ORGANIZATION OF A COURSE OF STUDY
IN PRACTICAL HARMONY FOR SECONDARY
SCHOOL USE FROM THE UNCONVENTIONAL
VIEWPOINT OF BAND ARRANGING

A Thesis
Presented to
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Indiana State Teachers College
Number 561

In Partial Fulfillment
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Master of Science in Education

by
Guy F. Foreman
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Contribution of the Graduate School, Indiana State Teachers College, Number 561, under the title Organization of a Course of Study in Practical Harmony for Secondary School Use from the Unconventional Viewpoint of Band Arranging

is hereby approved as counting toward the completion of the Master's degree in the amount of 8 hours' credit.

Committee on thesis:

[Signatures]

Representative of English Department:

Sara King Harvey

Date of Acceptance 8/1/47
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CHAPTER I

THE PROBLEM AND ORGANIZATION OF THE STUDY

As a result of the greatly increased interest in instrumental and vocal music by the students of our public schools, there has arisen a demand that certain phases of music, ordinarily taught only in colleges, conservatories, and music schools, be taught in the high school. One particular phase of music for which there has been a great demand by high school students is the study of harmony and arranging.

Up to this time, however, no definite course of study in either harmony or instrumental arranging for secondary school use seems to exist in which the content is based upon standard practices which have been integrated with pupil needs and interests.

Statement of the problem. It is the purpose of this study to attempt to determine the major subject matter divisions of a course of study in practical harmony for secondary school use from the unconventional viewpoint of band arranging and, after the major divisions have been determined, to organize them into a course of study which would combine harmony with band arranging. The resulting course of study will
be based upon major subject matter divisions which have been obtained through analysis of standard harmony and arranging texts and which have been integrated with the needs and interests of the high school student of today.

The major topics which were used in the final course of study were determined by an analysis of a number of selected books on harmony and several books and one magazine article on instrumental arranging. The opinions of men who were considered by the musical world to be experts in the fields of composition and band arranging and the personal opinion of the writer were used also in the selection of the major topics.

Since the final course of study approached harmony from the viewpoint of band arranging, and since the fundamental musical form in the band's repertoire was the standard parade march, exemplified by Sousa's *The Stars and Stripes Forever*, and Fillmore's *Military Escort*, the march-form was used throughout the final course of study in the illustrations, exercises, and assignments.

**Importance of the study.** The trend in secondary education seems to be to attempt to provide the student with specific and practical training as well as a good general education. The study of harmony and the study of instrumental arranging have found their way into the curricula of many
large high schools and some smaller high schools recently, because of their demand by students who hope to have careers of music. Interest in these subjects also has been shown by students who wish to have a greater knowledge and understanding of what may well become an important leisure time activity.

Most courses of study in harmony and instrumental arranging seem to be presented, however, from the purely theoretical point of view, much as they have been taught throughout the last three hundred years. As a result of this practice, the student has gained a store of facts, rules, and other data; but many music educators feel that the student is not able to apply his knowledge to practical everyday situations, such as playing a musical instrument, simple arranging and composition, and intelligent listening to good music.

Such a practice does not seem to be in accordance with the best and most recent thinking about the curriculum of the secondary school. It does not agree with the recommendations of the Committee on Music Education of the Music Educators National Conference regarding the study of harmony and theory. This committee\(^1\) recommended that harmony and theory.

teachers should subject the traditional procedures of harmony
or theory classes to constant scrutiny to be sure that the
activities carried on actually contribute toward practical
musical goals.

II. DEFINITIONS OF TERMS USED

Major subject matter divisions. This term was applied
to those divisions of subject matter which were found in
recognized books on harmony or instrumental arranging. A
subject matter division might have been a chapter heading
or a subdivision of a chapter; however, it rarely was less
than a subdivision of a chapter. Examples of some major di-
visions of subject matter are as follows:

A. Major Scales
B. Minor Scales
C. Cadences
D. Chord of the Dominant Seventh, etc.

Standard texts and standard courses of study. Texts
and courses of study which have been recommended by the
Indiana Department of Public Instruction for secondary school
use, and texts and courses of study which have been in general
use in colleges, conservatories, and music schools, either as
adopted texts or as supplementary materials, shall be termed
standard texts and standard courses of study in this thesis.
Standard practices. Standard practices in this thesis shall refer to those conventional ways of presenting harmony and instrumental arranging which were found in recognized harmony and arranging books.

Practical harmony. Practical harmony in this thesis shall be thought of as harmony which can be applied directly to the writing of some specific musical form, such as the standard parade march.

III. ORGANIZATION OF THE STUDY

The ultimate objective of this thesis was the organization of a course of study in practical harmony for secondary school use from the viewpoint of band arranging, using the standard march-form as the medium of illustration and expression. To attain this objective, it first was necessary to determine what the major subject matter divisions of such a course of study would be. The procedure followed was this:

A. A number of standard texts and standard courses of study on harmony and on instrumental arranging were selected from the list of such books which had been recognized and recommended by the Indiana Department of Public Instruction for secondary school use and from the texts and courses of study which have been in general use in college
music departments, conservatories, and music schools, either as adopted texts or as supplementary materials. A fair sampling of materials which seemed to have been written specifically for secondary school use or which dealt with the elementary or beginning aspects of harmony and instrumental arranging was obtained.

All of the materials selected were separated on the basis of content into two major groups, harmony books and books on instrumental arranging.

B. All the books in each group were analyzed to determine the major subject matter divisions of each.
From this analysis two composite lists of major topics were compiled, as shown in Tables I and II.

C. Two basic lists of major subject matter divisions were organized by the inclusion of all topics which appeared in half or more than half of the books analyzed in each group.

D. From the two basic lists organized in Part C, the major subject matter divisions were selected which in the opinions of three experts in the fields of band arranging and composition might well be used in the organization of the final course of study.
The three experts were H. A. VanderCook, President of the VanderCook School of Music and an outstanding composer and arranger of band music; H. E. Nutt, Secretary of the VanderCook School and an expert teacher; and Forrest Buchtel, Director of Music at Amunsden High School, Chicago, Illinois, and a noted arranger and composer of school band music.

E. The major subject matter divisions not previously mentioned in this thesis, but which in the opinion of the three experts were necessary to insure the completeness and logical progress of the contents of the final course of study, were added to the topics selected in Part D.

F. (Appendix) A course of study in practical harmony for secondary school use from the viewpoint of band arranging was organized using the subject matter divisions selected in Parts D and E, together with some of Mr. VanderCook's original material and a large amount of material and ideas original with the writer.

IV. PREVIOUS STUDIES

Few courses of study in practical harmony for secondary school use seem to have been written, and, in so far as it
has been possible to determine, few, if any, courses of study in practical harmony for secondary school use from the unconventional viewpoint of band arranging seem to exist. There also seem to be no studies in existence which claim to attempt to determine the contents of either type of course.

While these either are conceptions of band arranging, they are not definitions specifically for secondary school use of band arranging with the elementary or beginning band student in mind. Band arranging is not mere transcription but the art of arranging music for the band. Arranging requires a high degree of knowledge, experience, and skill.

Instruction for use in the junior and senior high schools should be designed to prepare the students for the needs of junior and senior high schools, although many good methods are available for junior high schools.

All of the books were examined and the contents were studied. The material included music theory, harmony, counterpoint, and composition. The following books were used:

- [Book A]
- [Book B]
- [Book C]

Some of the selected books were analyzed in order to determine their merit and subject matter divisions. These books were then used to help prepare the list of recommended books to the high school band directors.
CHAPTER II

THE MATERIALS USED AND ANALYZED

All of the textbooks and courses of study in harmony and instrumental arranging which were analyzed in this study were chosen either because they seemed to have been written specifically for secondary school use or because they dealt with the elementary or beginning aspects of harmony and instrumental arranging. In addition, some of the texts were chosen from the list of such books which have been recognized and recommended by the Indiana Department of Public Instruction for use in the secondary schools of the state, while others were chosen because they have been in general use in college music departments, conservatories, and music schools, either as adopted texts or as supplementary materials.

All of the books were separated into two groups on the basis of content, harmony books and books on instrumental arranging.

I. BOOKS ON HARMONY

A total of fourteen books were analyzed to determine their major subject matter divisions. Three of the fourteen books were on the list of recommended texts in the Digest of Courses of Study, State of Indiana Department of Public
Instruction, Bulletin No. 151. These three books were Goetschius' *Theory and Practice of Tone Relations*, Leighton's *Harmony, Analytical and Applied*, and Orem's *Harmony for Beginners*. The newest of the fourteen books was Lowell Mason Tilson's *Elementary Theory and Practice*, which was written specifically for high school use. It was adopted recently by the Indiana State Commission on Textbook Adoption for secondary use.

The oldest harmony book which was used was published in 1867, and the newest book which was studied was published in 1946, a range of seventy-nine years. Eight of the fourteen harmony books have been published since 1920.

**II. BOOKS ON INSTRUMENTAL ARRANGING**

A total of seven books and one magazine article on instrumental arranging were analyzed to determine their major subject matter divisions. Books which dealt with instrumental arranging were very few in number. The seven books on instrumental arranging represent practically all of the known textbooks on the subject.

The oldest book on instrumental arranging which was used was the well known Berlioz' *Treatise on Orchestration and Instrumentation* which was written about 1830. The newest
material which was studied was Harold Johnson's article in *The Instrumentalist*, "Teaching Orchestration in the Grade and High School", which was published in 1947. The five books and the one magazine article have been published since 1920.

Of course, all of the books on harmony and on instrumental arranging were not uniform as to the number of pages, the amount of material, and the order of presentation of the subject matter. The variance in amount of content among the various books mattered little, however, since, in the final analysis, only those major subject matter divisions were considered which appeared in half or more than half of the books analyzed.
CHAPTER III

TECHNIQUES AND RESULTS OF THE STUDIES

Complete lists of the books selected for analysis in these studies will be found in the keys to Tables I and II in this chapter. All of the books were selected to meet the conditions specified in Chapter II.

I. STUDY OF THE MATERIALS ON HARMONY

Technique. To obtain the data for Table I, the author selected one of the books on harmony which seemed to be quite comprehensive in its material. The book was Heacox and Lehman's *Lessons in Harmony*. Starting with Chapter I and continuing through the book chapter by chapter, the writer formed a list of the major topics. This list was not considered complete because it was obtained from only one book, although it did agree very closely with a similar list drawn up by the two authors of the book and printed in the front of the volume as an additional aid to finding certain subject matter.

Using this list of major topics as a starting point, the remaining thirteen books were similarly analyzed. For each major topic found which agreed with the original list of major topics, a check was placed in the column assigned to that book in Table I. New major topics were added to the
TABLE I

THE RELATIVE FREQUENCY OF ITEMS IN
FOURTEEN HARMONY BOOKS

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<th>MAJOR TOPICS</th>
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<td>2. Major and Perfect Intervals</td>
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<td>13. Chord of the Sixth</td>
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FOURTEEN HARMONY BOOKS

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FOURTEEN HARMONY BOOKS

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TABLE I (continued)

THE RELATIVE FREQUENCY OF ITEMS IN
FOURTEEN HARMONY BOOKS

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<td>(Oberlin, A. G. Comings and Son)</td>
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<td>K</td>
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<td>Principles of Harmonic Analysis</td>
<td>(Boston, E. C. Schirmer Co.)</td>
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<td>Harmony</td>
<td>(New York, W. W. Norton and Co.)</td>
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<td>N</td>
<td>Tilson, Lowell Mason</td>
<td>Elementary Theory and Harmony</td>
<td>(Chicago, Wheeler Publishing Co.)</td>
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original list as they were discovered. After all fourteen books had been analyzed in this manner, the tallies for each major topic were totaled in the right hand column of Table I. The number of major topics contained in each book was recorded at the bottom of each individual column.

Results. In Table I, a total of sixty-five major topics were obtained by analyzing the fourteen harmony books. Each of the fourteen books is represented on the table by the letters A, B, C, etc., as assigned in the key to Table I. Of the sixty-five major topics shown, only five appeared in every book. Five major topics appeared in thirteen books; six major topics appeared in twelve books; five major topics appeared in eleven books; two major topics appeared in ten books; four major topics appeared in nine books; ten major topics appeared in eight books; one major topic appeared in seven books; three major topics appeared in six books; one major topic appeared in five books; six major topics appeared in four books; four major topics appeared in three books; three major topics appeared in only two books; and ten major topics appeared in only one book.

Heacox and Lehman's Lessons in Harmony contained the most major topics of the original list, fifty-nine in all. The book containing the least number of major topics, fifteen,
was Tilson's *Elementary Theory and Harmony*. Of the fourteen books studied, seven contained at least half or more of the major topics.

II. STUDY OF THE MATERIALS ON INSTRUMENTAL ARRANGING

**Technique.** The data for Table II were obtained in much the same way as for Table I. A list of major topics was drawn up by analyzing one of the more comprehensive books on instrumental arranging. As each subsequent book or treatise was analyzed, new major topics were added to the original list. If the major topic discovered checked with a similar major topic in the original list, then a check mark was placed in the proper place in the column assigned to that particular book. The same device of assigning a letter, such as A, B, C, etc., to each book for identification as used in Table I was also used in Table II.

After all seven books on instrumental arranging and the one magazine article had been studied, the tallies for each major topic were totaled in the right hand column of Table II. The number of major topics found in each book was totaled at the bottom of each column.

On the surface, the technique used in analyzing these books seems rather simple; however, much thought and time had to be spent in studying and analyzing because, unfortunately,
### TABLE II
THE RELATIVE FREQUENCY OF MAJOR TOPICS IN
EIGHT BOOKS ON INSTRUMENTAL ARRANGING

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<tr>
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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>1. Instruments of the Wind Band -- Range, Actual Sound, etc.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>2. Treatment of the Flute and Clarinets</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>3. Treatment of the Saxophones</td>
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<td>x</td>
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<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
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<td>4. Treatment of the Cornets</td>
<td>x</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
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<td>5. Treatment of the Horns</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>6. Treatment of the Trombones</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>7. Treatment of the Baritones</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>8. Treatment of the Basses</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>9. Treatment of the Percussions</td>
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<td>10. Chord Arrangement of the French Horns</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>x</td>
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<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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<td>12. Countermelody</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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THE RELATIVE FREQUENCY OF MAJOR TOPICS IN
EIGHT BOOKS ON INSTRUMENTAL ARRANGING

<table>
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<th>F</th>
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<tr>
<td>13. Transposition</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>14. Arrangement of Instruments on the Score</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>15. Scoring a Melody</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>15</td>
<td>8</td>
<td>13</td>
<td>15</td>
<td>12</td>
<td>15</td>
<td>9</td>
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KEY TO TABLE II

A -- Berlioz, Hector, Modern Instrumentation and Orchestration, (London, Novello and Co., Ltd.)

B -- Vincent, Charles, The Brass Band and How to Write for It, (London, Winthrop Rogers, Ltd., 1908.)


in the study of harmony the same process may have several different names in as many different books.

Results. In Table II, a total of fifteen different major topics were extracted from the materials studied. Of the fifteen major topics found, five appeared in all eight books; four appeared in seven books; two appeared in five books; and two appeared in four books. Three books contained all of the major topics. They were Vincent's *The Brass Band and How to Write for It*; Adkin's *Treatise on the Military Band*; and Yoder's *Arranging Method for School Bands*. Harold Johnson's article on Teaching Orchestration in the Grade and High School contained the least number of major topics. All the materials studied contained well over half of all the major topics.

It should be mentioned here that the sixty-five major topics in Table I and the fifteen major topics in Table II do not represent all of the topics mentioned in the materials analyzed. A comprehensive list would have included many more items, all connected and inter-connected with the major topics chosen. The major subject matter divisions chosen were picked because they appeared as chapter headings or as major subdivisions of a chapter.

From the data gathered in this chapter through the analysis of texts on harmony and arranging, it was possible to pre-
pare two basic lists of major subject matter divisions, Figures 1 and 2. The major topics in these two lists were chosen if they appeared in half or more than half of the books analyzed in Tables I and II.
FIGURE I
A BASIC LIST OF MAJOR SUBJECT MATTER DIVISIONS
AS DETERMINED BY A STUDY OF TABLE I

1. Definitions
2. Major and Perfect Intervals
3. Minor, Diminished, and Augmented Intervals
4. Major Scales
5. Primary Triads in Major Keys
6. Secondary Triads in Major Keys
7. Minor Scales -- Original
8. Minor Scales -- Harmonic
9. Primary Triads in Minor Keys
10. Secondary Triads in Minor Keys
11. Inversions of Secondary Triads
12. Cadences
13. Chord of the Sixth
14. Augmented Sixth Chord (French)
15. Augmented Sixth Chord (German)
16. Neapolitan Sixth Chord
17. The Six-four Chord
18. The Augmented Triad
19. The Triad on the Leading Tone
20. The Dominant Seventh Chord
21. Inversions of the Dominant Seventh Chord
FIGURE I (continued)

A BASIC LIST OF MAJOR SUBJECT MATTER DIVISIONS

AS DETERMINED BY A STUDY OF TABLE I

22. The Seventh Chord on the Leading Tone
23. The Diminished Seventh Chords
24. The Enharmonic Change of Diminished Seventh Chords
25. The Dominant Ninth Chord
26. Consecutive and Parallel Fifths
27. Modulation by Common Chords
28. Modulation Through the Dominant Seventh
29. Modulation Through the Dominant Seventh of the New Key
30. Modulation Through the Diminished Seventh Chord
31. Modulation to a Key a Minor Third Lower
32. Modulation to the Key of the Subdominant
33. The Suspension
34. Ornamental Resolution of the Suspension
35. The Passing Tone
36. The Oppoggiatura
37. Pedal or Organ Point
38. The Song-Form
FIGURE 2

A BASIC LIST OF MAJOR SUBJECT MATTER DIVISIONS

AS DETERMINED BY A STUDY OF TABLE II

1. Instruments of the Wind Band
2. Treatment of the Flute and Clarinet
3. Treatment of the Saxophones
4. Treatment of the Cornets
5. Treatment of the Horns
6. Treatment of the Trombones
7. Treatment of the Baritones
8. Treatment of the Basses
9. Treatment of the Percussion Instruments
10. Transposition
11. Arrangement of Instruments on the Score
12. Scoring a Melody

Less necessary fundamental or technical considerations that seemed to be included by the various writers in their studies, it was decided that an easy decision could be made in defining these two objectives, and an attempt was made to distinguish major topics in Figure 1 and minor ones in the charts of Table II, arranging and combining them for an

completely subjective opinion and estimate.
CHAPTER IV

FURTHER REFINEMENT OF THE MAJOR SUBJECT MATTER DIVISIONS

The basic lists of major subject matter divisions organized in Chapter II, and shown in Figures 1 and 2, are probably comprehensive enough to be used in the organization of a course of study in harmony or arranging for secondary school use which would be typical of the major subject matter of any standard harmony or arranging text. However, it cannot be assumed that all of the major topics in the two basic lists could be used satisfactorily in the organization of an integrated course of study in harmony-band arranging. Furthermore, there is a strong possibility that this particular type of course of study would require the inclusion of topics not even obtainable through analysis of standard texts.

Because of the subjectivity involved in eliminating the unnecessary major topics and in adding the topics which seemed to be required by the unusualness of the course of study, it was decided that the only feasible method of attaining these two objectives was to submit the two basic lists of major topics in Figures 1 and 2, to three experts in the fields of band arranging and composition for their admittedly subjective opinions and estimates.
The three experts were H. A. VanderCook, H. E. Nutt, and Forrest Buchtel, all of whom are noted teachers, composers, and band arrangers. Their opinions may be considered expert because all three men have taught courses in harmony-band arranging with considerable success at the VanderCook School of Music in Chicago, Illinois. Mr. VanderCook is considered to be the originator of this system of teaching harmony.

I. ELIMINATION OF UNNECESSARY MAJOR TOPICS

After studying the basic list of major topics the experts agreed that all of the topics listed might well be included in the final course of study if the course were expanded to include advanced harmony and band arranging on the collegiate level as well as the elementary or beginning work on the secondary level. Since, however, the course of study was intended for use only on the secondary level and would embrace only elementary or beginning harmony and band arranging, the experts decided that certain topics should be left out of this course. For instance, in the light of their teaching experience, the three experts decided that Topic No. 9 in Figure 2, the Treatment of the Percussion Instruments, was not important enough to be studied in an elementary course, and that it should be reserved for later use in a second or advanced course of study where other similar topics of lesser importance might be treated.
As a result of the advice and recommendations of the experts, the two basic lists of major topics in Figures 1 and 2 were reduced by ten items and two items, respectively. The revised lists of major topics are shown in Figures 3 and 4.

II. ADDITION OF SPECIAL TOPICS

In addition to their advice and judgment regarding the advisability of eliminating certain topics from the two basic lists, the experts also recommended another list of additional major subject matter divisions which they believed, as a result of their experiences in teaching similar courses of study, should be included to insure the completeness and the logical progression of the contents of the final course of study. Although the list presented in Figure 5 is the result of the personal opinions of the three experts based upon their personal experiences in teaching, such a course of study in harmony-band arranging, the value of subjective estimate by experts in this type of study must not be underestimated.
FIGURE 3

A REVISED LIST OF MAJOR SUBJECT MATTER DIVISIONS
AS DETERMINED FROM FIGURE I
BY THE SUBJECTIVE ESTIMATES OF EXPERTS

1. Definitions
2. Major and Perfect Intervals
3. Minor, Diminished, and Augmented Intervals
4. Major Scales
5. Primary Triads in Major Keys
6. Secondary Triads in Major Keys
7. Minor Scales -- Original
8. Minor Scales -- Harmonic
9. Inversions of Secondary Triads
10. Cadences
11. Chord of the Sixth
12. Augmented Sixth Chord (German)
13. The Six-four Chord
14. The Augmented Triad
15. Triad on the Leading Tone
16. The Dominant Seventh Chord
17. The Seventh Chord on the Leading Tone
18. The Diminished Seventh Chords
19. The Enharmonic Change of Diminished Seventh Chords
20. Consecutive and Parallel Fifths
A REVISED LIST OF MAJOR SUBJECT MATTER DIVISIONS
AS DETERMINED FROM FIGURE I
BY THE SUBJECTIVE ESTIMATES OF EXPERTS

21. Modulation by Common Chords
22. Modulation Through the Dominant Seventh
23. Modulation Through the Dominant Seventh of the New Key
24. Modulation Through the Diminished Seventh Chord
25. Modulation to a Key a Minor Third Lower
26. Modulation to the Key of the Subdominant
27. The Passing Tone
29. The Song-Form
A REVISED LIST OF MAJOR SUBJECT MATTER DIVISIONS
AS DETERMINED FROM FIGURE 2
BY THE SUBJECTIVE ESTIMATES OF EXPERTS

1. Instruments of the Wind Band
2. Treatment of the Flute and Clarinet
3. Treatment of the Cornets
4. Treatment of the Horns
5. Treatment of the Trombones
6. Treatment of the Baritones
7. Treatment of the Basses
8. Transposition
9. Arrangement of Instruments on the Score
10. Scoring a melody
11. The Beat
12. The Bard: Trio Scheme
13. A Simple Score
14. Harmonic Intervals and the Score in Double Proportion
A LIST OF ADDITIONAL MAJOR TOPICS RECOMMENDED BY
THE EXPERTS TO INSURE THE COMPLETENESS AND
AND LOGICAL PROGRESSION OF THE CON-
TENTS OF THE FINAL COURSE OF STUDY

1. The Use of the Six-Line Score
2. The Chords Most Used in Harmonization
3. The Repeated Four Chord in Minor
4. Rhythmic Figures Used by the Horns and the Basses in 2, 4,
   Alla Breve, and 6 Time 8
5. The Rhythm of Composition
6. The Rhythm of Harmonization
7. Successive Dominant Sevenths
8. Modulation to the Relative Minor of the Fifth
9. Modulation to the Relative Minor of the Fourth
10. A Progression of Chords Used When the Keynote is Sustained in the Final Period
11. The Duet
12. The March Trio Strain
13. The Episode Strain
14. Chromatic Intervals and the Chords in Which They are Found
CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

The ultimate objective of this thesis was to organize a course of study in harmony for secondary use from the unconventional viewpoint of band arranging. To do this, it was found necessary to set up a list of major subject matter divisions which could be used in the organization of the contents of this type of course. The major topics used were determined by an analysis of selected harmony books and texts on band arranging plus the subjective opinions of three experts. In addition, the three experts also recommended a list of extra major topics which in their collective opinion should be used to insure the completeness and logical progression of the contents of the final course of study.

Figures 3 and 4 indicate a total of thirty-eight major topics obtained through analysis of selected harmony and arranging texts plus the subjective opinions of three experts. These topics together with the list of fourteen additional topics recommended by the experts in Figure 5 may be used in the organization of the final course of study.
II. CONCLUSIONS

It is the opinion of the three experts and of the writer that the thirty-eight major topics in Figures 3 and 4 plus the fourteen additional topics in Figure 5 may well be used to organize a course of study in harmony for secondary school use from the viewpoint of band arranging. These topics do not have to be included in such a course of study, however; but they are, in the opinion of the experts, likely to be found more often than any other topics in this type of course.

Certain limitations exist in placing value on the results of this thesis. The results must be considered entirely subjective. For example: the opinion of the writer was used in selecting the texts for analysis; personal judgment was used in determining which topics in the books analyzed could be considered major subject matter divisions; personal opinion entered again in setting the minimum requirement for the inclusion of topics on the basic lists; the collective opinion of experts was used in selecting the final list of major topics; the collective opinion of experts was used again in selecting additional topics to be used; and finally, the writer's own opinions and ideas were used in the organization of the final course of study from the major subject matter divisions. Practically all of the music materials used in the illustrations, exercises, and assignments were
original, with the exception of some of the melodies written, originally by H. A. VanderCook which were reproduced with his permission.

Many problems which materialized as the course of study was prepared had to be solved. Solutions of problems, such as the determination of the amount of pure harmony or theory which would have to be included as basic material before band arranging could be introduced and the determination of the number of keys which should be treated, were attempted by the writer with the assistance of Mr. VanderCook, Mr. Nutt, and Mr. Buchtel. In preparing the course, the writer leaned heavily upon these three experts for their help and judgment. The experience gained by the writer from teaching a similar course of study at Wiley High School in Terre Haute, Indiana, during the school year of 1945-46, proved to be very helpful.

Subjective estimate has played a great part in the preparation of this thesis. However, in treating a subject of this kind, subjective estimate, particularly that of experts, is, perhaps, the most valuable method of all.

It is hoped that this thesis may well serve as the starting point, or as the stimulation, for further investigation of the teaching of practical harmony and band arranging, not only in the secondary schools but also on the collegiate level.
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B. Periodicals


C. Publications of Organizations

Digest of Courses of Study for Secondary Schools of Indiana, State of Indiana, Department of Public Instruction, Bulletin No. 151, 1944. 247 pp.

APPENDIX

It has been planned to carry this investigation further by having a large number of copies of the following course of study printed by an inexpensive process so that it will be available for use by students and teachers. The writer hopes that by putting this course to use he will be able to predict the probable success of the course, topic by topic, as a new technique compared with the known success of more conventional courses.
A PRACTICAL COURSE IN HARMONY
AND ARRANGING

BY

GUY F. FOREMAN
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PREFACE

The eminent teacher, Mr. H. A. VanderCook, founder of the VanderCook School of Music has, for many years, pioneered in the teaching of harmony by combining it with band arranging.

Mr. VanderCook's theory is that all the fundamentals and traditional rules of harmony, and even practical counterpoint, may be taught by actually arranging melodies for a full symphonic band from the very first lesson.

Proof of the soundness of this idea is furnished by Mr. VanderCook's personal success as a composer, arranger, and teacher. Mayhew M. Lake, the well-known composer and arranger of so many selections for military band, is an advocate of this theory and practices it in his own classes in harmony.

Many of Mr. VanderCook's students in harmony have gone on and attained reputations as top-ranking composers and arrangers of music for public school bands and orchestras.

Paul Yoder, Merle Isaac, Clifford Lillya, Forrest Buchtel, and Joseph Olivadoti are names which all musicians associate with good public school band and orchestra arrangements. All of these men have studied with Mr. VanderCook.
The following course of study is the first attempt to prepare a part of the VanderCook system of harmony in a form suitable for use in either a high school or as a beginning course in college. The only prerequisite is a previous course in music fundamentals which should include some ear training and rhythmic and melodic dictation.

To H. A. VanderCook, H. E. Nutt, and Forrest Buchtel, all of the faculty of the VanderCook School of Music, the author wishes to express his thanks in appreciation for the help and guidance which they have given to him. Without their assistance and encouragement this course of study might not have been written.

G. F. F.
CHAPTER I

ARRANGING FORM

I. THE SIX-LINE SCORE

Most well-known composers and arrangers make a six-line or shorthand score of standard marches, waltzes, or any small number which probably could be printed on march size paper.

We shall use the six-line score throughout this course of study, although the score will not contain the full six lines until we have learned to arrange for all the band instruments.

General suggestions for scoring the exercises in this course of study in a standardized form:

1. Use the SHERWOOD HARMONY TABLET NO. PXX or a similar notebook.
2. Use a separate staff for each of the following instruments in the order shown in Ex. 1:
   a. clarinets (embellishments)
   b. cornets (melody and duet)
   c. horns
   d. basses
   e. baritones (countermelody)
   f. trombones
All the parts of a symphonic band may be extracted from the six-line score; for example, the flute parts may be taken from the clarinet line, the saxophone parts from the cornet line, the baritone line, or the bass line. The third cornet or clarinet parts often use the notes left after the melody and duet parts have been written.

3. Place only four measures on each line.

4. Place the horn positions on the first line of the first page of each exercise for reference.

5. Mark the harmony in Roman numerals over the horn line.

6. Point the stems of the notes of the melody upward to allow room for the duet part.

7. A six-line score may be written either in the key of the E-flat horns, in which case it is called an E-flat score, or it may be written in the key of the bass and called a C score. We shall use the former.

Ex. 1 shows a fragment of a six-line score in the key of C. Since the score is in the key of the E-flat horns, in this case the key of C, the horn parts would not have to be transposed when copied from the score. The cornet and clarinet parts would have to be transposed a
fourth higher to be played by a band. The bass, baritones, and trombones may be played as they are.

Ex. 1
When making this score, all bass clef staves are read as though they were treble clef. For instance, in measure number one the chord is a C chord in the treble clef staves. Reading the bass clef staves as treble clef, we find C and G, the root and fifth of the chord, in the bass part and C going to G in the baritone and trombone parts.

In the fourth measure, we find the V7 chord, G, B, D, and F, of the key of C in the treble staves. Reading the bass clef staves as treble clef, we find the notes D, B, and G still in the V7 chord, key of C.

The key signature given on the score for all bass clef instruments denotes the key in which those parts will actually be played. However, when writing or reading the score, all bass clef lines must be read as treble clef in the key of the E-flat horns.

The music for all bass clef instruments is written a minor third above the key of the E-flat horns. To find this key from the given key of the E-flat horns, merely count a step and a half above the horn key. In Ex. 1 the E-flat horn key is C, and the bass clef parts are actually written with the key signature of the key of E-flat.

II. HORN POSITIONS

The horn positions listed in Ex. 2 are to be used
in all the exercises in this course of study. Although these horn positions can not always be maintained because of the introduction of chords foreign to the key, the student should return to these positions as early as possible.

Mr. H. A. VanderCook of the VanderCook School of Music devised these horn positions after years of experience in arranging and composition. These positions were designed to keep each horn within an easy, playable range and to make the chord sound as full as possible when played by only two or three horns.

The positions given are for the three chords most commonly used in harmonization.

Ex. 2
CHAPTER II

THE INSTRUMENTS OF THE WIND BAND

This chapter contains useful information about the instruments usually found in the wind band. The complete range of each instrument is given along with an indication of the most practical range to use in making band arrangements. The range of each instrument is first shown as it would be written in the actual part for that instrument, and then as the instrument actually sounds in relation to concert pitch.

I. THE WOODWINDS

D-FLAT PICCOLO

Ex. 3

The D-flat Piccolo part is written a minor ninth lower than the actual sound.
C PICCOLO

Ex. 4

The C Piccolo part is written one octave lower than the actual sound.

C FLUTE

Ex. 5

The C Flute part is written the same as the actual sound.

B-FLAT CLARINET

Ex. 6

The B-Flat Clarinet part is written one octave higher than the actual sound.
The B-flat Clarinet part is written a major second higher than the actual sound.

E-FLAT CLARINET

Ex. 7

Practical Range

The E-flat Clarinet part is written a minor third lower than the actual sound.

E-FLAT ALTO CLARINET

Ex. 8

Practical Range

The E-flat Alto Clarinet part is written a major sixth higher than the actual sound.

B-FLAT BASS CLARINET

Ex. 9

Practical Range
The B-flat Bass Clarinet part is written a major ninth higher than the actual sound.

OBOE

Ex. 10

![Practical Range Diagram](image)

As Written Actual Sound

The oboe part is written the same as the actual sound.

BASSOON

Ex. 11

![Practical Range Diagram](image)

As Written Actual Sound

The bassoon part is written the same as the actual sound.

E-FLAT ALTO SAXOPHONE

Ex. 12

![Practical Range Diagram](image)

As Written Actual Sound
The E-flat Saxophone part is written a major sixth higher than the actual sound.

**B-FLAT TENOR SAXOPHONE**

Ex. 13

Practical Range

As Written

Actual Sound

The B-flat Tenor Saxophone part is written a major ninth higher than the actual sound.

**E-FLAT BARITONE SAXOPHONE**

Ex. 14

Practical Range

As Written

Actual Sound

The E-flat Baritone Saxophone part is written an octave plus a major sixth higher than the actual sound.

**B-FLAT BASS SAXOPHONE**

Ex. 15

Practical Range

As Written

Actual Sound
The B-flat Bass Saxophone part is written two octaves plus a major second higher than the actual sound.

II. THE BRASSES

B-FLAT CORNET AND TRUMPET

Ex. 16

The B-flat Cornet and Trumpet part is written a major second higher than the actual sound.

E-FLAT ALTO (MELLOPHONE)

Ex. 17

The E-flat Alto (Mellophone) part is written a major sixth higher than the actual sound.
FRENCH HORN IN F

Ex. 18

Practical Range

As Written  Actual Sound

The part for French Horn in F is written a perfect fifth higher than the actual sound.

FRENCH HORN IN E-FLAT

Ex. 19

Practical Range

As Written  Actual Sound

The part for French Horn in E-flat is written a major sixth higher than the actual sound.

TROMBONE

Ex. 20

Practical Range

As Written  Actual Sound
The Trombone part is written the same as the actual sound.

BARITONE (EUPHONIUM)

Ex. 21

Practical Range

As Written

Actual Sound

The Baritone (Euphonium) part is written the same as the actual sound.

E-FLAT BASS (TUBA)

Ex. 22

Practical Range

As Written

Actual Sound

The E-flat Bass (Tuba) part is written the same as the actual sound.

BB-FLAT BASS (TUBA)

Ex. 23

Practical Range

As Written

Actual Sound
The BB-flat Bass (Tuba) part is written the same as the actual sound.

III. THE PERCUSSION INSTRUMENTS

TYMPANI
Ex. 24

\[
\begin{align*}
\text{Large} & \quad \text{Small} & \quad \text{Large} & \quad \text{Small} \\
\text{As Written} & \quad & \text{Actual Sound} & \\
\end{align*}
\]

BELLS (BELL-LYRA)
Ex. 25

\[
\begin{align*}
\text{As Written} & \quad & \text{Actual Sound} & \\
\end{align*}
\]

CHIMES
Ex. 26

\[
\begin{align*}
\text{As Written} & \quad & \text{Actual Sound} & \\
\end{align*}
\]
SNARE DRUM

Ex. 27

\[ \text{(roll)} \]
\[ \text{\begin{center}
\begin{array}{c}
\text{\textit{\textbf{S.D.}}}
\end{array}
\end{center}} \]

The Snare Drum part is usually written in the third space of the staff in the bass clef.

BASS DRUM

Ex. 28

\[ \text{\begin{center}
\begin{array}{c}
\text{\textit{\textbf{B.D.}}}
\end{array}
\end{center}} \]

The Bass Drum part is written on the first space of the staff on the Snare Drum part.

TRAPS

Ex. 29

\[ \text{\begin{center}
\begin{array}{c}
\text{\textit{\textbf{C.T.T.}}}
\end{array}
\end{center}} \]

Assignment: Castanets, Triangle, Tambourine, etc.

Parts for other percussion instruments are usually written in the top space of the staff with an indication stating the number of beats below the proper notes to be of the traps used.

New assignments that include steps are to be given preference.
CHAPTER III

SCALE AND CHORD CONSTRUCTION

I. MAJOR SCALES

A diatonic scale is one comprising eight tones within the octave and generally progressing by steps and half-steps with its degrees named in alphabetical order. There are two classes of diatonic scales in general use, Major and Minor.

A major scale, Ex. 30, is one whose third and fourth tones and seventh and eighth tones are only a half-step apart.

Ex. 30

\[
\text{\textbf{\begin{figure*}[h]
  \centering
  \includegraphics[width=0.5\textwidth]{scale.png}
  \caption{Major Scale}
  \end{figure*}}}
\]

1 2 3 4 5 6 7 8

\(\text{denotes a half-step.}\)

Assignment 1.

Write all the major scales through three sharps and three flats. Build each scale without a key signature by placing the sharps or flats before the proper notes to form the required whole-steps and half-steps. Indicate
the position of the half-steps with a bracket \[ \]

II. CHORD CONSTRUCTION

A chord is a combination of tones sounded together and bearing a harmonic relation to each other. For some time we shall be concerned only with the major chords built on the first, fourth, and fifth degrees of the scale and their variations.

Major chords may be constructed by placing all the intervals either on lines or spaces, Ex. 31. When this has been done, it will be noted that the distance from the first note of the chord, the root, to the second note of the chord, the third, is two whole steps, a major third. The distance from the second note to the third note of the chord, the fifth, is a step and a half, a minor third. This is true of all major chords.

Ex. 31

\[
\begin{array}{c}
\text{Tonic} \\
\text{Subdominant} \\
\text{Dominant} \\
I \quad IV \quad V
\end{array}
\]
The chord constructed on the first degree of the scale is known as the tonic or I chord. The chord on the fourth degree is known as the subdominant or IV chord, and the chord on the fifth degree is the dominant or V chord.

Assignment 2.
Construct chords on the first, fourth, and fifth degrees of each scale in Assignment 1. Mark all intervals of the chords major or minor, Ex. 32, and place all sharps and flats before the proper notes in each chord.

III. ALTERED CHORDS

Chords built on the second, third, and sixth degrees of the scale are minor chords and are marked as shown in Ex. 32. The chord built on the seventh degree of the scale, Ex. 32, is a diminished chord.

Ex. 32

```
I    ii°  iii°  IV  V  vi°  vii° Dim.  I
```

A major chord may be changed to a minor, augmented, or a diminished chord by altering one of the intervals.
A minor chord may be made from a major chord by lowering
the third a half-step, Ex. 33. An augmented chord may be made from a major chord by raising the fifth a half-step, Ex. 33. A diminished chord may be made from a major chord by raising the root a half-step, Ex. 33.

The V chord may be made a dominant seventh chord, marked V7, by the addition of an extra interval a full step below the root or a seventh above the root, Ex. 33. Ex. 33

\[\text{Major} \quad \text{Minor} \quad \text{Augmented} \quad \text{Diminished} \quad \text{Dominant} \quad \text{Seventh}\]
CHAPTER IV

CHORDS MOST USED IN HARMONIZATION

Certain basic chords are most often used in harmonization. These chords are the I, IV, and V7 chords. The V7 chord always goes directly to the I chord and its voices resolve in the following manner.

RULE I. RESOLUTION OF THE VOICES IN A DOMINANT SEVENTH CHORD.

The third shall ascend a half-step to the root, the seventh shall descend a half-step to the third, the root remains where it is forming the fifth of the chord following, the fifth may either ascend to the third or descend to the root, Ex. 34.

Ex. 34

\[
\begin{array}{c}
V7 \\
I
\end{array}
\]

From this point on we shall consider all chords and their resolutions as they are actually written for four E-flat horns in a standard march for military band.

The horn positions for the I, IV, and V7 chords may be found in CHAPTER I, ARRANGING FORM, section II, Ex. 2. The student will find that in every case the E-flat
horns take the intervals in the V7 chords which will allow them to go to the I chord according to RULE I.

The horn positions should be retained as much as possible since they are constructed so as to avoid wide skips and to be within the playing range of the player in the average high school band.

Ex. 35 is a reproduction of the horn positions for the key of C. The numbers, 1, 2, 3, and 4, represent each of the four horn parts. The student will notice how little each horn part moves vertically. This lack of vertical movement is desirable, especially in a fast march, because it is more difficult to play wide intervals accurately on a French horn than on any other band instrument.

Ex. 35

Assignment 3.

A. Complete the E-flat horn parts and the bass part to the melody in Ex. 36 according to the given harmony. Horn positions for the key of C are to be used in choral style, that is, with the accompaniment starting and stopping with the melody notes. For the time being the bass
will play on the root of each chord. Keep the bass part within the range of the instrument.

Ex. 36

B. Transpose the melody and arrange the exercise in Ex. 36 in the keys of F and G using the horn positions in Ex. 37.

Ex. 37
CHAPTER V

VARIATIONS OF THE I CHORD

I. THE I\textsuperscript{7} CHORD

RULE II.

When the I chord enters the IV chord a dominant seventh is added to the I chord. This added seventh will invariably require an accidental, Ex. 38. The chord is written I\textsuperscript{7}.

The bass sounds well on the third of this chord provided the melody does not already occupy that interval.

II. THE I\textsuperscript{6} CHORD

RULE III.

When the I chord follow the IV chord, use the I chord marked I\textsuperscript{6}. This means that the bass is used on the fifth of the I chord, Ex. 38.

Ex. 38

\begin{align*}
&I &I_{7} &IV &I_{6} &V_{7} &I \\
&\text{Rule II} & & & & & \text{Rule III}
\end{align*}
The term $6^4$ itself means that in the case of a $6^4$ chord the root, C, is a fourth above the bass note, G, and the third, E, is a sixth above the bass note, G.

In reference to the harmony used in the exercises in this and succeeding chapters, melodies usually open with I or V7 harmony and close on I harmony often preceded by the dominant. Melodies seldom open with IV harmony.

When using the horns out of their recommended positions as in measure 2, Ex. 38, return to the correct position as early as possible.

Bass notes are generally written double so that both the E-flat and B-flat basses may play from the same part. The notes are the same for both basses but the ranges differ. The practical playing range for each instrument may be found in CHAPTER I, part I.

Ex. 39
Assignment 4.

A. Complete Ex. 39 by writing in the bass horn part according to the harmony indicated and the rules studied in this chapter.

B. Transpose the melody in Ex. 39 to the keys of F and G and arrange the E-flat horns and the basses in these new keys.

Additional exercises.

Arrange the horn and bass parts to Ex. 40.

Ex. 40

Horn Positions, Key of B-flat
CHAPTER VI

THE REPEATED IV CHORD IN MINOR

RULE IV.

When the IV chord is repeated, we may make of it a minor instead of a major chord. This can be done only when the melody is on the root or fifth of the chord, not on the third of the chord, Ex. 41.

Ex. 41

Assignment 5.

A. Complete Ex. 43 by writing the E-flat horn parts in accordance with the harmony indicated.

B. Transpose the melody in Ex. 43 to the keys of F and E-flat and arrange the horns and basses in those keys.
Ex. 42

Horn Positions, Key of E-flat

Ex. 43
CHAPTER VII

THE REPEATED IV CHORD DIMINISHED

There are several different ways of presenting and spelling chords. This is especially true of four-note chords such as the diminished seventh chord.

In this course of study we shall consider there to be only three diminished seventh chords regardless of the key in which they are heard. These are the diminished seventh chords heard on the first, fourth, and fifth degrees of the scale, Ex. 44.

Ex. 44

\[ \text{Dim. I}_7 \quad \text{Dim. IV}_7 \quad \text{Dim. V}_7 \]

The same three diminished chords in Ex. 44 may be heard in any other key. For example, the diminished I\(_7\) chord in the key of C is also the diminished I\(_7\) chord of the key of E-flat when it is spelled E-natural, G, B-flat, and the seventh, C-sharp, Ex. 45a. It is the diminished I\(_7\) chord of the key of G-flat when it is spelled G-natural, B-flat, D-flat, and the seventh, E-natural, Ex. 45b. Finally, it is the diminished I\(_7\) chord of the key of A spelled A-sharp, C-sharp, E, and the seventh, G-natural, Ex. 45c.
The dominant seventh of the chord must be raised a half-step, thus diminishing the distance from the bottom, or root, of the chord to the top, or fifth, of the chord.

When the IV chord is repeated, we may write it in the form of a diminished dominant seventh chord, Ex. 46. A diminished dominant seventh chord is a chord with the root raised a half-step, thus diminishing the distance from the bottom, or root, of the chord to the top, or fifth, of the chord.

The dominant seventh of the chord must be added in such a manner that it will ascend at its resolution. This is done to avoid extra accidentals. The diminished dominant seventh chord may be used only when the melody is on the third or fifth of the chord.

The chord following the diminished IV₇ chord should be the I chord in ₆₄ form.
RULE VI.

When the first period (half) of a melody ends on the I chord and the second period begins on the I chord, introduce a dominant seventh chord between the periods, Ex. 47.

Assignment 6.

A. Write and arrange the E-flat horn parts and the bass part to the melody in Ex. 47 according to the suggested harmony.

Ex. 47

Ex. 46
B. Transpose the melody in Ex. 47 to the key of G and arrange the horn and bass parts in that key.

Suggestions.

Do not crowd your work. In lessons to follow put only four measures on each staff.

Be sure to mark all accidentals large and plain.

Remember, a sharp on the bass line read treble clef must be written as a natural to agree with the correct bass key. A flat may become a natural or a double flat.

Write the bass horn parts in the lower register.

Write two notes an octave apart on one stem if the part runs too low for the E-flat bass horn.

When a chord is altered in some interval with a sharp, that interval is likely to ascend, except in consecutive dominant sevenths. When a flat is placed before an interval, that interval is likely to descend.

On the final V7 chord in its resolution to the I chord, it is preferable to allow the bass to move in contrary motion to the melody.

RULE VII.

When the diminished seventh chord is used in the first period, the first half, the bass of the diminished seventh chord should be placed on the root of the I chord, the fifth of the diminished seventh chord, Ex. 48.
Assignment 7.

Complete the E-flat horn parts and the B-flat and E-flat bass parts to Ex. 49 according to the harmony given.

Ex. 49
CHAPTER VIII

TREATMENT OF THE HORNS AND BASSES

In a standard march the bass plays on the beat and the horns play on the afterbeats in certain basic rhythm patterns. These patterns are indicated by the next five rules.

I. RHYTHMIC FIGURES USED BY THE HORNS IN $\frac{2}{4}$ OR ALLA BREVE

RULE VIII.

When the melody tone does not exceed one beat in length, use the single-note after beat, Ex. 50a.

RULE IX.

When the melody tone exceeds one beat within a phrase, use the three-note afterbeat, Ex. 50b.

RULE X.

When the melody tone exceeds one beat at the end of a phrase, use the pattern shown in Ex. 50c.

II. TREATMENT OF THE BASSES IN $\frac{2}{4}$ OR ALLA BREVE

RULE XI.

In $\frac{2}{4}$ or alla breve on the I chord the bass shall sound the root of the chord on the first beat and the fifth of the chord on the second beat. It is preferable to use the second beat below the first beat.
On the V₇ chord the bass shall sound the fifth of the chord on the first beat and the root of the chord on the second beat, Ex. 50a and b.

RULE XII.

When a phrase ends with a long note in the melody, arpeggiate the bass, Ex. 50c.

Ex. 50

Assignment 8.

Complete the E-flat horn parts and the B-flat and E-flat bass parts in their correct rhythms according to the given harmony, Ex. 51.

Additional assignment.

Write and arrange the horns and bass parts in Ex. 52.

In the resolution of the dominant seventh chord no voice shall move more than one full step.
Write and arrange the horns and bass parts in Ex. 53

A diminished dominant seventh chord should occur on an accented beat of the measure.

Assignment 9.

Write and arrange the horns and bass parts in Ex. 53.
according to the indicated horn and bass rhythms. This exercise opens with a typical four-bar march introduction in choral style followed by two sixteen-bar repeated strains.

Ex. 53
CHAPTER IX

COMPOSITION AND HARMONIZATION

I. THE RHYTHM OF COMPOSITION

Most melodies are composed so that they contain an even number of measures, usually sixteen or thirty-two.

The standard march form is a good example of the rhythm used in writing a melody, for it usually has a four- or eight-bar introduction followed by two repeated sixteen-bar strains followed in turn by a thirty-two-bar repeated trio strain.

Another common example of this rhythm is evidenced in the thirty-two-bar melody of the popular ballad.

When a sixteen-or thirty-two-bar melody is analyzed, further examples of rhythm in melody may be found. For example, a sixteen-bar melody may be divided in halves.

Ex. 54
called periods. These periods in turn are halved and called phrases, Ex. 54. Thus a sixteen-bar melody may be divided into four four-bar phrases. On examination of each four-bar phrase we may find that the first and third and the second and fourth phrases are alike, Ex. 55.

Ex. 55

|    A    |    B    |    A    |    B    |

These four-bar phrases may also be grouped in any of the combinations shown in Ex. 56.

Ex. 56

|    A    |    B    |    A    |    C    |
|    A    |    B    |    C    |    D    |

From this discussion the student should readily see that a melody cannot be written haphazardly, but must conform to certain rhythmic patterns.

II. THE RHYTHM OF HARMONIZATION

Hand in hand with the rhythm of melody goes the rhythm of harmony. Actually you cannot have one without the other.

If the student will look at the harmony given for the exercises in previous chapters, he will notice that the chords are used in certain rhythmic patterns.
In a four-measure phrase we often find two measures of I harmony followed by two measures of V7 harmony. The following phrase may be identical in harmony or it may be reversed; two measures of V7 harmony followed by two measures of I harmony.

The last four bars of a sixteen-bar melody often are different from any bars of the previous melody and generally call for different harmony. This is due to the fact that the final four bars of a strain often modulate to another key or pass through a series of chords leading to an appropriate ending. The final four measures of Ex. 57 have been left blank since ways of harmonizing them will be treated later.

Ex. 57

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The harmony in a sixteen-bar strain may follow any one of a great many rhythmical patterns. Some of the most common patterns are shown in Ex. 57 to guide the student in his efforts at harmonization in succeeding chapters.

The harmonic patterns in Ex. 57 are basic and generally are enriched by the addition of chords foreign to the key. These added chords, however, do not interrupt the basic rhythmic pattern.

Assignment 10.

Harmonize Ex. 58 and arrange it for four E-flat horns. The bass part is given, and by comparing it with the corresponding melody notes, the student should be able to figure the correct harmony. A few suggestions are also given as to the correct horn rhythms.

Ex. 58

UNISON ........... V₇
CHAPTER X

MODULATION TO THE FIFTH

One of the most often used modulations in composition is the modulation to the fifth, that is, the modulation to the key based on the fifth degree of the original key. If the original key is C major, the key based on the fifth degree would be G major.

RULE XIII.

When modulating to the fifth of any key, treat the final I chord as the IV chord of the new key, Ex. 59.

Ex. 59

In measure 1 the C chord is the final I chord of the key of C, it is also the IV chord of the key to which we wish to modulate, G. Therefore, according to RULE XIII, we treat the C chord as the IV chord of the key of G. We may make it either a minor IV chord or a diminished IV7 chord by rules IV and V. In Ex. 59 we have made it a di-
minished IV\(_7\) chord, measure 2, and followed it by the I chord in \(\frac{6}{4}\) form of the key to which we are modulating, G.

The I chord of the key of G is the G chord. The chord should be written \(G^6\) and not \(I^6\) so that it will not be confused with the I chord of the original key. The \(G^6\) chord is followed by its dominant, the \(D_7\) chord, and then the final G chord.

To get back to the key of C we have merely to add a minor seventh to the G chord, making it a \(G_7\) chord.

Assignment 11.

A. Arrange the melody in Ex. 60 for the horns and basses according to the given harmony, paying particular attention to the modulation to the fifth.

Ex. 60
B. Harmonize the melody in Ex. 61 from the given parts and arrange the E-flat horn parts.

Ex. 61

Suggestions.

When a radical change is made from one chord to another, for example, the dominant seventh chord to its tonic chord, place the bass on the root of each chord.

Favor the lower register in the basses. The E-flat bass descends easily below the staff to the B-flat below the second ledger line. The double E-flat bass easily descends to the fifth ledger line below the staff, though we seldom write for this instrument lower than the third ledger line below the staff.
CHAPTER XI

THE HORN AND BASS FIGURES IN A $\frac{6}{8}$ MARCH

The rhythm pattern of the horns in a $\frac{6}{8}$ march is much simpler than in $\frac{2}{4}$ or alla breve time.

When the melody employs successive quarter and eighth notes, Ex. 62a, the horns use the same pattern, but when the melody is carried on successive eighth notes, then the horns should follow an eighth note pattern, Ex. 62b.

It is not good form to mix these two figures within one melodic strain, but the horn figures may change from strain to strain.

The bass part for both types of horn accompaniments is the same, Ex. 62a and Ex. 62b.

Ex. 62

\[\text{Ex. 62a and Ex. 62b.}\]
Assignment 12.

A. Harmonize the following melody, Ex. 63, from the given bass, and arrange the four horn parts according to Ex. 62a or Ex. 62b.

Ex. 63

B. Harmonize the following melody, Ex. 64, from the given bass, and arrange four horn parts according to Ex. 62a and Ex. 62b.

Ex. 64
CHAPTER XII

SUCCESSIVE DOMINANT SEVENTHS

An often used device of march writers who wish to enrich the last phrase of a march strain is the introduction of successive dominant sevenths when the melody permits. For example, the last four chords in a march strain in the key of C may be A7, D7, G7, and C, Ex. 65.

The resolution of the voices in successive dominant sevenths differs from the ordinary V7 to I resolution in that the third descends to the seventh of the following chord and the seventh descends to the third of the next chord except in the final resolution, Ex. 65.

Ex. 65

Since the chords preceding the G7 chord are foreign to the key of C in Ex. 65, they will require accidentals before the proper notes.

Assignment 13.

A. Arrange the horn and bass parts to the melody
in Ex. 66 according to the harmony given. Place the bass on the root of the successive dominant seventh chords.

Ex. 66

\[
\begin{align*}
    & I \quad I \quad V_7 \quad V_7 \quad V_7 \quad V_7 \quad I \quad \text{Dim.} \quad I \quad V_7 \\
    & I \quad I \quad \text{Dim.} \quad G_4 \quad G_4 \quad E_7 \quad A_7 \quad D_7 \quad G \quad G
\end{align*}
\]

B. Fill in the missing harmony in Ex. 67, figuring it from the given bass notes; also arrange the horn parts and fill in the missing bass parts.

Ex. 67

\[
\begin{align*}
    & I \quad I \quad \text{Dim.} \quad I \quad IV \quad I \quad A_7 \quad G \quad I \quad V_7 \\
    & I \quad I \quad IV \quad I \quad \text{Dim.} \quad I \quad A_7 \quad G \quad I \quad V_7
\end{align*}
\]
CHAPTER XIII

MODULATION TO THE RELATIVE MINOR

One of the standard modulations which march writers use in the final phrase of a march strain is the modulation to the relative minor of a key. The relative minor of a key is the minor key based on the sixth note of the original major scale. For example, A minor is the relative minor key of the major key of C.

RULE XIV.

Following the final I chord, introduce the dominant seventh to the relative minor and then end in the relative minor, Ex. 68. Allow the bass to pass through the dominant seventh chord on the fifth.

Ex. 68

Assignment 14.

Arrange the horns and bass in the harmony in Ex. 68 in these keys: F, B-flat, A-flat, G, D, and A. Use Ex. 68 as the model.
CHAPTER XIV

MODULATION TO THE RELATIVE MINOR OF THE FIFTH

Another of the standard modulations often used in the last phrase of a regular march strain is the modulation to the relative minor of the fifth; that is, the relative minor of the key based on the fifth degree of the original key.

For example, in the key of C, E minor is the relative minor of the key of G major which is the key based on the fifth of the original key of C.

The rule governing this modulation is as follows:

RULE XV.

On the final I chord add a leading tone seventh and progress to the desired minor in $\frac{6}{4}$ form. Then introduce the dominant seventh to that minor and end in the minor key, Ex. 69. The seventh added to the I chord may, at times, be introduced in the bass. When doubling this seventh in the bass and horns, watch for outside octaves.

The seventh added to the I chord must be written so that it will ascend in its resolution.

RULE XVI.

When the final dominant seventh chord which leads back to the beginning of the strain is preceded by a minor, Ex. 69, use the bass on the fifth of the dominant seventh
chord.

Ex. 69

Leading Tone Seventh

Rule XVI

Assignment 15.

A. Arrange the horn and bass parts to Ex. 70 according to the given harmony.

Ex. 70
B. Transpose the melody in Ex. 70 to the key of E-flat and arrange the horn and bass parts in this key.
CHAPTER XV

MODULATION TO THE RELATIVE MINOR OF THE FOURTH

Still another favorite modulation with many march writers is the modulation to the relative minor of the fourth; that is, the relative minor of the key based on the fourth degree of the original key. For example, in the key of C, D minor is the relative minor of the key of F major which is the key based on the fourth degree of the scale of C.

This modulation is governed by the following rule:

RULE XVII.

When the sixth of the scale is well sustained in the final period of a strain, we may employ the IV chord and the dominant to the relative minor of the IV chord, ending in the relative minor of the IV chord. In such a passage of chords the bass should pass through the dominant on the fifth, Ex. 71.

Ex. 71

\[ \text{IV} \quad A_7 \quad d^0 \quad I \quad V_7 \quad I \quad I \]
Assignment 16.

Transpose the fragment of melody in Ex. 71 to the keys of B-flat, E-flat, and A. Arrange the horn and bass parts according to RULE XVII.
CHAPTER XVI

A PROGRESSION OF CHORDS USED WHEN THE KEYNOTE IS SUSTAINED IN THE FINAL PERIOD

It is always good to try to fill out a sustained tone in the final period of a strain by using a progression of interesting chords. When the sixth of the scale is sustained, we find that we can use the IV chord, the dominant to the relative minor of the IV chord, and the relative minor of the IV chord. 

Ex. 72

When the root of the I chord, or the keynote, is well sustained in the final period of a strain, we may use the following harmony: I, I₇, IV, and either the diminished IV₇ chord or the IV chord in minor, Ex. 72. Assignment 17.
Arrange the horn and bass parts to the melody in Ex. 73 according to the given harmony. Pay particular attention to the chords used in the second period.

Ex. 73
CHAPTER XVII

THE DUET

I. WRITING THE DUET

The writing of a good duet voice is of major importance to the composer who wishes to have a melodious sounding composition. Often a duet part correctly written will suggest far richer harmonies than would have been written if the composer had attempted to harmonize just the bare melody.

The following are seven suggestions for writing the duet voice to a melody. Ex. 74 illustrates a melody and duet, and the circled numbers indicate the parts which illustrate the various suggestions.

1. The duet voice as applied to the second and third cornets should never be written above the melody, the first cornet part, on any occasion.

2. The intervals most used for a duet voice are those intervals a third or a sixth below the melody.

3. The interval of a fifth is weak; it should be used only to avoid wide skips.

4. Avoid wide skips as much as possible.

5. Intervals of a fourth are weak but may be employed effectively in V7 harmony.
6. Intervals of a major second are desirable in \( V_7 \) harmony.

7. In all diminished chords, place the duet on an interval of the chord that will resolve to an interval a third from the melody note in the following chord.

Ex. 74

Assignment 18.

Arrange the melody in Ex. 75 for four E-flat horns and the bass according to the given harmony. Write a duet to the melody and supply the missing harmony.

Ex. 75
II. THE MARCH TRIO STRAIN

In a military march we often find a trio strain of thirty-two bars in a key dominant to the first half of the march.

In a thirty-two-bar strain the rhythmic accompaniment in the horns should continue uninterrupted through the fourth measure, and it seldom stops with the melody in the eighth measure. The rhythmic horn accompaniment rarely stops on the twelfth measure; however, both the accompaniment and the melody stop on the sixteenth measure.

The second half of the strain is usually treated like the first half.

Assignment 19.

Arrange the horn and bass parts and write a duet part to the melody in Ex. 76. Follow the plan above as much as
possible when writing the horn accompaniment figures.

Ex. 76
CHAPTER XVIII

CHROMATIC INTERVALS AND THE CHORDS IN WHICH THEY ARE FOUND

In harmonizing a melody, one is sometimes at a loss as to how to harmonize chromatically altered intervals and other intervals out of the original key.

The list which follows Ex. 77 presents a number of the most common chords in which a given interval may be found. The list is organized to aid the student to see the great variety of chords which may contain a single interval of the scale. The chart, Ex. 78, actually pictures the intervals and the chords in which they occur.

Ex. 77

1. The keynote may be heard in the I chord, the IV chord, and the diminished IV7 chord.
2. The raised keynote is heard in the diminished I7 chord and is the third of the VI chord in major; therefore, it is an interval of the dominant chord preceding the II chord in minor.
3. The second degree of the scale is the fifth of the V7 chord and the fifth of the diminished V7 chord.
4. The raised second of the scale is heard as the leading tone seventh of the diminished IV\textsubscript{7} chord.

5. The third of the scale is heard as the third of the I and I\textsubscript{7} chords and as the root of the major chord dominant to the relative minor of the original key.

6. The fourth note of the scale is the root of the IV chord and the dominant seventh of the V\textsubscript{7} chord.

7. The fifth degree of the scale is the root of the V\textsubscript{7} chord, the fifth of the I chord, and the dominant seventh of the VI\textsubscript{7} chord in major, dominant to the II chord in minor.

8. The raised fifth is the raised root of the diminished V\textsubscript{7} chord, the augmented fifth of the I chord augmented, and the third of the III chord in major, dominant to the VI chord in minor, the relative minor.

9. The sixth degree of the scale is the third of the IV chord and of the diminished IV\textsubscript{7} chord. It is often used in the melody as an added sixth to the I chord.

10. The raised sixth is seldom used except as a passing tone in the melody; but when it is used as the lowered seventh, it is the dominant seventh
of the $I_7$ chord.

II. The seventh of the scale is the third of the $V_7$ chord. The seventh has an important name; it is called the leading tone seventh.

Ex. 78

The Root  The Raised Root  The Second

The Raised Second  The Third  The Fourth  The Raised Fourth

The Fifth  The Raised Fifth

The Sixth  The Lowered Seventh  The Seventh

*Note: Any three notes forming a scale form a triad.*
CHAPTER XIX

THE BARITONE COUNTERMELODY

Counterpoint is a whole course of study in itself. However, in this and the following chapters we shall apply many of the fundamental rules of counterpoint to the parts which we shall write for the baritone horn, the trombones, and the woodwind instruments.

In this chapter we shall study the writing of a baritone horn part. We shall call this part the baritone countermelody because in many cases it should be able to stand alone as a melody.

Suggestions for writing a baritone countermelody:

1. Start the baritone countermelody upon an interval which is a third or a sixth from the melody note.

2. When the melody proper sustains a long note, move the countermelody; but when the melody proper consists of several short notes, give the countermelody a sustained tone.

3. Build the countermelody, in part, from the intervals of the accompanying chords. However, passing tones either ascending or descending in scale form are quite permissible.

4. When scoring the baritone part, place it on the fourth line of the six-line score just below the
bass line and write it in the bass clef, the same key as the bass horn part. Of course when reading the score, you must read the baritone part as though it were in the treble clef, the same as we do to the bass part. The range of the baritone will be found in CHAPTER I, part I.

5. When the harmony employs successive dominant sevenths in the final period of a strain, the baritone should be given one of the two descending voices, the third to the seventh, or the seventh to the third. The choice will depend on the range of the particular descending voice.

Ex. 79 illustrates a baritone countermelody along with the melody and bass. The circled numbers refer to the particular suggestions illustrated in each measure.

Ex. 79
A. Arrange the horns and basses and write a duet and a baritone countermelody from the given harmony in Ex. 80. The rhythm of the baritone part is given below the bass line.

Ex. 80

In measures 4, 8, 12, and 16 the baritone may take the notes of the bass arpeggio.
B. Arrange the horn and bass parts to the melody in Ex. 81. Write a duet and the baritone countermelody. Follow the suggested rhythms and harmonies where they are given. Where no harmony is indicated extract it from the given parts.

Ex. 81
CHAPTER XX

THE EPISODE STRAIN

Instead of the usual repeat and first and second endings at the end of a trio strain, we sometimes find an additional twelve- or sixteen-bar episode strain which leads back to the beginning of the trio through a definite progression of chords.

Generally the episode strain begins on the dominant seventh chord to the relative minor of the original key and proceeds through the following chords: \[ \vdash F_7 | E_7 | A_0 | \vdash \]
\[ \vdash D_7 | D_7 | G | G | G_7 | G_7 | G_7 \].

Assignment 21.

Arrange the horn and bass parts and write a duet part to the melody in Ex. 82 according to the given harmony. Notice the episode strain and arrange the horn and bass parts according to the given rhythm.

Ex. 82
The German Sixth chord called for in this measure is the diminished IV7 with the third lowered a half-step.

The bass should be placed on the raised root and ascend a half-step to the fifth of the I6 chord in its resolution.
CHAPTER XXI

THE TROMBONES

The trombone section of a band may be used in two different ways. The trombones may be used as harmony trombones in which case they sustain harmony or duplicate the rhythmic figures in the French horns, or they may also be used as melody instruments. The trombones may either support the cornets by playing the melody, or they may strengthen the baritone countermelody.

A trombone often does all of these things within the short space of one march. The trombones are often dueted on sustained tones to fill out the harmony. The basses, baritones, and trombones also often play a strong melody in unison accompanied by the treble clef instruments.

Assignment 22.

Arrange the horn and bass parts to the melody in Ex. 83 according to the given harmony. Write a duet part, a baritone countermelody, and the trombone part, observing the given rhythms. Place the trombone part on the staff next below the baritone line.

Assignment 23.

Assignment 23 is the trio of the march begun in Assignment 22. It, Ex. 84, consists of a thirty-two-bar trio strain followed by a twelve-bar episode strain. Ar-
range the horn and bass parts and write the duet, baritone, and trombone parts according to the given rhythms and harmony. The bass melody in the episode strain has been cued.

Ex. 83

[Music notation image]
*German sixth chord see page 76.

Ex. 84
CHAPTER XXII
THE CLARINET AND FLUTE EMBELLISHMENTS

The B-flat clarinets as well as the flutes often play embellishments or variations on the melody when they are not playing the melody itself. This embellishment may start either on the melody note or on an interval a third or a sixth from the melody note and is usually written in duet form.

In order to get a clear idea of the clarinet embellishments and of the parts played by other instruments, it would be wise for the student to listen to records of marches as played by military bands.

With the addition of the clarinet part we now have a full six-line score. Place the clarinets on the first line, the melody or cornet parts belong on line number two; the horns are written on line three; the basses on line four; the baritones on line five; and the trombones on line six.

Assignment 24:

Arrange the horn and bass parts according to the given harmony in Ex. 85. Write a duet, baritone part, trombone part, and the clarinet embellishments. The range of the clarinets will be found in Chapter I, part II. However, do not write the clarinets too high. Remember the parts for B-flat instruments have to be transposed two and
a half steps higher in order to be played.

Ex. 85

Assignment 25.

Arrange the horn and bass parts, Ex. 86, according to the given harmony and rhythm. Write the duet, baritone part, trombone part, and clarinet embellishments using the suggested rhythms.
Ex. 86

Clarinet

Duet

Horns

Bass

Baritone

Trombones

W7

V7

I

I

A7

Dm

D7

9°

9° 6th

I

6 D7

G7 C7

I

I
CHAPTER XXIII

ADDITIONAL EXERCISES

If the student has faithfully studied the preceding chapters and has worked the exercises with understanding, he should be able to compose a standard march consisting of a four-bar introduction, two repeated sixteen-bar strains, a thirty-two-bar trio in the key of the dominant, either repeated or followed by a twelve-bar episode strain and a D. S. to the beginning of the trio.

The student should also be able to harmonize and arrange a six-line score to this original march. Since a six-line score contains all the parts for a standard band (saxophone, oboe, flute, alto, and bass clarinet parts may be extracted from the melody, countermelody, bass, or duet parts), the student may have the thrill of hearing his own composition played after he copies out all the parts.

For students who wish additional practice in making shorthand scores of marches, the author presents, in the following examples, several complete march melodies to be harmonized and scored by the student.

Ex. 87
Ex. 88
Final

Bass

D.S. al Fine
APPENDIX

RULES OF HARMONY

RULE I.

In the resolution of the voices in a dominant seventh chord the third shall ascend a half-step to the root, the seventh shall descend a half-step to the third, the root remains where it is forming the fifth of the chord following, the fifth may either ascend to the third or descend to the root.

RULE II.

When the I chord enters the IV chord a dominant seventh is added to the I chord. This added seventh will invariably require an accidental. The chord is written I7. The bass sounds well on the third of this chord provided the melody does not already occupy that interval.

RULE III.

When the I chord follows the IV chord, use the I chord marked I6. This means that the bass is used on the fifth of the I chord.

RULE IV.

When the IV chord is repeated, we may make of it a minor instead of a major chord. This can be done only when the melody is on the root or fifth of the chord, not on the third of the chord.
RULE V.

When the IV chord is repeated, we may write it in the form of a diminished dominant seventh chord. A diminished dominant seventh chord is a chord with the root raised a half-step, thus diminishing the distance from the bottom, or root, of the chord to the top, or fifth, of the chord.

RULE VI.

When the first period (half) of a melody ends on the I chord and the second period begins on the I chord, introduce a dominant seventh chord between the periods.

RULE VII.

When the diminished seventh chord is used in the first period, the first half, the bass of the diminished seventh chord should be placed on the root of the I chord, the fifth of the diminished seventh chord.

RULE VIII.

When the melody tone does not exceed one beat in length, use the single-note afterbeat in the horns.

RULE IX.

When the melody tone exceeds one beat within a phrase, use the three-note afterbeat in the horns.

RULE X.

When the melody tone exceeds one beat at the end of a phrase, use the pattern shown in Ex. 50c in the horns.
RULE XI.

In $\frac{2}{4}$ or alla breve on the I chord the bass shall sound the root of the chord on the first beat and the fifth of the chord on the second beat. It is preferable to use the second beat below the first beat. On the V7 chord the bass shall sound the fifth of the chord on the first beat and the root of the chord on the second beat.

RULE XII.

When a phrase ends with a long note in the melody, arpeggiate the bass.

RULE XIII.

When modulating to the fifth of any key, treat the final I chord as the IV chord of the new key.

RULE XIV.

To modulate to the relative minor following the final I chord, introduce the dominant seventh to the relative minor and then end in the relative minor. Allow the bass to pass through the dominant seventh chord on the fifth.

RULE XV.

To modulate to the relative minor of the fifth on the final I chord add a leading tone seventh and progress to the desired minor in $\frac{6}{4}$ form. Then introduce the dominant seventh to that minor and end in the minor key.

RULE XVI.

When the final dominant seventh chord which leads
back to the beginning of the strain is preceded by a minor, use the bass on the fifth of the dominant seventh chord.

RULE XVII.

When the sixth of the scale is well sustained in the final period of a strain, we may employ the IV chord and the dominant to the relative minor of the IV chord, ending in the relative minor of the IV chord. In such a passage of chords the bass should pass through the dominant on the fifth.