KEYBOARD
HARMONY and
IMPROVISATION

VOLUME ONE

Triads in Inversion, The Dominant Seventh Chord, and Nonharmonic Tones Used in Melody Harmonization, Improvisation, and Transposition. Phrase Structure and Devices Employed in the Creation of Melody.

MAURICE LIEBERMAN

Brooklyn College
Keyboard Harmony and Improvisation

Volume One
Keyboard
Harmony and
Improvisation

Volume One  Triads in Inversion, The Dominant Seventh Chord, and Nonharmonic Tones Used in Melody Harmonization, Improvisation, and Transposition. Phrase Structure and Devices Employed in the Creation of Melody.

Maurice Lieberman
Brooklyn College
to

My Wife Bertha
## Contents

Preface xi

**Chapter 1**

*Melody and Scales:* major scale structure; the major scale and tonality; key signature.

*The Chord:* the tonic triad; positions of the I chord; the I chord in simple bass tone and chord accompaniment; the dominant triad; tonality and the V–I progression; the I and V in simple bass tone and chord accompaniment; scale tones associated with I–V–I; chord line melody based on I–V–I.

*The Motive:* chord line motives in rhythmical repetition.

**Chapter 2**

*The Phrase:* cadences; the period.

*Motive Repetition in Modified Rhythm:* the function of repetition in music; phrase structure evolved from rhythmic repetition.

*Preliminary Rules in Melody Harmonization:* the I and V in harmonization; close and open style harmony; accompanimental figuration; the I–V–I in close style harmony; perfect and imperfect authentic cadences.

**Chapter 3**

*Improvisation:* the application of I–V–I in close style harmony to the construction of opening motives; basses for changing harmony within the measure.

*The Subdominant Triad:* the function of the IV chord in tonality; tendency tones; the I–IV–I progression; scale tones associated with the I–IV–I progression; the IV in chord line melody; the plagal cadence; the application of the I–IV–I in close style to the construction of opening motives.

*The IV–V Progression; Parallel, Contrary, and Oblique Motion:* the progressions I–IV–I–V–I and I–IV–V–I in close style; the IV in phrase construction; the IV in the approach to the cadences; "weak" progressions; the IV in melody harmonization.
Chapter 4

The Harmonic Minor Scale: key signatures in minor; minor and major key relationships; the primary triads in minor; the progressions I-IV-I-V-I and I-IV-V-I in minor; melody harmonization in minor.

The Dominant Seventh Chord: structure of the V7; normal resolution of the V7 to I; scale tones associated with I-V7-I; doubling in the V7; chord line melody in the V7; approach to the V7; the V7 in perfect and imperfect authentic cadences.

Chapter 5

Transposition: factors in harmonization at sight; the V7 and IV in melody harmonization.

Nonharmonic Tones: the lower neighbor employed with the progressions I-IV-V and I-IV-V7; phrase improvisation based on motives including the lower neighbor; tonal changes.

Chapter 6

Subordinate Triads: the supertonic II triad in major; progressions of and approaches to the II; chord line melody associated with the progression I-IV-II-V-I; the progression I-IV-II-V7 in close style; the lower neighbor used with I-IV-II-V7-I; improvisation employing the II and the lower neighbor; the II in the delayed resolution of the V7; cadence harmonization using the II; rules in melody harmonization, continued; melody harmonizations employing the II.

The Upper Neighbor: its use with the progression I-IV-II-V7-I; auxiliary tones in cadences; the melodic minor scale; auxiliary tones in bass and in melody harmonization.

Chapter 7

Diatonic Passing Tones: motive invention incorporating auxiliaries, passing tones, and chord skips; harmonization of melodies with chord and nonharmonic tones.

Treatment of the Melodic Minor Upper Tetrachord: variants of the upper tetrachord in the melodic minor scale; harmonization, continued; harmonic rhythm.

Chapter 8

The Supertonic II Chord in Minor: the II6; auxiliary tones in minor; cadences in minor; passing tones in minor; melody harmonizations in minor.
CONTENTS

The Motive, Continued: tonal repetition of the motive; modified tonal and rhythmical repetition.

Progressions of Triads in First Inversion: approaches to triads in first inversion; the use of the combined I½, IV½, and V½; passing tones and auxiliary tones used with inverted triads; inverted triads in melody harmonization.

Chapter 9

The Triad in Second Inversion: the I6; progressions of and approaches to the I6; figurations; the I6 in cadence harmonization; nonharmonic tones in the cadential progression II⁰−I6−V7−I.

The Melodic Sequence: motives developed in sequences; accented nonharmonic tones in cadence harmony; delayed resolutions; accented nonharmonic tones in melody harmonization, continued; melody transposition, continued.

Chapter 10

The Submediant Triad: the deceptive cadence; progressions of and approaches to the VI; summary of chord progressions; cadences, continued; the VI in melody harmonization.

The Suspension: the suspension in cadences; double suspensions; the suspension in melody harmonization.

The Harmonic Sequence: phrase development from the motive in the harmonic sequence; transposition of single measure and half phrase units in four parts.

Appendix 1

The Modes: major scales; enharmonic scales; minor scales; harmonic minor scales; melodic minor scales.

Intervals: perfect and major intervals; chromatic intervals; transposition by clef.
Preface

The study of harmony is universally recognized as one of the basic disciplines in the musical education of the composer, performer, researcher, and music teacher. It should not be unreasonable to expect that a course of study in harmony, seriously pursued, would enable the student to use the material fluently and practically; yet comparatively few students achieve that end. Music teachers often encounter students, some of whom are talented and technically well equipped, who are unable to harmonize a simple melody at the piano, to transpose a song or piano piece, or to improvise freely in any key.

This text, which requires neither a background in harmony nor a supplementary text, is designed to provide the student with a solid grasp of fundamental harmony, practically applied. It encompasses the study of triads, seventh and ninth chords, near related modulations, nonharmonic tones, melody harmonization, improvisation, transposition, and elementary form.

Starting with simple tonic and dominant harmony, a chordal vocabulary is developed in a series of idiomatic progressions, a procedure which ingrains the familiar, while utilizing the novelty and challenge of new material. The material is so graduated as to develop skill and confidence, and is introduced only as required for immediate application, so that no area is fully covered on first acquaintance. For instance, the I₃, required in cadence harmonization, precedes the study of all first inversions. The text intermittently reverts to the areas of study on progressively deeper levels, a practice which makes assimilation easier, and affords a variety of exercises. It is therefore preferable that the general scheme of the book be followed, although discretionary selection of material under each subhead is possible.

The fundamental chord progressions are stressed to establish habits of sound harmonic thinking; and constant drill assures both facility and the development of a harmonic aural sense. Chord progressions are handled in four-part close style and in a wide variety of accompanimental styles, since facility in open style harmony with correct doubling and voice leading is beyond the capacity of the ordinary student.

The resources developed in harmony and melodic structure are integrated with exercises in improvisation throughout the text. Chord progression as
inert harmonic material is of limited value in melody harmonization. These
progressions are infused with passing tones, auxiliaries, suspensions, anticipa-
tions, turns, and changing tones, so that the exercises embody the character-
istics of melody in typical harmonizations. The student thus learns to associate
these progressions visually and aurally with characteristic features of melody.
The text offers a more thorough exposition of the use of nonharmonic tones
than is usually found in most harmony texts.

Melody harmonization is subjected to thoroughgoing study, with particular
attention to chordal rhythm and cadential harmonizations. Methods of effect-
ing near related modulations are amply treated, demonstrated, and applied
in desirable key schemes for small forms. Examples from the literature con-
form generally to the intent of illustrating a factor without the intrusion of
irrelevant, advanced harmony.

The appendix contains all major and minor scales, a variety of scale har-
monizations, a study of intervals, and an exposition of transposition by clef.

The term improvisation may conjure up a vision of the inspired extempori-
zation of Bach and Beethoven, of the spiritual rhapsodizing of Franck, or of
the virtuosity of Liszt. But this mysterious and intangible creative process
depends nonetheless on concrete factors in music making. The teacher can-
not infuse talent into students of ordinary musical gifts; but with adequate
organization and clarity, they can be trained to produce a fluent and com-
petent improvisation. Talented students often require assistance in con-
trolling their extemporization and expanding their creative resources.

The text deals explicitly with the primary problem of the beginning, the
opening motives based on chord tones in a variety of rhythms. These motives,
elaborated with nonharmonic tones, are extended to units of phrase length
by means of various devices. As new harmonic material is mastered, it is
woven into the fabric of improvisation.

The technique presented results in controlled extemporization; the student
knows at each step what he is required to do. With a sure grasp of harmonic
principles, an acquaintance with the procedures of melodic manipulation and
form, and evolving aural perceptions, the student will be able to achieve a
worthy result.

Keyboard Harmony and Improvisation is designed for use in college, con-
servatory, and private classes; it is adaptable for high school classes as well.
The material it covers may be pursued as an independent study; or, it may
be given prior to, or concurrently with, a course in written harmony. Textual
explanations and directions for practice are so clear as to reduce appreciably
time-consuming classroom exposition, a feature of the text which also makes self-instruction feasible. Private teachers of keyboard instruments will find the material an invaluable adjunct to instrumental pedagogy.

Both volumes of *Keyboard Harmony and Improvisation* can be adequately covered in two semesters by classes meeting twice weekly. Ideally, the average class size should not exceed ten or twelve students. When the curriculum permits no more than one semester’s work, the essentials can be realized by judicious omissions. The first exercises under each subhead then should be practiced. The level of ability in some classes may be markedly uneven. In this case, students of exceptional ability should be assigned the more difficult exercises under each subhead.

The author has successfully applied the general principles of the approach in this book in college classes over a period of many years. Many of our students have found that the skills developed in this work have been invaluable in their professional activities. The student who masters the exercises in this text can feel confident that he has a solid and practical knowledge of the fundamentals of harmony.

*Brooklyn College*  

*M. L.*
Chapter 1

Melody and Scales.

*Major Scale Structure* · *The Major Scale and Tonality* · *Key Signature*

The Chord.

*The Tonic Triad* · *Positions of the I Chord* · *The I Chord in Simple Bass Tone and Chord Accompaniment* · *The Dominant Triad* · *Tonality and the V–I Progression* · *The I and V in Simple Bass Tone and Chord Accompaniment* · *Scale Tones Associated with the I–V–I* · *Chord Line Melody Based on I–V–I*

The Motive.

*Chord Line Motives in Rhythmical Repetition*

---

**Melody and Scales.** Melody has held man's interest from the time of early primitive cultures to the present day. Judging from the music of contemporary primitive tribes, we may assume that ancient primitive melodies were simple in organization, consisting of a small number of different tones sung in persistent repetitions. The tones used were not too definite in pitch. In the course of the development of Western music, the range of tones increased, precision in pitch developed, and melody became more complexly constructed in tone, rhythm, and form.

The different tones of a melody, when strung out from low to high, or from high to low, constitute a *scale*. The term is derived from the Latin *scala*, meaning *ladder*. In a musical sense, a scale may be regarded as a ladder of tones. A scale, then, is a series of different tones, or *pitches*; the number of pitches and the distance, or *interval*, between one pitch and the next higher pitch vary from one scale to another.

Music at various periods and levels of civilization shows considerable diversity with regard to the character of melody. This diversity is evident in the kinds of scales employed, as well as in the characteristic rhythms and melodic structure.
Compare these two melodies:

**Fig. 1**

\[\text{Negro Spiritual}\]

\[\text{Roumanian Folk Song}\]

The scale patterns of these two melodies are derived by omitting tones which are repeated. Play these scales, Fig. 2, and compare the spacing (intervals) between the tones of both scales.

**Fig. 2**

In Figs. 3 and 4, the scale tones of a different scale are enclosed in brackets; they appear in ascending order in Fig. 3, and in descending order in Fig. 4. Play the sections in brackets.

**Fig. 3**

**Fig. 4**

**The First Nowell**

**Handel**

**Major Scale Structure.** There are seven different tones in this scale. The highest note, C, is a duplicate, eight scale tones higher, of the lowest note, also C. The interval C–C is an octave. These eight tones constitute a major scale, the scale on which much of the music of Western culture is based.
The tones are commonly sung as do (C), re, mi, fa, sol, la, ti, do. Melodies in which all the scale tones appear in order, as in Fig. 5, are not common.

Scalewise motion in groups of three to six notes running either up or down is more commonly encountered.

The tones of a scale may be used in skips, as in Fig. 6.

Good melody generally includes both scalewise movement and skips, as in the melody of Fig. 7:

Examine the keyboard diagram below; superficially, to the eye, the tones of the C scale appear to be spaced equally; actually, the intervals are not all the same.

Note that E and F are adjacent tones. There is no note between them. The same is true of B and C. Such intervals are half steps, or semitones. The interval C–D is made up of two such semitones: C to C♯ and C♯ to D; the interval C–D is called a whole step or whole tone. We see from Fig. 8 that the structure of the C major scale is:

Any two adjacent tones constitute a half step; for example, F♯–G. Similarly, any two consecutive half steps constitute a whole step; for example, E–F♯.
The major scale pattern requires half steps between the third and fourth tones and the seventh and eighth tones; the other intervals are whole steps. One may start on any tone, including a black key, and play a correct major scale by following this pattern. If we start on D, we will get a D major scale; if we start on B♭, we will get a B♭ major scale.

**Key Signature.** Those sharps or flats necessary for the correct pattern of a particular major scale are indicated at the beginning of a composition in the *scale* or *key signature.* Exercise 1 lists the keys according to the increasing number of sharps or flats in the key signatures. The student is required to memorize the key signatures given in the Appendix, pages ii and iii.

**Exercise 1.** Play the major scales from memory with the right hand, one octave only. No further steps can be taken until this is thoroughly mastered. Use the following orders:

\[
\begin{align*}
C, & \ G, \ D, \ A, \ B, \ F\#, \ C\#; \\
C, & \ F, \ Bb, \ Eb, \ Ab, \ Db, \ Gb, \ Cb.
\end{align*}
\]

Recite the letter names of each scale as you play, including the sharps and flats. Get acquainted with the “look” of the scale.

On the keyboard, the following scales look the same: B–C♭; F♯–G♭; C♯–Db. When played, they are the same; when written, their lettering is different. Those scales which sound the same but are written differently are called *enharmonic scales.* For a discussion of the enharmonic scales, see the Appendix, p. iv.

**Scale Intervals.** The major scale is a series of seven pitches spaced a whole or half step apart. These intervals may now be technically named: A whole step between two adjacent letters (C–D) is an interval of a *major second;* a half step between two adjacent letters (E–F or F♯–G, but not C–C#) is a *minor second.*

The tones of an interval, when played simultaneously, form a *harmonic interval;* when the tones are played successively, they form a *melodic interval.*

![Fig. 9](harmonic_interval_melodic_interval.png)
Scale Tone Names. Every tone of the scale has a specific name. Using the C scale for example, C is the tonic, D is the supertonic, E is the mediant, F the subdominant, G the dominant, A the submediant. B is the leading tone. Memorize these names. They are applied to the successive steps of every major scale. The text will refer to these scale steps by number as well: for example, the tonic as 1, the supertonic as 2, and so on.

Exercise 2a. Play the following scale steps in C: 1-5-1 (C-G-C); 1-5-3*1 (C-G-G an octave lower-C); 1-4-1 (C-F-C); 1-4-5-1 (C-F-G-C); 1-4-5-3-1 (C-F-G-G an octave lower-C).

Exercise 2b. Play Exercise 2a in all major scales with the right hand alone. (Hereafter, right hand will be abbreviated r.h.; left hand, l.h.)

Exercise 2c. Play Exercise 2a with the l.h. an octave lower.

Tonality, Key. Play the C scale upward and stop on B. Notice the pull exerted toward the upper C. The seventh scale step is appropriately called the leading tone because it evinces this strong tendency to “lead to” the tonic note, and we sense the tonic as a stable, satisfying conclusion. The move from the seventh to the eighth scale tone is one of the most common ways of ending a melody.

The tone C acts as a tonal center toward which the other tones of the C scale sooner or later gravitate. This sense of a group of scale tones dominated by a positive center is what is meant by tonality. It is exemplified by the major scale and by any other scale which possesses a definite tonal center. The scale tones of the C major scale as a group constitute the key or tonality of C. Similarly, the scale tones of the D major scale constitute the key or tonality of D. Each tonality has its appropriate key signature.

The Tonic Triad. Play the first five tones of the C scale. Holding the first tone C, add the alternate scale tones E and G. These three tones sounded together form a chord. The structure of the chord, as may be seen from Fig. 10a, is derived from the scale and composed of superimposed intervals;

* A line over a number indicates that the given tone is to be played in the octave below the tonic note.
see Fig. 10b. A chord, then, may be defined as a combination of three or more tones sounded simultaneously.

The chord formed from C–E–G is called a tonic chord because it is based on the tonic tone. The combination of the first, third, and fifth scale steps of any key is the tonic chord of that key. The tonic chord is also referred to as the tonic triad because the chord has three tones. (We shall see later that a chord may have more than three tones.) When the tones of a chord are sounded consecutively, as in Fig. 10a, it is called a broken chord.

Each individual tone of the triad has a designation. The tone on which the triad is erected is the root; the third tone above the root is the chord third; the fifth tone above the root is the chord fifth.

Exercise 3. Find and play the tonic chord in all major keys (r.h.). To do this, place your fingers over the first five tones of any scale and play the tones under the first, third, and fifth fingers. Memorize the tones as specific notes; for example, the tonic chord of D as D–F#–A. Visualize the appearance of the triad on the keyboard.

Triad Intervals. Examine Fig. 10c. The triad is made up of two intervals, a third (C–E) with another third (E–G) superimposed. A triad may therefore be defined as three tones a third apart. Compare both thirds. C–E is larger by one semitone. The interval C–E is a major third; the interval E–G is a minor third. The interval from root to chord fifth is a perfect fifth. The tonic triad, dominated as it is by the lower major third, is a major triad.

Play the tonic triad as rearranged in Fig. 11a. The chord appears first with
the fifth at the top, then the root, and lastly the third. The term *position* refers to which particular chord tone is at the top. The first chord in Fig. 11a is in the position of the fifth, the second in root position, the last chord in the position of the third. For the sake of brevity, the tonic triad is conventionally given the Roman numeral I. The three positions of the I chord are indicated thus: Ⅲ, Ⅰ, Ⅰ.

**Exercise 4a.** Play the I chord in three positions, Fig. 11a, r.h. in all keys, shifting the bottom note of one position to the top to form the next position.

**Exercise 4b.** Add the root of the chord in bass with the l.h. See Fig. 11b. Do this with the I chord in all keys.

**Exercise 4c.** Play the same exercise with the l.h., Fig. 11c, in all keys.

**Exercise 4d.** Repeat Exercise 4a playing each chord as a broken chord in the three ways illustrated in Fig. 11d. Do this with the I chord in all keys.
Exercise 5a. Play the I chord with the l.h. in all positions in three ways, following Fig. 12a. Start first with the 5; then play the 1; and lastly the 3.

Fig. 12a

Exercise 5b. Add the bass tone (root), as in Fig. 12b, and practice the I chord in all major keys.

Fig. 12b

This is one type of accompaniment. Others will be practiced later. In Fig. 12b, #2 is the most desirable sequence; the first chord in #1 is somewhat low, and the last chord in #3 is high and might conflict with melody tones in the right hand on that level. In keys other than C, either #1 or #3 or both may be found effective.

The bass tone and chord type of accompaniment in 2/4 and 3/4 will be confined at present to the examples in Fig. 12c.

Fig. 12c

Exercise 5c. Practice Fig. 12c in all major keys.

The Dominant V Triad. The V chord, a major triad, is erected on the fifth step of the scale. The root of the chord may also be found four tones below the tonic.

Exercise 6a. Find and play the V chord, r.h. alone, in all keys, proceeding as follows: Find the root; then proceed as with the I chord, using the alternate scale tones 7, and 2 above the tonic.
POSITIONS OF THE V TRIAD

Exercise 6b. Play the V chord in three positions, r.h. alone, as in Fig. 13a, shifting the lowest note to the top.

Fig. 13a

Exercise 6c. Add the root in bass for the l.h., as in Fig. 13b.

Exercise 6d. Play Fig. 13b with the l.h. alone. In Fig. 13c, the chords are played an octave lower. Play Exercises 6b, c, and d in all major keys.

Exercise 6e. Play the V chord as a broken chord. (Follow Fig. 11d, p. 9, as an example.)

We discovered above the strong tendency of the leading tone to "resolve" to the tonic note. The leading tone is the third of the V chord. The other two tones of the V chord are as unstable as the leading tone and also require resolution to stable tones. The supertonic tone resolves either to the tonic or to the mediant; the dominant tone, the root of the V chord, resolves to the root of
the I chord in the bass. The V chord as a unit thus resolves to the I chord. Figure 14a indicates the movement of the tones.

Fig. 14a

Since the triads I and V are composed of three tones to which a fourth tone (the root in the bass) has been added, it is clear that one of the tones has been duplicated or "doubled." Doubling triad roots creates a more solid harmonic effect, and it makes four-part harmony possible. Four-part harmony is the most common way in which choral music is written. It is effective for music in piano style as well. Doubling and four-part harmony will be more fully discussed in succeeding chapters.

In Fig. 14b, the second scale step moves to the tonic as the V chord goes to the I. The I chord therefore lacks a chord third, resulting in an empty chordal effect. The general rule is that the third should not be omitted.

Examine the doubling in Fig. 14c. Here the third of V is doubled. Properly resolved, both leading tones move to tonic tones in octaves. Such "parallel octaves" reinforce the melodic movement 7-8, so that these tones are pre-
dominant in the chordal movement. The resulting imbalance is undesirable. Observe these two simple rules.

1. Do not omit the third in any chord.
2. Double the root in the I and V chord. As an alternative, double the fifth.

Chord Progression. We noted previously that the resolution of the leading tone to the tonic induces a feeling of tonality or key. The resolution of the unstable tones of V to the stable tones of I similarly induces a key feeling. Thus the progression of V–I in the key of D tends to set up a feeling of the D tonality. The term progression denotes the movement of one chord to a different chord.

Play the progression I–V–I in Fig. 15a. In measure 2, the tones of the V chord (r.h.), are close to the I chord tones. The note G is a common tone—that is, it belongs to both chords; it remains unchanged while the other tones of the I chord move down to the nearest tones of the V and then return to their original location, illustrated in measure 3.

Exercise 7a. Practice the I–V–I, Fig. 15a, in all keys.

Exercise 7b. Shift the I–V–I an octave lower, as in Fig. 15b, and play it with the left hand. Practice Fig. 15b in all keys. This accompaniment can readily be converted to 3/4 and 4/4 by repeating the chords, as shown in Fig. 15c. It can be converted to 3/8 or 6/8 by changing the rhythm.
Exercise 7c. Practice Fig. 15c in all keys.

The following exercises associate scale tones of a melody with the I-V-I progression. These exercises train the ear and eye to associate melody tones with specific chords, and are highly useful for melody harmonization and improvisation. They should be practiced until they are thoroughly mastered.

Exercise 8a. Play the I chord shown in Fig. 15b. Sing the scale tone 1, do, as you play. Play the V chord and sing scale tone 2, re. Return to the I chord and sing scale tone 1, do. Do this in every key. The student has the option of using either scale step numbers or the syllables do, re, etc. Humming or whistling may be substituted for singing, in which case the student should identify the tones mentally. Play the same melody tones in the r.h., using the same accompaniment.

Exercise 8b. Play the accompaniment in Fig. 15c.

<table>
<thead>
<tr>
<th>Play:</th>
<th>V</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing:</td>
<td>1 (do)</td>
<td>5 (sol)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>7 (ti)</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>3 (mi)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2 (re)</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>8 (high do)</td>
</tr>
</tbody>
</table>
Exercise 8c. Sing the melody patterns in all keys, playing Fig. 15c as the accompaniment.

Sing two tones of the I and V chord to each chord as the accompaniment of Fig. 15c is played. In 3/4, sing the tones in this rhythm:

\[ \frac{\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow}{\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow} \]

In 4/4 use this rhythm:

\[ \frac{\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow}{\uparrow\uparrow\uparrow\uparrow\uparrow\uparrow} \]

Play as before, l.h.:

Sing:

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>V</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3</td>
<td>2-7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1-3</td>
<td>7-2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1-3</td>
<td>5-7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1-3</td>
<td>5-2</td>
<td>3</td>
</tr>
</tbody>
</table>

Add your own tones of the V and I:

<table>
<thead>
<tr>
<th></th>
<th>1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-5</td>
</tr>
<tr>
<td></td>
<td>8-5</td>
</tr>
<tr>
<td></td>
<td>3-1</td>
</tr>
<tr>
<td></td>
<td>3-5</td>
</tr>
<tr>
<td></td>
<td>5-3</td>
</tr>
<tr>
<td></td>
<td>5-1</td>
</tr>
<tr>
<td></td>
<td>5-8</td>
</tr>
</tbody>
</table>

Play with the r.h. the tones you have sung. Do this in all keys. Remember, 7 goes to 8; 2 goes to 1 or 3; 5 may go to 1, 3, 5, or 8.

Exercise 8d. Three or more tones may be played in the right hand with each chord. In Fig. 16 an opening measure based on the tones of the I chord is given. Continue measure 2 with tones of the V chord in the same rhythm and finish on a tone of the I. Do this with the right hand alone.

Fig. 16

The Motive. Play Fig. 17. This small section of a complete melody is called a half-phrase. It is developed from a shorter unit, consisting in this example of
the first four tones. A brief tonal group such as this is called a motive, or figure. The motive in Fig. 17 is created from the tones of the I chord.

![Fig. 17](image)

The motive may be made of scalewise tones, chord tones, or a combination of both. The motive is generally from two to seven or eight tones long, and may cover a half measure, a measure, or occasionally a measure and a half. Theorists are not always in agreement on the length of a motive. The student need not be overly concerned about this for the present. The following rule of thumb will serve to define the length of a motive in a given instance. The motive comes to an end when (1) it is repeated in some form; or (2) when a different motive follows. Motive repetition and additive motives will be discussed fully at a later stage in our work.

**The Chord Tone Motive in Rhythmic Repetition.**

**Exercise 8e.** Create your own first measure based on the I chord in C; continue in measure 2 with tones of the V in the same rhythm; end on a tone of the I chord. Do this in several keys.

Proceed in this fashion: Tap out a rhythm in 2/4 or 3/4 meter: for example, 2/4—tum, ta-ri, tum; in rhythmic notation this is \[ \text{\textsuperscript{2}}/\text{\textsuperscript{4}} \text{ometry.} \]

Fit the tones of the I chord in any order to your rhythm; repeat the rhythm, using the V chord tones for measure 2; end on an appropriate tone of the I chord in measure 3.

Figure 18 offers some suggestions on opening motives:

![Fig. 18](image)

**Exercise 8f.** Invent a number of motives in different keys based on the I chord. Repeat the rhythms in measure 2, using V chord tones; end on a tone of the I chord.
In this chapter we have dealt with the beginnings of melody and chordal accompaniment. The motive is the smallest coherent unit in music; the progression I–V–I is the basic progression in music. We still must learn what to do with a motive to achieve interest and variety while preserving musical unity. Our chordal vocabulary will also be expanded after further work with tonic and dominant.
Chapter 2

The Phrase.

Cadences • The Period

Motive Repetition in Modified Rhythm.

The Function of Repetition in Music • Phrase Structure Evolved from Rhythmic Repetition

Preliminary Rules in Melody Harmonization.

The I and V in Harmonization • Close and Open Style Harmony • Accompanimental Figuration • The I–V–I in Close Style Harmony • Perfect and Imperfect Authentic Cadences

Repetition in Music. Music differs from the other arts in many respects, and one difference is particularly obvious. Painting and sculpture permit the viewer to take in a work at a glance. This cannot be done with music. Melody tones reach our ears singly, in succession. The mind absorbs any emotional meaning the tones may have, but it also seeks some thread of logic in the work as a whole as well as in the segments of which it is composed. We look for some plan or design in the sounds which reach our consciousness.

Words in vocal music give meaning to the work, while at the same time the poetry lends form to the music. In instrumental music, the uninterrupted flow of sound, unaided by verbal communication, must present an intelligible pattern. Repetition, a cardinal principle of design in music, serves to unify a composition. A musical work devoid of repetition of some sort becomes chaotic and confusing to the listener.

Rhythm is a basic element in music. Many times the rhythm of a musical piece will hold our attention with greater force than its tonal elements. Rhythmic repetition therefore offers one way to achieve cohesive unity. Tonal repetition combined with rhythmic repetition is the foundation for musical unity.

Another aesthetic requirement in music, as in all the arts, is variety; without variety or contrast a work may become uninteresting. Variety is achieved by varied repetition or by the introduction of contrasting factors. A good musical
work is designed so that the elements of unity and variety are present, and well balanced in relation to each other.

Our attention is presently confined to rhythmic factors in phrase design. The exercises, therefore, will be centered on rhythmic repetition, modified rhythmic repetition, and contrasting rhythm.

Review the material in Chapter 1, Exercise 8d.

Do the three-measure units seem to be incomplete or unbalanced? Units of this length are relatively uncommon in the music of Western Europe and America. The illustrations below extend these units. A fourth measure is added by repeating either measure 1—Figs. 19a, c, d; by repeating measure 2 or 3—Figs. 19b, c; by repeating the last note of measure 3 in measure 4—Fig. 19d; or by using any tone of the V chord for the whole of measure 4.

**The Phrase.** These units feel more balanced and satisfying than the three measure units. Each of them is a phrase, a unit which is longer than a motive and complete as far as it goes. Phrases are generally four measures long. When the tempo—rate of speed—is relatively fast and the meter is a simple one (2/4, 3/8, 3/4), a phrase may run to eight measures in length. Waltz phrases will often be that long. When the tempo is slow and the meter is compound (4/4, 6/4, 9/8, 12/8), the phrase may be only two measures in length. Although 6/8 is compound meter, music in that meter is most often moderately fast or fast; the phrase in 6/8 is usually four measures long.

Some folk melodies have phrases of irregular length—three, five, or seven measure phrases—shown by Fig. 20.

Composers will at times write similar phrases of irregular length for sound musical reasons.
Exercise 9. Employing the motives in Exercises 8d and 8f, pages 15 and 16, extend them to four measure units in the ways shown in Fig. 19.

Cadences. The units in Exercise 8d were described as being not only unbalanced, but incomplete. Test those in Fig. 19 for completeness. They all come to an end or cadence in the fourth measure. Examples 19a and 19b come to a final ending on the tonic—a perfect cadence. While phrases 19c and 19d feel balanced, and their cadences round them out, the phrases lack a sense of finality. The melody is left hanging in mid-air. Such cadences are called half cadences or semicadences. Phrases ending on a semicadence require a second phrase to complete the musical thought. This is illustrated in Fig. 21. The first phrase ends on a semicadence (s.c.); the second phrase ends on a perfect cadence (p.c.).

The Period. The whole unit of two phrases is called a period or sentence. The first phrase is called the antecedent phrase; the second is the consequent phrase.

The Half Phrase. Although an eight measure period appears as a continuous unit, a break in continuity is often felt in the fourth measure. The semicadence divides the period into two phrases and a characteristic feature of the semicadence is a note of longer value. The phrase itself will often break down into two half phrases, with a longer note in measure two. A light cadential effect results, which is called the quarter cadence.

The Motive. The half phrase shown in Fig. 22 is developed from one motive by repetition; any preliminary note or notes form part of the motive.
The half phrase of Fig. 23 is composed of two motives in these rhythms:

\[ \text{Fig. 23} \]

The diagram below sums up melodic structure as discussed so far. All melodies do not fall into the same pattern, as we will see.

**PERIOD**

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antecedent phrase</td>
<td>quarter</td>
<td>semi-cadence</td>
<td>half phrase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consequent phrase</td>
<td></td>
<td>cadence</td>
<td>motive</td>
<td>perfect cadence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Motive Repetition in Modified Rhythm.**

A rhythm, active or quiet, may be maintained throughout a phrase or period. A quiet rhythmic beginning may, however, have a more rhythmically active third or fourth measure. The reverse is also true: an active beginning may have an ending which is less active rhythmically.

**EXERCISE 10a.** From the motives in Fig. 24:

\[ \text{Fig. 24} \]

1. Develop half phrases by exact rhythmic repetition of measure 1, as in Fig. 25a.

\[ \text{Fig. 25a} \]

2. Develop half phrases by repeating measure 1 with a more active rhythm in measure 2, as in Fig. 25b.
3. Develop half phrases by a modified repetition of measure 1 with a less active rhythm in measure 2, as in Fig. 25c.

Exercise 10b. From the motives given in Fig. 24:

1. Develop phrases by simple rhythmic repetition of measure 1; add a new motive for measure 3 in the same rhythm; repeat measure 3, following Fig. 26a.

2. Develop phrases by simple rhythmic repetition of measure 1; add a new motive in modified, more active rhythm in measure 3; cadence in measure 4, as in Fig. 26b.

3. Develop phrases by simple repetition of measure 1; add a new motive in modified, less active rhythm in measure 3; cadence in measure 4, as in Fig. 26c.

4. Try these phrases with a modified rhythm in measure 2, as in Figs. 25b and c.

5. Develop phrases by a modified rhythmic repetition of measure 1 in
MOTIVE REPETITION IN MODIFIED RHYTHM

measure 2; add a new motive in measure 3; make measure 4 a modified repetition of that in less active rhythm, as in Fig. 26d.

Fig. 26d

6. Develop phrases by a modified repetition of measure 1 in measure 2; add a new motive for measure 3; make measure 4 a modified repetition in more active rhythm, as in Fig. 26e.

Fig. 26e

Exercise 10c. Invent your own first measures; expand them to phrase length based on the following harmonic progressions:


Exercise 10d. Combine your phrases (r.h. only) to form periods: for example, I–I–V–V–s.c.; I–V–V–I–p.c.

Exercise 11a. Play the progression I–V–I, Fig. 27a, with the r.h. alone. Think the letter names: for example, C–E–G; G–B–D. Note that in measure 2 of Fig. 27a the tones of the V chord are the closest possible tones to the preceding I chord. Play Fig. 27a in all keys.

Fig. 27a
Exercise 11b. Now add the bass tones (roots), as in Fig. 27b, and play in all keys.

In Fig. 27, the right hand chords appear in successive positions. The upper notes of these chords form some sort of melody. A less regimented order in the use of these chords—called free positional use—will provide a more interesting melody line. See Figs. 28a, b, and c. A change in rhythm will add further interest, as is illustrated in Fig. 28c.

Exercise 11c. Play Fig. 28b. Note that in measure 2 the low bass tone (root) is employed to avoid parallel octaves. Practice Fig. 28 in all other major keys. Using Fig. 28a as a model, proceed as follows. Think of the top tones of the chords: I, fifth-third-root; V, third-fifth-root; I, third. When doing this in another key, start with the fifth of the I chord at the top and follow the pattern.

Exercise 11d. Create several units of your own. These should be two, three, or four measures long. Use 2/4, 3/4, 4/4, and 6/8 meters. Think the rhythm first, then fit the tones of the I and V to your rhythm. It is important to remember what has been played and repeat it exactly. If it is difficult to remember, use a simpler melodic and rhythmic pattern. Before commencing a pattern, determine the position of the first chord, and maintain an awareness of the upward or downward direction the melody takes. Repetition will then follow easily. Proficiency in memorizing will develop
through use of a systematic approach such as the one suggested. Sufficient practice will do the rest.

**Melody Harmonization.** Stated simply, melody harmonization means: (1) using the right chord (2) at the right time so as to produce a harmonious effect, and (3) good chord progression. Our present problem is uncomplicated, since we have only two chords from which to choose, the I or the V.

Play Fig. 29. Fig. 29a is discordantly unpleasant; Fig. 29b is harmoniously satisfying.

![Fig. 29](image)

In Fig. 29a, the note B is "harmonized" with the I chord; since B is not in the I chord and clashes with the tonic note, a discord results; the same effect can be heard in the second measure of 29a. The note C is not present in the V chord, and clashes with both the B and D of the V chord. In Fig. 29b, however, the melody tones are present in the accompanying chords.

For the present, this simple rule will suffice: The accompanying chord must contain the melody note. This will be the "right" chord. The rule does have one complication, however: the fifth scale step occurs in both the I and V chords. Our first exercises in melody harmonization allow only one chord to a measure. The harmonization of scale step 5 will therefore be determined by this consideration: Is the rest of the measure composed of tones of the I chord? If it is, then use I. Is the rest of the measure made up of the tones of the V chord? If it is, then the V chord will be the right chord. When the fifth step is the only tone in the measure, try both chords and observe the measure following. Which chord will that measure require? This may determine whether you will use the I or the V on the single fifth step.

These statements indicate that the student must consider the whole measure and the succeeding measure in making a chord choice. As we advance, this practice of looking ahead will be extended to cover the harmonization of four measures as a unit.
Fig. 30a is a harmonization of a melody. Study it with reference to the directions in the preceding paragraphs. Note the way the left hand chords are played. The student is advised to use chords in the same way. The arrangement is undoubtedly crude, but we are concerned primarily with using the correct chord, uncomplicated by other considerations.

The V is preferable in measure 4 of Fig. 30a; the next measure requires the I. Try the I for comparison.

Try two chords, as in Fig. 30b, which offers an alternative for measures 7 and 8 of Fig. 30a; this arrangement is possible at a slow tempo. Try it at a rapid tempo; the effect is less satisfying. As a general rule, use fewer chords in a fast tempo than in a slow tempo. The last chord will invariably be I, preceded by V.

To summarize: Harmonize scale steps 1 and 3 with the I chord. Harmonize scale steps 2 and 7 with the V chord. Harmonize scale step 5 with either I or V, as previously explained. The style of accompaniment in Fig. 30 should be employed in harmonizing the melodies which follow. We are presently concerned with correct chord usage; the manner in which these chords are employed is a temporary expedient.

ExerCise 12a. Harmonize the following melodies with the I and V chords. Remember, in #1, measure 8, that the last chord will invariably be I, pre-
ceded by V. In #2, measure 1, remember that a preliminary beat or part of a beat is generally left unharmonized.

1. 

2. 

3. 

4. 

5. 

6.
Exercise 12b. Reharmonize these melodies, using the accompanimental style of Fig. 15b or 15c, pages 13 and 14.

**Piano Style Accompaniment.** Compare the following four versions of the same melody and chords (I, V) in Figs. 31, 32, 33, and 34. The accompanimental styles differ. Play Fig. 31. Is it muddy in effect, or satisfyingly resonant?

![Fig. 31](image)

The low register in which the chords are located produces an unsatisfactory result, particularly since the chord tones are bunched together. Repeat Fig. 31, playing the chords as in Fig. 32, and notice the difference. Putting the chords in the upper register produces a clearly superior effect.

![Fig. 32](image)

The style of Fig. 32 is called *close style harmony*: the chord tones are bunched together in the right hand, and the left hand plays a single tone in the bass. An octave may be substituted for the single bass tone. Close style harmony and accompaniments derived from it will be used in many of our exercises.

When spaced out, the tones of Fig. 32 create still another effect, called *open style harmony*. Although open style harmony is used effectively in piano music, it is more particularly appropriate to music for vocal quartet or four-
voice chorus.* The highest and lowest tones in Fig. 33 are called, respectively, *soprano* and *bass*; the inner tones are the *alto* and *tenor* voices.

![Fig. 33](image)

*Fig. 34 and variants of it are commonly used.*

![Fig. 34](image)

*Fig. 35a is an excerpt from the Beethoven sonata Op. 33. Except for a minor difference—one note in the harmony—it is closely related to Fig. 34. In Fig. 34, however, the chord tones are played in block form.*

![Fig. 35a](image)

**Figuration.** In Fig. 35 the same chord tones are played singly in a pattern which is applied to each chord in turn. This type of accompaniment is called *figuration*. A number of different figuration patterns are possible. See Fig.*

*Advanced students may convert close style to open style by the simple device of playing the *alto* an octave lower. The *bass* if too low may be played an octave higher. While this is not strict open style, it is a good working substitute for it.*
Close Style Harmony. Other accompanimental styles will be studied as our work progresses. We are now ready to work with close style harmony. Review the material on the V chord and chord progression in Chapter 1.

The progression I–V–I is in close style harmony in Fig. 36a, b, and c. The I chord is first in the position of the fifth, I; then in the root position, I; and lastly in the position of the third, I.

The most efficient way to practice Fig. 36 is: (1) think the bass tones first; for example, C–G–C. (2) Use the same finger for the common tone (G) as you think the chord tones by letter; for example, I as C–E–G; V as G–B–D. (3) Move the other right hand fingers to the closest tones of the V chord and return to the original position of the I chord. It is helpful to recite the chord letter names aloud. In keys other than C, include in the recitation whatever sharps or flats may be in the triad.
Some students may find it helpful to practice the progression as broken chords, as in Fig. 36d. Do not continue this practice any longer than necessary.

**Exercise 13a.** Practice the I–V–I in close style in C, as in Figs. 36a, b, and c, until you have mastered a systematic method. Remember to think the bass first; the bass tone tells you what chord you are looking for.

**Exercise 13b.** Play the same progression in all major keys.

**Exercise 13c.** Play the progression V–I in close style in all keys.

It was stated above that the V–I progression is the basic progression in harmony. V–I and I–V–I are particularly strong when the V comes on a weak beat and resolves to the I on a strong beat. In 2/4 and 3/4, the first beat in the measure is the strong beat. In 4/4, the first and third beats are normally the strong beats; in 6/8, the first and fourth beats are strong. These strong beats are generally the normal accents in a measure, although accents may occur on unaccented beats, or normal accents may be reduced in emphasis for expressive or other musical reasons.

**Authentic Cadences.** All three parts of Fig. 36 are used as the concluding chords for a phrase, a period, a large section of a composition, or as the final chords for a complete musical work. Such V–I endings are called *authentic cadences*. The cadence in Fig. 36b has a special name—the *perfect authentic cadence*—which means that the final I chord has the root in both the bass and soprano. The chords in Figs. 36a and c are called *imperfect authentic cadences* of V–I because the root of the I chord does not occur in both outer voices.

**Exercise 13d.** Convert Figs. 36a, b, and c to 3/4, 4/4, and 6/8.
Chapter 3

Improvisation.
The Application of I–V–I in Close Style Harmony to the Construction of Opening Motives · Bases for Changing Harmony within the Measure

The Subdominant Triad.
The Function of the IV Chord in Tonality · Tendency Tones · The I–IV–I Progression · Scale Tones Associated with the I–IV–I Progression · The IV in Chord Line Melody · The plagal Cadence · The Application of the I–IV–I in Close Style to the Construction of Opening Motives

The IV–V Progression.
Parallel, Contrary, and Oblique Motion · The Progressions I–IV–I–V–I and I–IV–V–I in Close Style · The IV in Phrase Construction · The IV in the Approach to the Cadences · "Weak" Progressions · The IV in Melody Harmonization

Improvisation. Improvisation is composing at the keyboard in impromptu fashion. This is not as formidable an accomplishment as it may appear. While the ability to improvise fluently comes more readily to some students than to others, experience demonstrates that all students can learn to improvise acceptably by practicing the assigned exercises regularly.

Some students think that the gifted improviser produces a freely spontaneous composition in a trance-like state of mind. Nothing can be further from the truth. The improviser starts with a musical idea, a theme, or, more likely, a brief motive based on sound harmony. From that point on, he relies on the resources developed in his training and experience. He thinks, "What is to follow? Shall the motive be repeated or varied? Perhaps something new should be added?" He is constantly planning ahead, making a series of rapid judgments and decisions about the expansion and development of his ideas or the introduction of new material.

An important fact which the student must understand is that the competent improviser does not stop thinking. The composer “inspired” in improvisation
and to all appearances unconscious of his surroundings, is, in reality, calculating and sifting alternatives, discarding some, accepting others. If he were not, the improvisation would be a loose rambling composition, devoid of form, harmonic interest, and purpose. In all likelihood, it would be marked by frequent stops and sallies into harmonic impasses. With good training, however, and with well-defined ideas in his mind, the improviser who concentrates on his material can produce an inspired extemporization.

One question frequently arises regarding improvisation, and it may be well to answer it at this time. Does the improviser think of the melody first, or of the harmony? The fact is, both come to his mind simultaneously. This is possible because he has, or has developed, the capacity to "hear mentally," possesses command of his harmonic material, and can play fluently.

The ability to hear mentally can be acquired. Continued practice of the material presented in this text, in all keys, helps to develop a mental anticipation of the sound of the various chord progressions. Such practice also enables the student to control his improvisations. He knows which chord progressions he is going to use and he can find them on the keyboard. The progressions will be the basis for his improvisations. For the student improviser, then, the harmony comes first.

Some students feel that melodic ideas do not come readily to them; that the beginning presents a difficult problem. Exercise 14, and others which follow, deal with the beginnings of melodic ideas in an organized fashion, by presenting chord line motives based on the I and V chords.

Some of these motives may remind you of the openings of familiar melodies. We are not concerned with originality at present. Our principal concern is to discover the melodic potentialities of the I–V–I progression when it is used in a conscious and controlled way. The exercises are admittedly mechanical. Freedom in improvisation is the reward of disciplined practice. The student who masters these exercises learns to conceive ideas and control his material. As an important byproduct of the exercises, he will also gain quicker perception of the presence of chord line in melody harmonization.

Once a beginning is made, it is then possible to consider how to continue by using various devices, a number of which will be taken up in the course of our studies. As further harmonic and melodic resources open up, the student's improvised music will become richer, more fluent, more varied and interesting. An expanded harmonic vocabulary opens up avenues for originality. Melodic thinking based on the preconceived harmonies will mean that the melody and harmony are simultaneously brought to mind.

The series of exercises which follow will develop a more flexible right hand
part in improvisation. Practice each exercise in the key given and then in all major keys. Before proceeding to the practice of the exercises, play the melody line of each unit alone.

**Exercise 14.**

1. Starting from each position of the I chord, insert the next chord tone up.
2. Insert the next chord tone down.

3. Play the I, the next chord tone up in the V, the I.
4. Play the I, the next chord tone down in the V, the I.

* Delayed resolution of the leading tone.

5. Play the next chord tone up of both the I and V, the I.

6. Play the next chord tone down of both the I and the V, the I.

7. Play the next chord tone up in the I, the closest tone down of V, and a skip down in V, the I.
8. Play the next chord tone down in I, the next chord tone up in V, and a skip up in V, the I.

**Oblique Motion.** Note that in measure 5 of #7 the melody remains on one level while the bass moves either up or down. Voice movement in which the soprano remains stationary while the bass moves in either direction is called oblique motion. The term also applies to a stationary bass below a moving soprano.

**Exercise 15.** These are more elaborate variants which will develop flexibility in chord line melody.

1. Play the next chord tone down and return to the original note in I; repeat in V.
2. Play the next chord tone up and return to the original note in I; repeat in V.
3. Play the next tone down and return in I; the next tone up and return in V.

4. Play the next chord tone up and return in I; the next chord tone down and return in V.

5. Play three successive tones up in I and in V.

6. Play three successive tones down in I and in V.
7. Play three successive tones up in I; three successive tones down in V.
8. Skip up and return to the intermediate tone of both the I and V.
9. Skip down and return to the intermediate tone in both I and V.

10. Combine skips of #8 and #9.

etc.
11. Combine skips of #9 and #10a.

If we substitute a bass tone and chord accompaniment, as in Figs. 15b and c, for the single bass tones in Exercises 14 and 15, these basses will serve when the harmony remains unchanged in the measure. A change in harmony, however, will require an adjustment in the accompaniment. Neither bass in Fig. 38 is satisfactory.

Squeezing a bass tone and chord in on an isolated beat, as in Fig. 38a, creates an uneven accompanimental rhythm, although it may be done in 2/4 and 3/4 when employed consistently. Fig. 38b is also awkward. A chord in a bass tone
and chord accompaniment may not be used when it creates a discord with the bass tone. Fig. 39 illustrates better ways to handle such changes in harmony.

Basses for changes of harmony within the measure are illustrated in Fig. 40.

**Exercise 16.** Shift the r.h. of each unit in Exercises 14 and 15 up an octave where right hand is too low, and add suitable bass accompaniments, using either Fig. 15b or c, pages 13, 14, or Fig. 40.

**Exercise 17.** Reharmonize the melodies assigned in Chapter 2, p. 23, in the same style.

**The Subdominant Triad.** Try to harmonize the melodic fragment in Fig. 41 with I and V. Measure 1 clearly needs the I chord. But the same chord is unsatisfactory for the first half of measure 2, and the V at * is plainly dis-
cordant. Now try the chord in Fig. 42a for the first two beats of measure 2. This chord is the subdominant triad, the IV chord. The progression I–IV–I is completely satisfying for the half phrase in Fig. 41.

![Fig. 42](image)

**Exercise 18a.** Find and play the IV chord in all keys. To find the root, think four tones up from the tonic tone.

**Exercise 18b.** Play the IV in all keys in three positions, following Fig. 11a, p. 8: r.h. alone, then l.h. alone an octave lower.

**Exercise 18c.** Add the bass tone (root) to Exercise 18b, l.h., and practice in all keys, starting the IV chord in different positions. Follow Figs. 42b, c, and d.

The importance of the basic progression V–I in creating a sense of tonality was explained in Chapter 1. The IV chord completes the triads basic to the key. The root of the V falls a fifth down to the root of the I; the root of the IV rises a fifth to the root of the I. Some music theory texts view all chords as one or another form of these three chords. This is an extreme point of view, and it is cited only to emphasize the importance given to these triads in tonality. The diagram below demonstrates that the tones of I, IV, and V embrace all the tones of the major scale.

![Fig. 43](image)
EXERCISE 19a. Play the progression I–IV–I, Fig. 44a, in all keys, r.h., thinking the chord tones: for example, C–E–G; F–A–C.

EXERCISE 19b. Add the bass (root) and practice in all keys, as in Fig. 44b.

EXERCISE 19c. Play Fig. 44b as a series of broken chords; practice in all keys.

EXERCISE 20a. This exercise associates scale tones in melody with the I–IV–I in simple bass tone and chord accompaniment. First play the accompaniments in Fig. 45 in all keys.

Next, sing these scale tones with the accompaniments in Fig. 45.

<table>
<thead>
<tr>
<th>Play:</th>
<th>IV (2nd measure)</th>
<th>1 (3rd measure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing:</td>
<td>1 (1st measure)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8 (high do)</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Sing two notes to a measure:

- 1–3
- 5–3
- 8–5
- 3–5
- 5–8
- 3–5
- 6–4
- 6–4

Play: 1 (1st measure) | IV (2nd measure) | 1 (3rd measure)
Exercise 20b. Work out patterns of your own on I–IV–I, using three tones of each chord in a measure. Or, the student may use more than three tones; for example, Fig. 46.

Tendency Tones. In Exercise 20a the student may have noticed that scale step 6 moves to scale step 5 and scale step 4 moves to 3 except when they skip along the IV chord line. Compare 1–4–5, and 1–4–3 melodically; compare 3–6–7 and 3–6–5. Just as the tones of the V chord tend to move to certain tones of the I, so the root and third of the IV chord gravitate toward the tones of the I chord. The V–I is a stronger progression partly because the leading tone exhibits a greater urgency to resolve to the tonic than the 6 does to move to the 5, or the 4 to the 3. The root movement IV–I is not as strong as the root movement V–I.

The tendencies of scale tones other than 1, 3, and 5 should generally be respected. Such tones, however, do not invariably move as described here. Certain melodic factors, as will be seen later, will sometimes neutralize the melodic tendencies of the scale steps 4, 6, and 7.

Exercise 21a. Fig. 47 illustrates the I–IV–I progression in close style harmony. Practice it in all major keys. Think the bass tone first; play the common tone with the same finger; move to the closest tones of the IV and return to the same I chord tones.

The Plagal Cadence. The IV–I progression, when used after a final perfect authentic cadence, is called a plagal cadence.
Exercise 21b. Combine the progressions I-IV-I and I-V-I, following Fig. 48. Practice in all keys.

![Fig. 48](image)

Exercise 21c. Play Exercise 21b, but start with the IV chord: IV-I-V-I. Practice this in all keys.

Fig. 49 illustrates the I-IV-I in free positional patterns.

![Fig. 49](image)

Exercise 21d. Invent free positional patterns in several keys; use 2/4, 3/4, 4/4, and 6/8 meters; as before, think the rhythm pattern first; then let the unit conform to that rhythm.

Exercise 22. Review the material in Exercises 14 and 15, pp. 34–40. Apply the same procedures to the I-IV-I, adding the bass tones and transposing each unit to all keys.

1. Play the next chord tone up in I; IV-I.
2. Play the next chord tone down in I; IV-I.
3. Play I-IV; the next chord tone up in IV; I.
4. Play I-IV; the next chord tone down in IV; I.

5. Play the next chord tones up in both the I and IV.
6. Play the next chord tones down in both the I and IV.

7. Play the next chord tone up in I; IV; and the next chord tone down in IV.
8. Play the next chord tone down in I; IV; the next chord tone up in IV.
9. Play wide skip down in I; return to intermediate tone; chord line
10. Skip up and return to original tone in both I and IV.

11. Skip down and return in I; the next tone up in IV; skip down in IV.
12. Skip down in I and return; the next tone up in IV; skip up and return in IV.

EXERCISE 23α.
1. Play chord line skips up; return to original tone in I and IV.
2. Play chord line skips down; return to original tone in I and IV.
3. Play chord line skips up in I and down in IV.
4. Play chord line skips down in I and up in IV.

5. Play wide skips up; return to intermediate tone in I and IV.
6. Wide skips down; return to intermediate tone in I and IV.

7. Play wide skip up; return to intermediate tone in I; chord line up in IV.
8. Play wide skip up; return to intermediate tone in I; chord line down in IV.
9. Play wide skip down in I; return to intermediate tone; chord line down in IV.
EXERCISE 23b. Add single bass tones (roots) to the units in Exercises 22 and 23a, and transpose to all keys.

EXERCISE 23c. Substitute the accompaniments in Figs. 15a, b, and c in units 4 through 12 of Exercise 22 and in Exercise 23a for the single bass tones of Exercise 23b. Transpose to all keys.

The examples in Exercise 22 are composed of a single motive. Analyze their structures and rhythms. The melodic devices used will be studied later.

Study the units in Exercise 23a. Measure 2 of #7 is decidedly different from measure 1. This unit is composed of two motives. Are other units in Exercise 23a similarly constructed?

The IV–V Progression. Examine Fig. 50a. The chords in this progression have no common tone. All three tones of the IV move up to the three tones of the V. This is called parallel motion. The interval between the tones F–C of the IV is a fifth. This moves to the fifth, G–D, of the V. These two fifths are called parallel fifths.

Examine Fig. 50b. The added bass tones are an octave plus a fifth away from the soprano. The parallel motion of the two chords in Fig. 50b is also regarded as the movement of parallel fifths. Notice that the bass and tenor move in parallel octaves.
Parallel motion in octaves or fifths is to be avoided. In vocal composition it tends to destroy the independent movement of the two voices. In piano music it is less effective than the movement of Fig. 50c in which the upper tones move in a direction opposite to the bass, or in contrary motion. Contrary motion is required when the roots of chords are one step from each other. Parallel fifths and octaves are thereby avoided; the other parts move in a direction opposite to that of the bass.

**Exercise 24a.** Practice Fig. 50d in preparation for Exercise 24b. Fig. 50d may be converted to 3/4 or 4/4 by repeating the chords as required.
Exercises 24b. As you play Fig. 50d, sing the scale tones associated with each chord. Do this in all major keys.

<table>
<thead>
<tr>
<th>Play:</th>
<th>I</th>
<th>IV</th>
<th>V</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing:</td>
<td>1-3</td>
<td>4-6</td>
<td>5-2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3-1</td>
<td>4-6</td>
<td>5-7</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>3-5</td>
<td>6-4</td>
<td>2-7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5-3</td>
<td>1-4</td>
<td>2-5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>8-5</td>
<td>4-6</td>
<td>5-7</td>
<td>1</td>
</tr>
</tbody>
</table>

Play what you have sung.

Exercises 24c. Devise other two-note patterns.

Exercises 24d. Work out patterns of three or more tones to each chord.

Fig. 51 illustrates the I-IV-V-I progression in close style. Practice it in all keys. Remember that IV-V must move in contrary motion.

Exercises 24e. Practice Fig. 51, starting with the IV chord.

Exercises 24f. The bass and soprano in Fig. 52 are the same, in F, as those of Fig. 51. The middle tones, the alto and tenor, are played on off beats. Practice in Fig. 52 in all keys.
Free positional use of the chords in I–IV–V–I is illustrated in Fig. 53.

Exerci5ce 24g. Play Fig. 53 and invent half phrases in free positional use of the same progression. Bear in mind that the last IV chord should move down against the rising bass of the V.

The addition of the subdominant chord affords the possibility of creating phrases, one chord to a measure, on the following harmonic schemes: I–IV–I–V (s.c.); I–I–IV–V (s.c.); I–IV–I–V (s.c.).

The V is frequently used as semicadence chord, but the imperfect authentic cadence chords may also be used in semicadences: V–I, V–II. The IV may precede the imperfect or perfect authentic cadence: I–IV–V–I, or I–IV–V–I. Occasionally a semicadence may be made on IV, as illustrated in Fig. 54.

The next exercises amplify Exercise 22 by the inclusion of the IV chord, and further work with rhythmic repetition and modified rhythmic repetition. These rhythmic changes involve tonal changes as well. Various types of tonal changes will be considered later.

Exercise 25a. Substitute the V for the last I in each of the units of Exercise 22. Use a different motive on V to form a half phrase, as in Fig. 55a.
Exercise 25b. Repeat the beginning of Fig. 55a in a third measure to form a phrase, as in Fig. 55b.

Exercise 25c. Repeat the second measure on V to form a phrase, as in Fig. 56a.

Exercise 25d. Repeat the second measure exactly; make the third measure a modified rhythmic repetition, as in Fig. 56b.

Exercise 25e. Make measure 2 a modified rhythmic repetition and measure 3 an exact repetition, as in Fig. 57a.

Exercise 25f. Make the second measure a modified repetition of the first, and the third a further rhythmic modification, as in Fig. 57b.

The devices illustrated in Exercise 25 are frequently employed in melodic construction. The following exercises will illuminate the statement made above that the fluent improviser relies on the resources developed in his training and experience. They offer a partial answer to the question, “What is to follow the initial motive?” and they are a further step in training and experience. Play these exercises in a variety of keys.
Exercise 26. Apply the devices of Exercise 25 to the units in Exercise 22. Change the final I chord of the units in Exercise 23a to a V chord. Extend each unit to phrase length, using the devices illustrated in Exercise 25. Play these in different keys.

**Progressions.** Any random series of chords constitutes a chord progression; but it may be well at this point to remark on the progressions assigned in this text for practice and use in melody harmonization and improvisation. The progressions assigned for practice fit into the harmonization of thousands of melodies so that the total effect sounds right—that is, musical. The selection is neither haphazard nor the arbitrary preference of the author.

The chordal progressions chosen represent the harmony most frequently used by first-rate composers. The sound training, sensitivity, and musical instinct of gifted composers move them to select certain progressions repeatedly, to use some progressions sparingly, and to reject others. A good composer has a keen sense of discrimination about the relationship of chords to each other and to tonality, and his discrimination is a trustworthy guide to the student.

Labeling a progression “weak” simply indicates that good composers use it infrequently. For example, the progression V–IV is purposely excluded from chord progression practice and from use in melody harmonization as a means of delaying the normal resolution of V; this is done because composers have found better ways to achieve that effect and therefore seldom use V–IV. Those progressions characterized as poor are generally avoided by good composers.

The progression V–IV, which is generally not recommended, will produce the most satisfactory result when used as in Fig. 58. Note the contrary motion.

![Fig. 58](image-url)
The IV in Melody Harmonization. The following suggestions will help the student decide when to use the IV and when to avoid using it.

1. Use the IV in skips along the IV chord line: for example, 1–4–6; 8–6–4; etc.
2. For scale steps 4–3, use IV–I; for scale steps 1–4–3, use either IV–IV–I or I–IV–I.
3. For scale steps 6–5, use either IV–I or IV–V; for scale steps 5–6–5, use I–IV–I or I–IV–V.

Correct chord usage will also be governed by where the tones fall in the measure. Using the same chord across the bar line or accent is generally poor, unless the chord is used for two successive measures, or for one measure and a half or more of the next measure.

Do not use the IV in the following cases:

1. for scale steps 1–2, IV–V.
2. for scale steps 4–5, IV–V.
3. for scale steps 6–7, IV–V.
4. for scale steps 5–6, 7–8, 5–4, 2–1, V–IV.

Fig. 59 gives examples of correct, possible, and incorrect usages.

![Fig. 59](image)

Fig. 60 shows alternate harmonizations using the IV chord.

![Fig. 60](image)
The following remarks may be made about the recommended usages. The letters over the staffs indicate the measures in Fig. 60 being referred to:

a. Avoid repeating a chord over the bar line, if possible.
b. Avoid three rapid chord changes.
c. The first choice is correct, but dull. In the last choice, the IV chord comes on beat 2 and is held for the rest of the measure. This creates a poor chordal balance.
d. The second version creates parallels.
e. The rapid change on the sixteenth is poor.
f. The three chord changes are unavoidable; it is preferable to use I-IV-I.

Exercise 27. In Section 1 of the following melodies, use one chord to a measure or the same chord for two successive measures where necessary. Bass and chord accompaniment is sufficient for the melodies in Section 1. In Section 2, use two or more repeated or different chords to a measure as required. Re-read the comments given in connection with Fig. 60. Use close style harmony in Section 2, as illustrated in Fig. 61.

Fig. 61

[Music notation image]
Chapter 4

The Harmonic Minor Scale.
Key Signatures in Minor - Minor and Major Key Relationships - The Primary Triads in Minor - The Progressions I-IV-I-V-I and I-IV-V-I in Minor - Melody Harmonization in Minor

The Dominant Seventh Chord.
Structure of the V\textsuperscript{7} - Normal Resolution of the V\textsuperscript{7} to I - Scale Tones Associated with I-V\textsuperscript{7}-I - Doubling in the V\textsuperscript{7} - Chord Line Melody in the V\textsuperscript{7} - Approach to the V\textsuperscript{7} - The V\textsuperscript{7} in Perfect and Imperfect Authentic Cadences

The Harmonic Minor Scale. Play Fig. 62, which is a consequent phrase of the melody In Old Madrid.

Fig. 62

\includegraphics{fig62.png}

The tones reduced to scale pattern take this form:

Fig. 63a

\includegraphics{fig63a.png}

Compare this scale with the C major scale. The third and sixth scale steps are a semitone lower than the corresponding steps in major. Scale step 3 is a semitone closer to 2 and further from 4; step 6 is likewise a semitone closer to 5 and further from 7.

Fig. 63a is the harmonic minor scale, the structure of which may be diagrammed as follows:

\begin{align*}
1 & \quad 2 & \quad 3 & \quad 4 & \quad 5 & \quad 6 & \quad 7 & \quad 8 \\
\text{whole} & \quad \text{half} & \quad \text{whole} & \quad \text{whole} & \quad \text{half} & \quad \text{whole} & \quad \text{step} & \quad \text{and} & \quad \text{half} \\
\text{step} & \quad \text{step} & \quad \text{step} & \quad \text{step} & \quad \text{step} & \quad \text{step} & \quad \text{interval} & \quad \text{and} & \quad \text{half} \\
\end{align*}

58
Sing the scale, comparing it with the major. The major scale steps 6–7 (A–B) form a major second; the A-flat in minor increases the size of this second to an augmented second.

Were we to follow the practice of placing the required sharps or flats of a given scale at the beginning of the score, the key signature for the c* harmonic minor scale would be the one in Fig. 63b. The practice, however, is to use the key signature of a related major key—in this case, Eb major, with three flats. See Appendix, p. v.

Compare the c minor and Eb major scales, Fig. 64. Their tonics are different, and the fifth step in E-flat differs from the B natural, which is the seventh step in c minor; otherwise the tones are matched. C minor then, as a matter of convention, "borrows" the signature of Eb. A composer writing in c minor will use the Eb signature, placing a # sign before each B, as in Fig. 65.

The leading tone of any music written in the harmonic minor is raised. In flat keys, the flatted seventh step is made natural; in sharp keys a natural note is sharpened, and a sharpened note is double sharpened (symbol: `).

Recognition of Minor Keys. Key signatures may therefore be a source of confusion to the unobservant student, since both keys, Eb major and c minor, have the same signature of three flats. He may attempt to harmonize a melody in Eb major which is obviously not in Eb, but in c minor.

To determine which key the signature stands for, look at the last melody.

* The practice of using lower case letters for the minor scales and capital letters for the major scales will be followed throughout the rest of this text. That is, c will indicate the c minor scale; C the C major scale.
note. Almost invariably, this is the tonic. Is the last note C or F? Do you find a B♭ in the course of the melody? Finding that, or the raised seventh of any minor, would strongly indicate that the melody is in minor. Does the melody start on the tonic of C minor? (The third or the fifth are not indicative, since both of these tones are also 1 and 3 in Eb.) A melody starting on C with a three-flat signature is almost always in C minor. Glance through the melody. Are there chord line skips along the I, V, or both chords of either C minor or Eb major? These are helpful indications. Some melodies, as we shall later discover, start in major, shift to the relative minor, and return to the original major key. The shift from minor to major to minor also occurs. When we become acquainted with the chords in minor, the chords and cadences will confirm a key as a major or relative minor.

Exercise 28a. Memorize and play all the harmonic minor scales. (The harmonic minor scales are listed in the Appendix, p. 4.) As a temporary device, play the major scale and then repeat it, lowering the third and sixth scale steps. The minor scales must be memorized to afford a secure knowledge of chord tones in minor. Play the scales in the following order: a, b, c, d, e, f, g, A, B♭, C, D, E♭, F♭, G♭. Memorize the key signatures.

Re-examine the paired scales in Fig. 64. The Eb major scale starts on the third step of C minor. Eb is the relative major of C minor. To find the relative major of any minor key, find the third step up of that minor scale; that is the tonic note of its relative major.

Exercise 28b. Find the relative major of the minor keys played in Exercise 28a.

The relative minor of any major key may be found by playing the third step down of the major scale. This tone is the tonic of the relative minor.

Exercise 28c. Find the relative minor of these major keys: F, G, A, C, E, Eb, B, A♭, F♯, D♭, B♭.
The melody below is in major; it is followed by a version in minor on the same tonic.

**Fig. 66**

**Tonic Major-minor.** This kind of major-minor or minor-major relationship is called a *tonic relationship*, because both versions have the same tonic. The tonic minor of C major is c minor.

Composers often use the same theme in both major and minor versions in a composition. The identity of theme is a unifying factor; the change from major to minor or vice versa furnishes variety.

The minor mode is often associated with feelings of grief, sadness, wistfulness, melancholy, despair, depression, or tragedy. Funeral marches are written in minor; wedding marches in major. These associations are purely subjective, and are meaningful primarily for people of the western world.

The **Primary Triads in Minor.** The I, IV, and V chords in major are major triads. Note the changes caused by the lowered third and sixth steps of the harmonic minor: The I and IV now have a minor lower third and a perfect fifth; these two triads are minor chords. The V is unaffected and remains a major triad.

**ExercIse 29.** Find and play the I, IV, and V chords, r.h. alone, in every minor key.

**ExercIse 30.** Play the accompaniment of Fig. 45, p. 43, in minor.
Exercise 30b. Sing the tones of Exercise 20a, p. 43, in minor, using the accompaniment of Fig. 45.

Exercise 30c. Play the same tones.

Exercise 30d. Work out patterns of your own based on I–IV–I, using three tones of each chord in a measure.

Exercise 31. Convert Fig. 47, p. 44, to minor and play it in all keys.

Exercise 32. Practice Fig. 68 in all minor keys.

Exercise 33. Work out Exercise 21d in minor.

Exercise 34. Work out Exercises 22 and 23 in minor; use the basses of Figs. 15b and c and Fig. 40, in minor.

Exercise 35. Sing the scale tones of Exercise 24b; use the bass of Fig. 50d, in minor.

Exercise 36. Practice the progression I–IV–V–I, Fig. 69, in all minor keys.
Exercise 37. Convert Fig. 52, p. 51, to minor, and practice it in all minor keys.

Exercise 38a. Convert Exercise 26, p. 54, to minor; practice this in several different keys.

Exercise 38b. The half phrase of Fig. 70, which is in major, shifts to the relative minor; it repeats in the subdominant key and then returns to the original key. Start Fig. 70 in the key of D, of B♭, of E, and of D♭, and continue it through the relative minor, the subdominant key, and the return to the original key.

Exercise 38c. Change the second half phrase of Fig. 70 by modified rhythmic repetition. Substitute a different pattern for the third half phrase for variety. Insert the V chord of B♭ before going into the fourth half phrase.

Melody Harmonizations in Minor. The following melodies for harmonization use the I, IV, and V in minor. Review the remarks on melody harmonization in Chapter 3; they apply also to harmonization in minor.
Exercise 39. Harmonize the following melodies, using the I, IV, and V in minor.

1.

2.

3.

4.

The Dominant Seventh Chord. The thematic fragment in Fig. 71 is taken from the Haydn Surprise Symphony. Try to harmonize it with the I, IV, and V chords.

Fig. 71

The first two measures clearly demand the I chord. The last measure obviously needs the V. What did you use in measure 3? The IV for the first beat, the V for the second beat are possibilities. Play the phrase with that harmonization: I–I–IV–V–V. This harmonization creates an unbalanced effect. The imbalance is due to the chord change to V in measure 3. When the V is carried over into the next bar, it gives undue prominence to a weak beat; in good harmonic rhythm, the V on an unaccented beat resolves to the I on an accented beat: V–I.

Furthermore, the first two measures and the last measure have only one
chord to a measure, and measure 3 has two chords. The chordal flow is thus disturbed, rather than smooth.

If the V chord in measure 3 could resolve to I in measure 4, the effect would be better, but the melody tones do not permit this resolution. Try the V for the whole of measure 3. This is satisfying, and the inclusion of the note F creates a new chord, the dominant seventh of the V chord. The chord is so-called because it is a V chord with a superimposed third, making the interval from the root, G, to the top note, F, a seventh.

Three intervals not previously encountered are present in the V7 chord. These are: (1) The minor seventh. C–B in the key of C is a major seventh. G–F is a semitone smaller, and consequently a minor seventh. (2) B–F is a semitone smaller than the perfect fifth, C–G. This is a diminished fifth. (3) The tones B–F may be used in succession in melody. Inverted, F–B, the tones make an interval of an augmented fourth. The perfect fourth appeared in two positions of the I (G–C) and in the IV and V chords. The augmented fourth, F–B, is a semitone larger. Generally it is best to avoid an F–B succession of tones in a melody.

Sing the intervals as melodic intervals, as in Fig. 73a.
**Resolution of the V⁷.** Note that the chord seventh (F) in Fig. 73b tends to resolve down. As in the V triad, the leading tone tends to resolve up. #1 and #4 in Fig. 73b are melodically ungainly and difficult to sing. In #2, the resolution of the chord seventh is deferred. In #3 the melodic tendency of the chord seventh is transferred to the leading tone and resolved there.

The resolution of these intervals as harmonic intervals is illustrated in Fig. 73c. This Figure should clarify the normal resolution of the V⁷ to I.

The progression V⁷–I is a stronger progression than V–I. The additional tone, the seventh, makes the resolution to I more urgent.

---

**Exercise 40a.** Find and play the V⁷ in all keys, r.h. alone. The chord is the same in minor. Think the chord in its letter construction; for example, the V⁷ of D as A–C♯–E–G. Learn to recognize the keyboard appearance of the V⁷ in each key. Fig. 74a demonstrates the resolution of the V⁷ chord tones; the chord fifth, scale step 2, usually resolves to scale step 1 to avoid a doubled third in the I chord.

**Exercise 40b.** Play the chord in all positions, as in Fig. 74b, in all keys.

**Exercise 40c.** Play the V⁷ as a broken chord in all keys, as in Fig. 74c.
Exercist 41a. Using the accompaniment of Fig. 75a, sing the given chord tones in the progression I–V7–I.

<table>
<thead>
<tr>
<th>Play:</th>
<th>1</th>
<th></th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sing:</td>
<td>1–3–1</td>
<td>5–7–2–4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1–5–3</td>
<td>4–2–7–5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5–3–1</td>
<td>7–5–4–2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>8–5–3</td>
<td>4–7–2–5 or 5</td>
<td>3</td>
</tr>
</tbody>
</table>

Play what you have sung; repeat the same series in a number of major and minor keys.

Exercist 41b. Create your own patterns on the same harmonies in a variety of rhythms.

Since there are four different tones in the V7, it might be assumed that doubling would be unnecessary. However, when the individual tones of the chord resolve properly, the chord of resolution, the I, is without a fifth; see Fig. 75b. To avoid this, one of two courses may be pursued.

(1) The leading tone in an inner voice may skip down to the chord fifth of the I, shown in Fig. 75c. Irregular resolutions of the leading tone or the chord seventh, illustrated in Fig. 75d, are possible when these tones are in the inner voices.

(2) One of the tones of the V7 may be omitted and the root doubled, as in Fig. 76a. The chord seventh cannot be omitted, as it would then be a simple
V chord. The root cannot be omitted. Leaving out the leading tone weakens the chord. The least essential chord tone is therefore the fifth, and this tone is frequently omitted and the root doubled, as in Fig. 76b. Doubling the leading tone or the chord seventh will produce parallel octaves when these tones are correctly resolved. The root of the chord is therefore doubled when the fifth is omitted.

**Exercise 42a.** For the present, play all four tones of the V7 in the r.h. Practice the I-V7-I, Fig. 77, in all major and minor keys. Repeat this starting on V7.

**Exercise 42b.** Transfer the right hand part to the left hand, playing it an octave lower, as in Fig. 78.

**Exercise 42c.** Using the same bass on offbeats, create a number of half phrase units like those in Fig. 79. Work in different keys, minor as well as
major. Extend these two-measure units to four measures, alternating the I and V7 chords.

**Fig. 79**

**Exercise 42d.** Add bass tones (roots) to Fig. 78, as illustrated in Fig. 80.

**Fig. 80**

Practice Fig. 80 in all major and minor keys. Convert this bass to 3/4, 4/4, and 6/8: (1) by repeating the chords as in Fig. 81a; (2) by shifting chord position, as in Fig. 81b; (3) by shifting and returning to the original position, as in Fig. 81c.

**Fig. 81a**

**Fig. 81b**

**Fig. 81c**

**Exercise 42e.** Devise a right hand melody for each bass of Fig. 81, creating it from the chord tones of I and V7. Set up a rhythm pattern first, and let the chord tones fit that rhythm. Extend each three-measure unit of Fig. 81 to four measures by repeating the first I chord or the V7.
EXERCISE 43a. The following exercise treats the movement of the V₇ freely.

Play Fig. 82 in a slow tempo.

Fig. 82

Contrive a number of similar patterns in free positional use of the V₇.
Resolve correctly the leading tone and chord seventh in the soprano.

EXERCISE 43b. Reverting to Exercise 14 and Exercise 15, change the V to
V₇; practice the exercises with that revision; use the chord seventh fre-
quently in the melody. When either the chord seventh or the leading tone
is the penultimate tone of the melodic unit, resolve it correctly.

The value of these exercises for improvisation is self-evident. They also have
a direct bearing on the use of the V₇ chord in the harmonization of melodies.
The root movement and the resolution of its tendency tones makes the normal
resolution of the V₇ a progression into the I. The harmonic progression V₇-V
is infrequently used, because the move from a strong chord to a similar but
less powerful chord is not effective, unless a definite purpose is being served.

The Approach to the V'. The V' may be preceded by the I, IV, or V.

EXERCISE 44a. Practice Fig. 83 in all keys. Note that in measure 1 of each
unit the fifth is omitted in the V₇.

Fig. 83
EXERCISE 44b. Practice the same exercise with the inner chord tones on the offbeats, as in Fig. 84.

We encounter the same problems of parallel fifths and octaves in the progression IV–V as in the progression IV–V. Contrary motion and the omission of the fifth in the V eliminate these errors, as shown in Fig. 85.

EXERCISE 45a. Practice Fig. 85 in all major and minor keys. When this is perfected, start with the IV: IV–V–I.

EXERCISE 45b. Play Fig. 85 with the inner tones on the offbeats, as in Fig. 84.

EXERCISE 45c. Practice the right hand part of Fig. 85b an octave lower with the left hand alone.

EXERCISE 45d. Add the bass tones (roots) to the left hand playing of Fig. 85b, as in Fig. 86. Try this also with Figs. 85a and c.

EXERCISE 45e. Convert this bass to 3/4, 4/4, 6/8.
Exercise 45f. Contrive melodic units of your own based on the progression I-IV-V\textsuperscript{7}-I. Make these a phrase in length. Add a second phrase which closes on a perfect authentic cadence. Use a variety of keys for each period.

The progression IV-V\textsuperscript{7} in free positional use should be used only when these chords in the right hand move in contrary motion to the bass.

Exercise 46. Play Fig. 87; then devise several two-measure units of your own in different keys.

Fig. 87

Exercise 47a. Reverting to Exercise 22, p. 45, and Exercise 23, p. 47, change the held note on the I chord to chordal melody, adding a V\textsuperscript{7} to conclude the unit. Fig. 88b shows one of a number of ways to change Fig. 88a in this manner. Work out all the units in Exercises 22 and 23. Some will be half phrases, and others will be phrases, depending on their length, their tempo, and meter.

Exercise 47b. Add another unit of the same length to those of Exercises 22 and 23.

Exercise 47c. In Exercise 23, change the held I chord to chordal melody based on the V\textsuperscript{7} and end on the I with a perfect authentic cadence. Do this for all the examples of Exercise 23, following the illustration in Fig. 89. Use
different keys. Try an imperfect authentic cadence first, then repeat the phrase with a perfect authentic cadence ending.

The resolution of the $V^7$ chord may be postponed by either repeating the $V^7$ or by inserting a IV chord: $V^7$–IV–$V^7$–I. The latter progression should be used sparingly, and we shall learn a more effective means of delaying the resolution of the dominant seventh later on. Fig. 90 indicates the best way to use this progression.
Chapter 5

Transposition.
Factors in Harmonization at Sight · The V\textsuperscript{7} and IV in Melody Harmonization

Nonharmonic Tones.
The Lower Neighbor Employed with the Progressions I-IV-V and I-IV-V\textsuperscript{7} · Phrase Improvisation Based on Motives Including the Lower Neighbor · Tonal Changes

Transposition. Up to this point transposition has meant practice in shifting chord progressions to all keys. This is useful in its application to harmonizing in different keys and in improvisation. A secure grasp of applied harmony also helps in transposing a piece of music as a whole—that is, shifting both melody and harmony to a different key. Proficiency in transposition will develop with consistent, systematic practice.

There are several methods of transposition. One of them requires exceptional aural ability, another requires facility in clef reading (see Appendix, p. vii to ix). The method recommended here is transposing by interval and chord analysis.

In this method, the eye follows the contour of the melody. Where the melody goes up or down scalewise, the fingers go up or down the scale of the desired key. Where the melody skips, the fingers skip the same interval in the same direction in the new key. Note the starting tone. Is it 3 or 5 of the original key? Start on 3 or 5 of the new key. Remember the sharps or flats of the new key. Are there skips in the I, IV, V, or V\textsuperscript{7} chords? Make similar chord line skips in the new key. Are there tonal patterns which are repeated or shifted? Recognizing a pattern aids in reproducing it in the new key.

Our first melody, in Exercise 28, starts on C (1), runs up three tones, and goes down scalewise six tones. It then skips down a third, and so on. To transpose this fragment to the key of A, start on 1 of A, run up three tones of the A scale, and then down six tones of the A scale, and skip a third down to C\#. 

74
Exercise 48. Transpose the following melodies to the keys indicated.

To G major.

To B-flat major. This melody starts on 5. Note the skips in the I and IV chords. Think the chord tones in the new key.

To F major. Do you recognize a pattern?

To E-flat major.

To D major.
To e minor.

7.

To b minor.

8.

The student should make a practice of transposing melodies from song book collections.

Harmonization at Sight. Harmonizing a melody with facility and in good harmonic taste is our goal. Students frequently misunderstand the meaning of “harmonizing at sight.” They assume that harmonization should proceed without hesitation, harmonizing each individual note of the melody. This is both a false concept and a poor approach.

Harmonization at sight may be compared with reading at sight. The good sight reader, reading unfamiliar music, constantly looks ahead of the measure with which his fingers are occupied, and his anticipation embraces a rapid analysis of the following measures. Individual tones may be understood as an arpeggio in a single chord or as a scale passage in a given key. The starting note and the terminal tone are observed, and tones are seen as patterns or as tonal combinations. The process can more accurately be described as “second sight” reading, since the music is more closely read and played after this rapid preliminary glance.

Harmonization at sight requires a similar anticipation. Examine the cadences. Determine which chord or chords to use in the cadence measure and preferably also what chords to use in the antecedent measure. Skips in the melody may possibly be harmonized with a single chord. A given tone may allow a
choice between two chords; for example, I or V. The next tone may permit no choice; for example, a IV chord rules out the V because V–IV is a poor progression.

Study the information on harmonizing scale step 4 on pp. 78, 79 before proceeding to melody harmonization. The melodies must be carefully analyzed with attention to the way the fourth step acts in each melody. Harmonization in this manner can proceed without interruption, and a correct harmonization will be achieved. After sufficient practice, a quick comprehensive appraisal before starting the harmonization will be sufficient. Continued analysis of melodic situations and instantaneous harmonic judgments result in facile harmonization “at sight.”

The V′ and the IV in Melody Harmonization. Since the V and the V′ have three tones in common, the fifth, seventh, and second scale steps, these three tones may generally be harmonized with either chord. When any of these tones occur in the semicadence, the V is preferable. Up till now we have harmonized the fourth scale step with the IV chord. Since this scale step is the chord seventh of V′, a question of choice now arises. Figs. 91–97 and the accompanying text indicate where to use the IV and where to use the V′.

The fourth step in Fig. 91a resolves directly to 3; it resolves to 3 indirectly in Figs. 91b and c, in which a tone of V′ is interposed. The fourth step in Fig. 91d does not resolve to 3. In cases like those in Fig. 91a, b, and c, the V′ should be used; in Fig. 91d, the V′ cannot be used since the fourth step, as the chord seventh, must resolve directly or indirectly to 3. Use the IV in Fig. 91d.

The first rule is: Do not use the V′ when the fourth step skips to a tone which is not in the V′. When the fourth step and any other tone or tones of the V′ fall within a single beat, as in Fig. 91a or b, it is generally advisable to harmonize all these tones with the V′, particularly when the tones are rapid.
Compare Figs. 92a and b, which are harmonizations of Fig. 91b. The rapid chord change in Fig. 92a is clumsy and ineffective. Fig. 92c shows the fourth step in another indirect resolution of the chord seventh of V⁷, which is used for both tones. Fig. 92d is definitely wrong. The chord seventh goes up to a different chord. IV–V would also be wrong because of the parallel octaves and fifths involved. Use V⁷ for both tones.

As the student learns to use familiar chords in new ways, Fig. 93a, and as his chordal vocabulary increases, Fig. 93b, it will be necessary to modify some of the rules.

The fourth step in Fig. 93c is one in a whole measure of skips along the IV chord line. Use the IV for the whole measure. In Fig. 93d, the fourth step is repeated before resolving to 3. Such repeated tones may be harmonized with either the IV or IV–V⁷.

Play Fig. 94a. The V⁷ is possible at *. The progression would then be I–V⁷–I–V–I–V⁷–I, which is monotonous. The IV at the * in measure 3
HARMONIZATION OF SCALE STEP 4

affords some variety. Variety, however, is not an acceptable excuse for an unmusical progression.

There may be several repetitions of the fourth step. In Fig. 94b the IV may be used for the whole of the second measure; or, for two beats of the second measure, with the V\(^7\) used on beat three. In Fig. 94c, the fourth step is repeated from an unaccented beat to an accented beat. Repeating the IV chord here creates a weak effect; this point will be discussed in connection with harmonic rhythm. Use the V\(^7\) on the repeated fourth step.

The fourth step may move melodically up to scale step 5. In rapid tempo, harmonize both tones in Fig. 95a with V\(^7\); on an upbeat (anacrusis) at the beginning of a phrase, as in Figs. 95a, c, and f, the tones may be left unharmonized. Step 4 may go to 5 and return to 4: 4–5–4, as in Fig. 95b. The V\(^7\) may harmonize all three of these tones, or IV–I–V\(^7\)–I may be used.

Scale step 4 may be preceded by 5, as in Fig. 95d. In slow tempo, harmonize both tones with V\(^7\), with I–IV, or with I–V\(^7\). In anacrusis in quick tempo, leave them unharmonized or harmonize them with the V\(^7\). The melodic series 5–4–5–(3), illustrated in Fig. 95e, may be harmonized with the V\(^7\). In rapid tempo, the series in Fig. 95f may be left unharmonized.

EXERCISE 49. Harmonize the following melodies in close style harmony.
Repeat the harmonization, using, where possible, a bass and chord style accompaniment. Review the accompaniments in Figs. 39 and 40. Then, harmonize the melodies in close style with the inner tones on offbeats or unaccented beats.
MELODY HARMONIZATION WITH I-IV-V AND V7
Nonharmonic Tones. Play Fig. 96.

Now play the chordal accompaniment in Fig. 96 and only those melody tones marked with a *. These tones are chord tones. The other tones are non-chordal tones. Nonchordal tones are called nonharmonic tones.

Play Fig. 97; this is part of Fig. 96 with every tone harmonized. The result of harmonizing every tone, particularly in moderately fast or fast tempo, is congested harmony. The chordal rhythm is cluttered, and the melody loses its mobility.

Fig. 96 illustrates the most common form of melody harmonization, the harmonization of certain tones while others are left unharmonized. This modifies our procedure in melody harmonization; now we will harmonize only some tones, and allow adjacent tones to “ride” on the same chord.
Neighboring Tones. In Fig. 98, note the tones C# and F#.

They move one tone away and return to the original chord tones. Tones which move one tone away and return to an original chord tone are called auxiliary or neighboring tones (abbreviated n.t.). When the tones move down and return, they are more specifically called lower auxiliary, or lower neighbor (abbreviated l.n.), tones.

The lower auxiliary tone may be the next tone down in the scale. This is illustrated in Fig. 99. The lower neighbor of every major scale step except scale steps 1 and 4 will be a whole tone down. The lower neighbor of scale steps 1 and 4 will be a semitone lower: 1–7–1, and 4–3–4. The three-tone figure—chord tone, lower neighbor, chord tone—may be used in a variety of rhythms.

The lower auxiliary may also be a semitone below the chord tone. This is
possible in all instances except as noted in Fig. 100. Fig. 100 demonstrates the best musical use of the lower auxiliary when employed with the I, IV, and V chords.

In #1, the whole tone lower neighbor of the tonic creates an effect of the V7 of the subdominant key, F; it should therefore be avoided. #2 is wrong for a similar reason; it tends to propel the music towards the subdominant key.

#3 is correct usage—the fourth step is indirectly resolved. It is merely a chord tone in V7. #4 should be avoided—the fourth step is not melodically resolved. In #5, the leading tone goes to the tonic in the pattern 6-7-8; this usage is much better than #6, because it involves a whole tone lower neighbor.

#7 and #8 need no resolution for the fourth step, since the unit is all in the dominant seventh.

Exercise 50. Fig. 101 embellishes each tone of the I, IV, and V7 in order.
The semitone lower neighbor is used throughout. Practice this figure in C, then transpose it to all major keys.
When the leading tone skips in the chord, the semitone lower neighbor may be used. This is illustrated in the fifth measure of Fig. 101. When the leading tone goes to the tonic, as in the fifth measure of Fig. 102, the use of the whole step lower neighbor is preferable.
Exercise 51. In Fig. 102 each chord tone is embellished by a lower neighbor which is the next scale tone below.Transpose Fig. 102 to all major keys.

Nineteenth-century composers exhibit a preference for the semitone lower neighbor; eighteenth-century composers more frequently use the lower scale tone as the lower neighbor. Both semitone and scale tone may be used for scale step 5 in the minor. The student is free to use either type of lower neighbor in improvisations, and should strive to develop fluency in the use of both.

Exercise 52. Substitute a signature of three flats in Fig. 102, thus putting the melody into C minor. Remember that the leading tone is raised to B#. In measure 5, use the semitone lower neighbors F# and A#. Practice this in all minor keys.

Exercise 53. Use the lower neighbor in close style harmony, as in Fig. 103; then add the bass tone (root) and practice Fig. 103 in all major keys. Do the same thing in minor, bearing in mind the instructions given in Exercise 52.

Exercise 54. The chords in Fig. 104 are embellished with the lower neighbor and shift freely in position. Add the bass tone and complete the unit with IV–V7–I. Practice this in all keys, major and minor. Invent similar units of your own and play them in a variety of keys.
THE UNACCENTED LOWER NEIGHBORING TONE

Re-examine Fig. 100 on the use of the lower neighbor; in the instances given the auxiliary tone falls on the unaccented part of the beat. The unaccented lower neighbor is also employed in Fig. 105. The inner chord tones come on the offbeat.

Fig. 105

Exercise 55a. Practice Fig. 105a in F major and f minor with the necessary changes; then transpose it to all keys.

Complete Fig. 105b in G major and g minor with the chords given, then transpose it to all keys.

In Figs. 106a, b, and c the auxiliary tone falls on the accented part of the beat. The tones are called accented lower neighbors, or accented lower auxiliaries. Such tones will be discussed later in connection with the term appoggiatura.
Exercise 55b. Work out Figs. 106a, b, and c in at least three keys in major and three in minor.

Exercise 56. Complete Figs. 106a, b, and c with consequent phrases based on I-IV-V-I and I-V-V-I, using one chord to a measure.

Exercise 57a. Extend the one-measure motives of Fig. 107 to four-measure units. Do this by following these procedures:

1) Repeat the first measure exactly as measure 2; then add two measures based on IV-V (semitone) with a more active rhythm in measure 3.

2) Use a motive similar to that of measure 1 for measure 2, but based on the IV chord. Repeat this exactly as measure 3 and end on V (semitone).
RHYTHMIC REPETITION USING AUXILIARIES

(3) Use a motive similar to that of measure 1 for measure 2, but based on V. Repeat this exactly as measure 3; end on I (imperfect authentic cadence).

Exercise 57b. Work out Exercise 57a in minor.

Exercise 58a. Extend the one-measure motives of Fig. 107 to four-measure units by following these procedures, each of which is illustrated in Fig. 108:
1. Repeat measure 1 in modified rhythmic repetition. Add two measures based on IV–V.
2. Add a second measure based on IV; repeat measure 2 in modified rhythmic repetition for measure 3; end on I or V.
3. Add a measure 2 based on V; repeat in modified rhythmic repetition for measure 3; end on I (imperfect authentic cadence). Use a bass tone and chord accompaniment, as shown in Fig. 107. Invent a few major and minor motives based on the I chord which are one measure long and which incorporate the accented and unaccented lower neighbor. Work these original motives out in the ways illustrated in Fig. 108, then add a bass tone and chord accompaniment.

**Tonal Changes.** Fig. 109 demonstrates several ways of repeating a measure with rhythmic modifications. The simple rhythm changes of Fig. 109a can be made without adding tones. Complex rhythmic alterations require either the repetition of motival tones, as in Fig. 109b, or additional tones, as in Fig. 109c.

Repeating motival tones, changing any tone or tones of the motive, or adding tones in a repetition of a motive are *tonal changes.*

**Exercise 58b.** Try making tonal changes in Figs. 107a, b, c, d, and e, extending each unit to phrase length.

The following exercises offer practice in the use of the lower auxiliary in close style harmony.
Exercise 59a. Practice Fig. 110 in all keys, both major and minor.

Exercise 59b. Expand several of the motives in Fig. 110 to phrase length; do this in several keys, major and minor.
Chapter 6

Subordinate Triads.


The Upper Neighbor.

Its Use with the Progression I–IV–II–V7–I: Auxiliary Tones in Cadences: The Melodic Minor Scale: Auxiliary Tones in Bass and in Melody Harmonization

Subordinate Triads. The triads which have engaged our attention thus far are the principal triads. They are called principal triads because they are important in establishing a sense of tonality. Triads are erected on scale tones other than the tonic, dominant, and subdominant. Such triads are subordinate triads. Of these subordinate triads, the one erected on the second scale step, the supertonic triad, is the most commonly used.

The Supertonic II Chord. The supertonic II triad is a minor sounding chord composed of a minor lower third and a perfect fifth. The II chord has two uses in the key. Its minor quality provides contrast in a major key; and it offers the composer a serviceable substitute for the IV chord.

Fig. 111a shows that the IV and II triads have two common tones. A minor
triad which has two common tones with a major triad is called its parallel subordinate triad; the II is the parallel subordinate of the IV.

**Exercise 60a.** Find and play the II chord in all major keys, as in Fig. 111a.

**Exercise 60b.** Play the II chord in three positions, r.h. following Fig. 111b.

**Exercise 60c.** Transpose Fig. 111b an octave lower and play it with the l.h.

**Exercise 60d.** Add the bass tone (root) as in Fig. 111c, and play the II chord in all keys.

**Harmonic Movement of the II Chord.** The strongest progression of the II is to the V and V\(^7\). The root falls a fifth to the root of either the V or the V\(^7\); these chords then similarly resolve to the I, which is a fifth below the dominant. Such progressions, II–V–I and II–V\(^7\)–I, are referred to as progressions in fifths. They are among the strongest and most direct progressions in harmony.

The minor quality of the II chord, affording as it does a striking contrast to the major V and the V\(^7\), strengthens the dynamic character of dominant harmony. This contrast is not present in the progressions IV–V–I and IV–V\(^7\)–I, which are strong and imposing progressions, and which at times may sound rigid. When the II is substituted for the IV in the same progressions, a lighter and more flexible effect is created.

The II may progress to the I chord, II–I; parallel fifths and octaves will occur unless the upper parts move in contrary motion to the bass. The II–I progression is weak in effect, and should be avoided, where possible, in melody harmonization. The II–IV progression is another weak progression. As a general rule, it is inadvisable to have a parallel subordinate triad precede its principal triad, because this progression tends to impair the strong effect of the major principal triad.

**The Approach to the II Chord.** The IV is commonly used to precede the II: IV–II. The II is sometimes used to delay the resolution of V or V\(^7\): V–II–V; V\(^7\)–II–V\(^7\). The I may go to the II: I–II. This is a weak progression, and should be used sparingly. When I–II is used, the upper tones should be in contrary motion to the bass.
THE I-IV-II-V\textsuperscript{7}-I WITH CHORD TONES IN MELODY

**Exercise 61a.** Play the progression I-IV-II-V\textsuperscript{7}-I. Sing the given scale tones for each chord.

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>IV</th>
<th>II</th>
<th>V\textsuperscript{7}</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3-5</td>
<td>1-3-5</td>
<td>1-3-5</td>
<td>1-3-5</td>
<td>1-3-5</td>
<td>1-3-5</td>
</tr>
<tr>
<td>5-3-8</td>
<td>5-3-8</td>
<td>5-3-8</td>
<td>5-3-8</td>
<td>5-3-8</td>
<td>5-3-8</td>
</tr>
<tr>
<td>3-5-3</td>
<td>3-5-3</td>
<td>3-5-3</td>
<td>3-5-3</td>
<td>3-5-3</td>
<td>3-5-3</td>
</tr>
<tr>
<td>1-5-3</td>
<td>1-5-3</td>
<td>1-5-3</td>
<td>1-5-3</td>
<td>1-5-3</td>
<td>1-5-3</td>
</tr>
<tr>
<td>3-1-5</td>
<td>3-1-5</td>
<td>3-1-5</td>
<td>3-1-5</td>
<td>3-1-5</td>
<td>3-1-5</td>
</tr>
</tbody>
</table>

**Exercise 61b.** Play the same series of tones, accompanying them with simple block chord harmony. Do this in all major keys.

**Exercise 62a.** Exercises 22 and 23 in Chapter 3 are based on the I-IV-I progression. Substitute the I-IV-II-V progression in the units in these exercises, and make chordal skips in the II chord and in IV-II according to the direction given. Fig. 111d demonstrates how the first two units in Exercise 22 can be converted; Fig. 111e demonstrates how the first two units in Exercise 23 can be converted. The four-chord pattern of I-IV-II-V necessitates rhythm changes.
Exercise 62b. Complete the four measure units of Fig. 112, right hand alone. Base the three additional measures on the given harmony; use the motive in measure 1 as a melodic pattern. Use the anacrusis figure on the II in the third unit of Fig. 112. End on an imperfect authentic cadence: V7–I; or V7–i in all units.

Fig. 112

1. 

2. 

3. 

4. 

5. 

Try to remember what you have done in the additional measures and replay each one. Transpose these units by ear to several other keys.

Exercise 62c. Extend each unit with an additional four measures as a consequent phrase.
BASSES INCLUDING THE II CHORD

Exercise 63. Practice the bass accompaniments of Fig. 113 in all major keys.

Fig. 113

* When two different chords are required in a measure of 2/4, it is not feasible to switch to bass tone and chord in eighth-note rhythm. This is one way of handling the chord change without disrupting the bass rhythm.

** When the chord changes on beat 3 in 3/4, play the bass tone with the left hand and play the chord in the right hand with the melody tones.

† Since the bass tone is a common tone of the IV and II, this manner of dealing with a chord change on beat 3 in 3/4 is acceptable.

†† The V as a chord block on beat 4 would sound discordant with the bass tone on beat 1. When a chord change is required on beat 4 in 4/4, treat it in this manner.

Exercise 64. Combine the melodic improvisations written for Exercise 62 with the appropriate accompaniments from Exercise 63.

The following exercises offer practice in using the II chord in close style harmony.

Exercise 65a. Practice the harmonic formula I-IV-II-V-I in all major keys. Follow Fig. 114. Note that it is preferable to double the root in the II chord. However, the third of the chord, which is the fourth scale step, is one of the
three principal scale tones (1, 4, and 5). The chord third may therefore be doubled with equally good results.

Practice the last part of the chord formula II–V–I in all major keys. These three chords are frequently used in cadences, as are also II–V₇–I.

Note that the two common tones in the IV and II remain in the same voices in Exercise 65a. These tones should be played with the same fingers. In moving from chord to chord, however, do not rely on mechanical finger movement so that playing a progression becomes a matter of the third finger moving up a semitone and the fifth finger moving up a tone. If you do this, you may develop a meaningless facility without any grasp of chord progression. Think the chord tones in letter names, and learn the appearance of the chord on the keyboard.

Exercise 65b. In Fig. 115, the lower neighbor is used with the formula of Fig. 114. Play this in all major keys.
Exercise 65c. Practice the formula I-IV-II-VⅦ-I in all major keys. Then practice starting on IV: IV-II-VⅦ-I. Do this in all major keys, following Fig. 116.

Fig. 116

Exercise 65d. The lower neighbor is used with the formula of Exercise 65c in Fig. 117. Play this in all major keys.

Fig. 117

The asterisks in measures 1 and 3 of Fig. 117 illustrate the following point: The chord may change on the last tone of the auxiliary figure, a chord tone which is common to both chords. The resolution of the VⅦ chord may be delayed by interposing a II chord and returning to VⅦ; the second VⅦ then resolves normally to I: VⅦ-II-VⅦ-I. In this progression the chord seventh of VⅦ and the third of II are common tones. These tones should be kept in the same voice. The common tone may be a held note for the three chords. Although the common tone may be held or repeated in any voice, it is most effective in the soprano.
Exercise 65e. Practice the progression I–V7–II–V7–I, illustrated in Fig. 118, in all major keys.

Exercise 65f. The lower neighbor is used in conjunction with the formula of Exercise 65e in Fig. 119. Practice this in all major keys.

Rules in Melody Harmonization, continued. Play the soprano parts of Figs. 114 and 118. The scale tone series of Fig. 114 are 5 6 7 8, 1 2 3 4 5 6 7 8, 3 2 2 2 1, and 5 5 6 5 5. In Fig. 118 the scale tone series are, 5 4 4 3, 8 7 6 7 8, 3 2 2 2 1, and 5 5 6 5 5. The starred numbers are scale tones for which the II can be used in harmonizing a melodic fragment of five tones, each tone of which is har-
rules for melody harmonization

monized. The melodic fragments from Fig. 114 will be harmonized with I–IV–II–V (or V7)–I. Those from Fig. 118 will be harmonized with I–V7–II–V7–I.

The melodic fragments from both Fig. 114 and 118 may be found anywhere in a melody. All of them frequently lead to a cadence in melody. This fact emphasizes the importance of the first rule in melody harmonization at this stage.

Rule 1. Study the cadence measure first.

The melody tone on the first beat of the cadence measure in 2/4 and 3/4 will be harmonized by one of the following chords: V, V7, 3, or 3 in a semicadence, and by 3 in a perfect authentic cadence. It is sound procedure to decide the chord to be used in the cadence measure first. In 4/4 and 6/8 the semicadence will fall in the beginning or in the middle of the cadence measure. A glance at the cadence measure will show where the break in the phrase occurs.

Cadence tones in a semicadence belonging to V or V7 will call for either of these chords. As a general rule, the V is preferable because it is less dynamic than the V7; it is therefore better suited to provide the relaxation required in a semicadence without any loss of the urgency to go on to the next phrase. Cadence tones in a semicadence belonging to I call for 3 or 3. The tonic tone in a cadence calls for 3. This last chord will invariably be used in the final cadence of a melody.

Antecedent phrases usually end on V, V7, 3, or 3. Occasionally an antecedent phrase may close on a perfect authentic cadence, as in Fig. 120. A decision on the cadence chord makes it possible to plan the harmonic approach to the cadence.

![Fig. 120](Schubert)

The fifth scale step in the semicadence may be harmonized by either tonic or dominant harmony. This has already been discussed in Chapter 2. Review
the instructions given there, bearing in mind that the choice of harmony may be determined by the chord required in the first measure of the succeeding phrase, and by the chord required prior to the cadence chord. This consideration leads us to the second rule in melody harmonization.

Rule 2. **Examine the melody in one or two measures before the cadence measure.**

If the cadence melody tone calls for dominant harmony, $V$ or $V^7$, the preceding chord will be either I, II, or IV. The melody tones will indicate which chord is required. Less frequently the $V$ will precede the cadence $V^7$, when the cadence melody tone calls for the I.

The following table lists the common cadence and precadence melody tones, and the chords to use for them.

<table>
<thead>
<tr>
<th>Precadence Tones</th>
<th>Semicadence Tones</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 6 6</td>
<td>either 5, 2, or 7; 4</td>
</tr>
<tr>
<td>Chords: I IV II</td>
<td>$V$ or $V^7$ $V^7$</td>
</tr>
<tr>
<td>3 4 4</td>
<td>either 2, 5, or 7; 4</td>
</tr>
<tr>
<td>Chords: I IV II</td>
<td>$V$ or $V^7$ $V^7$</td>
</tr>
<tr>
<td>5 6 2</td>
<td>2, 5, 7, or 7; 4</td>
</tr>
<tr>
<td>Chords: I IV II</td>
<td>$V$ or $V^7$ $V^7$</td>
</tr>
<tr>
<td>5 4 4</td>
<td>2, 7, or 5; 4</td>
</tr>
<tr>
<td>Chords: I $V^7$ II</td>
<td>$V$ or $V^7$ $V^7$</td>
</tr>
<tr>
<td>1 7 6</td>
<td>7</td>
</tr>
<tr>
<td>Chords: I $V^7$ II</td>
<td>$V^7$</td>
</tr>
<tr>
<td>3 2 2</td>
<td>2, 5, 7, or 7; 4</td>
</tr>
<tr>
<td>Chords: I $V^7$ II</td>
<td>$V$ or $V^7$ $V^7$</td>
</tr>
<tr>
<td>5 5 6</td>
<td>5, 2, or 7; 4</td>
</tr>
<tr>
<td>Chords: I $V^7$ II</td>
<td>$V$ or $V^7$ $V^7$</td>
</tr>
<tr>
<td>1 7 2</td>
<td>7 or 5; 4</td>
</tr>
<tr>
<td>Chords: I $V^7$ II</td>
<td>$V$ or $V^7$ $V^7$</td>
</tr>
</tbody>
</table>

The II chord may be used in the semicadence measure in 3/4 in a so-called "feminine ending": IV–II, 1 beat, $V$, two beats.

The II and $V$ may divide the measure in 4/4 and 6/8: 4/4 II, two beats, $V$, two beats; 6/8 II, three beats, $V$, three beats.

The same chords in the perfect authentic cadence appear in these harmonic
rhythms: 2/4 II, one beat, V, one beat | I ||. 3/4 II, two beats, V, one beat | I ||. 4/4 II, two beats, V, two beats | I ||; or, II, three beats, V, one beat | I ||. 6/8 II, three beats, V, three beats | I ||.

The perfect authentic cadence, as was previously described, has the $\hat{I}$ on an accented beat preceded by V or $V^7$. Any of the preceding tones followed by any tone or tones of V or $V^7$ will lead to the $\hat{I}$ of the perfect authentic cadence, except scale step 4. This tone cannot be the penultimate tone in a perfect authentic cadence because its resolution is to $\hat{I}$, that is, an imperfect authentic cadence.

Once the cadence and pre cadence chords are settled, the beginning of the phrase should be studied.

Rule 3. Study the first half of the phrase as a whole.

The untrained student generally goes about melody harmonization by starting with the first melody tone and trying to harmonize each successive tone in turn. This method leads to poor progressions, and often results in situations in which the student can go no further toward a cadence because he has used a chord which cannot lead to the chord the melody obviously demands.

Harmony must be planned in advance. The first step in doing this is to examine the melody for skips along the I, IV, II, V, or $V^7$ chord line.

The student should also remember that it is generally unwise to use the II for a whole measure in compound meter, because the effect is dull. Tones along the II chord line which are of short duration, as in Exercise 61a, may be harmonized with the II; eighth notes in 4/4 and 6/8 may also be harmonized with the II.

Since the IV and II have two tones in common, several skips in succession involving these common tones may be harmonized partially with the IV, and partially with the II. The IV should precede the II. The division of the tones between the two chords may be equal: 4/4 IV, two beats, II, two beats; or unequal: 4/4 IV, three beats, II, one beat; or IV, one beat, II, three beats. (The last division is rarely used.) With an uneven number of beats in a measure use: 3/4 IV, two beats, II, one beat.

Examine the soprano parts of Figs. 115, 117, and 119. The lower neighbor is used with the progressions I–IV–II–V (and $V^7$)–I; and I–$V^7$–II–$V^7$–I. Look for similar melodic patterns in the melodies to be harmonized in Exercise 66; that is, a chord tone, a tone below, and a return to the original tone.
Exercise 66. Harmonize the following melodies, with special reference to the use of the II chord.

1.

2.

3.

4.

Exercise 67. Transpose the melodies of Exercises 12, 27, and 41, to a variety of keys.

The Upper Neighbor. The upper auxiliary, or upper neighboring tone (abbreviated u.n.), is the middle tone of a three-tone figure: chord tone, upper neighbor, return to same chord tone; see Fig. 121. Unlike the use of the lower
neighbor, there is no option in the interval. The upper neighbor is always the next scale tone up. Therefore, scale tones 3 and 7 in major will have half step upper neighbors; the other tones will have whole step upper neighbors. The three-tone figure may be used in the same rhythms given for the lower neighbor.

Exercise 68a. Practice Fig. 122* in all major keys. The middle tone of the figure in brackets in measure 7 is a chord tone in the V\(^7\).

Fig. 122

```
\begin{music}
\begin{notation}
\begin{music}
\begin{notation}
\end{notation}
\end{music}
\end{notation}
\end{music}
```

Exercise 68b. Add the bass tone (root) to each measure of Fig. 123, and practice in all major keys.

Fig. 123

```
\begin{music}
\begin{notation}
\begin{music}
\begin{notation}
\end{notation}
\end{music}
\end{notation}
\end{music}
```

* The triads in Fig. 122 are in close harmony in the bass to facilitate practice. The resulting parallel fifths will be eliminated in the succeeding exercises.
Exercise 68c. Practice the upper neighbor in the progression I-IV-II-V\textsuperscript{7}-I, Fig. 124, in all major keys.

![Fig. 124](image)

Exercise 68d. The chords in Fig. 125 are embellished with the upper neighbor and shift freely in position. Add the bass tones (roots), and practice in all major keys.

![Fig. 125](image)

Exercise 68e. Invent several motives of your own which include the upper neighbor. Extend these to four-measure units, using the progressions given in Exercise 62a.

Exercise 69a. The inner chord tones in Fig. 126a fall on the offbeats. Add four concluding measures based on I-IV-II-V\textsuperscript{7}-I. The IV-II should come in measure 5, or the II-V\textsuperscript{7} should come in measure 6, so that the five chords will fit into four measures. Transpose all eight measures to several different keys.
Exercises 69b. The inner tones of the chord are taken in a descending broken chord pattern in Fig. 126b. Add four concluding measures based on I–IV–II–V7–I, and transpose to several different keys.

Exercises 69c. Fig. 127 employs the V7–II–V7. Complete it as in Exercise 69a, transposing to several different keys.


Auxiliary Tones in Cadences. The table on page 100 showed how the IV and II chords provide an approach to cadences. After the student has gained
some experience in melody harmonization, he will easily be able to recognize
the melodic fragments in the table as tones to be harmonized with the progres-
sions listed there.

When these same melody tones are embellished with nonharmonic tones,
however, the appropriate harmonization is less obvious. Fig. 128 illustrates the
IV and II chords in the approach to cadences embellished with auxiliary tones.
Practicing Exercise 70b will help the student considerably in learning how to
harmonize a melodically embellished approach to the cadence.

Exercise 70b. Prefix two measures to each two-measure unit in Fig. 128.
Use lower and upper auxiliaries to embellish the harmony, and form phrases.
The Melodic Minor Scale. Play the harmonic minor scale, Fig. 63. In the harmonic minor scale, steps 6–7 form an augmented second. Compare the interval difference between the same steps of the melodic minor scale, which is written out in Fig. 129. The scale takes one form ascending, Fig. 129a, and a different form descending, Fig. 129b. The descending pattern of the melodic minor is sometimes referred to as the natural minor. In both directions, the skip of an augmented second between the sixth and seventh steps is reduced to a whole step, a major second. These changes make the scale melodically smoother.

Play the Bach excerpt, Fig. 129c. The alto voice moves from 5 to 8 along the ascending form of the melodic minor. The bass voice follows with the descending form from 8 to 5.

The ascending scale intervals of the melodic minor scale are:

1 whole 2 half 3 whole 4 whole 5 whole 6 whole 7 half
step step step step step step step step

Except for the characteristic third step of the minor, the melodic minor scale ascending is the same as the major scale. The descending scale intervals are:

8 whole 7 whole 6 half 5 whole 4 whole 3 half 2 whole 1 step step step step step step step step
The descending form of the melodic minor has the same tones that its relative major scale has between 6 and 5.

Key signatures are the same for the melodic as for the harmonic minor scale. The melodic minor scale in melody harmonization and in improvisation will be treated in detail below.

**Exercise 71.** Practice playing the melodic minor scale, ascending and descending, in all keys. All melodic minor scales appear in the Appendix, p. v.

**Auxiliary Tones in Bass.** Auxiliary tones may be used to embellish bass tones. The use of the lower auxiliary in bass is illustrated in Fig. 130a.

**Fig. 130**

![Figure 130a](image)

**Exercise 72a.** Practice Fig. 130a in several major keys. Then, using the same right hand chords, and the same chord roots in bass, substitute the upper auxiliary for the lower auxiliary.

The auxiliary may be used to embellish the accompanimental chords; this is shown in Fig. 130b with the lower auxiliary.
Exercise 72b. Practice Fig. 130b in several major and minor keys. When some facility has been attained, try substituting the upper auxiliary. Convert the bass of Fig. 130b to $3/4$ as follows: $3/4 \ \ \ \ \ \ |\ |\ |$ and $\ \ \ \ \ \ |\ |\ |$. Convert the bass to $6/8$ as follows: $6/8 \ \ \ \ \ \ \ \ \ \ \ \ |\ |\ |$ and $\ \ \ \ \ \ \ \ \ \ \ \ |\ |\ |$.

Exercise 72c. Use two chord tones in the right hand in each measure of Fig. 130b. Invent melodic patterns of three or more chord tones. Embellish the two-chord tone patterns with auxiliary tones. Upper and lower auxiliary tones may be used alternately, as in Fig. 131.

![Fig. 131](image)

Exercise 73. Practice Figs. 132a and b in several major keys. Add four measures of your own in the same style, concluding on a perfect authentic cadence.

![Fig. 132](image)
Exercise 74. Fig. 133 is substantially the same as Fig. 132, except that octaves are substituted for the single melody tones. Practice Figs. 133a and b in several major keys. Complete each unit with a consequent phrase in the same style.

Auxiliary Tones in Melody Harmonization. For purposes of melody harmonization it is essential to recognize whether three successive tones are three tones to be harmonized with three different chords, or whether they are chord tone—auxiliary—chord tone, and are therefore to be harmonized with one chord.

Triplet figures like those in Fig. 101 are almost invariably harmonized with one chord. The chromatic tone of short duration moving up a step, in the same figure, should be treated as a lower auxiliary. The still shorter time values of the sixteenth notes in Figs. 102 and 104 do not permit the use of a different chord for each melody tone.

When the rising or falling middle tone of a three-tone figure is shorter than both the tone before it and the one following it, as in Fig. 105, it should generally be treated as an auxiliary. When it is shorter than either of its neighboring two tones, as in Figs. 106, 110, and 119, it is preferable to treat it as an auxiliary tone.

The guiding principle to remember is that a jerky chordal rhythm must be avoided. Harmonizing tones which should be treated as auxiliaries will produce a dislocated chordal rhythm.
Longer auxiliary tones, however, are not uncommon, as is shown in measure 2 of Fig. 133c. The three-tone figure is less recognizable in this rhythm, so that the student may believe that the starred tone requires harmonization. Try $V^7-I-V^7$ for measure 1, and compare the result with the original harmonization.
Diatonic Passing Tones.

Motive Invention Incorporating Auxiliaries, Passing Tones, and Chord Skips · Harmonization of Melodies with Chord and Nonharmonic Tones

Treatment of the Melodic Minor Upper Tetrachord.

Variants of the Upper Tetrachord in the Melodic Minor Scale

Harmonization, continued.

Harmonic Rhythm

Passing Tones. There are two types of nonharmonic tones in Fig. 134. The tones marked with a 1 are the familiar auxiliary tones. Those marked with a 2 fill the gap between one chord tone and the next chord tone above or below the first chord tone. Such nonharmonic tones are called passing tones (abbreviated p.t.).

Diatonic Passing Tones. The passing tone is the middle tone of a three-tone figure: chord tone—passing tone—next chord tone, either up or down. The use of passing tones in melody results in a fluid scalewise melodic line, unhindered by chord-congested accompaniment. The passing tones in Fig. 134 are diatonic passing tones; that is, the passing tones are in the scale, whether the scale is major or minor.
Exercise 75a. Using a bass tone and chord accompanimental style like that given in Fig. 15b and c, add a right hand part consisting of chord skips in thirds only. The skips in thirds may move in either direction; see Fig. 135. Employ the progression I–IV–II–V–I. Use one skip to a measure.

Exercise 75b. Fill in each skip of a third with a passing tone, as illustrated in Fig. 136, going on with IV–II–V–I. Practice this exercise by first playing

Exercise 75c; then insert the passing tone. Do this in the same way in every major key. Use a bass tone and chord accompaniment.

Exercise 75c. Using the same bass tone and chord accompaniment, introduce some skips of a fourth, up or down. Fill this skip in with two passing tones, as in Fig. 137, again using one chord to a measure. Go on with IV–II–V–I.

Figs. 136 and 137 demonstrate some of the rhythmic possibilities of the opening measure. In several instances, the passing tone falls on the accented part of a beat. Such passing tones will be taken up again when we discuss the appoggiatura.
Exercise 76a. Fig. 138 shows two-measure units composed of chord skips, and passing tones between skips, in alternate measures. Complete each unit through the progression I–IV–II–VⅦ–I in several different major keys. Use a bass tone and chord accompaniment. Note that each of the units in Fig. 138 may serve as the opening motive of a phrase.

Fig. 138

Exercise 76b. The passing tone and chord skip is used for each chord in Fig. 139. Complete with IV–II–VⅦ–I in several different major keys, with bass tone and chord accompaniment.

Fig. 139

Invent several one-measure motives of your own, using chord skips and passing tones.
Exercise 76c. The units in Fig. 140b on I-IV combine alternately neighboring tones and passing tones. Complete each unit of Fig. 140b as in Fig. 140a. Transpose them to several different major keys, using bass tone and chord accompaniment.

![Fig. 140a](image)

Exercise 76d. A passing tone and a neighboring tone are used for each chord in Fig. 141. Complete each unit as before in several different major keys, with bass tone and chord accompaniment.

![Fig. 141](image)
Exercise 76e. The motives in Fig. 142 combine chord skips, neighboring tones, and passing tones. Complete each unit and transpose into several major keys. Use a bass tone and chord accompaniment.

Invent several one-measure motives of your own, combining the passing tone, chord skip, and neighboring tone.

Exercise 76f. Carry the motives of Exercise 76 through to period length.

Exercise 77a. Play the formula I-IV-II-V\textsuperscript{7}-I. Shift from one position of each chord to another, as in Fig. 143a and b.

Do the same thing with I-V-II-V\textsuperscript{7}-I. Try variants of free positional use in different major keys.
Exercise 77b. Play Fig. 143b. Fill in the skips with passing tones, as shown in Fig. 144a. Do this also with Fig. 144b in several different major keys.

Exercise 77c. Use the neighboring tone, passing tone, and chord skip in the bass, as shown in Fig. 144c, as accompaniment for Fig. 143a.

In Fig. 136, the passing tone fills the gap between two tones of the same chord which are a third apart. Two passing tones fill a similar gap in Fig. 137. The two tones in a melodic skip of a third may belong to two different chords. These two tones may have a passing tone between them, as in Fig. 145. Two passing tones may fill the gap of a melodic fourth; the first tone of the fourth belongs to one chord, the second tone of the fourth belongs to a different chord in Fig. 146b.

In Fig. 145 the tones E–G belong to the I chord in C. The G is also a chord tone of V. In moving melodically away from E through the passing tone F, the V may be used on the last tone, G. Study Figs. 145a and b. The chord
symbol which is crossed out shows that the indicated chord can be replaced with a different chord.

Do not use Fig. 145c, because it creates the effect of parallel octaves with the chord roots in bass.

The importance of Figs. 145 and 146 for melody harmonization may be summed up as follows: When three or four consecutive scale tones appear in a melody, the first tone may be harmonized with one chord, the last tone with a different chord, and the intermediate tone or tones considered as passing tones.

Exercise 77d. Practice Fig. 145d in all major keys.

Exercise 77e. Two passing tones are used between two different chords in Fig. 146. Practice Fig. 146b in all major keys.

Exercise 77f. Change the bass tone and chord accompaniment used for the parts of Exercise 76 for close style harmony, as illustrated in Fig. 147. Practice Exercises 76a-f using the close style accompaniments.
Play Fig. 148. The tones starred are upper neighboring tones of passing tones.

Exercise 78. Harmonize the following melodies with the I, IV, II, V, and VⅦ chords. Many of the tones are passing tones or auxiliaries, and should not be harmonized as chord tones.
The Melodic Minor Scale, continued. Scale steps 5-6-7-8 and 8-7-6-5 of the melodic minor scale are given in Fig. 129. The student improvising a melody in minor should use the raised sixth and seventh steps when his melody runs directly from 5 to 8. The lowered seventh and sixth scale steps should be used when the melody tones run directly down from 8 to 5.

A more interesting melody line may be constructed by having scale step 5 reach scale step 8 indirectly; by having scale step 8 reach scale step 5 indirectly; by having a downward line from 8 return without reaching 5; and by having an upward line from 5 return without reaching 8.

Under these melodic conditions, the following rules for the use of the melodic minor scale will be of assistance to the student:

1. When the direction is upward, 5 to 8, and the melodic figure reaches 8 directly or indirectly, use the ascending form of the melodic minor scale.
2. When the direction is downward, 8 to 5, and the melodic figure reaches 5 directly or indirectly, use the descending form.
These two rules are illustrated in Fig. 149a.

3. When the ascending melody 5–8 does not reach 8, but returns to 5, use the ascending form of the melodic minor scale.

4. When the descending melody 8–5 does not reach 5, but returns to 8, use the ascending form.

These two rules are illustrated in Fig. 149b.

Skips along a chord line must conform to the rules covering the tones; see Fig. 149c.

Melody tones of the melodic minor should not conflict with harmony tones; therefore, do not use the B-flat with a V chord which has a B-natural. Do not use an A-natural when ascending within a IV chord which has an A-flat. This rule is illustrated in Fig. 149d.
FACTORS IN MELODY HARMONIZATION

The upper neighbor of scale step 5, and the lower neighbor of scale step 8 should conform to the harmonic minor scale, as is shown in Fig. 149c.

Exercise 79. Improvise melodic phrases, right hand alone, which employ the melodic minor; apply the material illustrated in Fig. 149.

Exercise 80. Transpose the melodies in Exercises 49, and 78 to a variety of keys.

Harmonization, continued. Our attention in melody harmonization has been concentrated on selecting appropriate chords for melody tones in given melodic situations. Additional factors in a good harmonization are the use of an adequate number of chords and their proper rhythmic distribution in the phrase.

The tones of a melody may be harmonized by the right chords; but the over-all effect will be poor if the wrong tones in a melody are chosen to be chord tones, so that the resultant chords occur at irregular and haphazard points in the phrase. For example, tones which should be treated as passing tones or auxiliaries will, when harmonized as chord tones, frequently occur on the weak half of a beat. Furthermore, when a melody is harmonized with too few chords, the harmonization will sound weak and thin; when there are too many chords, the harmonization will be thick and cluttered.

There is no rigid rule governing the number of chords which should be used in a phrase. Several factors—the tempo, the meter, and the character of the melody—have a bearing in the matter. Fewer chords are required for fast melodies in 2/4, 3/4, and 6/8 than for slow melodies in 4/4, 6/4, 9/8, and 12/8. Florid melodies characterized by a profusion of ornamental tones and scale runs generally require fewer chords than unadorned melodies in long notes.
The mood and character of a melody is also a determining factor. Dance tunes usually require few chords; this is illustrated in the opening of *The Blue Danube* by Strauss, Fig. 150. This excerpt has four measures of I, eight measures of the dominant, and a return to I.
A slow expressive melody often requires a fuller harmonization; but a melody which is calm and quiet, like Fig. 151a, sounds best with few chords which change in an unobtrusive rhythm. Melodies in slow or moderate tempo which are exciting, energetic, or tense, like Fig. 151b, will require the added expressiveness of constant chord change. Compare the chords in these two excerpts. The harmony in the first melody is static, while that in the second is dynamic.

The foregoing observations on the relationship between tempo, meter, and melodic character, and chordal frequency are offered as general directions in melody harmonization.

**Harmonic Rhythm.** The number of chords employed also depends on sound musical judgment in distributing the chords in a phrase or period. This
phrasewise chordal flow is called the harmonic rhythm of a phrase or period. Harmonized phrases can be classified according to their harmonic rhythms as follows:

1. Phrases which have few or no harmonic changes, as illustrated by Figs. 150 and 151a. The unobtrusive harmony is mainly a support for the melody and does not draw attention to itself by a characteristic chordal rhythm.

2. Phrases such as the one in Fig. 152, in which the melody tones follow one rhythm pattern while the chords have a different pattern in chordal changes.

![Fig. 152](image)

3. Phrases such as the one in Fig. 153, in which the harmonic rhythm and the melody rhythm coincide. Each melody tone is accompanied by a change in chord.

![Fig. 153](image)

Our immediate problem is to learn how to harmonize phrases in the second and third categories with good harmonic rhythm.

Let us assume that three chord changes, I-V7-I, are used in the harmonization of a measure in 4/4. The chords may appear first in this time pattern: I-V7-I. When this pattern is used also for the succeeding measures of a phrase
or period, the chordal flow has a harmonic rhythm of \( \frac{3}{4} \), even though the chords used are different from the first three. The following are also good initial patterns: \( I-V^7-I \); \( I-V^7-I \); and \( I-V^7-I \). The last is in syncopated rhythm.

Any of these patterns, when carried through a phrase or period, generally produces a satisfactory harmonic rhythm. When a single pattern continues for longer than a period, the harmonic rhythm is apt to grow monotonous. The patterns may be combined in a half phrase to form a more varied initial pattern. In Fig. 153, two patterns, \( \frac{3}{4} \) and \( \frac{3}{4} \) are combined as an initial half phrase pattern. This is maintained for the following half phrase and for the consequent phrase.

The initial pattern, \( I-V^7-I \), a possibility in \( 4/4 \), was excluded from the list given above because of its irregular character. Although a measure in a given phrase may be harmonized in this way, better alternatives are usually possible.

The following examples demonstrate, and the text discusses, good and poor usage in harmonic rhythm. It is necessary to understand the difference between good and poor chord distribution in the initial pattern before going on to harmonic rhythm in the phrase.

Play the chords in Fig. 154a without the melody.

Notice the dislocated rhythm in measure 2 of Fig. 154a. Although the skipping tones in that measure, 4–2–7, belong to the \( V^7 \), an unbalanced
chordal rhythm, $\frac{d}{\text{I}}-\text{V}$, occurs in the measure. The $\text{V}$ coming on beat 2 and being held for the rest of the measure creates an undesirable accent on beat 2. Compare Fig. 154a with the different treatment of Fig. 154b. The rhythm $\frac{d}{\text{I}}-\text{IV}-\text{V}$ affords a better chordal balance.

The same melody tones are used in $3/4$ Figs. 154c and d. In Fig. 154c the chordal rhythm is $\frac{d}{\text{I}}-\text{V}$; the chord changes come on the normally accented first beats. In Fig. 154d the jerky chordal rhythm $\frac{d}{\text{I}}-\text{IV}-\text{V}$ is less satisfactory. There are, however, occasions when this and other irregular chord rhythms are musically justified in the context of a phrase or period.

Play Fig. 155. Now play the chords in the rhythm of the example without the melody. Irregular chordal rhythm, which changes from measure to measure, is partly caused by harmonizing tones which should be nonharmonic tones, and partly by poor progressions.

![Fig. 155](image)

The following table summarizes the best practice under ordinary circumstances with regard to (1) the number of chord changes in a measure; and (2) where in the measure these changes should come. In the table the note $\downarrow$ stands for one chord held for a whole measure in $2/4$, for half a measure in $4/4$, and for four beats in $6/8$. The note $\downarrow$ stands for a chord held for one beat in $2/4$, $3/4$, and $4/4$ and for two beats in $6/8$. A whole measure in $3/4$ written thus: $\frac{d}{\downarrow} \downarrow$, means a chord held for two beats and a chord change on beat 3. $\downarrow$ means chord changes on half beats in $2/4$, $3/4$, $4/4$; and on each beat in $6/8$.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Use</th>
<th>Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2/4$</td>
<td>$\downarrow$, $\downarrow \downarrow$, $\downarrow \downarrow \downarrow$</td>
<td>$\downarrow \downarrow \downarrow$, $\downarrow \downarrow \downarrow \downarrow$</td>
</tr>
</tbody>
</table>

This last pattern is poor because it means four chord changes; it is especially bad in fast tempo.
In ¾:

Use ♩ or ♩ ♩ or ♩ ♩ ♩ or ♩ ♩ ♩ ♩. The last pattern may occur in a quarter cadence measure or in the measure preceding semi- and perfect cadences. For example, ♩ ♩ ♩ ♩; ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ are possible, but ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩
Exercise 81b. Improvise two measures which have different chordal rhythms. Use your own progressions. Follow the procedure of Exercise 81a.

\[ \begin{array}{c}
  2 \quad \frac{4}{4} \\
  \frac{3}{4} \\
  \frac{4}{4} \\
  \frac{6}{8} \\
\end{array} \]

Compare the optional harmonizations in Fig. 156. In the first harmonization, the chordal rhythm of measure 1 is repeated in measures 2 and 3. The harmonization is correct, but the chordal rhythm is dull within the context of the phrase. Play the second harmonization. The chordal rhythm of the second and third measures as a unit is repeated for the next two measures as a unit, supporting the swing of the motive:

<table>
<thead>
<tr>
<th></th>
<th>Beats</th>
<th>Chords</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second and third measures</td>
<td>1 2 3 1 2 3</td>
<td>IV --- IV --- V</td>
</tr>
<tr>
<td>Fourth and fifth measures</td>
<td>1 2 3 1 2 3</td>
<td>I --- I --- IV</td>
</tr>
</tbody>
</table>

The last two measures continue the chordal rhythm.

A harmonization may be correct, then, but the chordal rhythm in the context of the whole phrase may be cluttered with too many chord changes, or too many patterns from measure to measure; there may be too few changes; or, the chordal rhythm may be monotonous in pattern.

Exercise 81c. Improvise phrases, using your own progressions, from the rhythms listed on pp. 128, 129. Combine the rhythms to achieve an interesting harmonic rhythm in the phrase. Let the melody tones coincide in rhythm with the chordal rhythm.

Exercise 81d. Improvise phrases using the chordal rhythms on pp. 128, 129. Make the melodic rhythm more active than the chordal rhythm. Use your own progressions.
In the second harmonization of Fig. 156, the IV chord is carried over the bar line into the next measure. Fig. 150 illustrates a chord being retained for several measures. There is no inflexible rule for carrying a chord over a bar line in chordal rhythm. However, when a chord is carried over the bar line, the following measure should not be forced into any of those rhythms which were listed on pp. 128, 129 as rhythms to avoid.

A chord may be repeated over the bar line for the whole of the next measure in 2/4 and 3/4; in 3/4 such repetition may result in a dull harmonization. A chord may be repeated over the bar line for half the measure in 2/4, 4/4, and 6/8; and two beats in 3/4; and for one beat in 2/4, 3/4, and 4/4, providing that a poor chordal rhythm does not result in the second measure. Do not repeat the chord over the bar line for a fraction of a beat.

Repeating a chord over the bar line tends to obliterate the normally accented first beat. This effect may be necessary if the melody permits no other; or it may be musically desirable. On the other hand, chordal change over the bar line tends to emphasize the normal first beat accent. The strongest chordal change is the progression V7–I: When the I occurs on the accent preceded by V7 on the unaccented beat, the normally accented beat is reinforced. A similar effect is achieved, though not as strongly, with any progression down in fifths: I–IV, VI–II, II–V. See Fig. 157.

Another way to reinforce the normally accented beat is to use the V7 on the weak half of a measure—beat 3 in 4/4 and beat 4 in 6/8—and resolve to the I on the first beat of the next measure.

Exercise 81e. Improvise phrases in chordal rhythms, using chords carried over the bar line. Use your own progressions.
Chapter 8

The Supertonic II Chord in Minor.
The II₆ • Auxiliary Tones in Minor • Cadences in Minor • Passing Tones in Minor • Melody Harmonizations in Minor

The Motive, continued.
Tonal Repetition of the Motive • Modified Tonal and Rhythmic Repetition

Progressions of Triads in First Inversion.
Approaches to Triads in First Inversion • The Use of the Combined I₆, IV₆, and V₆ • Passing Tones and Auxiliary Tones Used with Inverted Triads • Inverted Triads in Melody Harmonization

The Supertonic II Chord in Minor. The II chord in minor, illustrated in Fig. 158a, was not discussed when the II in major was taken up because the

Fig. 158

![Musical notation image]

minor II is ineffective with the root in bass. When played with the third in bass, however, the minor II is as useful as the major II. The II in major or minor with the third in bass is called a II chord, first inversion; see Fig. 158b. The symbol for the II chord, so inverted, is II₆; it indicates that the chord root lies six tones above the bass tone. The II in minor is a diminished triad composed of a minor third and a superimposed minor third. The interval from root to fifth is a diminished fifth.

Review the material on the harmonic movement and the doubling of tones
in the II chord in Chapter 6, p. 92. Review the use of the II chord in cadences and melody harmonization, on pp. 98, 99. The instructions given there apply also to the II chord in minor.

**Exercise 82a.** Find the II chord in all minor keys, as in Fig. 158a. Play the II\(^6\) in three positions, as in Fig. 158b, in all minor keys.

**Exercise 82b.** Practice Fig. 158c in all keys. The first unit offers one approach to a perfect authentic cadence in minor. The last two units may be used as an imperfect authentic cadence in minor.

**Exercise 82c.** Play the progression I–IV–II\(^6\)–V\(^7\)–I in minor. Sing the given scale tones for each chord. Add a bass tone and chord accompaniment.

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>IV</th>
<th>II(^6)</th>
<th>V(^7)</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1–3–5</td>
<td>6–4–1</td>
<td>2–4–6</td>
<td>5–4–7</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>5–3–8</td>
<td>8–6–4</td>
<td>6–4–2</td>
<td>4–2–5</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>3–5–3</td>
<td>6–1–4</td>
<td>4–2–6</td>
<td>5–4–2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>1–5–3</td>
<td>4–1–6</td>
<td>4–6–2</td>
<td>5–7–4</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>3–1–5</td>
<td>4–6–8</td>
<td>6–2–4</td>
<td>4–2–7</td>
<td>1</td>
</tr>
</tbody>
</table>

The student will find it profitable to convert Figs. 113, 114, 116, and 118 to minor, changing the II chord to II\(^6\).

**Auxiliary Tones in Minor.** Review the material on the lower neighbor in Chapter 6. Use Fig. 159a as a guide to the use of the lower auxiliary in minor. Bear in mind that a sharped second scale step and a sharped fifth scale step do not exist in minor. The sharped second step is the same tone as the third step in minor, and the sharped fifth step is the same tone as the sixth step in minor.
Exercise 83a. Convert Figs. 115, 117, and 119, which employ the lower auxiliary, to minor.

Review the material on the upper neighbor in Chapter 7. Fig. 159b will serve as a guide to the use of the upper neighbor in minor.

Exercise 83b. Convert Figs. 122, 124, 125, 126, and 127 to minor, substituting the II₆ for the II.

Cadences in Minor.

Exercise 83c. Review the cadence table in Chapter 6, page 100. Substituting the II₆ for the II, work through Figs. 128 and 133 in minor.

Passing Tones in the Melodic Minor.

Exercise 83d. Review Fig. 134 and the accompanying text. Work out as directed a number of the motives in Figs. 138, 139, 140, 141, and 142, using the melodic minor. Rework Figs. 143, 144, and 147 in minor, substituting the II₆ for the II.
Fig. 160a is used in the perfect authentic cadence. Figs. 160b, c, and d are used in semicadences. The ascending figure 5–8 may be harmonized with V or with I–V, as in Fig. 160a. The descending figure 8–5 may be harmonized with IV–V or IV–II–V, as in Figs. 160c and d.

*The passing tone gives the momentary impression of IV.*

**Exercise 84.** Practice Fig. 160 in all minor keys.

**Melody Harmonization in the Melodic Minor.** Study the following melodies. Look for three-tone figures which imply an unharmonized auxiliary. Look for three- or four-tone scale figures up or down which denote possible passing tones. Examine the cadences with reference to Fig. 160.
Exercise 85. Harmonize the following melodies.

1. Bizet

2. English Folk Song D.C.

3. Russian Folk Song

4.

5. Russian Folk Song
Phrase Construction by Tonal Manipulation of the Motive; Further Rhythmic Changes. The body of a melody has its natural divisions in the same way that a sentence in prose has its components. Assume that a melody is a period in length; its main divisions are the phrases, of which the half phrases are subdivisions. The motive is a subdivision of the half phrase, and is the smallest coherent unit in music.

We tentatively described the motive in Chapter 2 in connection with learning how to develop a phrase by rhythmic repetition and modified rhythmic repetition of a motive. We are now prepared to examine the concept of a motive more closely; we shall learn how to determine its length in specific instances, and how to develop phrases from motives by tonal repetition and modified tonal repetition of the motive. Our study of motive manipulation will also include rhythmic modifications of the motive more complex than those we used in Chapter 2.

Play Fig. 161. The tones of measure 1 are a motive of three tones: a skip downward, and a repeated tone. The rhythm, the skip, and the repeated-tone figure continue in measures 2 and 3. Although the size of the skip is not the same in each measure, and a tone is added in measure 3, the second and third measures are obviously derived from the motive of measure 1.

The motive in Fig. 161 is clearly defined in length. When an exact rhythmic
and tonal repetition follows the motive, as in Fig. 162a, the motive ends on the tone before the repetition.

There are many instances where the motive is not clearly defined. The tones which follow the motive seem to be related to it, but as in Fig. 161 and in Figs. 162b, c, d, and e, they are not a simple repetition of the motive. Instead, the tones following the motive may be a repetition of the motive in varied form, as in measure 2 of Fig. 162b. The tones may have the same pattern as the motive, but lie on a higher or lower level than the original motive, as in Fig. 162c. The succeeding tones may be exactly or generally turned in the opposite direction, as in Fig. 162d. The tones which continue the melody may be the same tones as the motive, but played backward exactly or approximately, as in Fig. 162e.

These and other modifying devices to be studied in this chapter are used by composers to achieve melodic unity through repetition of the motive in varied and interesting guises. The student may mistake these varied repetitions for new and different motives unless he understands the devices and learns to recognize them in melody. There are many pieces in which a half phrase or an entire phrase is repeated using the devices described above.

The motives in Figs. 162b, c, d, and e end where their variants begin. Sometimes the succeeding tones bear so little relationship to the original motive, as in Fig. 162f, measures 3–4 and 7–8, that the tones must be recognized as a new and contrasting motive.
Our first problem in improvisation was learning how to invent an opening motive. We constructed motives based on the chord line of the I, IV, and V chords, and then altered their character by introducing passing tones between chord tones, and by embellishing chord tones with auxiliary tones.

Our next step was to construct half phrases by rhythmic repetition and modified rhythmic repetition of the motive. Now we can go forward with the use of tonal repetition and modified tonal repetitive devices such as are illustrated in Figs. 162 and 163. These supply part of the answer to the problem of how to proceed once a motive is invented. The importance of these exercises in improvisation and in composition can be appreciated by the fact that all good composers use these devices.

**Modified Tonal Repetition.** A motive may be repeated, but modified, by:

1. changing the size of an interval; Fig. 163a.

2. changing the direction of a tone or tones; Fig. 163b.

3. repeating any single tone of the motive one or more times; Fig. 163c.
4. embellishing the repetition; Fig. 163d.

5. omitting tones or simplifying the motive; Fig. 163e.

6. repeating a fragment of the motive; Fig. 163f.

7. shortening the rhythmic values of the motive tones (diminution) or of part of the motive; Fig. 163g.

8. expanding the rhythmic values of the tones of the motive (augmentation) or of part of the motive; Fig. 163h. The last three tones of Fig. 163g is an augmentation of the motive.

9. shifting the repetition one beat forward; Fig. 163i.
10. extending the repetition of part of the motive with an additional motive which is organically related; Fig. 163j.

11. inverting most or all the tones of the motive; Fig. 163k.

12. starting on the last tone of the motive and going backwards to the first one (retrograde motion); Fig. 163l.

Exercise 86a. Four different motives are given in Fig. 164a. Create a half phrase or a phrase with each motive in turn by repeating the motive one or more times, changing the size of the skip in the motive with each repetition.

Exercise 86b. Create a phrase from each of the motives in Fig. 164a by repeating the first measure exactly as measure 2; then add another repetition with a change in the size of any interval of the motive as measure 3; cadence on measure 4.

Exercise 86c. Form phrases from each motive in Fig. 164a by repeating the motive twice. With each repetition make the skips progressively larger or smaller, depending on which sounds best.

Exercise 86d. Using the same motives in Fig. 164a, form phrases by repeating the motive in measure 2 with a change in size of the skip; then add a
contrasting motive to close the phrase. If the initial motive is mainly scale-wise in line, make the contrasting motive chord line melody, or vice versa. Use a different rhythm in the contrasting motive.

**Exercise 87a.** Using the motives in Fig. 164b, form phrases from each one by repeating the motive twice; change the direction of the last one or two tones of the initial motive.

![Image of musical notation for Exercise 87a](image)

**Exercise 87b.** Form phrases from each motive in Fig. 164b by repeating the motive exactly as measure 2; repeat the motive, changing the direction of the last tone or two, as measure 3; cadence in the fourth measure.

**Exercise 87c.** Build phrases from motives in Fig. 164b by repeating the motive with a change in direction, as measure 2; then add a new motive to close the phrase.

**Exercise 88a.** Form phrases from each motive in Fig. 164c by using the motive again in measure 2 but repeating any single tone one or more times; then add the motive without change as measure 3, and cadence in the fourth measure.

![Image of musical notation for Exercise 88a](image)

**Exercise 88b.** Form phrases from the same motives by duplicating the motive but repeating any single tone one or more times, as measure 2; then add a contrasting motive.

**Exercise 89.** Build phrases from each motive in Fig. 164d by embellishing the motive with neighboring tones, passing tones, or both as measure 2. Add a new motive in measure 3, and cadence in measure 4.

![Image of musical notation for Exercise 89](image)
MODIFIED REPETITION IN PHRASE FORMATION

Exercise 90. Create phrases from the motives in Fig. 164e by adding a simplified version of the motive as measure 2; then repeat the original motive as measure 3, basing it on IV or V\textsuperscript{7} harmony; make measure 4 a simplified version of measure 3.

![Image of Fig. 164e]

Exercise 91a. A phrase can be constructed by repeating part of the initial motive one or more times. The motives in Fig. 164f have brackets over the ends of the motives. The tones included under the brackets may be repeated in a second or third measure to build out a phrase.

Start with each motive in turn. Add the bracketed tones and repeat them to form a phrase, making whatever rhythmic adjustments are required to end the last unit on the accented beat in measure 4.

![Image of Fig. 164f]

Exercise 91b. Follow the first and second motives of Fig. 164f, as measure 1, with similar repetitions of the beginning tones to close the phrase.

Exercise 91c. Create phrases by following the motives in Fig. 164f with two repetitions of the bracketed tones in half their rhythmic values, as measure 2; add a new motive to complete the phrase.
Exercise 92a. Expand the rhythmic values of the slurred or bracketed tones in Fig. 164g to twice the given length as measure 2; use the augmented bracketed tones in measure 3 based on II	extsuperscript{6}, and the augmented bracketed tones in measure 4 based on V	extsuperscript{7}.

Exercise 92b. Repeat the procedure of Exercise 92a for the first two measures; add a new motive in measure 3, and cadence in measure 4.

Exercise 93a. Repeat the tones of measure 1 of Fig. 164h starting on the last beat of measure 1, so that the motives are shifted one beat ahead in measure 2, and two beats ahead in measure 3; cadence on a long note in measure 4.

Exercise 93b. Build phrases from the motives in Fig. 164h by repeating the motives as in Exercise 93a, but start each repeat on the next higher scale step.

Exercise 94. Repeat the slurred or bracketed tones in the motives of Fig. 164i in measure 2; extend the motive fragment through measure 3 by an additional motive which is organically related, as in Fig. 163j; cadence in measure 4.
Exercise 95. Construct phrases by following each given motive in Fig. 164a with the same motives inverted in the second measure. Add a new motive to complete the phrase.

Reversing the direction of the motive tones may be regarded as inversion; a simple method of writing inversion is as follows:

Keep the third scale step as the same tone in the inversion. A tone above it in the initial unit becomes a tone below it in the inversion. Follow the same procedure for any interval above or below the third scale step. It is obvious that the fifth step becomes the first step and vice versa in an inversion.

Exercise 96. Form phrases from the motives in Fig. 164c. Use the first two motives as measure 1 in each phrase. Repeat the motive for two beats, then invert the tones of the last two beats as measure 2; return to the motive in its original form as measure 3; cadence in measure 4.

Exercise 97. Form phrases with the motives in Fig. 164j by using each motive as measure 1. Start measure 2 by taking the last tone of the motive and working backwards to the first tone. Return to the motive in its original form as measure 3; extend it into measure 4.

Triads in First Inversion. Chord inversion has several important functions other than the one of making a weak triad (II in minor) useful.

1. It makes a smooth bass possible. Compare Figs. 163a and b.
2. It gives the chords a lighter effect without destroying their function
in the key. Compare the sounds of the triads with the root in bass and the same triads in first inversion, Fig. 165b.

3. It provides variety in melody harmonization.

Triads in first inversions are referred to as chords of the sixth because the root is a sixth (or an octave and a sixth) above the bass tone. The rules for doubling tones remain unchanged. Double the root or fifth in I, IV, and V. Double the root or third in II.

The Iª.

EXERCISE 98. Practice Fig. 166 in all major and minor keys.

Triad Progressions in First Inversion. The following are the best progressions of triads in first inversion:

The Iª: Iª-I; Iª-IV or IVª; Iª-V, Vª, or Vª; Iª-II or IIª.

The IVª: IVª-IV; IVª-V, Vª, or Vª; IVª-IIª, or II; IVª-I or Iª.

The Vª: Vª-V, or Vª, Vª-I (not Iª); Vª-IVª (not IV); Vª-II if it returns to Vª. Avoid Vª-IIª.

The IIª: IIª-II; IIª-V, Vª, or Vª; IIª-Iª (not IIª-I). IIª-IV and IIª-IVª are possible, but weak.
The $V^e$ and $IV^e$.

**Exercise 99a.** Practice Fig. 167 in all major and minor keys.

Fig. 167

![Musical notation](image)

*Note the delayed resolution of the chord seventh.*

**Exercise 99b.** Add upper, then lower neighboring tones to the second chord in each unit of Fig. 167.

**Exercise 99c.** Add a passing tone in the bass in Figs. 167a and b, and two passing tones between the first two chords in Fig. 167c.

**The Approach to Triads in the First Inversion.** The following indicates the smoothest approach in bass to the $I$, $IV$, and $V$ chords in first inversion:

- To the $I^e$: $IV$ or $IV^e-I^e$; $II^e$ or $II-I^e$; $V$ or $V^e-I^e$; $I-I^e$.
- To the $IV^e$: $V$ or $V^e-IV^e$; $I$ or $I^e-IV^e$; $II-IV^e$ (weak); $IV-IV^e$.
- To the $V^e$: $V-V^e$; $I-V^e$; $IV^e-V^e$; $II$ or $II^e-V^e$; $V^e-V^e$. 
The I°, IV°, and V° Combined.

**Exercise 100a.** Practice Fig. 168 in all major keys. Omitting Fig. 168e, practice Fig. 168 in all minor keys.

**Exercise 100b.** A passing tone may be used between the bass tones of a triad and its first inversion. Practice Fig. 168 in all major keys inserting a passing tone between the triads and their first inversions where the tones lie a third apart. Omitting Fig. 168e, do the same in minor. In Figs. 168b, d, and f, use the raised sixth and seventh steps of the melodic minor with the V chord.

**Exercise 100c.** Note that the soprano and bass in Figs. 168a and e move in contrary motion by a leap of a third. The melodic gap in both parts can be closed by the insertion of a passing tone. Practice Figs. 168a and e in major, using passing tones in bass and soprano. Do the same thing in minor with Fig. 168a.

**Exercise 100d.** The soprano and bass move in parallel thirds by leaps in Fig. 168c. Passing tones may be used in both parts to fill the gap. Practice Fig. 168c in all major and minor keys, using passing tones in bass and soprano for the first two measures.
TRIADS IN FIRST INVERSION

EXERCISE 101a. Practice the progression IV°-II°, illustrated in Fig. 169, in all major and minor keys.

EXERCISE 101b. Embellish the starred tones in measures 2, 4, and 7 of Fig. 169 with lower neighboring tones.

EXERCISE 101c. Use a passing tone in bass between IV°-II° in Fig. 169.

EXERCISE 101d. Practice Fig. 170a in all major keys.

EXERCISE 101e. Combine the passing tone and lower neighbor in bass, as in Fig. 170b. Practice Fig. 170b in all major keys.
Exercise 101f. Use passing tones in bass and soprano, as in Fig. 170c.

First Inversion of Triads in Melody Harmonization. A general rule for employing triad inversions is: avoid using a first inversion when the chord third is a melody tone. The only exception to this rule is the II\(^\sqrt[3]{4}\). The following table lists the chords which may be used for each major and minor scale step. Any chord of those listed under a given scale step may be used for that step subject to the rules regarding the progression of that chord. For instance: under scale step 2 the II is listed; under scale step 6 the IV is listed. Should the melody tones be 2–6, their harmonization should not, however, be II–IV, which is a weak progression. A II chord for both tones is better. Then again, the IV is listed under 4, and the V\(^7\) under 5; the progression IV–V\(^7\) is generally good, yet it cannot be used for the melody tones 4–5 because of parallel octaves.

These examples underscore the rule: Do not harmonize tones singly.

<table>
<thead>
<tr>
<th>Scale Steps</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chords</td>
<td>I</td>
<td>V</td>
<td>I</td>
<td>IV</td>
<td>I</td>
<td>IV</td>
<td>V</td>
</tr>
<tr>
<td>I(^6)</td>
<td>V(^6)</td>
<td>IV(^6)</td>
<td>I(^6)</td>
<td>II (major)</td>
<td>V(^7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV(^\flat)</td>
<td>II (major)</td>
<td>II (major)</td>
<td>V</td>
<td>II(^6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV(^6)</td>
<td>I(^6)</td>
<td>II(^6)</td>
<td>V(^6)</td>
<td>V(^7)</td>
<td>V(^7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Exercise 102a. Review the inversions of triads, and the progressions of the II chord. Harmonize the following melodies, using first inversions as frequently as possible. The tones in Section 1 are all chord tones. The melodies in Section 2 employ passing tones and auxiliaries. Study the cadences first.
Exercise 102b.  Transpose the melodies in Exercise 85 and in Exercise 102a to a variety of keys. Transpose the excerpts in Fig. 163 to a variety of keys.
Chapter 9

The Triad in Second Inversion.
- The I₆⁰ - Progressions of and Approaches to the I₆⁰ - Figurations - The I₆⁰ in Cadence Harmonization - Nonharmonic Tones in the Cadential Progression II⁰-I₆⁰-V⁷-I

The Melodic Sequence.
- Motives Developed in Sequences - Accented Nonharmonic Tones in Cadence Harmony - Delayed Resolutions - Accented Nonharmonic Tones in Melody Harmonization, continued - Melody Transposition, continued

The Second Inversion of the Tonic Chord. The consequent phrase of the Haydn excerpt in Fig. 171 is in the key of G. Note the structure of the starred tonic chord. The chord fifth is in the bass. Such inversions are termed second inversions.

![Fig. 171]

The second inversion of a triad is its ⅔ inversion, so-called because the root is four tones above the bass tone and the chord third is six tones above the bass tone. The tonic chord in the second inversion is referred to as the tonic six-four, written I₆⁰.

Progressions of the I₆⁰. Play Fig. 171 again, halting on the I₆⁰. It is readily apparent that the music cannot end there and that the triad in this form is unstable. The I₆⁰ generally progresses without interruption to V or V⁷.
Approach to the I\textsuperscript{6}. With two exceptions, the I\textsuperscript{6} must be approached stepwise in the bass. A chord or its inversion, the bass tone of which is a step above or below the I\textsuperscript{6} bass tone, may go to the I\textsuperscript{6}. Thus IV–I\textsuperscript{6}; IV\textsuperscript{6}–I\textsuperscript{6}; II\textsuperscript{6}–I\textsuperscript{6}. The exceptions are II–I\textsuperscript{6}; and I\textsuperscript{6}–I\textsuperscript{6}, or, less often, 1–I\textsuperscript{6}. The resolution of V\textsuperscript{7} may be delayed by having it move to I\textsuperscript{6}, thus: V\textsuperscript{7}–I\textsuperscript{6}–V\textsuperscript{7}–1. The bass tone—the chord fifth—is doubled in second inversions.

**Exercise 103a.** Find and play the I\textsuperscript{6}, r.h. alone, in all major and minor keys. Repeat this with the l.h. an octave lower.

**Exercise 103b.** Add the bass tone, as in Fig. 172a, and practice in all keys.

![Fig. 172a](image)

**Exercise 103c.** Using the I\textsuperscript{6} in the semicadence and the approach to the perfect authentic cadence, play the bass given in the period in Fig. 172b in C. Then practice that bass in all major and minor keys.

![Fig. 172b](image)

**Exercise 104.** Convert the bass of Fig. 172b to 2/4 in the style given in Fig. 173, and practice it in all major and minor keys. Fig. 173 illustrates measures 4 and 7 of Fig. 172b. Treat measure 6 in the same way.

![Fig. 173](image)
Exercise 105a. In Fig. 174a, the I, and triads in first inversions are combined. Practice Fig. 174a in all keys, major and minor. In minor, use the change for the II chord indicated in Fig. 174b.

We saw in Chapter 2 that the tones of a chord may appear singly as a broken chord. A pattern of single chord tones in any order may be used in an accompaniment. When that pattern is applied to each chord in turn in an accompaniment, it is called a figuration.

Exercise 105b. Play Fig. 174a in the figuration patterns of Figs. 175a and b. Practice them in all keys, making the necessary adjustment to II for the minor in measure 3. The V in the semicadence may be handled as illustrated.

The cadence chord, V or V in Fig. 175a may be treated as indicated after the double bar.
Exercise 105c. Practice the chord series of Fig. 174a using the patterns in Fig. 175c. Play in all major and minor keys. Add a r.h. part to Fig. 175.

The I in Cadences. Our present concern with the I is confined to its use in cadences. Study Fig. 171. It illustrates one of the most commonly used cadence progressions.

Exercise 106a. Practice Fig. 176 in all major and minor keys; then practice the exercise starting with II, with IV.

Exercise 106b. Add lower and upper neighbors to tones in Fig. 176, as in Fig. 177a.

Exercise 106c. Practice Fig. 176 in free positional style, using the rhythm suggested in Fig. 177b. Do this in major and in minor.
THE I₆ IN CADENCE HARMONIZATION

Exercise 106d. Add passing tones in soprano between the tones of I-IV-V₆-V₇-I, as in Fig. 177c.

The I₆ in Cadence Harmonization. The tonic I₆ will frequently be found as the chord before the V in cadences, I₆-V, and as the second chord before the perfect authentic cadence, I₆-V₇-I. The following table lists scale tones often used in the melodic approach to the cadence; the chords given should be used to harmonize these tones.

For the series of scale steps 6 ——— 5 ——— 5 (se cadence tone)
and 4 ——— 3 ——— 2 (se cadence tone)
use: II (major) — I₆ ——— V
II₆ ——— I₆ ——— V
IV ——— I₆ ——— V

For the series of scale steps 2 ——— 3 ——— 2 (se cadence tone)
and 2 ——— 1 ——— 5 or 7 (se cadence tone)
use: II (major) — I₆ ——— V
II₆ ——— I₆ ——— V

For the series of scale steps 1 ——— 1 ——— 5, 2, or 7 (se cadence tone)
use: IV ——— I₆ ——— V
IV₆ ——— I₆ ——— V

The I₆ in the Perfect Authentic Cadence. The perfect authentic cadence is made by adding scale step 1 to the tone series in the above table, to be played with the I chord. Both the tonic tone and the I should come on the accent. The V₇ may be used as the penultimate chord: V₇-I.

The I₆ ordinarily comes on a strong beat. In triple meter it usually occupies two beats, the V₇ coming on the third beat. The I₆ is occasionally used on the second beat in 3/4: II₆-I₆-V in the cadence.

Exercise 107. Practice the semicadences given in the table in close style harmony in all major and minor keys. Add a final I chord to the progressions.
in the table; substitute V for V, and practice these progressions as melody tones and chords leading to the perfect authentic cadence. Do this in all major and minor keys.

Figures 178 and 179 illustrate the melodic progressions in the table above embellished with auxiliary and passing tones.

In Fig. 178a the II or II° will be used to harmonize the first tone of each unit. That tone is followed by an auxiliary tone and a return to the chord tone. All three tones therefore will be harmonized by II or II°.

Fig. 178

* Use the IV on beat 2 and on the third from the last tone in Fig. 178b and c.

In Fig. 178b a passing tone is used between the tones of the II in the melody. A II or II° will be used to harmonize all three tones in the first four units, and all four tones in the last two units.
The II or II° will be used to harmonize all the tones in each unit of Fig. 178c except the last three. The tones preceding the last three tones are chord tones of the II embellished with auxiliary and passing tones.

In Fig. 178d the order in regard to the nonharmonic tones embellishing II chord tones is the reverse of that in Fig. 178c. Here passing tones are followed by auxiliary tones. All except the last three tones of each unit will be harmonized by II or II°.

Passing tones are used between the tones of the I chord in the first three units of Fig. 178c and between the tones of both the I and V° in the last three units. The I° will be used on the second beats in the first two units.
The lower neighbor and passing tones are used with chord tones of IV, IV⁶, I⁶, and V⁷ in the melody of each unit of Fig. 179a. Each unit will be harmonized by IV (or IV⁶)—I⁶—V⁷—I. Those units having the third of IV in the melody should not be harmonized with IV⁶. The harmonization of the third unit is I—I⁶—V⁷—I.

The upper neighbor and passing tones are used in the melody in Fig. 179b, with the same harmonizations as for Fig. 179a.

The order in the use of nonharmonic tones in Fig. 179c is the reverse of that for Fig. 179b—that is, passing tones followed by auxiliary tones. The harmonization will be the same as that for Figs. 179a and b.
It should be obvious that many more variants in the combination of chord tones, auxiliary tones, and passing tones in melody over the progressions II (or II°)—I₃₉-V°—I and IV (or IV°)—I₅₉-VⅡ—I are possible. The examples in Figs. 178 and 179 should alert the student to the appearance of embellished melody which calls for harmonization with the progressions given above.

Exercise 108. Work out each unit in Figs. 178 and 179 in several major and minor keys.

The Melodic Sequence. We explored the principal devices used in modified rhythmic repetition in Chapter 2, and the devices used in modified tonal repetition in Chapter 8. A different kind of repetition occurs in the melody of Fig. 180a. In Fig. 180a, the tones in measures 3 and 4 repeat the tonal pattern of measures 1 and 2 on a lower level. Measure 6 repeats the tonal pattern of measure 5 on a higher level. The repetition of a melodic unit, whether it be a motive, a half phrase, a phrase, or a period, on a tonal level higher or lower than the initial unit is called a melodic sequence. Examine Figs. 98, 99, 121, and 162c, all of which contain sequences.

Any of the melodic units listed above may be followed by one or more sequences of that unit. The number of sequences used in a half phrase or longer unit is governed by the length of the initial unit. A brief motive can be followed by a number of sequential repetitions. Composers usually do not use more than one sequential repetition of a phrase because it is monotonous. The sequential reiteration of a motive or half phrase is less likely to become tedious.

Sequences are used in a variety of ways. (1) An initial unit may be repeated exactly or in modified repetition and then followed by a sequence. (2) A unit may be followed by an exact sequence which in turn is followed by a modi-
fied sequence. (3) A unit may be followed by one or more sequences based on the last few tones of the unit. (4) A half phrase or a phrase may be repeated in sequence. An additional half phrase or phrase may be made of two short units which balance the longer half phrase or phrase. The shorter balancing units may be sequences of the last half of the previous sequence.

Fig. 180b contains many sequences. Study it with the foregoing observations in mind.

Sequences may start on any scale tone above or below the first note of the original unit. They will, however, not all sound as well as the original unit; for example, a good skip of a perfect fourth may become a poor skip of an augmented fourth in the sequence; or, a good skip of a minor seventh may become an awkward skip of a major seventh in the sequence. Then too, in following the sequence pattern, tendency tones may be forced to go in a direction opposite to their tendency. The student who works with sequences will discover that starting on some scale tones for a given unit will produce better sequences than starting on other tones.

When the first sequence is well planned so that awkward features such as these just mentioned are avoided, a subsequent second sequence containing
unmelodic skips may be used on the ground that the over-all sequential pattern makes the complete unit melodically logical.

Sequences may appear anywhere in a melody: immediately after an initial motive or half phrase, or in the body of a melody. We will explore the various ways of handling the melodic sequence later.

The Chord Skip in Sequence.

Exercise 109a. Play the sequence series in Fig. 181a in a variety of keys, harmonizing each with I or I₆-II₆-I₇-V₇-I, except where other harmonization is noted. Use close harmony, as well as bass tone and chord accompaniment.
Exercise 109b. Each one-measure unit in Fig. 181b is based on the I chord. Add two measures to each unit so that measure 2 is a sequence of measure 1 and measure 3 is a second sequence. Measure 4 will be the cadence measure.

The first sequence, measure 2, will be based on IV or IV<sup>6</sup>; the second sequence, measure 3, will be based on II or II<sup>6</sup>; the fourth measure, which is not sequential, will be based on V or I<sup>6</sup>-V.

Proceed as follows: the first unit in Fig. 181b starts on the third of the I. Start measure 2 on the third of IV. The initial unit reads: E-D<sup>♯</sup>-E-C; the sequence, measure 2, will then read A (chord third)-G<sup>♯</sup>-A-F. Measure 3 is based on II; the sequence in that measure will read: F (chord third)-E-F-D. Measure 4 will have one tone for V, or two tones for I<sup>6</sup>-V. This is illustrated in Fig. 181c #1.
EXERCISE 109c. The sequences in Exercise 109b lead to semicadences. Use the same sequential procedure to lead to a perfect authentic cadence as follows: measure 2, use II\(^6\); measure 3, use V\(^7\); measure 4, use I.

EXERCISE 109d. The sequences in Exercises 109b and c are exact sequences: a skip of a third in the initial unit is matched by a skip of a third in the sequence. Using the same harmonic patterns for the three additional measures as those given in Exercises 109a and b, try starting on a different chord tone from the one used as first tone of each unit. In the subsequent sequences, measures 2 and 3, adjust a skip here and there to conform with the chord in the measure. These sequences are modified sequences. This is illustrated in Fig. 181c #2 and Fig. 181d.

EXERCISE 109e. Fig. 182a illustrates a sequence from Fig. 181a used as an antecedent phrase for a sequence from Fig. 181b in the same meter. Do this with other phrases, changing the harmony of the first phrase to I-V\(^7\)-I-V, as in Fig. 182a.

Fig. 182b illustrates a motive from Fig. 181a joined to another motive from Fig. 181b. The combined motives, based on two chords, I and II\(^6\), form a half phrase. This half phrase may be used as the initial unit from which sequences may be derived.
Exercise 109f. Combine the first motive of Fig. 181a with another in the same meter from Fig. 181b to form half phrases. Derive sequences from each half phrase. Do this with other motives from Figs. 181a and b.

Delayed Resolutions. The normal progression of a chord may be momentarily delayed or diverted by moving to a chord which has one or more tones in common with it. The original chord is then replayed, and resolved normally. Such progressions, called delayed resolutions, are usually applied to dominant harmony; for instance V–II–V–I; V₇–I–V₇–I; and V₇–II₉–V₇–I. The I₉ may similarly be delayed in resolution as follows: I₉–IV₆–I₉–V₇ (or V)–I; I₉–II–I₉–V (or V₇)–I. Fig. 183 illustrates examples of delayed resolution of the I₉:

Exercise 110f. Practice Figs. 183a and b in all major and minor keys. Use the II as well as the I₉ in major. Study the soprano part. It furnishes a guide to the use of the delayed resolution of the I₉ in melody harmonization.
The Delayed Resolution of V\textsuperscript{7}. One type of the delayed resolution of the dominant seventh, V\textsuperscript{7}–II–V\textsuperscript{7} was studied in Chapter 5. The tonic \( \text{I} \) may also be used to delay the resolution of V\textsuperscript{7}: V\textsuperscript{7}–I\textsuperscript{6}–V\textsuperscript{7}; see Fig. 184a.

Exercice 110b. Practice Fig. 184b in all major and minor keys; use the II as well as the II\textsuperscript{6} in major. Study the soprano part. The melodic series 4–4–3–4–3; or 2–2–1–2–1, etc., may be harmonized with the delayed resolution of the V\textsuperscript{7}.

Accented Nonharmonic Tones. Melody tones leading to cadences were embellished in Exercise 107 with unaccented nonharmonic tones. Study Fig. 178. Unaccented nonharmonic tones may appear anywhere in a melody harmonization. Accented nonharmonic tones—nonharmonic tones on the accented beat or the accented portion of a beat—may also appear anywhere in a melody harmonization. Nonharmonic tones on the accented part of a beat are called accented passing tones or accented auxiliary tones, as the case may be. At times, such tones will fall on the accented beat itself. Attention is drawn to this fact because the student is prone to make the tones which fall on strong beats chord tones.
EXERCISE 111a. The accented passing tone is used in the melody with chords leading to the perfect and imperfect authentic cadences in Fig. 185. Practice Fig. 185 in a variety of keys, both major and minor.

EXERCISE 111b. The accented lower auxiliary is used in the melody with chords leading to the perfect authentic cadence in Fig. 186a. Practice Fig. 186a in a variety of keys, major and minor.
Exercise 111c. The upper auxiliary is used in the melody with chords leading to the perfect and imperfect authentic cadence in Fig. 186b. Practice Fig. 186b in a variety of keys, both major and minor.

When two or more melody tones share a beat, the tendency is to harmonize the first tone as a chord tone, which frequently results in poor progressions and unbalanced harmonic rhythm.

Reread the section on accented nonharmonic tones. Examine the tone after the note on the accented beat or accented part of a beat. That tone may be the chord tone, that is, the tone to harmonize. If it is, do not play the chord on the offbeat with the chord tone. Play it with the nonharmonic tone. It may sound a trifle discordant, but some discord is a vital element in good music.
Be sure that your chord progressions conform to the rules on good progressions in the use of triads, their inversions, and the dominant seventh.

Exercise 111d. Harmonize the following melodies with particular attention to accented nonharmonic tones. Follow the first melody in Fig. 187 as an example.
Transposition, continued.

Exercise 112. Transpose Exercises 14 and 15 to all keys. Note whether the units start on the root, third, or fifth. Start similarly in the new key. Watch the size and direction of the melodic skips.
Chapter 10

The Submediant Triad.

The Deceptive Cadence · Progressions of and Approaches to the VI · Summary of Chord Progressions · Cadences, continued · The VI in Melody Harmonization

The Suspension.

The Suspension in Cadences · Double Suspensions · The Suspension in Melody Harmonization

The Harmonic Sequence.

Phrase Development from the Motive in the Harmonic Sequence · Transposition of Single Measure and Half Phrase Units in Four Parts

The Submediant VI Triad. The second measure of the excerpt from Handel, Fig. 188, introduces another triad, the submediant VI triad. The VI triad, like the II, is a minor sounding triad with a lower minor third and a perfect fifth. The triad has two tones in common with the tonic, and is therefore the parallel subordinate chord of the I.

![Fig. 188](image)

Deceptive Cadence. The I and the VI are often coupled, the I preceding the VI: I–VI. The V or V⁷ is occasionally used to precede the VI, as in Fig. 188. Since the normal and expected resolution of a dominant chord is to the tonic, the irregular progression V⁷–VI is called a deceptive resolution of
the V\textsuperscript{7}. This progression should be used sparingly, because it loses its novelty with frequent repetition. When the progression occurs in quarter cadences, semicadences, or in place of perfect cadences, they are called deceptively

cadences. The deceptive cadence, which is illustrated in Fig. 189, is used to extend a phrase for one or more measures.

The VI triad in minor, erected on the sixth scale step of the harmonic minor—in C minor, Ab–C–Eb—is a major sounding chord with a lower major third and a perfect fifth. The deceptive resolution of the V\textsuperscript{7} and the deceptive cadence are equally effective in minor.

Exercise 113a. Find and play the VI in all major and minor keys, r.h. alone.

Exercise 113b. Shift the triad to all positions, in all keys, r.h. alone.

Exercise 113c. Practice the bass accompaniment shown in Fig. 190 in all major and minor keys, l.h. In minor, substitute II\textsuperscript{6} for II.

Exercise 113d. Sing three chord tones for measures 1 and 2 of Fig. 190, and two chord tones each for the IV and I\textsuperscript{6}, measures 3 and 4. Vary the order of chord tones in each measure. Play what you have sung.
Progressions of and Approaches to the VI. The progressions of the VI may be outlined as follows: VI–II; VI–II\(^6\); VI–IV; VI–IV\(^6\); and VI–I\(^6\). The progressions VI–V and VI–V\(^7\) may be used with the upper tones in contrary motion to the bass. Although composers occasionally use VI–I, the student is advised to avoid this progression because the parallel subordinate triad with its two common tones diminishes the strong effect of the succeeding major triad.

The approaches to the VI are: I–VI; V–VI; V\(^6\)–VI in a descending bass line, 8–7–6; and V\(^7\)–VI. IV–VI and II–VI–II or II\(^6\) are less commonly used.

The root and the chord third are the best tones to double in the VI.

**Summary of Chord Progressions.** All chordal movement can be reduced to three types of harmonic progression. These are: (1) root progression up and down in fifths; (2) root progression up and down in thirds; and (3) step-wise root progression. Root movement down in fourths is the same as root movement up in fifths. Root movement up in fourths is the same as root movement down in fifths.

All progressions in these three categories are not equally good. The following discussion of each type of progression distinguishes good from weak progressions in that category.

1. *Root movement up and down in fifths.*

Progressions in which the roots of chords move down in fifths are among those most commonly used in music. See Fig. 191a. This kind of progression: VI–II–V or V\(^7\)–I, starting with VI or any succeeding chord, is almost invariably good.

Root movement down in fifths can run beyond the tonic: VI–II–V–I–IV. This is as far as such progressions should go, because a fifth further down brings the progression to an unsatisfactory triad, the VII.
Progression upward in fifths are also possible. Of these, IV–I and I–V are best. Less common and less useful are V–II and II–VI. Any progression upward in fifths tends to return to the I: V–II–VI–II–V–I.

2. Root movement up and down in thirds.

Progressions in which the roots of chords move down in thirds, illustrated in Fig. 191b, though not as strong as progressions down in fifths, are good and effective progressions. The progression I–VI–IV–II is commonly employed as a whole or partially. See Fig. 191b.

A chord progression may start with the first type and move to the second type of progression: I–VI–II–V–I; or VI–IV–II–V–I.

Progressions upward in thirds are poor and should be avoided: for example, II–IV–VI–I.

3. Root movement up and down by step.

Some of these progressions, illustrated in Fig. 191c, are good and are often used; others are poor and should be avoided.

Good progressions in which the root movement is stepwise are: IV–V; VI–V; V–VI. Use contrary motion in such progressions. Avoid I–II and II–I except when the second chord or both are inverted: I–II⁰; II–I⁰; I⁰–II⁰. Avoid V–IV except when the second chord or both are inverted.

Good progressions in this category may be combined with progressions of either of the first two types; for example, VI–IV–V–I; I–VI–V; II–V–VI, etc.
SUMMARY OF CHORD PROGRESSIONS

Exercise 114a. Practice Fig. 192a in all major and minor keys. In minor substitute the II°.

Exercise 114b. Practice Fig. 192b in all major and minor keys.

Exercise 114c. Practice Fig. 192c in all major and minor keys. In minor the III chord, which is momentarily introduced for this type of progression, should be played in c with these tones: E♭–G–B♭. The II° should be substituted for the II in minor.

Imperfect and Perfect Authentic Cadences. The VI triad amplifies the possibilities in the approach to the imperfect and the perfect authentic cadences, and to the semicadence. The student is reminded that the perfect authentic cadence closes on the I with the root in the outer voices. The imperfect authentic cadence ends on ⅞ or ⅞. It may also end on ⅝ and ⅝.
The Perfect Cadence

IV —— V or V\(^7\) —— I  
IV\(^6\) —— V or V\(^5\) —— I  
II —— V or V\(^7\) —— I  
II\(^6\) —— V or V\(^7\) —— I  
VI —— V or V\(^7\) —— I

Any of the chords listed at the left of the columns above may be used as chords leading to authentic cadences.

Various chord series antecedent to the perfect cadences are listed below:

VI—II—V (or V\(^7\))—I  
VI—I\(^6\)—II—V (or V\(^7\))—I  
VI—IV—II—V (or V\(^7\))—I  
VI—IV—I\(^6\)—V (or V\(^7\))—I  
VI—I\(^6\)—II—V (or V\(^7\))—I  
VI—I\(^6\)—I\(^6\)—V (or V\(^7\))—I

The Semicadence. The semicadence is a close of a phrase or period which cannot serve as a final ending because its chords do not impart a sense of complete finality. Therefore all imperfect authentic cadences serve as semicadences: V—I, V—I\(^6\), V—I\(^6\) as well as IV—I\(^6\) and II—II\(^6\).

The semicadence may also close on V. Some theorists refer to semicadences on V as "half cadences." All of the chords in the columns on the left in the table on the perfect cadence may precede the V as semicadence chord. All the chord series antecedent to the perfect cadence may lead to a semicadence on V.

A common semicadence progression in minor is: I—VI—I\(^6\)—V. Semicadences on IV and II are rare.

The I, I\(^6\), and the V in semicadences customarily occur on an accented beat in the semicadence measure. Shifting the semicadence chord to the next beat produces a weaker cadence. For example:

<table>
<thead>
<tr>
<th>Beat</th>
<th>2/4</th>
<th>1</th>
<th>2</th>
<th>3/4</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chord</td>
<td>II(^6) —— V;</td>
<td>I(^6) —— V —— V.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
perfect authentic cadence, is sometimes called a feminine ending. Its use is appropriate when a less positive ending is wanted.

Figure 193 employs the VI and the delayed resolution of the I₉ in the approach to the cadence.

**Exercise 115.** Practice Fig. 193 in all major and minor keys.

Fig. 194 demonstrates melodic situations in which the progression I–VI may be used. These are: (1) the repetition of common tones; (2) skips between common tones; (3) nonharmonic tones between skips and between common tones.

In Fig. 194 the successive tones marked avoid make undesirable parallels with the bass.
Exercise 116a. Play Fig. 194 using I–VI; do this in a variety of major and minor keys.

The VI and the IV have two tones in common. A tone belonging to both chords which is repeated may be harmonized with VI–IV. A three-tone figure, such as the chord tone-auxiliary-chord tone figure, may be harmonized with the same progression. A skip of a third down in the melody may be harmonized the same way providing parallels are avoided. The progression VI–IV may also be used for a three-tone scale figure the middle tone of which is a passing tone.

Exercise 116b. Work through the progression VI–IV, following Fig. 194.

The VI and the II have one tone in common; VI and V have no common tone.

Exercise 116c. Work out the melodic possibilities in the progressions VI–II and VI–V.

Exercise 117. Harmonize the following melodies, employing the VI where possible.

1.

\[\text{Gounod}\]
The Suspension. Note the starred tones in Fig. 195a. These nonharmonic tones are called suspensions. They appear as repeated tones, Fig. 195a, or as tied tones, Fig. 195b. They are repeated or tied across the bar line or across the accented beat, as a general rule. Up till now, we have harmonized repeated tones either with the same chord, or, as in Fig. 194, with two different chords which have the repeated tone in common. The second of these two tones may, and in some instances must, be treated as a suspension.
The suspension is a tone "hanging over" from one chord into the next, where it creates more or less of a discord. The discord is resolved by the suspended tone moving a step up or down to a tone of the second chord, often filling in a missing tone of that chord. The tone to which the suspension resolves is called the resolution tone. The suspended tone usually resolves down.

Less commonly the suspended tone resolves upward. This upward resolution is necessary when the suspended tone is the leading tone. It moves up when resolved into the tonic chord; it may move down when resolved into VI, II, or II\(^6\). Like the accented nonharmonic tones, the suspension falls on the accented part of the beat, and is played with the chord of its resolution.

**The Suspension in Cadences.** Although the suspension may appear at any point in a harmonized melody, it often occurs in cadences. Our first concern, then, is the use of the suspension in cadences.

**Exercise 118a.** Practice the suspension of \( V^7 \) chord tones into the I in Fig. 196a in all major and minor keys. Feminine cadence endings resulting from the shift of the cadence chord forward by one beat were discussed on p. 178. Suspensions used with the cadence chord also throw the cadence melody tone one or more beats forward; and so the term feminine ending may also be used for the cadences in Fig. 196a.

In Fig. 196b the tones of the I\(^6\) are suspended into the \( V^7 \).

**Exercise 118b.** Practice Fig. 196b in all major and minor keys.
THE SUSPENSION IN CADENCES

Precadence harmony tones may be suspended into the tonic as is shown in Fig. 197.

**Fig. 197**

```
\[\text{Musical notation not displayed here}\]
```

**Exercise 118c.** Practice Figs. 197a and b in all major and minor keys.

The suspension may be carried through a succession of chords. Precadence harmony is treated in this way in Fig. 198.

**Fig. 198**

```
\[\text{Musical notation not displayed here}\]
```

* The suspended tone is generally equal in time value or shorter than the note to which it is tied or which it repeats. The cadence in this instance permits an exception.

** The leading tone is not suspended to avoid a discord with its tone of resolution in bass.

(Compare Fig. 199.) Note the upward resolution.

The tied note G in the last unit is not a suspension; it is a common tone of both chords.

**Exercise 118d.** Practice Fig. 198 in all major and minor keys. The tied G
in the last unit of Fig. 198 is not a suspension; it is a common tone of both chords.

**Double Suspensions.** The final cadence in some compositions employs a double suspension (two tones) or the suspension of the entire V\(^7\) chord over a tonic bass tone; these are illustrated in Fig. 199.

![Fig. 199](image)

**Exercise 118c.** Practice Fig. 199 in all major and minor keys.

**Suspensions in Melody Harmonization.** The clue to the possibility of a suspension situation in melody is the occurrence of a three-tone figure. The first two must be the same tones; the third tone is generally a tone lower. It will be a tone higher if the repeated tones are leading tones. The second tone falls on the accent or the accented part of a beat.

Glance through the melody for such three-tone figures. The tone to harmonize is the third tone; but the chord for that tone must be played with the second tone, the suspension, and held for the third tone.

**Exercise 119.** Harmonize the following melodies with particular attention to the use of the suspension.

1.

![Melody 1](image)
7. French Folk Song

8. Irish Folk Song
The Harmonic Sequence. Study Figs. 200a and b. The second measure of the Kuhnae excerpt, Fig. 200a, is a melodic sequence of measure 1. Measure 3 is also sequential, although the sequence is inverted. The initial melodic figure and the sequences lie over static harmony, the unchanging I chord.

Two chords, the I and V, are the harmonic basis for the initial figure of the Mozart excerpt, Fig. 200b. Although measure 2 is a melodic sequence of measure 1, the second set of chords bears no pattern relationship to the first set.

Now examine Fig. 201. Two melodic sequences follow the initial unit, which fills measures 1 and 2. The initial chord pattern is I–V.

Observe that the harmonic scheme for measures 3–4 and 5–6 bears a similar relationship to measures 1–2. The root movement of the first two chords is
Harmonic sequences are not limited to two-chord patterns. An initial three or, less often, a four-chord pattern may be followed by a harmonic sequence of that pattern.

Within the range of our present chordal vocabulary, here are some of the harmonic sequences possible:

VI-Ⅱ: sequence V-Ⅰ.
VI-Ⅱ⁰: sequence V-Ⅰ⁰.
V⁰-Ⅱ⁰: sequence V⁰-Ⅰ⁰.
Ⅰ-Ⅳ: sequence Ⅱ-V.
Ⅰ⁰-Ⅳ: sequence Ⅱ⁰-V.
Ⅰ-Ⅳ⁰: sequence Ⅱ-V⁰.
Ⅰ⁰-Ⅳ⁰: sequence Ⅱ⁰-V⁰.
Ⅰ-Ⅴ: sequence Ⅱ-VI.
HARMONIC SEQUENCES

Fig. 203 demonstrates the first of these harmonic sequences. The figure makes the sequential movement in each voice evident.

* The leading tone is taken down in order to follow the initial pattern.
** The doubled third in the last chord is excused because of the sequential treatment of the first unit.

Fig. 204 is the same as Fig. 203 in close style harmony.
EXERCISE 120a. Practice each unit of Fig. 204 in all major keys.

EXERCISE 120b. Play Fig. 204 inverting the initial chord pattern; there will be similar inversions in the harmonic sequence: VI-II₆, V-I₆. Do this in all major and minor keys.

EXERCISE 120c. Play Fig. 204 with this harmonic pattern: VI₆-II, V₆-I. Do this in all major keys.

In Fig. 204 and in the exercises based on it there is a single melody tone for each chord. In each measure of Fig. 205 the two tones represent other single melody tones for the initial progression, VI-II.

**Fig. 205**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EXERCISE 120d.** Add a second measure based on V-I to each measure of Fig. 205. Make sure that the melody tones in V-I have the same pattern as those for VI-II.

Each chord in the initial pattern of a harmonic sequence may have two or more melody tones above it. Study the first line of Fig. 206. There are two tones for both VI and II.

**Fig. 206**

**CHORD SKIPS**

**AUXILIARIES**

**AUXILIARIES AND CHORD SKIPS**
Exercise 121a. In the first measure of Fig. 205 add a second chord tone in VI to the first one. Add a second chord tone in II to the second tone in the measure. The first measures of Fig. 206 show several ways to do this. Duplicate the pattern melodically with V–I. Work out the succeeding measures of Fig. 205 in similar fashion.

Exercise 121b. Two, three and four melody tones are used for VI–II in Fig. 206. These melody tones are both chord tones and nonharmonic tones. Study the initial melodic pattern for VI–II. For instance, in the fifth meas-
ure of Fig. 206, VI has its root and its upper auxiliary, II has its third and its lower auxiliary. Use the same tones for the sequence, V–I.

**Exercise 121c.** Fig. 206 demonstrates how measure 1 of Fig. 205 can be elaborated. Take each measure of Fig. 205 and elaborate it as in Fig. 206. Then add a sequence to your melodic patterns based on V–I.

**Exercise 122.** Transpose Exercises 14 and 15 with the changes made in Exercises 43b and 47c into several different keys.
Appendix I

The Modes.
Major Scales · Enharmonic Scales · Minor Scales · Harmonic Minor Scales · Melodic Minor Scales

Intervals.
Perfect and Major Intervals · Chromatic Intervals · Transposition by Clef

Major and Minor Scales. It is scarcely conceivable that primitive man was concerned with scales, much less that he consciously contrived scales and proceeded to create melodies from the tones of such scales. Song was a means of natural expression. Melodies arising out of religious ecstasy, from the rhythm of labor, and in other folk ways were transmitted orally from generation to generation. Each generation added its contribution to the common heritage.

As man became more cultured, he became consciously aware that his music was based on a fixed series of tones, or on several such series. Our historical knowledge of conscious thought about scales goes back to ancient Greece. The Greek scales were the foundation for nearly all Western European ecclesiastical and secular music until the late Renaissance. At that time the major and minor scales assumed increasing importance, and gradually supplanted the older Greek scales, or Gregorian modes, as they were called in Europe.

Composers of the late nineteenth and the twentieth centuries have found the major and minor scales inadequate. They have investigated the potentialities of newly invented scales, and have also made a re-evaluation of the resources of the old modes.

The two forms of the minor scale originate in the old ecclesiastical modes. Church singers, influenced by the secular popularity of the major scale, began to raise the seventh scale a half step, thus making a leading tone of it. Compare the Aeolian mode with the harmonic minor scale; compare the Dorian
mode with the ascending melodic minor; compare the descending Aeolian mode with the descending melodic minor scale.

Major scale structure was explained in Chapter 1. The illustrations below will clarify factors in major scale notation not discussed in the text.

The first scale has the correct pitch relationships for F major but is incorrectly written. The second scale has the correct spelling. The general rule is that no letter may be duplicated (A–A♯), and no letter may be omitted (Bb).

The sharps or flats required for scales other than C major are placed on the staff after the clef. This constitutes the key signature.

Memorize the major scale key signatures. Note the order in which the sharps and flats are added.

Sharp keys
Flat keys

The highly sharpened and flattened scales are written as follows: Since the rule is that each letter must be used in turn and none omitted, the scale of C# requires B♯, not C natural as its seventh step. F♯ requires an E♯, not F natural; G♯ requires an F double sharp (♯♯), not G natural. The G♯ scale has a C♭ as its fourth step, not B; and the C♭ scale starts on C♭, not B, and has Fb as its fourth step.

Major sharp scales

Major flat scales
ENHARMONIC SCALES—HARMONIC MINOR SCALES

Note that the scales of F♯ and G♭, although written differently, are the same on the keyboard. The same is true of B and C♭. These paired scales or keys are called enharmonic scales or keys. The reason for writing the same series of tones in two ways is that it simplifies writing music in highly sharpened or flattened keys when a modulation occurs. A composition may start in the key of G♭, and then modulate to B. It is simpler to add another flat to the original key and continue in the key of C♭.

Harmonic minor scales
The melodic minor scales

**Intervals.** Intervals fall into two general categories, diatonic and chromatic. When the upper tone of an interval belongs to the major scale of which the lower tone is the tonic, the interval is a diatonic interval. A chromatic interval is one in which the upper tone is a chromatic tone in the major scale of which the lower tone is the tonic.

The first interval in the example below is diatonic; E is in the C major scale. The second interval is chromatic; B is not in the F major scale. The third interval is chromatic; C is not in the F major scale; the fourth interval is diatonic; F# is in the G major scale.
All intervals are classified according to the number of letters they encompass, including the letter of the lower tone. The first interval in the example above is a third; three letters are included: C–D–E. The second interval is a fourth, the third a sixth, and the last a seventh.

Thirds are not all equal in size, but are further defined by whether or not they are major thirds or minor thirds. The major triad contains a major lower third and a minor upper third.

The diatonic intervals are divided into two groups, perfect (P) and major (M) intervals. The prime, the fourth, the fifth, and the octave are perfect. Perfect and major intervals are:

<table>
<thead>
<tr>
<th>P</th>
<th>Pr.</th>
<th>M2</th>
<th>M3</th>
<th>P4</th>
<th>P5</th>
<th>M6</th>
<th>M7</th>
<th>P 8va</th>
<th>M9</th>
<th>M10</th>
</tr>
</thead>
</table>

Intervals. Seconds, thirds, sixths, and sevenths are major intervals. We may speak, then, of a perfect fourth or a major sixth.

Diatonic intervals, when expanded or contracted by a half tone or a whole tone, become chromatic intervals. Perfect and major intervals expanded by a half tone become augmented intervals. Major intervals contracted by a half tone become minor intervals; perfect intervals contracted by a half tone become diminished intervals.

Diatonic intervals may be enlarged by a whole tone. Major and perfect intervals so enlarged become double augmented. Diatonic intervals may be
decreased by a whole tone. Major intervals so decreased become diminished; perfect intervals become double diminished.

Some intervals look the same on the keyboard but are written differently; this is illustrated by the last two unlabeled intervals in the example above. The first is a minor sixth, the second is an augmented fifth. What seems like academic hair splitting in nomenclature becomes a logical musical necessity when these intervals appear in chords, and their spelling must make harmonic sense.

**Transposition by Clef.** Skill in transposition is an essential element in sound musicianship. A good accompanist must be able to transpose a printed score to a higher or lower key when a song is too low or too high for effective performance.

The method presented in the text, Chapter 5, requires the student to transpose a melody by reproducing its contour in the desired key. The chords are analyzed and the same harmonic pattern is played in the new key.

Transposition by clef eliminates the necessity for harmonic analysis. The development of skill in transposing by clef is, however, a long process. Here is a description of that technique:

This is a C clef. Wherever it is placed on a staff, it marks that line as the position of middle C. The other tones are then located correspondingly, as illustrated.

\[
\begin{align*}
\text{C} & \quad \text{E} & \quad \text{G} & \quad \text{C} & \quad \text{E} & \quad \text{G} \\
\end{align*}
\]

The C clef in different positions is named as follows:

C clef on the first line is called *soprano clef*:

\[
\begin{align*}
\text{C} & \quad \text{C} & \quad \text{G} & \quad \text{B} & \quad \text{D} & \quad \text{F} & \quad \text{A} & \quad \text{C} \\
\end{align*}
\]

C clef on the second line is called *mezzo soprano clef*:
C clef on the third line is called *alto clef*:

\[\text{Diagram of alto clef}\]

C clef on the fourth line is called *tenor clef*:

\[\text{Diagram of tenor clef}\]

The F clef sign may also be placed in different positions on the staff.

The F clef on the third line is called *baritone clef*:

\[\text{Diagram of baritone clef}\]

The F clef on the fourth line is called *bass clef*:

\[\text{Diagram of bass clef}\]

In order to transpose by clef, the student must master reading in each clef quickly, which takes continued practice. Using song collections, substitute the soprano clef for the treble (G) clef, playing the tones in the new clef and reciting the letter names. For example:

\[\text{Diagram of transposed melody}\]

Mentally add the required sharps or flats. The example may be played in A or Ab.

Continue practicing until facility is achieved, then do the same with each clef in turn. When the student is able to use the clefs easily to transpose a single melody line, he is ready to use two different clefs in the transposition of a piece of piano music.
This is done as follows: Take the tonic tone of the piece in its original key. Rename it, calling it the tonic of the desired key. Assume that the desired key is F. Call the C in the example F. Now find the clef in which F is in the third space. That clef is the mezzo soprano clef. Mentally substitute the mezzo soprano clef in the right hand part. The tones read as illustrated.

Now turn to the left hand part. Find a clef which will make the tonic, in this example the second space, the tone F. That clef is the soprano clef. Substitute the soprano clef mentally for the bass clef as follows:

Play both parts, using the mezzo soprano clef for the right hand and the soprano clef for the left hand. The same pair of clefs will be used for a transposition to the key of F#, except that the tones will be read with the F# signature in mind.

Except for their use in transposition, the soprano, mezzo soprano, and baritone clefs are obsolete. The alto and tenor clefs are used in music for the viola, cello, and tenor trombone, and students who wish to read string quartet and orchestral scores must develop facility in reading both of them.