arr. Hedy West, Charles Hansen Pub., High, Medium, Low (HML) voicing, or SSA, T (T or B) B. #C461.
   Melody for baritone in the middle part. Midvoice II doubles the soprano an octave below.
4. "Laudate Dominum," (Psalm 117), James McCray, Shawnee Press, #A-1222. SA/TB/SATB.
   Very exciting music. Changing meters and interesting harmonies. Highly recommended for young choirs.
5. "My Lord," Joyce Eilers, Hal Leonard Pub., #08545500. Three Parts (I, II, III).
   Must make a few range compromises for the changing voice. This song has great appeal for junior high singers. Very rhythmical.
6. "The River is Wide," N. Reynolds/trans. P. King, Charles Hansen, #C270. HML.
   Great piece for the beginning of the year. Easy to learn. Baritones should sing the medium (melody). Midvoice II doubles an octave below soprano.
7. "Sing Out," Pete King, Hansen Pub., #F10 M464, HML.
   Rather long, but snappy and appealing. Another piece for beginning of the school year.

Music for Beginning and Intermediate 7th-9th Grade Boy's Choirs:

*The reader is encouraged to examine the "Sound of Singing Boys" Choral Series, Cambiata Press. This collection contains a variety of songs with different voicings to fit different age/ability levels.

1. "The Deaf Old Woman," K. K. Davis, Galaxy Music, #1647. TB.
   Works well, range-wise, with all voices. Use at the beginning of the year. Must be done in a light-hearted manner.
2. "Angels We Have Heard on High," Arr. Peter Stone, Pro Art Pub., #1783. SA/TB.
   Develops rhythmic, pitch agility. Baritone part should double the alto an octave below.
3. "A Child is Born in Bethlehem," Arr. Marie Pooler (Danish folk; language is English, but the foreign text is included), Augsburg Press, #TC15. SA.
   Adaptable, for the most part, to ranges of boys' voices. Some problems with midvoice II doubling the soprano an octave below. This song is especially good for beginning singers and may be learned quickly.
4. "Three Hebrew Psalms," Michael Braz, Belwin Mills, #2284. Treble voices.
   Baritones sing in lower octave, doubling top part. Adaptable to changing voices. These songs have special appeal to junior high boys.
5. "Die Meere," (The Seas), J. Brahms, op. 20, No. 3. National Music Pub., Tustin, Ca., #WHC-57. SA or TB.
   Works well at the beginning of the year. Midvoice II's can double the top part an octave lower. Lyrical and flowing.
6. "Good News," Gary Brown ("Enter the Young" Series), Studio Pub., TTB.
   Excellent for fall. A good arrangement. One problematic section (Range-wise) for midvoice II's. Very rhythmical and contains nice sectional contrasts.
7. "The Boar's Head Carol," Shaw-Parker, G. Schirmer, #10179. TTBB.
   Unison first verse...rich harmonies in chorus. Need some settled baritones to sing the bass part. Easy to learn, and satisfying to perform. Boys will like it.
8. "Sing Out," Pete King, Hansen Publications, #F10, M464. HML.
   This song works well for boys' groups. Introduce at beginning of the year. Midvoice II's can double the top part, an octave lower.
9. "Pleasure It is," C. Cope, Oxford Press, #E33. 2 parts.
   Very exciting. English tune. Easy to learn. Excellent piano accompaniment. Use at the beginning of the year. Some range compromises necessary for the changing voice.
10. "A-Roving," Shaw-Parker, Lawson-Gould/G. Schirmer. #51054. TTBB.
    Not an easy selection, but very rhythmical and exciting. Use for the Spring!
11. "Beautiful Saviour," J. Butler ("Chanters Series"), Willis Music Co., #W9782. TTBB.
    Well arranged. Excellent selection for building harmonic awareness, and breath support for the long phrase.

12. "De Animals a-Comin," Bartholomew, G. Schirmer, #8046. TTBB.
Challenging, but exciting. Excellent ranges. Well arranged. A real audience pleaser. Builds rhythmic flexibility.
13. "Integer Vitae," Flemming/Johnstone, Cambiata Press, #M97562. CCBB.
Exceptionally well-done arrangement. Use in the early part of the year.
14. "No One's Perfect," W. Rodby, Somerset Press, #WR-1020. TTBB.
Difficult. Boys will really go for this one! Good for building harmonic awareness.

15. "Now Thank We All Our God," Cruger/Cain, Flammer/Shawnee Press. #C-5028. TTB.
***A real gem! Good for the beginning of the year. Good for beginning groups. Fine harmonic writing.
16. "Sing We Praise of God," (from "Cantata 152"), Bach/Coggins, G. Schirmer, #11471. TTBB.
Excellent for building rhythmic/pitch agility. Try in the Spring.
17. "Viva Tutti" ("Here's to Women"), R. Hunter, Lawson-Gould/G. Schirmer, #778. TTB.
Can be done in both Italian and English. Rousing number, and easy to learn. Boys will like it!
18. "Alleluia! Sing Praise" (from "Cantata 142"), Bach-Hirt, C. Fischer. TTBB.
Easy to learn. Difficult piano accompaniment. Good introductory piece to Baroque Period. Harmonically satisfying for young singers.
19. "When Good Men Sing Together," (17 Songs for Young Glee Men), Walter Rodby and Joseph Roff, Somerset Press, #416. Unison, 2-4 parts
Ranges are not good for some of these songs. Recommend "All Glory be to God on High," (Unison), "Early in the Morning," (Unison). Both of these songs are good for the beginning of the year."
20. "Men of Harleigh!" (from "14 Folk Tunes for Young Men"), Channing Lefebvre, Galaxy Music, TBB.
Excellent for beginning choir. A few range problems for midvoice II.
21. "Companions All," (Songbook for Young Gleemen), Walter Rodby and Dr. Joseph Roff, Schmitt, Hall & McCreary Co., #9192. Unison, 2-4 parts.
Again, range is a problem in some of these selections for midvoice II. Look at: "Winter Song" (TB), "We Sing Hello!"

FOOTNOTES

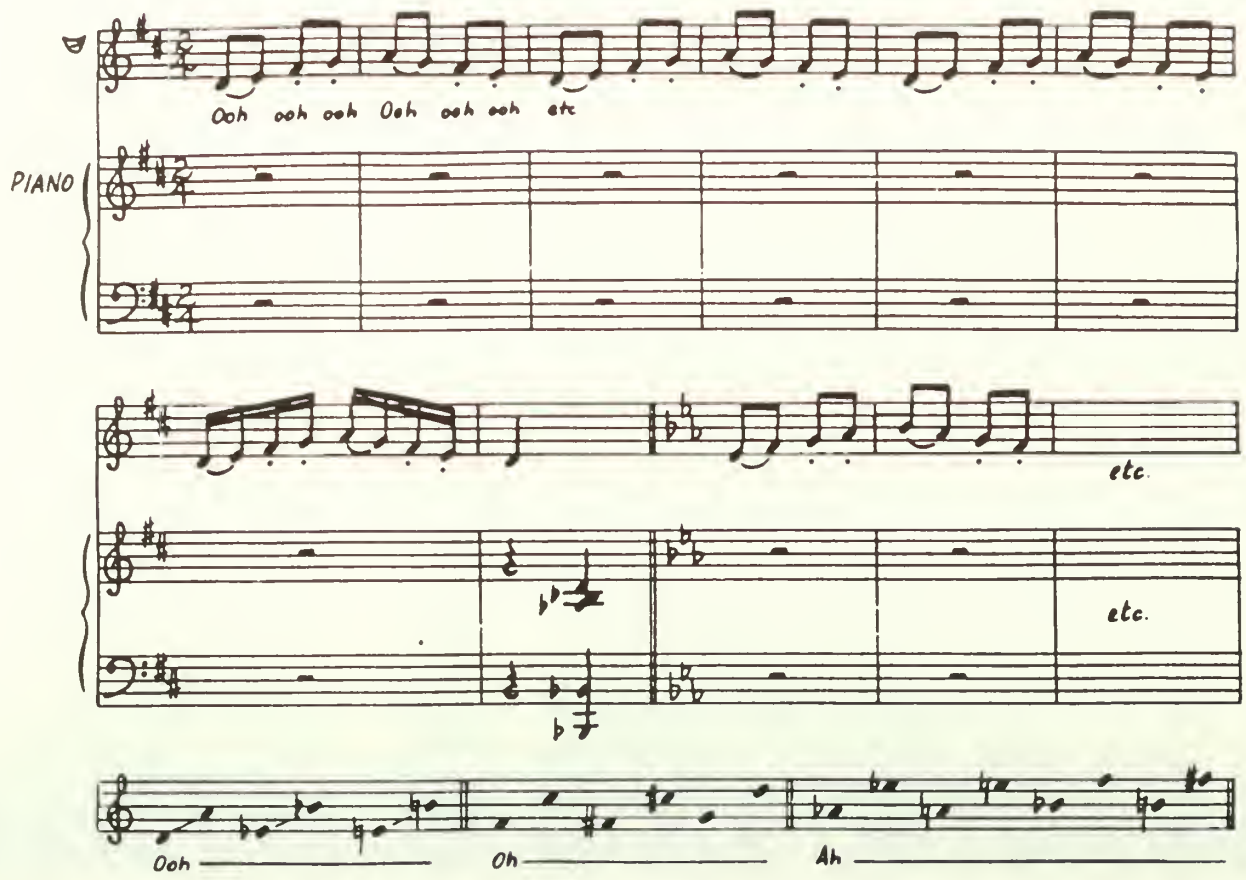
1. The writer wishes to express special appreciation to Rodger Vaughan, Professor of Music Theory at California State University, Fullerton, for all the music notation and harmonizations done in this article.

NOTE: The learning resources identified in this article have not been evaluated by Alberta Education, and their listing is not to be construed as an explicit or implicit departmental approval for use. The responsibility to evaluate these learning resources prior to selection rests with the local jurisdiction.

SAMPLE LESSON PLAN
(Level II)

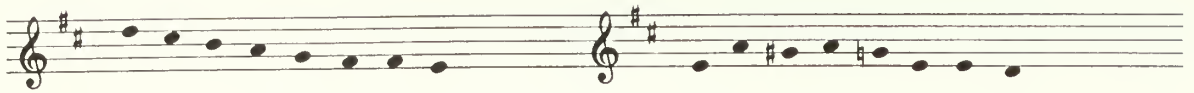
WARM-UP: 3 Minutes

- Emphasize listening: "Listen louder than you sing."
- Purpose: Development of head tone in full register.
- Listen for uniform vowel formation.



EAR TRAINING/SINGING: 5 Minutes

- Have the class echo the following melodies:



- Guide the class in notating the sung melody.

SELECTION NUMBER 1: 10 Minutes

- Introduce ***Joy*** (adapted from 'Seligkeit') by Schubert
  - Find the previously notated fragments in the song.
  - Sight read through the entire song. Name problem intervals.
  - What is the form?
  - Make note of changes of meter.
  - Give careful attention to slurs (page 3).
  - Make note of dynamic markings.

SELECTION NUMBER 2: 10 Minutes

- ***Cat!*** by Ydstie
  - Check tuning for bar 9.
  - Notate sections requiring attention to tuning on the board – e.g., top of page 3 **"green-eyed scratcher"**.
  - Remember colour words.
  - Crisp and clear consonants (staccatos).
  - Guard against harsh "r" sound.
  - Review dynamic markings.

SELECTION NUMBER 3: 3 - 5 Minutes

- ***Five Eyes*** by Gibbs – Review for Concert Performance
  - Remember colour words.
  - Altos, watch tuning at the bottom of page 3 (**"empty stair"**).
  - Crisp consonants.
  - Dynamic contrasts.

REVIEW: 3 Minutes

- New Italian terms and their meaning.
- Review and sing notated melodic fragments.

ROLL CALL AND ANNOUNCEMENTS: 4 Minutes

GRADE 7 CHORAL MUSIC EXAM

Name _____

10 marks

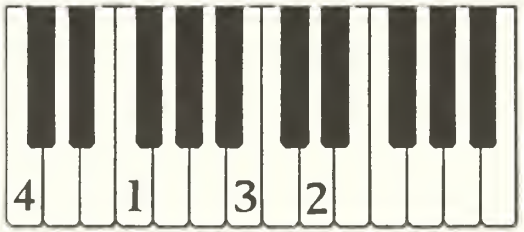
A. Identify the following intervals which you will hear played on the piano:

1. _____
2. _____
3. _____
4. _____
5. _____

4 marks

B. Name the piano keys numbered in the following diagram:

1. _____
2. _____
3. _____
4. _____



4 marks

C. Identify the following intervals by number:

1. _____ 2. _____ 3. _____ 4. _____

12 marks

D. Rhythmic Dictation (1/2 mark per beat)

You will hear three examples of rhythmic dictation. Each is in $\frac{4}{4}$ time and will employ:

Each two-measure dictation will be heard three times.

1.

2.

3.

10 marks

E. Match each marking with its definition or meaning.

1. allegro	_____	a. gradually becoming softer
2. andante	_____	b. at a walking tempo
3. crescendo	_____	c. loud
4. forte	_____	d. gradually becoming faster
5. rallentando	_____	e. hold
6. accelerando	_____	f. repeat
7. 	_____	g. gradually becoming louder
8. 	_____	h. fast
9. 	_____	i. treble or G clef
10.	_____	j. gradually becoming slower

_____

40 marks

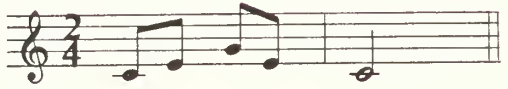
GRADE 7
FINAL PRACTICAL TEST

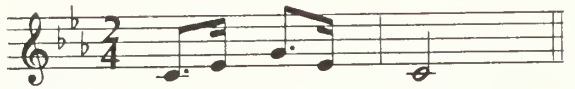
(Test sheet to be filled in by the teacher.)

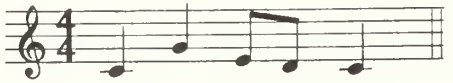
Name _____

15 marks

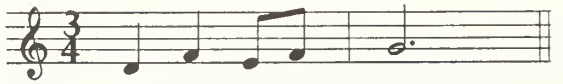
1. Echo the following melodies after each has been played or sung three times:

a) 

b) 

c) 

d) 

e) 

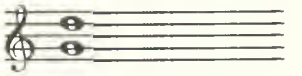
Three marks per example. Deduct one mark for each rhythmical or melodic error.

3 marks

2. I will play harmonic intervals. After two hearings, sing the bottom note of the intervals.

a) 

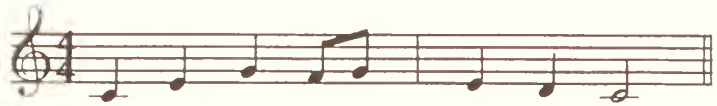
b) 

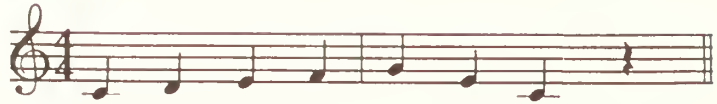
c) 

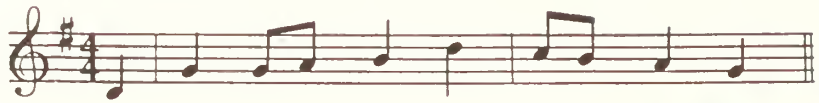
15 marks

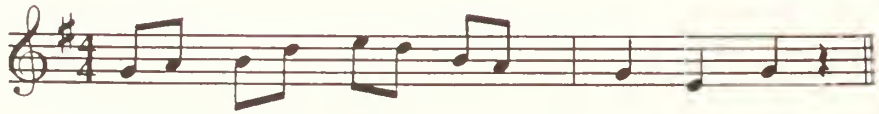
3. Sight sing the following two-measure melodies:

a) 

b) 

c) 

d) 

e) 

8 marks

4. Perform the following rhythmic patterns on the syllable **"doo"**:

a) 

b) 

c) 

d) 

37 marks

5. Sing a unison song you have studied this year. The following criteria will be considered:

a) intonation	(5)	_____
b) breath control	(5)	_____
c) phrasing	(5)	_____
d) articulation	(5)	_____
e) tone quality	(5)	_____
f) vowel shaping	(7)	_____
g) artistry (musicianship)	(5)	_____

22 marks

6. Perform your part in a canon or a unison with descant selection. The following criteria will be considered:

a) secure part singing	(5)	_____
b) intonation	(5)	_____
c) phrasing	(2)	_____
d) articulation	(2)	_____
e) tone quality	(2)	_____
f) vowel shaping	(2)	_____
g) artistry (musicianship)	(2)	_____
h) breath control	(2)	_____

100 marks

SAMPLE LETTER

Try to give parents ample notice regarding trips, concerts, etc. Parents generally prefer to be kept informed on an ongoing basis rather than being "surprised". A sample letter to parents follows.

Dear _____:

Our school choir of which _____ is a member will be competing in the Edmonton Kiwanis Music Festival on Wednesday, April 28. Because our choir sings at 3:30 p.m., the bus will not be able to return the students to school until 5:00 p.m. I would appreciate you arranging to have your son/daughter picked up from the school – perhaps neighbours can cooperate in this regard.

Students will have access to the telephone to call for rides when they get back to the school, should this be necessary.

Thank you for your continued support.

Sincerely yours,

A. Singer
Choir Director

WORKING WITH A BUDGET

1. Check with the principal to ascertain the money allotted per pupil, or per class, or per course. Determine if the money allocation is made on a September to September basis, or from January to December. Find out how to requisition supplies.

2. **The budget for music should consist of:**

   a) capital.
   b) teaching resources.
   c) consumable supplies.
   d) maintenance.

   Find out the policy in your school:

   a) Which teaching supplies are paid for by the board?
   b) Which are purchased by the board and paid for by the student at cost?
   c) Which are provided by the student?
   d) Are there enough supplies on hand to meet your immediate needs?

3. Consideration should be given to the provision of a paid accompanist.

4. Set up a plan for the replacement of equipment and supplies over the long term. During the year:
   a) keep a list of repairs and replacements.
   b) keep a record of all music department expenditures — very useful for future ordering; helps in future budget projections.

The above procedures demonstrate management skills and improve the credibility of the music program.

INVENTORY

You are responsible for the music equipment and supplies.

1. If an inventory does not exist — **START ONE.**
   - use a card file format, or use a duotang folder.

SAMPLE CARD

TITLE OCTAVO NUMBER PUBLISHER		ARRANGER/COMPOSER VOICING
DATE	# OF COPIES	CONDITION

2. Inventory should be done at least twice per year.

3. A good inventory system simplifies the replacement of equipment and supplies.

4. Defective furniture or equipment in the music room and any unsafe conditions noted should be brought to the attention of the administration. Requests for replacements or improvements should be made in writing, with a copy kept in your files.

GLOSSARY

GLOSSARY

absolute music	abstract music that is not based on a story or picture; pure music without extra-musical references
accelerando	to speed up
accented beat	a stressed pulse, creating strong and weak recurring patterns in meter
accidentals	a sharp, flat or natural that occurs outside the given key signature
adagio	a slow tempo but not as slow as largo
ad libitum	at the performer's liberty
al fine	to the end
agitato	agitated
allargando	gradually slower and broader
alla breve	cut time $\frac{2}{2}$ ¢
allegretto	fast and lively but not as much as allegro; literally, "a little less allegro"
allegro	fast and lively
anacrusis	a pick-up beat (or beats) before the first downbeat
andante	a slow, walking tempo
andantino	a little faster than andante
animato	animated
antecedent	the question phrase in a period

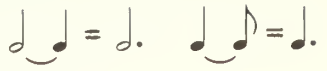
antiphonal	describing two musical groups that perform alternately in call-response
appassionato	passionately
aria	solo song in an opera, oratorio, or cantata that is usually accompanied by an orchestra
arpeggio	a broken chord in which tones are heard successively
assai	a modifying adverb meaning "very"; assai allegro means very quick
asymmetrical meter	a non-symmetrical meter such as five, seven, etc.
a tempo	return to the previous tempo
attacca	go on to the next section without stopping
augmented interval	an interval that is a half step larger than perfect (in the case of unisons, fourths, fifths, and octaves) or a half step larger than major (in the case of seconds, thirds, sixths, and sevenths); C to F# is an augmented fourth
bar line	dividing line between measures
bass clef	F clef, which indicates the placement of F below middle C
beam	straight line flags that join notes (eighths or smaller)
beat	single pulse of the basic duration; usually a quarter, half, or eighth note, sometimes a dotted quarter
binary form	two-part form, whether AB or AA_1
brass	instruments made of metal with cup or funnel-shaped mouthpieces, including trumpet, French horn, trombone, and tuba
bravura	spirit, skill
brillante	bright, sparkling
cadence	a resting point in music, usually at the end of a phrase

cadenza	an ornamented passage near the end of a solo
caesura	stop
calypso	music of Trinidad characterized by syncopated rhythm and satirical lyrics
canon	a piece in which each part starts at a different time yet has the same (or similar) melody
cantabile	in a singing style
capo	a device placed across the neck of a guitar to raise the pitch of all strings uniformly
changing meter	meters that change every measure
chord	several pitches played simultaneously as a unit
chromatic	a twelve-toned scale with a half step between adjacent notes; i.e., c, c#, d, d#, e, f, f#, g, g#, a, a#, b, c'
circle of fifths	arrangement of all major/minor keys to show progression of sharp and flat keys
⊕ coda	ending of a piece
colla voce	with the voice
common time	$\frac{4}{4}$ $\mathbf{C}$
complete cadence	a resting point that sounds finished; it usually ends on the I chord
compound interval	an interval greater than an octave
con	with
con brio	with vigour and spirit

conducting patterns	
conjunct	stepwise motion
con moto	with movement
consequent	the answer phrase in a period
contour	melodic direction
contralto	the female voice with the lowest tessitura (usually abbreviated as alto)
contrast	change; variety
couplet	two rhyming lines of poetry
crescendo	to become louder gradually 
Curwen hand signals	a system in which each syllable of the scale is represented by a specific hand shape
D.C. al Fine	**Da Capo** al **Fine** — return to the beginning of the music and play to the "finish" or **Fine**
decrescendo	to become softer gradually (also **diminuendo**) 
definite pitch	percussion instruments in which distinct pitches are played, especially those keyboard instruments played with mallets
descant	a second melody that is performed above the main melody; higher counter-melody
diminuendo	gradually becoming softer 
disjunct	skipwise motion
dolce	sweetly
dominant	the fifth note of the major or minor scale (**sol** or **mi**, respectively) as well as the triad built on that note

dominant seventh — triad built on the fifth note of the scale with an added seventh

dorian mode — a diatonic scale in the pattern of 1-1/2-1-1-1-1/2-1; i.e., d e f g a b c d'

dot — a device ( ) to lengthen the duration of a note by one half its original value 

dotted quarter note — a note that is half again as long as a ♩ : if ♩ = 1, ♩. = 1 1/2
if ♩ = 2 ♩. = 3

dotted quarter rest — the rest equivalent to a dotted quarter note

double bar — two bar lines used to signal the end of a song or section

double reed — woodwind instrument in which performer blows between two pieces of cane; oboe and bassoon are both double reed instruments

D.S. al Fine — repeat from the sign 𝄋 and play to the finish **(Fine)**

duet — a piece for two performers or parts

duplet — two notes in the time of three 

duple time — strong-weak meters $\frac{2}{4}$ $\frac{2}{2}$ ¢ $\frac{2}{8}$ $\frac{6}{8}$

dynamic markings — using forte (*f*) and piano (*p*) with modifications to indicate relative degree of loudness

dynamics — loudness of music

echo song — one song performed in two parts as call-response

eighth note — one half of the length of a quarter note

eighth rest — rest equivalent of an eighth note

enharmonic	notes or chords that sound alike but are written differently; i.e., C# and D♭
expressivo	expressively
even pattern	rhythm pattern in which every note moves exactly with the pulse or is divided evenly over the pulse
𝄐 fermata	a hold
fifth	the third note in a triad; in the C major triad (C E G), G is the fifth
fine	the end
first, second endings	a device for repeating a section of a piece in which different endings are used with each repetition
flag	the appendage on an eighth note that distinguishes it from a quarter; sixteenth notes have two flags, thirty-second notes have three flags, and so on
♭ flat	a symbol that lowers a tone by one half step
folk song	a simple song of a national or cultural group
form	musical design
forte piano	loudly, then immediately softer
grand staff	joining the treble and bass staff to create a continuous range of pitches
grandioso	grand, noble
grave	slow and solemn
grazioso	gracefully
𝅗𝅥 half note	one half of a whole note or twice the duration of a quarter note

half rest	rest equivalent of a half note
harmonic minor	a diatonic scale built on la with **sol** (7) raised one half step to **si**
harmony	sounding at the same time of two or more different pitches
hemiola	rhythmic change from grouping of two to grouping of three or vice versa
homophony	texture with melody and accompaniment
improvisation	creating a new melody or elaborating on an old one during performance
incomplete cadence	a resting point that sounds unfinished; it usually ends on a chord other than the tonic
indefinite pitch	percussion instruments in which distinct pitches are not discerned; i.e., snare drum, bass drum, cymbals, etc.
interlude	musical filler between main ideas
interval	distance between two pitches
introduction	music that comes before the main idea or section
inversion	a chord whose root is not the lowest sounding tone; a rearrangement of the pitches from root position
keynote	first tone of a scale--**do** in major, **la** in minor
key signature	a group of sharps or flats at the beginning of each staff of music to indicate the key
largo	very slow
legato	smooth and flowing
leger line	a short line to indicate the position of a note above or below the regular staff

lento	slowly
l'istesso	the same
loco	return to the written register after playing an octave higher or lower
lydian mode	a diatonic scale in the pattern of 1-1-1-1/2-1-1-1/2; i.e., f g a b c d e f'
maestoso	majestically
major diatonic	a scale in the pattern of 1-1-1/2-1-1-1-1/2; i.e., c d e f g a b c'
major interval	refers to seconds, thirds, sixths, and sevenths and their compound equivalents; half step larger than a minor interval C to D ——— major second C to E ——— major third C to A ——— major sixth C to B ——— major seventh
marcato	marked or accented
marcia	march
measure (bar)	rhythmic unit determined by meter and separated by bar lines; in $\frac{4}{4}$ a measure is equivalent to four quarter notes
melodic minor	raise 6th and 7th notes ascending, and lower 6th and 7th descending of the natural minor
melodic rhythm	the rhythm of the words
melody	a linear series of pitches that are heard as a unit
meno	less
meter signature	written indication of strong-weak, etc., pulses
metronome	a device that sounds (or displays) a steady pulse; it may be set to slow and fast tempos

minor interval	an interval one half step smaller than a major; only seconds, thirds, sixths, and sevenths and their compound equivalents may be minor C to D^b —— minor second C to E^b —— minor third C to A^b —— minor sixth C to B^b —— minor seventh
mixolydian mode	a diatonic scale in the pattern 1-1-1/2-1-1-1/2-1; i.e., g a b c d e f g′
mode	a diatonic scale
moderato	moderately
modulation	changing from one key to another within a composition
molto	very; much
monophony	single line of melody without accompaniment
morendo	dying away in time and tone
mosso	motion
motive	a short rhythmic or melodic (sometimes harmonic) pattern
♮ **natural**	a symbol that cancels a sharp or flat
natural minor	diatonic scale built on la
non-harmonic tone	a pitch that is outside a given chord
non-troppo	not too much
octave	an interval of eight pitch names; i.e., C to C′
ottava	an octave, an eighth
opera	staged drama that is predominantly sung with orchestral accompaniment

ostinato	a repeated pattern, whether in rhythm, melody, or harmony
overture	an extended orchestral introduction to an opera or ballet or similar type of musical work
parallel keys	tonalities that have the same keynote but different key signatures; i.e., C major or C minor
partner songs	two songs that have identical harmony and which can be performed together; this may sometimes include the verse and chorus of the same song
passing tone	a non-harmonic tone that passes between harmonic tones; if the harmony were C E G, then D and F would be passing tones
pentatonic	a five-tone scale, most commonly do re mi sol la
percussion	instruments that are struck, shaken, or scraped
perfect interval	an interval of perfect consonance; it may be unison, fourth, fifth, and octave (or compounds) only
period	a two phrase structure consisting of antecedent and consequent
phrase	a "breath" length in the melody; a melodic unit ending with a cadence
phrygian mode	a diatonic scale in the pattern of 1/2-1-1-1-1/2-1-1; i.e., e f g a b c d e'
piu	more
pizzicato	plucked strings
poco	little
poco a poco	little by little
polyphony	texture with two or more melodies simultaneously
polyrhythm	two or more rhythms simultaneously, with different accents or meters, cross-rhythm
prestissimo	faster than presto

presto	faster than allegro
primary triad	tonic, sub-dominant, or dominant triad
program music	music that has an extra-musical reference, such as narrative or description
quadruple time	**4 4 4 12 C** strong-weak-weak-weak meters **4 2 8 8**
 **quarter note**	one half of a half note
quarter rest	rest equivalent of a quarter note
quartet	a piece for four performers or parts
rallentando	gradually becoming slower
range	interval between the highest and lowest pitches
refrain	a chorus of music repeated at intervals in a song, especially following each verse
relative keys	tonalities that have the same key signatures but different keynotes; i.e., C major and A minor
repetition	repeating of melody, rhythm, or harmony, generally to create musical unity
rhythm	temporal element of music including tempo, beat, meter and pattern, whether even, uneven, or syncopated
ritardando	a gradual slowing of the tempo
ritenuto	suddenly slower, held back
rondo	a return form in lively tempo; common designs are ABA, ABABA, ABACA, and ABACABA
root	the tone upon which a chord is based
root position	a chord with the root as the lowest sounding pitch
round	a strict canon

SATB	abbreviation for soprano, alto, tenor, and bass
scherzando	playfully, lively
secondary dominant	a dominant seventh built on tones other than the dominant, usually the supertonic
secondary triad	triad built on the supertonic, mediant or submediant
sempre	always
senza	without
sequence	repetition of a melodic idea at a higher or lower pitch
sforzando	strongly accented
♯ sharp	a symbol that raises a tone by one half step
simile	like
simple interval	an interval that is less than an octave
single reed	a woodwind instrument in which the performer blows through a mouthpiece equipped with one piece of cane; clarinet and saxophone are single reed instruments
sixteenth note	a note equal to one half the duration of an eighth note
sixteenth rest	rest equivalent of a sixteenth note
slur	a curved line ⌒ between two or more notes of different pitch names indicating they are to be played legato
soprano	the voice with the highest tessitura
sostenuto	sustained
sotto voce	softly, in a low voice

SSA	abbreviation for Soprano I, Soprano II, Alto
staccato	detached, short
staff notation	placement of notes on five lines and four spaces
stem	black vertical line attached to all notes except the whole note 
string instruments	instruments producing sound by taut strings that are bowed or plucked; violin, viola, cello, and double bass, but also guitar and harp
strophic	exact repetition
sub-dominant	fourth tone of the major or minor scale (fà or re, respectively); a triad built on this is called the **sub-dominant** triad, IV (iv)
subito	suddenly
supertonic	a second tone of a scale
syllables	do re mi fa sol la ti do'
syncopation	shifting a strong beat to a weak one or leaving it out
tacet	be silent
tempo primo	the original time
tessitura	the average range of a vocal part
tenuto, tenura	sustained
ternary form	three-part form, most commonly ABA
theme and variations	presentation of a theme followed by several transformations of that theme
third	the second note in a triad; in the C major triad (C E G), E is the third

tie — a connecting line ‿ between two or more notes of the same pitch for lengthening the first by the duration of the following one(s)

timbre — tone colour of sound

tonic — the first note of the major or minor scale, do or la, respectively

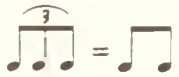
tranquillo — calmness, quietness

transposition — to play, write, or read a song in a different key than its original

𝄞 **treble clef** — G clef, which indicates the placement of G above middle C

triad — a chord of three tones, each separated by an interval of a third

trio — a piece for three performers or parts

triplet — three notes in the time of two 

triple time — $\frac{3}{4}$ $\frac{3}{2}$ $\frac{3}{8}$ $\frac{9}{8}$ strong-weak-weak meters

tutti — all, the whole

uneven pattern — rhythm pattern in which notes do not move exactly with the pulse

verse — a stanza of music used with new words before each refrain

vivace — animated, brisk

𝅝 **whole note** — a note equal to two half notes or four quarters

𝄻 **whole rest** — rest equivalent to a whole note

whole-tone scale — a six-tone scale with a whole-step between adjacent tones; i.e., c d e f# g# a# c'

woodwinds — instruments in which tone is produced by a vibrating air column inside a pipe. The pipe is equipped with finger holes. Includes flute, oboe, clarinet, bassoon