Four-Part Writing

Four-Part Writing textbook is a collection of lectures used by the author in his Western Music Theory classes at the College of Music, Mahidol University (Thailand). It is intended to be used during the first three semesters of music theory course. Those who plan to study the course are expected to have rudimental knowledge in music theory. The material is organized in a gradual manner: starting with the topics on the diatonic harmony (primary and secondary triads, primary and secondary seventh chords, etc.) and proceeding with the chromatic harmony (secondary dominants, augmented sixth chords, various types of modulation, etc.). Each topic provides information on the definition of the chord, its identification, structure, doubling, function and connection with other chords. All rules and norms of the four-part writing presented in the textbook are illustrated with the examples showing the correct voice leading and with the excerpts from the music of the common practice period. Several types of exercises are given at the end of each topic. They are harmonic analysis, soprano harmonization and figured bass line realization.

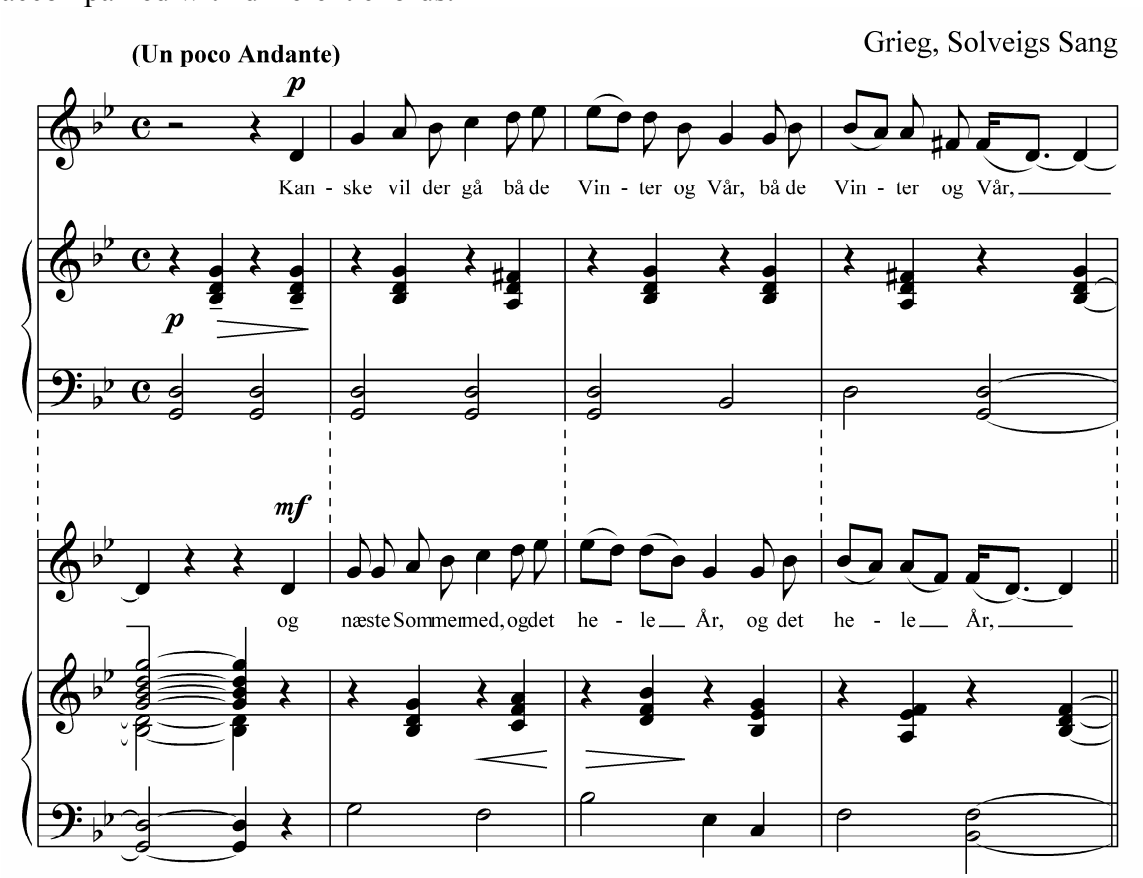
Table of contents

1. Introduction. Chords and Chord Tones
2. Major, Minor, Augmented and Diminished Triads
3. Primary Triads. Their Function
4. Connection of Primary Triads
5. Melody Harmonization Using Primary Triads
6. Nonchord Tones. Secondary Nonchord Tones
7. Chord Repetition with Exchange of Notes in Upper Voices
8. Bass Line Harmonization
9. Leaps of Thirds
10. Period. Phrase. Cadence
11. The Cadential Tonic Six-Four Chord
12. Primary Triads in First Inversion
13. Leaps when Connecting Triads in Root Position with Triads in First Inversion
14. Connection of Two Sixth Chords
15. Figured-Bass Symbols
16. Passing and Neighboring Six-Four Chords
17. The Dominant Seventh Chord in Root Position
18. Inversions of the Dominant Seventh Chord
19. Leaps when Resolving the Dominant Seventh Chord and its Inversions
20. Other Diatonic Chords of Major and Minor
21. The Supertonic Triad
22. The Submediant Triad. The Deceptive Cadence
23. The Supertonic Seventh Chord
24. The Leading Tone Seventh Chord
25. The Dominant Ninth Chord. The Supertonic Ninth Chord
26. Other Dominant Chords
27. Modal Borrowing
28. Descending Melodic Minor. Phrygian Progression
29. Sequence. Other Seventh Chords
30. Secondary Dominants. Secondary Subdominants
31. Augmented Sixth Chords
32. Augmented Sixth Chords (Continuation). Altered Dominants. Altered Subdominants
33. The Neapolitan Triad
34. Modulation. Common Chord Modulation
35. Chromatic Sequence. Sequential Modulation
36. Modulation using the Neapolitan Triad
37. Enharmonic Modulation. Fully Diminished Seventh Chord
38. Modulation using the Dominant Seventh Chord (German Chord)
39. Modulations of Other Types
40. Neighboring and Passing Diminished Seventh Chords
41. Modal Borrowing from Relative Key. Modally Borrowed Secondary Dominants

Harmony. Chords

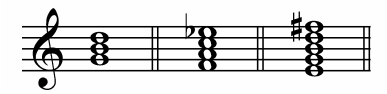
Harmony is a *combination of pitches (tones, notes) into chords* and *their use (i.e., their connection).*

Harmony is important for the development of a music composition; it colors the melody and gives it various emotional shades. The best example for this is when the same melody is accompanied with different chords.

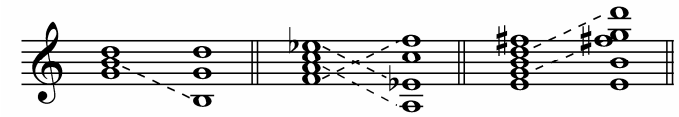


The term "harmony" is also used to designate the *study* of chords, their structure and how to connect them (i.e., *the study of harmony*).

The *chord* is a combination of three or more pitches sounded simultaneously. The pitches of a chord are a 3rd apart[1].



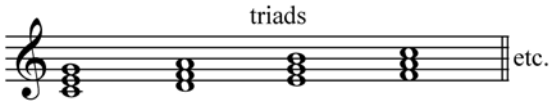
Very often the pitches of a chord are transposed, so they may just look they are not a 3rd apart.



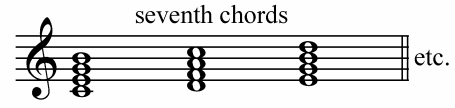
[1] The tones of the chords in the music of the twentieth century may be a 4th, 5th, 2nd, or sometimes even a smaller interval apart.

Chord Types

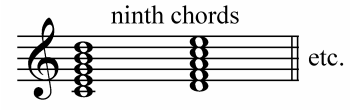
The chord consisting of three notes is called a *triad*.



The chord consisting of four notes is called a *seventh chord*.



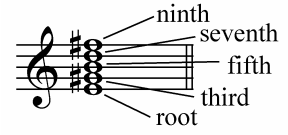
The chord consisting of five notes is called a *ninth chord*[2].



Naming the Chord Tones

The lowest tone of the chord, in which each tone is a 3rd apart, is called the *root*.

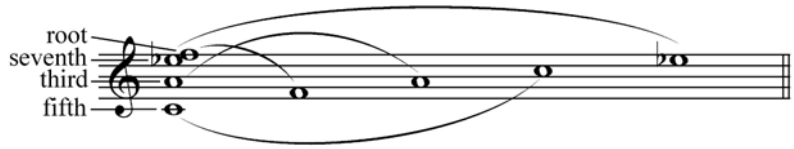
The rest of the tones are called according to their distance from the root. The tone a 3rd above the root is called the *third*; the tone a 5th above the root is called the *fifth*; the tone a 7th above the root is called the *seventh*; and the tone a 9th above the root is called the *ninth*.



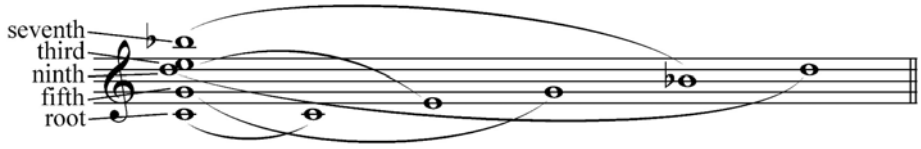
The names of the tones are not changed even if the position of the notes and the chord itself is different.

a. triad

b. seventh chord



c. ninth chord



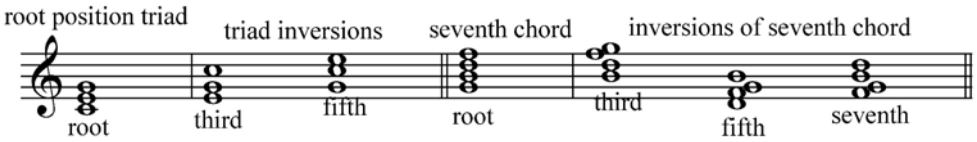
[2] 6-note (11th) and 7-note (13th) chords can be found in the music of the twentieth century.

Root Position and Inversions of Chords

A chord can be in root position or in its inversion.

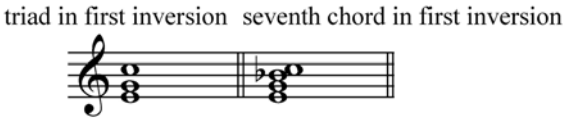
If the tones of a chord are placed above the root, this chord is called to be in its *root position*.

If the lowest note of a chord is either the 3rd, 5th, 7th, or (rarely) 9th, this chord is called to be in its *inversion*.



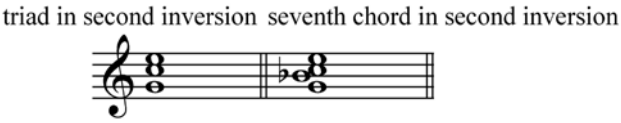
Naming Chord Inversions

If the lowest tone of a chord is the 3rd, such chord is called to be in its *first inversion*.



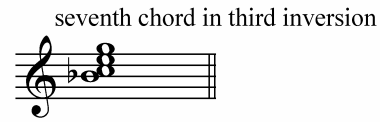
The 1st inversion triads are also called *sixth chords*[3].

If the lowest tone of a chord is the 5th, such chord is called to be in its *second inversion*.



The 2nd inversion triads are also called *six-four chords*[4].

If the lowest tone of a chord is the 7th, such chord is called to be in its *third inversion*.

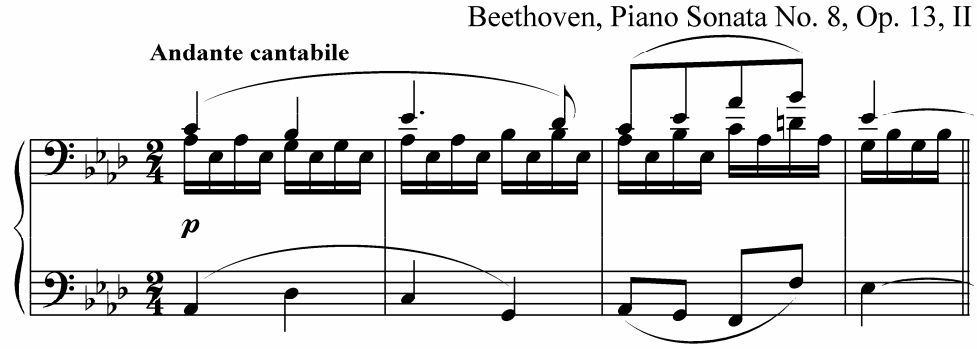


The ninth chord is mostly used in root position.

Analyzing Chords in Music

Using the above information it is possible to analyze chords in the music in the following way.

Beethoven, Piano Sonata No. 8, Op. 13, II



[3] The name for this inversion of the triad comes from the distance (the 6th) between the lowest note (the 3rd) and the root above it.

[4] The distances between the lowest note (the 5th) and the upper two (the 3rd and the root) are a 6th and a 4th.

a) The first chord is the triad A flat–C–E flat; the lowest note is the root A flat, thus the triad is in root position;
b) The second chord in this measure is the seventh chord E flat–G–B flat–D flat; the lowest note here is the 7th D flat, thus this seventh chord is in its 3rd inversion;
c) The first chord in measure 2 is again the triad A flat–C–E flat but the lowest note now is the 3rd C; this triad is in 1st inversion (sixth chord);
d) The second chord in this measure is again the seventh chord E flat–G–B flat–D flat with the lowest note being the 3rd G, which makes it the seventh chord in 1st inversion; etc.

Nonchord Tones

General Information

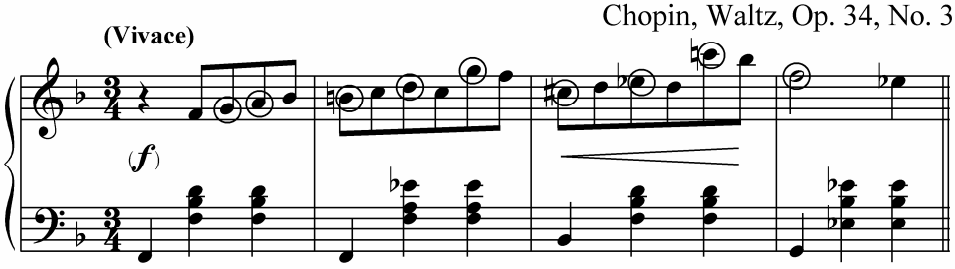
The musical texture can be divided into *melody* and its *accompaniment* (which is usually made of chords).

When a certain chord is being sounded, some tones of the melody may be a part of that chord and some may be not.

The tone, which is either the root, 3rd, 5th, 7th, or 9th of the chord, is called the *chord tone*.

The tone, which is not a part of the chord, is called the *nonchord tone (nonharmonic tone)*[5].

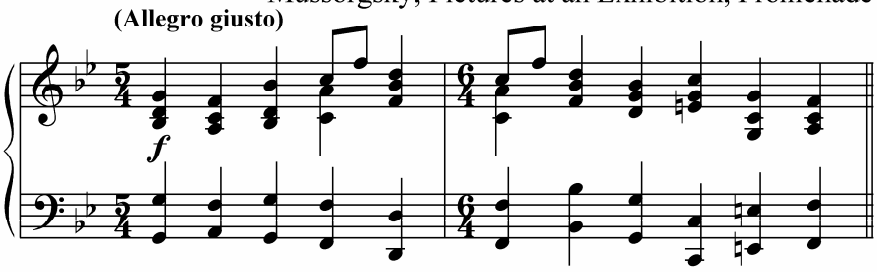
Chopin, Waltz, Op. 34, No. 3



The circled notes in the example above are the nonchord tones.

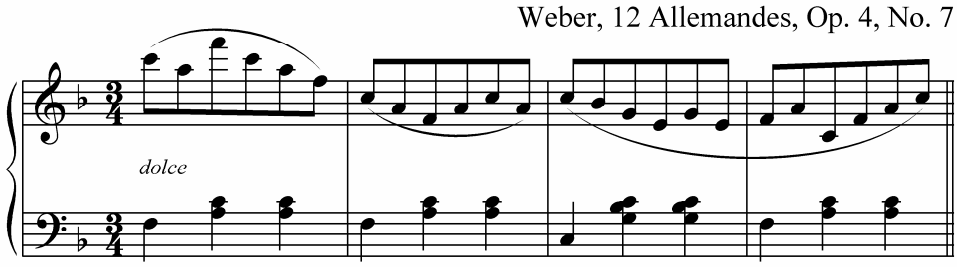
Sometimes the melody can be based only on chord tones.

Mussorgsky, Pictures at an Exhibition, Promenade



Melodies which are constructed using arpeggiations of chords are very typical for the music of the common practice period[6].

Weber, 12 Allemandes, Op. 4, No. 7



Nevertheless, most melodies are a combination of both chord tones and nonchord tones.

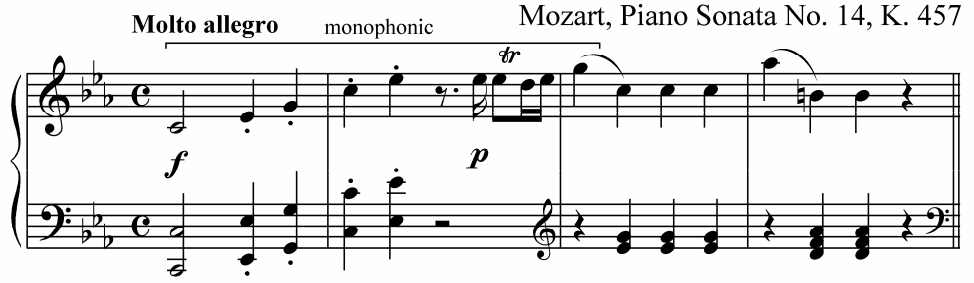
[5] The types of nonchord tones will be discussed later.

[6] In the history of European art music (broadly called *classical music*), the *common practice era* – spanning the Baroque, Classical, and Romantic periods – lasted from about 1600 to around 1900.

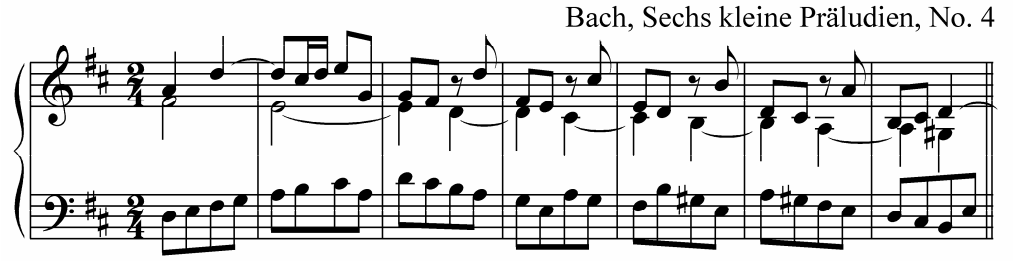
Monophonic, Polyphonic and Homophonic Texture

The way in which a musical idea is presented is called *texture*.

Monophonic texture consists of a single line, or lines doubled at the unison or octave. It may occur for only one or two beats or for several measures.

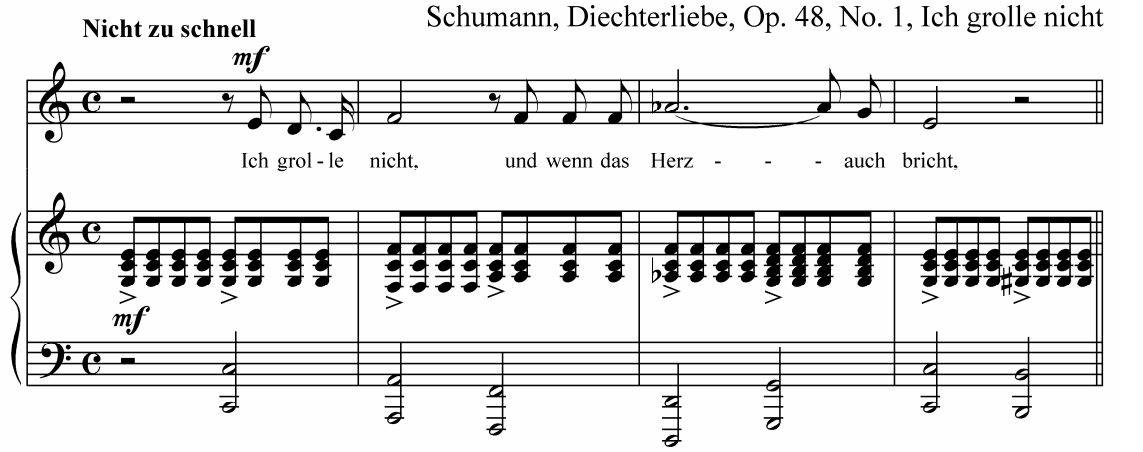


Polyphonic texture is characterized by a melodic independence of all lines. Any line has the right to present the main melody at any time.



In *homophonic texture* the melody is given to one line only. This line is usually the top one. The rest of the lines have the role of a background.

There are three elements that can be recognized in homophonic texture: *melody*, *bass* and *harmonic filling* between the lines.



Melody

A musical composition is presented and reaches the listener's consciousness *in time*. Time is the first requirement for the perception of music; the second requirement being our *memory*: we can perceive a musical whole only if we combine what we have just listened to in our memory.

The main idea we have perceived is stuck in our consciousness in the form of a *melody*.

The melody is one of the most important elements of the musical language. It is made up of logical succession of various pitches, note values, metrical pulsations, dynamics and timbre.

When composers create a melody, they realize it as a certain construction which can be perceived as something complete and whole, both tonally and rhythmically. An example of the complete musical construction of a melody is a *period*. The characteristic feature of any period is that it can be divided into smaller parts (*phrases*, *semi-phrases* and *motives*).

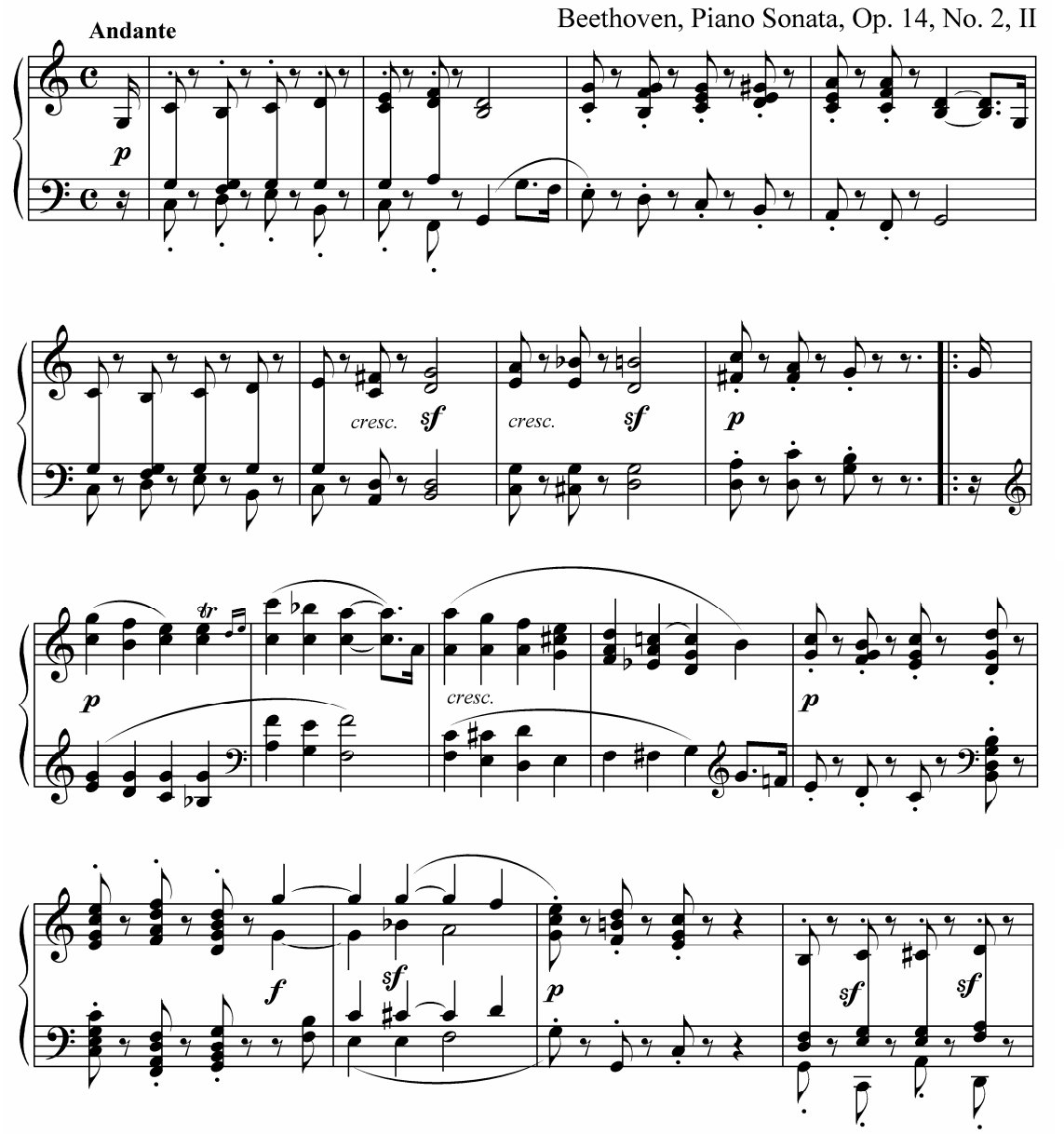
Melody progresses mainly in the shape of a wave alternating between ascending (upward) and descending (downward) motions, moving by step or by leap. In the process of development, the melody reaches its highest peak which is called *climax*.

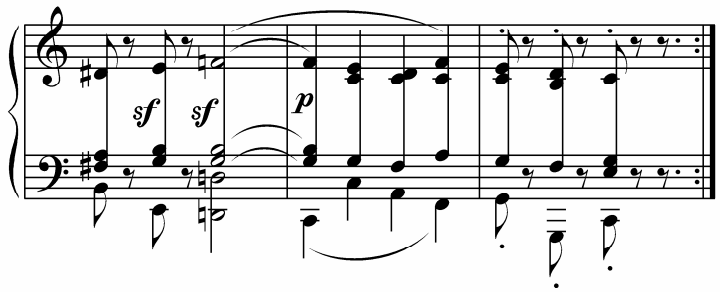
Exercises

Analyze the following music. Before starting to analyze, listen to or play each excerpt. Identify the type of each chord (triad, seventh chord or ninth chord) and whether it is in root position or in its inversion (first, second or third). Circle all nonchord tones.

a)

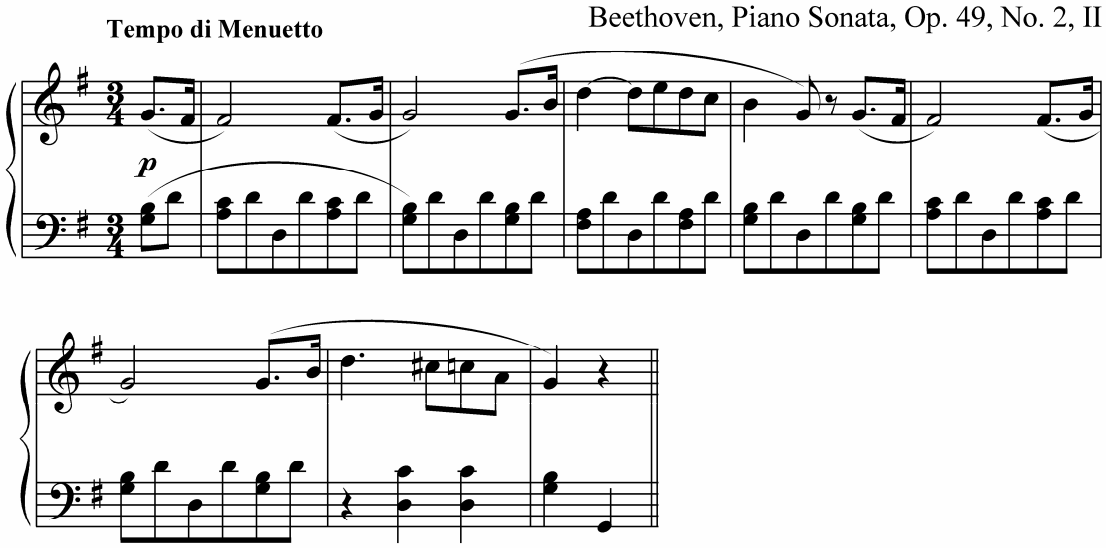
Beethoven, Piano Sonata, Op. 14, No. 2, II





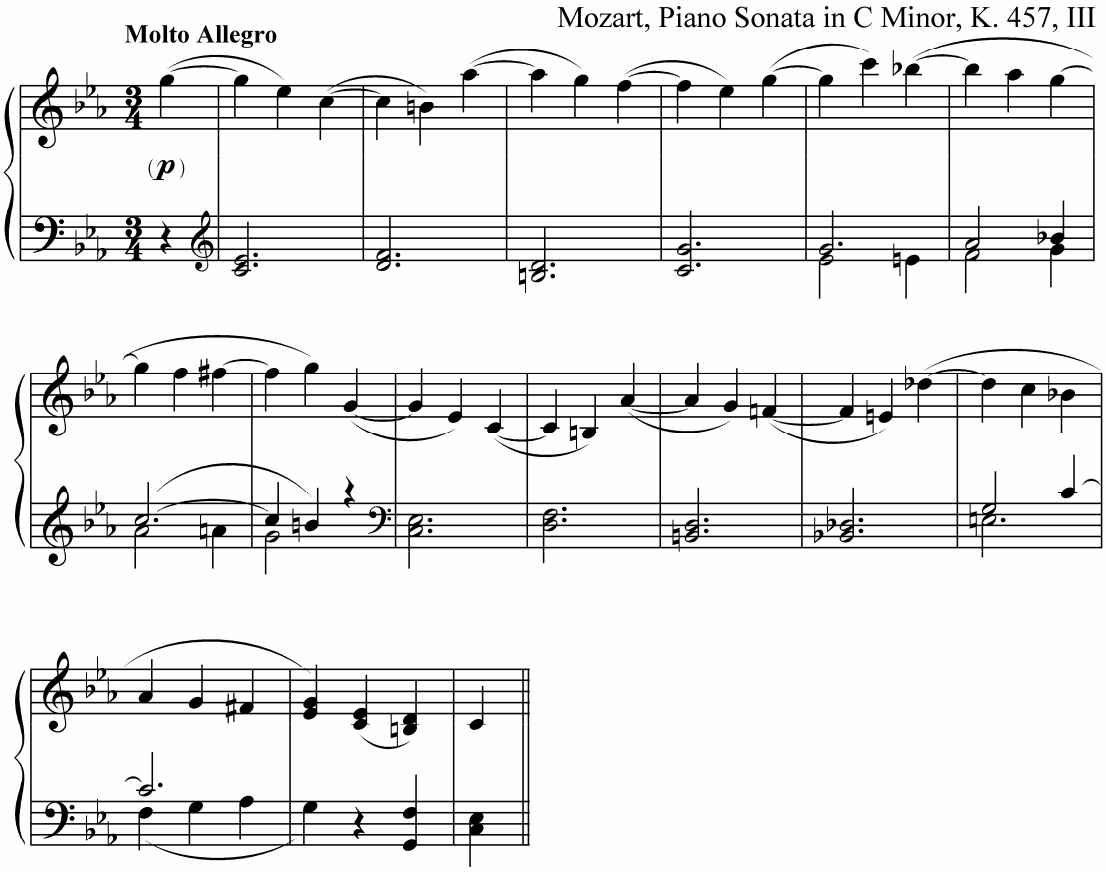
b)

Beethoven, Piano Sonata, Op. 49, No. 2, II

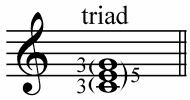


c)

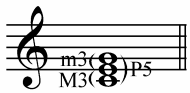
Mozart, Piano Sonata in C Minor, K. 457, III



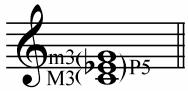
The triad is a chord which consists of three notes. The distance between the adjacent notes of a triad is a 3rd and the distance between the outer ones is a 5th.



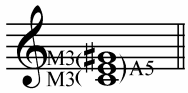
The *major triad* consists of a major 3rd between the root and the 3rd and a minor 3rd between the 3rd and the 5th; the distance between the root and the 5th is a perfect 5th.



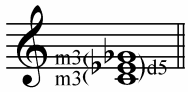
The *minor triad* consists of a minor 3rd between the root and the 3rd and a major 3rd between the 3rd and the 5th; the distance between the root and the 5th is a perfect 5th like in a major triad.



The *augmented triad* consists of a major 3rd between both the root and the 3rd and the 3rd and the 5th; the distance between the root and the 5th is an augmented 5th.



The *diminished triad* consists of a minor 3rd between both the root and the 3rd and the 3rd and the 5th; the distance between the root and the 5th is a diminished 5th.



Both augmented and diminished triads are used less often than major and minor triads.

Four Parts

In classical music the triads are rarely used in three voice texture but rather in *four voice texture* (*four-part writing*) which became a standard in classical composition and thus is used in textbooks[7].

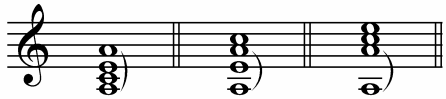
The names of *four* different singing voices are used in four-part writing to name each part (voice, line): *soprano*, *alto*, *tenor*, and *bass*.

These names which are normally used in chorus are also used to name the voices in any instrumental music. Sometimes, the upper voice (soprano) is also called *melody (melodic line)*.

Doubling

Since there must be four lines and a triad consists of only three tones, one of the tones must be *doubled*. The tone which is mostly doubled in a triad is the root[8].

The doubled note can be placed in any of the three upper voices.



Voicing

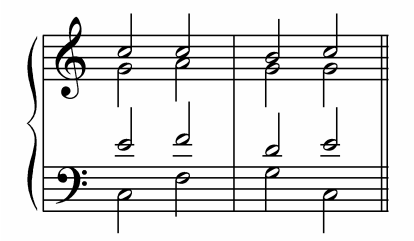
There are two types of voicing that are used in notating music: *choral* and *keyboard*.

---

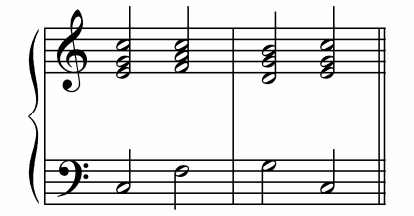
[7] Before the four-part writing became the standard in music, composers of the early classical period also used three- and five-part writing.

[8] Other types of doublings will be discussed later.

In *choral voicing* in order to make it easier to see which note belongs to which voice, it is customary to place two voices on each staff of the great staff. The *upper voice* of each pair of voices on each staff (soprano on the upper staff (treble clef) and tenor on the lower staff (bass clef)) is notated with the stems *up*, and the *lower voice* (alto on the upper staff and bass on the lower staff), with the stems *down*.



In *keyboard voicing* the three upper voices (i.e., soprano, alto and tenor) are written on the upper staff and the lowest voice is written on the lower staff. The three upper voices are notated using only one stem. The direction of the stems in both upper and lower staves depends on the placement of the notehead(s) on the staff.



The students are recommended to use the choral voicing in their exercises since it is more restrictive.

Spacing

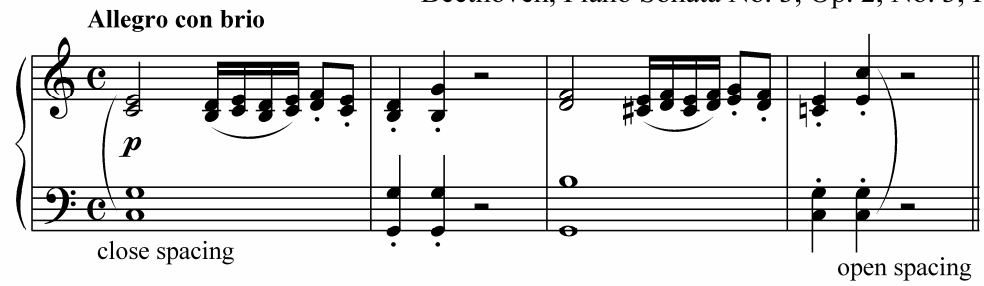
The notes of a triad can be placed in such a way so that the triad will be called as to be in *close* or *open spacing*[9].

In *close* spacing the interval between each pair of the three upper voices (i.e., between soprano and alto, and between alto and tenor) is a *3rd* or *4th*.

In *open* spacing the interval between each pair of these three voices is a *5th*, *6th* or *octave*.

However, in both close and open spacings, the interval between tenor and bass may be from a *unison* to *two octaves* (sometimes, even bigger).

Beethoven, Piano Sonata No. 3, Op. 2, No. 3, I

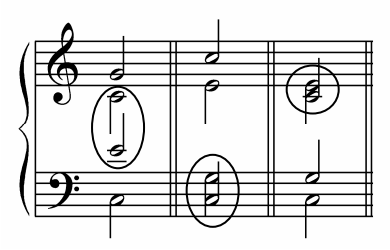


In this example, the C major triad in the beginning is used in close spacing and at the end, in open.

Voice Crossing

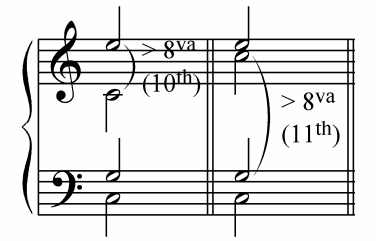
In students' exercises it is *not* allowed to use *voice crossing* in any triad in close or open spacing. Voice crossing is when *soprano* is placed lower than *alto* (or *alto* is placed higher than *soprano*), or when *alto* is lower than *tenor*, or when *bass* is higher than *tenor*.

[9] The mixed spacing will be discussed later.

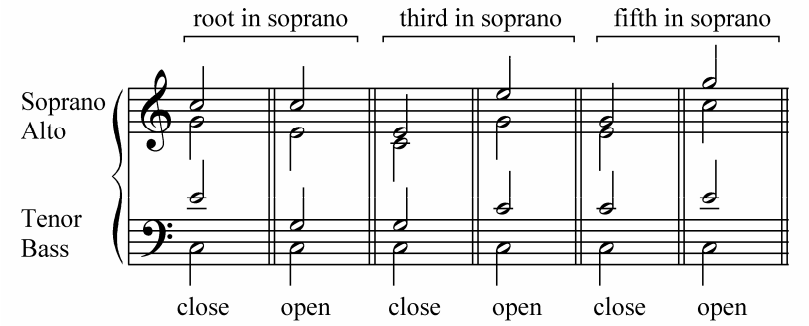


Distance

Any interval *larger than an octave* between adjacent upper voices is also *not allowed* in four-part writing. In the following *incorrect* examples there is the *tenth* between alto and soprano (C and E) and the *eleventh* between tenor and alto (G and C).

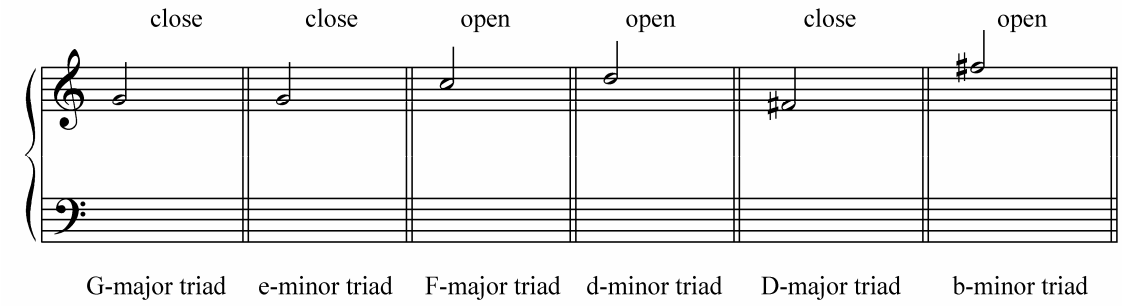


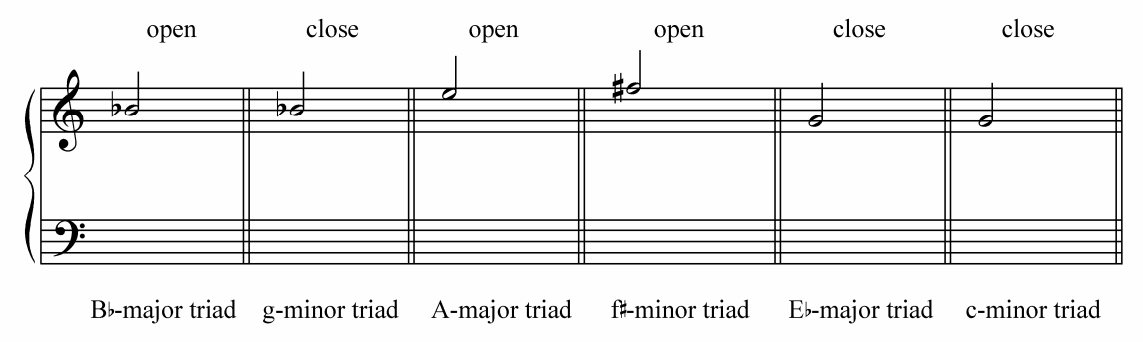
The following is the correct example of the C major triad in four voice texture using different spacings and with the placement of different note of the triad (i.e., root, 3rd and 5th) in soprano.



Exercises

In your exercise-book, construct the following major and minor triads in root position using both close and open spacing. Double the root in each triad.




open
close
open
open
close
close
B♭-major triad
g-minor triad
A-major triad
f♯-minor triad
E♭-major triad
c-minor triad

Tonality

The tonality is a system of relationships between chords where, at the same time, each chord has a special relationship with the tonic triad. This doesn't mean only the relationship between each chord but also the intervallic relationships between the notes of each voice.

Tonal Function

The role a note or chord plays in a given tonality is called *tonal function*, or simply *function*. By function of a certain note or chord we mean its relationship or behavior with other notes or chords of the given tonality. When notes or chords are connected in accordance with their function, they create certain increases and releases of musical tension.

Primary Triads. Their Function

The triad which is built on the 1st degree of a scale (the *tonic* note) is called *tonic triad*. In European music it is considered to be the basis of tonality because under certain melodic, rhythmic and metric circumstances it can express a fulfillment of musical thought and stability which is necessary for the end of a musical composition.

The tonic triad is identified with the upper-case Latin numeral *I* (major triad) in major keys and with the lower-case numeral *i* (minor triad) in minor keys.

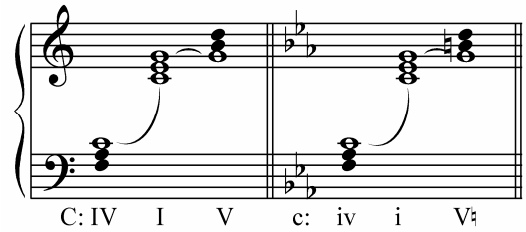
The triad built on the 5th scale degree is called *dominant triad*. It is identified with the upper-case numeral *V*. In minor keys, the 3rd (the leading tone) must be raised and the accidental is placed next to the numeral V. The triad is major in both major and minor keys[10].

The triad built on the 4th scale degree is called *subdominant triad*. It is identified with the upper-case numeral *IV* (major triad) in major keys and with the lower-case numeral *iv* (minor triad) in minor keys.

The dominant and subdominant triads are the most often and main representations of instability in any tonality. Both of them can't create a feeling of fulfillment of a musical thought.

The tonic, dominant and subdominant triads are called *primary triads (principal triads)*. In a major key, the three of them are *major*; in a minor key the tonic and subdominant triads are *minor* and the dominant triad must be *major*.

The relationship between these three chords is the basis of the diatonic music which, anyway, is not limited to them only and uses other chords as well.



Chord Progressions

When a chord follows another, it is called *chord progression*.

The most simple chord progressions and their logic are based on the principle of the tonic triad being followed by one or several unstable chords creating certain tension, and this tension is released when the tonic triad returns.

[10] The *minor* dominant triad, which is used less often and under certain circumstances, will be discussed later.

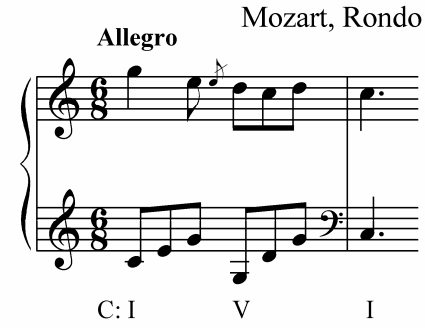
Tonic Triad	Non-Tonic Chord(s)	Tonic Triad
Stability	Instability	Stability
	(Tension)	(Tension Release)

The above scheme shows that tonal stability conditions the existence of tonal instability, and vice versa. They can't exist without each other. Their existence and their difference can be only understood if both of them are present.

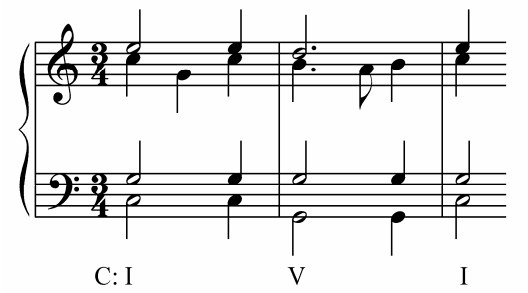
The general scheme of chord progressions shown above has a few simple realizations.

1) If the dominant triad is used after the tonic triad, the tonic triad will naturally follow that dominant triad: I–V–I.

Mozart, Rondo

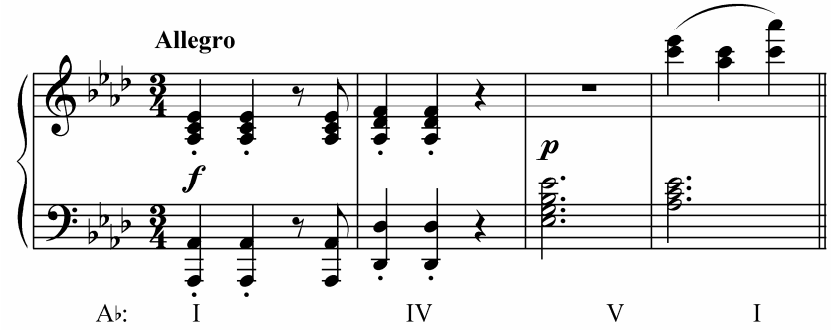


Kuhnau, Biblical Sonata No. 1



2) If the subdominant triad is used after the tonic triad, it will be most often first followed by the dominant triad and than by the tonic triad: I–IV–V–I.

Beethoven, Egmont Overture, Op. 84

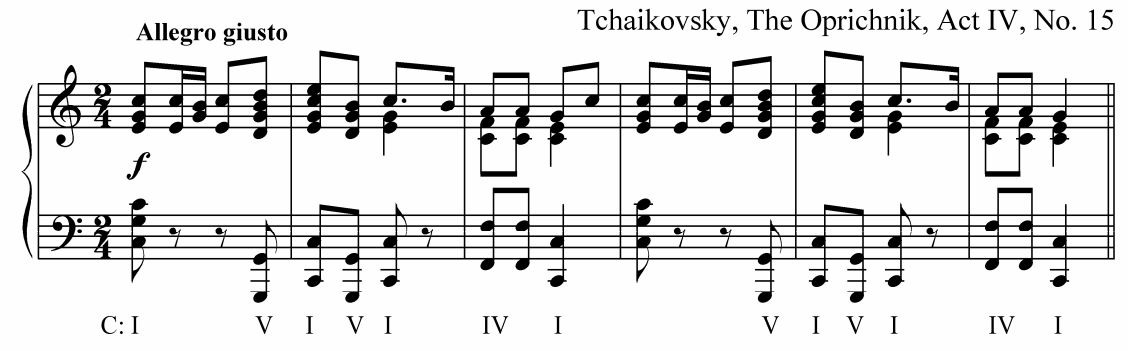


If compared to the first type, this chord progression has some special characteristics; they are:

a) the return of the tonic triad is postponed which makes the instability (tension) last longer;
b) it contains the conflict of two opposite unstable chords (subdominant and dominant triads) which is resolved when the tonic triad returns;
c) the tonality is presented from different points of view because all of its primary chords are present; all seven notes of the scale are used.

3) The subdominant triad is also very often followed by the tonic triad: I–IV–I[11].

Tchaikovsky, The Oprichnik, Act IV, No. 15



Naming Chord Progressions

Any chord progression utilizing only tonic and dominant triads is called *authentic* chord progression:

I–V
V–I
I–V–I
V–I–V
I–V–V–I

Any chord progression utilizing only tonic and subdominant triads is called *plagal* chord progression:

I–IV
I–IV–I
IV–I
IV–I–IV

Any chord progression utilizing tonic, dominant and subdominant triads is called *complete* chord progression:

I–IV–V–I
V–I–IV–V–I

Chord progressions can be also divided into a) authentic (V–I, IV–V–I); b) half authentic (I–V, IV–V); c) plagal (IV–I); and d) half plagal (I–IV).

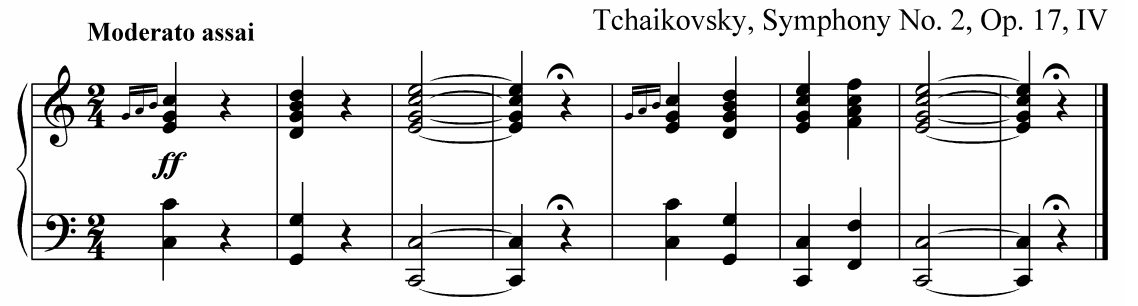
[11] It is very rare that the dominant triad, which is normally followed by the tonic triad, will be followed by the subdominant triad (V-IV). This chord progression is less natural and can be used only under certain circumstances. It is not recommended for a student, who begins studying the four-part writing, to use it at this point.

Exercises

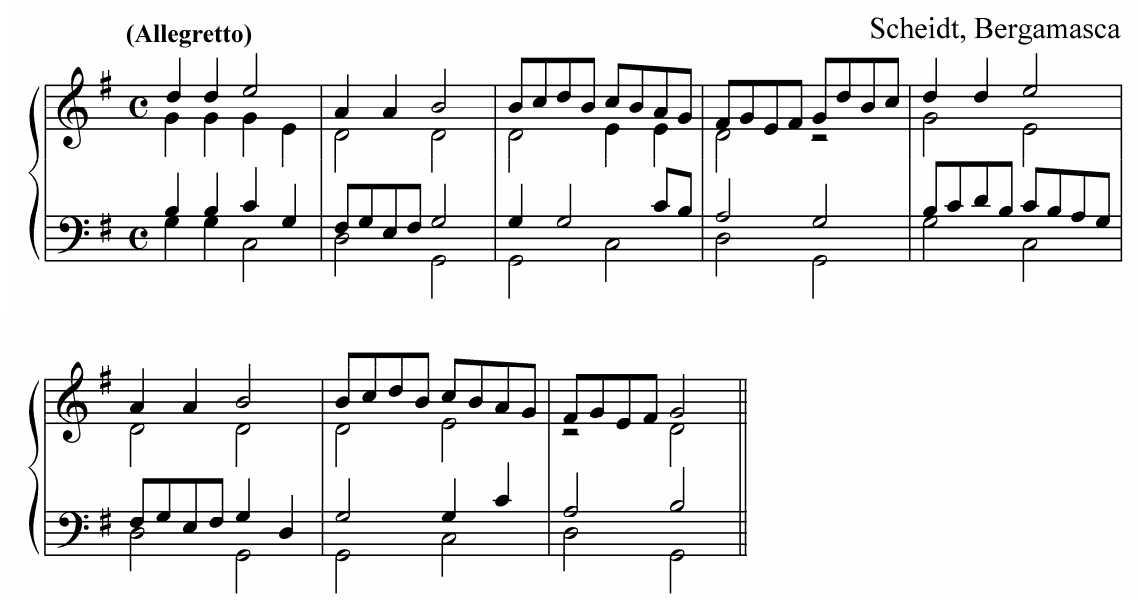
1. In your exercise-book, construct separately tonic, subdominant and dominant triads in various keys using four-part choral voicing.

2. Analyze progressions of I, IV and V in the following excerpts.

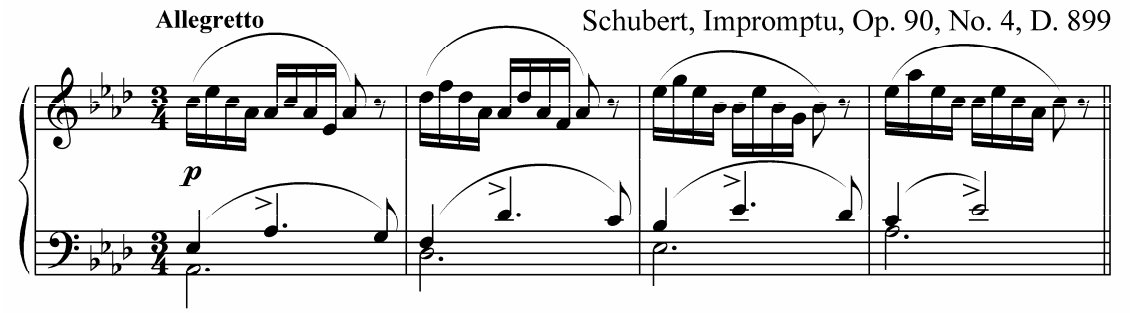
a)



b)



c)



Preliminary information

In a chord progression, one chord is *connected* with another.

Such connection of chords must be done in accordance with the principles and rules which were established through the musical practice during a long period of time.

The chords are connected on the basis of so-called *voice leading*. Voice leading is the relationship between the successive pitches of simultaneously moving lines.

Voice Leading of Each Voice

Each voice can move in two ways: *smoothly* and *by leap*[12].

The voice leading is considered to be *smooth* if the line remains *stationary* (uses the same pitch as before, i.e., unison), moves *by step* (2nd), or *skips* (3rd). This kind of motion is found most often and is considered to be the norm, especially when beginning to study four-part writing.

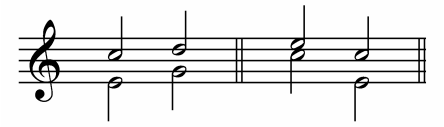
The line *leaps* if it moves by the interval *bigger than a 3rd*. The leaps bigger than an octave are *not* accepted in this style.

The leaps are better avoided and can be sometimes used if treated with special care, but in the beginning it is recommended *not* to use them at all until further notice. Exception is made for the bass line. The leaps of 4th's, 5th's and octaves are usual in this voice, for example, when the chords, in which the roots are a 4th apart, are connected (V–I or I–IV).

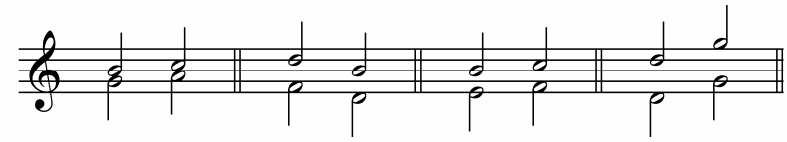
Motion Types

There are four different types of motion that can be used between any pair of voices: *similar, parallel, contrary* and *oblique*.

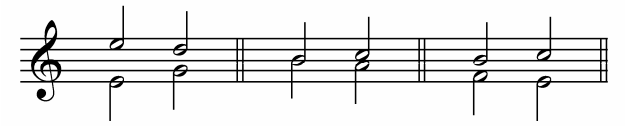
When two lines move in the same direction (up or down), such motion is called *similar*.



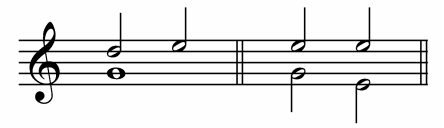
When two lines move in the same direction (up or down) and the interval between them is not changed, such motion is called *parallel*.



When two lines move in the opposite direction, such motion is called *contrary*.

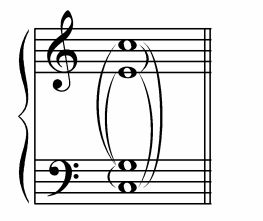


When one line moves (up or down) while the other remains stationary, such motion is called *oblique*.



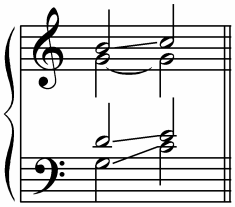
There are six pairs of combinations of voices in four-part writing: bass–tenor, bass–alto, bass–soprano, tenor–alto, tenor–soprano and alto–soprano.

[12] Except for the bass line, leaps won't be used until later.

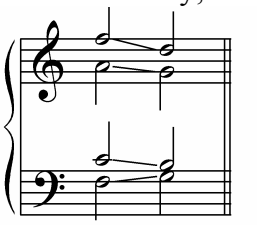


When two chords are connected, each pair of voices will use various types of motion.

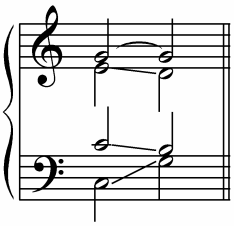
a) similar, parallel and oblique;



b) similar, parallel and contrary;



c) parallel, contrary and oblique.

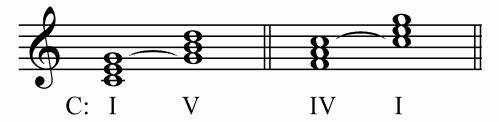


Chord Relationships. Common Tones

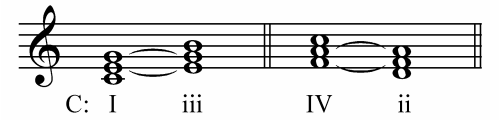
The way two chords are connected depends on the distance (interval) between the roots (and thus the 3rd's and 5th's) of these two chords.

The chords can be *related* with each other in three ways: a) the chords in which the roots are a *4th* (5th) apart, b) the chords in which the roots are a *3rd* apart, and c) the chords in which the roots are a *2nd* apart**.**

a) The chords, in which the roots are a 4th (5th) apart, have *one common tone*. Such relationship, for example, can be found in I–V and I–IV.

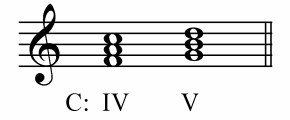


b) The chords, in which the roots are a 3rd apart, have *two common tones*.



Such chord relationship is not used until later.

c) The chords, in which the roots are a 2nd apart, have *no common tones*. Such relationship can be found in IV–V.



Chord Connection

Chords (triads in particular) can be connected *harmonically* and *melodically*.

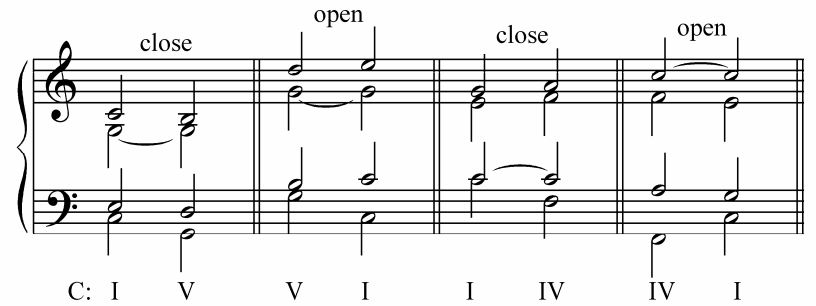
When the common tone(s) of two chords remain(s) stationary, such chord connection is called *harmonic*[13].

In the triads in which the roots are a 3rd apart the two common tones usually remain stationary.

[13] Sometimes such chord connection is also called *common tone connection*.

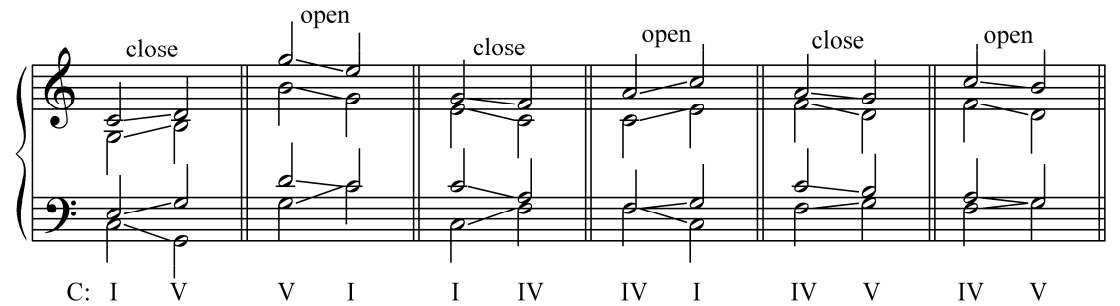
The triads in which the roots are a 4th (5th) apart can be connected harmonically: bass moves from the root of the first chord to the root of the second chord, the common tone remains stationary and the two remaining notes move by step up or down to the nearest tones of the second chord.

If the connection is done exactly in accordance with the rule, both chords will have doubled roots and the same spacing (close or open).



When no tone of two chords remains stationary, even though there may be one or two common tone(s) between the two chords, such chord connection is called *melodic*[14].

The triads in which the roots are a 4th or 2nd apart can be connected melodically: bass moves by the interval which is not bigger than a 4th (that is, it moves by 4th when connecting I–V, V–I, I–IV, IV–I, but *not by 5th*, and by 2nd when connecting IV–V, but *not by 7th*), the three upper lines move *without leaps* in the opposite direction to the nearest chord tones. Both chords would have the correct doubling of the root and the same spacing[15].



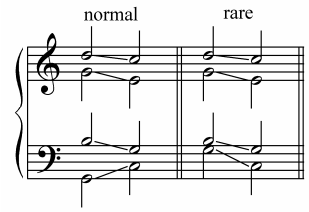
Voice Overlapping. Parallel Fifths and Octaves

When a lower voice leaps to a note which is higher than the previous note in an adjacent upper voice, or vice versa (i.e., when a higher voice leaps to a note which is lower than the previous note in an adjacent lower voice), *voice overlapping* occurs. It is *not allowed* in four-part writing exercises.

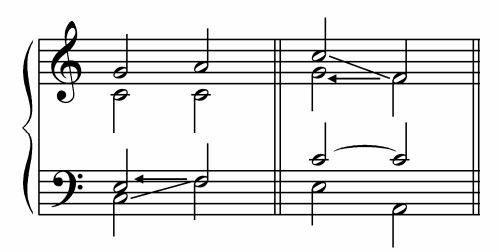
---

[14] *Non-common tone connection*.

[15] Such cases where the bass moves by a 5th can be found rarely. In such cases the three upper voices move in the same direction.

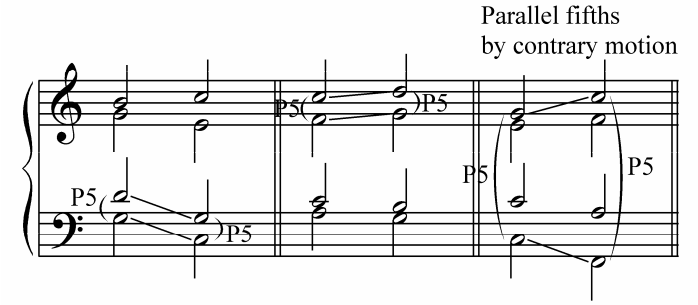


Such voice leading is rare and can be used only in case of emergency, that is, when the normal voice leading can't be used. In general, it is considered *unsatisfactory* when all voices move in the same direction.

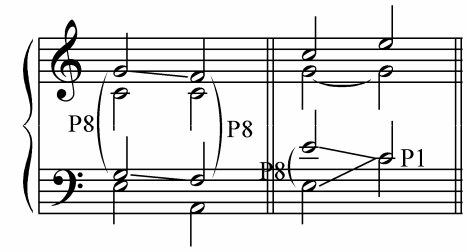


Parallel fifths and parallel octaves (or *consecutive 5th's* and *8ve's*) are also common mistakes in four-part writing exercises.

Parallel 5th's occur when the root and the 5th of one chord (triad) move to the root and the 5th of another in the same pair of voices. Parallel 5th's can occur not only when the two voices move parallel to one another but also when they move contrary (*parallel 5th's by contrary motion*).

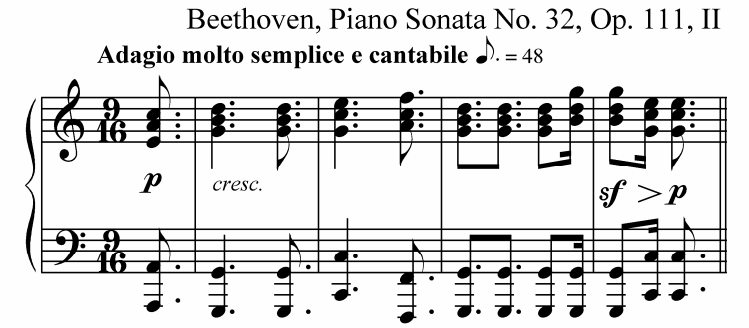


Parallel 8ve's (or *parallel unisons*) happen when a pair of voices moves from one perfect octave (or unison) to another (or unison). Like parallel 5th's by contrary motion, parallel 8ve's can also happen because of a contrary motion.

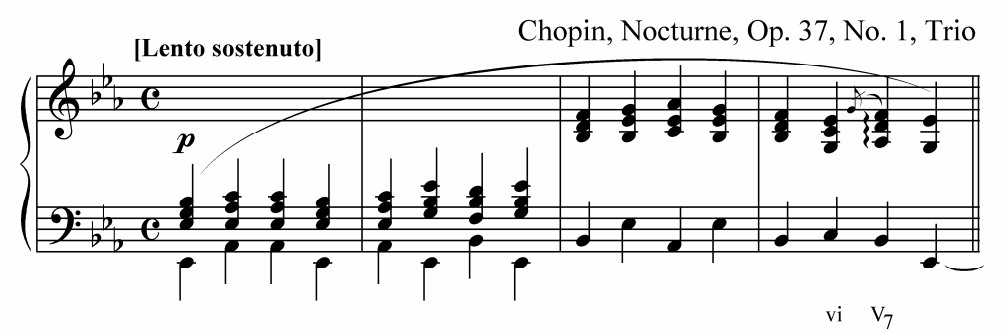


Exercises

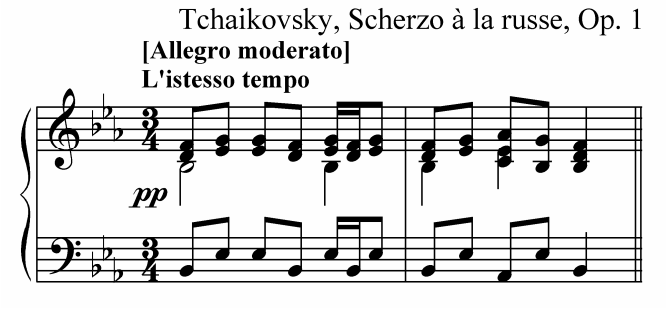
1. Analyze the following music.
   a)



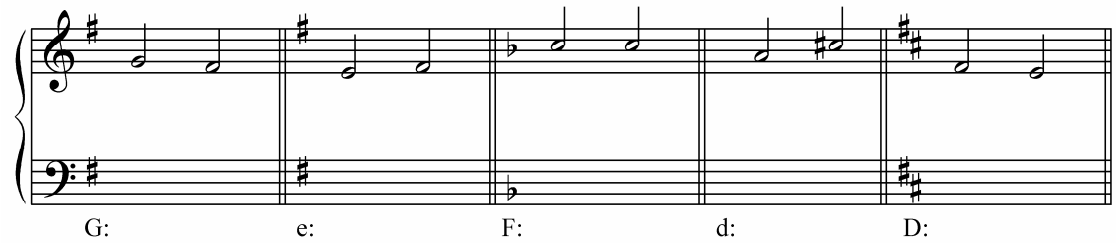
b)

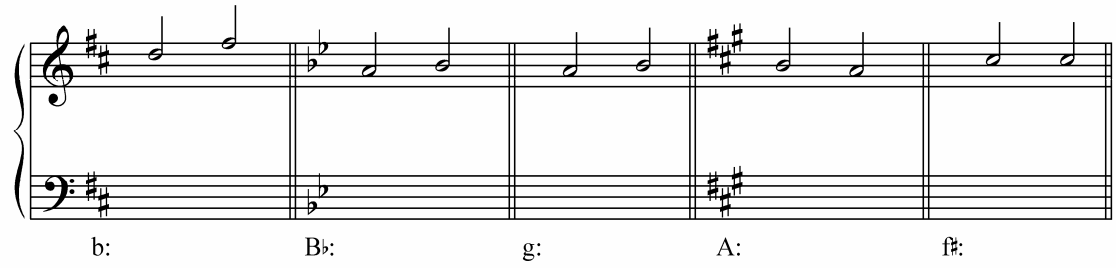


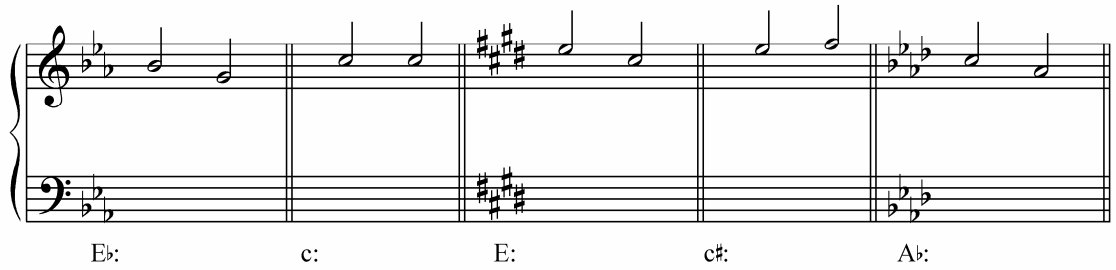
c)

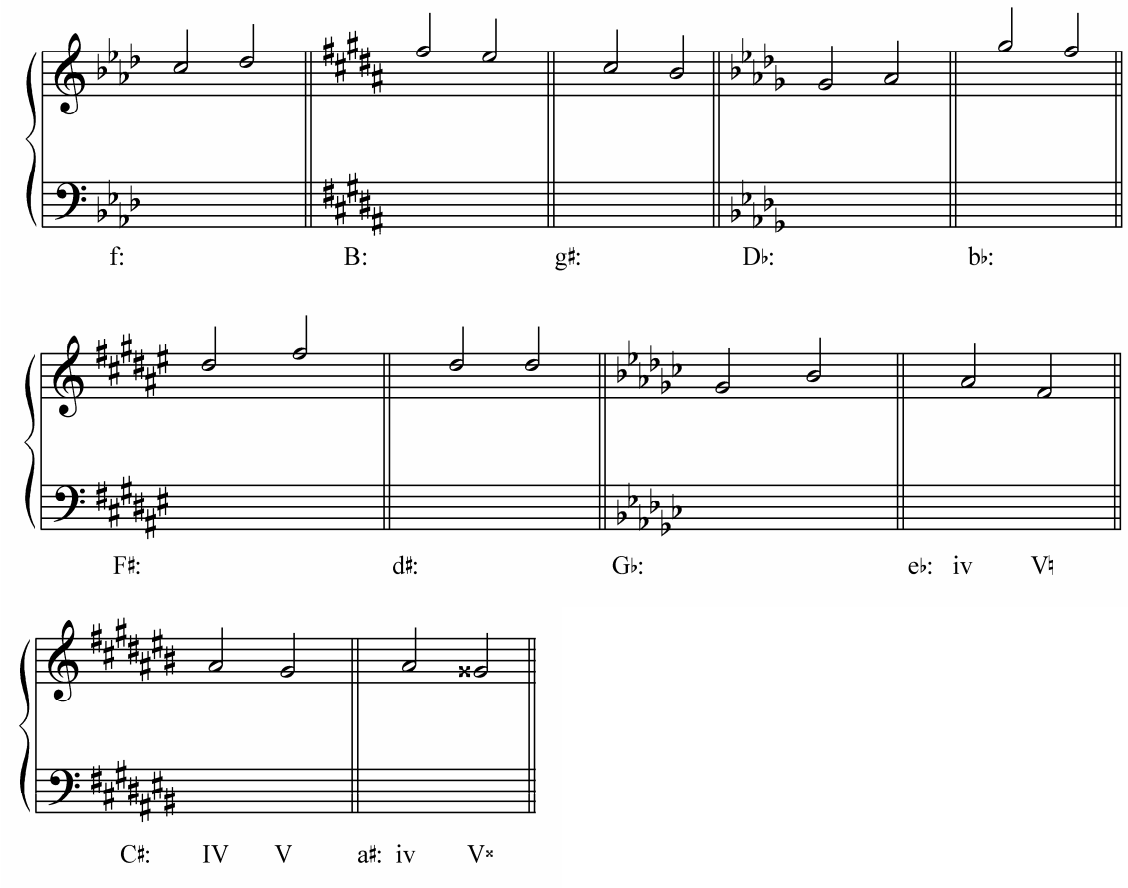


2. Harmonize the following soprano lines using I–V, V–I, I–IV, IV–I and IV–V progressions. Use harmonic and melodic connections. Analyze every chord.








f:
B:
g♯:
D♭:
b♭:
F♯:
d♯:
G♭:
e♭: iv V♮
C♯: IV V
a♯: iv V×

Harmonization

To *harmonize* a given soprano (or bass) line is to add a logical and natural chord progression to it. Harmonization is based on finding out which chord to use with the particular note of the line. To find out which chord to use is to look at how that particular note progresses and relates to others.

Practical Suggestions

1) Each tone of the line should be identified as being the root, 3rd or 5th of the tonic, subdominant or dominant triad.

In case the note of the line can be interpreted as being the chord tone of two different triads, one decides which chord to use by considering the chord to follow. This helps avoid wrong chord progressions.

2) The first and last chord is normally the most stable one, i.e., the tonic triad. In case the music starts with a pickup measure, it may start with the dominant triad. The music starting with the subdominant triad is very rare.

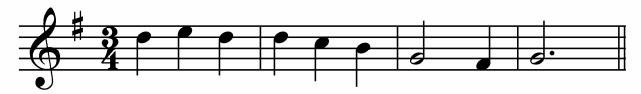
3) It is always better to avoid using the same chord after the weak beat and after the bar line. This helps not to obscure the meter of music. Anyway, if a chord sounded on the strong beat, it may be prolonged even after the bar line.

4) The connection of each pair of chords (the first and the second, the second and the third, etc.) should be carefully checked for mistakes.

5) The bass line should be in the shape of a wave not moving too high or too low. Its range should be within 1-1.5 octaves or, in rare cases, two octaves. Two consequent leaps of a 5th (as well as a 4th) in the same direction should be avoided and is considered to be unmelodic. Anyway, it is natural for the bass line to leap more often than for any other upper voices. Leaps of an octave are accepted in the bass line.

Sample Harmonization

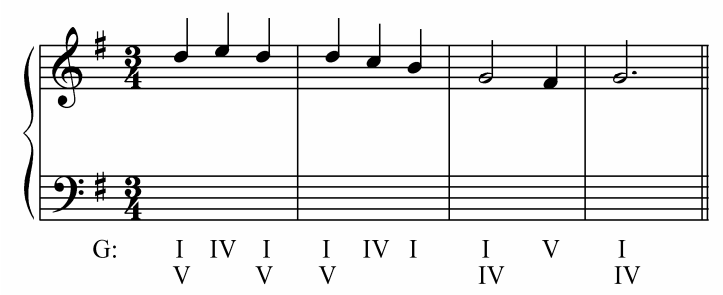
We will use the following soprano line for the sample harmonization.



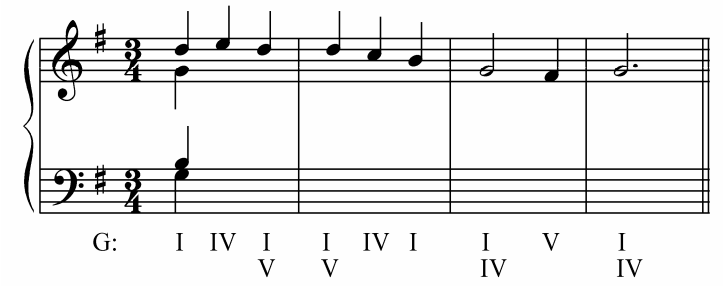
We copy it on the paper with the stems up and, having played it on the piano, identify the key in which it is written by looking at the key signature and the first and last notes[16]. One sharp in the key signature means that there are two possibilities: G major or E minor. This melody can't be in E minor because the minor key usually used in the music of the classical period is harmonic and where the note D must have a sharp (the leading tone). Thus, the only choice here is G major.

Next we identify and write down all triads that can be used with each note. Some notes have more than one possibility.

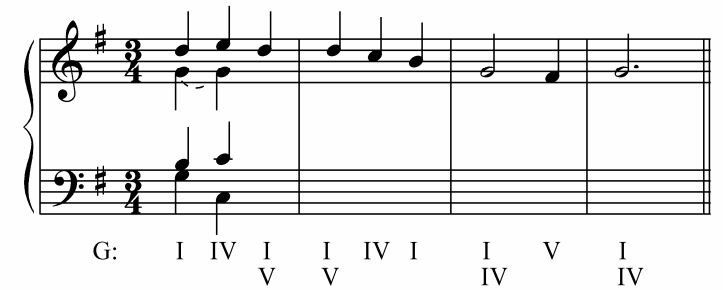
[16] It is recommended for a student to copy soprano or (figured) bass exercises using a pen in order not to change the given line by mistake and making it easier for a teacher to see if it was a soprano line exercise or (figured) bass one, and harmonize them (i.e., write the other lines) with a pencil.



The first note D can be the 5th of I (G–B–D) or the root of V (D–F#–A). The triad which is used in the beginning of a music composition is usually I. Thus, we choose I for the beginning. We use open spacing.



Next, soprano moves to the note E which can be only the 3rd of IV. We use the harmonic connection here since it is the only way to make it correctly. Bass must leap down to the note C, otherwise it will overlap tenor.



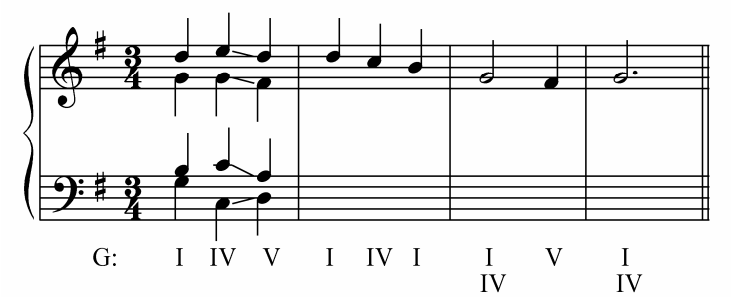
The next note D can be again the 5th of I (G–B–D) or the root of V (D–F#–A).

If we choose to use I for the note D of measure 1, the note D of measure 2 has to be harmonized with V since chords should change after a weak beat or a bar line. The only choice for the next note C is IV which creates here a problem. First, it is better to avoid using IV after V which is considered to be an unnatural chord progression and is almost not used in the classical music. Second, according to the rule of connection of triads in which the roots are a 2nd apart, the bass line must move in the opposite direction to upper voices by the interval not bigger than a 4th. In this case it has to move a 2nd down from the root of V (the note D) to the root of IV (the note C) while the given soprano moves down as well[17]. All this makes us go back and try another way.

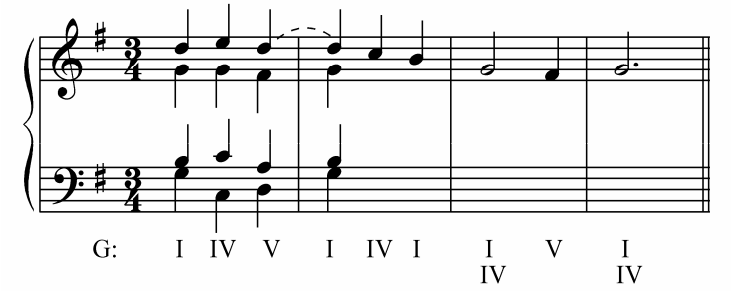
If we choose to use V for the note D of measure 1, we must use I in measure 2. The following connection of I with IV would present no problem.

The connection of IV with V of measure 1 is melodic where bass moves by step up while the upper lines move down to the nearest chord tones.

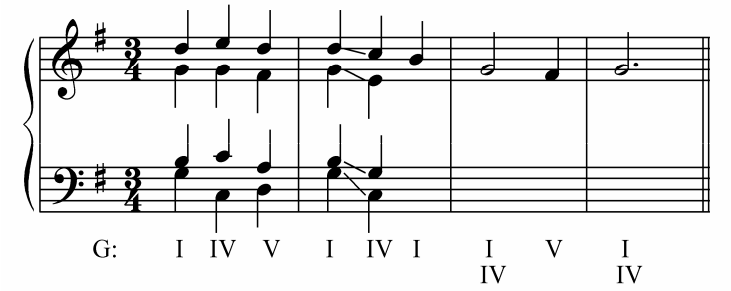
[17] Another problem of this connection would be parallel 8ve's and 5th's which would occur between the bass and upper voices (the perfect octave D:D would move to the perfect octave C:C; the perfect 5th D:A, to the perfect 5th C:G).



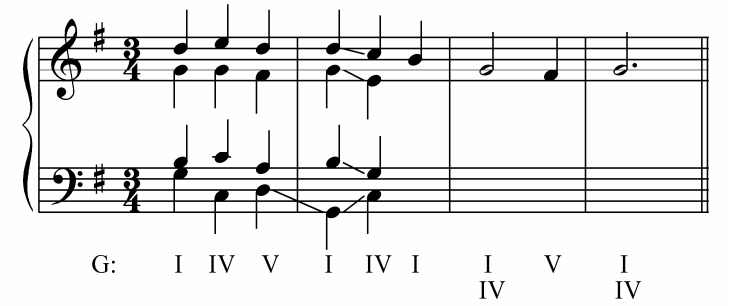
We chose to use I next. The connection of V with I is harmonic.



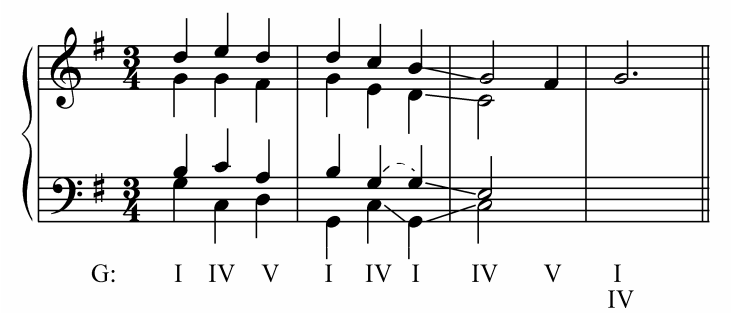
Though there is no mistake in the connection of V with I, the following connection of I with IV presents a problem. The only connection possible here is melodic and it forces us to move bass downward by the interval of a 5th (not a 4th).



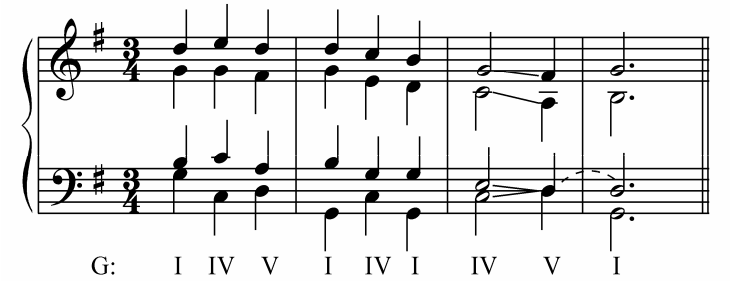
When using melodic connection, bass must move by the interval smaller or equal to a 4th. Here it moves down and all voices move in the same direction which is also unacceptable. We should move bass from the note D *down* to the note G in V–I chord progression which will help move bass upward while the upper voices move downward in I–IV chord progression.



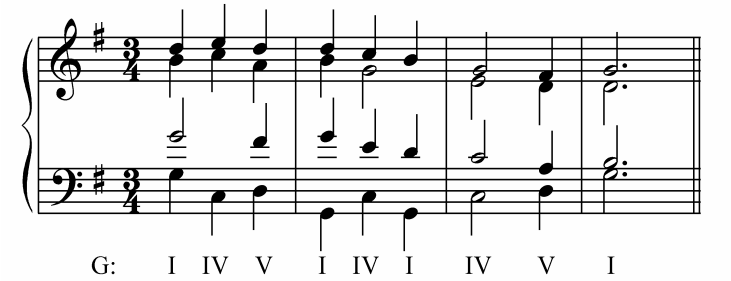
In the next chord progression (IV–I) we use harmonic connection and move bass down which will help avoiding overlap between bass and tenor in the next connection of I with IV which has to be melodic (i.e., bass moves a 4th up while the upper voices move down to the nearest chord tones).



The chord to follow can be only V which is connected with previous IV melodically while the last has to be I and is connected with the previous V harmonically.

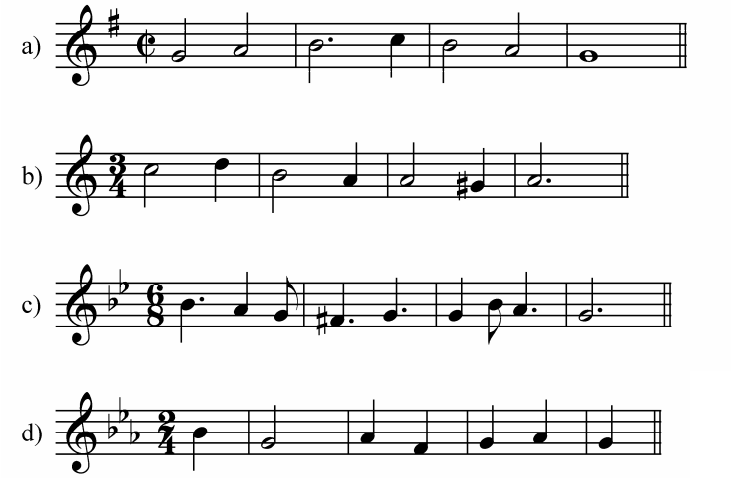


The following is the example of harmonization of the same soprano line using close spacing. Since there is a repetition of the two notes G in tenor part in measure 1, they can be substituted with one half note G. The same is for the two G's in alto in measure 2.

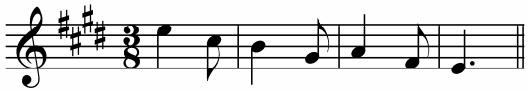


Exercises

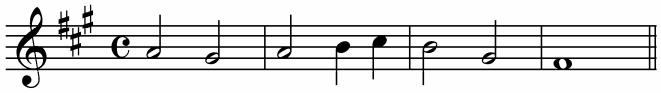
Harmonize the following soprano lines using primary triads. Use only one spacing (close or open) for each exercise.



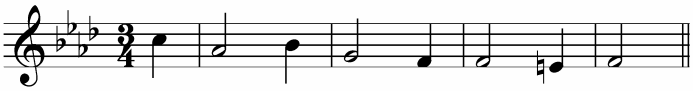
e)



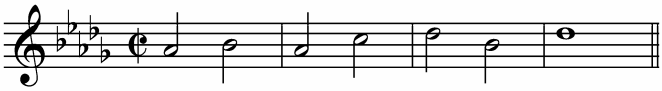
f)



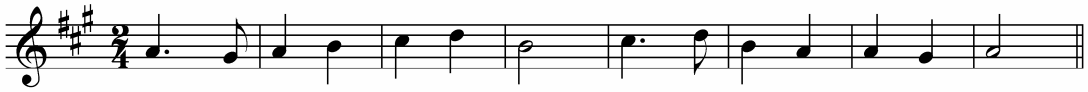
g)



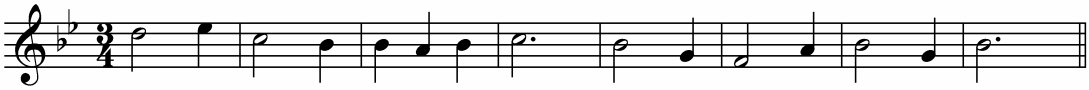
h)



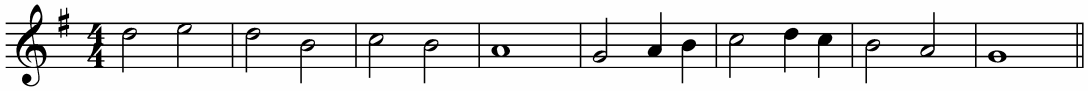
i)



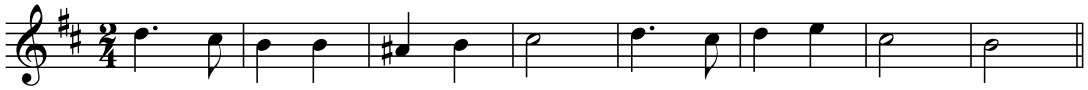
j)



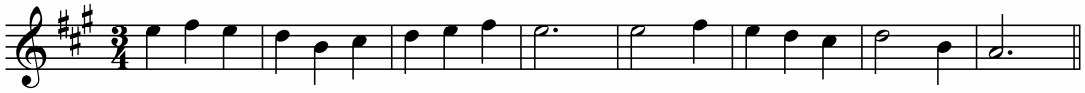
k)



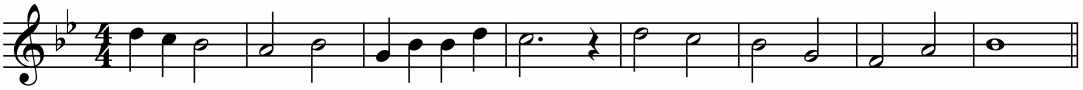
l)



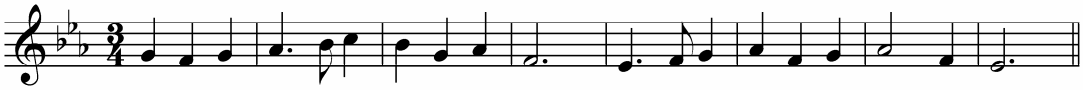
m)



n)



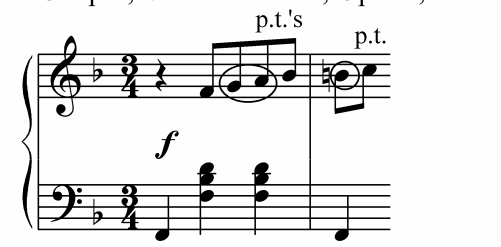
o)



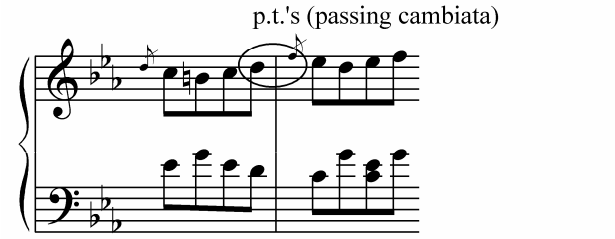
Types of Nonchord Tones

1. A *passing tone* (p.t.) moves by step from one chord tone to another. It can be used on either strong, weak or up beats. If there is the use of more than one passing tone, these are *called successive passing tones*. A *passing cambiata* is a four-note melodic figure in which one nonchord tone (2nd note) skips to another (3rd note), a note between them being missing (implied). Both successive passing tones and passing cambiata nonchord tones are analyzed as p.t.'s.

Chopin, Valse Brillante, Op. 34, No. 3

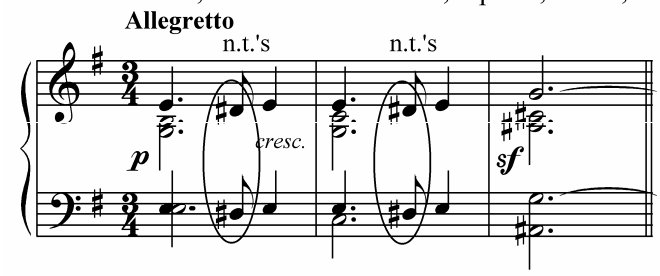


Beethoven, Piano Sonata No. 8, Op. 13, Rondo

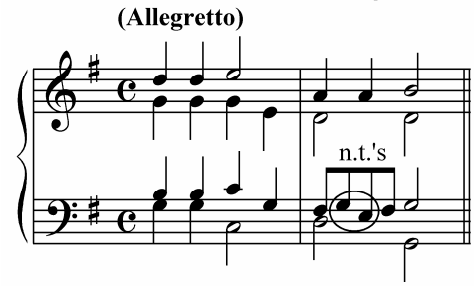


2. A *neighbor tone* (n.t.) or *auxiliary tone* (aux.) connects the chord tone with its repetition moving by step up and down (or down and up). It can be used on either strong, weak or up beats. A *neighbor cambiata* (or *changing tones*) is two successive nonharmonic tones which may imply neighbor tones with a missing (implied) note in the middle. These two nonchord tones are analyzed as n.t.'s.

Beethoven, Piano Sonata No. 9, Op. 14, No. 1, II



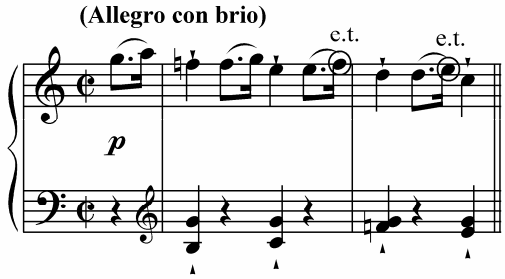
Scheidt, Bergamasca



3. An *incomplete neighbor tone* is a neighbor tone that has only *one* stepwise connection with a consonant chord tone, the other connection being a *leap* (or a skip). There are two types of the incomplete neighbor tone: an *escape tone* and a *free neighbor*.

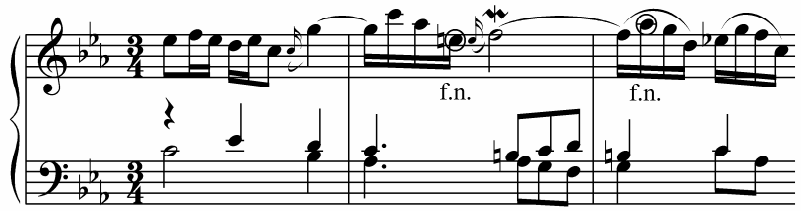
a) An *escape tone* (e.t.) is approached by step and quit by leap (or skip). It can be used only on weak or up beats.

Haydn, Keyboard Sonata in C Major, Hob. XVI: 35, I



b) A *free neighbor* (f.n.) is approached by leap (or skip) and quit by step. It is used only on weak or up beats which makes it different from the appoggiatura.

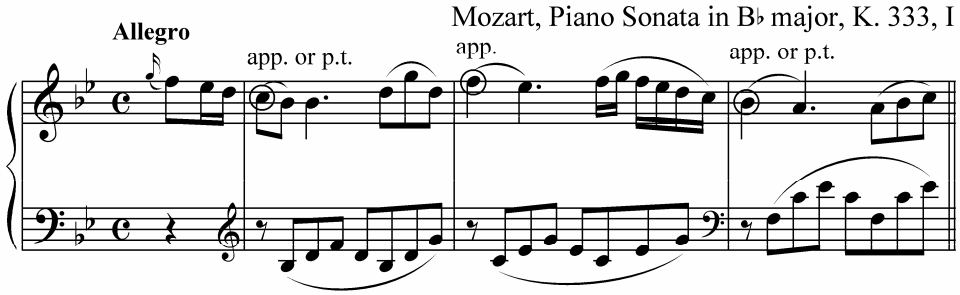
Bach, French Suite No. 2, Sarabande



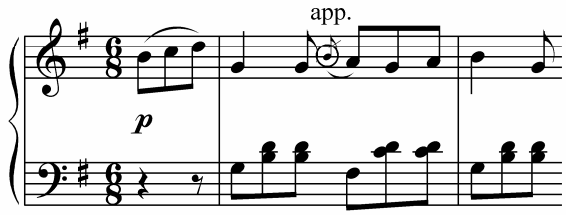
4. An *appoggiatura* (app., or *leaning note*) is similar to a free neighbor tone but used on the strong beat, i.e.,

a) it can be approached by leap and quit by step,
b) it can be a nonchord tone which is used on the strong beat or at the point where the chords change,
c) it can be also used on a weak/up beat, but in this case it is longer than the previous tone and the tone of its resolution.

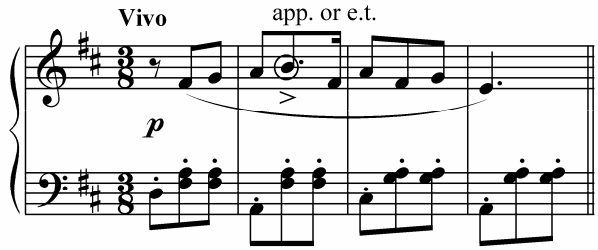
Mozart, Piano Sonata in B♭ major, K. 333, I



Beethoven, Sonatina in G Major, Romanze

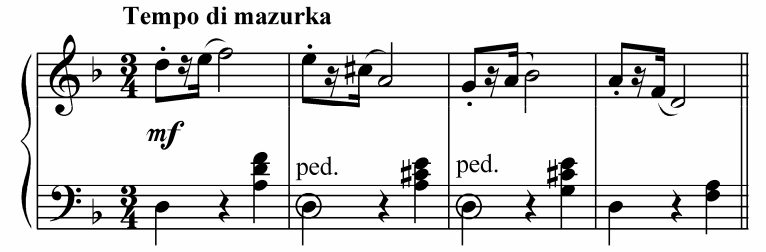


Tchaikovsky, Album for the Young, Op. 39, Italian Song



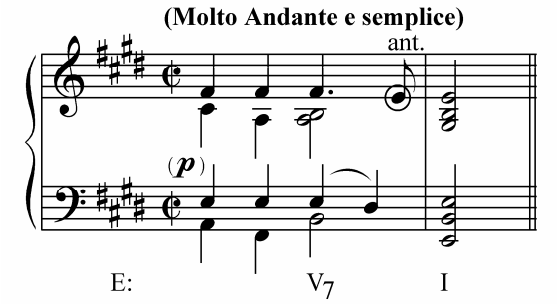
5. A *pedal tone* (ped., or *pedal point*) is almost always on the tonic or dominant note. It is held through a series of chord changes in which it alternates between being a chord tone and a nonchord tone. The pedal tone is almost always in the lowest voice (the term originates from the organ playing), but it may be in an upper voice.

Tchaikovsky, Album for the Young, Op. 39, Mazurka



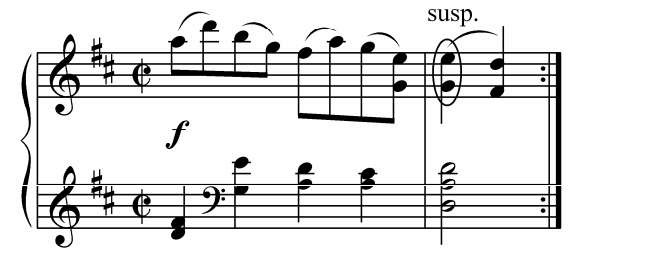
6. An *anticipation* (ant.) appears (on a weak/up beat) as a chord tone from the chord to follow. It is usually shorter than the real chord tone that will follow and is very often used in a cadence.

Grieg, Lyric Pieces, Op. 12, Vægtersang

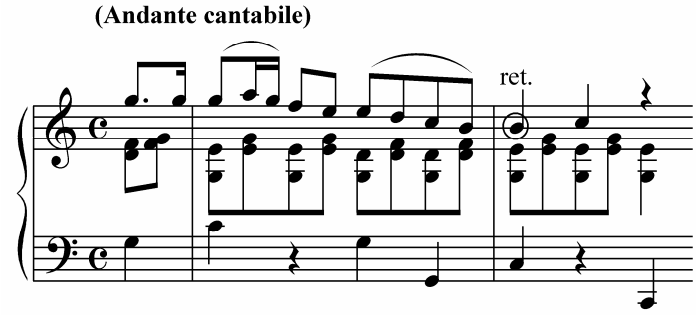


7. A *suspension* (susp.) occurs when one chord is connected with another and where one or more notes of the first chord (called *preparation*) are either temporarily held over into or are played again against the second chord (against which they are nonchord tones called *suspension*) on the strong (or relatively strong) beat before resolving to the chord tone(s) stepwise (*resolution*). This whole process is called a suspension as well as the specific non-chord tone(s). The upward-resolving suspension is sometimes called a *retardation* (ret.).

Mozart, Piano Sonata No. 6 in D Major, K. 284, III



Haydn, String Quartet, Op. 3, No. 5, II

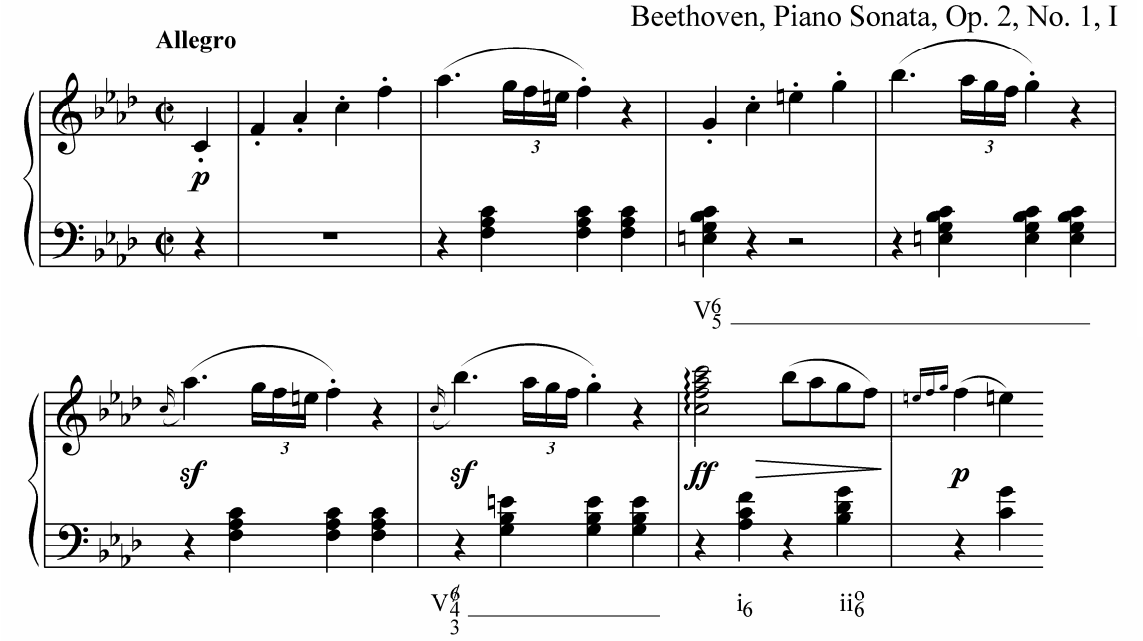


Exercises

Analyze the following excerpts. Circle nonchord tones and identify their type.

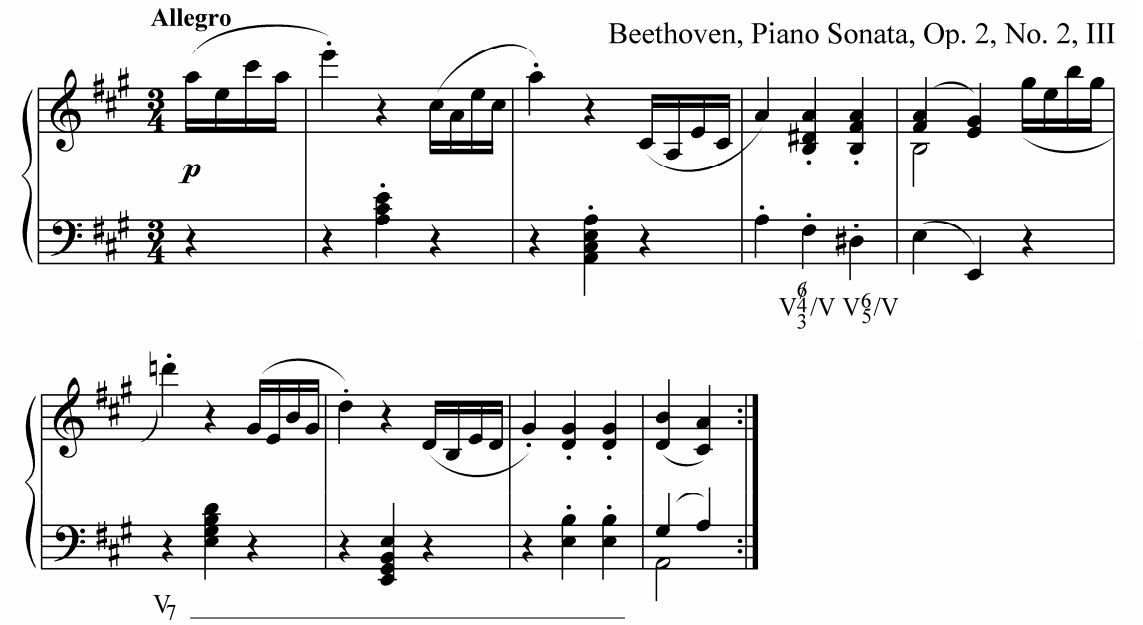
a)

Beethoven, Piano Sonata, Op. 2, No. 1, I



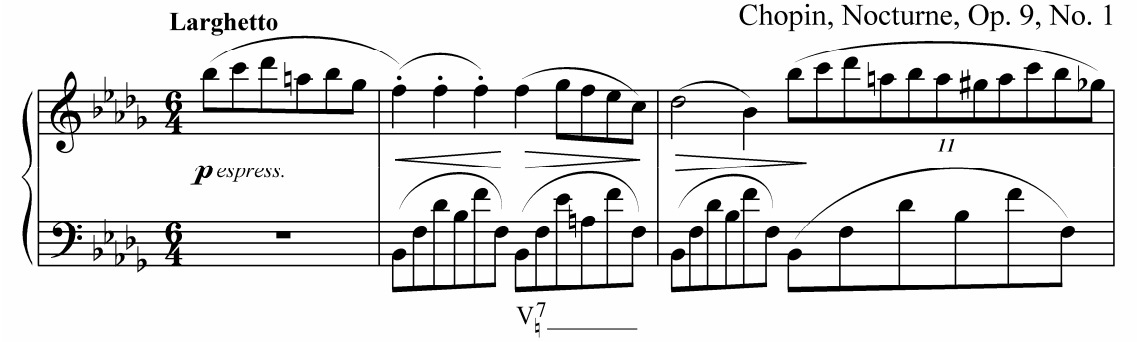
b)

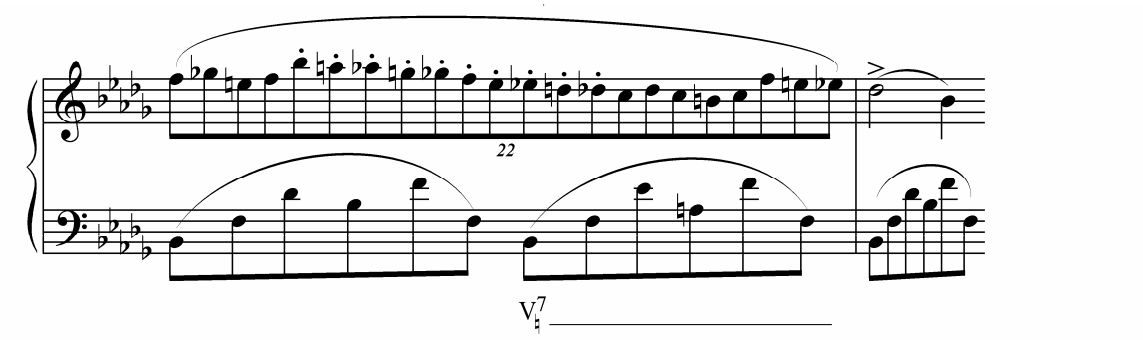
Beethoven, Piano Sonata, Op. 2, No. 2, III



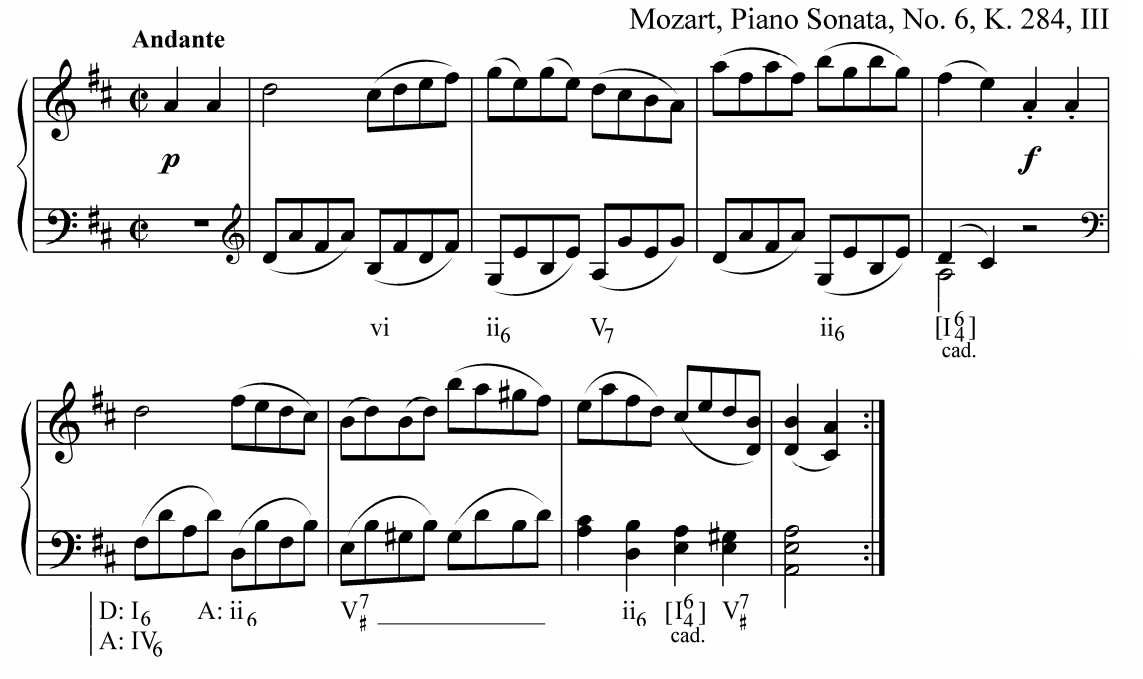
c)

Chopin, Nocturne, Op. 9, No. 1





d)



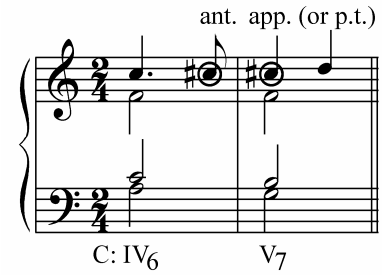
Secondary Nonchord Tones

Chord tones and nonchord tones are always used together. They belong to and depend on each other. Chord tones represent stability while nonchord tones are not as stable as chord tones. Such difference in stability exists not only between chord tones and nonchord tones. Some chord tones can be understood as more stable in relationship to other chord tones. For example, the root of a chord is always more important for that chord than the third, fifth, etc. It is more stable than the rest of the chord tones. Thus, chord tones can be divided into two categories: those which have more importance and stability – *primary* chord tones – and those which are not as stable and important as primary chord tones – *secondary* chord tones.

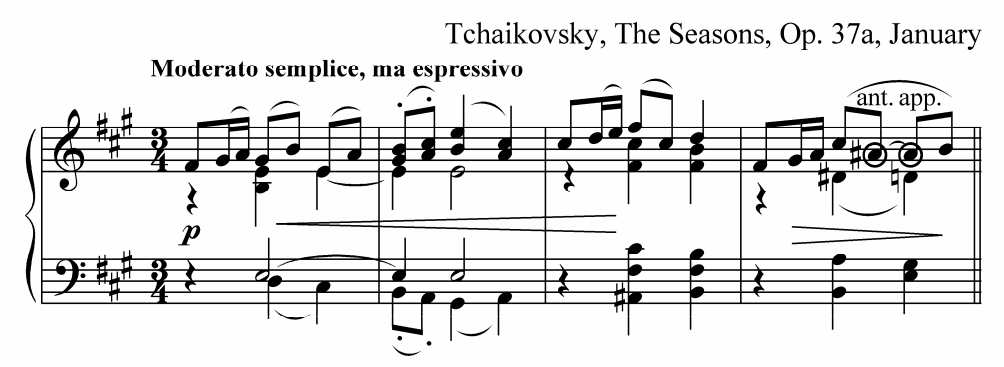
Nonchord tones can also be divided in a similar way. To understand the difference between primary and secondary nonchord tones, one should see how they relate to one another. Secondary nonchord tones relate to primary nonchord tones in the same way as nonchord tones relate to chord tones.

The following secondary nonchord tones can be found in music.

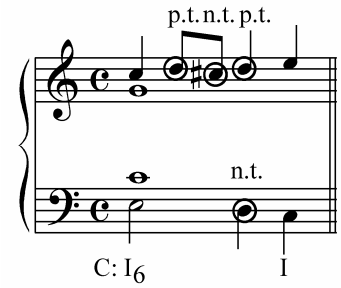
1) Anticipation to appoggiatura (or passing tone).



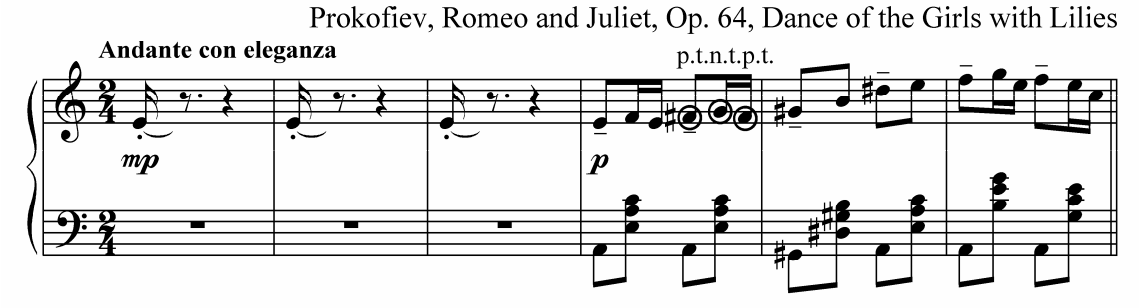
In the example above, the note C-sharp in the first measure is an anticipation to the note of the same pitch in the next measure. The note C-sharp in the second measure is also a nonchord tone and can be understood as an appoggiatura or passing tone. The first C-sharp is a secondary nonchord tone since it embellishes another nonchord tone.



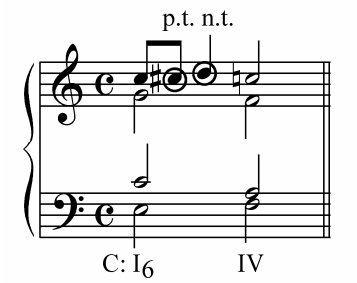
2) Neighbor tone to passing tone.



The notes D in soprano are passing tones placed between the chord tones C and E. The note C-sharp between the two D's is a neighbor tone. Since it embellishes other nonchord tones, it is a secondary nonchord tone.

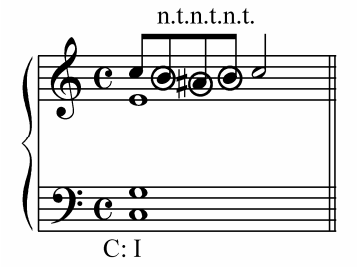


3) Passing tone to neighbor tone.



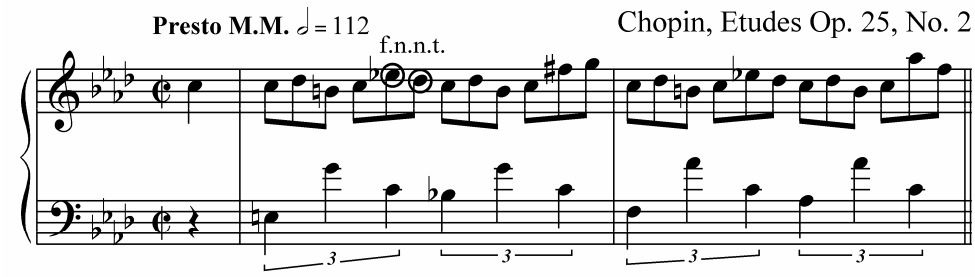
The note D is a neighbor tone between the two chord tones C. The note C-sharp is a secondary passing tone from the chord tone C to the neighbor tone D.

4) Neighbor tone to neighbor tone (such group of neighbor tones is sometimes called "successive neighbor tones").



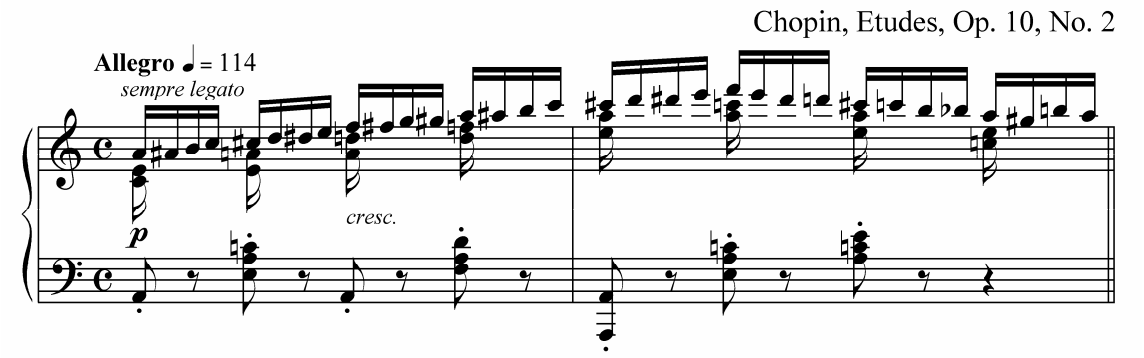
The two notes B are neighbor tones to the chord tone C. The note A-sharp is a secondary neighbor tone to the B's.

5) Free neighbor to neighbor tone.



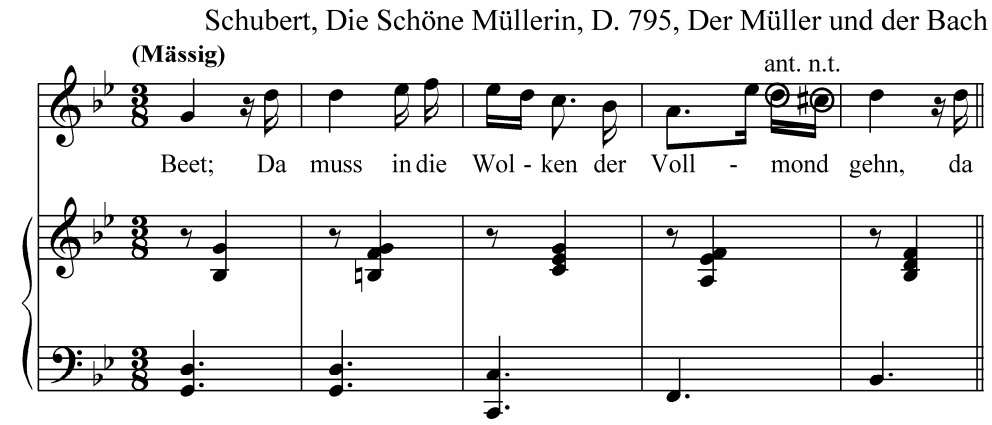
The note E-flat in the right hand of in the first measure in the example above is a nonchord tone. It is a free neighbor to the note D which is a neighbor tone between the chord tones C.

6) Chromatic passing tone between diatonic passing tones.



The note A-sharp in the first measure of the example above is a chromatic passing tone between the chord tone A and the diatonic passing tone B moving by step up to the chord tone A. This A-sharp is a secondary nonchord tone placed between the diatonic chord tone and nonchord tone.

7) Neighbor tone to anticipation.



The note D in the fourth measure of the example above is an anticipation to the chord tone of the same pitch in the next measure. The note C-sharp is a secondary neighbor tone placed between the two notes.

To summarize the above said Chord tones and nonchord tones have various degrees of stability. It is possible to put them in accordance with such degree starting from the most stable tones and ending with the least stable ones:

1) Primary chord tones (such as roots of chords) are the most stable and important ones.
2) Secondary chord tones (such as chord thirds, sevenths, etc.) are less stable than primary chord tones.
3) Primary nonchord tones depend on chord tones and are less stable.
4) Secondary nonchord tones depend on primary nonchord tones and are least stable.

Chord Repetition

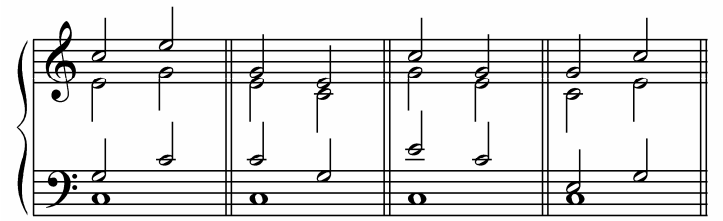
The chord can be repeated (bass remains stationary or moves an octave up or down) while the upper voices exchange the chord tones. Such exchange of the chord tones very often coincides with the change of spacing of the chord itself (from close to open or from open to close).

The change of chord tone in soprano helps to move the melody forward without the change of chord. This can be quite helpful because too often change of chords can make the music too colorful. Besides that, it helps achieve smoothness in voice leading and avoid mistakes.

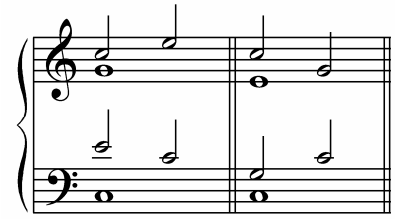
Technique

If soprano moves by the interval of a 3rd or 4th, alto and tenor behave in the following two ways:

a) They move in the same direction to the nearest chord tones. In such case the spacing doesn't change (similar motion).

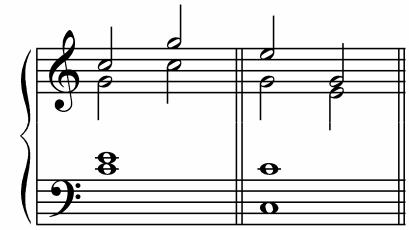


b) Alto remains stationary and tenor moves in the direction opposite to soprano (contrary motion).



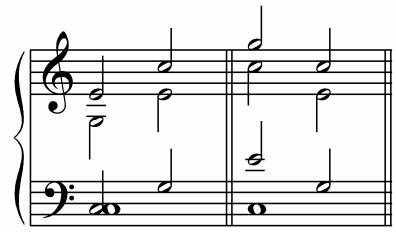
As is seen in the example above, the upward motion in soprano results in the change of close spacing to open; while the downward motion, in the change of open to close.

If soprano moves by the interval of a 5th or 6th, alto moves in the same direction while tenor remains stationary (oblique motion); as in the previous example, the spacing changes as well.

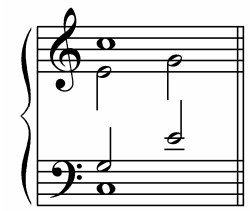


In the last two cases the two moving voices *exchange* the same tones: in the “contrary motion” example soprano moves to the note E which was in tenor before while this note E in tenor moves to the note C which was before in soprano; in the “oblique motion” example, soprano (C–G) and alto (G–C) exchange their notes in the same way.

In rare cases, when soprano leaps by the interval of a 5th or 6th, it is possible that both alto and tenor leap in the same direction and the spacing would not change.



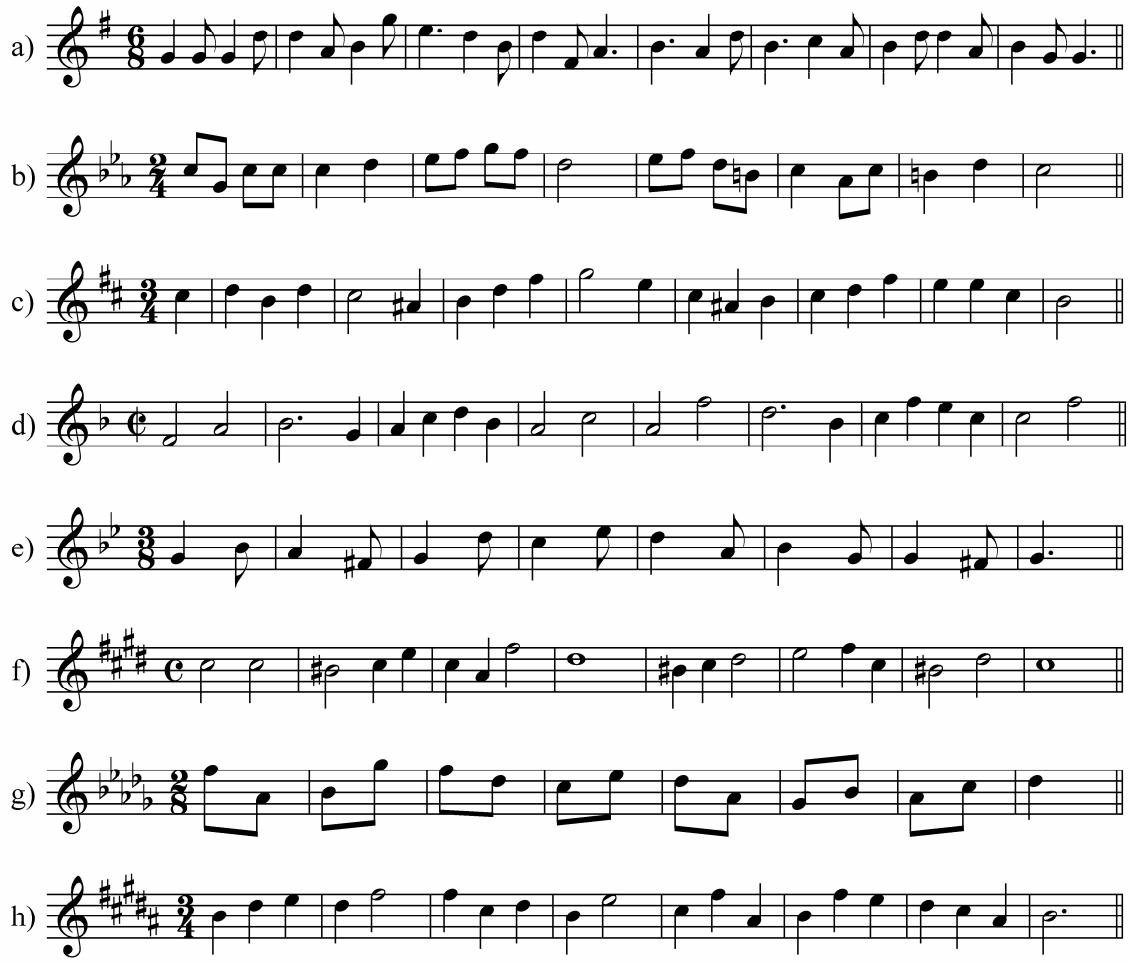
It is also possible that alto and tenor move in the same direction while soprano remains stationary as in the following example.



Even though the chord repetition technique is a good device not to have too many chord changes, it is recommended not to overuse it in the exercises. It is better to limit the use of chord repetition within a bar, i.e., avoid using the same chord in two consecutive measures in order not to obscure the sense of strong beats.

Exercises

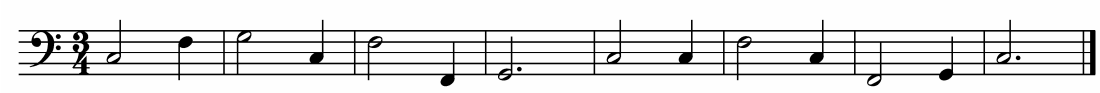
Harmonize the following melodies.



Use of Harmonic Connection

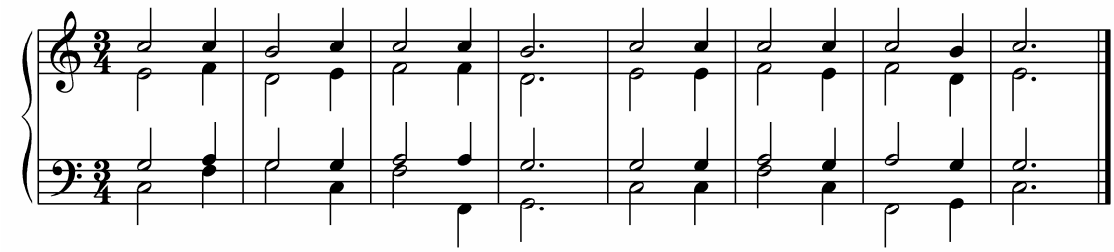
The harmonization of the given bass line which consists of the progression of the roots of tonic, subdominant and dominant triads presents no difficulties in *choosing* which chord to use since the presence of the 1st scale degree in bass shows at the *tonic* triad; the 4th, at the *subdominant*; and the 5th, at the *dominant*.

It is obvious that in the following bass line in C major.



I and IV are to be used in measure 1; V and I in measure 2; IV in measure 3; after which there is a temporary stop on V in measure 4; I in measure 5; IV and I in measure 6; IV and V in measure 7; and I in measure 8.

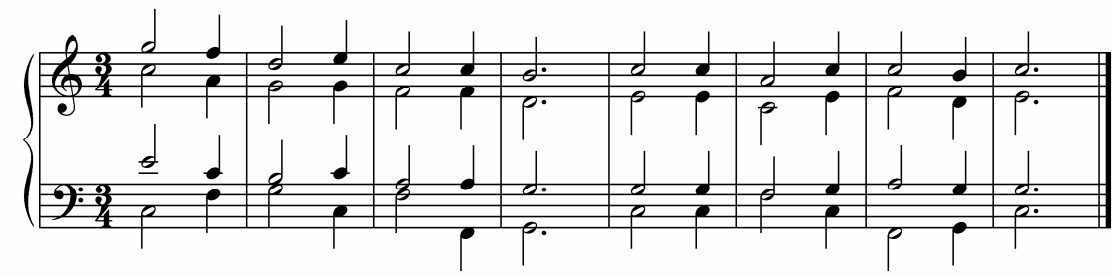
Keeping in mind that if the two chords have a common tone it is easier to connect them harmonically, it is possible to harmonize this bass line in the following way.



In terms of the choice and connection of chords, everything is correct. But the melody itself is quite unsatisfactory because it almost doesn't move; it consists of only two notes (C and B). That happened because the only connection used was the harmonic connections of I with IV and I with V.

Use of Melodic Connection

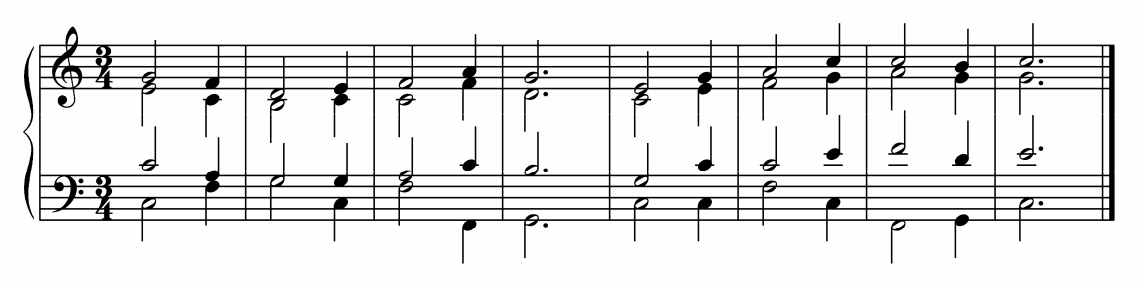
It is possible to achieve better results if we use *melodic* connection together with harmonic one. The pitch which when using harmonic connection would remain stationary could be changed to another pitch when using melodic connection. In such case the melody would *move* more.



Of course, the melodic line can be different depending on which note is used in the first chord.

Use of Chord Repetition

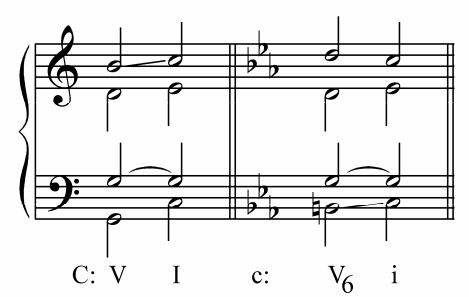
Another way to make the melody even more interesting is to change the chord tone to another in soprano when a note in bass remains stationary, that is, when the chord is repeated.



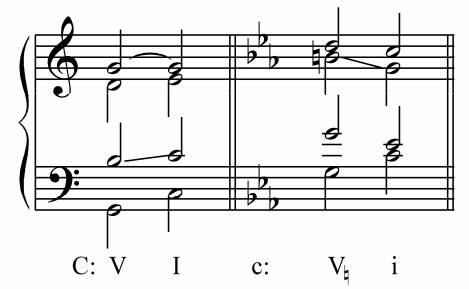
The Leading Tone

The leading tone (7th scale-degree) is a tendency tone. This means that it tends to move by step to the tone of its resolution, i.e., the tonic.

When connecting V with I, if the 3rd (leading tone) of V is in an outer voice (soprano or bass), it must move *by step up* to the root of the tonic triad. This is known as a *strict resolution of the leading tone*[18]. In this case the connection of the two chords can be only harmonic (common tone connection).



If the 3rd is placed in an inner voice (alto or tenor), it may move up to the root or down to the 5th (*free resolution*) of the tonic triad.



Practical Suggestions for Bass Line Harmonization

Chord repetition technique is best used in such cases when bass a) remains stationary, b) leaps by an octave or c) uses a long note value (which can be understood as a combination of smaller note values connected by ties).

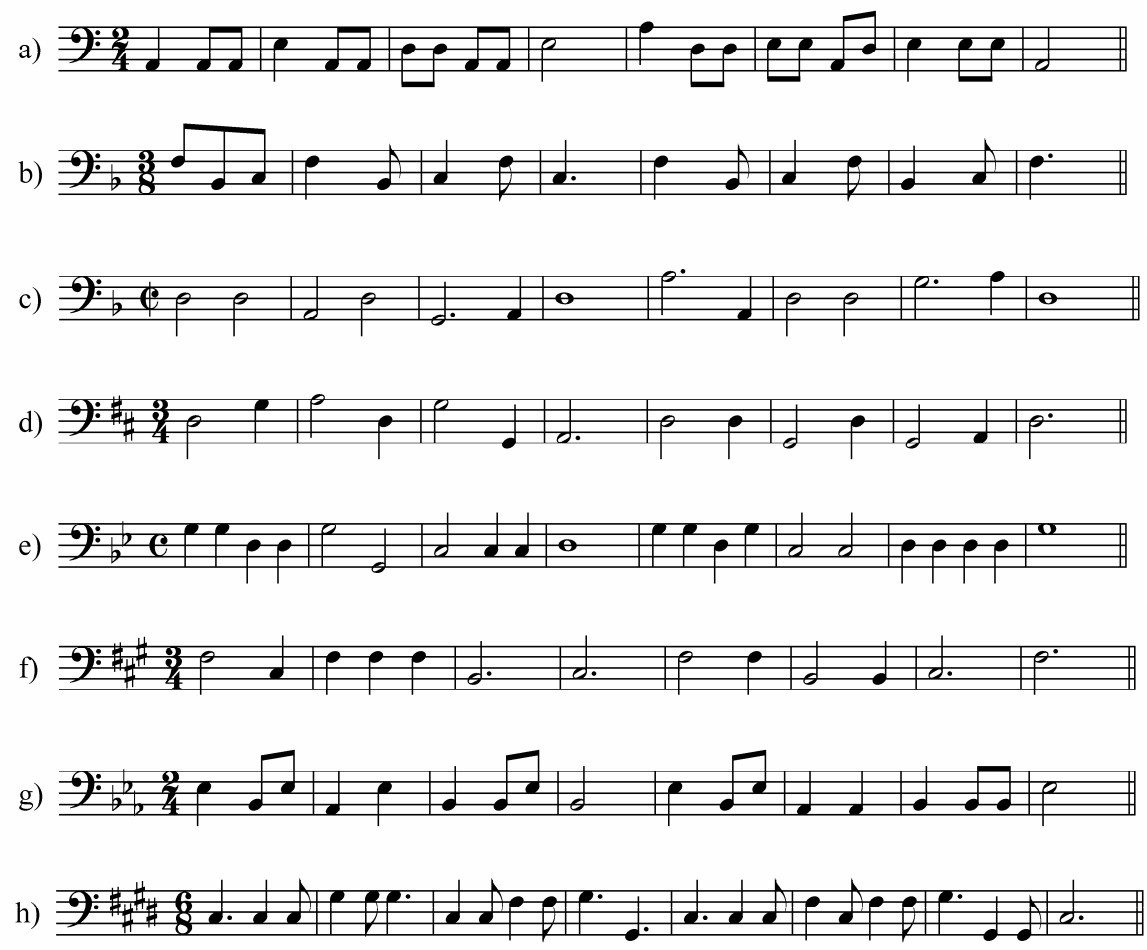
Nevertheless, chord repetitions shouldn't be overused; in order *not* to create too much motion, it is better to limit the use of this technique to the beats of a measure, that is, to use it on quarter notes in 4/4 or eighth notes in 6/8, for example.

Besides, the tempo should be also taken into consideration; strong beats should utilize the note values which are equal or longer than the note values on weak beats. In order not to create mistakes, one should keep in mind that the leap of a 4th in the bass line can be harmonized both harmonically and melodically; while the leap of a 5th, *only* harmonically.

[18] In music literature, it is possible to find examples of the leading tone, which is placed in an outer voice, resolving to a note other than the tonic. Such instances are rare. Thus, it is recommended for a student to follow the rules of strict voice leading in the beginning of the course.

Exercises

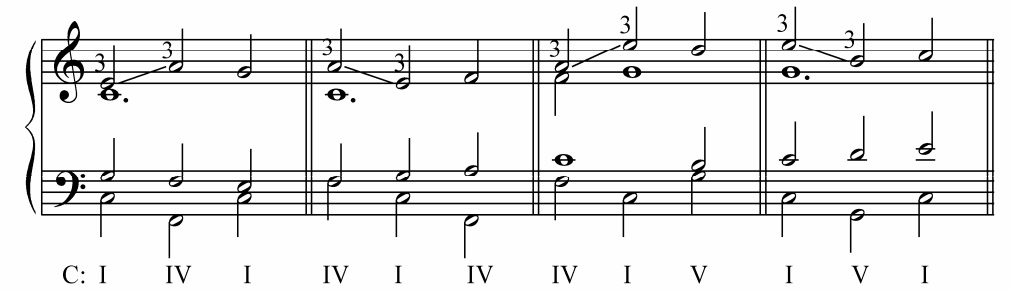
Harmonize the following basses using chord repetitions.



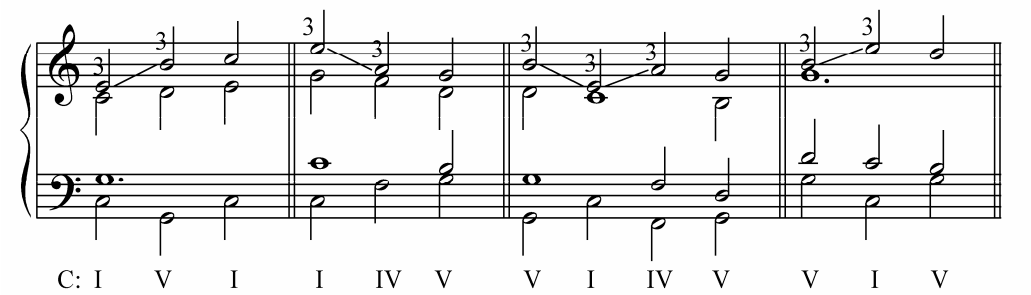
Leaps of Thirds in Soprano

It is possible to connect two triads in which the roots are a 4th (5th) apart (i.e., I–V, V–I, I–IV, IV–I) by moving the *3rd* of the first chord to the *3rd* of the second chord. In such (harmonic) connection there will be a leap of a 4th or 5th up or down.

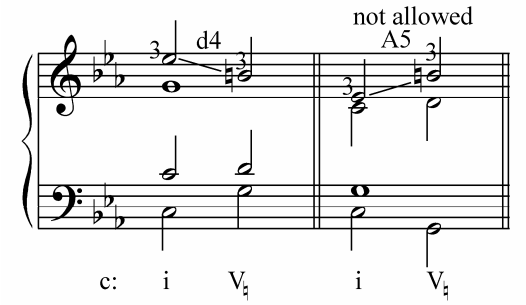
The spacing of the two chords changes in such connection: if soprano leaps up, the second triad will be in open spacing; if it leaps down, it will be in close spacing.



After such a *leap*, the line would normally move (often by step) in the *opposite* direction (*see* examples above). Only in rare cases (when the second note is the 3rd of IV or V and it tends to move in that direction), the line may move in the same direction as the leap or there can be another leap after the first one. The 3rd of V, which is the leading tone and normally tends to move by step up to the tonic, may rarely leap to the 3rd of I[19].



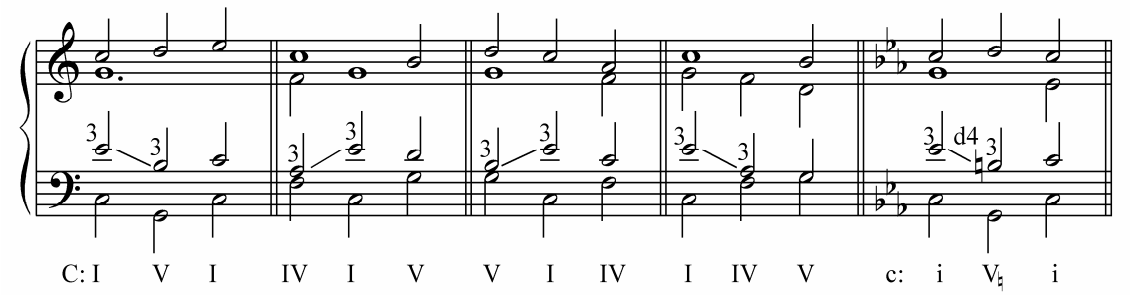
In minor keys, when the 3rd of i moves to the 3rd of V, only the *descending leap* of a *diminished 4th* would be allowed since the *ascending leap* of an *augmented 5th* (like motions by any augmented interval) is considered to be *dissonant* and *not acceptable*.



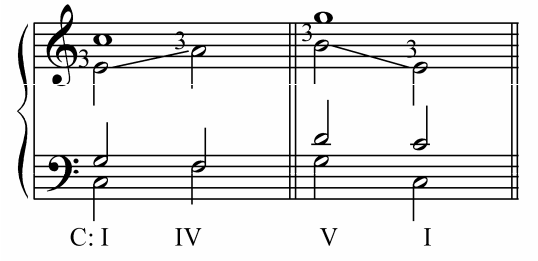
Leaps of Thirds in Tenor

It is also possible to use the leaps of 3rd's in tenor. In such case there will be a change of spacing as well: the leap up will result in the change from open to close spacing; the leap down, from close to open.

[19] Anyway, it is recommended for a beginner to use only such leaps after which the line would move by step in the opposite direction.

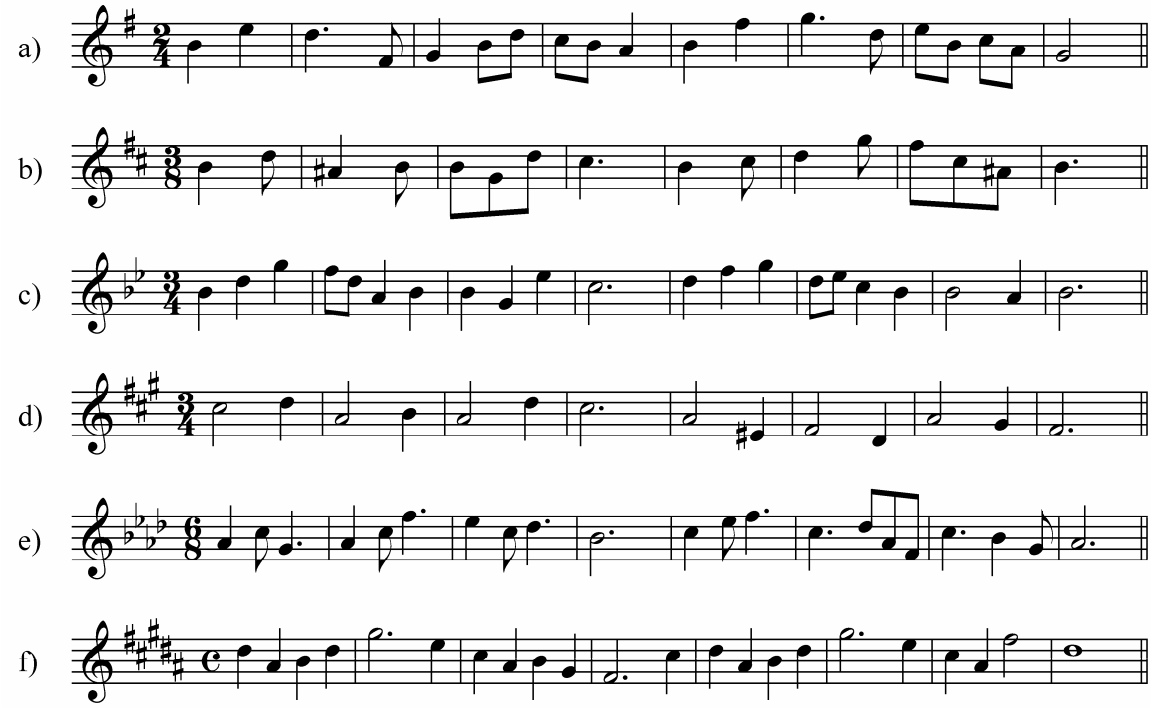


The leaps of 3rd's in alto can't be used because they will result in the *wrong spacing*.



Exercises

Harmonize the following sopranos.



Units in Music Composition

A music composition unfolds *in time*. This is characteristic for music as a temporal art. Although a music composition presents one whole in terms of musical idea and its form, it can be divided into smaller parts, i.e., *units*. Units are separated from each other by a *caesura*. Like in speech, sentences are separated by pause, in written text, they are separated by comma, semicolon or full stop; in music, caesurae are sometimes indicated with two slashes or a comma above a staff, but more often they are not indicated at all and are to be understood by a performer who would separate the end of one unit from the beginning of the next using those caesurae.

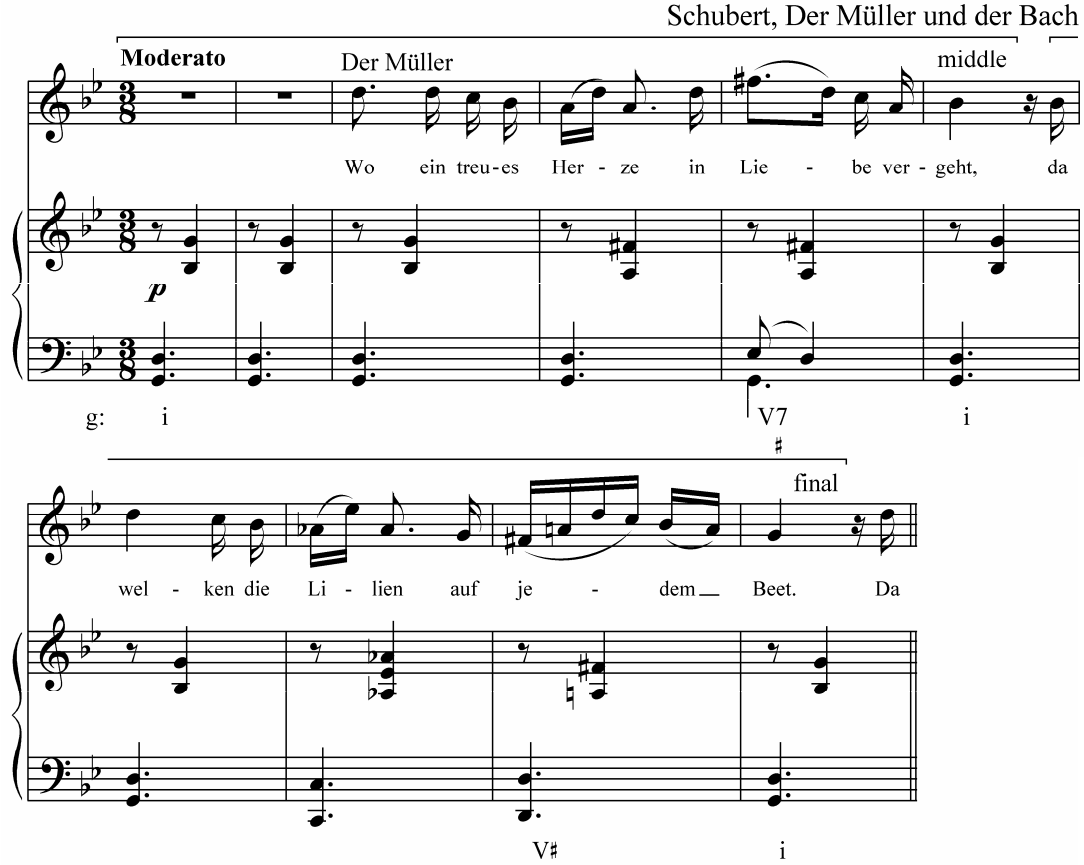
Period. Phrase

The simplest example of a complete musical unit is a *period*. The period presents *one theme* (musical idea) and usually consists of *two equal* (4-measure long[20]) subunits called *phrases*. These phrases are separated with caesura and end with *cadences* which are not the same but functionally connected.

Such an 8-measure period of two equal phrases, which is very often called to have "square" structure, has been widely spread during the common practice period in such genres as dances, scherzi, marches and songs. Such kind of a period will be mostly used in the students' exercises.

Cadences in a Period

Cadence is a chord progression used to articulate the end of a unit (phrase, period). According to its placement in a period, cadence can be *middle* and *final*. *Middle cadence* ends the first phrase of a period. *Final cadence* ends a period (i.e., its second phrase).

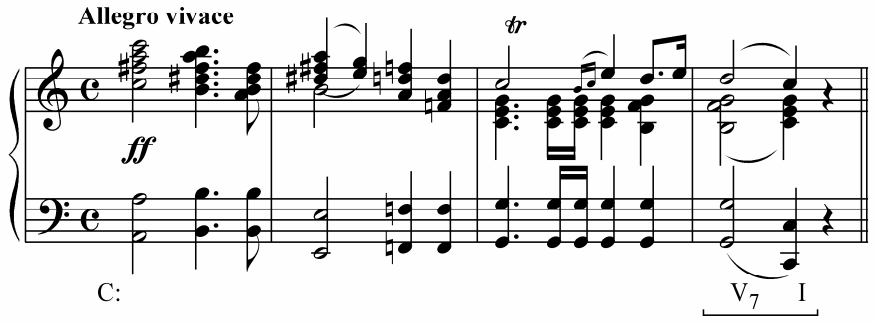


[20] Depending on the tempo and meter of a music composition, a regular phrase can be sometimes 2- or 8-measure long.

Cadence Types

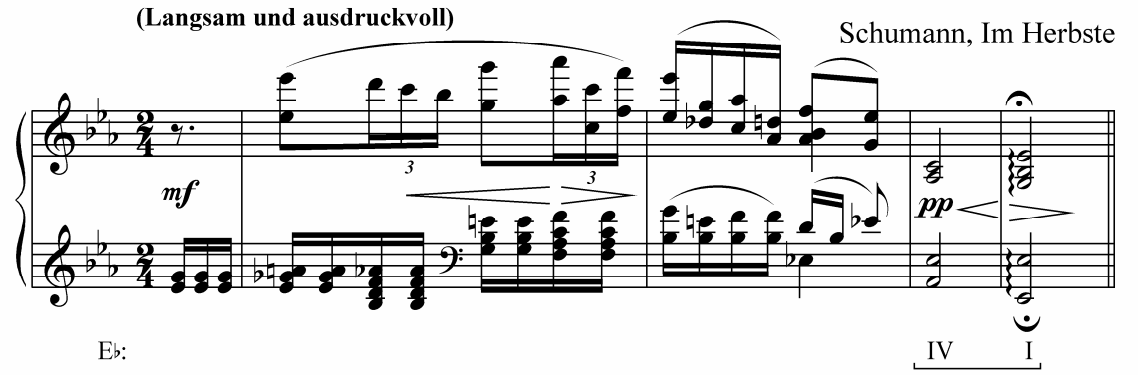
According to their chord content, cadences can be *authentic* and *plagal*. *Authentic cadences* (A.C.) are those that involve dominant (V) and tonic (I) chords.

Mendelssohn, Midsummer Night's Dream, Op. 61, Wedding March



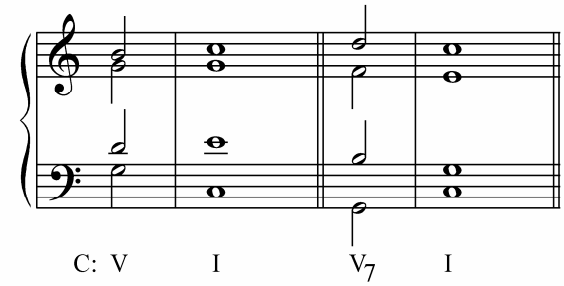
Plagal cadences (P.C.) are those that involve subdominant (IV) and tonic (I) chords.

Schumann, Im Herbste

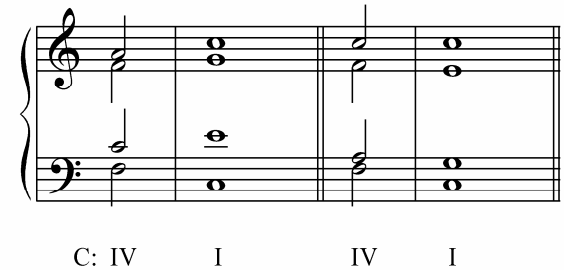


Both authentic and plagal cadences can be *perfect*, *imperfect* and *half*.
Perfect cadences are those in which:
a) the tonic triad is on the strong beat,
b) both chords are in root position, and
c) the root of the tonic triad is in soprano.

Perfect authentic cadences (P.A.C.)

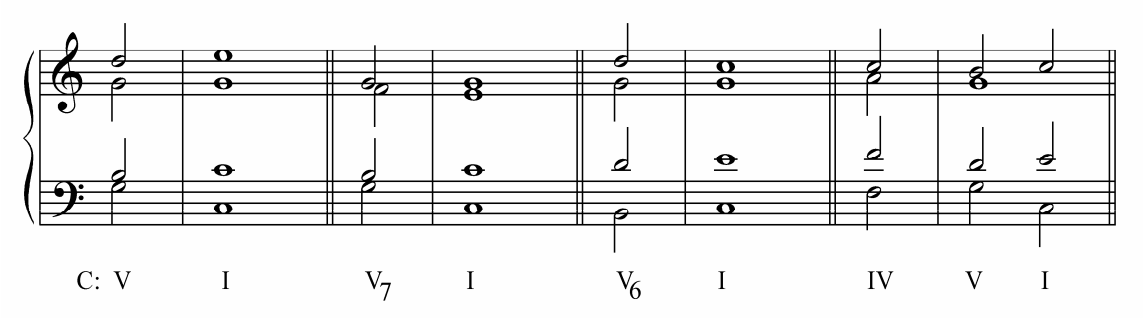


Perfect plagal cadences (P.P.C.)

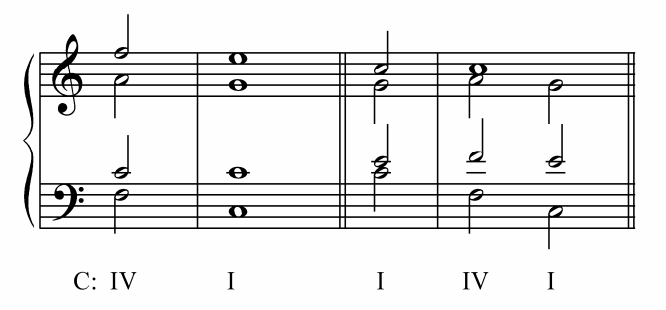


Imperfect cadences are those that fail to comply with any of the above conditions, i.e.:
a) the tonic triad is *not* on the strong beat,
b) one or both of the chords are *not* in root position, and/or
c) the root of the tonic triad is *not* in soprano.

Imperfect authentic cadences (I.A.C.)

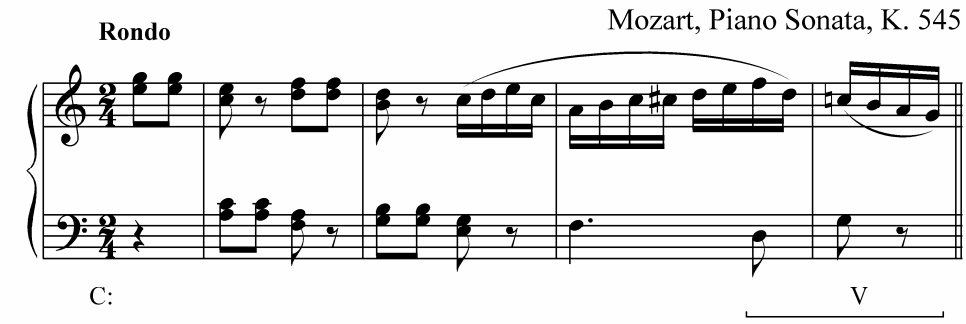


Imperfect plagal cadences (I.P.C.)

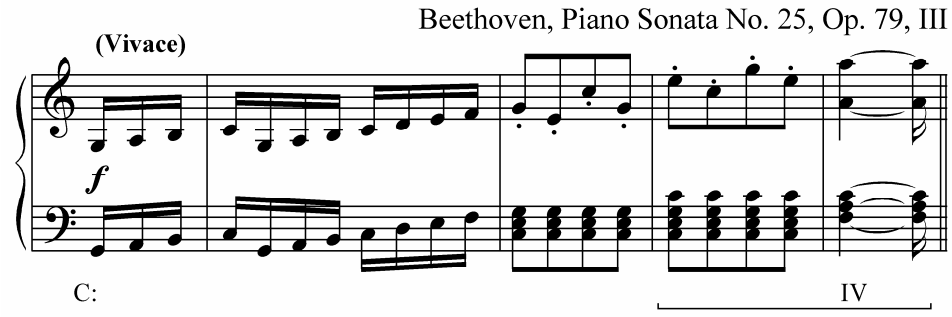


Half cadences are those that end on dominant (V) or subdominant (IV) chords.

Half authentic cadence (H.A.C.)



Half plagal cadence (H.P.C.)



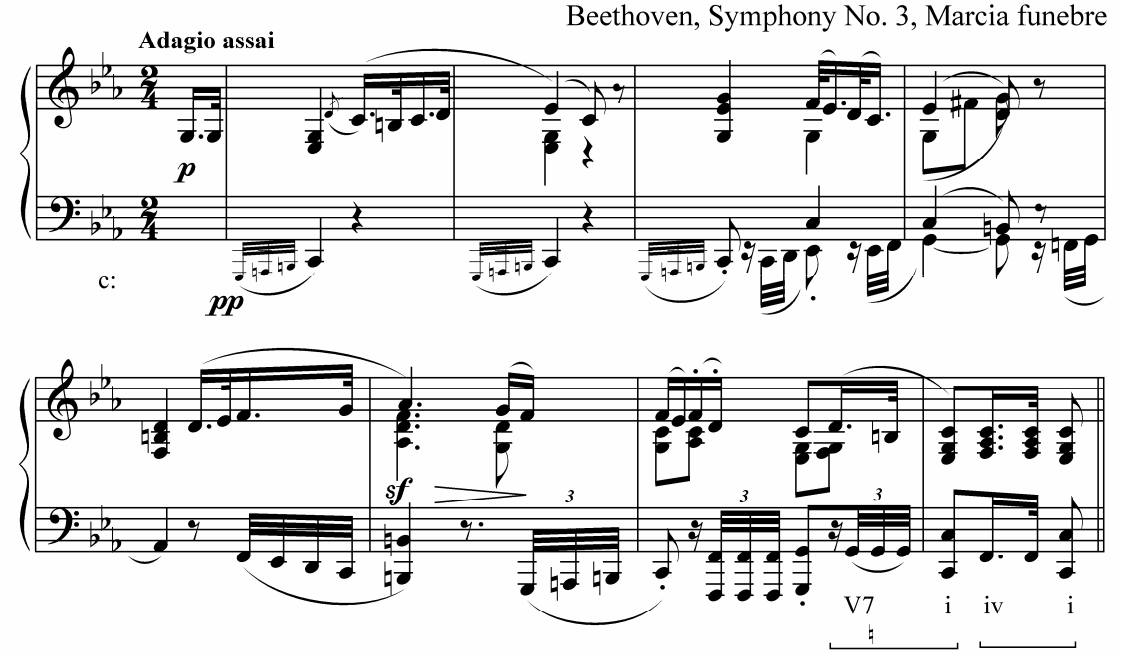
Authentic cadences are often used to end phrases and periods. Middle cadences are often half authentic. In general, half authentic cadences are *used more often* than half plagal ones. This was due to the characteristics of the strong dominant function and the role it played during the common practice period. Plagal cadences (especially half plagal ones) at the end of phrases or periods are rare. They were first often used as an *addition* to authentic cadences at the end of a period, right

after them. They were used to make it longer or for a fuller tonicization of the key. The following is the general scheme of such a period.

Phrase 1	Phrase 2 + additional plagal cadence
(4 measures)	(4 measures) + (2 measures)
(10-measure period)	

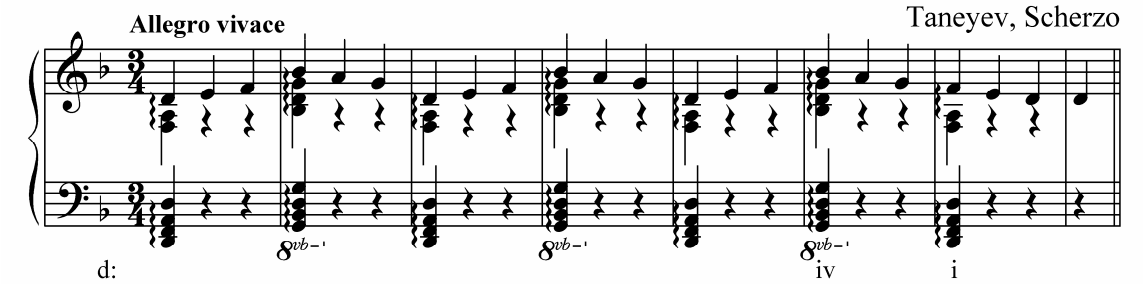
If the main authentic cadence is used earlier than it should be in the normal ending of a "square" period (for example, in measure 7), the plagal cadence in such case is only to add to the musical construction to make it a fully equal structure (i.e., to make it a complete 8-measure period like in the following example).

Beethoven, Symphony No. 3, Marcia funebre



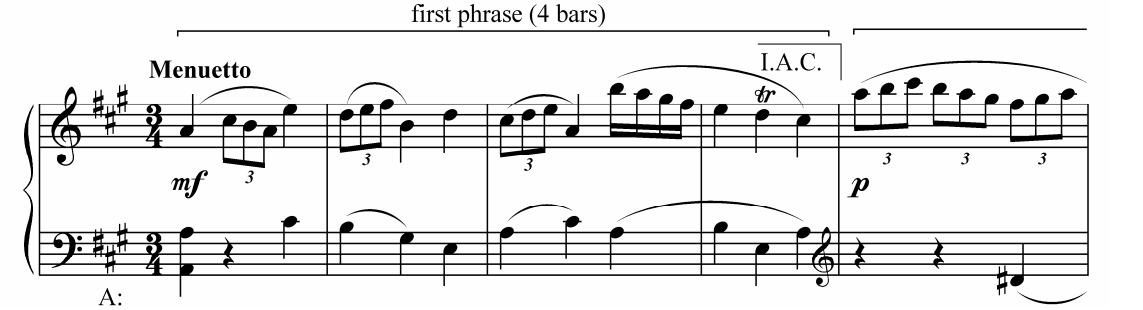
During the Romantic period and especially in the music of folk origin, plagal cadences started to be used more often (sometimes substituting the authentic cadence) and became more important than before.

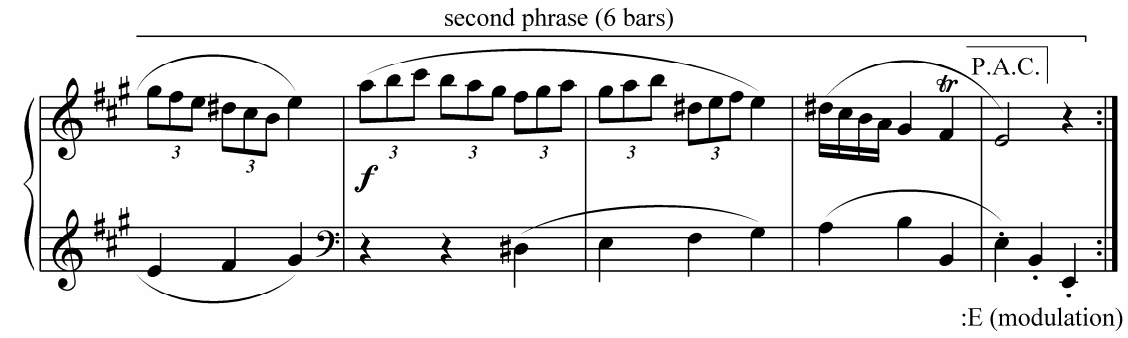
Taneyev, Scherzo



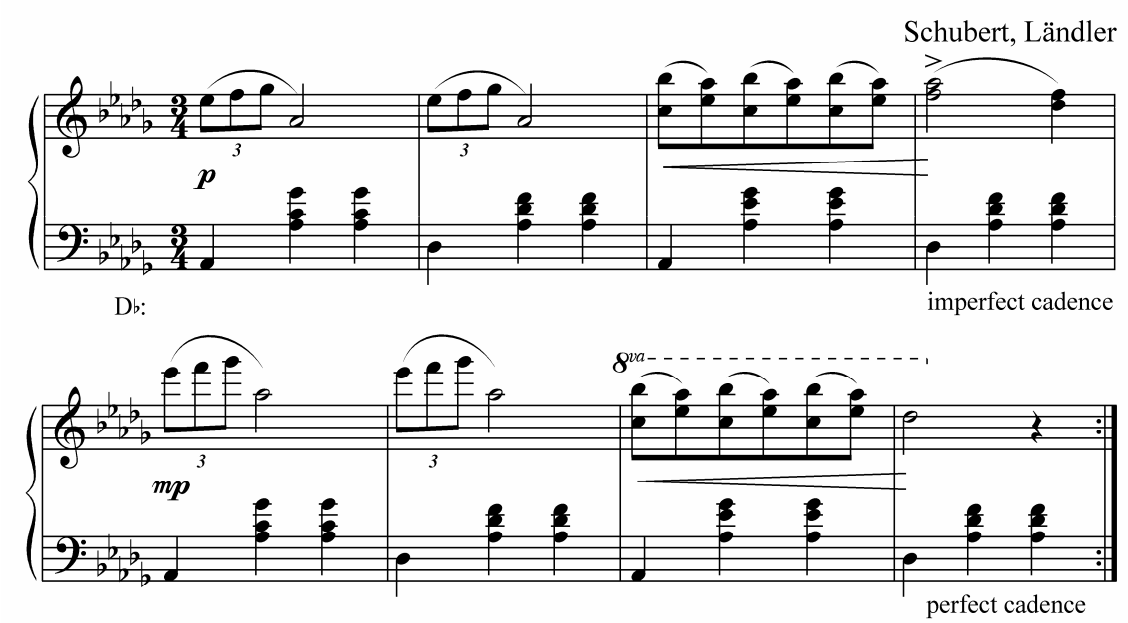
Phrases in a period can be *unequal* not only because of a plagal cadence but also because of the way the composer treated the material in them.

Haydn, Divertimento in A Major, Hob. XVI: 12, II

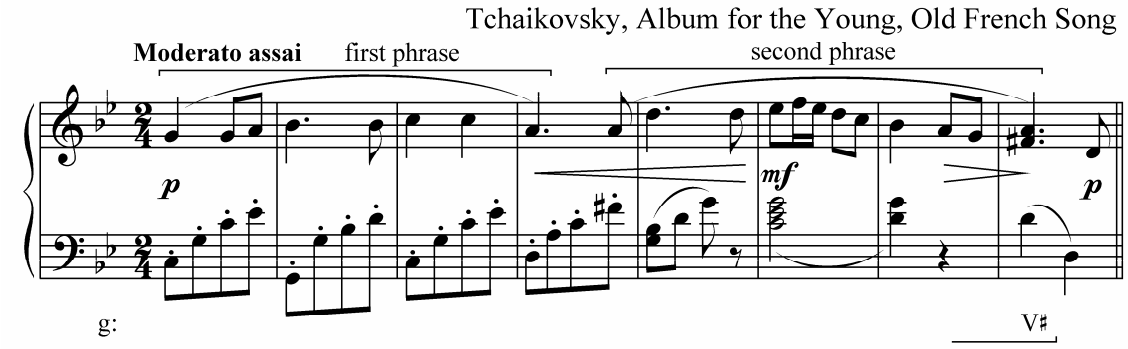




It is obvious that even if other elements are exactly the same, the perfect cadence would give a feeling of more completeness than the imperfect one. Thus, it is sometimes possible to end the first phrase of a period with an *imperfect* cadence and the second, with the perfect one. Due to a different degree of completeness of such cadences, they add to and depend on each other, though the chords used are the same.



In rare cases it is also possible to find an imperfect authentic cadence ending the first phrase and a half authentic cadence used at the end of the whole period.



Practical Suggestions

1. Harmonization should be started with identifying the *key* (looking at the key signature, the last note of the melody, its functional structure);
2. The *ends* and *beginnings* of the *phrases* of the period should be found;
3. The *chords* and *chord progressions* which are going to be used for the middle and final cadences should be identified;

4. The *characteristics* of the caesura should be considered. The caesura essentially creates the feeling of a *break* in the flow of connected chords which means that the last chord of the first phrase and the first chord of the second phrase may have no *direct functional relationship*. The second phrase can start with *any chord* (V, I and even IV (after V in half authentic cadence));

5. There may be an additional plagal cadence in the line given for harmonization; it should be specially marked and separated from the final cadence;

6. When harmonizing a bass line, the *rhythmic contour of the melody* in the first and second phrases should be considered. The second phrase may:

a) resemble the rhythm of the first phrase;
b) be in rhythmic contrast with the first phrase;
c) combine both the resemblance and contrast;

7. In order to make it visually clearer, it is recommended to *put brackets* to indicate the cadences and *identify* them. The following abbreviations of the cadences can be used:

a) P.A.C. for a perfect authentic cadence;
b) I.A.C. for an imperfect authentic cadence;
c) P.P.C. for a perfect plagal cadence;
d) I.P.C. for an imperfect plagal cadence;
e) H.A.C. for a half authentic cadence;
f) H.P.C. for a half plagal cadence.

Exercises

1. Analyze the key, chords, nonchord tones and cadences in the following excerpts.

a)

Schumann, Album for the Young, Op. 68: Wilder Reiter

(♩. = 120)

mf *sf* *sf*

[iv$^{6}_{4}$] n.c. [i$^{6}_{4}$] n.c.

sf *sf*

[iv$^{6}_{4}$] n.c. [i$^{6}_{4}$] n.c.

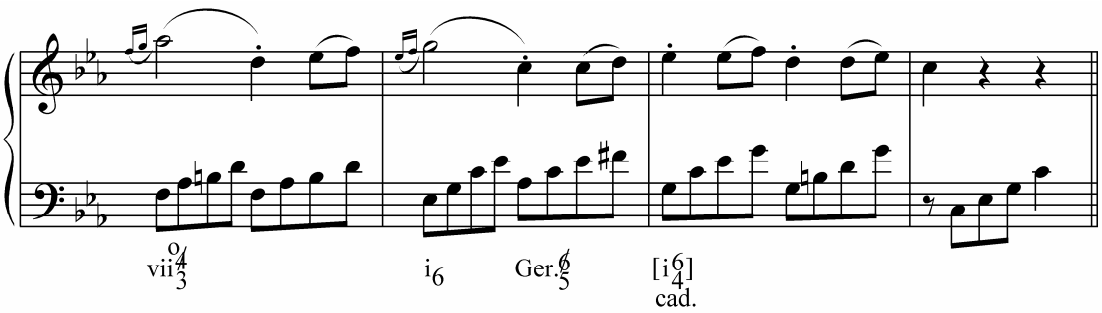
b)

Beethoven, Piano Sonata No. 8, Op. 13, Rondo

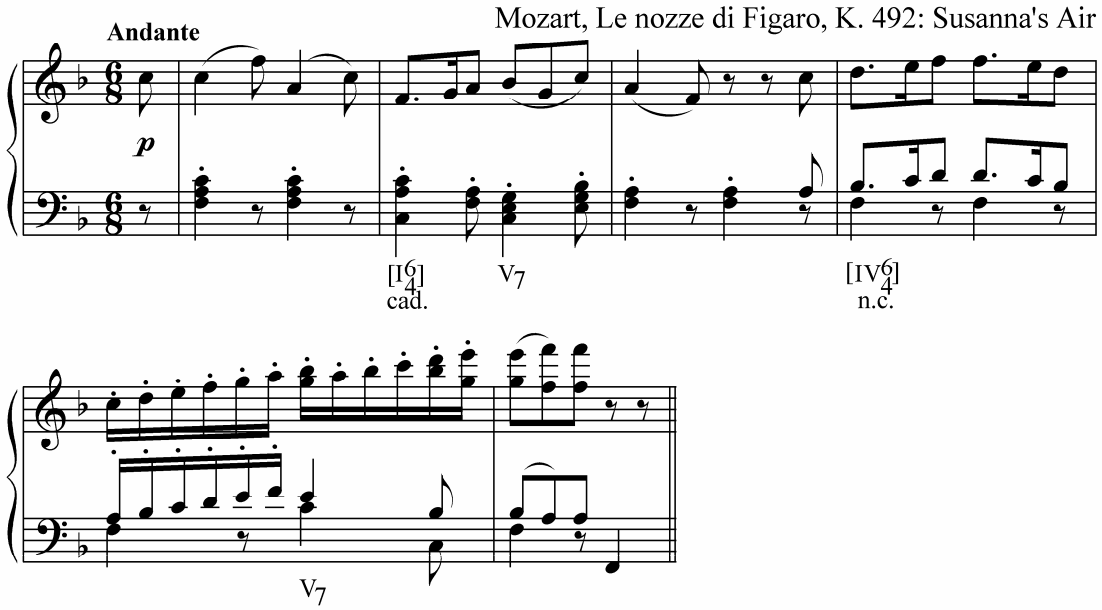
Allegro

p

V$^{7}_{\natural}$ V$_{6}$

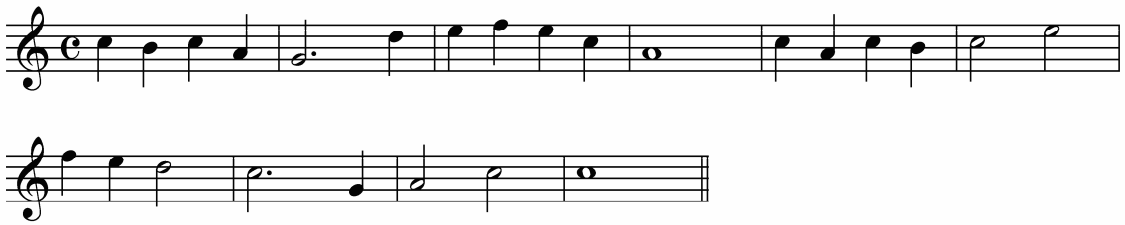


c)

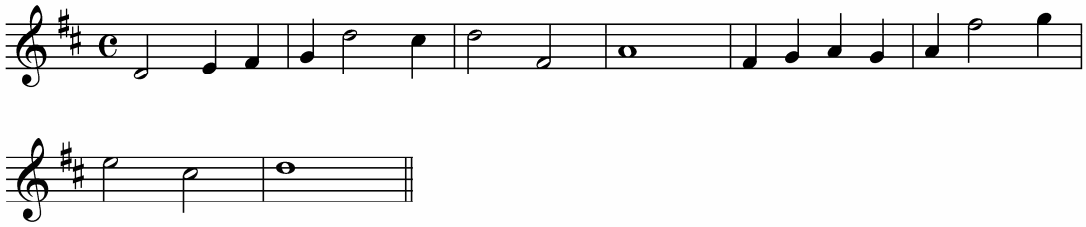


2. Harmonize the following melodies and basses.

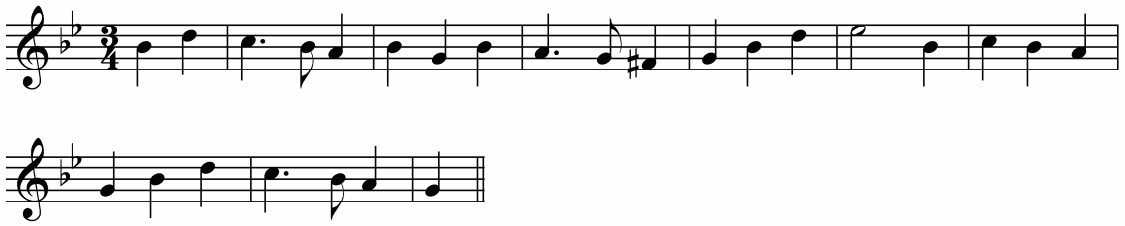
a)



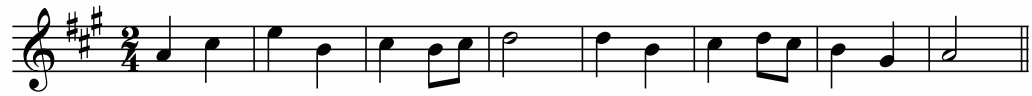
b)



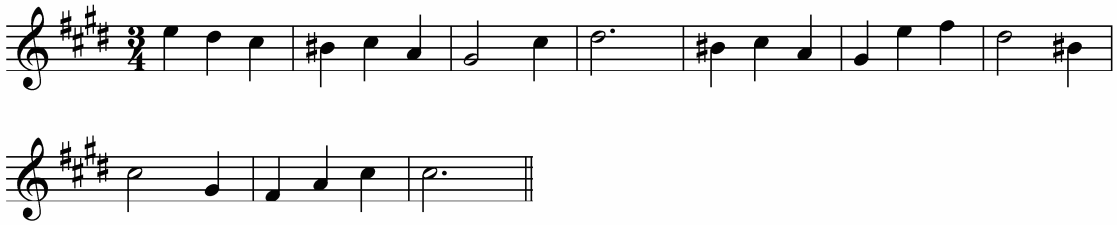
c)



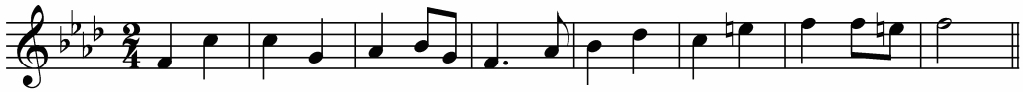
d)



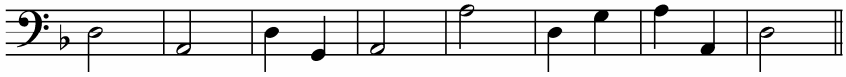
e)



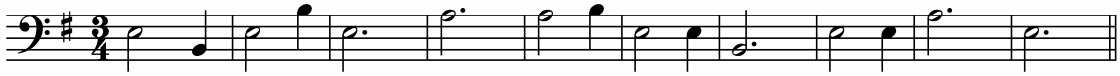
f)



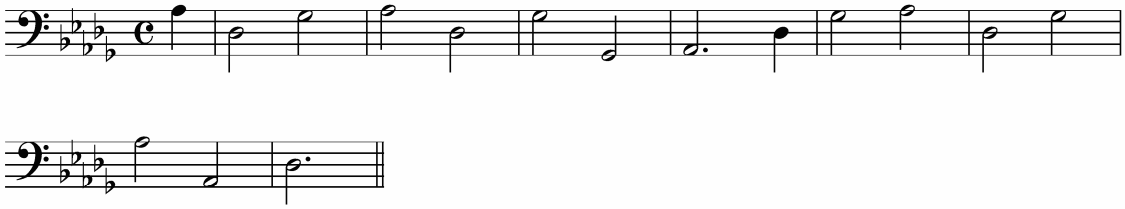
g)



h)

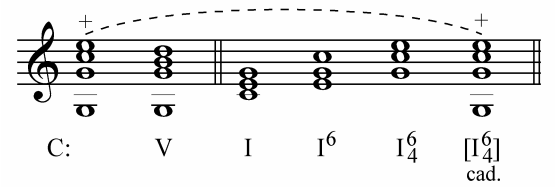


i)



Definition. Identification

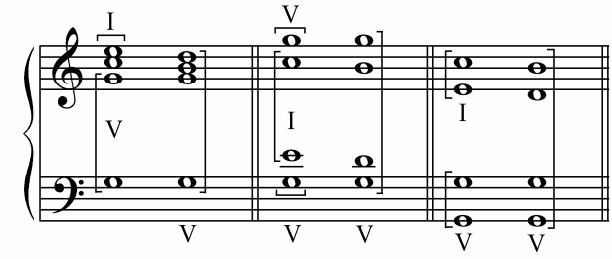
It often happens in the cadences that the dominant triad (V) would be *preceded by a chord* which looks like the tonic triad (I) in 2nd inversion.



Due to its placement in a phrase, the resemblance with I, and the intervals formed from the dominant note placed in bass, it is called the *cadential tonic six-four chord*. Most six-four chords are considered to be nonfunctional (linear) because they contain the notes of a certain chord but function like a different one. The cadential tonic six-four chord is identified with the brackets on both sides of it to show that it is a nonfunctional chord, the figured bass numerals used for the 2nd inversion of a triad, and the type of the nonfunctional use of this chord, which in this case is *cadential*.

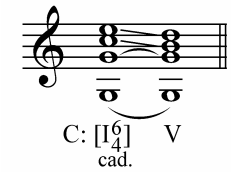
Specific Functional Features

Just looking and sounding like the 2nd inversion of I, the cadential $I^6{}_4$ is considered to *have no function of the tonic chord*. The specific functional feature of this chord is that it *combines* the pitches of the two different chords: V in bass and I above it, while V *prevailing* since the dominant note is doubled and is placed in bass.



Because it *combines* the elements of the *two chords*, it is called *bi-functional*. This bi-functionality gives the cadential $I^6{}_4$ its *tension* and *instability* which are *not characteristic* to the stable I[21].

Delaying the appearance of V, the cadential $I^6{}_4$ would be *necessarily* followed by it *resolving* the tension and instability.

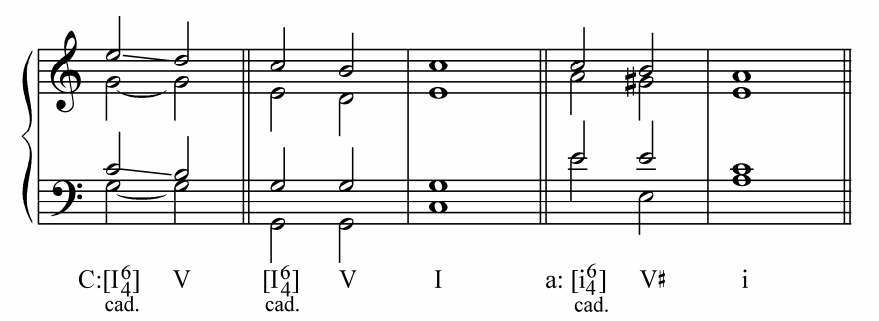


Voice Leading

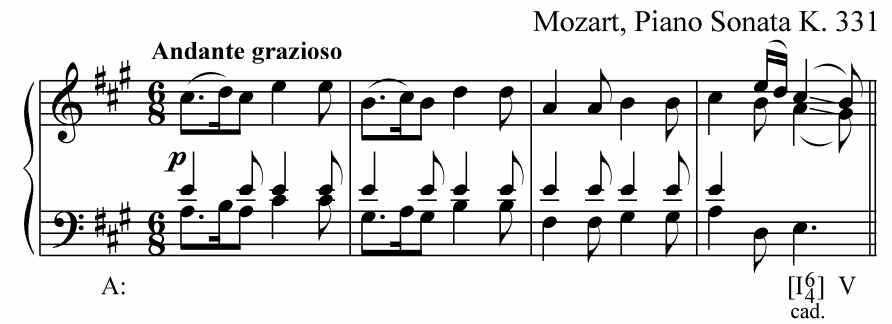
In order to make the dominant characteristics of the chord stronger, the dominant tone (the root of V, i.e., the 5th of I) is usually doubled in the cadential $I^6{}_4$. When resolving the cadential $I^6{}_4$ to V,

[21] It is also possible to understand the chord being V and the two notes of I being nonchord tones immediately resolving to the missing chord tones of V. But since all three notes form a tonic triad, the chord is analyzed as I in its 2nd inversion with the brackets on both sides and the type of the chord use.

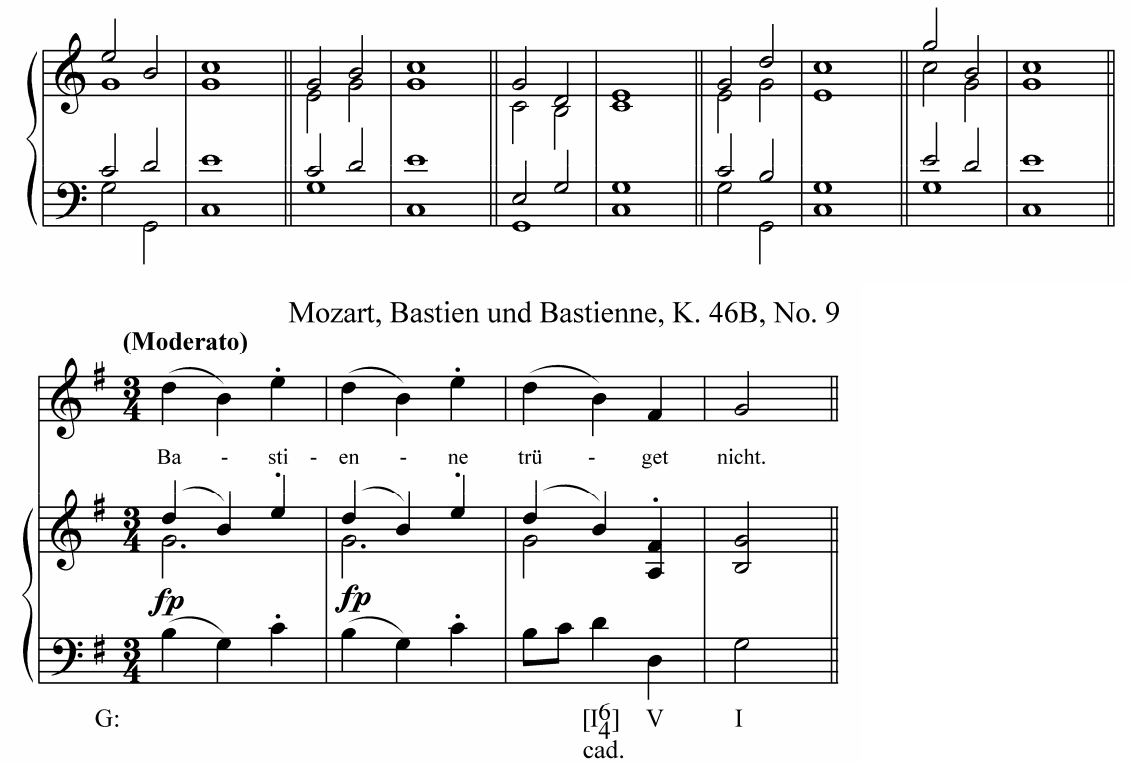
both the root of V and its doubling usually *remain stationary* and the two *tones of I* (the root and 3rd) move *by step down* to the 3rd and 5th of V that follows.



Such *smooth* motion of the notes of I when resolving the cadential $I^6{}_4$ to V is the *norm,* especially in half cadences.



When resolving the cadential $I^6{}_4$ to V in *authentic cadences*, the *leap* to the 3rd or 5th may be found sometimes[22].



When resolving the cadential $I^6{}_4$ to V, bass either remains stationary or leaps (normally down) by the interval of an octave (*see* example above).

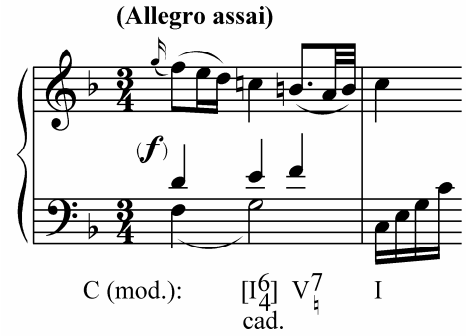
[22] Again, it is recommended for a beginner to use the normal resolution of the cadential $I^6{}_4$ to V in exercises.

Metrical Conditions

The cadential I^6_4 is used under certain metrical conditions: in *simple duple and triple meters* it is used on the *strong beat*, in *simple quadruple and compound meters* it can also be used on *relatively strong beats*. Anyway, in any of these metrical conditions, the cadential I^6_4 would *always* be on the stronger beat than the *following dominant chord*.

In triple meters the cadential I^6_4 is sometimes used on the second beat which means that the following dominant chord would be used on the third beat of that measure.

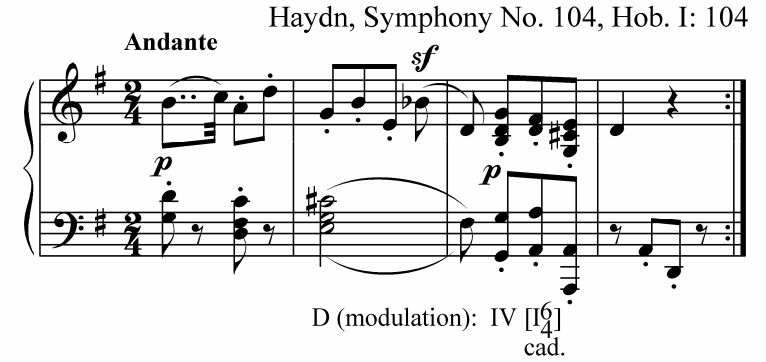
Mozart, Piano Sonata No. 2 in F Major, K. 280/189e, I



Preparation

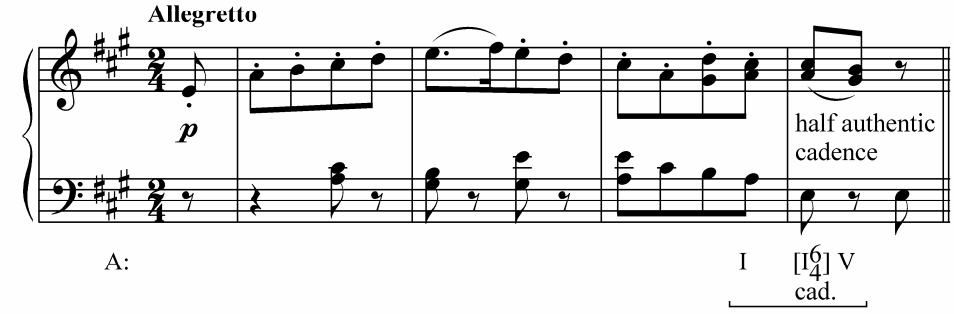
It is best to prepare the cadential I^6_4 with IV. The common tone between IV and the cadential I^6_4 helps connect the two triads *harmonically*. Such connection can be found very often.

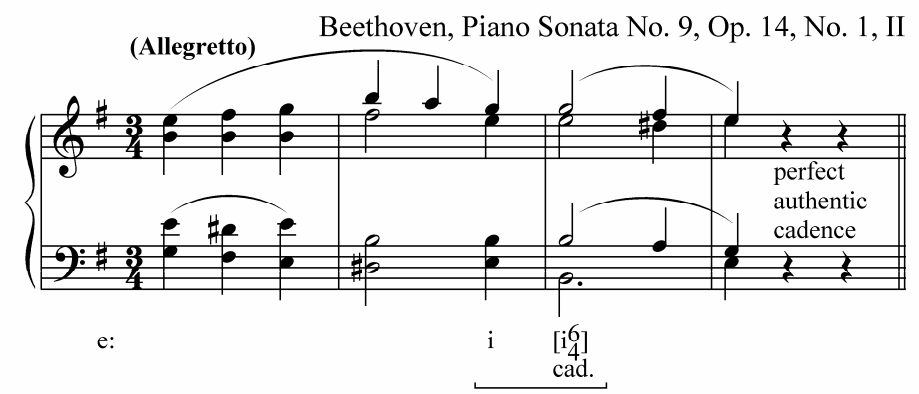
Haydn, Symphony No. 104, Hob. I: 104



However, sometimes the cadential I^6_4 is prepared by a chord other than IV. I can be used before it though it is more often found in *half authentic cadences* and, sometimes, in authentic cadences.

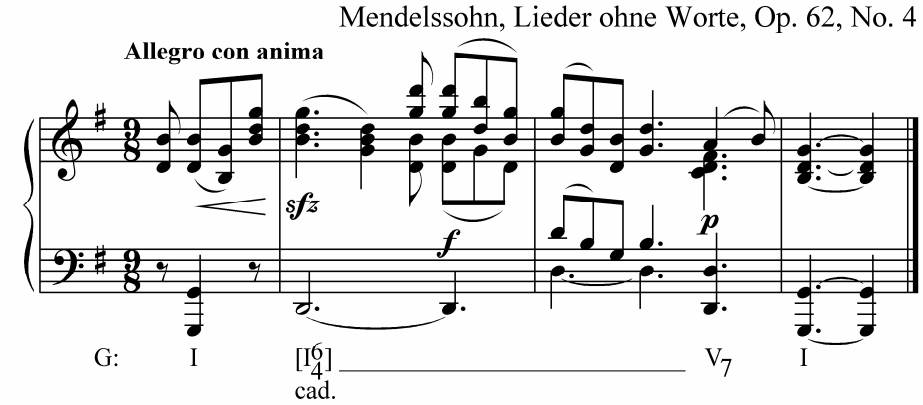
Beethoven, Thirteen Variations on an Arietta by Dittersdorf, WoO 66





Exchange of Tones

Like any other chord, the cadential I^6_4 can *exchange* its chord tones in the voices before resolving to the dominant chord. In such case bass would remain stationary or move (either down or up) by the interval of an octave and there will be a change of the chord tone in soprano as well as the spacing of the chord. The following dominant chord may also exchange the chord tones.



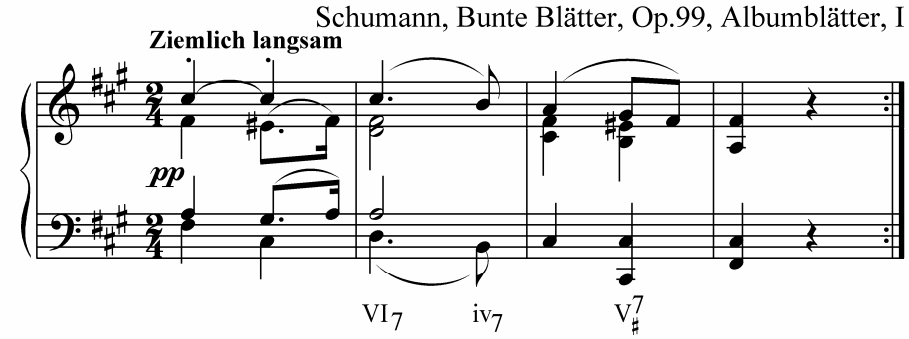
Importance

Being a functionally unstable chord, the cadential I^6_4, besides adding something new to the sound, creates additional tension to (half, perfect and imperfect) authentic cadences. Increasing the tension in the whole cadential pattern, the cadential I^6_4 *postpones the return of the tonic triad* in an authentic cadence of a period which makes us want to hear it even more. In half authentic cadences, with the help of the tension it produces, the cadential I^6_4 increases the temporary stability of V which resolves its tension. These phenomena explain its importance and the reason why it is used so often in various authentic cadences.

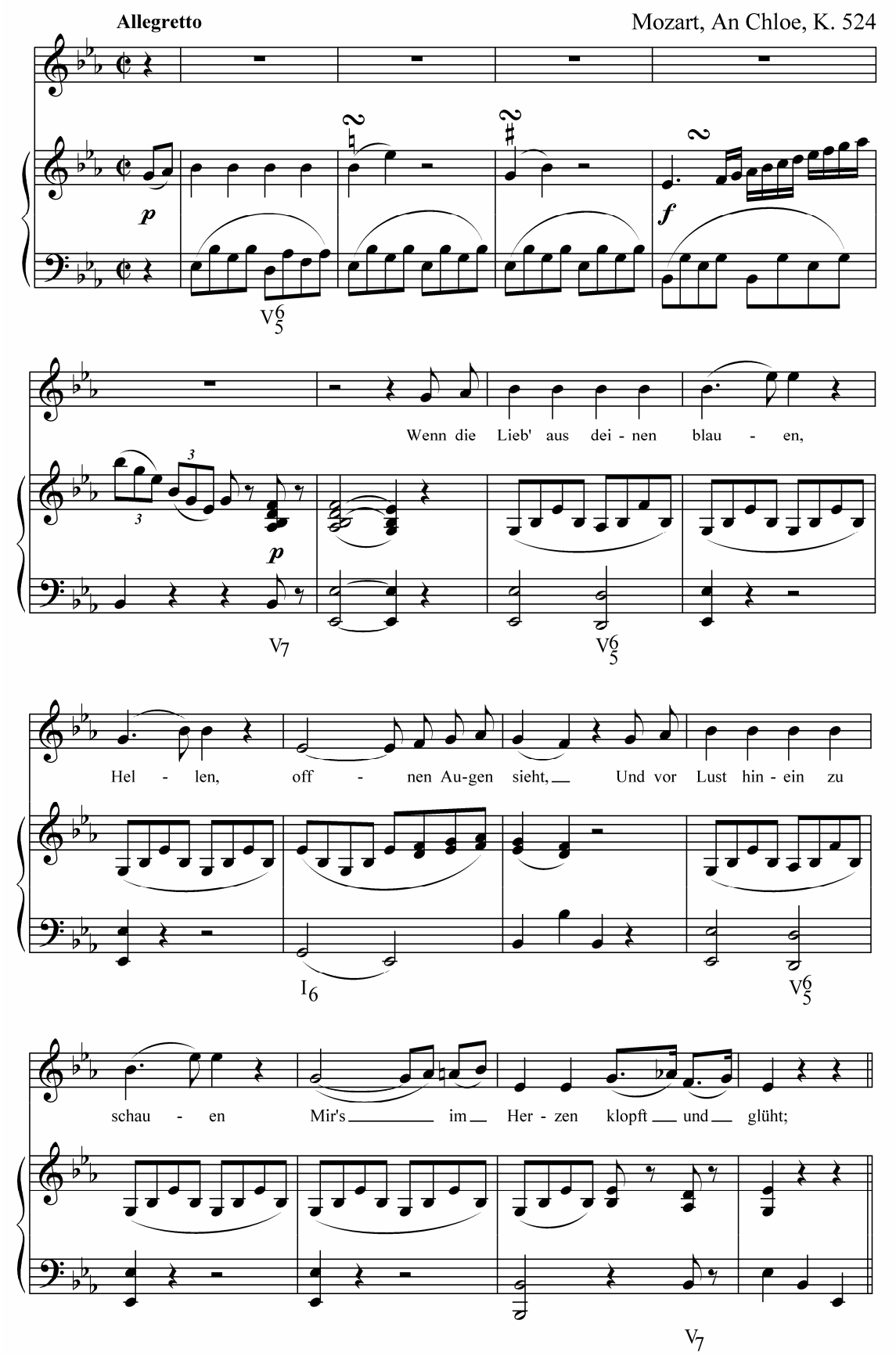
Exercises

1. Analyze the following excerpts.

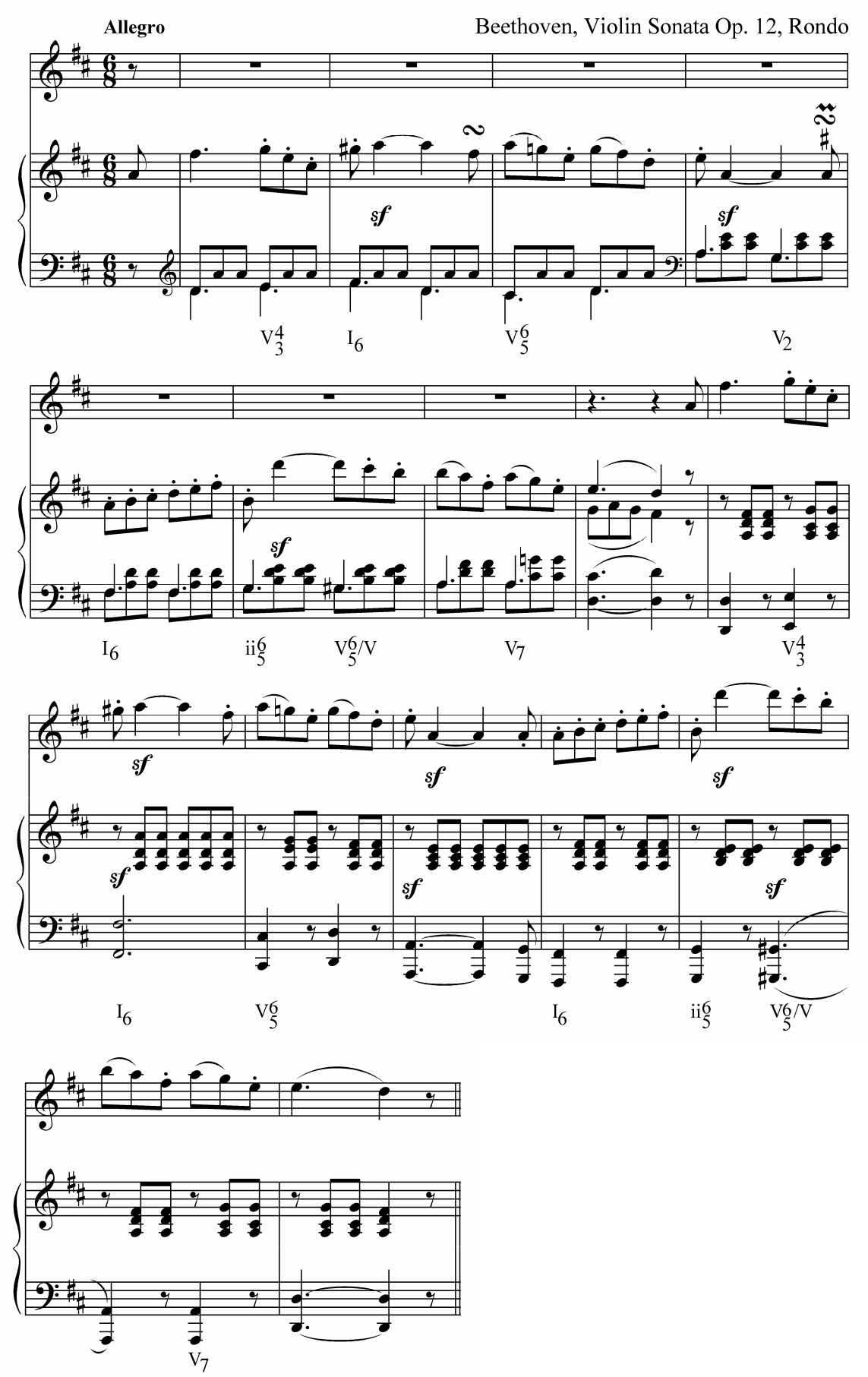
a)



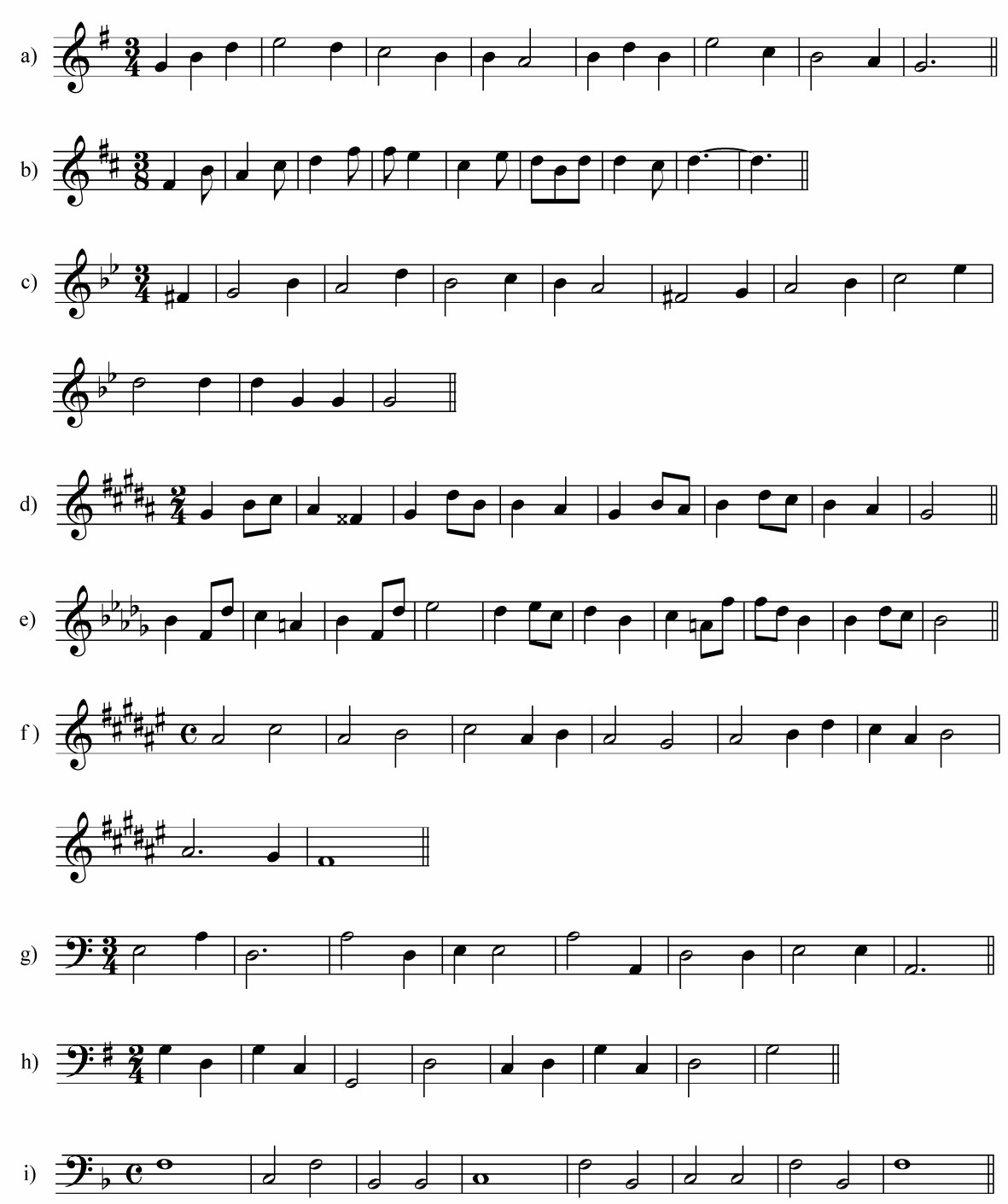
b)


Allegretto
Mozart, An Chloe, K. 524
p
f
V6/5
Wenn die Lieb' aus dei - nen blau - en,
p
V7
V6/5
Hel - len, off - nen Au-gen sieht, Und vor Lust hin - ein zu
I6
V6/5
schau - en Mir's im Her - zen klopft und glüht;
V7

c)


Allegro
Beethoven, Violin Sonata Op. 12, Rondo
sf
V4 3
I6
V6 5
V2
I6
ii6 5
V6 5/V
V7
V4 3
I6
V6 5
I6
ii6 5
V6 5/V
V7

2. Harmonize the following melodies and basses.



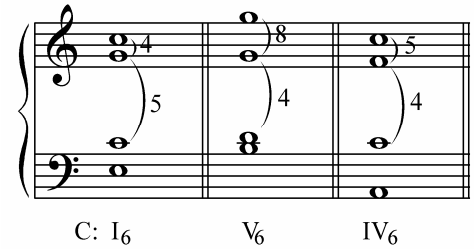
Definition. Identification

Triads in 1st inversion are called *sixth chords*. A sixth chord is analyzed with the Arabic numeral 6 added to the right bottom of the Roman numeral used to identify the chord, for example, I_6, IV_6, V_6.

Doubling. Spacing

The note, which is usually doubled in primary sixth chords, is the root or 5th; the doubling of the 3rd is unsatisfactory though may be rarely used (*see* Doubling of the 3rd paragraph).

Besides close or open spacing, a sixth chord can also be in *mixed* spacing. As can be understood from the name of this type of spacing, one pair of the upper voices (for example, soprano and alto) forms the interval characteristic for *close* spacing (i.e., a unison or 4th) while the other pair (in our case, alto and tenor) forms the interval characteristic for *open* spacing (i.e., a 5th or octave).



Use

In accordance with their acoustic nature, the sixth chords are less stable than the root position triads. This is the reason why they are mostly used in the middle of a phrase making the music to flow in a smooth and natural way.

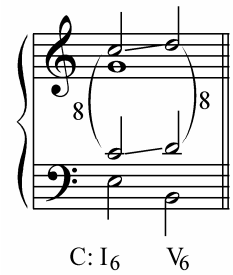
Normally, a sixth chord is *not* used as the *final* chord of any cadential pattern which ends a phrase or period.

If it is used as a penultimate chord of a phrase, such sixth chord would turn the authentic or plagal cadence into an *imperfect* one. This often happens in the first phrase of a period.

Voice Leading. Parallel Octaves (Unisons)

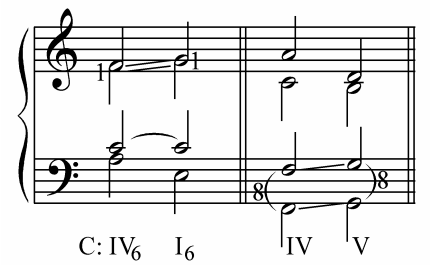
Due to the increase of number of possibilities in the doubling and spacing, there are more ways to connect a sixth chord with a triad in root position or another sixth chord.

In the following progression.

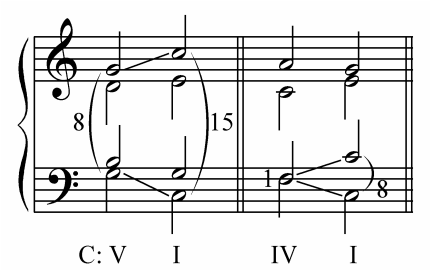


each of the voices, if used on its own, moves smoothly and in accordance with the rules of good voice leading; the doubling and spacing of both chords are also correct. However, while bass, alto and soprano all move independently of each other, tenor *repeats* or *doubles* the motion of the upper voice (soprano) an octave below. Such doubling is made of the parallel motion of the two lines by the interval of an *octave* (in other cases, a unison).

As mentioned before, such parallel motion by octaves (or unisons) is *not allowed* in four-part writing.

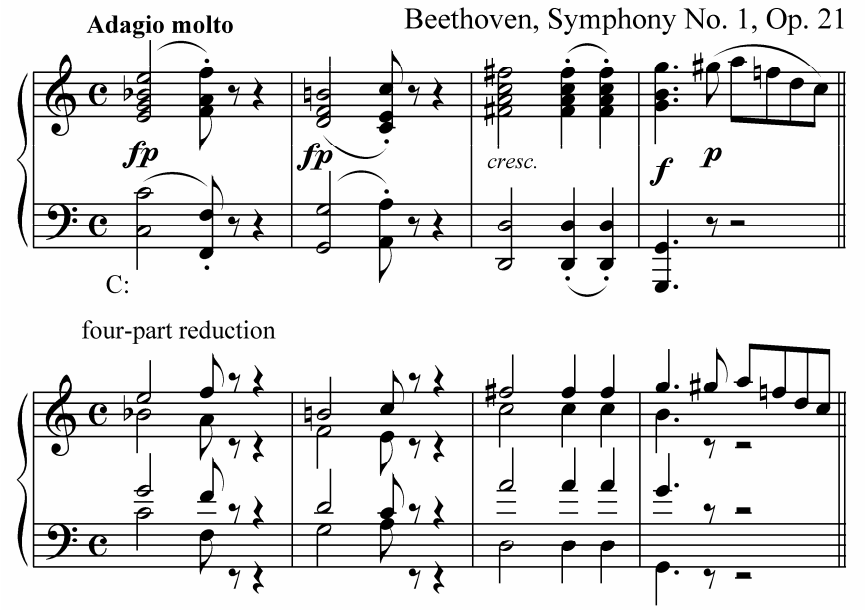


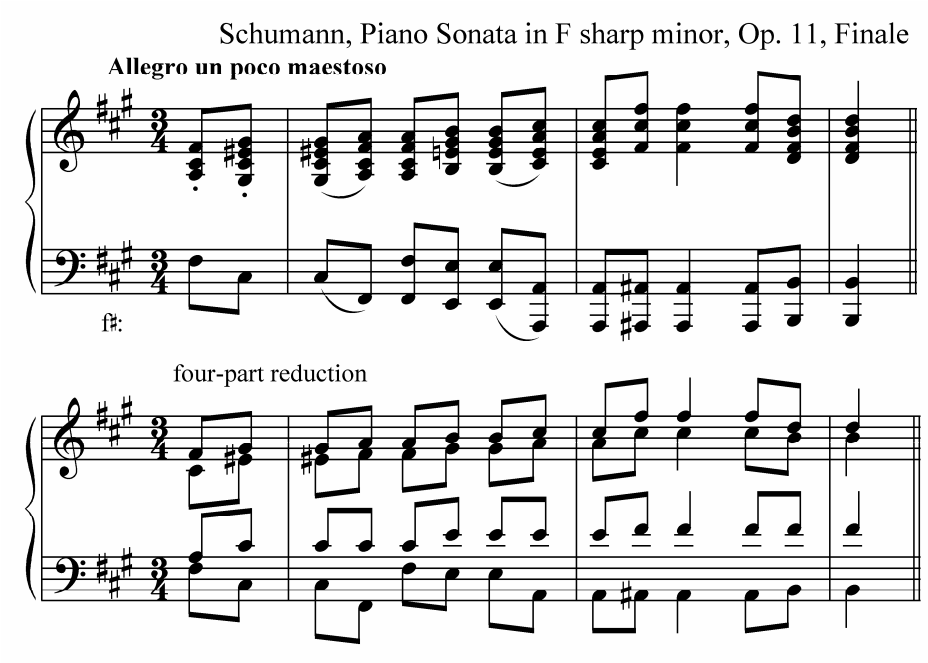
Parallel octaves (or 15th's) by contrary motion or motions from a unison to an octave and vice versa are also not allowed.



It is necessary to understand the difference between parallel octaves and octave doubling of a certain voice. In a four-part texture, where each voice leads it's *own independent* part, parallel octaves are the result of careless voice leading, while the doubling of a certain voice an octave higher or lower, which is intentionally used by a composer, is to make that certain voice *louder, more prominent.*

Such technique, in which one or two voices are doubled an octave higher or lower, is used very often in four-part texture. The following examples show how such technique can be used in the melody and bass.

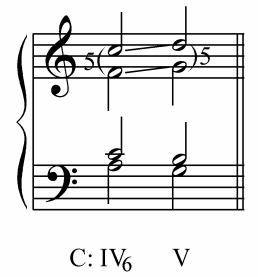




Parallel Fifths

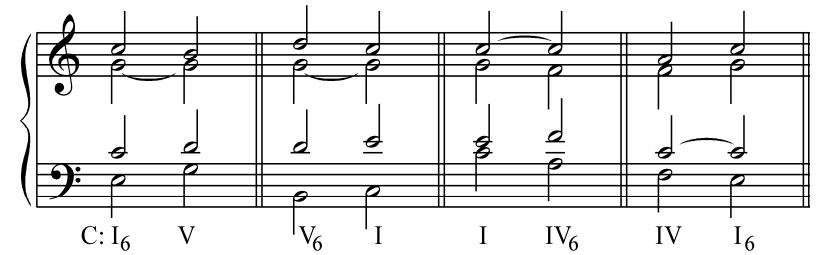
Another problem, which can occur when connecting triads in root position with sixth chords (and in some other cases), is *parallel fifths* or *parallel fifths by contrary motion*. Parallel 5th's are also *not allowed* in four-part writing.

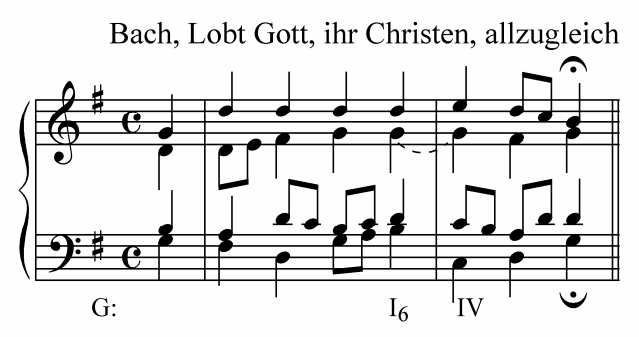
Parallel 5th's happen when the root and 5th of one chord (triad) move to the root and 5th of another in the same pair of voices.



Connection of Sixth Chord with Root Position Triad in which the Roots are a 4th (5th) Apart

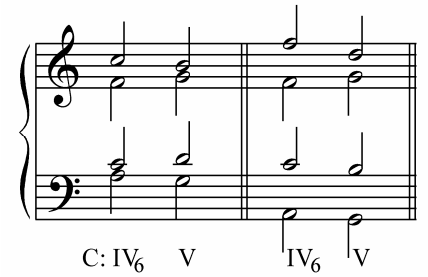
A sixth chord and a triad in root position are connected *harmonically*, using smooth voice leading (i.e., without leaps).



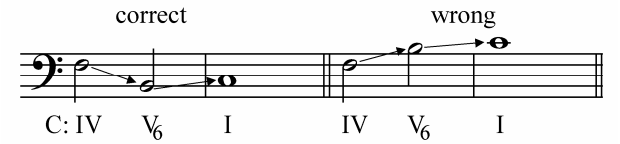


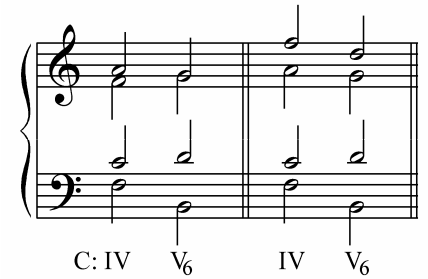
Connection of Sixth Chord with Root Position Triad in which the Roots are a 2nd Apart

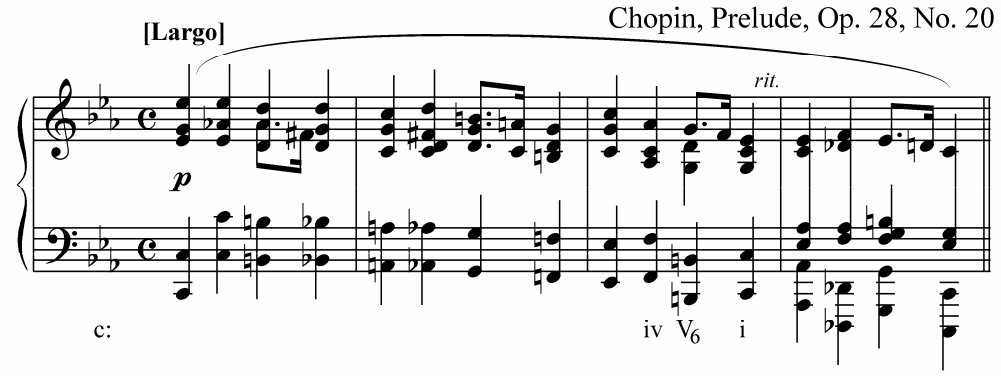
When connecting IV_6–V, all voices must move smoothly no matter which note (the root or 5th) is doubled in the first chord.



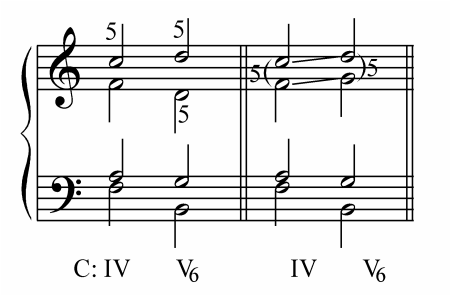
When connecting IV–V_6, bass must leap a *diminished 5th down* but not an augmented 4th up. After that, bass moves by step up in the *opposite* direction to the previous leap. Such voice leading is considered to be more natural and preferred to the upward leap and step in bass.





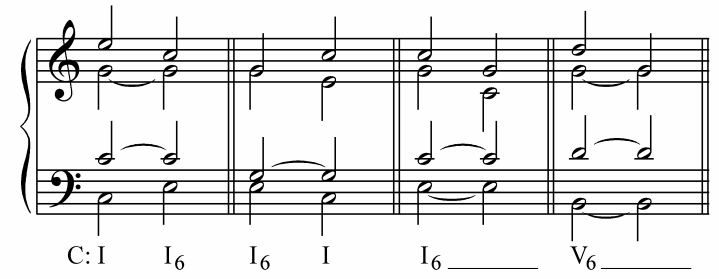


If, when connecting IV–V_6, the *5th* of IV is in soprano, the 5th of V_6 must be doubled to avoid parallel 5th's.



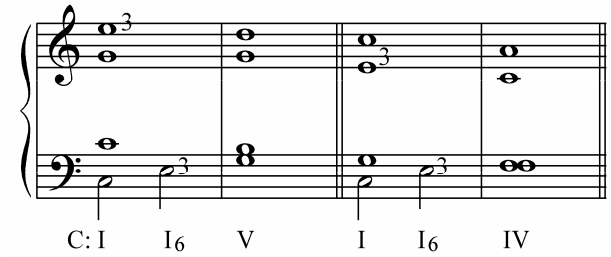
Chord Repetitions

A triad in root position may be followed by the same triad in 1st inversion (e.g., I–I_6, V–V_6) or vice versa. The function of the chord is not changed (chord repetition); some notes remain stationary and some move from one chord tone to another. Bass moves from the root to the 3rd (or vice versa) while one of the upper voices (for example, soprano) moves in the opposite direction from the 3rd to the root (or vice versa). It is possible to repeat a sixth chord itself (not using the root position) while changing the chord tones, spacing and doubling in the upper three voices.

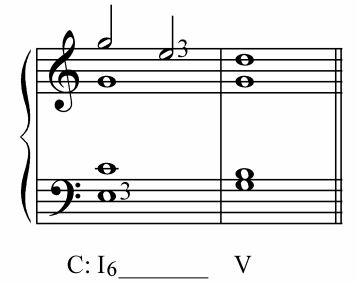


Doubling of the 3rd

When a root position triad is followed by its 1st inversion variant and the upper voices remain stationary, the 3rd would be doubled in the sixth chord.



The doubling of the 3rd may also happen when the sixth chord is repeated.



In all such cases it is necessary to be very careful with the voice leading avoiding parallel octaves which may occur because of the doubled 3rd.

Melodic Features of Bass

The use of sixth chords helps the bass line become more beautiful melodically. Bass is of a certain importance after soprano.

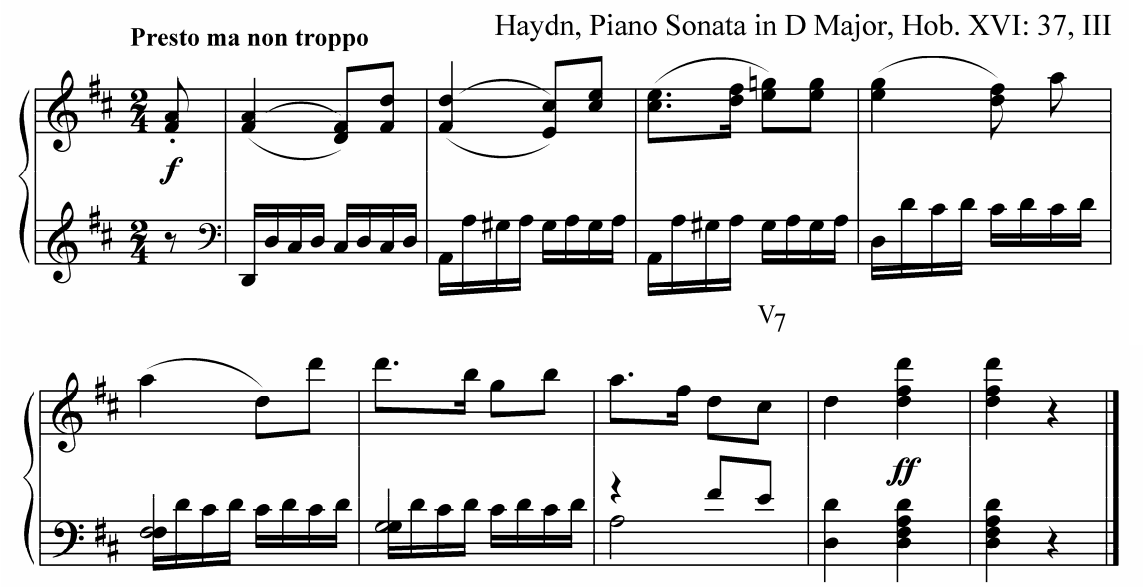
It is necessary to care about the shape of the bass line when harmonizing a given soprano. For such purpose one should:

1. try to use equally the root position I, IV and V and their 1st inversions;
2. try to use root position triads mostly in cadences;
3. try to avoid using leaps in outer voices at the same time;
4. try not to use the tonic triad in root position in the beginning of the second phrase of a period, but try to use it only in the beginning and at the end;
5. keep in mind the structure of the whole when harmonizing (like mentioned before).

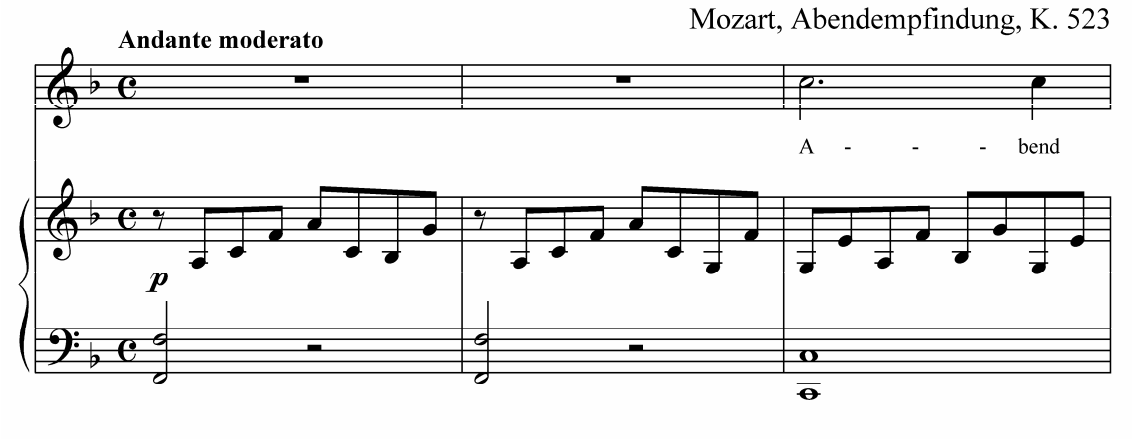
Exercises

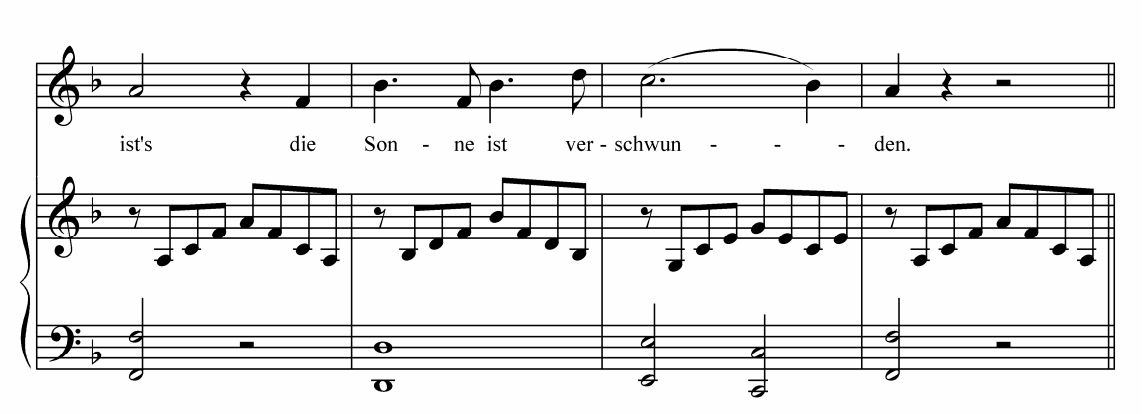
1. Analyze the following excerpts.

a)

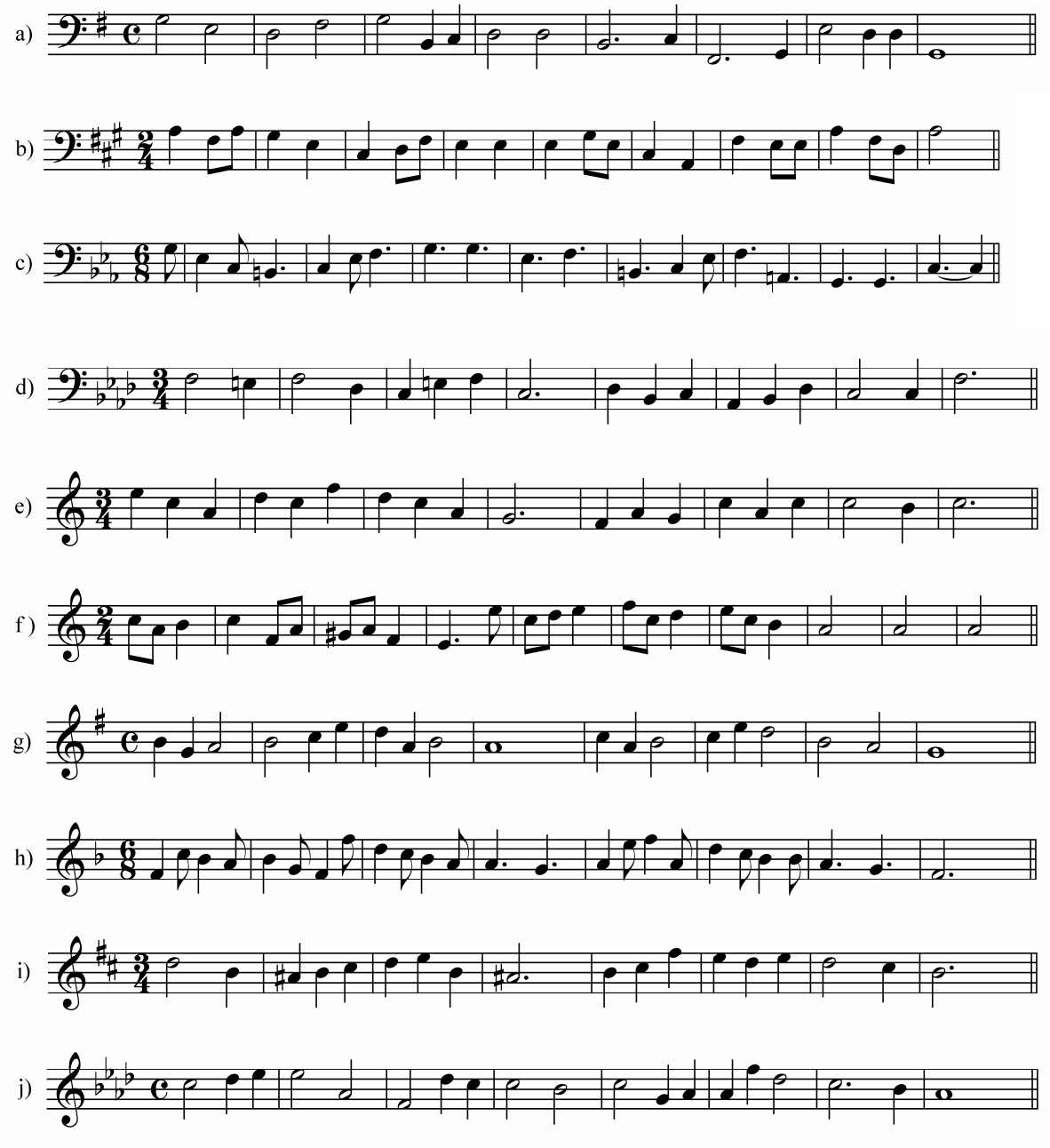


b)





2. Harmonize the following basses and sopranos.



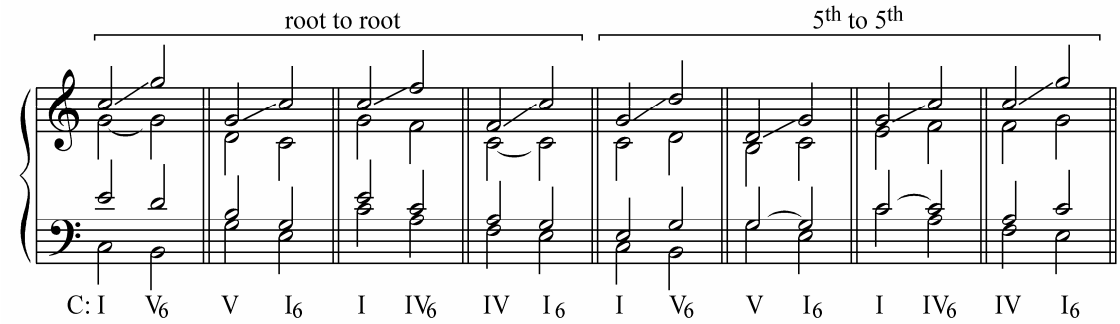
Leaps when Connecting Triads in Root Position with Triads in First Inversion

Leaps of Roots and 5th's

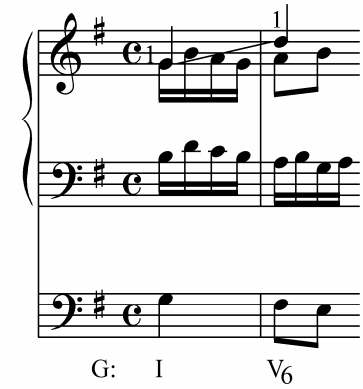
When connecting chords in which the roots are a 4th (5th) apart, it is possible that the root of one chord would leap to the root of another or the 5th of one, to the 5th of another. In such case all voices, except for the one that leaps, would move by an interval not bigger than a 3rd. The connection is *often harmonic*.

If such melodic leaps are harmonized using two triads both in root position, *parallel octaves* or *5th's* would occur between the outer voices. That is why, in order to make the voice leading correct, *one of the triads must be in 1st inversion*.

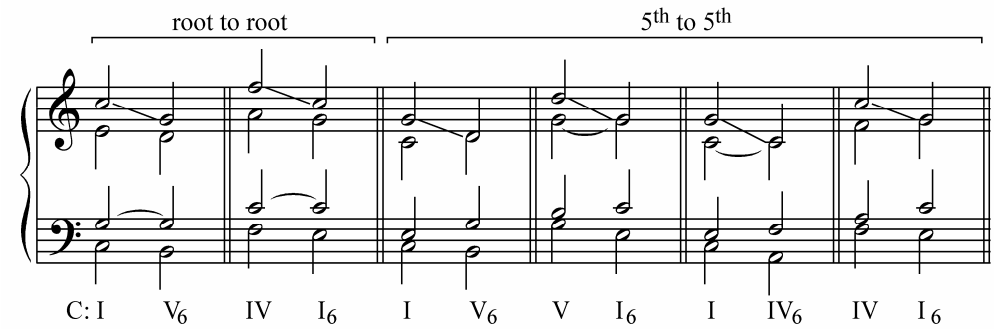
To harmonize an *upward* leap from the root to the root or from the 5th to the 5th, the first chord must be in root position in close or open spacing and the second, in 1st inversion. Bass moves in the opposite direction to the leap.



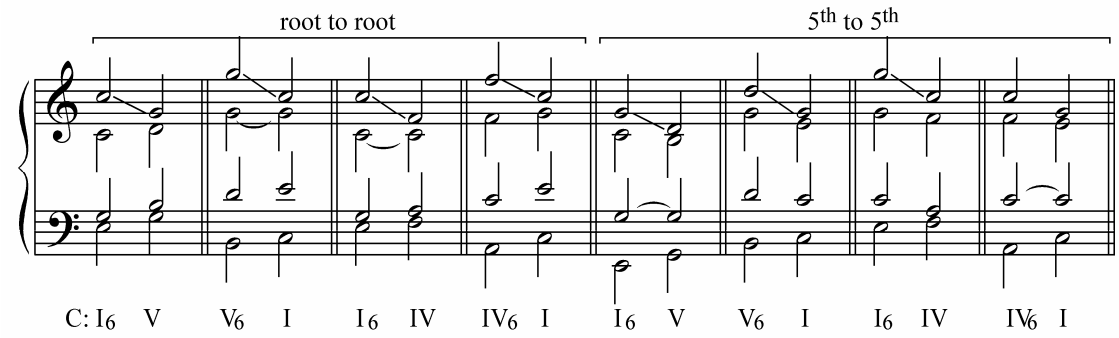
Bach, Lobt Gott, ihr Christen, allzugleich, BWV 609



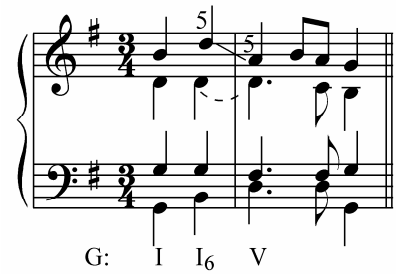
To harmonize a *downward* leap, the first chord can also be the triad in root position and open spacing while the second, in 1st inversion. Bass moves down, i.e., in the same direction as the leap.



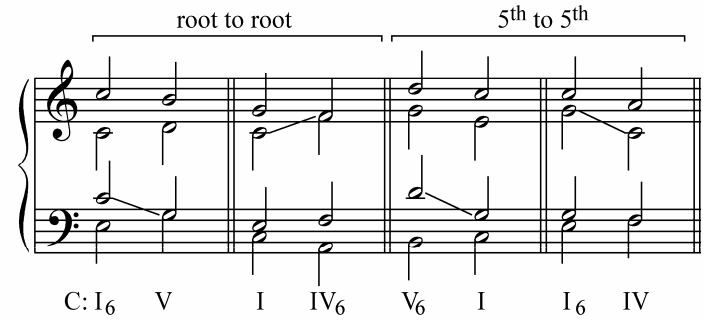
It is also possible to harmonize such downward leaps with the first chord being the triad in 1st inversion and the second, in root position. In such case bass moves upward, i.e., in the opposite direction to the leap. The first chord is in mixed spacing; the second, in close.



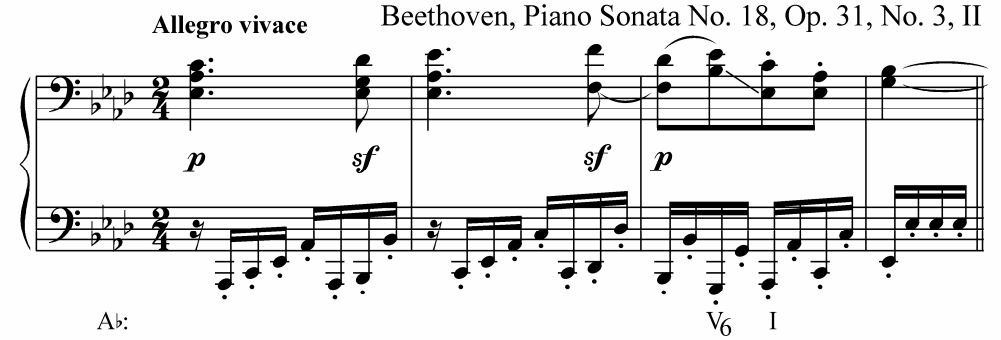
Tchaikovsky, Tis Not The Cuckoo In The Damp Woods



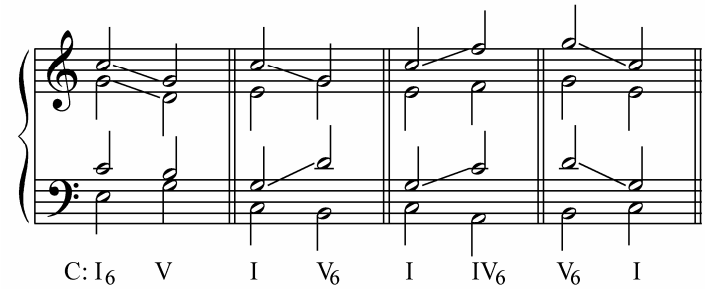
A leap in an inner voice can be used in the similar way.



Beethoven, Piano Sonata No. 18, Op. 31, No. 3, II

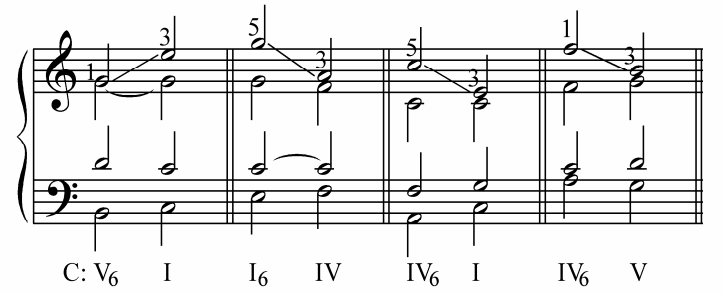


In some cases it is also possible to have the root leaping to the root and the 5th leaping to the 5th *at the same time*. This is possible only if the roots are placed above the 5th's, i.e., when the voices, which contain those pitches, move by parallel or contrary *4th's* (but not 5th's).

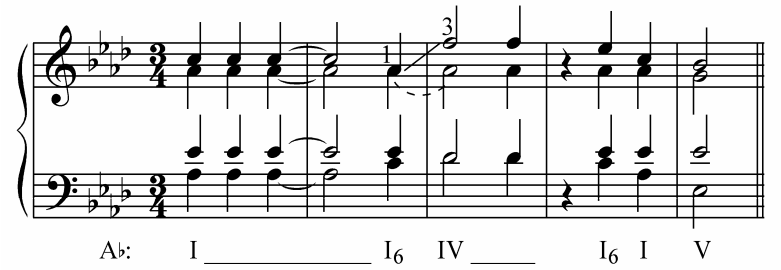


Mixed Leaps

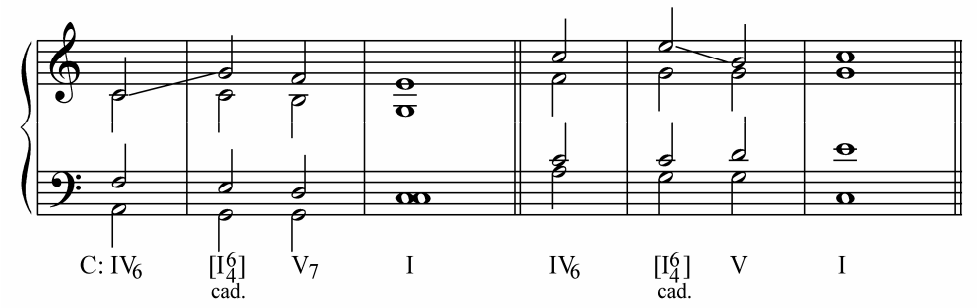
When connecting a triad in 1st inversion with another triad in root position, it is sometimes also possible to have leaps of a 6th, diminished 5th and sometimes even 7th *between different chord tones* (root–3rd, 5th–3rd, etc.).



Tchaikovsky, The Golden Cloud Did Sleep



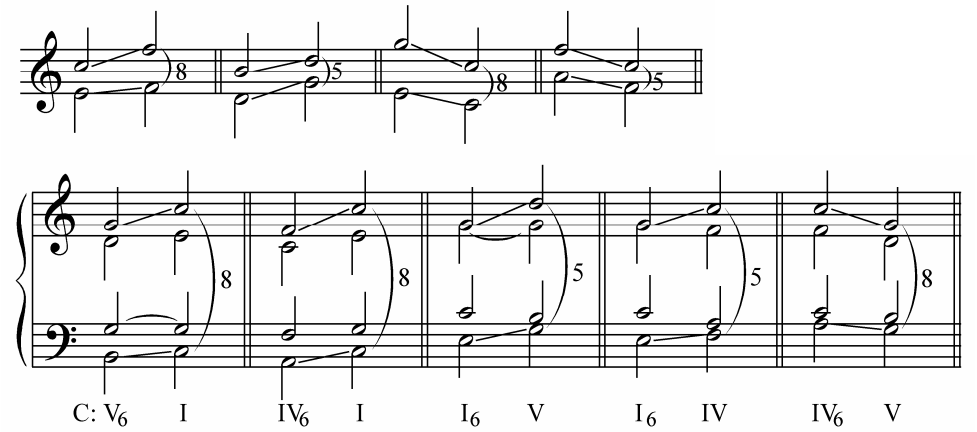
The use of triads in 1st inversion helps making the voice leading easier and correct when there are leaps in some voices. Below are some additional examples showing how leaps can be used before or after the cadential I^6_4.



Hidden Octaves and 5th's

When two voices move in the same direction to the interval of an octave, it is called *hidden octave*.

When two voices move in the same direction to the interval of a 5th, it is called *hidden fifth*.



The motion of two voices to an octave or 5th increases the "emptiness" of their sounding. Hidden 5th is *not allowed* between the outer voices (as being heard much clearer than in the inner voices) and only if there is a leap in soprano. The above information on how to connect triads in root position with triads in 1st inversion (or vice versa) was given to avoid these hidden octaves and 5th's.

Importance of Leaps

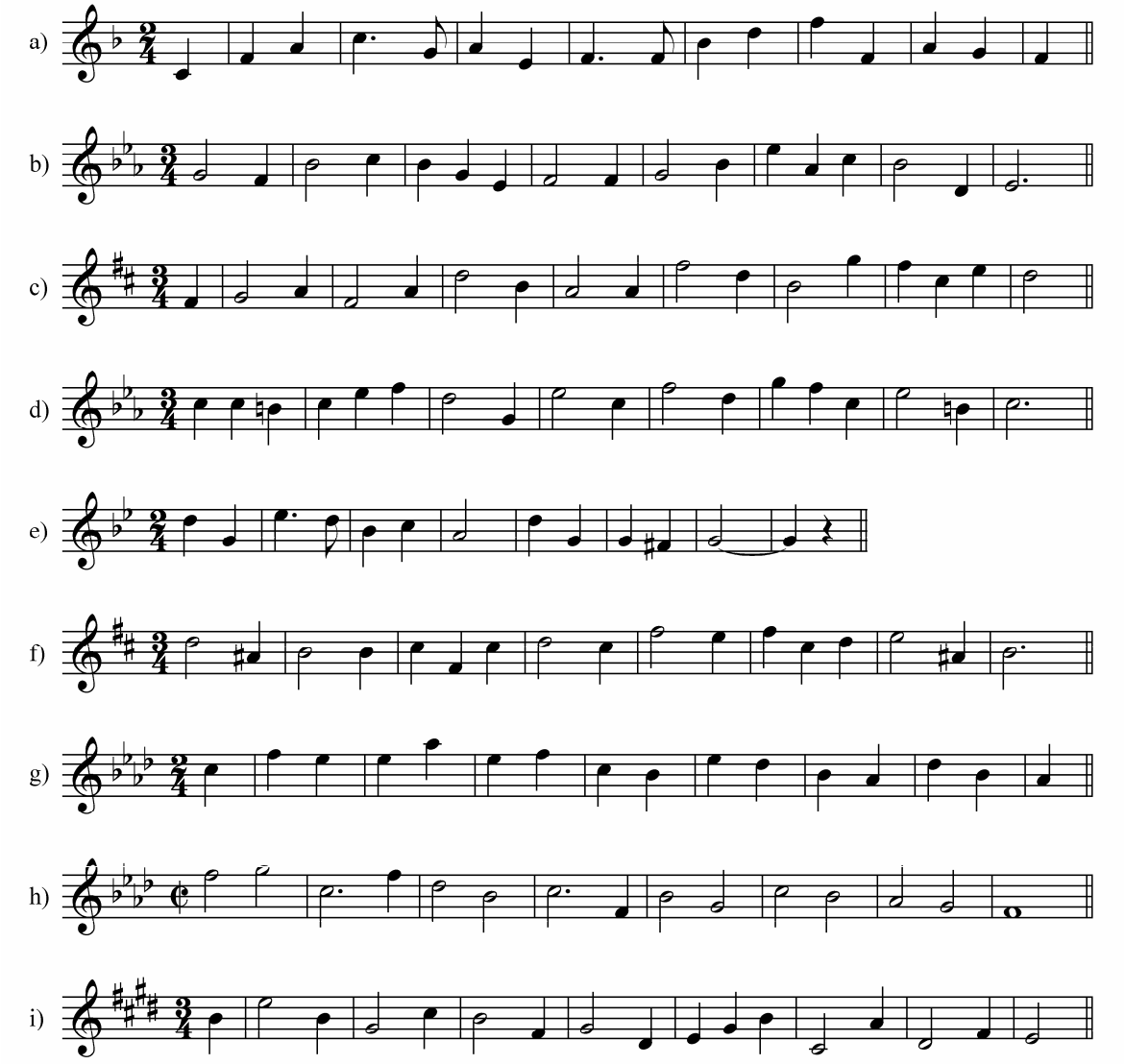
The use of various leaps (3rd's, roots, 5th's, mixed ones) significantly increases the means of voice leading if compared with the simplicity and strictness of voice leading described in the topics in the beginning of the course.

From now on, the melody may become more interesting not only through the use of *change of the chord tones* while the chord is being repeated but also through the use of *leaps* between different chords. The leaps and smooth voice leading must be used equally. Any leap between *two different chords* must be recovered *by step in the opposite direction* which is not necessary when there is a leap between the chord tones of the same chord (chord repetition).

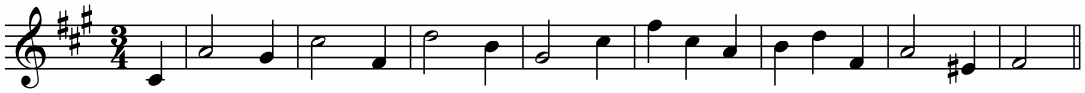
The leaps in inner voices (alto, tenor) may help solving voice leading problems.

Exercises

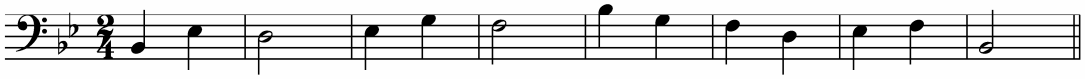
Harmonize the following sopranos and basses.



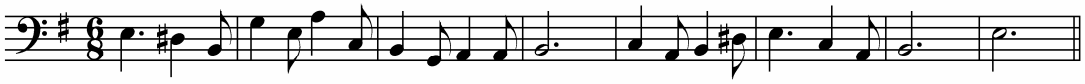
j)



k)



l)

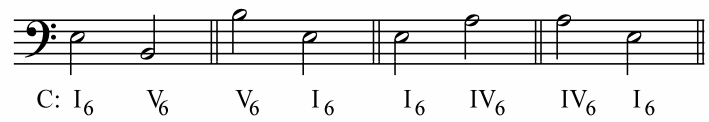


General Information

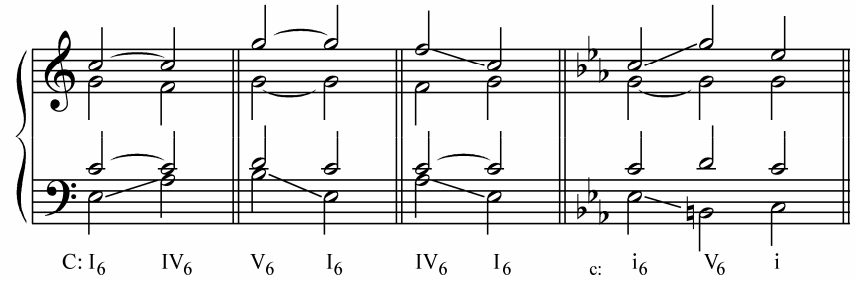
When *connecting* two *sixth chords*, bass moves *from the 3rd of one chord to the 3rd of the other*. The two sixth chords are with their roots a 4th (5th) apart (i.e., I_6–V_6, V_6–I_6, I_6–IV_6, and IV_6–I_6) or a 2nd apart (IV_6–V_6).

Sixth Chords with the Roots a 4th Apart

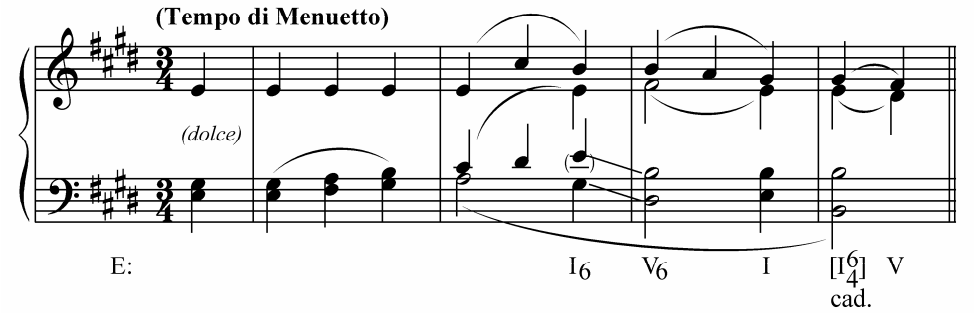
When connecting sixth chords with their roots a 4th (5th) apart, bass *leaps* by the interval of a 4th or 5th *from the 3rd of one chord to the 3rd of the other*.



Such connection is usually *harmonic*. In order to make the connection smoother, the *common tone* in *two voices* remains stationary. In case the common tone remains stationary only in *one voice*, the second one (mostly in soprano) leaps *parallel* or *opposite* to bass.



Mozart, Violin Sonata in E Minor, K. 304/300c, II

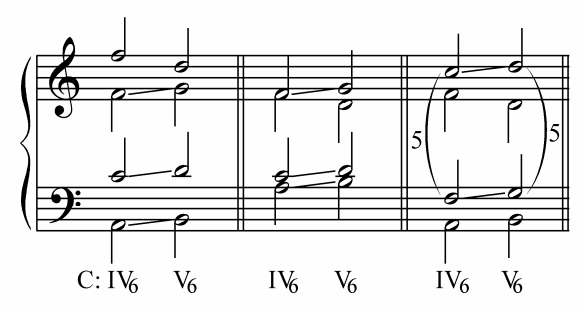


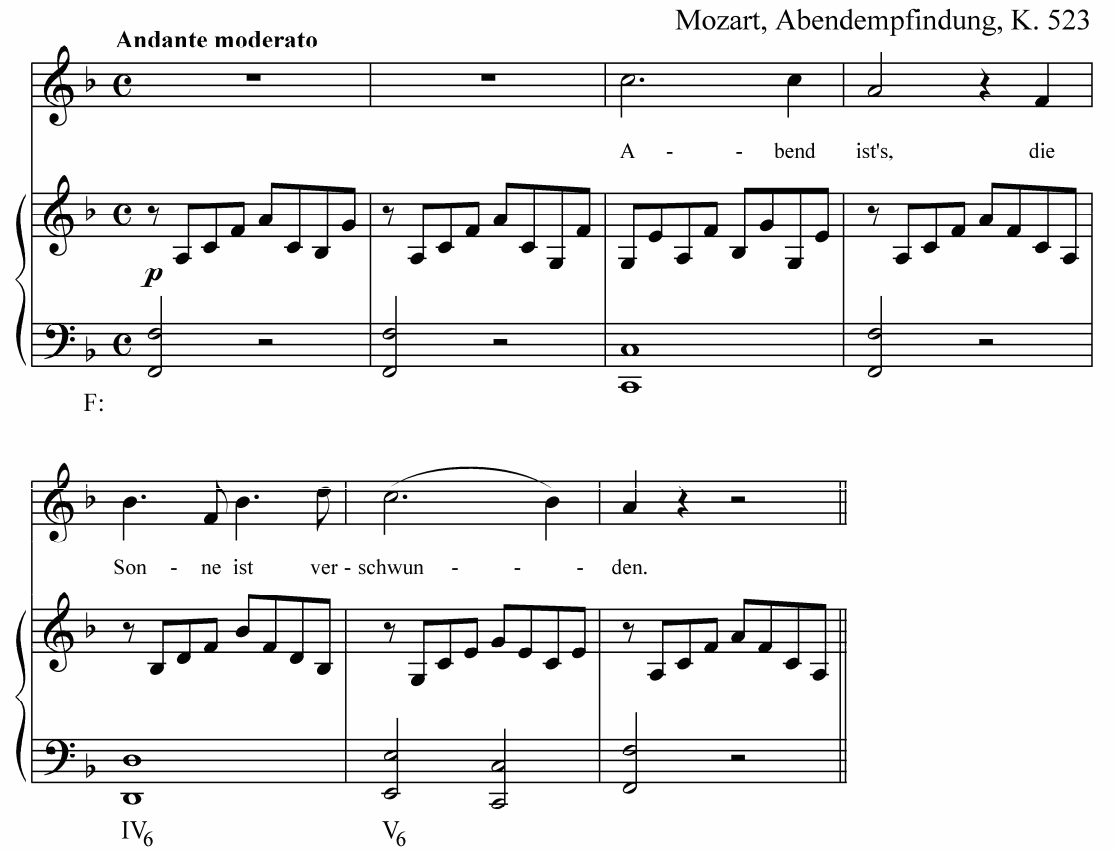
When doubling the *common tone* of the two sixth chords, the leap *may* be used; when doubling the tone which is *not a common tone*, the leap *must* be used (*see* example above).

Sixth Chords with the Roots a 2nd Apart

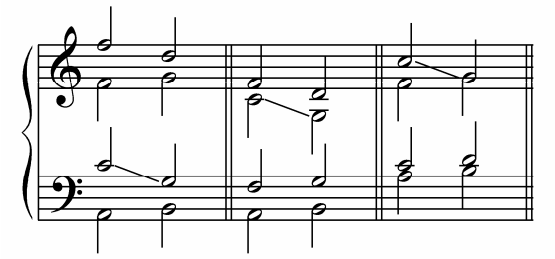
When connecting the sixth chords in which the roots are a 2nd apart (IV_6–V_6), the voice leading is carried out in the following way:

1. The *root* is doubled in IV_6 and the *5th* is doubled in V_6;
2. Three voices move by parallel motion while the fourth voice moves in the opposite direction in order to have the correct doubling of the two chords;
3. One of the roots of IV_6 must be in soprano (otherwise, there will be parallel 5th's or octaves).





It is sometimes possible to have a *downward leap of a 4th* in the upper or in one of the inner voices.

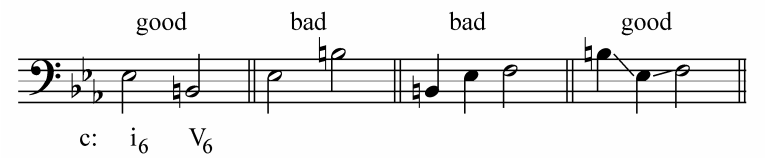


These leaps give more freedom to the use of IV_6. The possibility of using either the root or 5th in soprano and also to double any of them makes the voice leading *more convenient*.

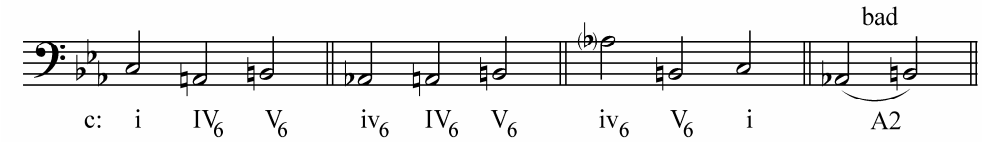
Minor Mode

The connection of the tonic and dominant sixth chords and the subdominant and dominant sixth chords in minor mode has some specifics in voice leading:

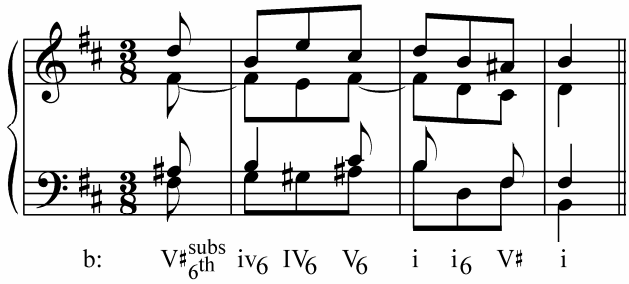
1. When connecting i_6–V_6 or V_6–i_6, bass may leap by the interval of a *diminished 4th* but *not an augmented 5th*. In case there is no other way but to use the leap of an augmented 5th, one must make sure that after the leap bass moves in the direction opposite to such leap no matter a diminished 4th or an augmented 5th was used.



2. When connecting the subdominant and dominant sixth chords, in order to avoid an augmented 2nd (considered unsatisfactory) in bass, the *3rd of the subdominant sixth chord is raised*: the chord becomes *major* and is used as in a major mode. The major subdominant sixth chord can be used *right after the tonic triad* or *minor subdominant sixth chord*. The major subdominant sixth chord changes the usual harmonic minor into the *melodic minor* while the use of both minor and major subdominant sixth chords adds *chromaticism* to the music.
3. Sometimes the augmented 2nd may be substituted with its inversion (the downward leap of a *diminished 7th*).

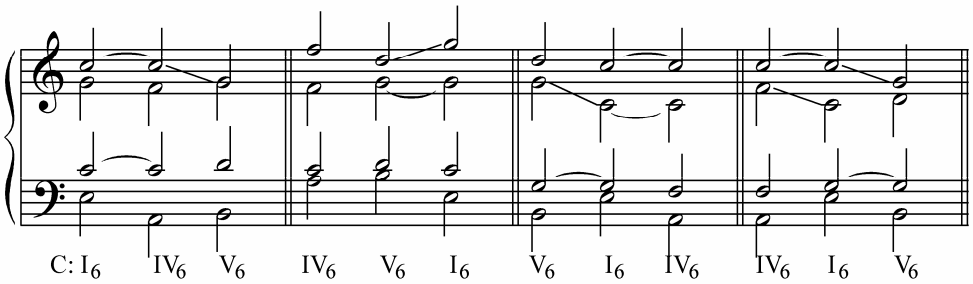


Bach, Ouverture nach Französischer Art, BWV 831, V



Progression of Three Sixth Chords

It is also possible to use a progression of *three* sixth chords (I_6, IV_6, V_6) one after another. The possible chord progressions are as follows: 1) I_6–IV_6–V_6, 2) IV_6–V_6–I_6, V_6–I_6–IV_6, and 4) IV_6–I_6–V_6.

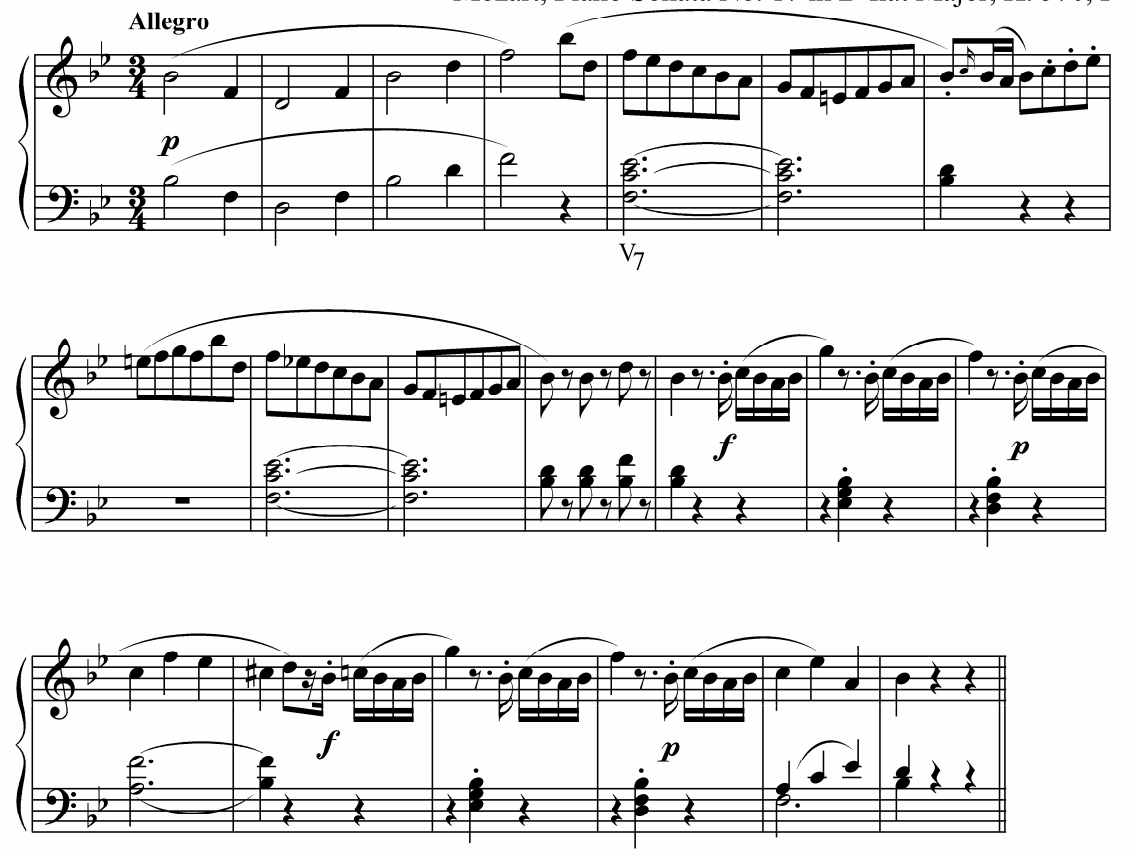


In all of these progressions it is necessary to strive for a smooth voice leading, thus, it is always better to try to connect these chords *harmonically*; leaps (besides the bass line) may be used in the upper voice and rarely in one of the inner voices.

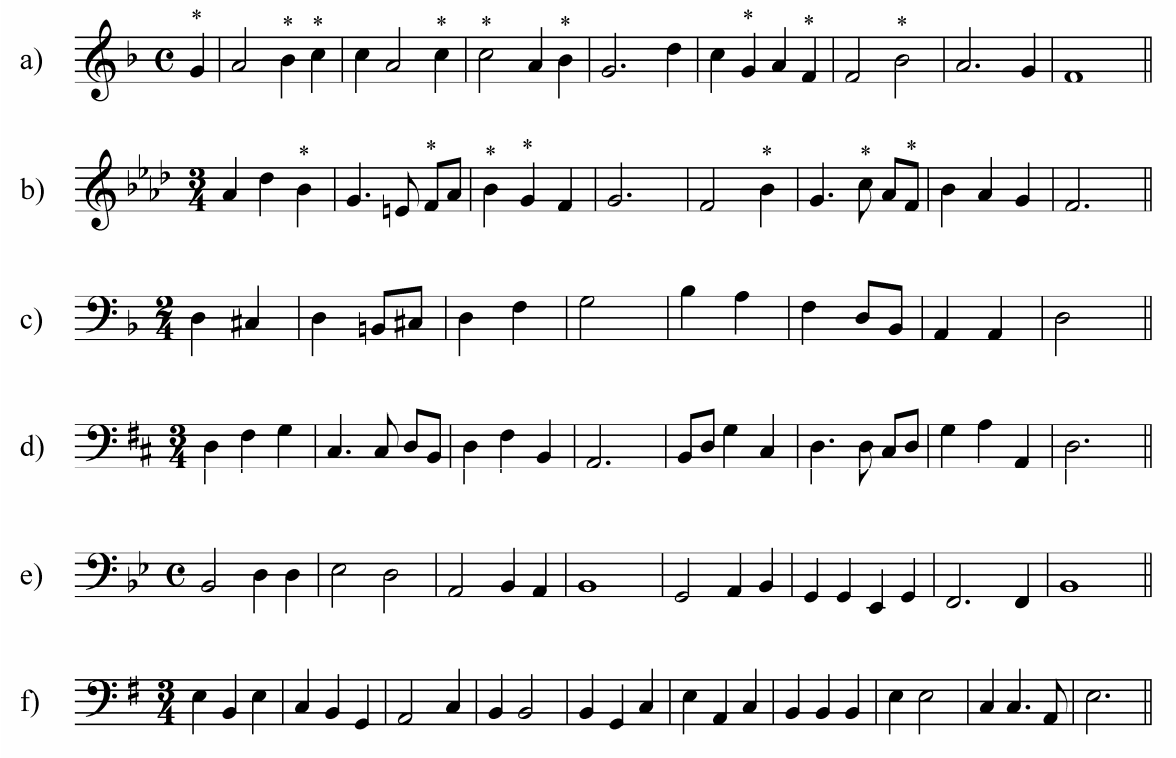
Exercises

1. Analyze the following excerpt.

Mozart, Piano Sonata No. 17 in B-flat Major, K. 570, I



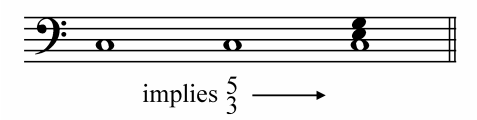
2. Harmonize the following sopranos and basses using sixth chords where indicated by an asterisk.



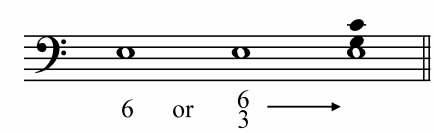
Figured bass (or *general bass*) is a system for indicating chords with the use of Arabic numbers usually written below bass.

The numbers represent intervals between bass and the upper voices. The figured-bass symbols *do not* indicate compound intervals, the qualities of intervals, doubling, or spacing.

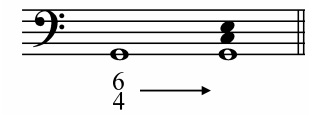
If there is *no* number below a certain note, this implies the intervals of a 3rd and a 5th above that note in accordance with the key signature (i.e., triad in root position) [23].



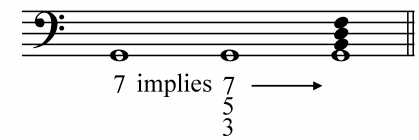
The number 6 necessitates for the intervals of a 3rd and a 6th (triad in 1st inversion or sixth chord).



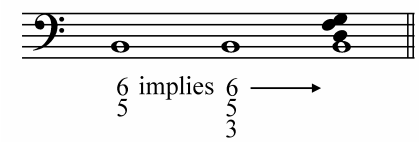
The number 6 and 4 imply those intervals (4th and 6th) (triad in 2nd inversion or six-four chord).



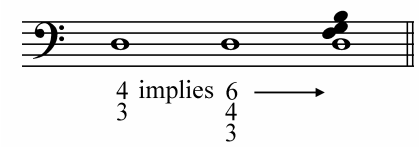
The number 7 implies the intervals of a 3rd, 5th and 7th (seventh chord in root position).



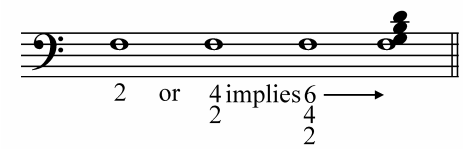
The numbers 6 and 5 imply the intervals of 3rd, 5th and 6th (seventh chord in 1st inversion).



The numbers 4 and 3 imply the intervals of 3rd, 4th and 6th (seventh chord in 2nd inversion).



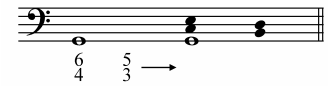
The number 2 (sometimes 4 and 2) implies the intervals of 2nd, 4th and 6th (seventh chord in 3rd inversion).

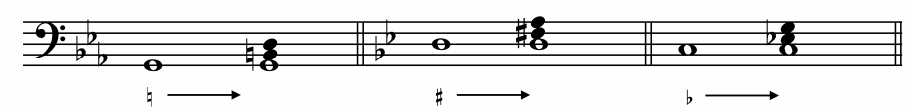


If there is an accidental (sharp, flat or natural) in the figured bass symbol, this always refers to the interval of a 3rd above that note in bass.

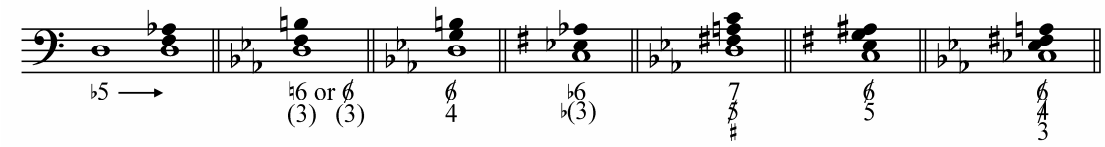
---

[23] Only in case other intervals has to be cancelled, the numbers 3 and 5 (sometimes 8) are to be used, for example, 4–3, 6–5, 9–8.



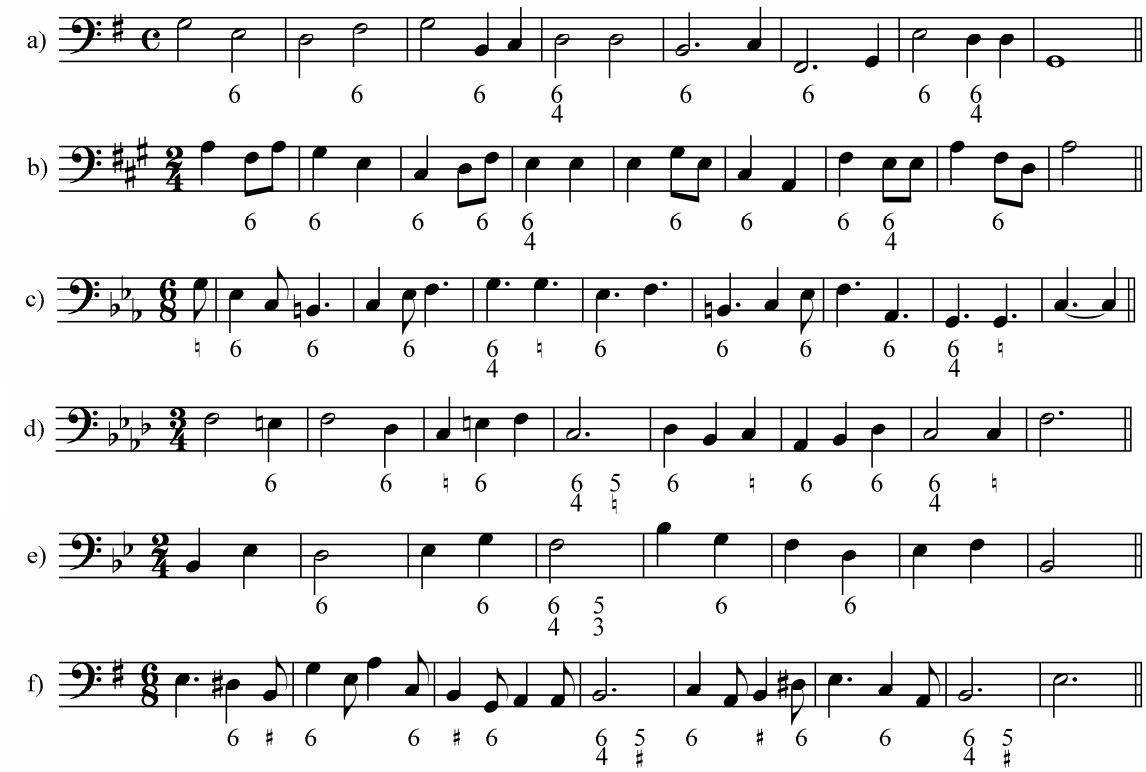


In case there is an accidental to any note above bass, an accidental with the number for the interval to which that alteration is applied must appear in the figured-bass symbols (in case the note is raised, a slash across the number is more often used to indicate that). Any alterations to bass itself (and to the same pitch in upper voices) are never indicated in the figured-bas symbols.



Exercises

Realize the following figured basses.



Preliminary Information

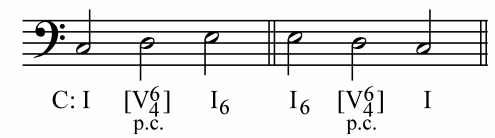
Besides the cadential tonic six-four chord, there are also *passing* and *neighboring* six-four chords. These chords can be found on *weak* or *up* beats. Some of the tones in these chords are approached and quit by *step* (in the similar way as the nonchord tones after which these chords were named).

The chords are analyzed by placing brackets on both sides of the Roman numeral and the Arabic numerals 6 and 4, one above the other, with designation of the type of nonharmonic use (for example, *p.c.* for *passing chord* and *n.c.* for *neighboring chord*).

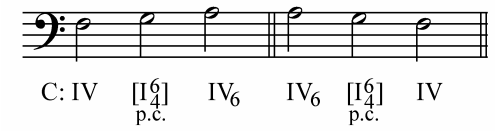
Passing Dominant and Tonic Six-Four Chords

The *passing* six-four chord is used on a weak/up beat between the triad in root position and its first inversion with the ascending or descending stepwise motion in the bass line.

The passing *dominant* six-four chord is placed between the tonic triad in root position and its first inversion (or vice versa).

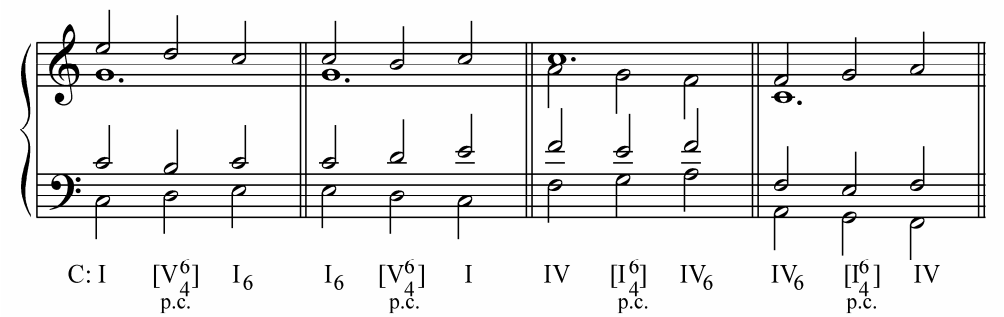


The passing *tonic* six-four chord is placed between the subdominant triad in root position and its first inversion (or vice versa).

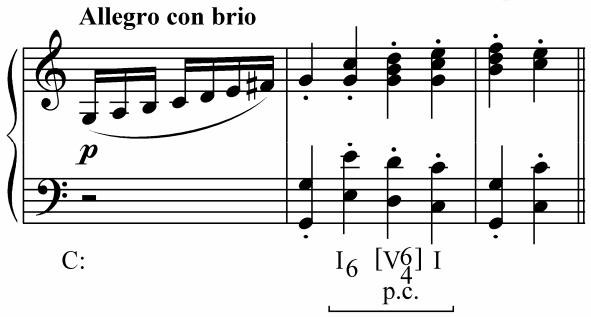


Voice Leading

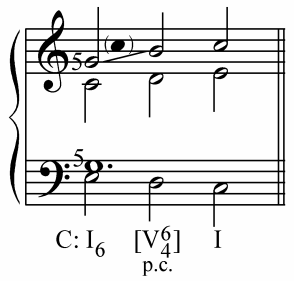
A *smooth* voice leading is normal for any six-four chord. Bass moves stepwise up or down; one of the upper voices (mostly soprano) moves in the direction opposite to bass *using the same pitches*; the common tone remains stationary in one of the voices; the remaining voice moves by step down and up.



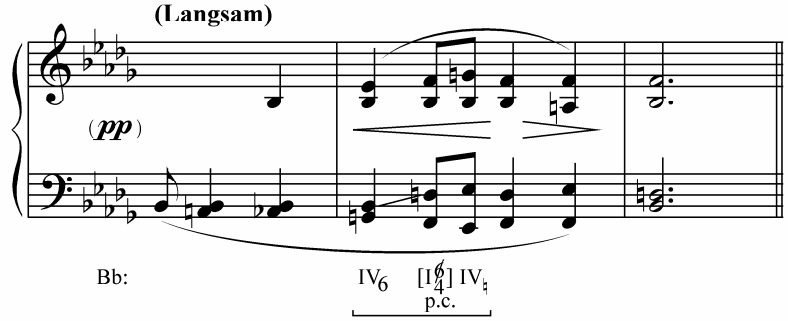
Beethoven, Piano Concerto No. 1, Op. 15, I



If the *fifth* is doubled in the sixth chord in I_6–[$V^6{}_4$]–I or IV_6–[$I^6{}_4$]–IV, one of those 5th's would move a 3rd up (but not a step down, like it was when the root was doubled) to the third of the passing six-four chord.



Schubert, Schwanengesang, D. 957, No. 9, Ihr Bild



When harmonizing a given bass line, one can use the passing *dominant* six-four chord if there is a stepwise motion from the 1st to 3rd scale degrees (or backwards); one can use the passing *tonic* six-four chord if there is a stepwise motion from the 4th to 6th scale degrees (or backwards).

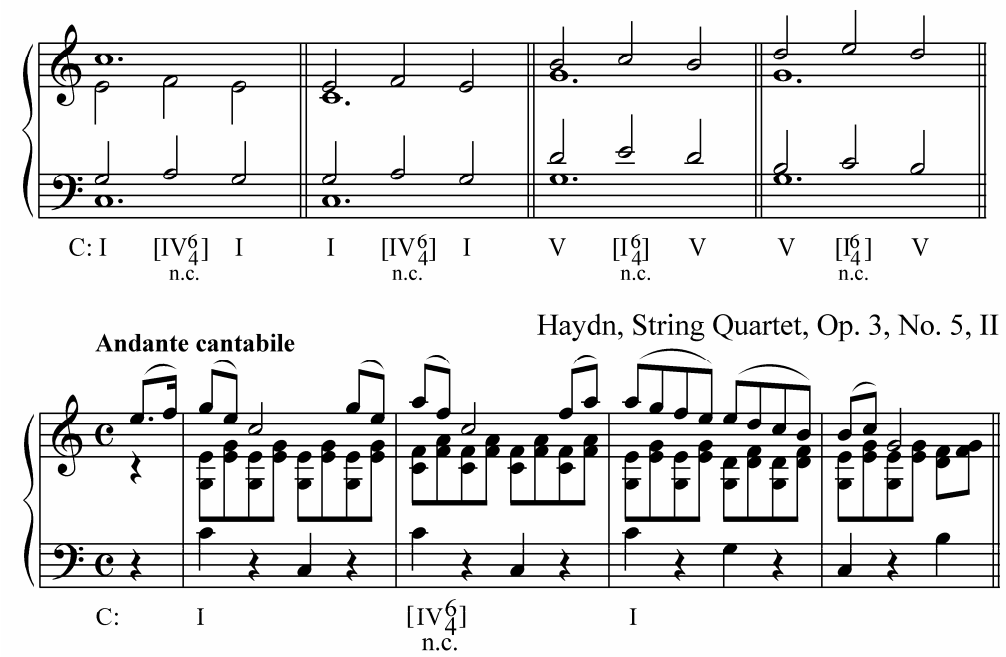
When harmonizing a given melody, one can use passing six-four chords if:

1) there is the analogous stepwise motion from the 1st to 3rd or the 4th to 6th scale degrees (or backwards);
2) there is the use of the same pitch on three successive beats (or on other three bigger or smaller note values);
3) there is a downward motion by step and back;
4) there is an upward motion by a third and a step as shown in the examples above.

Neighboring Subdominant and Tonic Six-Four Chords

The *neighboring* six-four chord is used on a weak/up beat between the root position triad and its repetition with the note in bass remaining stationary.

The neighboring *subdominant* six-four chord is placed between the root position tonic triad and its repetition; the neighboring *tonic* six-four chord is placed between the root position dominant triad and its repetition.



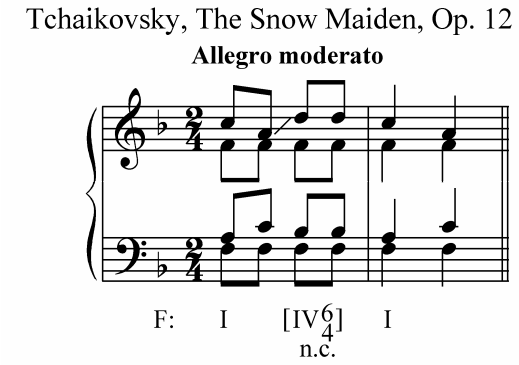
The note in bass, above which the neighboring six-four chord is used, must start on the strong (or relatively strong) beat.

As seen in the examples above, the note in *bass* is doubled in the neighboring six-four chord; the same doubling is used in the passing and cadential six-four chords.

Voice Leading

A smooth voice leading is the norm when using neighboring six-four chords: the note in bass and its doubling remain stationary, the other two notes move by *step up and down* using parallel motion (thirds or sixths) as seen in the examples above.

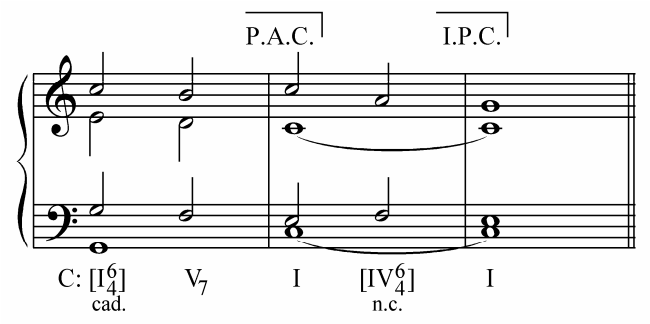
However, as an exception, the neighboring six-four chord may be also used with a leap in one of the voices.



Neighboring Six-Four Chord in Cadences

The neighboring *subdominant* six-four chord is often used in plagal cadences making them a little different from the usual plagal cadences where the subdominant triad is in root position.

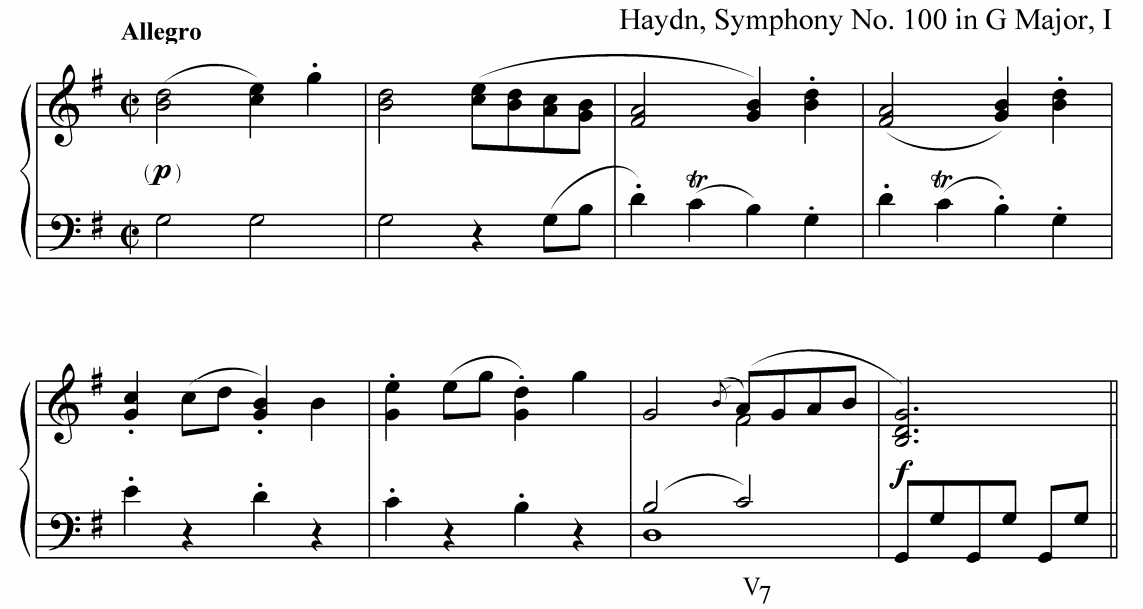
If the tonic triad is *incomplete*, one of the voices leaps a *3rd* down to the third of the neighboring subdominant six-four chord.



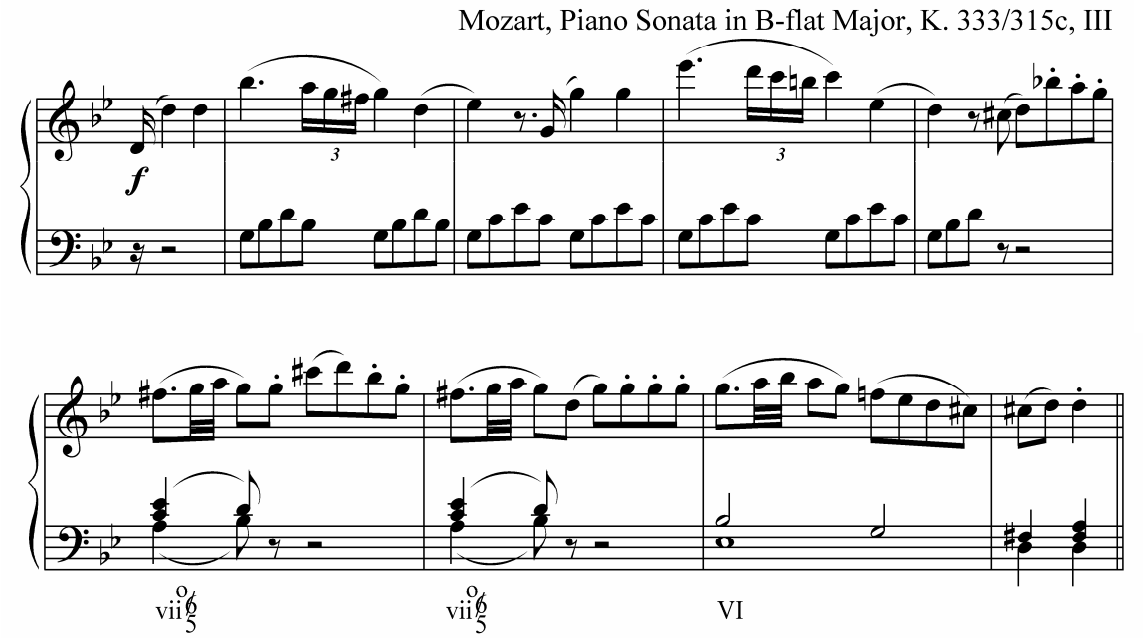
Exercises

1. Analyze the following excerpts.

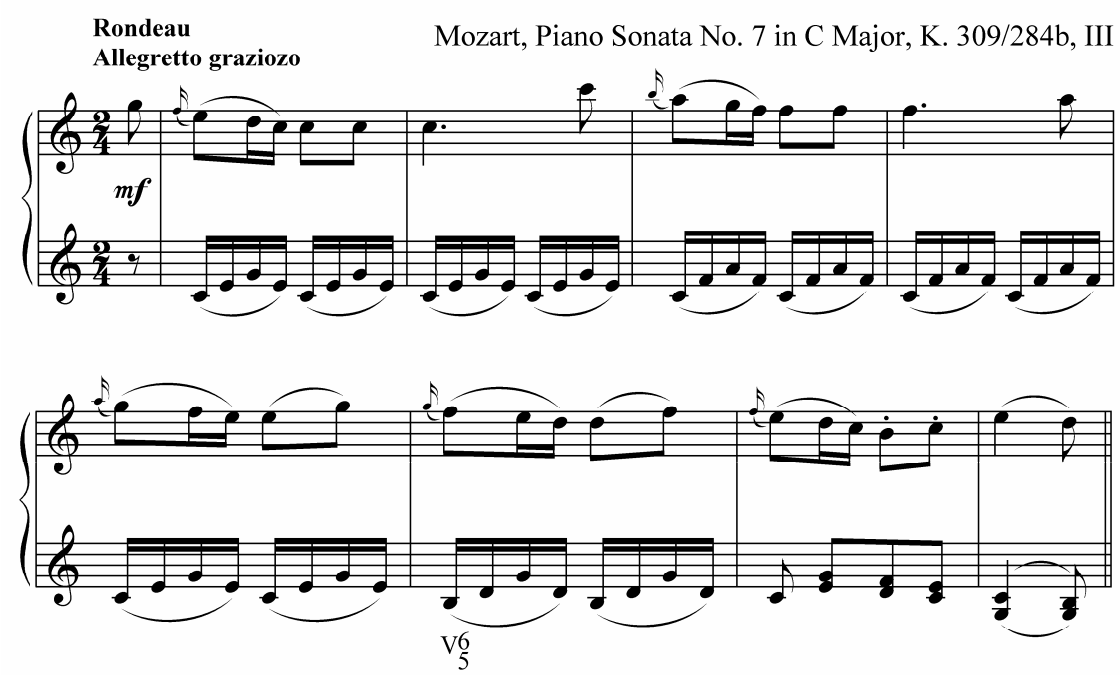
a)



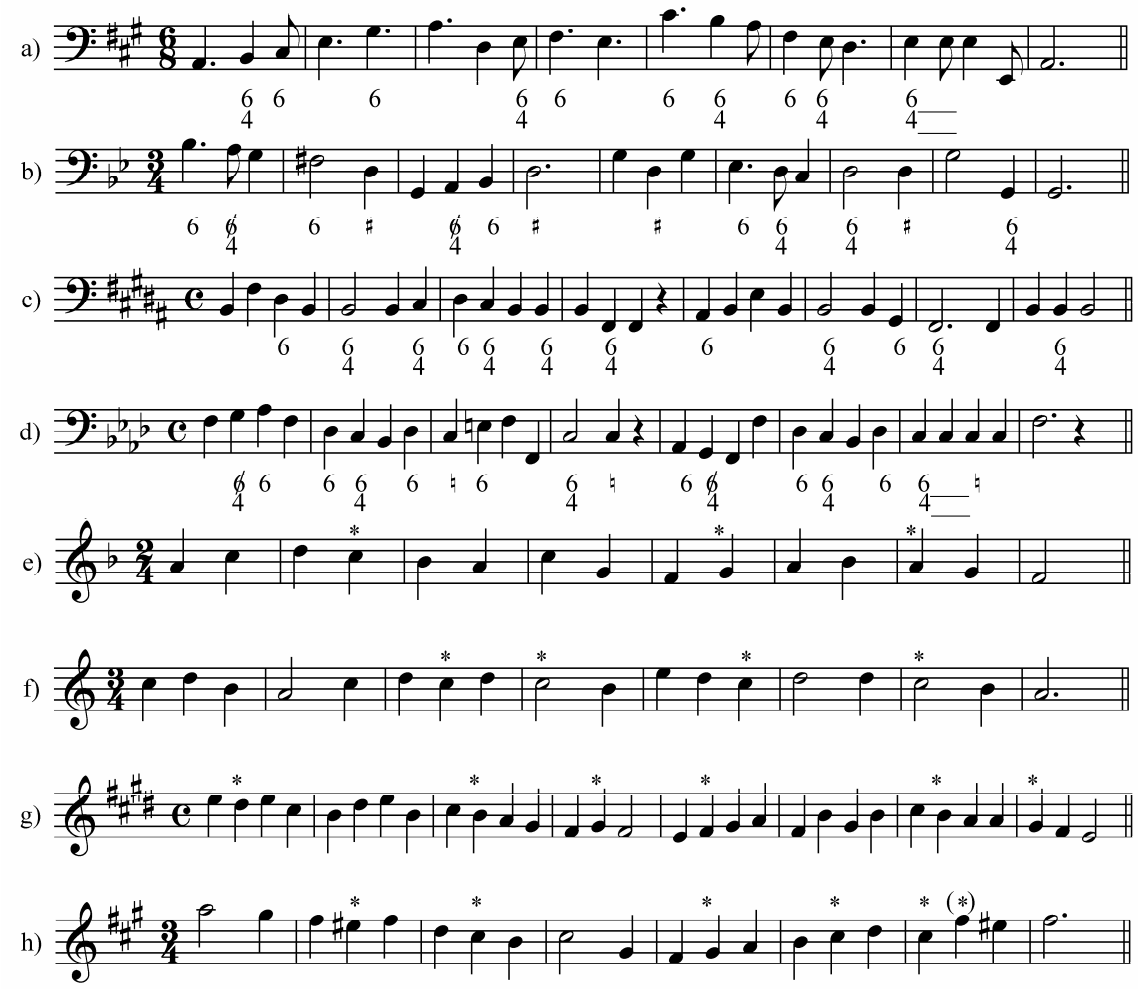
b)



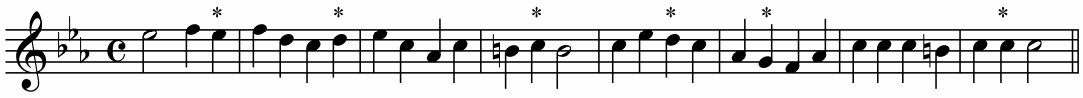
c)



2. Realize the following figured basses and harmonize sopranos. Use six-four chords where indicated by an asterisk.



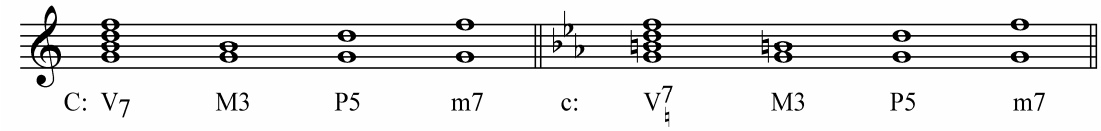
i)



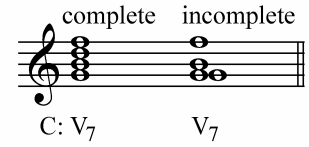
Structure and Identification

The *dominant seventh chord* (V_7) is a seventh chord built on the 5th scale degree.

The chord consists of a major 3rd, perfect 5th and minor 7th, i.e., a major triad with a minor 7th. In minor mode, the chord structure is the same as in major. Thus, the third is raised (the leading tone).



V_7 can be complete and incomplete; if incomplete, the 5th is omitted and the root is doubled.



V_7 can be used in open, close and mixed spacings.

Function

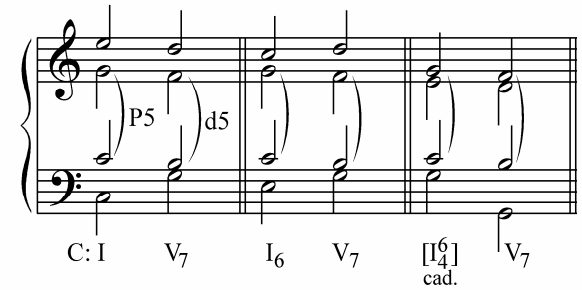
Being used very often, V_7 belongs (together with V) to the group of dominant chords which also includes the leading tone triad (vii°), leading tone seventh chord (vii°$_7$) and dominant ninth chord (V_9). V_7 functions almost in the same way as V and is mostly *not* used in half authentic cadences; though, in authentic cadences, it is used more often than V.

Preparation

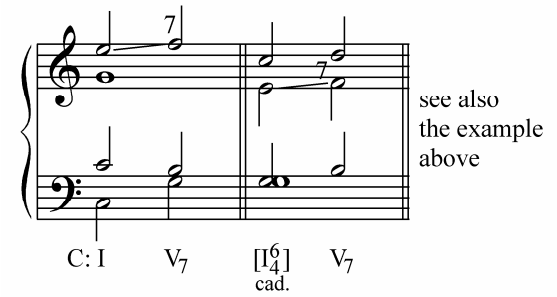
All chords (except for passing chords), that have been studied so far, can be used before V_7. They are: I, I_6, V, V_6, IV, IV_6 and cadential I^6_4.

The voice leading is usually smooth.

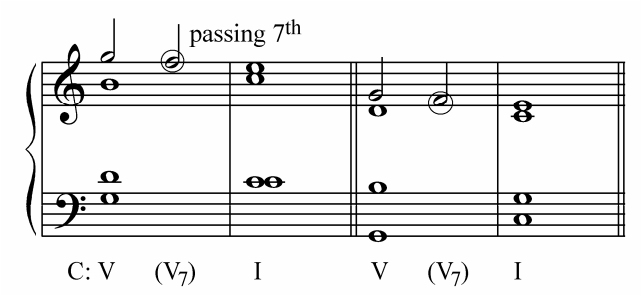
When connecting I, I_6 and cadential I^6_4 with V_7, it is allowed to use a diminished 5th after a perfect one.



The 7th of V_7 can be approached by either downward or upward stepwise motions.

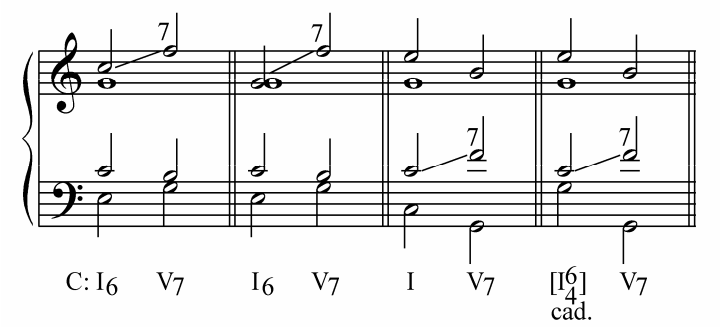


The 7th approached by a downward step from the root of V is called to be *passing*.

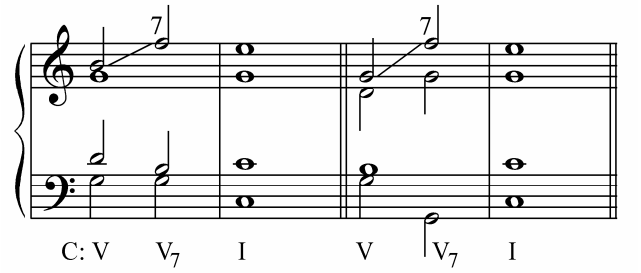


The 7th can be also approached with a leap. Such leap is normally upward because when the 7th is being resolved it moves by step down, thus the leap is recovered.

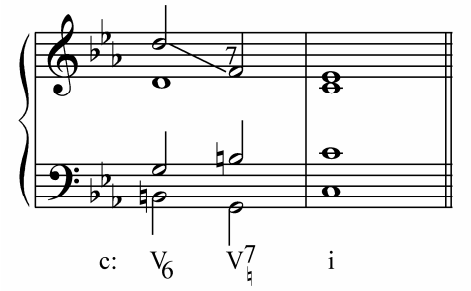
The leap from I or cadential I^6_4 to the 7th of V_7 is usually by the interval of a 4th, rarely, a 7th.



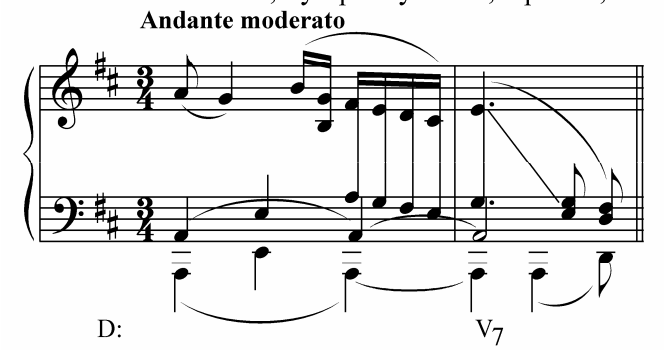
The leap to the 7th from V can be by the interval of a diminished 5th and minor 7th.



A downward leap to the 7th is *sometimes* possible in the V–V_7 connection.



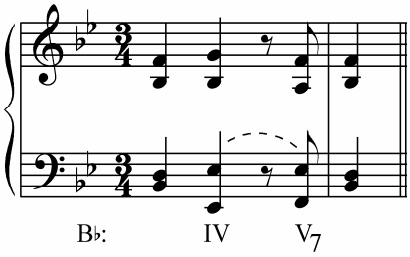
Beethoven, Symphony No. 9, Op. 125, III



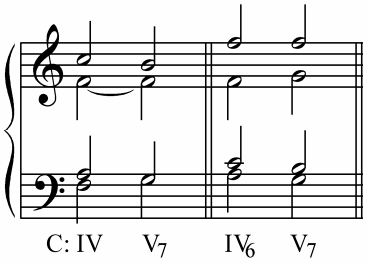
The root of IV or IV_6 and the 7th of V_7 are the common tone between the two chords; it often remains stationary. The dissonant tone is *prepared* by repeating the tone which is a chord tone of

the previous chord. That is why the 7th of V_7, which repeats the note of the previous IV in the same voice, is called the *prepared seventh*.

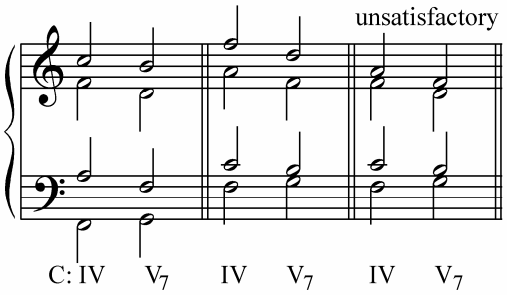
Schumann, Frauenliebe und Leben, Op. 42, No. 1



It is *not* possible to connect IV with a *complete* V_7 correctly using smooth voice leading. That is why it is better to connect IV with an *incomplete* V_7.



Sometimes these two chords are connected melodically. A connection, in which the 7th appears in soprano, is considered to be *unsatisfactory*.



Resolution

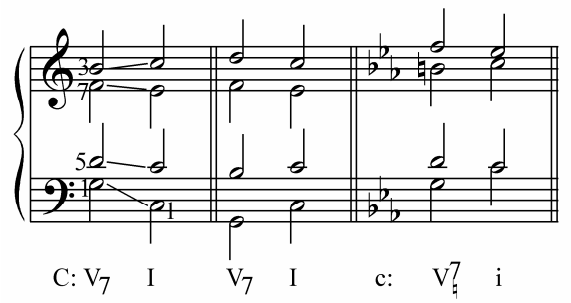
When a dissonant interval moves to a consonant one, the dissonant interval is called to be *resolved*.

V_7 *resolves* to the chord, the notes of which are missing in it, i.e., to the *tonic triad*.

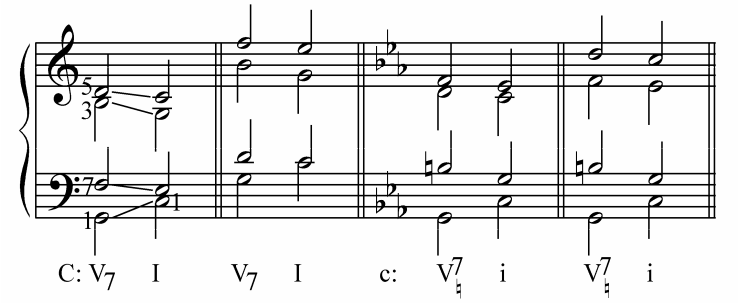
When resolving a *complete* V_7, the voice leading is as follows:

1) the seventh moves by step down;
2) the fifth moves by step down;
3) the third in soprano moves by step up; the *third* in alto or tenor moves by step up (like in soprano) or leaps a 3rd down;
4) the root leaps to the root.

If the third (leading tone) moves by step up (to the tonic), a complete V_7 resolves to an *incomplete* I (the root is tripled and the fifth is omitted). This is called *strict resolution*. Bass may move up or down.

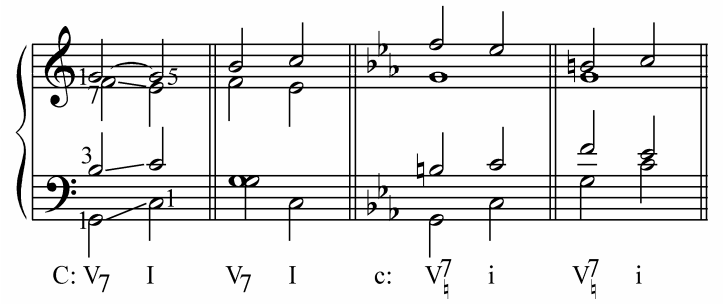


If the third in an inner voice moves down, a complete V_7 resolves to a *complete* I (*free resolution*). In order to avoid all voices moving down, bass must move up.



When resolving an *incomplete* V_7, the voice leading is as follows:

1) the seventh moves by step down;
2) the third moves by step up;
3) the root in an upper voice remains stationary;
4) the root in bass leaps up or down to the root of I.



Use

V_7 in root position is *one of the most important chords used in cadences*. In full cadences it can be used in the following ways:

$$IV–V_7–I$$
$$IV_6–V_7–I$$
$$[I^6{}_4]–V_7–I$$
$$IV–[I^6{}_4]–V_7–I$$

In half cadences, where the dominant triad is *mostly* used, it may be found in the following ways:

$$IV_{(6)}–V_7$$
$$I_{(6)}–V_7$$

Thus, V_7 may end the first phrase of a period if the cadential $I^6{}_4$ is *not* present.

Practical Suggestions

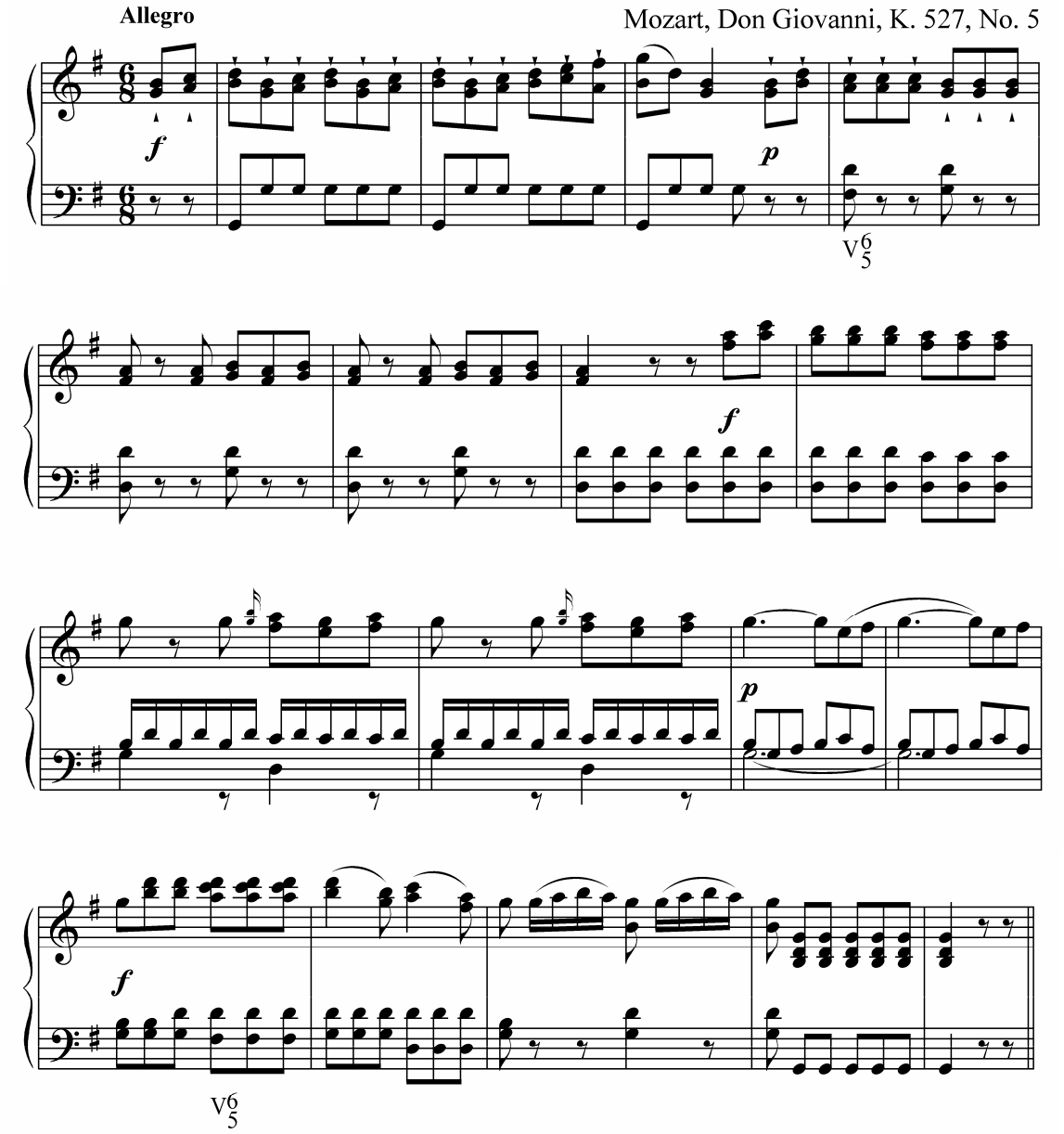
In soprano line exercises it is possible to use V_7 not only in cadences but also in the middle of phrases.

In most cases, V_7 may be used where V in root position or its inversion can be used. It should be just remembered that the note, which is going to be harmonized with V_7, should move in accordance with how the notes of V_7 are resolved.

Before, the 4th scale degree (subdominant) was considered as the note of IV only. From now on, it can be a part of V_7 if it moves (as the seventh) by step down to the 3rd scale degree (mediant).

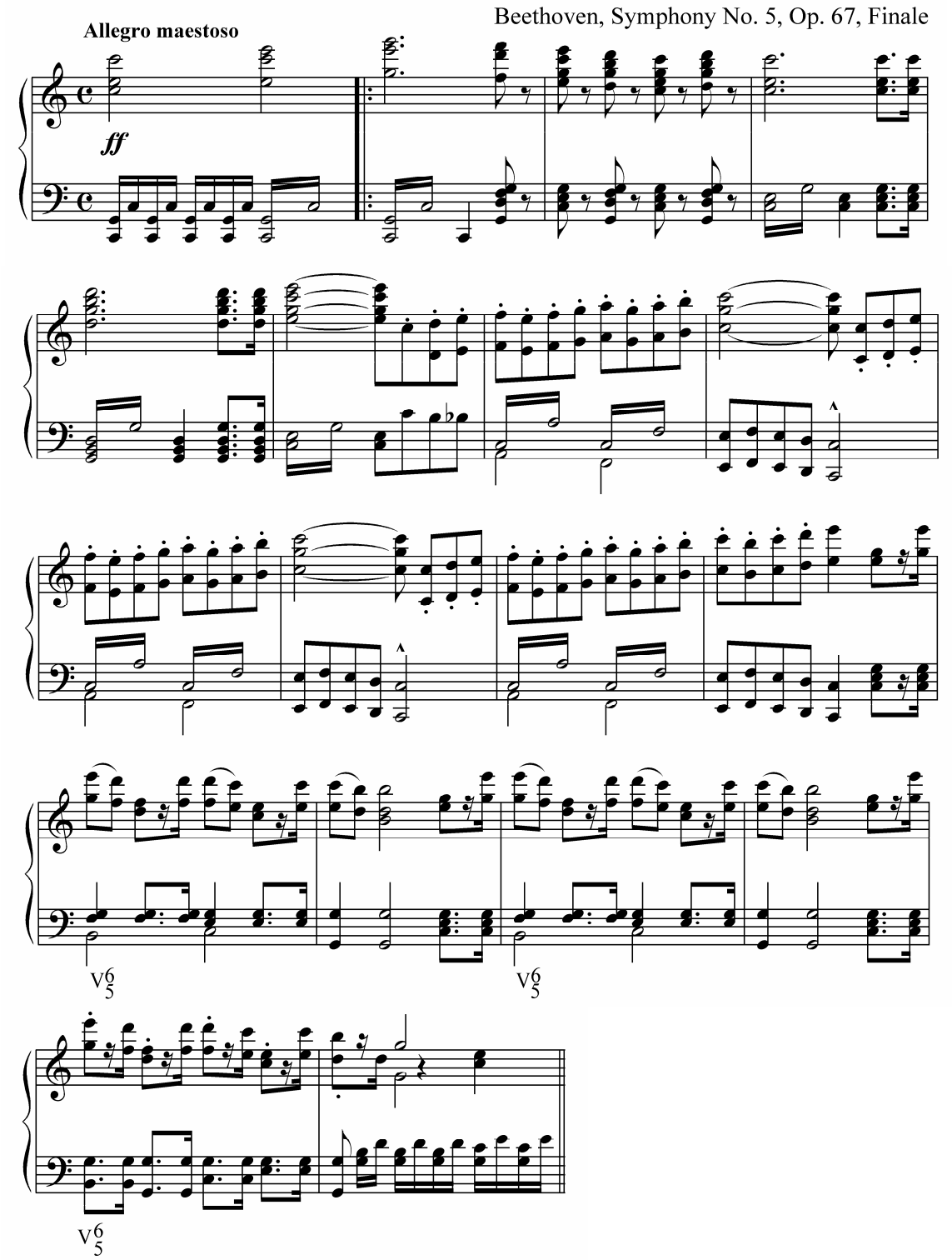
Exercises

1. Analyze the following excerpts.
   a)

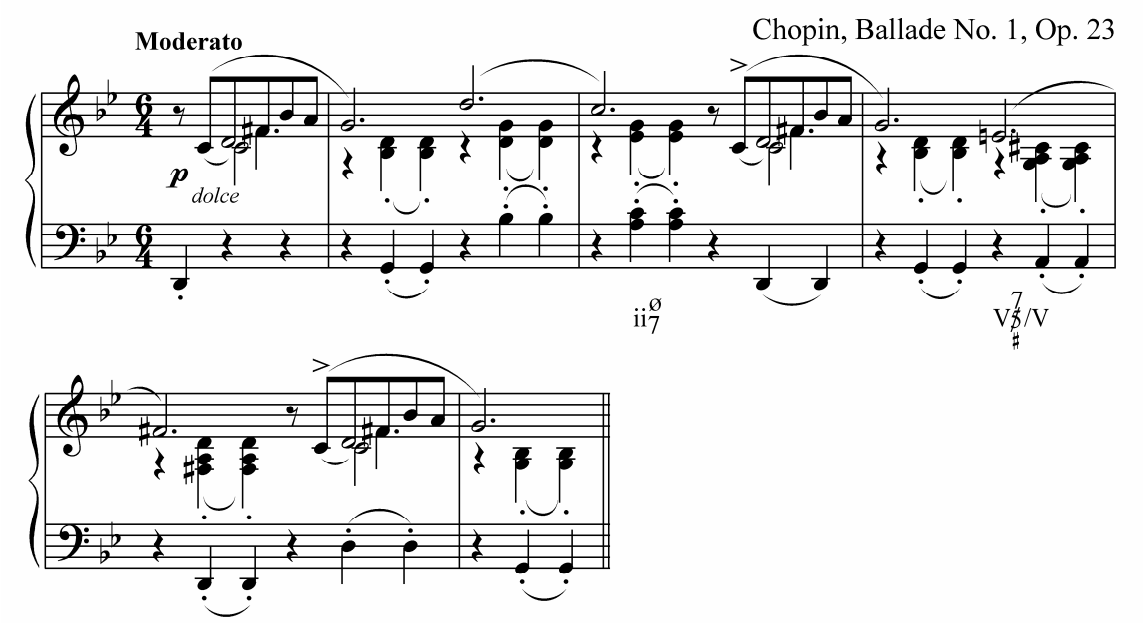


b)

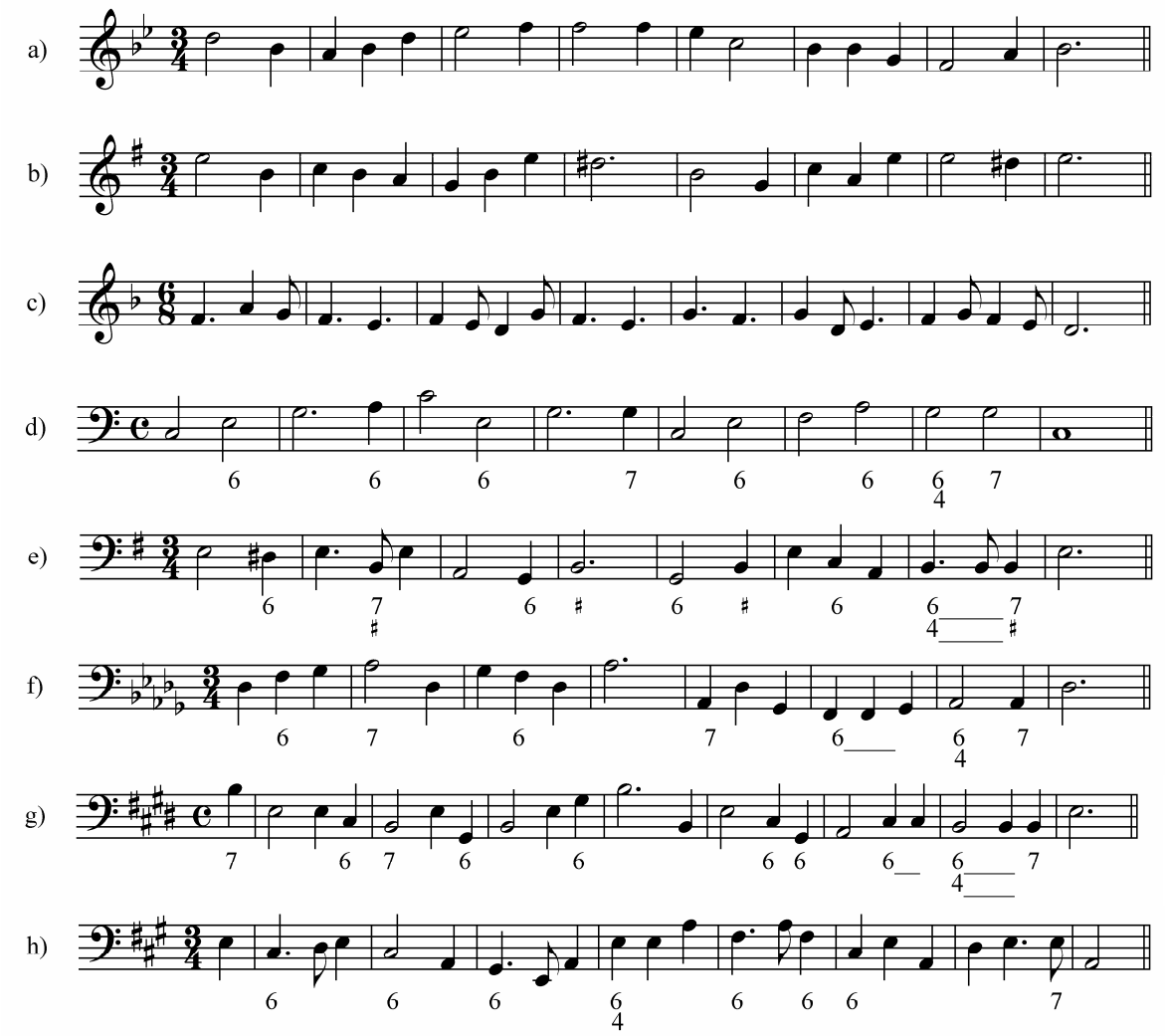
Beethoven, Symphony No. 5, Op. 67, Finale



c)

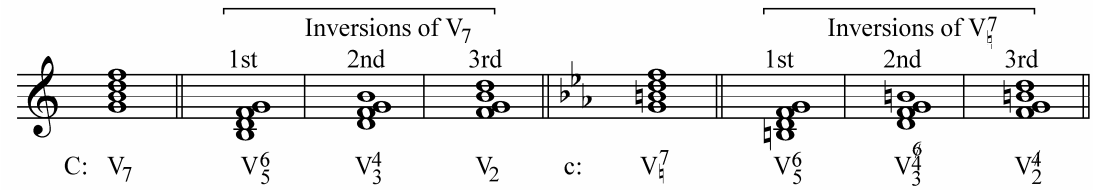


2. Harmonize the following sopranos and realize the figured basses.

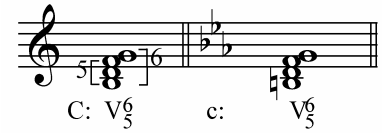


Identification

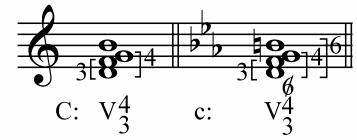
V_7 has 3 inversions: in the 1st inversion, the 3rd is in bass; in the 2nd, the 5th; in the 3rd, the 7th.



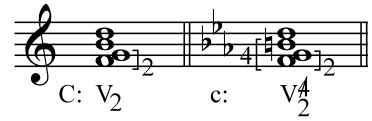
In the 1st inversion, $V^6{}_5$, the figures represent the intervals of the root (6) and 7th (5) above bass.



In the 2nd inversion, $V^4{}_3$, the figures represent the intervals of the root (4) and 7th (3) above bass. The figure 6 with a slash is used in a minor mode to indicate the alteration of the leading tone. A slash through a figure means that the note is to be raised a half step.



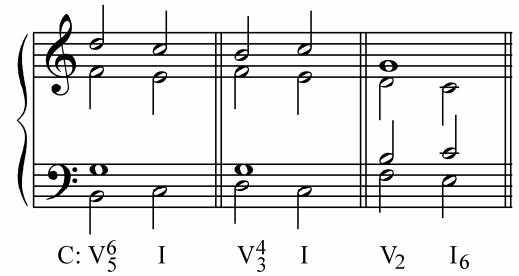
In the 3rd inversion, V_2, the figure represents the interval of the root (2) above bass. The figure 4 with a slash is used in a minor mode to indicate the alteration of the leading tone.



Resolutions of the Inversions

The inversions of V_7 are usually used in a *complete form* and resolve to I in the way similar to the resolution of the root position V_7, with only *one* difference:

1) the 7th and 5th move by step down;
2) the 3rd moves by step up;
3) the root *remains stationary*.



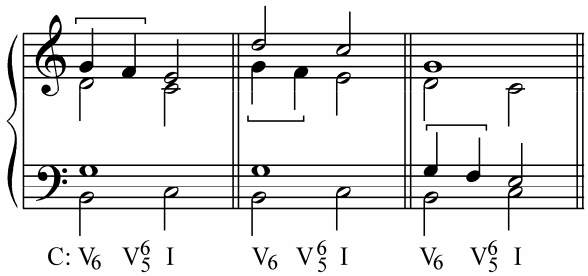
As seen from the examples, $V^6{}_5$ and $V^4{}_3$ normally resolve to I; V_2 resolves to I_6.

Preparation and Use

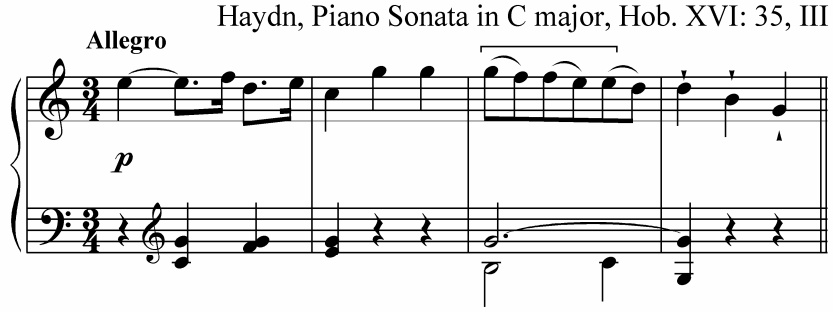
The inversions of V_7 are used in the same way as V_7 in root position; the 7th may be approached smoothly (passing, prepared) or with a leap.

The *passing* 7th is usual for $V^6{}_5$ and V_2.

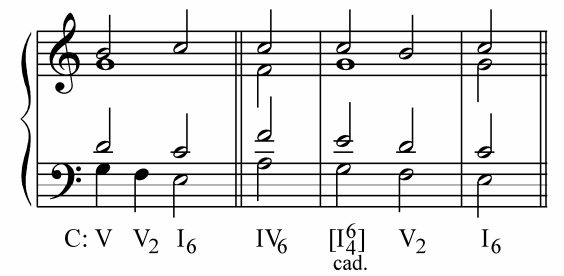
In such case, $V^6{}_5$ is used after V_6 in which the root is doubled (the passing 7th is in upper voices, more often in soprano).



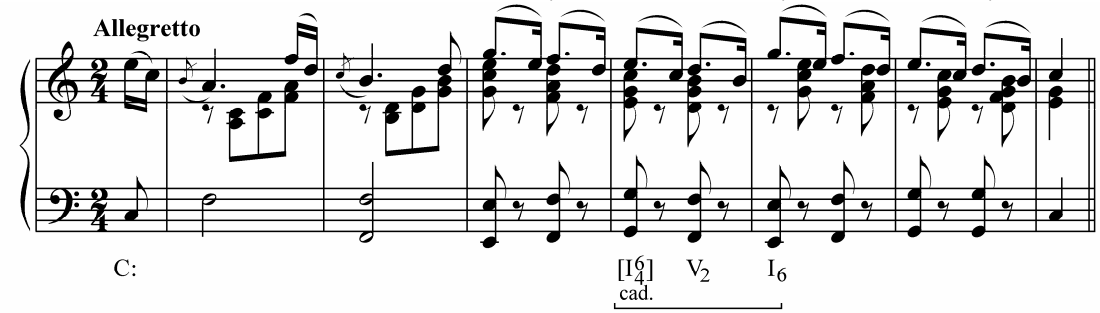
Haydn, Piano Sonata in C major, Hob. XVI: 35, III



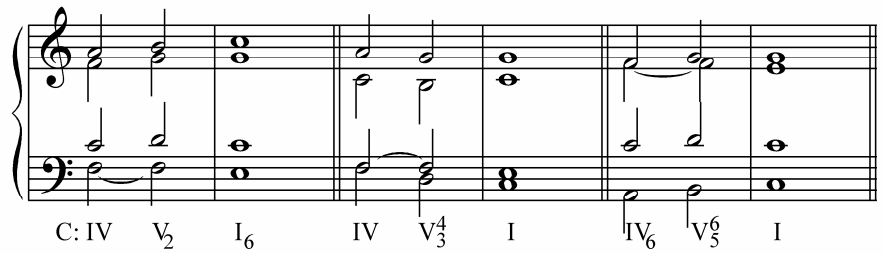
V_2 is often used after V or cadential (rarely after passing) $I^6{}_4$ (passing 7th in bass).



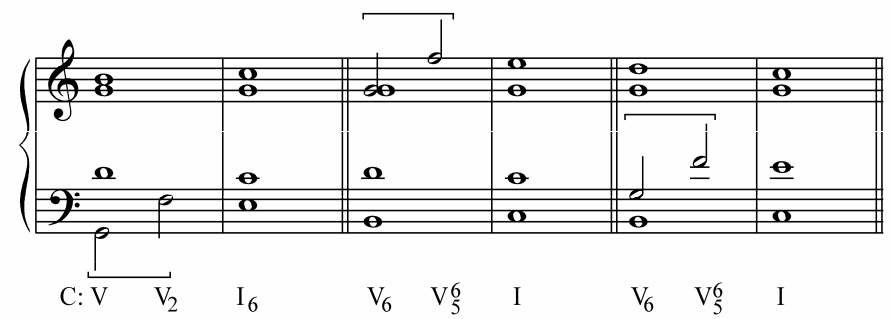
Mozart, Ariette "Oiseaux, si tous les ans", K. 307



The 7th is *prepared* if there is the harmonic connection of IV with any inversion of V_7.



The 7th may be approached with a *leap* if V is used. A leap in bass when connecting $V–V_2$ or a leap in upper voices (often in soprano) when connecting $V_6–V^6{}_5$ are all not rare.

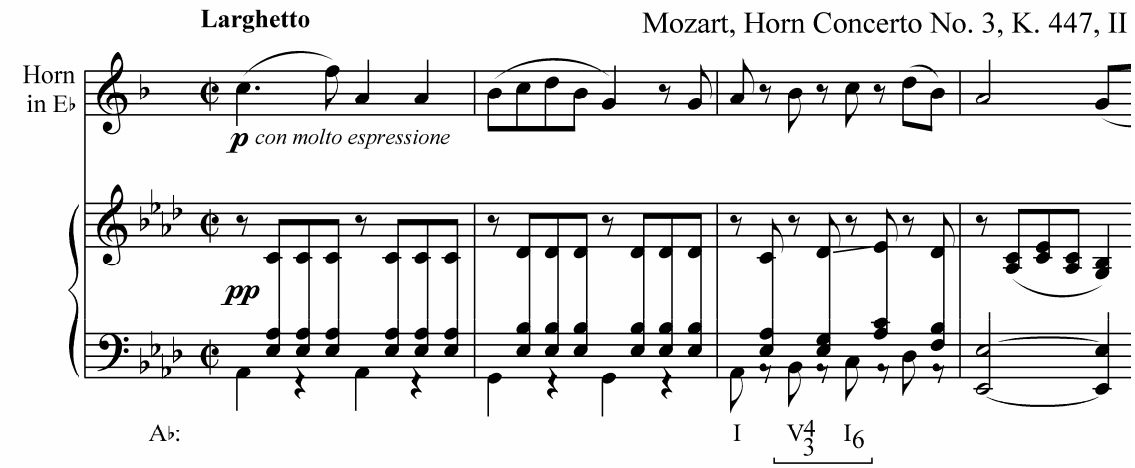


The use of the inversions of V_7 significantly increases the possibilities of the melodic behavior of each voice (especially the bass line). Thus, it is recommended to use the inversions of V_7 as much as possible while saving V_7 in its root position mostly for cadences.

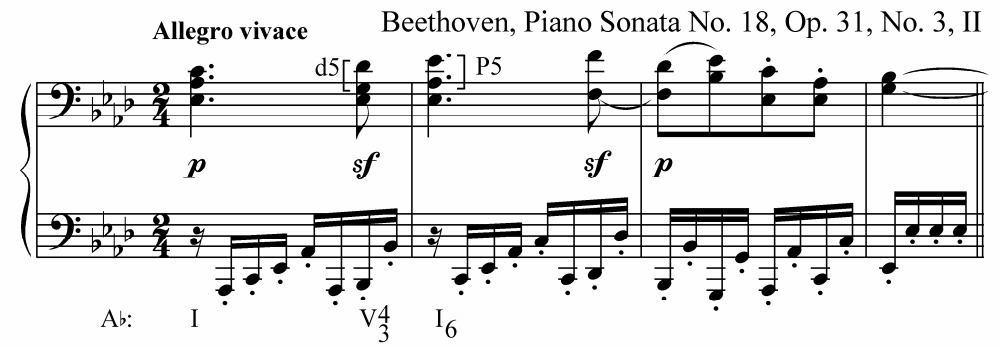
Passing V^4_3

V^4_3 is often used as a *passing chord* (instead of V^6_4) between I and I_6 (or vice versa).

In order to avoid doubling of the 3rd in I_6 in I–V^4_3–I_6 progression, the *7th moves up* parallel to bass. Such progression with the unresolved 7th became acceptable due to its characteristic motion of parallel 3rd's (or 10th's) between bass and an upper voice (often soprano).

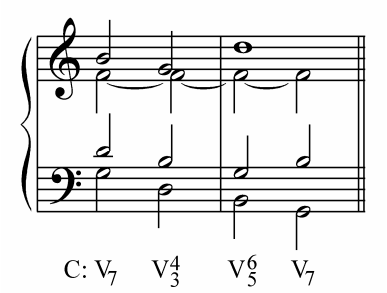


In open spacing, a diminished 5th would move to a perfect 5th (or vice versa). These 5th's are *not* considered to be parallel and are *allowed*.



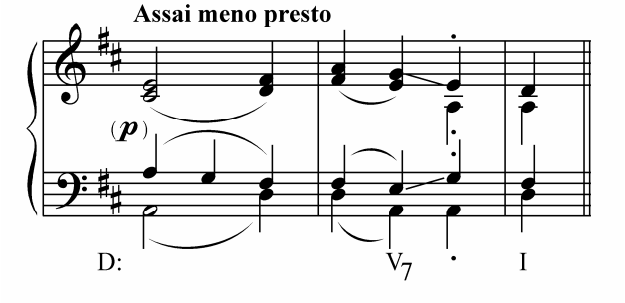
Interchange of the Chords

Like any triad, V_7 and its inversions can be interchanged. It is always better to keep the 7th in the same voice. It is not allowed to move the 7th by step up.



In rare cases it is possible to *exchange* the 7th with the 5th.

Beethoven, Symphony No. 7, Op. 92, III

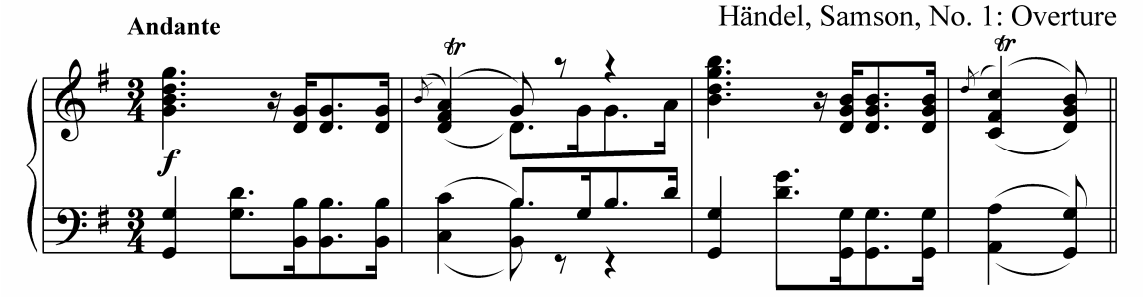


Exercises

1. Analyze the following music.

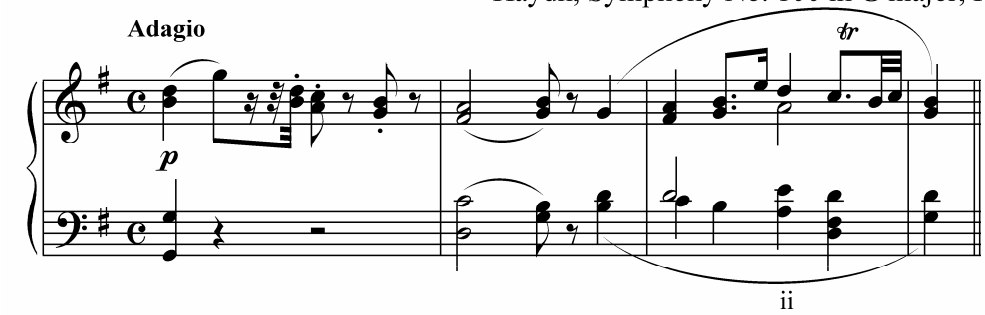
a)

Händel, Samson, No. 1: Overture



b)

Haydn, Symphony No. 100 in G major, I



c)

Beethoven, Piano Sonata No. 6, Op. 10, No. 2

Allegro (♩ = 96)

p

ii6/5 V2/IV

ii6

d)

Beethoven, Piano Sonata No. 12, Op. 26, Theme

Andante con variazioni (♪ = 72)

p

cresc.

sf

p

p cresc.

p

V6/5/V[vii°6/4] vi vii°7 M.B.

sf

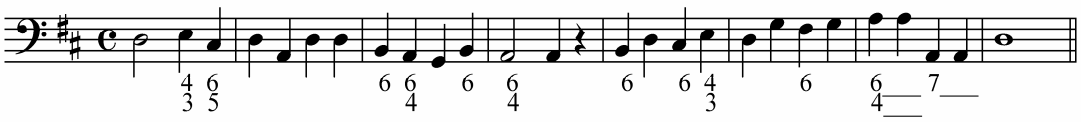
p

cresc.

p

2. Realize the following figured basses and harmonize the melodies.

a)



b)

c)

d)

e)

f)

g)

h)

i)

j)

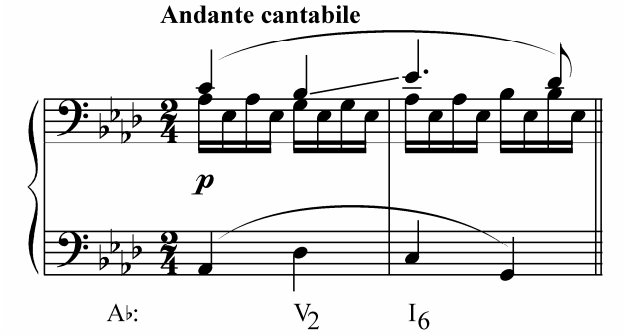
Leaps when Resolving the Dominant Seventh Chord and its Inversions

There are some exceptional ways to resolve V_7 and its inversions to I which are somewhat different from the mentioned ones in the previous topics.

Leaps in V_2–I_6 Resolution

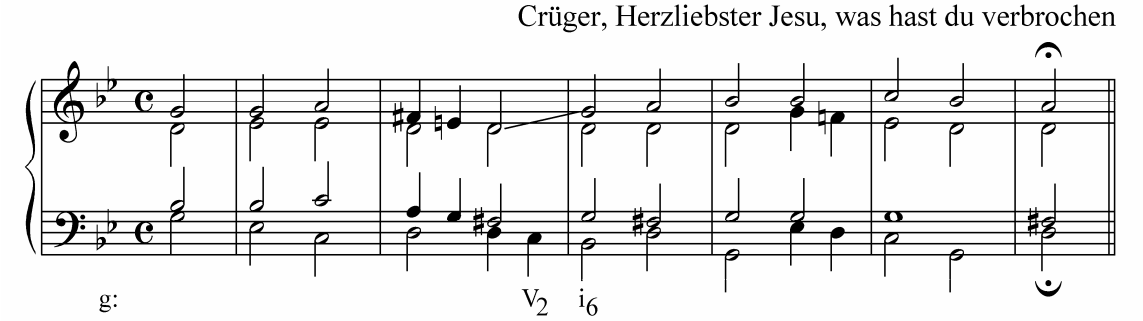
It is sometimes possible to find resolutions of V_2 to I_6 in which the 5th of V_2 would *leap* to the 5th of I_6 (instead of the normal stepwise resolution of the note). Such upward leap of a perfect 4th can be often found in soprano.

Beethoven, Piano Sonata No. 8, Op. 13, No. 2, II



Sometimes, V_2–I_6 chord progression may also use the leap of the root to the root.

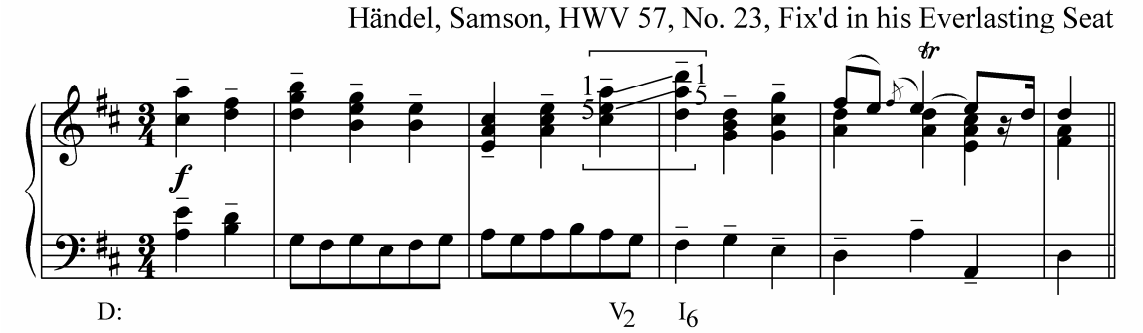
Crüger, Herzliebster Jesu, was hast du verbrochen



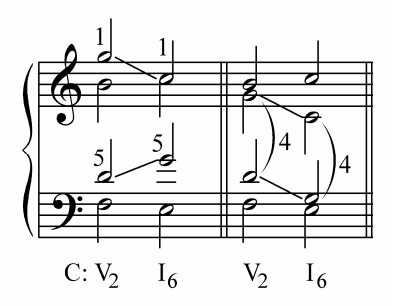
Double Leaps in V_2–I_6 Resolution

It is also possible to find leaps of both the *root* and *5th* at the same time in the two upper voices. In such case the root would be placed above the 5th, otherwise parallel 5th's would occur.

Händel, Samson, HWV 57, No. 23, Fix'd in his Everlasting Seat

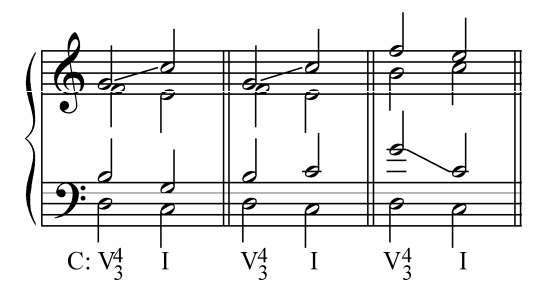


In some rare cases, the leaps may be by *contrary* motion of the upper and middle voices or by *downward* motion of *parallel fourths* in the inner voices.

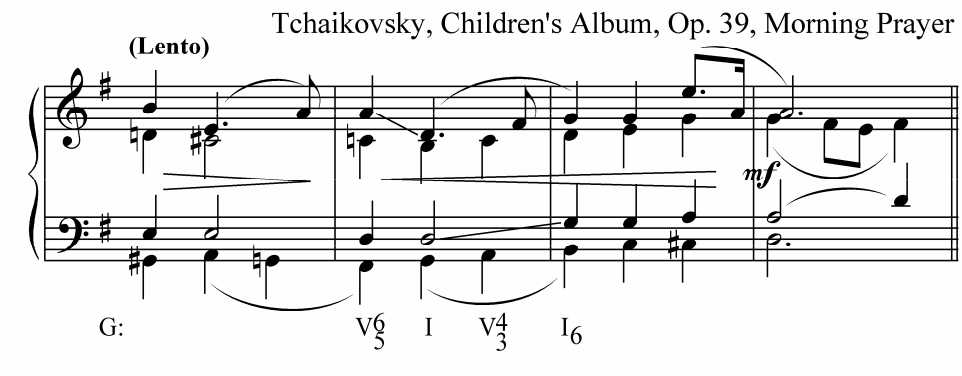


Leaps in V^4_3–I and V^6_5–I Resolutions

V^4_3 may also resolve to the *complete* or *incomplete* I with the leap from the root of V^4_3 to the root of I (the voice leading in this case is similar to the resolution of the root position V_7 to I).

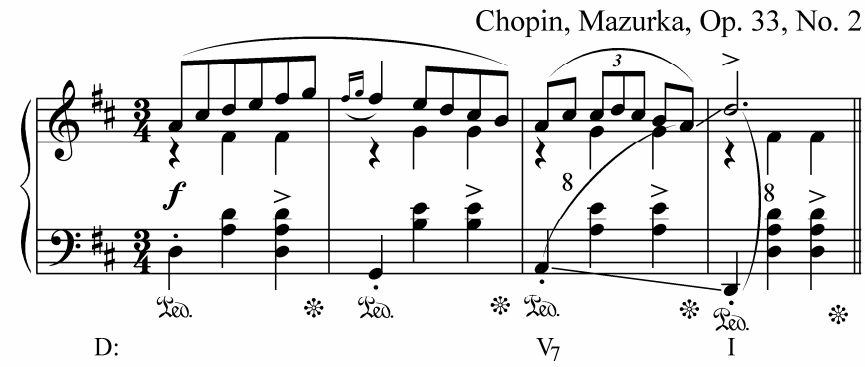


Sometimes one can find leaps in V^6_5–I chord progression as well.



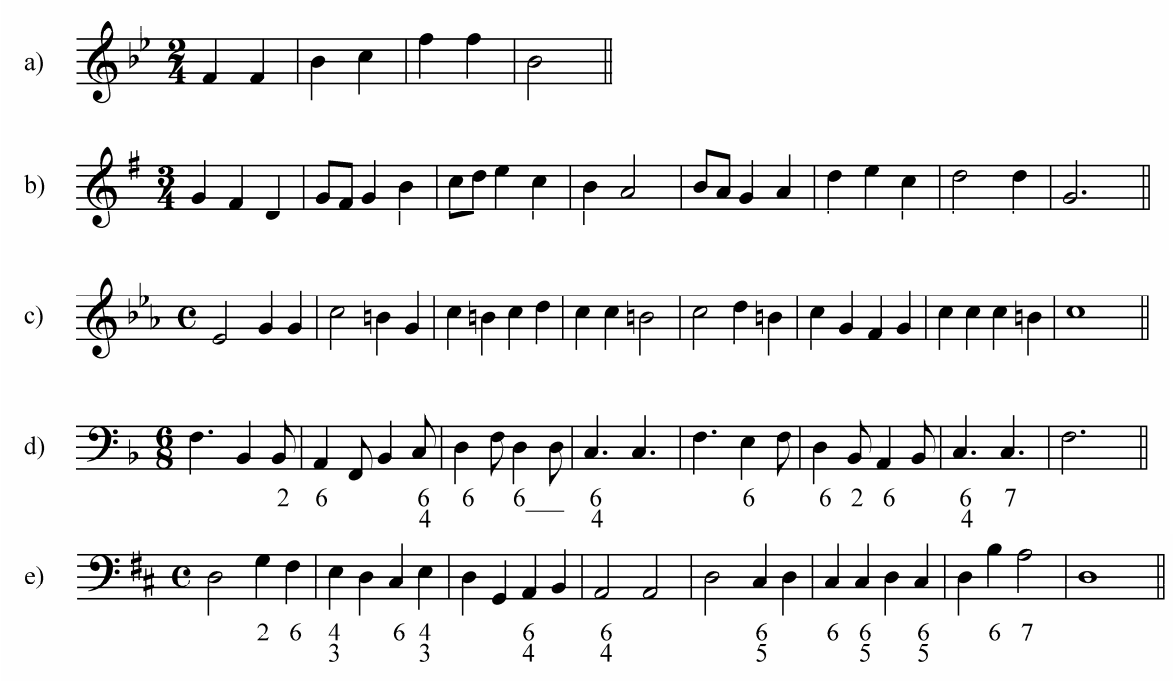
Contrary and Parallel Octaves in Cadences

In order to have a perfect cadence at the end of a unit (phrase, period), an *incomplete* (sometimes complete) V_7 may resolve to I with *contrary* and sometimes even *parallel octaves* in the outer voices. Such parallel or contrary octaves are accepted and *not* considered to be wrong.



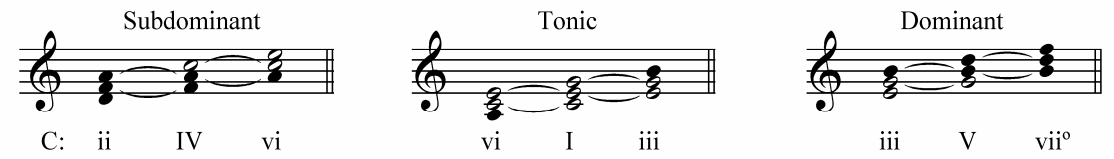
Exercises

Harmonize the following sopranos and realize the figured basses using leaps when resolving V_7 in root position and its inversions where appropriate.



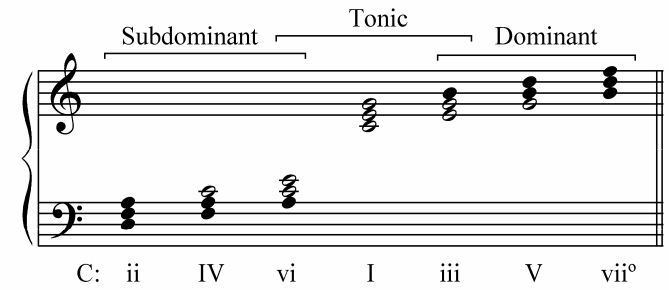
Major

The chords which are a 3rd higher and lower each primary triad (I, IV, and V) are called *secondary*[24] *(auxiliary, supportive) chords (triads)*. Secondary triads relate functionally to their primary triads. They are related because there are *two common tones* between each of them.



There are *three functional groups* with the primary triads in the center of each group. The groups are named after their primary triads.

One triad from the subdominant group (vi) and one triad from the dominant group (iii) also belong to the tonic group; these triads connect all three groups together.



It can be seen from the example above that, when moving to the left and to the right from the tonic triad (white notes), the relationship of the chords with it gradually decreases and their instability increases.

The most unstable chords are the *outermost ones* (ii and viiº); they have no common tone with the tonic triad.

All chords of the dominant group contain the characteristic *leading tone* (the 3rd of V) which creates certain tension in the key.

All chords of the subdominant group contain the submediant (the 3rd of IV) which does not create as much tension as the leading tone. Due to this fact, the chords of the subdominant group create *less tension* than the chords of the dominant group.

The Tonic Group Chords

The tonic triad plays an important role in a tonality. It is the center of the key.

As it was mentioned before, both *mediant* and *submediant* triads (iii and vi) also belong to the other two groups. As the names of both triads suggest, they may function in *two ways*[25]. The way they function *depends on what chords are used before and after* them.

iii is more often used as a chord of the tonic group. It is often followed by IV with the leading tone moving *down* (to the 3rd of IV). Nevertheless, it sometimes can function as a chord of the dominant group.

The submediant triad behaves in a similar way. If vi is followed by the cadential I^6_4, it functions as the chord of the subdominant group; if vi follows V (deceptive progression), it functions as the chord of the tonic group since it substitutes and represents I which usually follows V.

---

[24] Do not mistake it with *secondary dominants*.

[25] The Latin word "mediant" means *to be in the middle*; the mediant triad is between I and V. The prefix sub- means *under*; the submediant triad is below I and between I and IV.

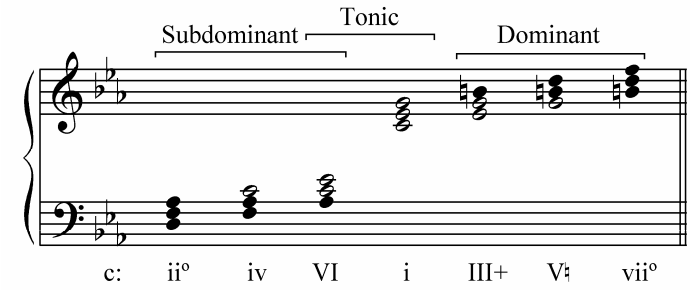
Here are examples of how iii and vi can be sometimes used in chord progressions involving both primary and secondary triads:

I–iii–ii_6(or vi)–IV_6–V

I–vi–ii_6–iii–V

Harmonic Minor

The use of the *major* V (a triad from a major key) in a *minor* key makes that minor *harmonic*. Thus, the chords of a minor key function in the way similar to those from a major key.

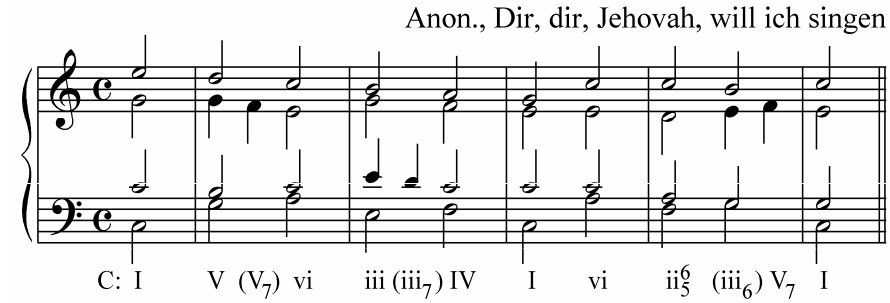


In a *harmonic* minor, the *augmented* mediant triad (III^+), which contains the leading tone, doesn't belong to the tonic group. Though it has two common tones with the tonic triad, it is an unstable chord and functions as one of the dominant group. On the contrary, in a *natural* minor, the *major* mediant triad (III) doesn't belong to the dominant group and functions as a chord of the tonic group.

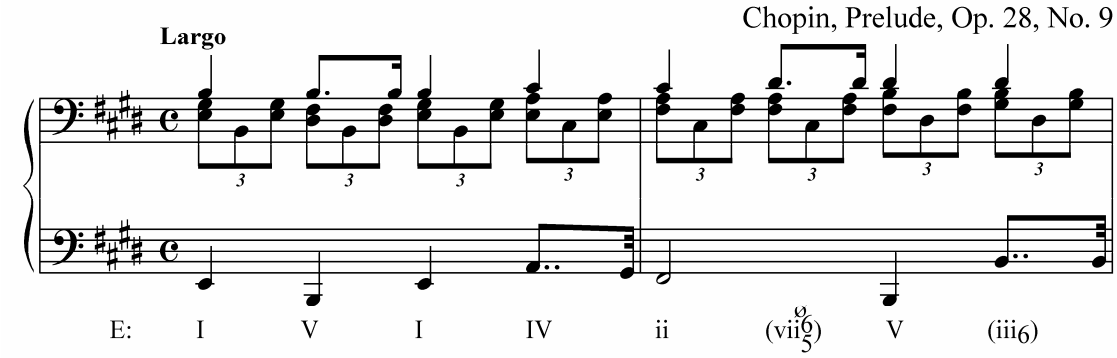
The submediant triad (VI) functions more like the chord of the subdominant group since in the relative major this chord is the subdominant triad (IV).

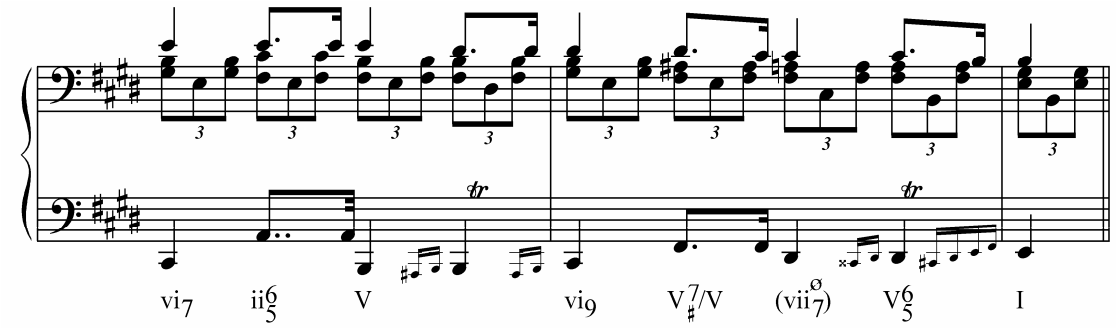
Qualities of Secondary Triads

Three minor and one diminished secondary triads (ii, iii, vi, and vii°) in a major key, two diminished and two major secondary triads (ii°, III (III+), VI, and vii°) in a minor key produce contrast to the primary triads and, thus, add variety to music.



Secondary triads with their various degrees of instability can help avoiding too often use of the tonic triad.





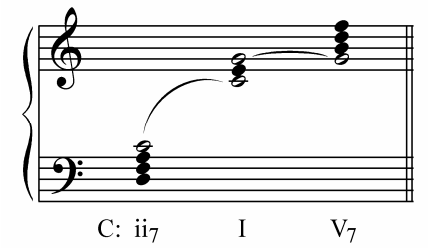
Chord Progression Logic

Various degrees of instability of chords in relation to the tonic triad and their different functional "strength" determine the logic of their use. Mainly the *chords progress* in accordance with the following basic formula: I–IV–V–I, etc. The tendency towards the increase of functional instability is characteristic for any chord progression. In the above formula, the numbers do not represent only the primary triads but also the secondary ones as well. Any chord, primary or/and secondary, which represents that group, may be used in the above formula. It doesn't also mean that all of the chords of each group have to be always used; very often some of the chords are not present. Within each group, a "weaker" chord *normally* moves to a "stronger" one, for example: vi–IV, IV–ii, vi–IV–ii, vi–ii; iii–V, V–vii^{o}, iii–V–vii^{o}, iii–vii^{o}.

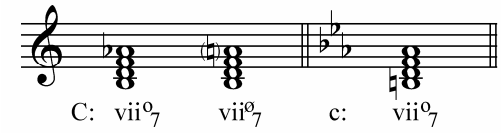
Primary Seventh Chords

Any diatonic triad may become a seventh chord by adding the 7th. Seventh chords function the same way as the triads they are built from.

The seventh chords of the dominant and subdominant groups, which are used more often than the others, are the dominant seventh chord (V_7) and the supertonic seventh chord (ii_7). Both of them have just one common tone with I and lack the *3rd of it* (mediant) which is characteristic of the mode (major, minor).



Both the half diminished (vii^{ø}7) and fully diminished (vii^{o}7) leading tone seventh chords create significant tension since they contain no notes of I.



These three seventh chords are the most used chords. They are called *primary seventh chords*.

In chord progressions of the same group, seventh chords should be used after triads since they create more tension. Chord progressions, which contain seventh chords of the same group or different groups, can be also found.

Progressions Using Secondary Chords

The use of secondary chords adds variety to any chord progression and cadences since each primary chord may be represented by any secondary chord of its group.

Authentic chord progressions:

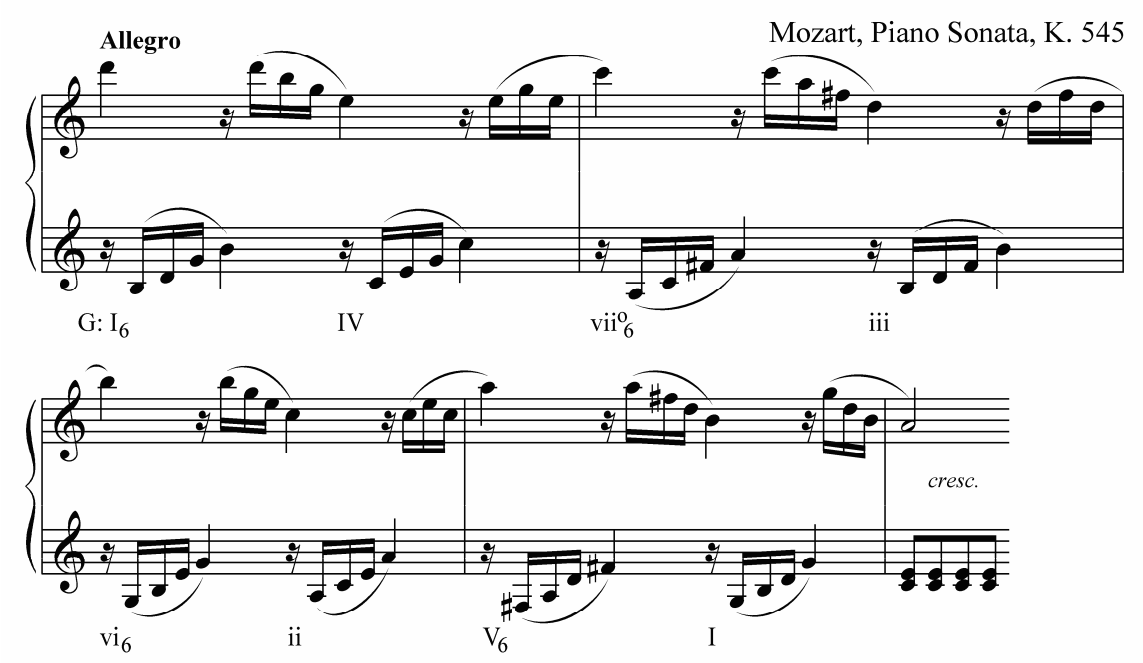
I–V–I
I–V_7–I
I–$vii^o{}_7$($vii^ø{}_7$)–I
I–iii_6–I
I–$vii^o{}_7$($vii^ø{}_7$)–V_7–I
I–iii–V–I

Plagal chord progressions:

I–IV–I
I–vi–I
I–vi–IV–I
I–vi–IV–ii–I

Full chord progressions:

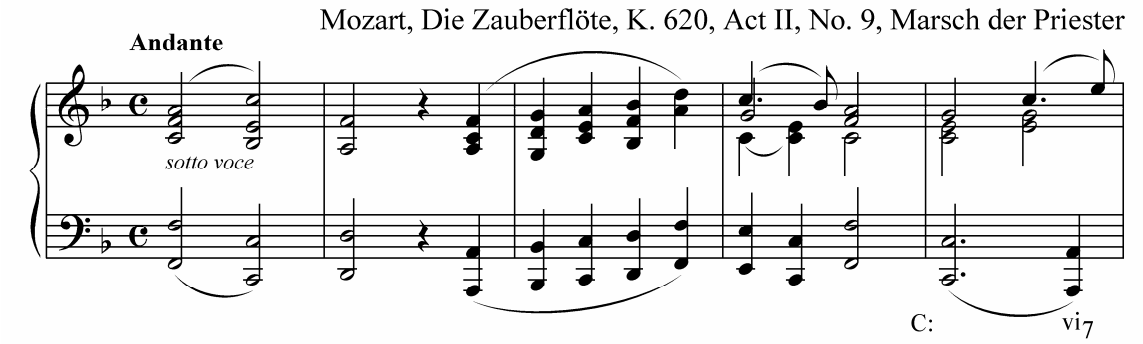
I–iii–vi–IV–ii–V–V_7–I
I–vi–IV–ii–$vii^o{}_7$–V(V_7)–iii(iii_6)–I

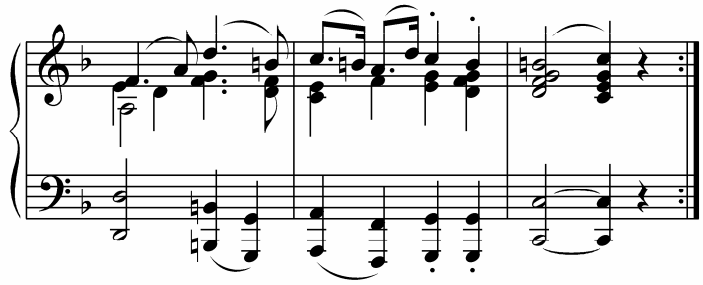


Exercises

1. Analyze the following excerpts.

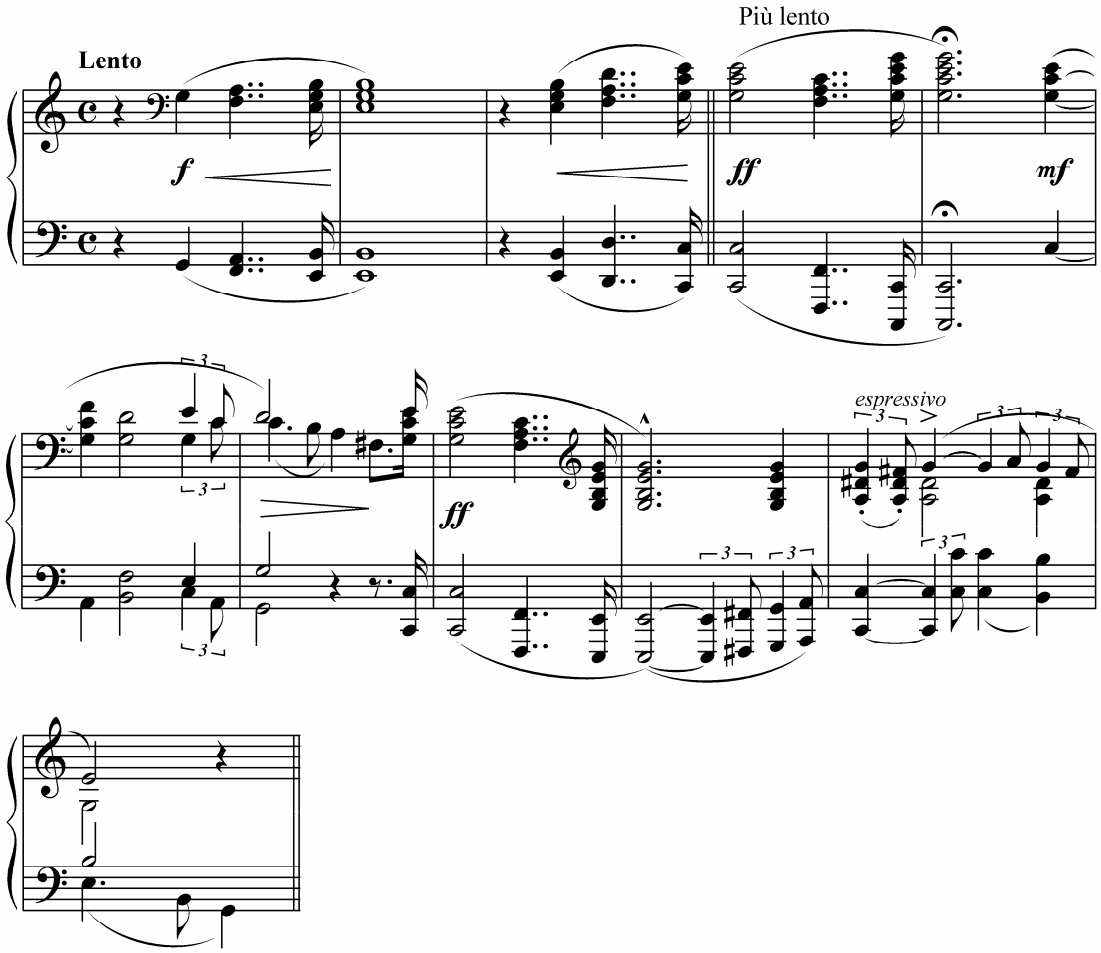
a)





b)

Liszt, Années de Pèlerinage I, S. 160, Chapelle de Guillaume Tell



Structure and Identification

The supertonic triad is a triad built on the 2nd degree of a scale. In a major key, its quality is *minor* (ii); in a minor key, it is *diminished* (ii^o). It is the most used secondary triad which belongs to the subdominant group.

a. The Supertonic Sixth Chord

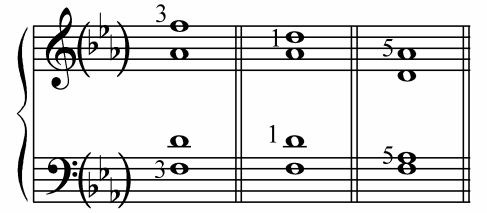
The supertonic triad in 1st inversion (ii_6, ii^o_6) is used more often than in root position and, in the music of some composers of classical period, even more often than the primary IV. The reasons why it is used so often lies in the following:

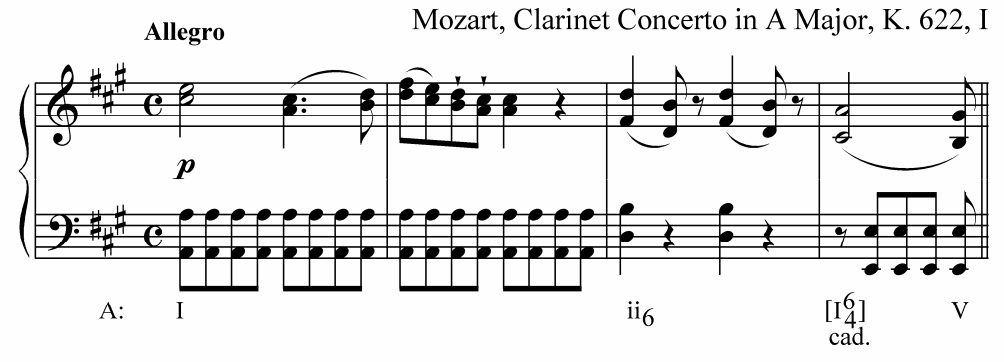
1) it has greater functional instability and, thus,
2) it produces more tension (there is no common tone with I),
3) it has one common tone with V,
4) its quality produces contrast to the qualities of the primary triads (in a major key, ii is minor in contrast to the major I, IV and V; in a minor key, it is diminished (ii^o), while i and iv are minor and V, major).

Doubling

The 3rd (the note in bass) is doubled in ii_6 (4th scale-degree, i.e., subdominant). Such doubling increases its connection with the primary triad of the group[26].

The root and rarely the 5th are sometimes also doubled.



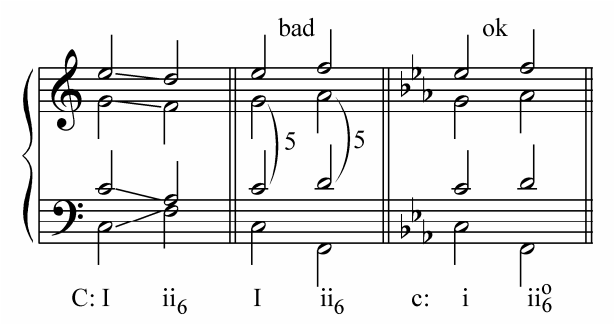


Preparation

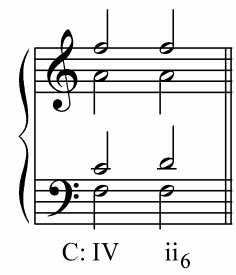
I and I_6 may be connected with ii_6 melodically (there are no common tones between the chords).

As a rule, the three upper voices move down while bass moves up, which, in open spacing, helps avoid possible parallel 5th's. In the minor key, the second 5th is diminished, thus, such connection creates no problem.

[26] The French composer and music theorist Jean-Philippe Rameau (1683–1764) interpreted this chord as the "subdominant triad with the sixth instead of the fifth".



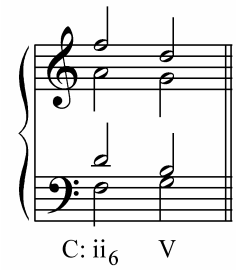
ii_6 may also be used on a weak beat after the root position IV used on the strong beat.

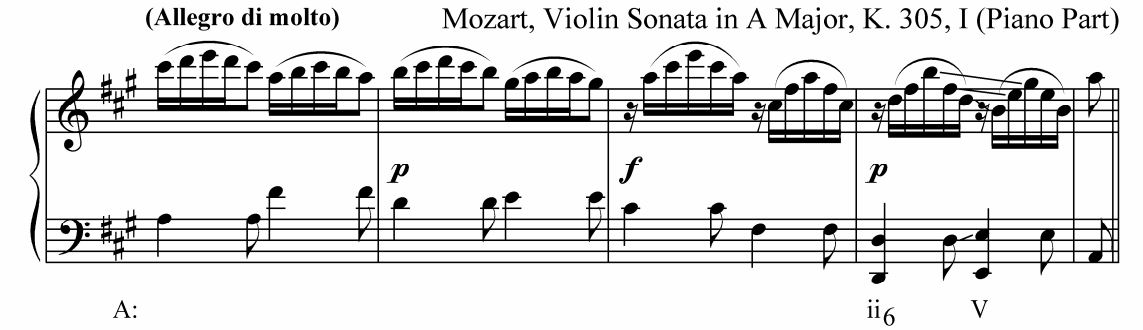


Connection of ii_6 with the Dominant Chords

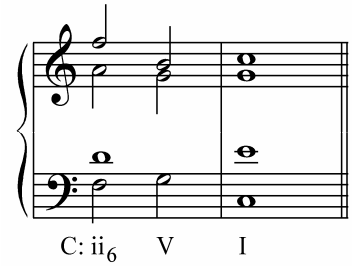
ii_6 may be followed by any dominant chord such as V, V_6, V_7, its inversions and the cadential $I^6{}_4$.

If the 3rd is doubled in ii_6, the connection with V is usually melodic, though there is a common tone between the two chords. The three upper voices move down in opposite direction to bass. This is similar to the connection IV–V.

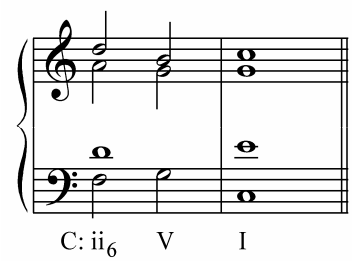




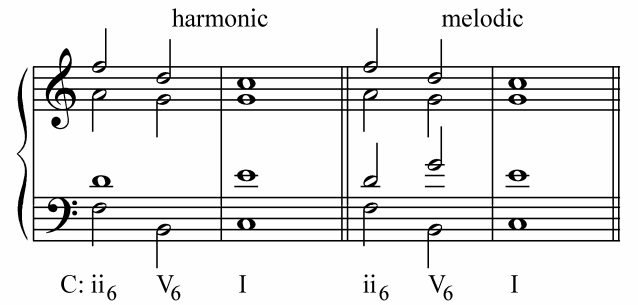
The harmonic connection ii_6–V is less common, though possible if a leap is used.



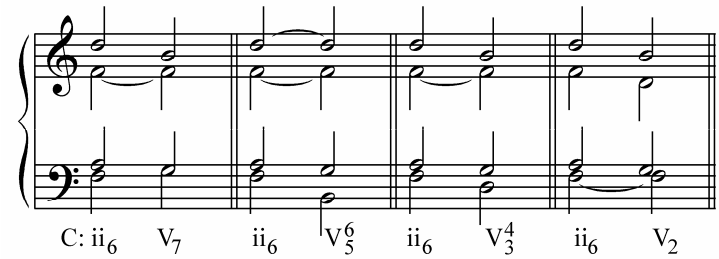
If the root is doubled, it is better to connect ii_6 with V harmonically.



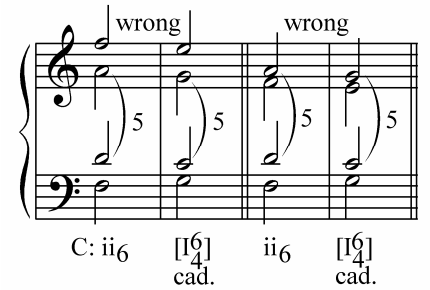
The connection ii_6–V_6 may be both harmonic and melodic.



Harmonic connection is used when ii_6 moves to V_7 or its inversions; one or two common tones remain stationary. The 7th in this connection is prepared.

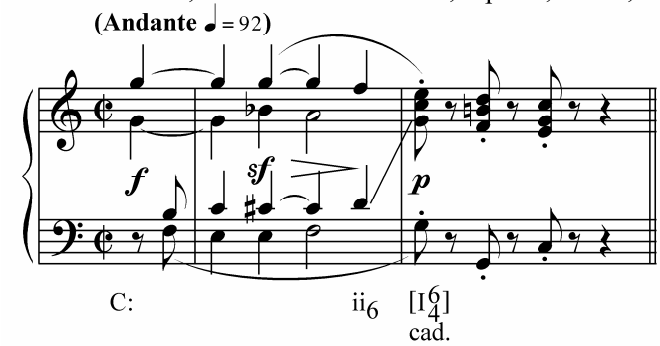


Care should be taken not to have parallel 5th's which may occur in the inner voices when connecting ii_6 with the cadential I^6_4 in open spacing (and rarely in close, if the 5th of ii_6 is in soprano).



In order to avoid these parallel 5th's, it is possible to use a leap which leads to the change of spacing.

Beethoven, Piano Sonata No. 10, Op. 14, No. 2, II



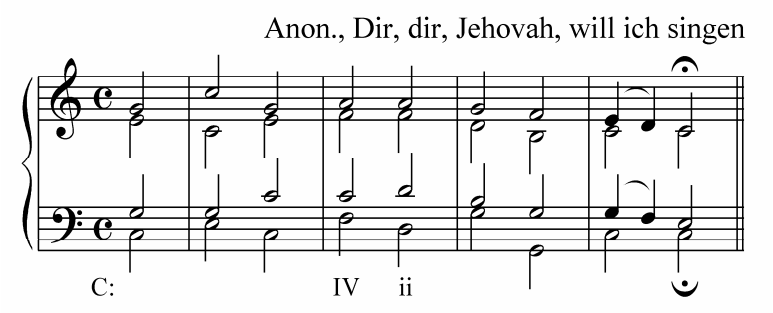
b. The Root Position Supertonic Triad in Major

Connection of Triads with the Roots a Third Apart

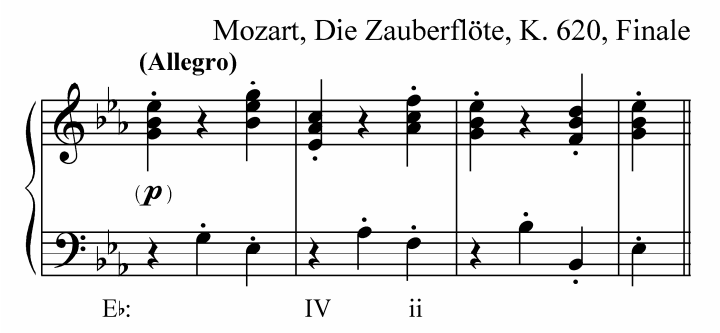
The root position supersonic triad (ii) is usually used only in major and can follow IV, I_6 and sometimes I.

The roots of IV and ii are a 3rd apart and the triads have two common tones.

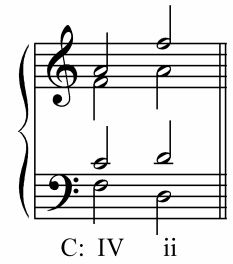
The two common tones remain stationary when the triads are connected harmonically.



It is also possible to connect them melodically. Bass moves a 3rd down while the remaining voices move all up.



The 3rd of IV may also leap to the 3rd of ii.



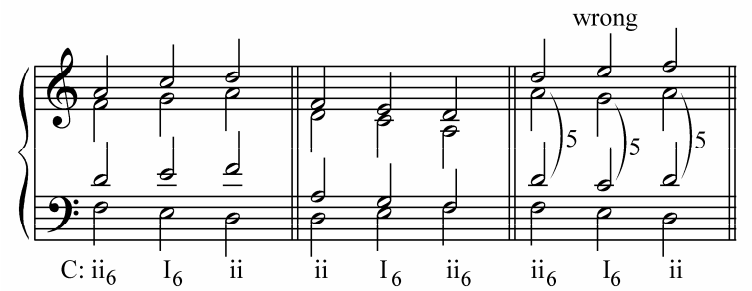
Connection of ii with Dominant Chords

Any dominant chord may follow ii. The connection of ii with V is usually melodic. The connection with V_7 and its inversions is usually harmonic (prepared 7th).

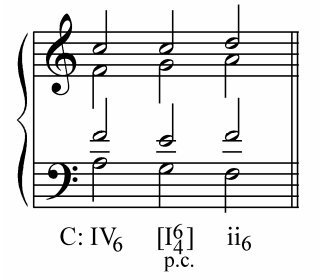
In a major key, it is possible to use ii before the cadential $I^6{}_4$, though ii_6 can be found more often.

Passing I_6 between ii and ii_6

The passing I_6 may be sometimes used between ii and ii_6 (or vice versa). The *3rd* is usually *doubled* in I_6. The upper three voices move opposite to bass. Parallel 5th's may occur in open spacing. These are avoided by using close spacing.



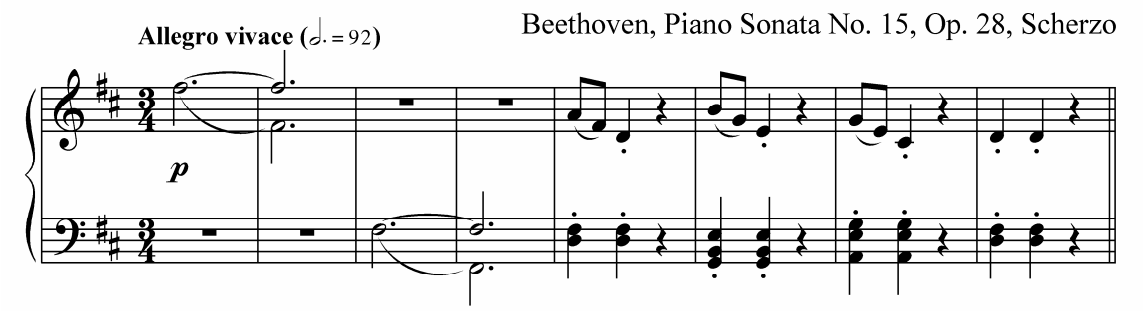
The passing I^6_4 may be placed between IV_6 and ii_6.



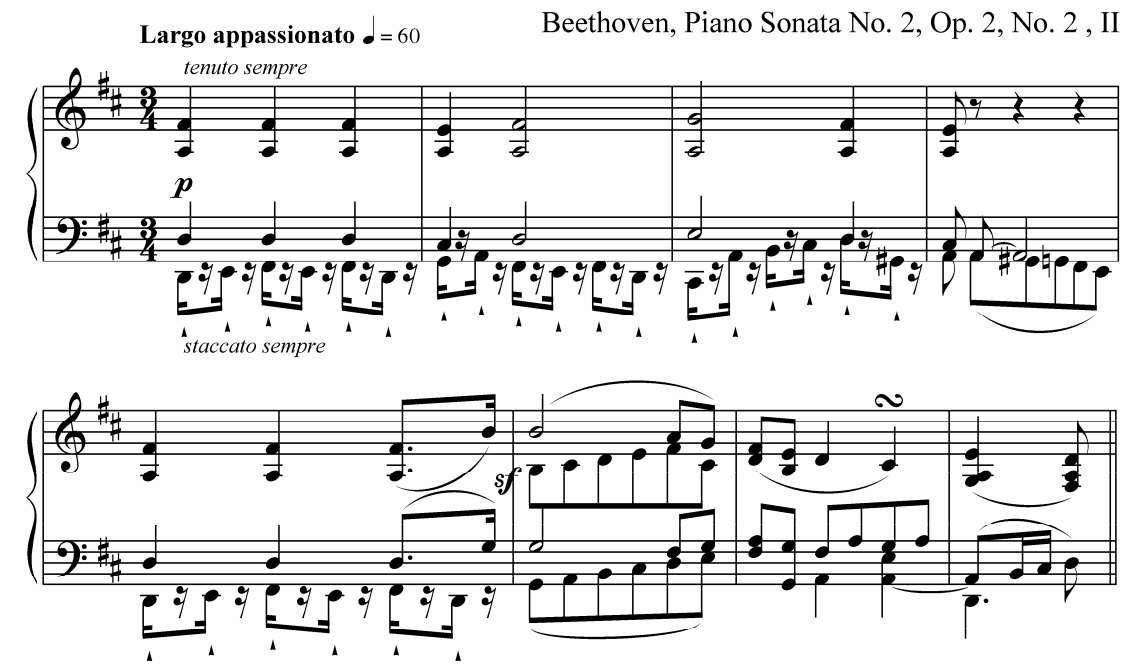
Exercises

1. Analyze the following excerpts.

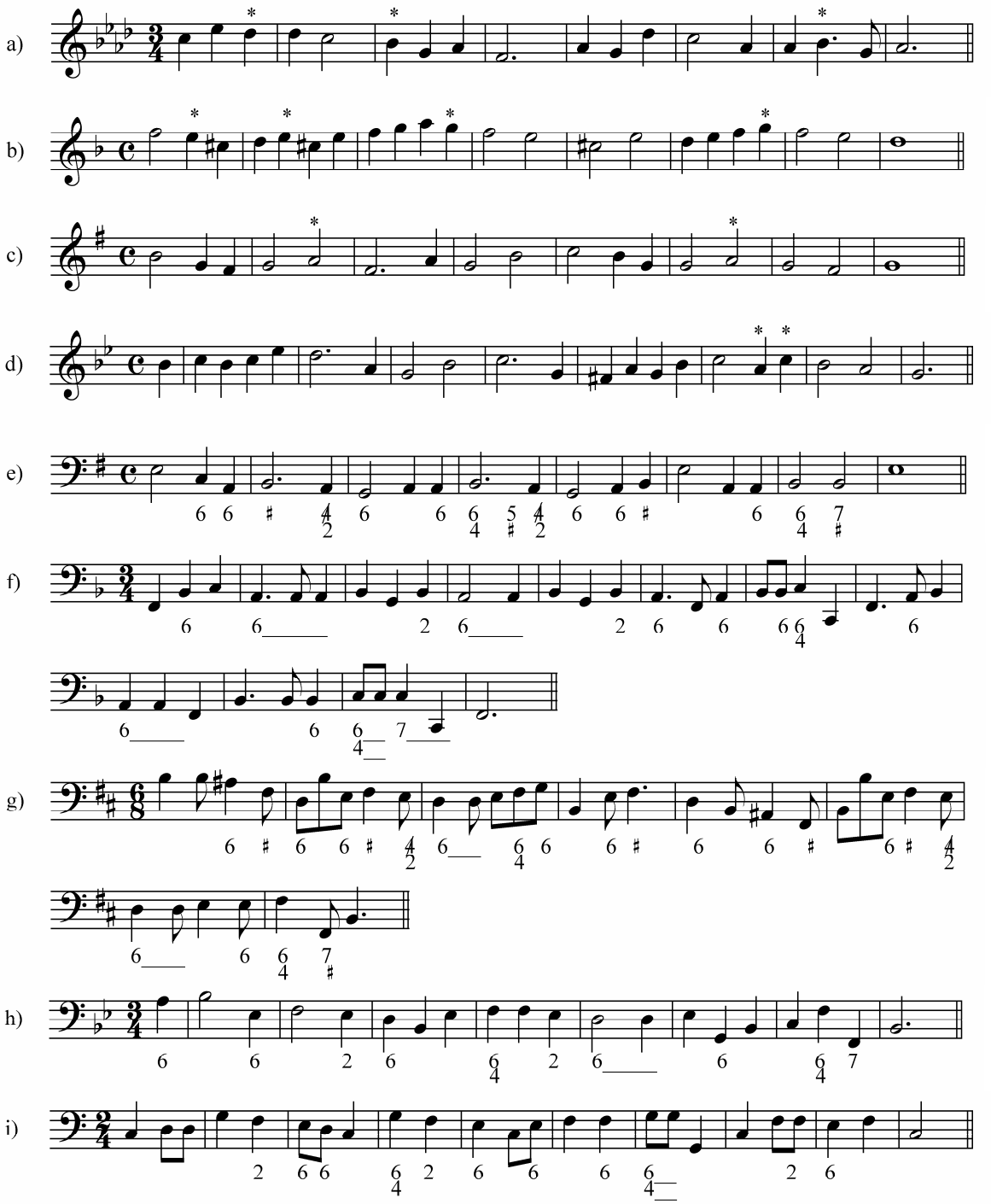
a)



b)



2. Harmonize the following melodies and realize the figured basses. Use ii_6 or ii where indicated by an asterisk.

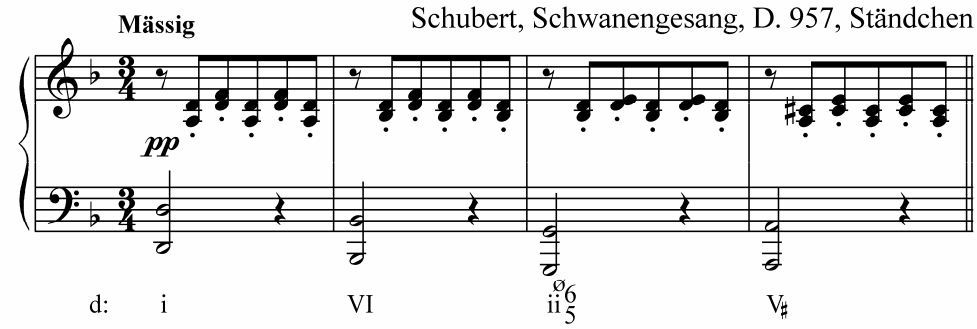


Function

The *submediant triad* is a triad built on the 6th scale-degree. In a major mode, it is *minor* (vi); in a minor, *major* (VI). Depending on what is used before and after vi, it may function as the chord of the tonic or subdominant group. vi is used less often than ii and ii_6. The chords, which are usually used after vi, are IV or ii, often I_6, and sometimes V (or V_7) in root position or inversions.

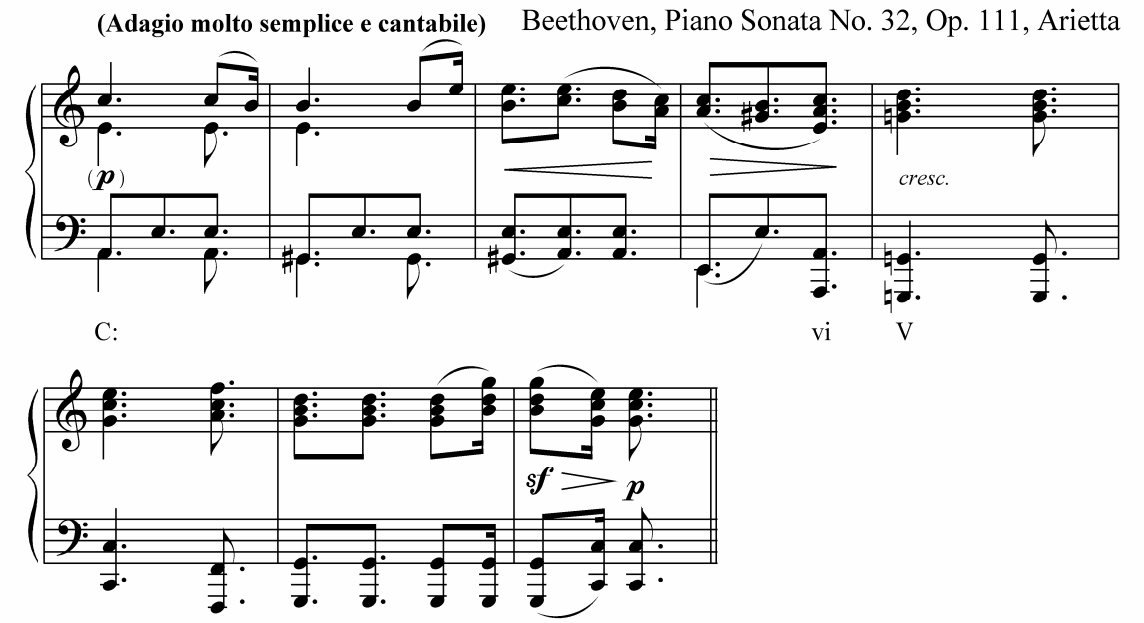
vi as a Link

When vi is used between chords of the tonic and subdominant groups, it is not clear which group it belongs to. In such case it is used as a *link* (submediant) between the two groups.



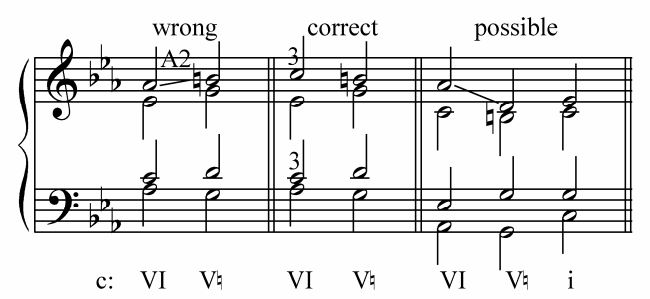
vi as a Chord of Subdominant Group

When vi is used before V, V_7 or cadential $I^6{}_4$, i.e., in the place usual for IV, it functions as the chord of the *subdominant* group. Nevertheless, the chord is weaker than the other chords of the group.

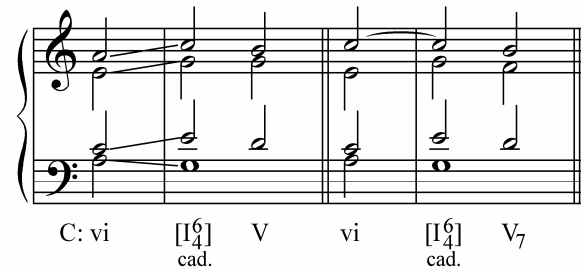


When connecting vi with V in a major key, bass moves by step down while all upper voices move in the opposite direction to the nearest chord tones (*see* Example above). Such voice leading is the same in any connection of two triads in root position a 2nd apart.

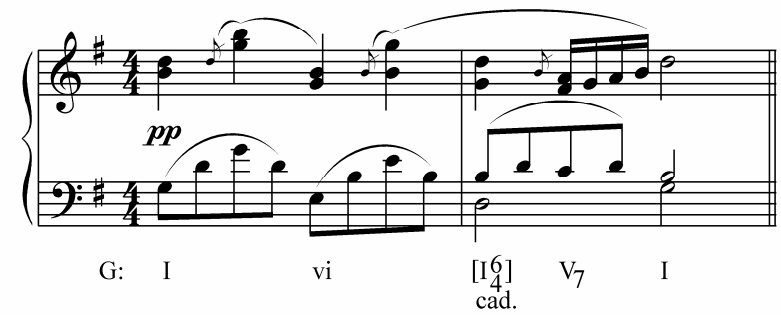
In a minor key, the connection of VI with the *root position* V is possible if the *3rd is doubled* in VI. Otherwise, parallel octaves and 5th's or a dissonant augmented 2nd may occur. However, the doubling of the 3rd isn't necessary if a leap is used.



vi may be connected with the cadential I^6_4 both *melodically* (if the root is doubled in vi) and *harmonically* (if the 3rd is doubled in vi).



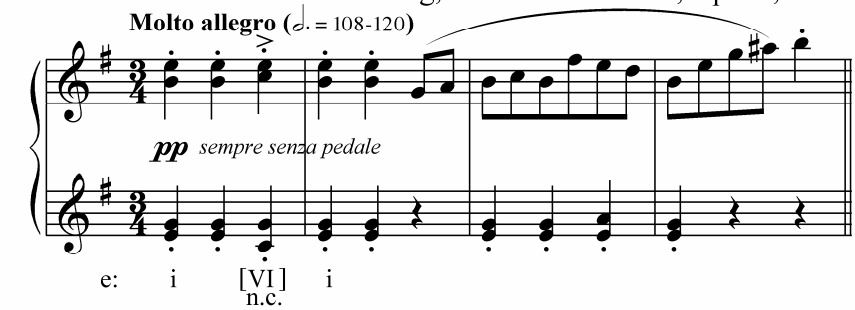
Strauss, Der Rosenkavalier, Act III, Ist Ein Traum



vi as a Neighboring Chord

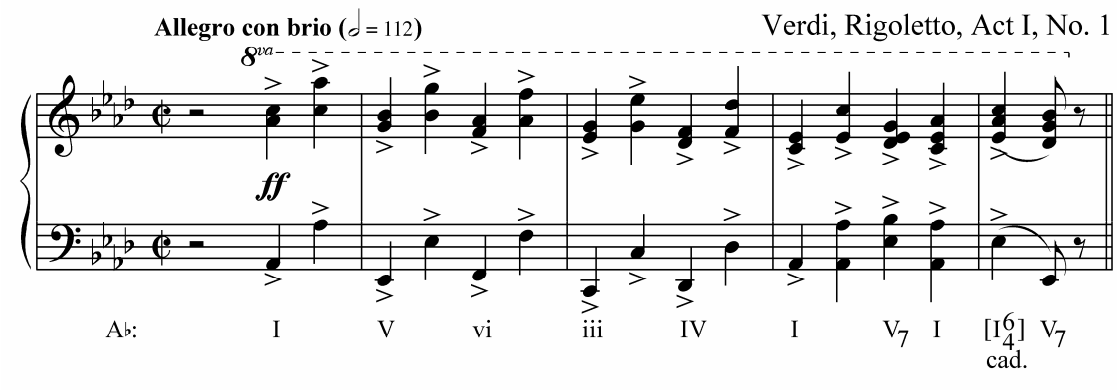
vi may be placed between the two tonic triads. In such case the chord is used as a *neighboring chord* embellishing I.

Grieg, Dance of the Elves, Op. 12, No. 4



vi as a Chord of Tonic Group. Deceptive Progression

When vi is used after V or V_7 in root position, it *substitutes* I and, thus, functions as the chord of the tonic group. Such chord progression (i.e., V–vi or V_7–vi) is called *deceptive*.

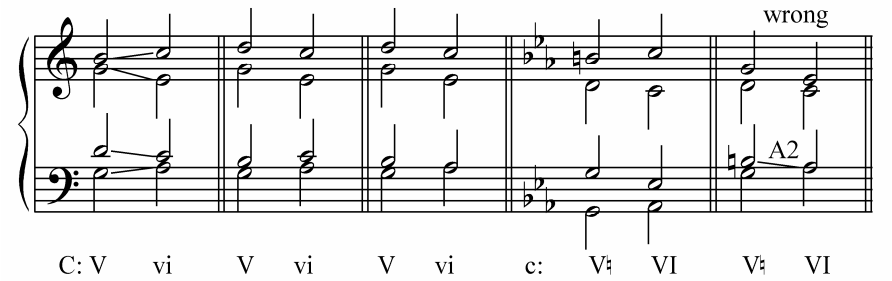


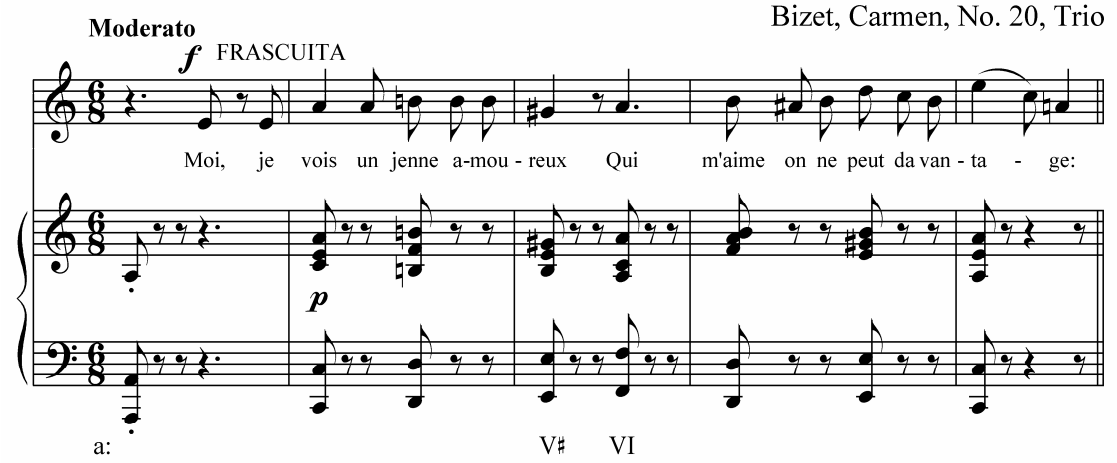
V–vi Voice Leading

V and vi are connected in the following way:

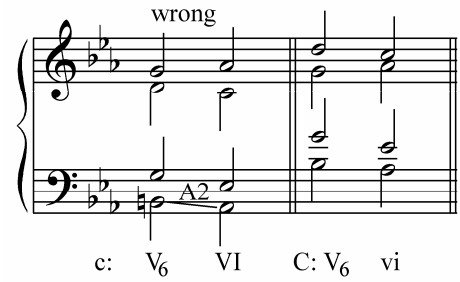
a) If the *3rd* (leading tone) of V is in *soprano*, it moves by step up to the *tonic*; the inner voices move *opposite* to *bass* as is always in a melodic connection. As a result, the *3rd* is *doubled* in vi;

b) In a major key, if the 3rd of V is in an inner voice, it is possible *not* to double the 3rd of vi (though it is always better to do so because the leading tone tends to move to the tonic). In a minor key, the 3rd of VI *must be doubled* in order to avoid a *dissonant augmented 2nd* (if the leading tone moves down).





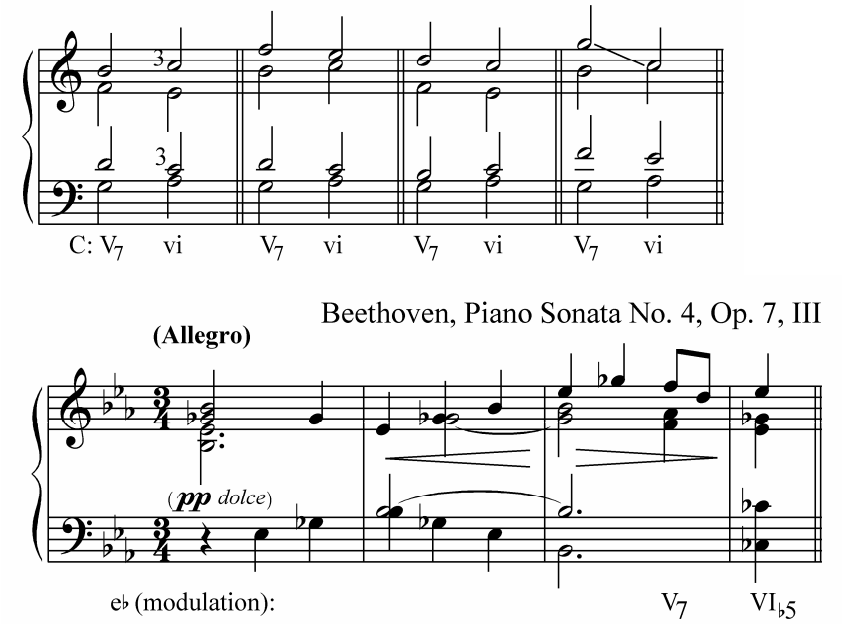
Due to the same reason, the connection V_6–VI in a minor key (a *downward motion of an augmented 2nd* in bass) is *never used*; though it is sometimes possible in a major key.



V_7–vi (VI) Voice Leading

No matter in which voice the leading tone is, the *3rd is to be doubled* in vi (VI) in V_7–vi (VI) chord progression in both major and minor keys.

In case V_7 is incomplete, one of the upper voices must leap (4th up or 5th down) from the *root* of V_7 to the *3rd* of vi. Such V_7–vi connection differs from the usual V_7–I connection in that bass moves by step up instead of the leap. This also shows that vi here functions as the chord of the *tonic group*.

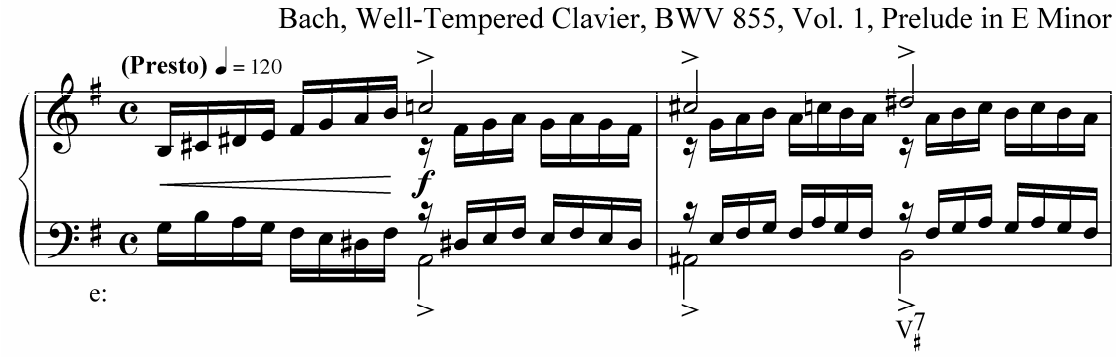


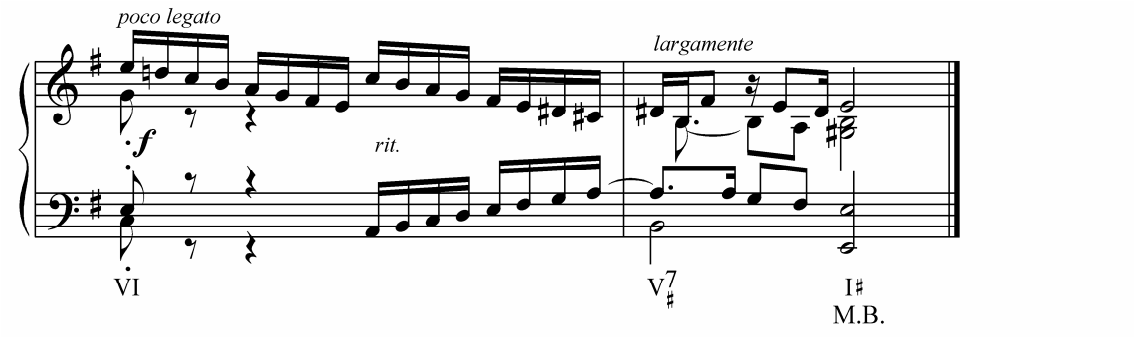
Deceptive Cadence. Means of Period Extension

A deceptive progression used to end a *phrase* or *period* is called *deceptive cadence* (D.C.).

In a deceptive cadence, V or V_7, which must be in *root position* only, doesn't resolve to the expected I, but to another chord, usually vi, thus *interrupting such ending*. Though in such case vi functions as a chord of the tonic group, it is nevertheless unstable and necessitates the *continuation* which would later come to a *complete stop* by means of an authentic cadence.

Such interruption of the final cadence is used when a *complete ending is not yet needed* and where a normal ending is *expected*, i.e., at the end of a period. Thus, the deceptive cadence may *extend the length of a period*.





Other Means of Period Extension

A period may be extended *not only* by means of a deceptive cadence but also by some other means:

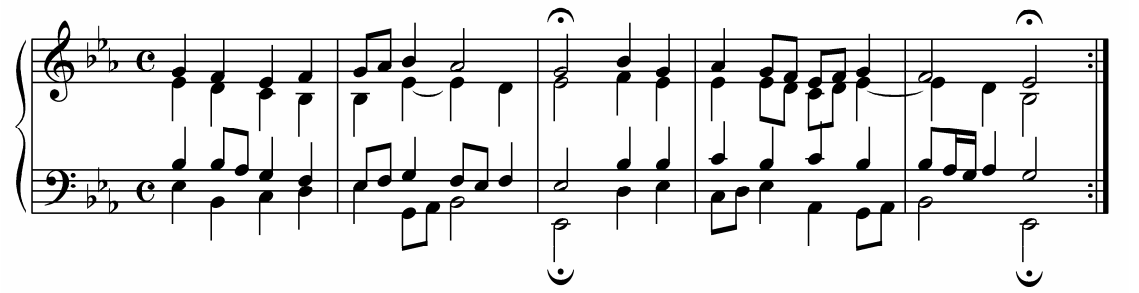
1. If at the end of a period the *tonic triad* is used with its *3rd or 5th* in soprano or *on a weak beat*, an imperfect cadence would result making such ending *not really complete*. Such an imperfect cadence would force to move forward, the period would extend and later end with the *perfect authentic cadence*.
2. If, in a cadence, V or cadential $I^6{}_4$ is followed by V_2, it would resolve to I_6 which can't be used for a *complete ending*. Thus, the progression would continue and later come to the required perfect authentic cadence.

Exercises

1. Analyze the following excerpts.

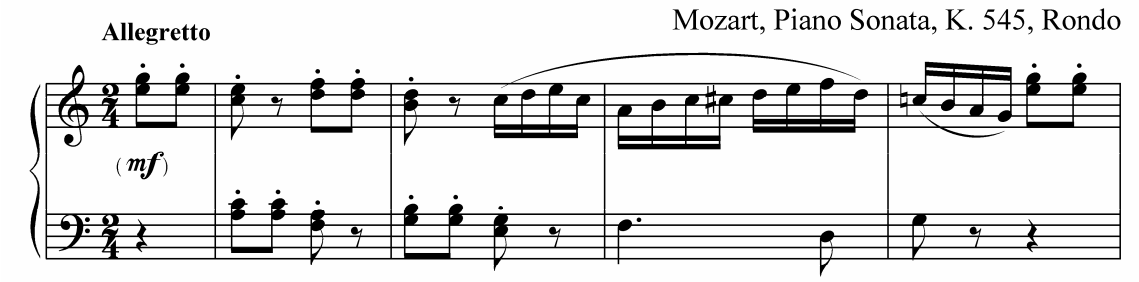
a)

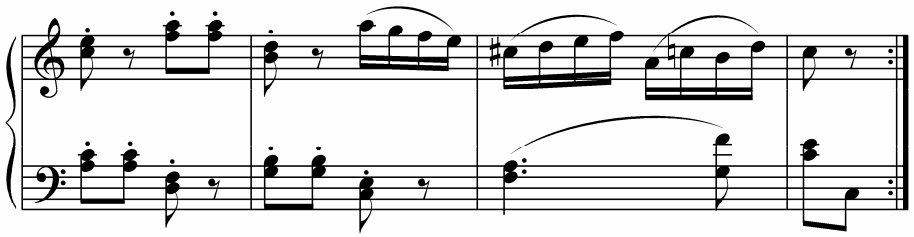
Bach, Schmücke dich, o liebe Seele, BWV 180, No. 7, Choral



b)

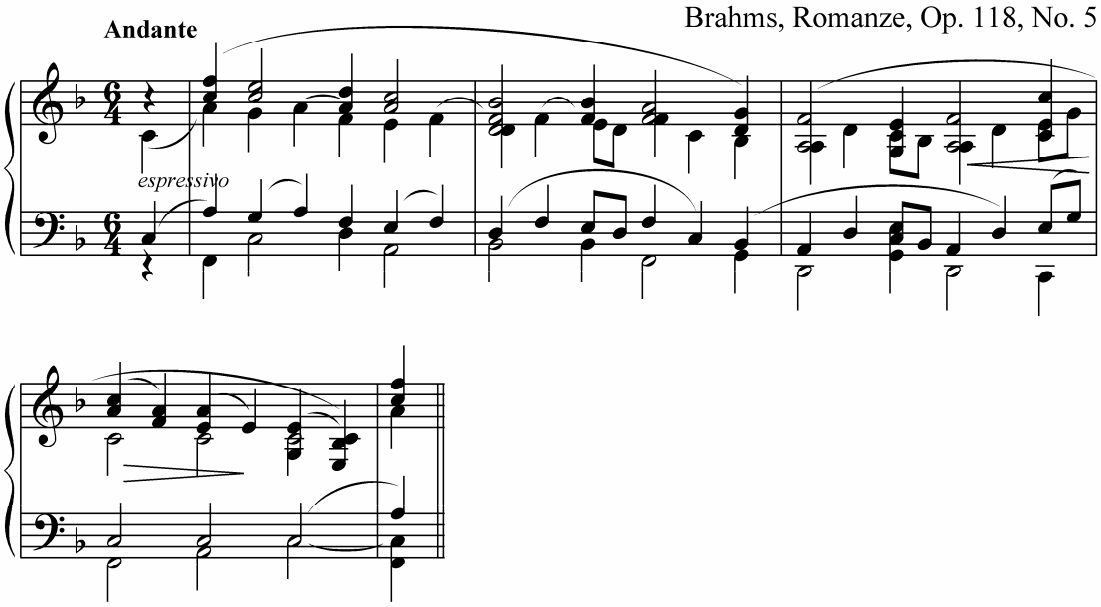
Mozart, Piano Sonata, K. 545, Rondo





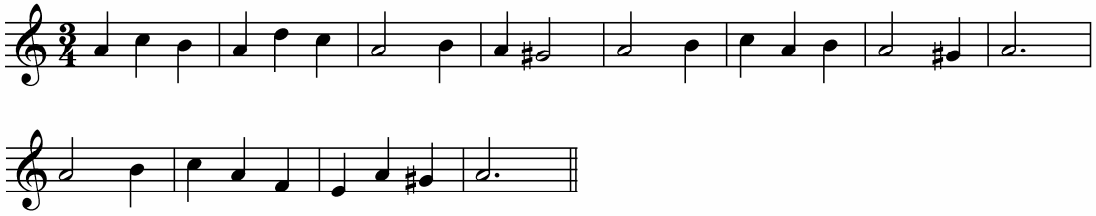
c)

Brahms, Romanze, Op. 118, No. 5

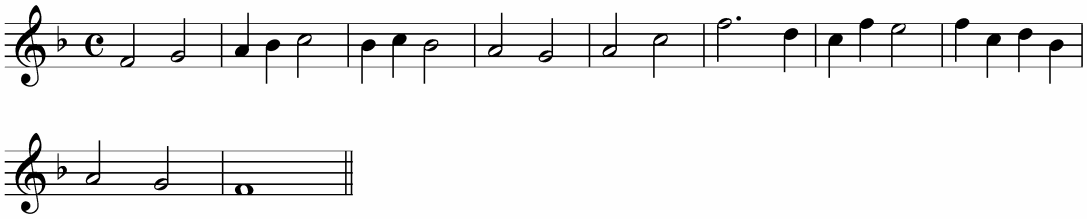


2. Harmonize the following melodies and realize the figured basses.

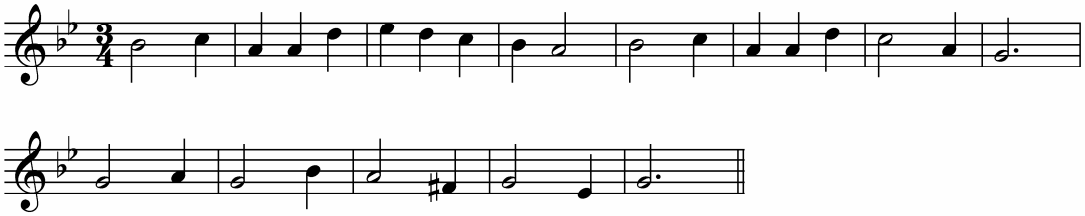
a)



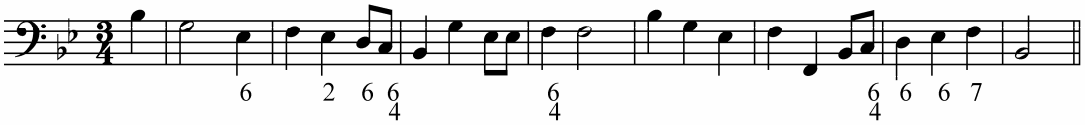
b)



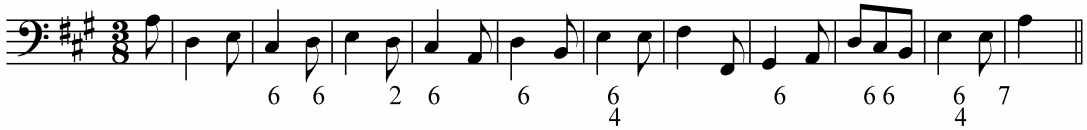
c)



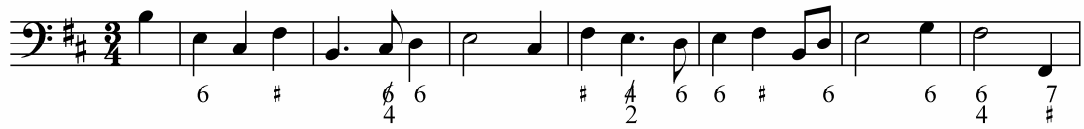
d)

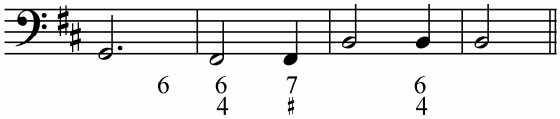


e)



f)





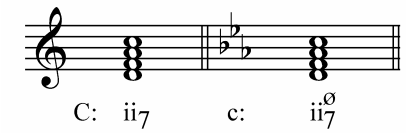
Structure and Identification

The *supertonic seventh chord* is a seventh chord built on the 2nd scale-degree. The chord is considered to be the *primary seventh chord* because it is used more often than the other chords.

In a major key, the chord consists of a minor 3rd, perfect 5th and minor 7th, i.e., a minor triad with a minor 7th. It is identified as ii_7.

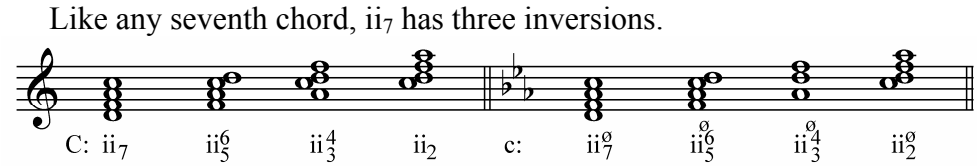
In a minor key, it consists of a minor 3rd, diminished 5th and minor 7th, i.e., a diminished triad with a minor 7th. It is identified as $ii^{ø}_7$. The slash over the circle means that the chord is *half diminished*.

The chord is almost only used in its *complete* form. Occasionally, the fifth is omitted in ii_7 and the third or, sometimes, the fifth, in $ii^{ø}_7$.



Inversions of ii_7

Like any seventh chord, ii_7 has three inversions.



The chord in 1st inversion (ii^6_5) is the most used one.

Preparation

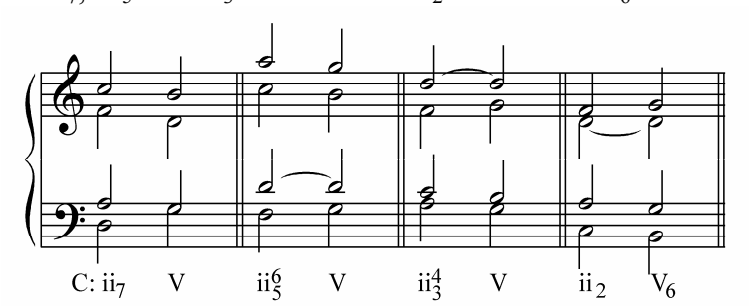
ii_7 and its inversions can be used after the chords of the tonic group and "weaker" chords of the subdominant group, i.e., I, I_6, passing I^6_4, IV, IV_6 and vi. The harmonic connection is usually used (often with the *prepared 7th*). The chord may be also used after ii and ii_6 (often with the *passing 7th*).

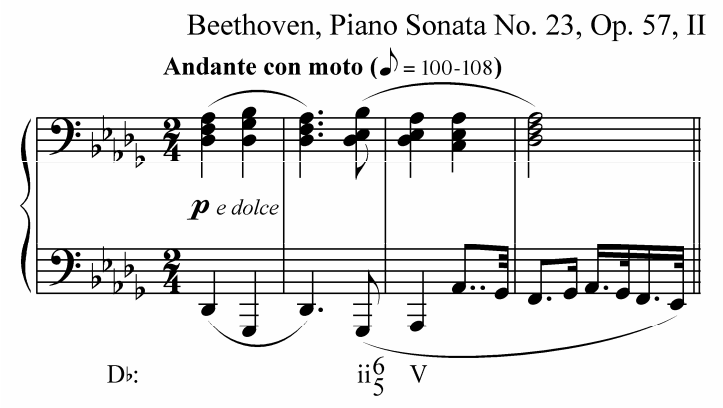
Resolution to V

The resolution of ii_7 to V is analogous to the resolution of V_7 to I:

1) the 7th and 5th move by step down;
2) the 3rd normally moves by step up (in the root position ii_7,the 3rd often skips a 3rd down);
3) the root in one of the three upper voices remains stationary; the root in bass leaps to the root of V (leap of a 4th).

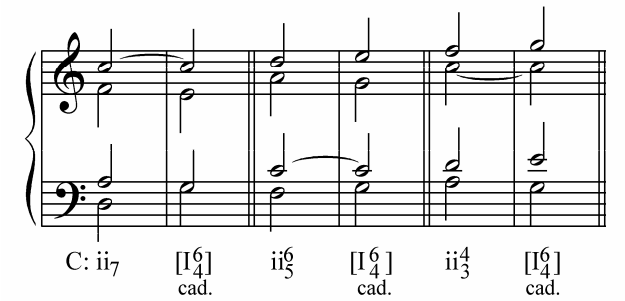
ii_7, ii^6_5 and ii^4_3 resolve to V. ii_2 resolves to V_6.





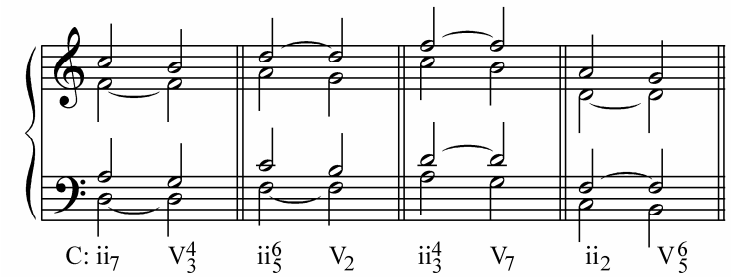
Connection with Cadential I^6_4

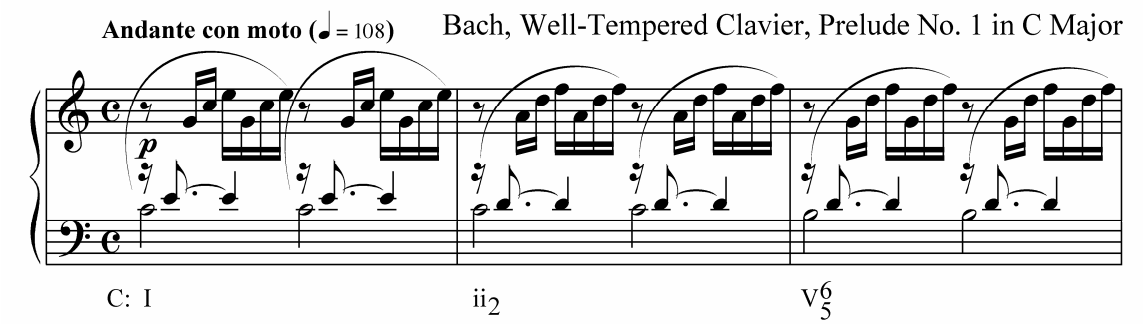
ii_7, ii^6_5 and ii^4_3 (except for ii_2) may be connected with the cadential I^6_4. In such case the 7th remains stationary forming the dissonant 4th with the note in bass of the cadential I^6_4.

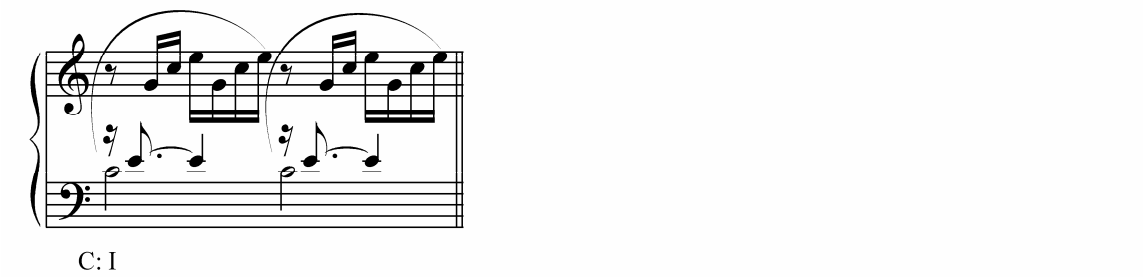


Connection with V_7 and its Inversions

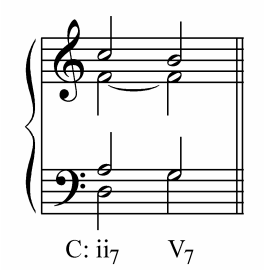
ii_7 and its inversions are very often followed by V_7 and its inversions. Both the 7th and 5th *move by step down*, the other two notes remain stationary since both of them are the *common tones* between the two chords. Thus, ii_7 usually moves to V^4_3; ii^6_5, to V_2; ii^4_3, to V_7; and ii_2, to V^6_5.





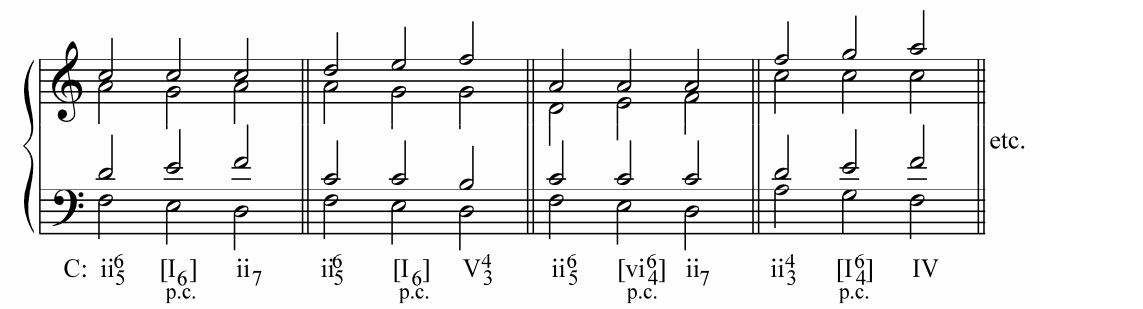


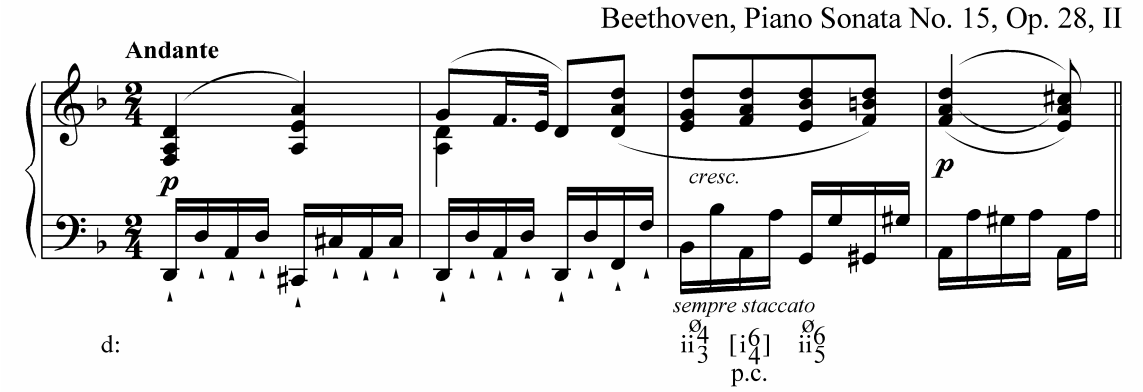
ii_7 may be connected with the incomplete V_7.



Use with Passing Chords

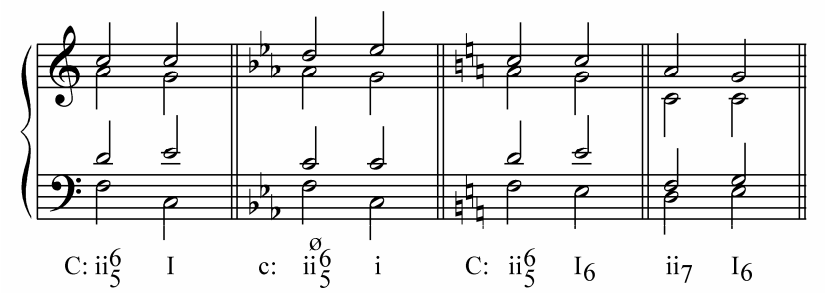
The passing I_6, $I^6{}_4$ or $vi^6{}_4$ may be used between ii_7 and its inversions.





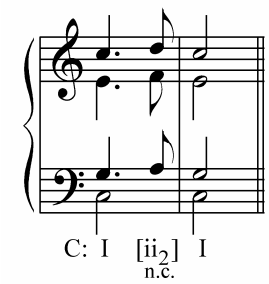
Plagal Connections

Since the chord ii_7 with its inversions functions as a primary seventh chord of the subdominant group, they can be connected with I like IV is connected with I (*plagal* progression). In such connection, $ii^6{}_5$ is used more often than the other inversions, though they can be sometimes also connected with I or its inversions. If such progression is found at the end of a period, it can be identified as a plagal cadence.



Usually, ii$_2$ is used after ii in root position (passing 7th) and it resolves to V$_6$ or V$^6_5$.

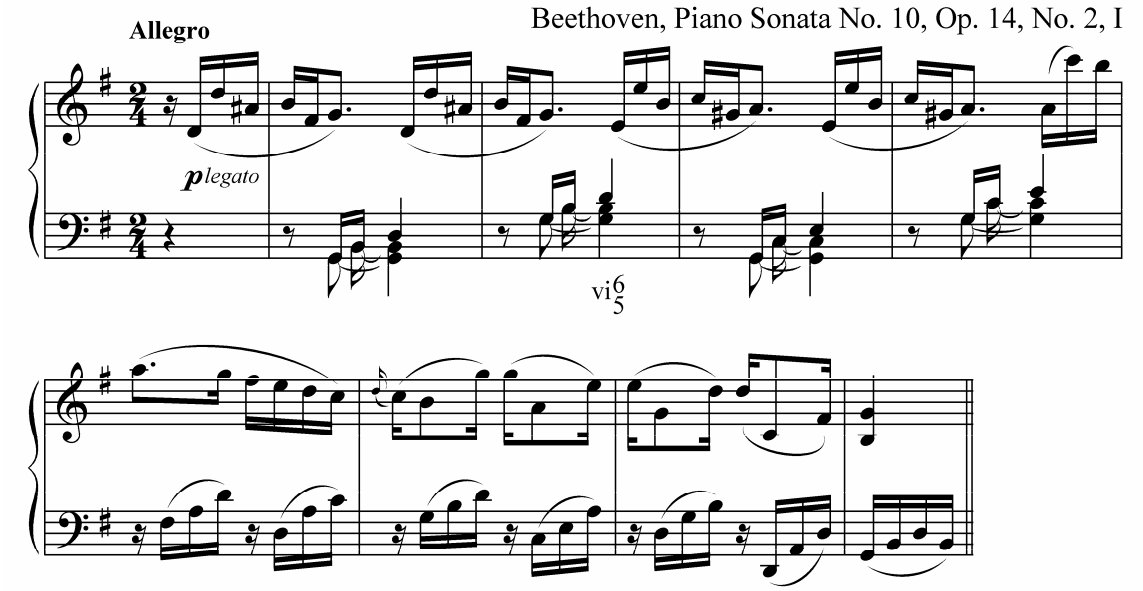
Sometimes, it can be also found between I and its repetition and, thus, can be analyzed as a neighboring chord.



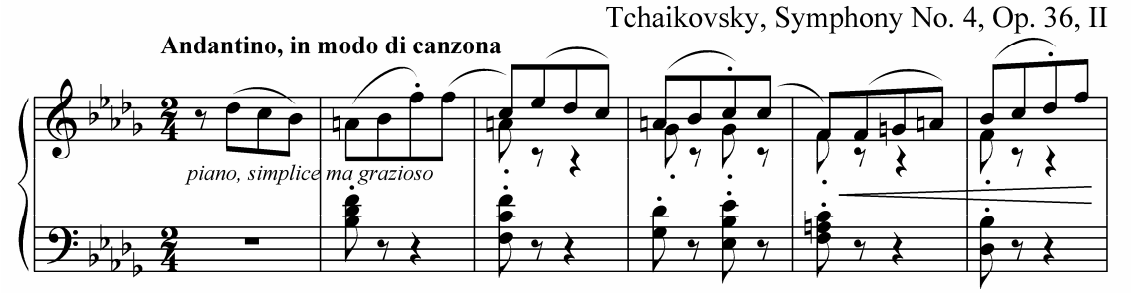
Exercises

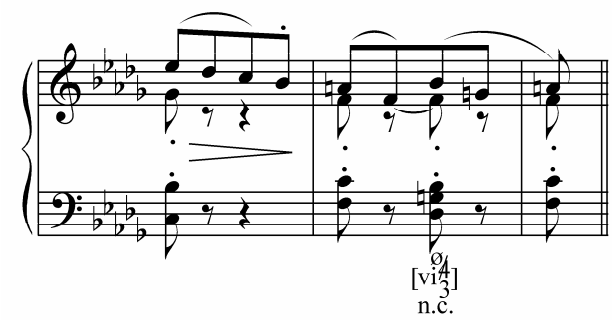
1. Analyze the following excerpts.

a)

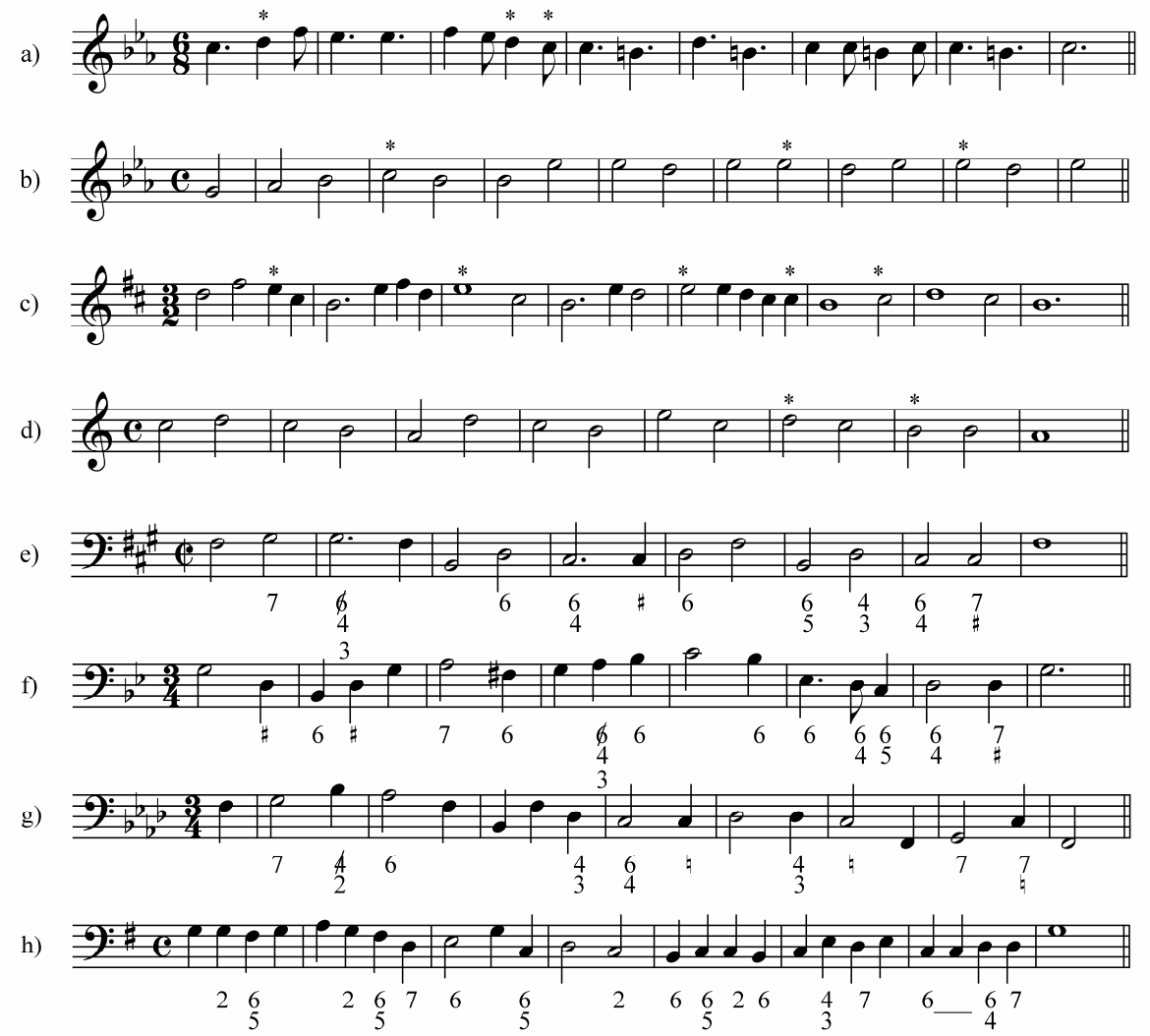


b)





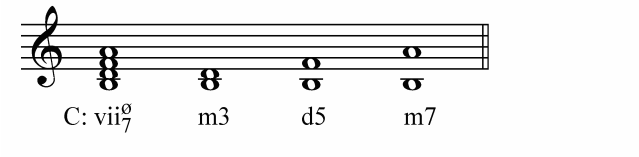
2. Harmonize the following melodies and realize the figured basses. Use ii_7 or its inversions where indicated by an asterisk.



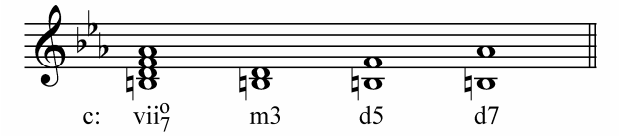
Chord Structure, Identification and Inversions

The seventh chord build on the 7th scale-degree is the *leading tone seventh chord*. The chord belongs to the dominant group of chords.

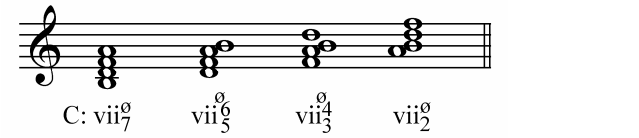
In a major key, the chord is *half diminished*. It consists of a minor 3rd, diminished 5th and minor 7th (i.e., a diminished triad with a *minor* 7th). It is identified as $\text{vii}^{ø}{}_{7}$.



In a minor key, the chord is *fully diminished*. The root of the chord is always the raised form of the seventh scale-degree (the leading tone). It consists of a minor 3rd, diminished 5th and diminished 7th (i.e., a diminished triad with a *diminished* 7th). It is identified as $\text{vii}^{o}{}_{7}$.

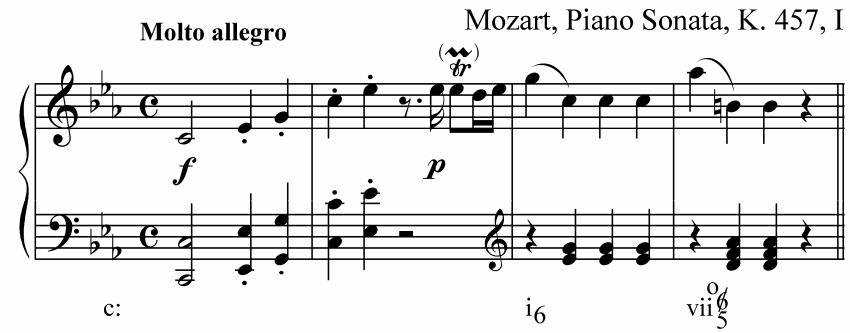


Like any other seventh chords, $\text{vii}^{ø}{}_{7}$ ($\text{vii}^{o}{}_{7}$) has three inversions.

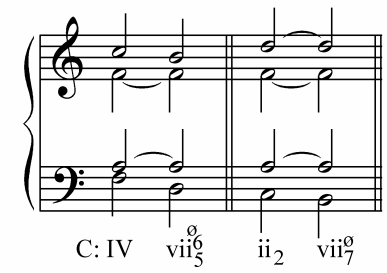


Preparation

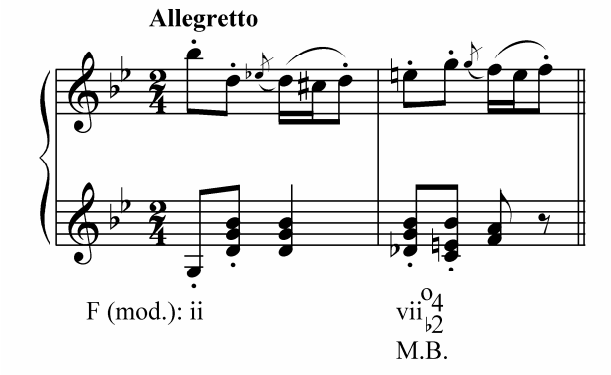
$\text{vii}^{ø}{}_{7}$ (especially $\text{vii}^{o}{}_{7}$) can be often found after I (i) or its inversions.



But it can be even more often found after chords of the subdominant group with which it is connected *harmonically*.

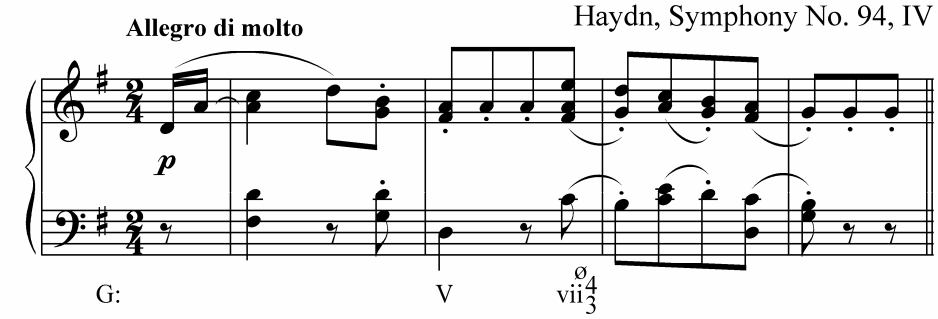


Tchaikovsky, Children's Album, Op. 39, Polka



Sometimes it may be used after V, V_7[27] and, rarely, vi.

Haydn, Symphony No. 94, IV



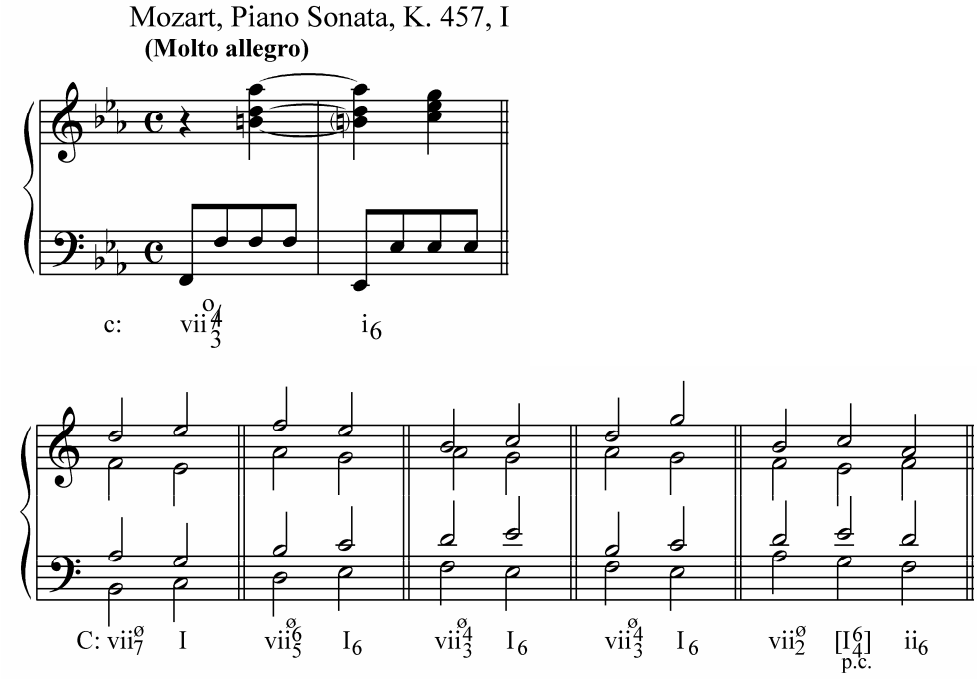
Resolution

Normally, $vii^{ø}_7$ (vii^{o}_7) resolves to I (i) with the doubled 3rd:

1) the 5th and 7th of $vii^{ø}_7$ (vii^{o}_7) move by step down (to the 3rd and 5th of I (i));
2) the root and 3rd move by step up (to the root and 3rd).

Thus, $vii^{ø}_7$ resolves to I; $vii^{ø6}_5$ and $vii^{ø4}_3$ to I_6; and $vii^{ø}_2$ (used rarely) to passing and, rarely, cadential I^6_4.

Mozart, Piano Sonata, K. 457, I

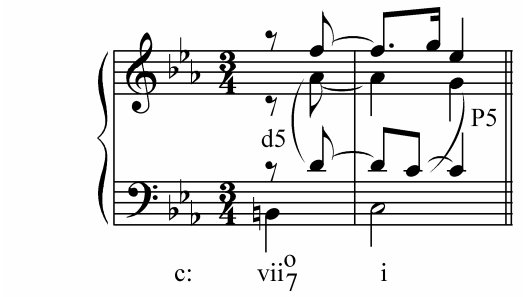


[27] Though, in such case, the chord can be also understood as V_9 without its root.

Similar to the resolution of V_2 to I_6, it is possible to use a leap when resolving $vii^{ø4}{}_3$ to I_6 (*see* measure 4 in the example above).

The reason the 3rd is doubled in I when resolving $vii^{ø}{}_7$ (half diminished) or its inversions is to avoid *parallel 5th's*. It is not necessary to double the 3rd in I if the structure of $vii^{ø}{}_7$ or its inversions is such that, when it is resolved (to I, I_6 or passing $I^6{}_4$), there will be *no parallel 5th's, but 4th's*. In a minor key, where $vii^{o}{}_7$ (fully diminished) is used, it is not necessary to care about parallel 5th's, since their qualities are not the same (*diminished to perfect*).

Bach, Passacaglia in C Minor, BWV 582

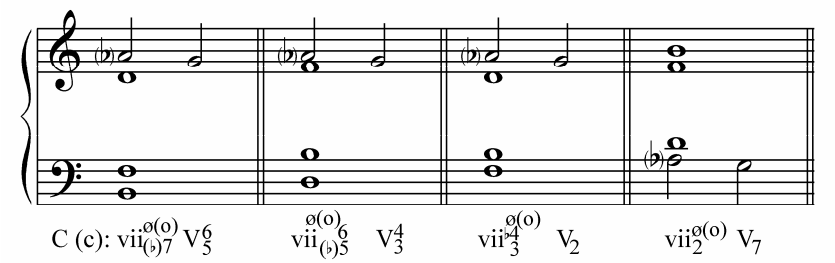


Connection with V_7

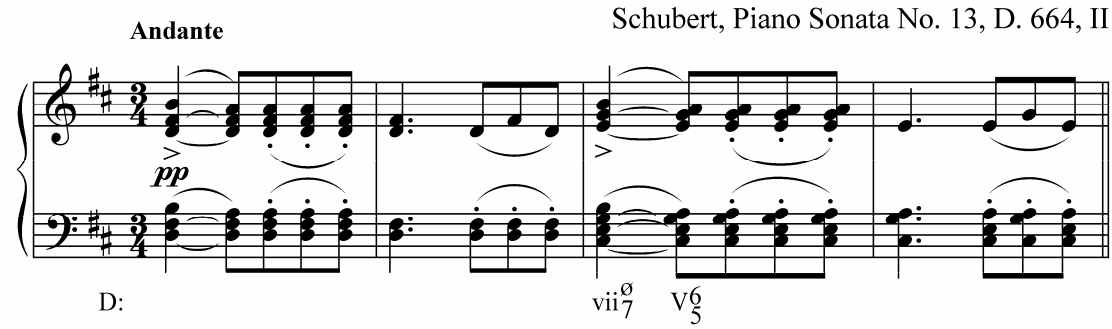
When used on the strong beat (or, if the tempo is slow, even on a relatively strong beat), $vii^{ø}{}_7$ ($vii^{o}{}_7$) may be understood as a V_7 with a non-chord tone.

In such case the *7th* of $vii^{ø}{}_7$ ($vii^{o}{}_7$) would move down by step to the root of V_7. When the other three (common) tones remain stationary:

a) $vii^{ø}{}_7$ ($vii^{o}{}_7$) becomes $V^6{}_5$;
b) $vii^{ø6}{}_5$ ($vii^{o6}{}_5$) becomes $V^4{}_3$;
c) $vii^{ø4}{}_3$ ($vii^{o4}{}_3$) becomes V_2;
d) $vii^{ø}{}_2$ ($vii^{o}{}_2$) becomes V_7.

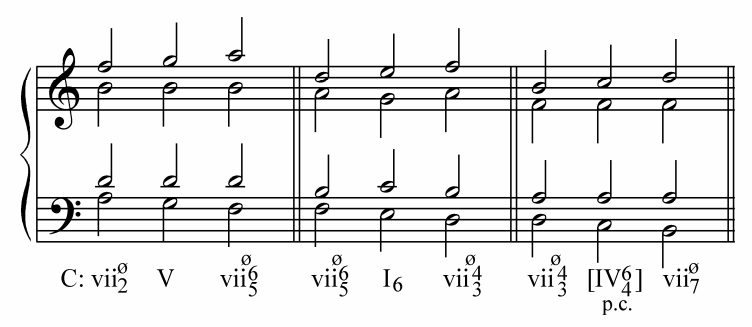


Schubert, Piano Sonata No. 13, D. 664, II

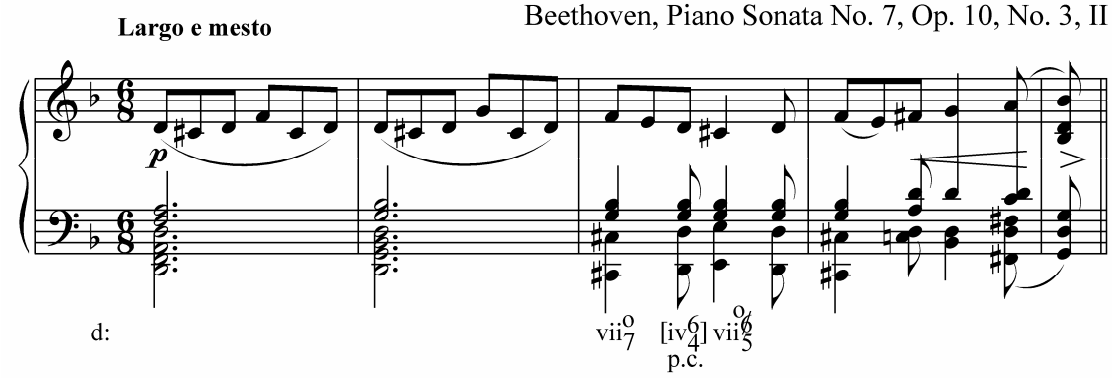


Use with Passing Chords

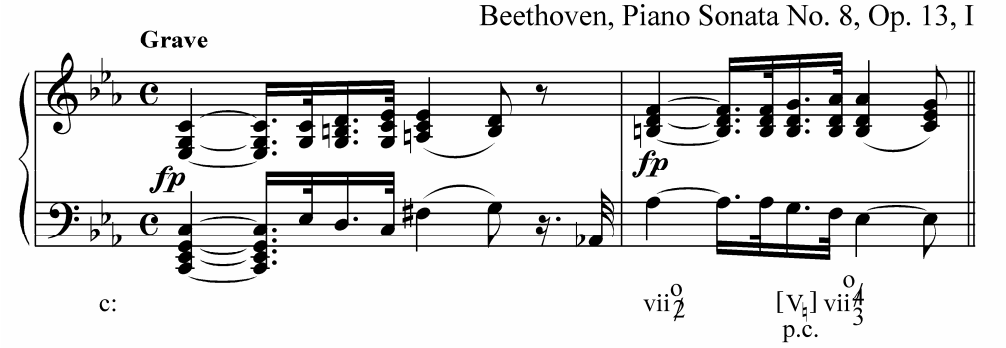
Passing chords of all three chord groups (tonic, subdominant and dominant) may be used between $vii^{ø}{}_7$ ($vii^{o}{}_7$) and its inversions.



Beethoven, Piano Sonata No. 7, Op. 10, No. 3, II



Beethoven, Piano Sonata No. 8, Op. 13, I

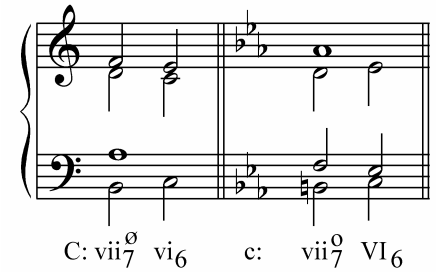


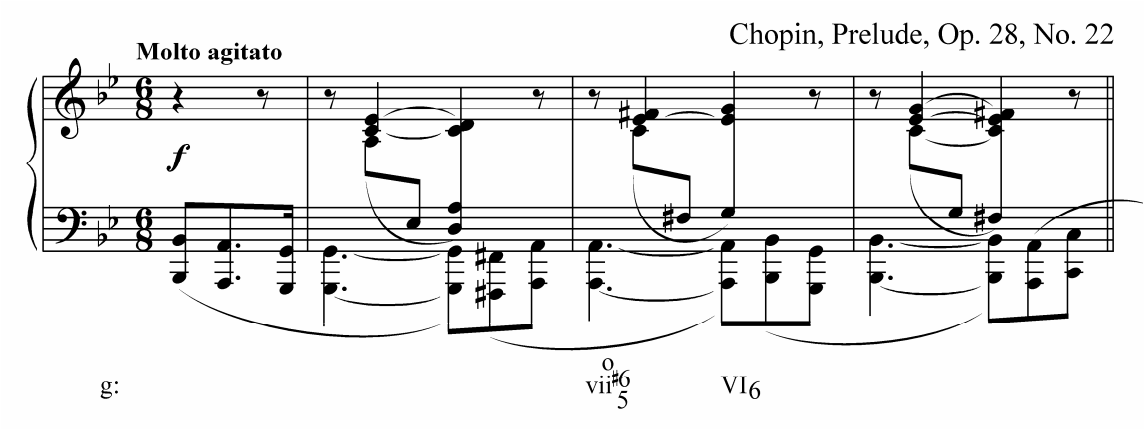
Use in Cadences

Since vii$^{ø}_{7}$ (vii$^{o}_{7}$) belongs to and functions as a chord of the dominant group, it can be sometimes found substituting V (V$_{7}$) in half authentic cadences (H.A.C.) and, no matter which inversions the chord is in when resolved to I or its inversions, it always forms an imperfect authentic cadence (I.A.C.) at the end of a unit. The lack of a strong leap from the dominant to the tonic (leap of a 4th), which can be found in V–I chord progression, explains why the cadence is imperfect.

Deceptive Resolution of vii$^{o}_{7}$

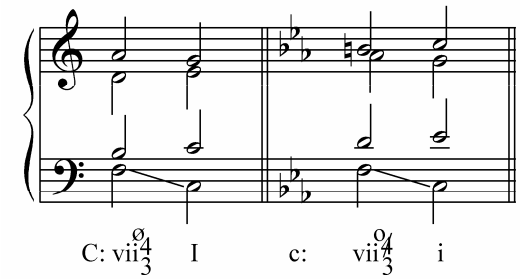
Sometimes vii$^{ø}_{7}$ (vii$^{o}_{7}$) can be found to resolve deceptively. In such case the seventh of vii$^{ø}_{7}$ (vii$^{o}_{7}$) would remain stationary.

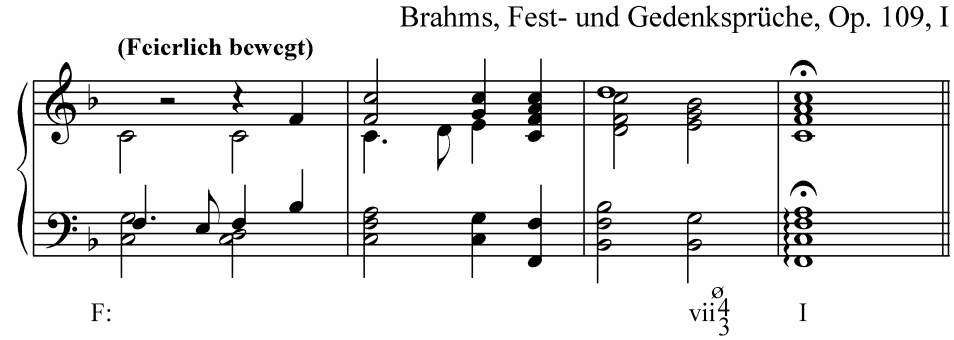




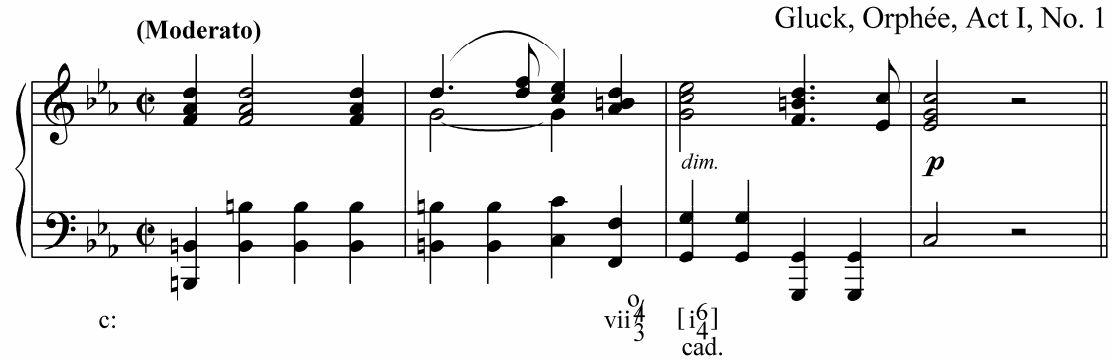
Subdominant Characteristics of vii$^{ø4}_{3}$ (vii$^{o4}_{3}$)

The note in bass of vii$^{ø4}_{3}$ (vii$^{o4}_{3}$) is the 4th degree of a scale, i.e., the *subdominant*. This makes vii$^{ø4}_{3}$ (vii$^{o4}_{3}$) to be used almost as a chord of the subdominant group (the 7th of the chord is also the 3rd of IV). vii$^{ø4}_{3}$ (vii$^{o4}_{3}$) moves directly to the root position I chord with the usual to a plagal progression motion a 4th down in bass from the 4th scale-degree to the 1st. Such progression is often used at the end of periods and can be analyzed as an *imperfect plagal cadence* (I.P.C.).



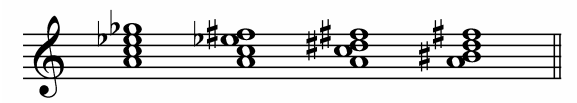


Due to the same subdominant character, vii$^{ø4}_{3}$ (vii$^{o4}_{3}$) can be also connected with the cadential I$^{6}_{4}$.



Enharmonic Equivalence of the Fully Diminished Seventh Chord

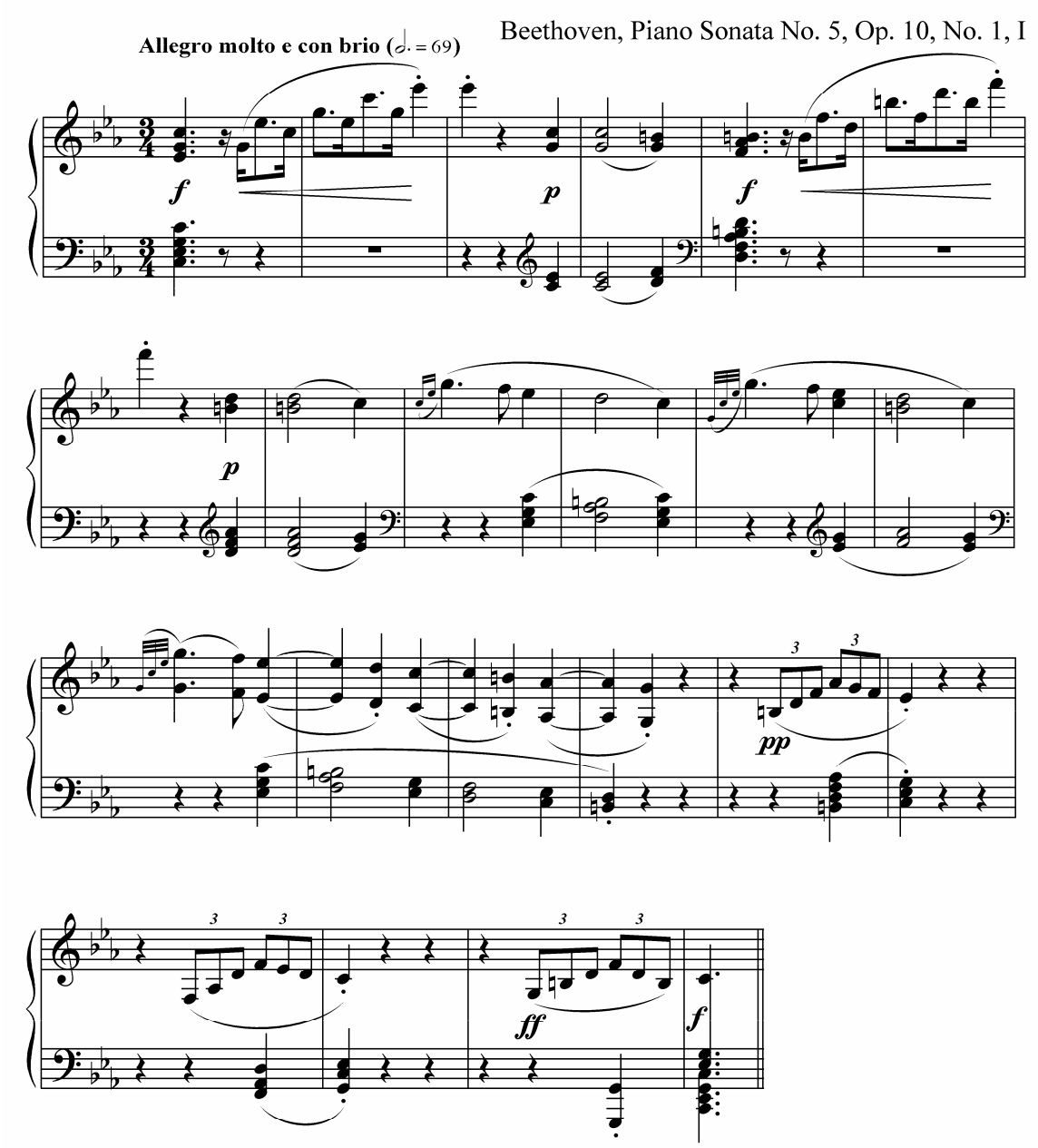
A fully diminished vii°$_7$ is different from a half diminished vii$^{ø}_7$ in that it consists of three *minor* 3rd's. The *augmented 2nd*, formed in the inverted chord between the 7th and root placed above it, is enharmonically equal to a minor 3rd. Thus, vii°$_7$ in root position sounds like its inversions if played without reference to any key.



Exercises

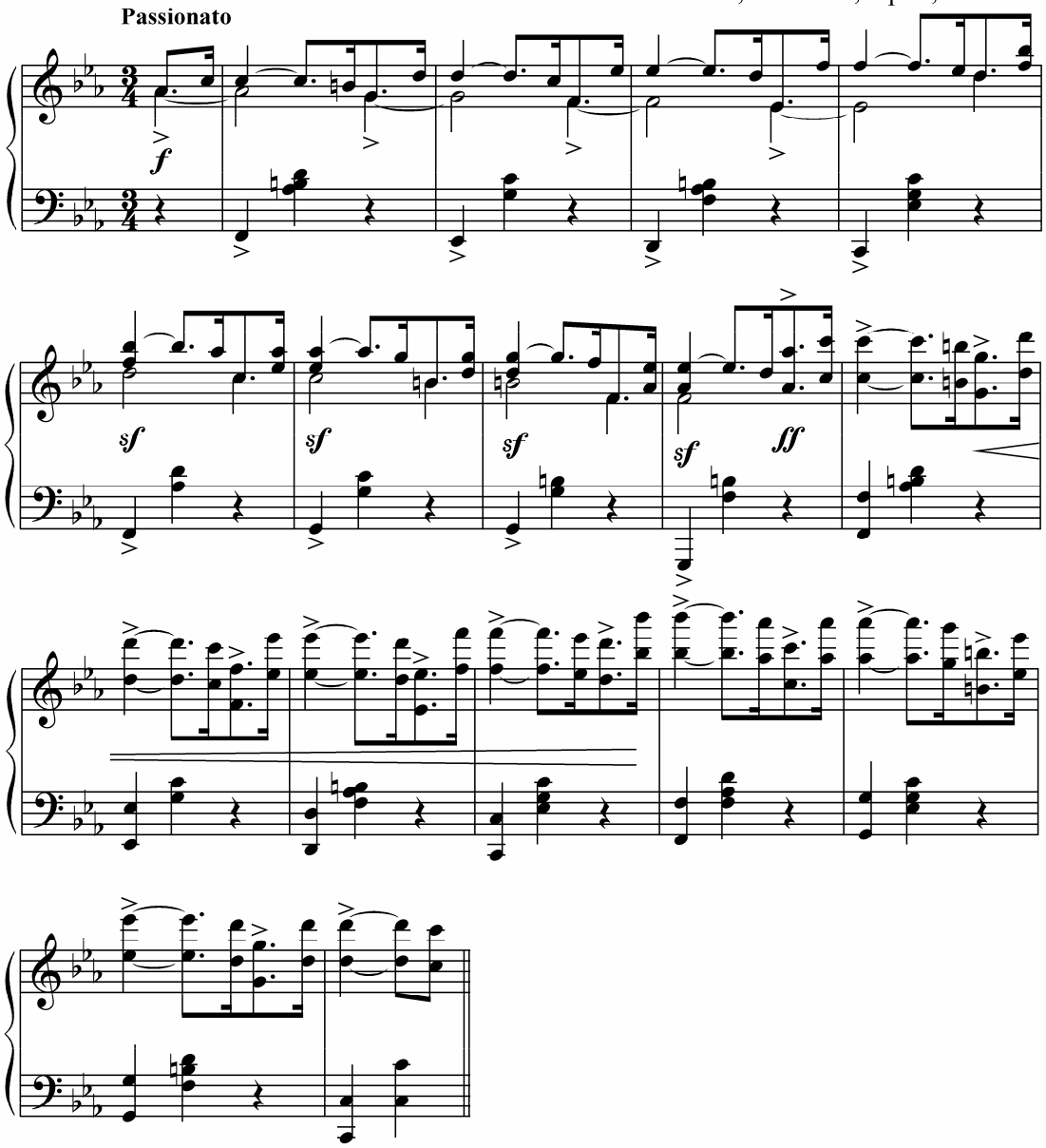
1. Analyze the following excerpts.

a)



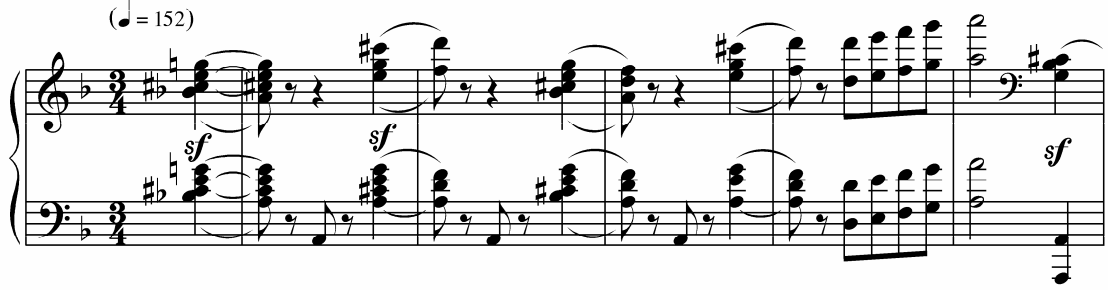
b)

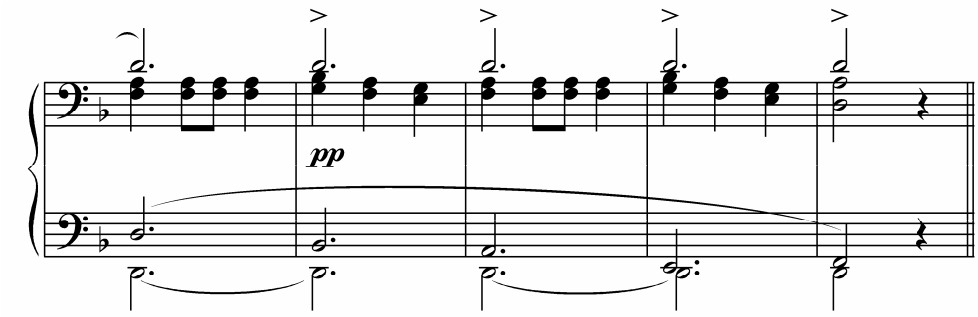
Schumann, Carnaval, Op. 9, Chiarina



c)

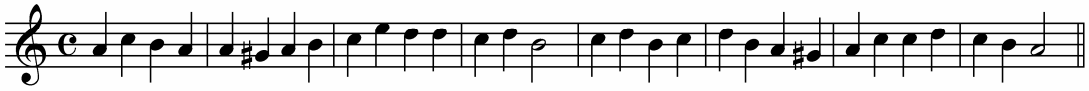
Schumann, Papillons, Op. 2, No. 6



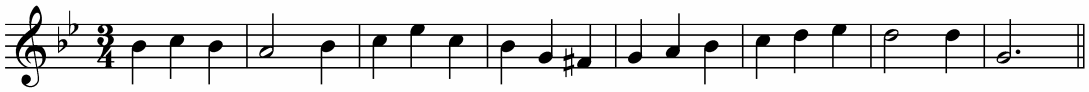


2. Harmonize the following melodies and realize the figured basses.

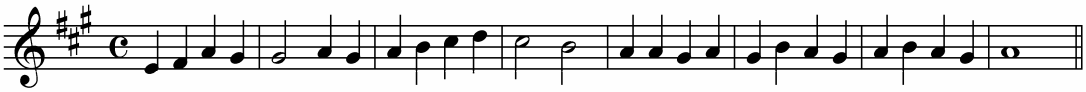
a)



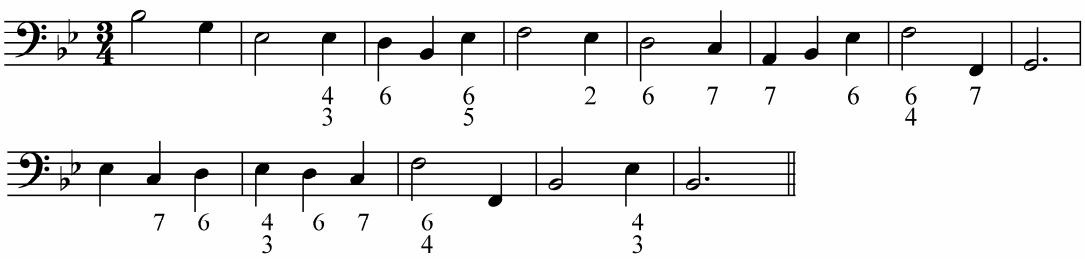
b)



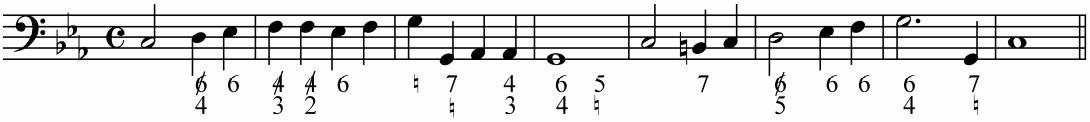
c)



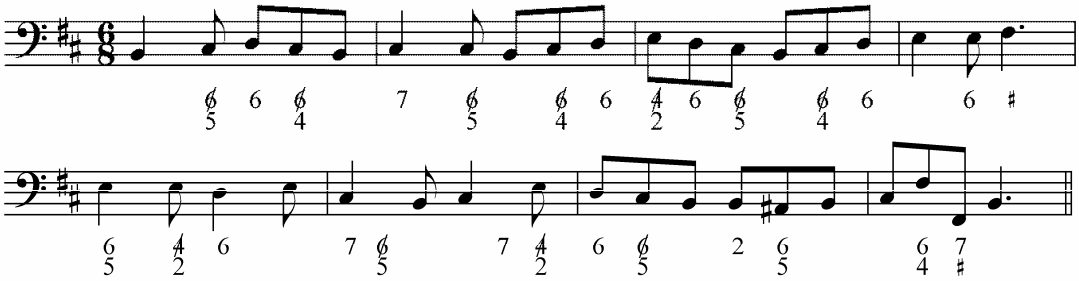
d)



e)

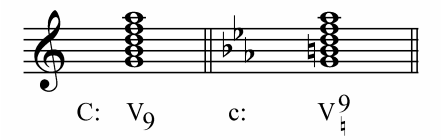


f)

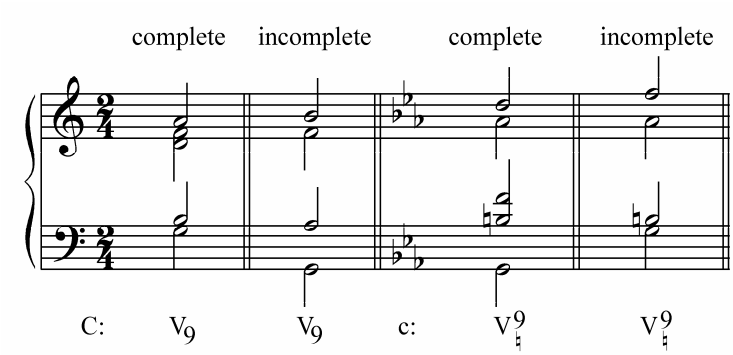


Identification and Structure

The *dominant ninth chord* (V_9) is a five-tone chord built on the 5th degree of a scale. It consists of a major 3rd, perfect 5th, minor 7th, and, depending on the mode, major or minor 9th.



In four-part harmony, the chord may be *incomplete*. Like in V_7, the *fifth* is usually omitted. The absence of the 5th doesn't affect the sounding of the chord. This is probably due to the fact that the 2nd overtone of the root of the chord, which is a perfect octave and 5th above it, partially makes up for the missing 5th. Anyway, all five notes may be present in the chord; one of the voices having two notes at the same time.

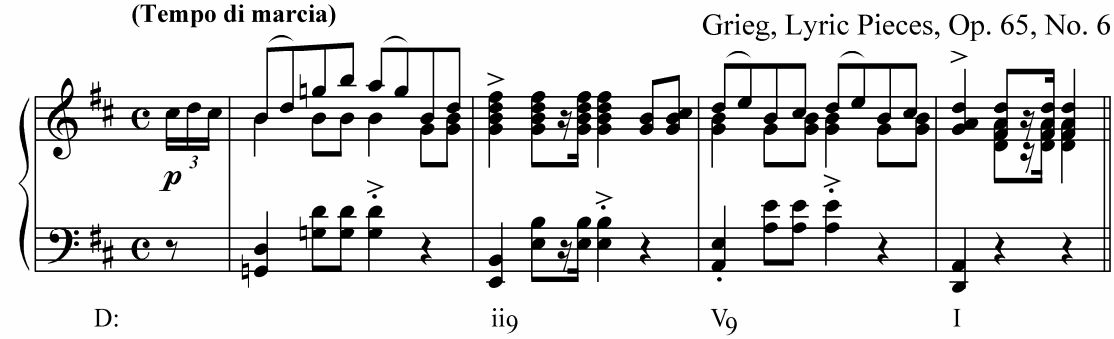


The inversions of the chord are *rarely used*[28] and *do not have* their own figured-bass symbols[29]. Thus, V_9 is used almost only in its *root position* but *not* as often as V_7 and V.

The chord can be in close, open or mixed spacings. The correct placement of the notes in V_9 is when the *root* and *9th* are in *different octaves*, i.e., they are at least a 9th apart (*see* Paragraph *Chord Repetition*.)

V_9 belongs to the dominant group of chords and, though having more notes than V_7, it doesn't sound as strong and functionally active as V_7. This can be explained by the fact that the chord consists of not only the notes of V but also of two notes from IV (or three notes from ii). Thus, the composers used the chord not because of its strong tendency to move to I but because of its *specific color*.

V_9 may be sometimes found in cadences, though it is usually *not* used in half authentic ones. The cadential I^6_4 may be placed before it in perfect or imperfect authentic cadences.



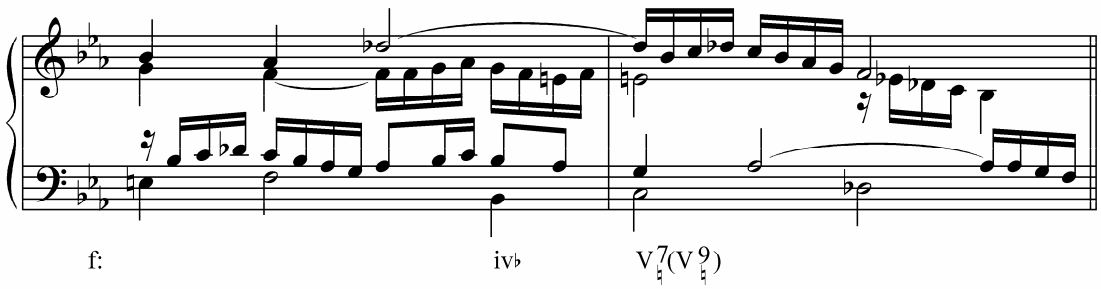
[28] If the root is placed in an upper voice, i.e., an inversion of V_9 is used, the dominant function of the chord becomes weaker. In such case the chord is better understood as an inverted V_7 with a nonchord tone.

[29] Anyway, if an inversion of V_9 is used, since there are no special figured-bass symbols to identify each inversion, a root position figured-bass symbol is used instead.

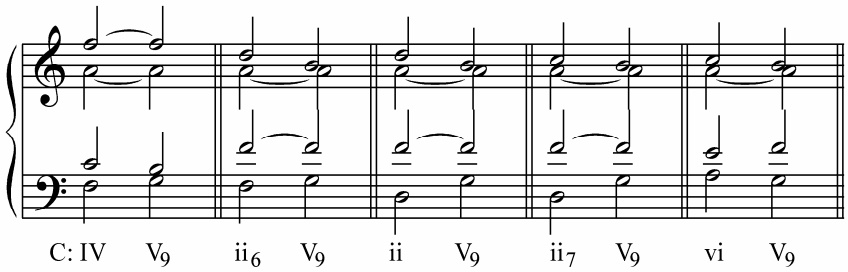
Preparation

V_9 was born from the suspension of the tones of subdominant chords when moving to V and V_7.

Bach, Well-Tempered Clavier, Vol. 1, Prelude in E♭ Major

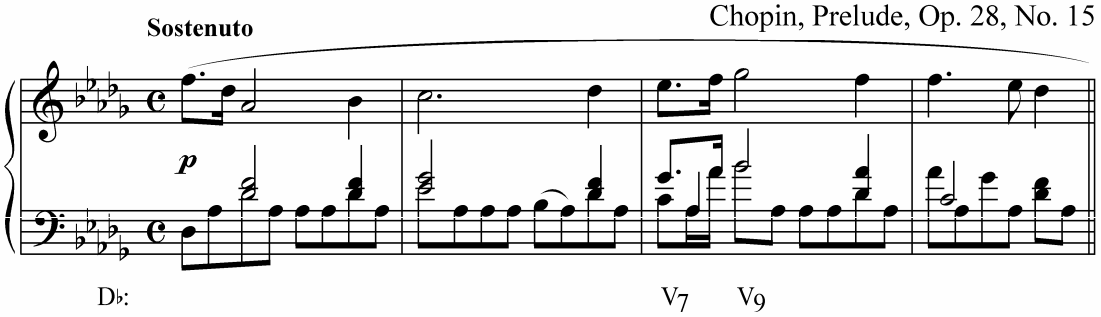


That is why the chords of the subdominant group (IV, ii_6, ii, ii_7, and rarely vi) are often found before V_9. These chords are connected *harmonically* with V_9; the common tones remaining stationary and becoming the (prepared) *7th* and *9th*.

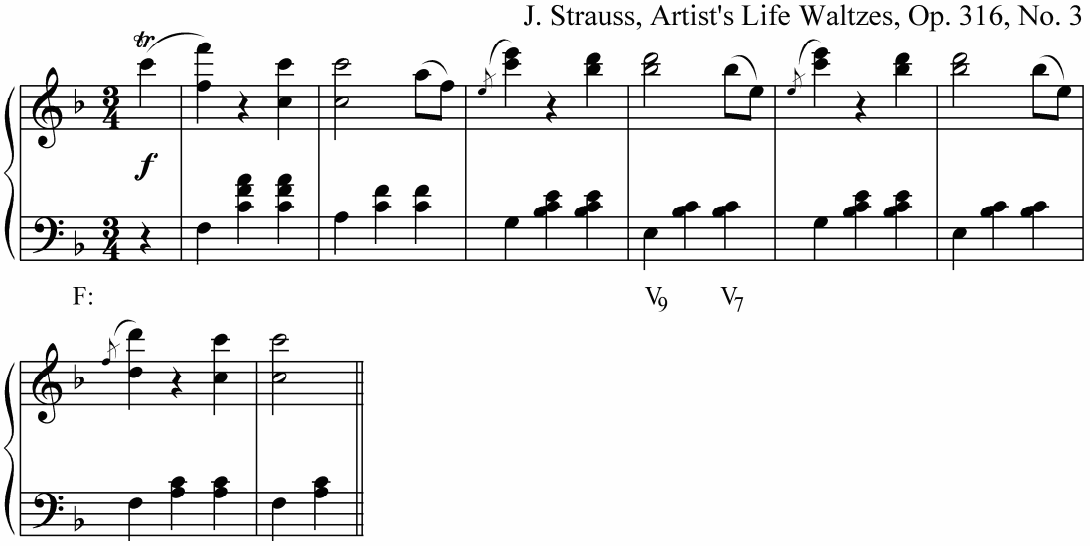


Like any chord of the dominant group, V_9 can be used after I, cadential $I^6{}_4$, V_7 and V. If V_9 follows V_7, the 7th of V_7 often moves to the 9th of V_9 (the cases, in which the 9th of V_9 moves to the 7th of V_7, can be also found sometimes).

Chopin, Prelude, Op. 28, No. 15



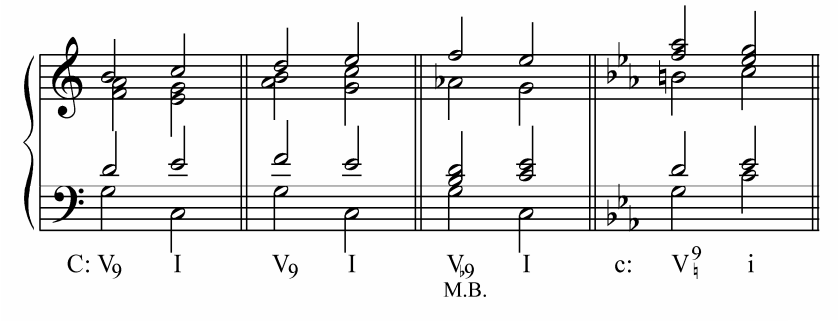
J. Strauss, Artist's Life Waltzes, Op. 316, No. 3



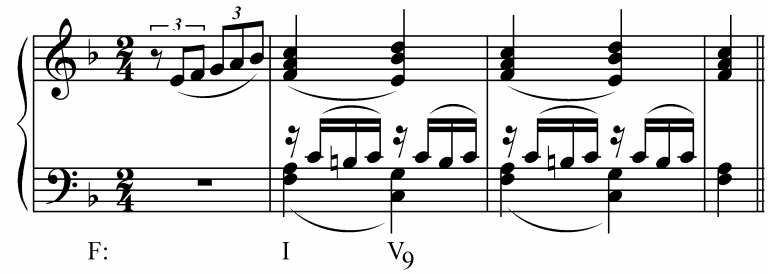
Resolution

Like all chords of the dominant group, V_9 resolves to I.

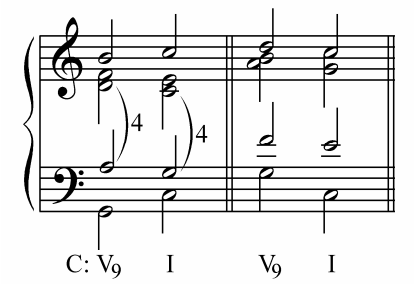
The five-tone (*complete*) V_9 resolves to I in the following way: the root of V_9 leaps to the root of I while the other four notes move like the notes of *vii*$^{ø}{}_{7}$ *(vii*$^{o}{}_{7}$*)*, i.e., the root and 3rd (3rd and 5th of V_9) move by step up, the 5th and 7th (7th and 9th of V_9) move by step down. Parallel 5th's are avoided in such resolution, and it results in the doubled *root* and *3rd* in I.



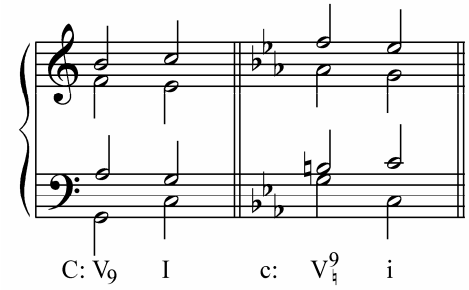
Tchaikovsky, The Nutcracker, Act I, Scene 1, No. 5



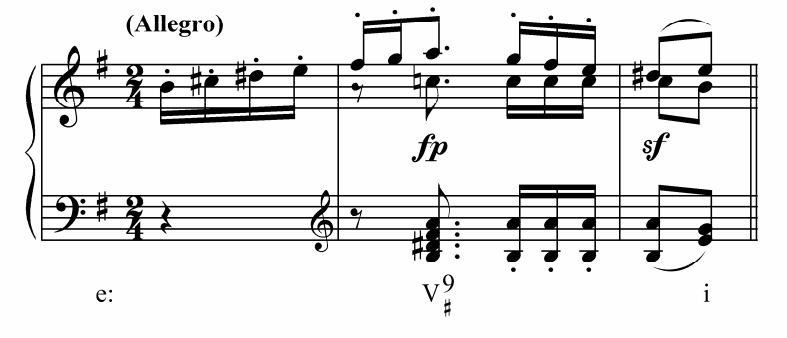
When the notes of V_9 are placed in such a way so that there are no parallel 5th's but *parallel 4th's*, the 5th of V_9 (the 3rd of vii$^{ø}{}_{7}$) may move by step *down*. Such resolution results in the *tripled root*.



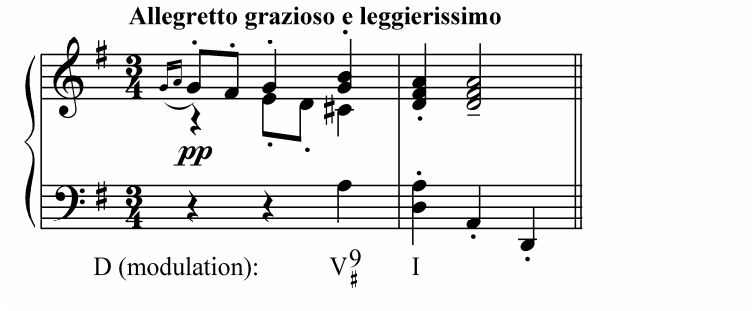
Very often the *5th* is omitted in V_9 (*incomplete*). The voice leading in the resolution of the incomplete V_9 to I is the same as in the resolution of the complete V_9. The incomplete V_9 resolves to the complete I (i) chord.



Beethoven, Cello Sonata No. 2, Op. 5, No. 2, III

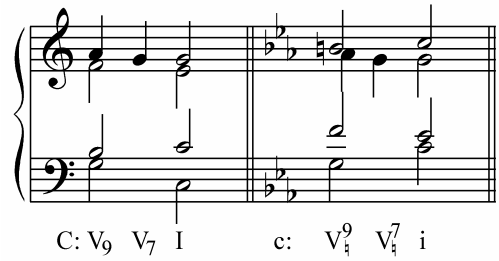


Grieg, Lyric Pieces, Op. 68, No. 2, Grandmother's Minuet

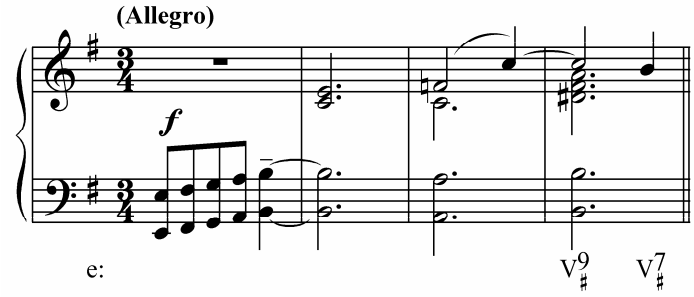


V_9 as V_7 with a Nonchord Tone

Similar to vii$^{ø}{}_7$ (vii$^{o}{}_7$), V_9 can be understood as V_7 with a nonchord tone (the 9th of V_9). In such case the 9th moves by step down *doubling* the root of V_7, while the other notes *remain stationary* (except for bass which may leap an octave up or down).

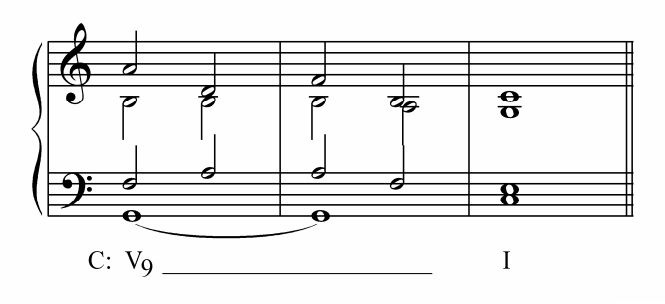


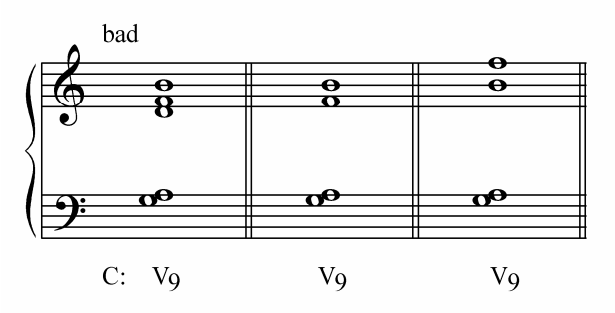
Beethoven, Piano Sonata No. 27, Op. 90, I



Chord Repetition

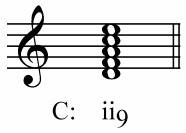
Like any other chord, V_9 may be repeated with the change of the chord tone in soprano and its spacing. To avoid "dirtiness" of the sound, one must be sure *not to place the 9th* of V_9 a *2nd above* its *root* (bass).



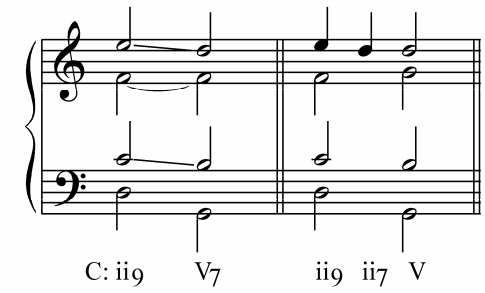


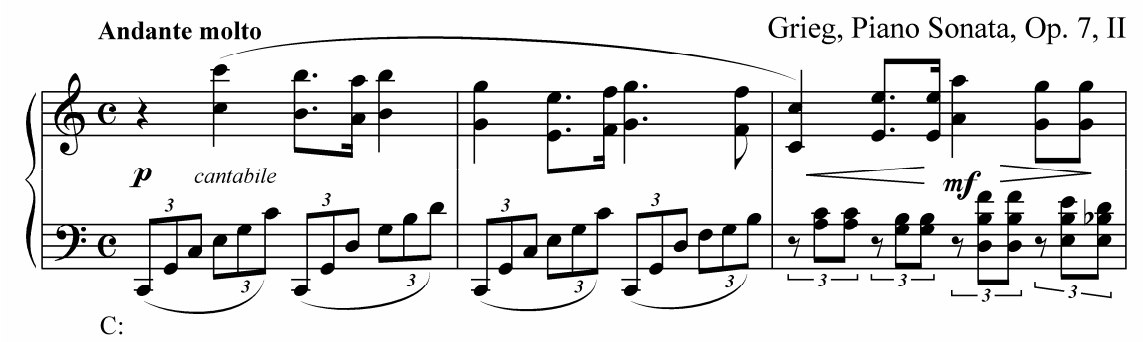
The Supertonic Ninth Chord

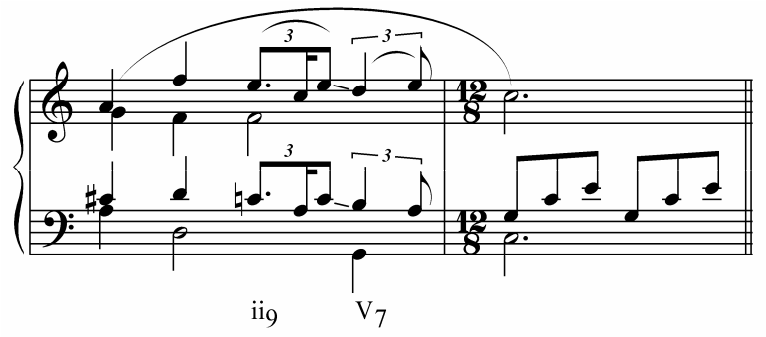
The only ninth chord, which can be found in the music of Haydn, Mozart and Beethoven, is V_9. In the music of the later period, such composers as Chopin, Grieg and some others started to use the *supertonic ninth chord* (ii_9). Built on the 2nd scale-degree, it is mostly found in major keys. The chord is more dissonant than ii_7. It can be both *complete* and *incomplete* (omitted 5th).



ii_9 may be used before V_7 or V_9 with its 7th and 9th moving by step down or its 9th understood as a non-chord tone used together with ii_7.





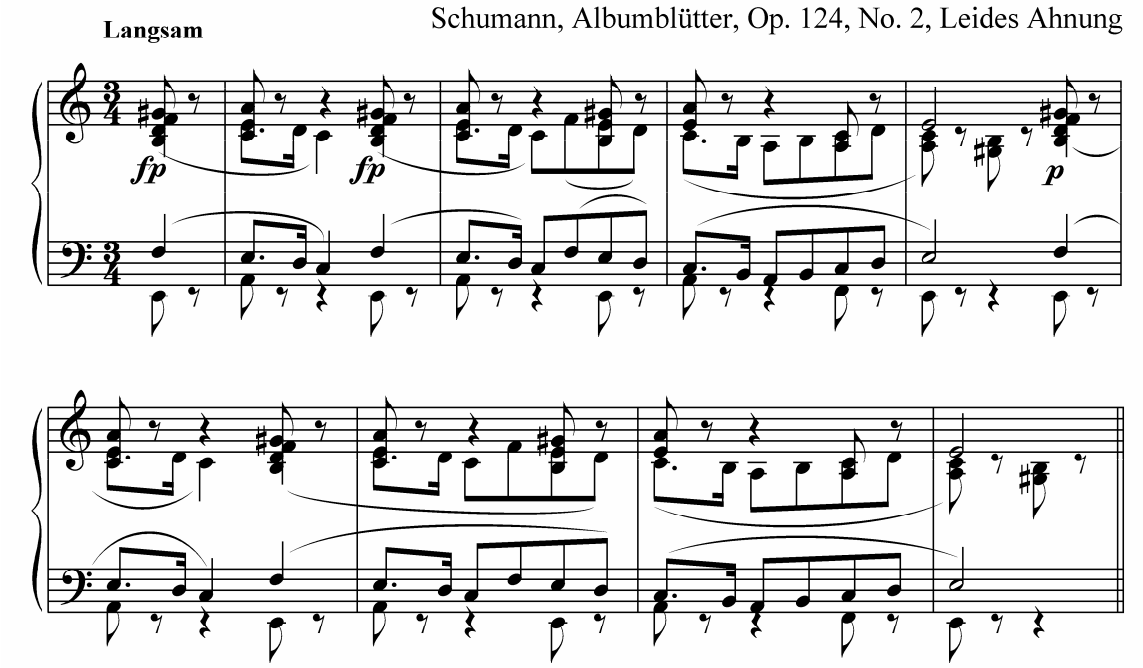


Exercises

1. Analyze the following excerpts.

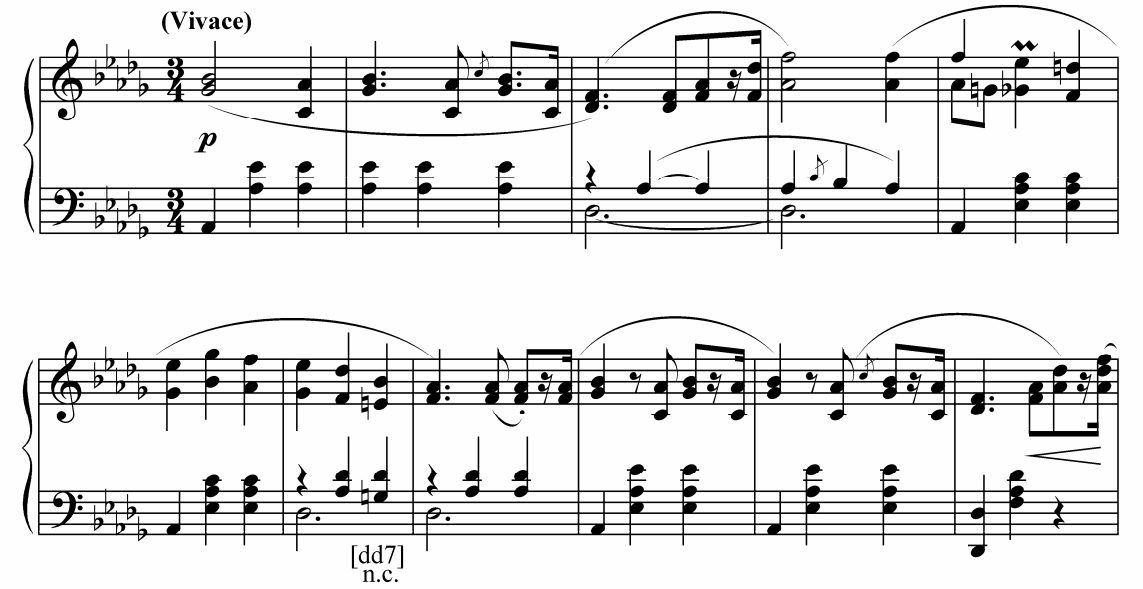
a)

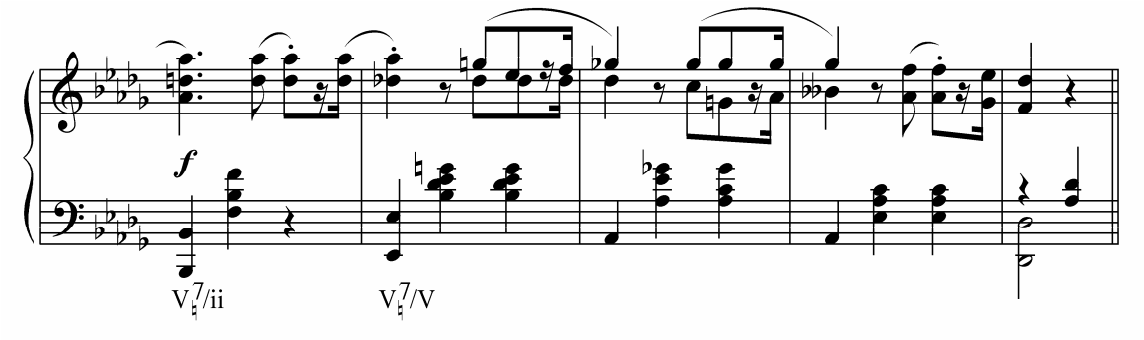
Schumann, Albumblütter, Op. 124, No. 2, Leides Ahnung



b)

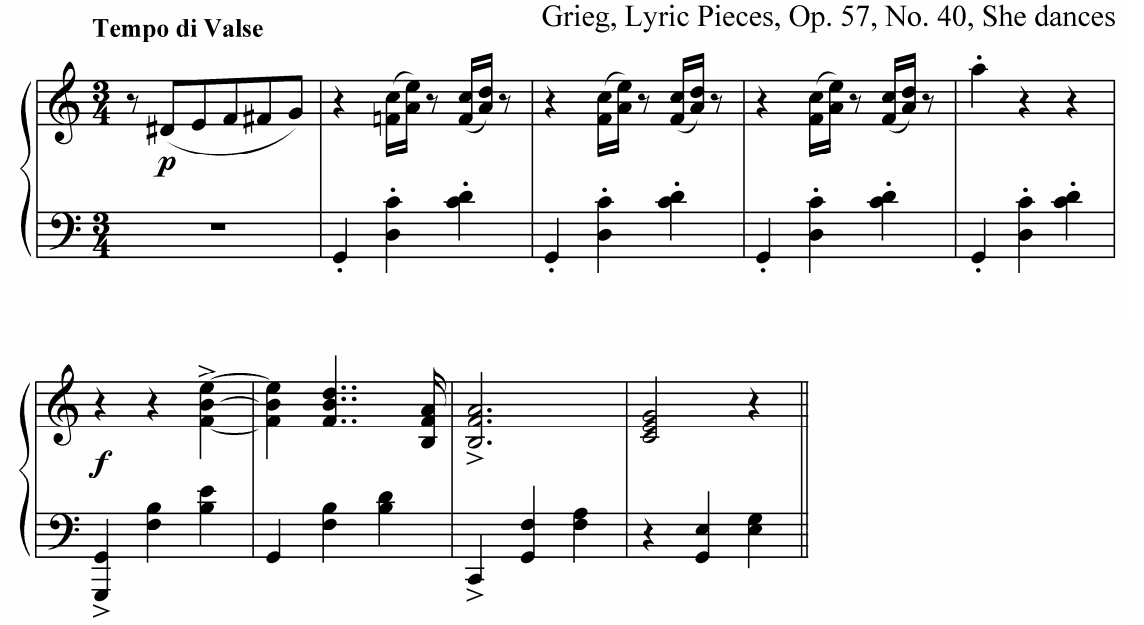
Chopin, Waltz, Op. 34, No. 1



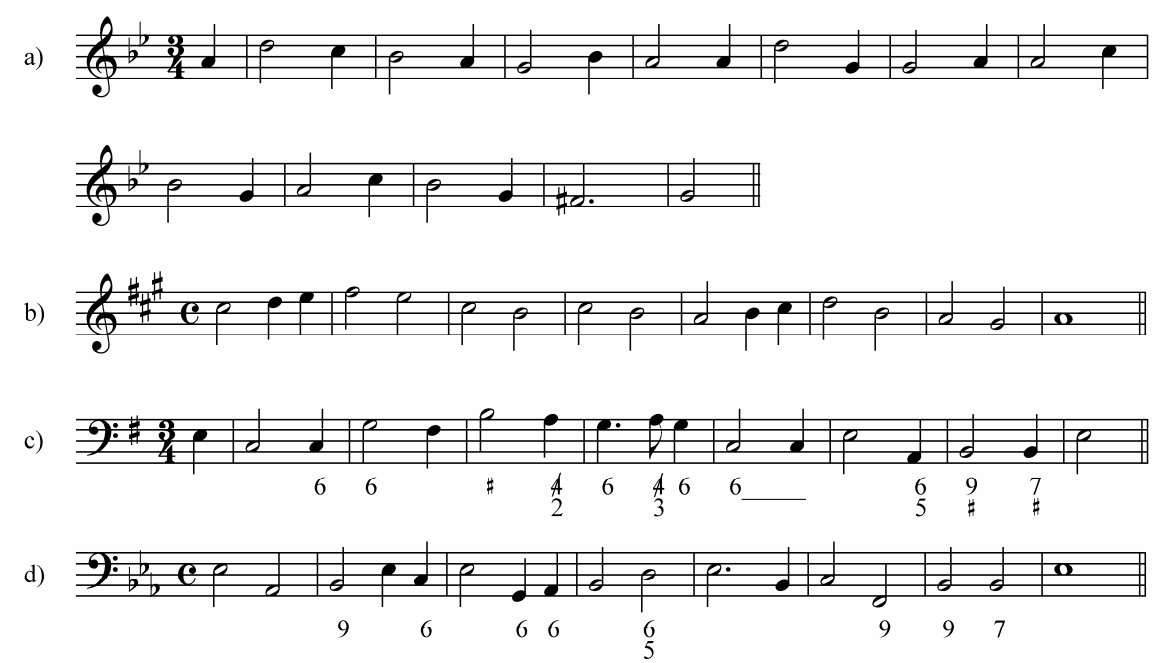


c)

Grieg, Lyric Pieces, Op. 57, No. 40, She dances



2. Harmonize the following melodies and realize the figured basses.



The Leading Tone Triad in First Inversion

The leading tone triad (vii^{o}) is used almost only in its 1st inversion (vii$^{o}_{6}$).
It sounds similar to V^{4}_{3} and differs from it in that the dominant note (the root of V^{4}_{3}) is missing.

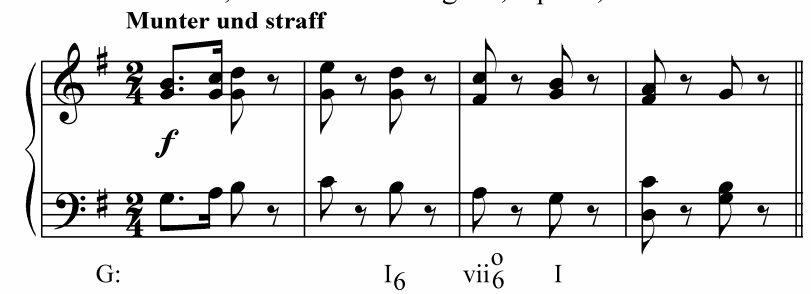
Doubling

The 3rd, which is in bass, is normally doubled in vii$^{o}_{6}$. The 5th may be rarely doubled. The root (leading tone) is *never doubled*.

Use

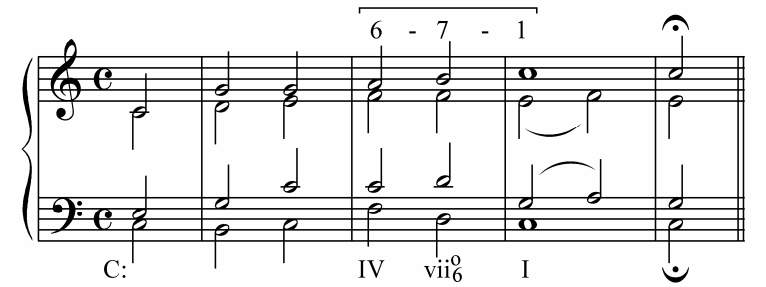
vii$^{o}_{6}$ is often used as a passing chord between I and I_6 (or vice versa). This is similar to the passing V^{6}_{4}.

Schumann, Album für die Jugend, Op. 68, Soldatenmarsch

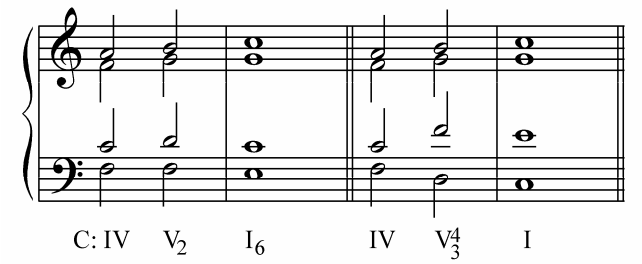


If one of the upper voices (more often soprano) moves from the 3rd of IV (submediant) through the leading tone to the tonic (6–7–1), it is difficult to make a correct connection of IV with V because of the upward motion of that voice. In such melodic progression, vii$^{o}_{6}$ usually substitutes V.

Teschner, Schatz über alle Schätze

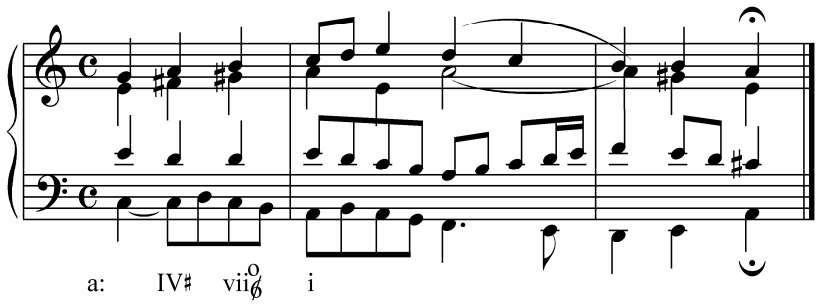


Though it is possible to use V_2 or V^{4}_{3} instead with such melodic line.



In a minor key, *major* IV (ascending melodic minor) is usually used before vii$^{o}_{6}$ in order to avoid the *augmented 2nd* between the 3rd of iv and the leading tone.

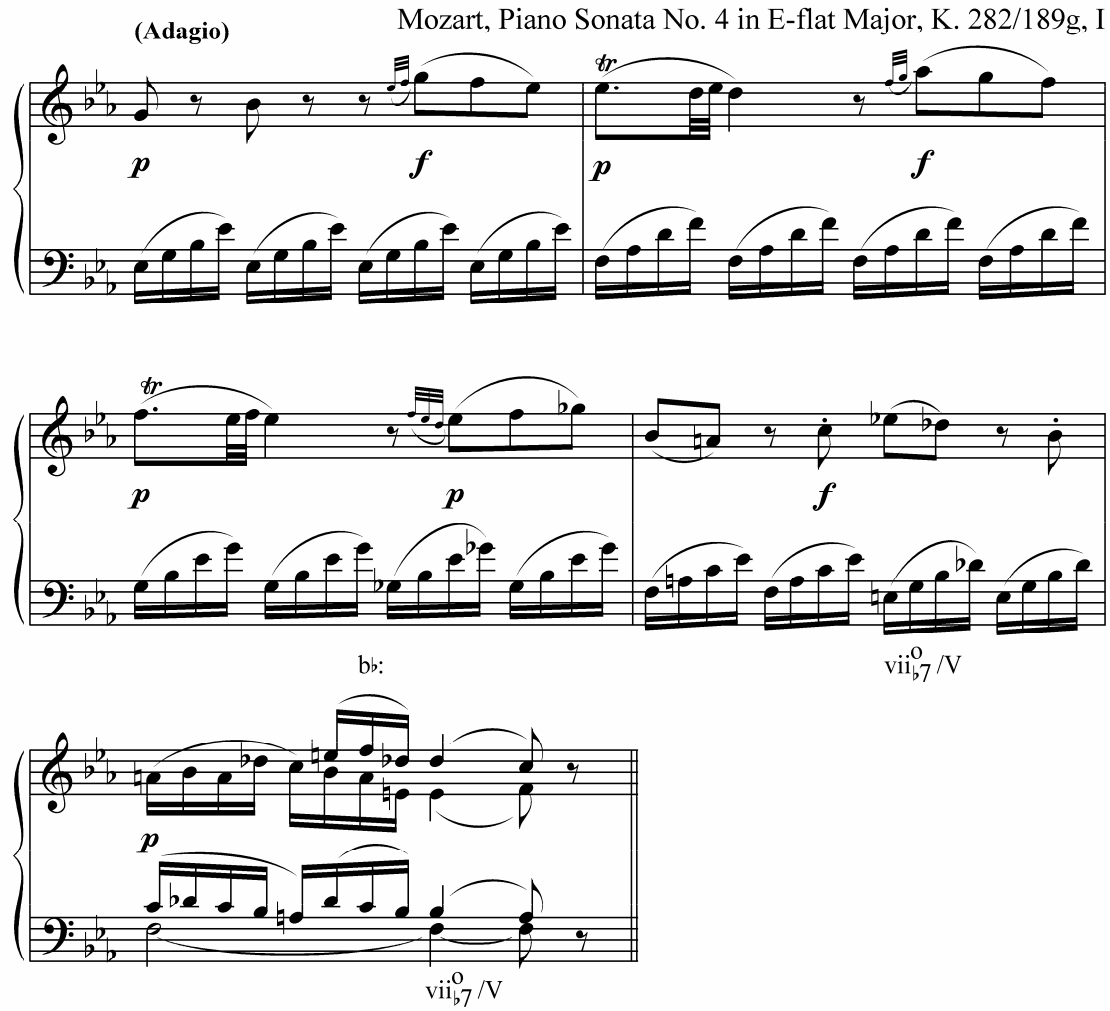
Bach, Allein zu dir, Herr Jesu Christ, BWV 33, Choral



Exercises

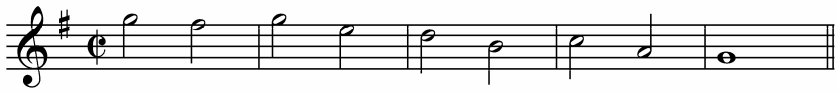
1. Analyze the following excerpt.

Mozart, Piano Sonata No. 4 in E-flat Major, K. 282/189g, I

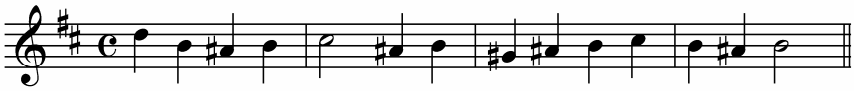


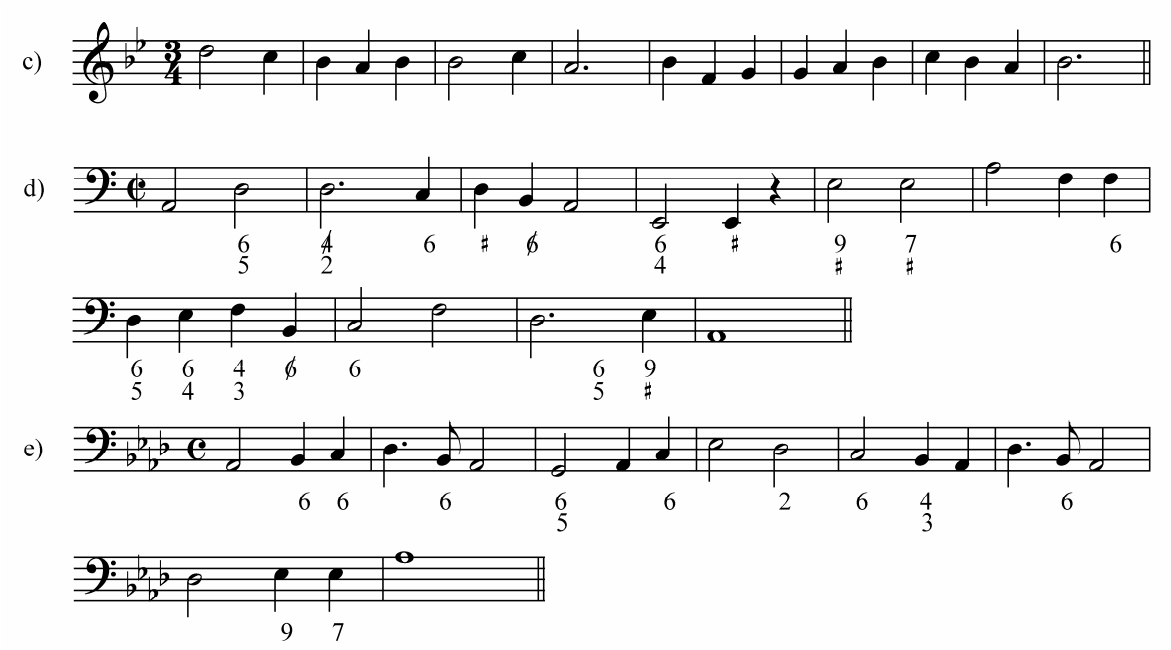
2. Harmonize the following sopranos and realize the figured basses.

a)



b)





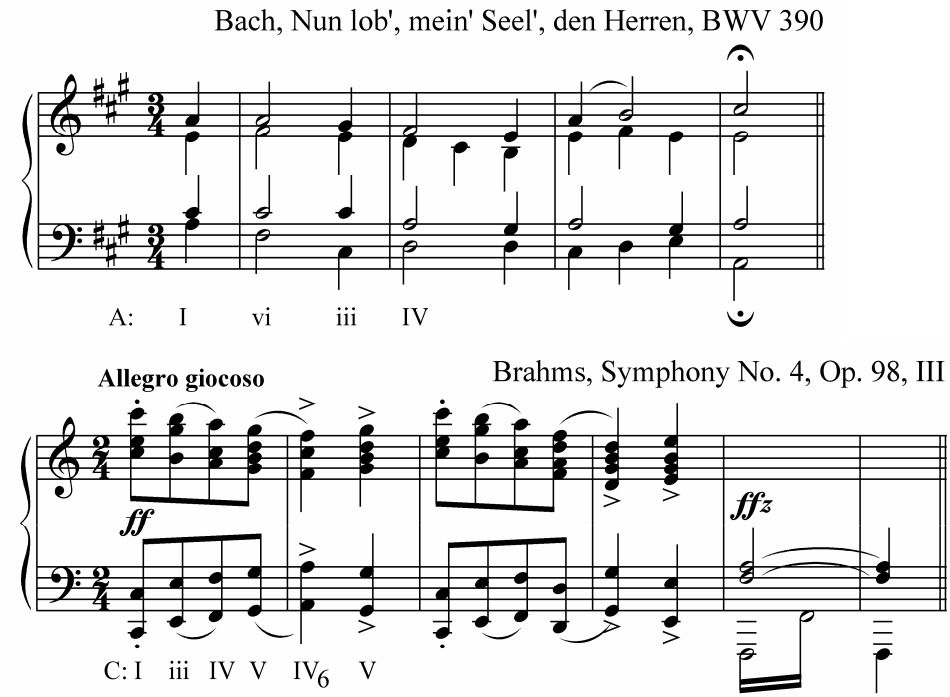
The Mediant Triad in Major

The mediant triad (minor triad (iii) in major and major triad (III) in minor) is rarely used in the music of classical period probably due to its bi-functional qualities (presence of the leading tone from V, the mediant from I and the dominant which is the 5th of I and, at the same time, the root of V).

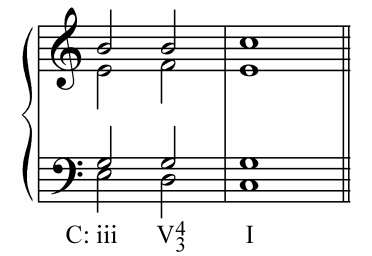
This bi-functionality of iii reduces the tension of its 5th (leading tone) and allows using IV after it (as if after I).

Use

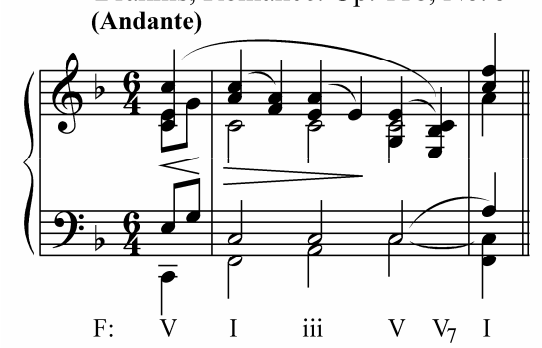
The most suitable use of iii is when the 7th scale-degree moves by step *down*. I or vi may be used before iii; IV or, sometimes, vi is used after it.



It is also possible to find iii moving to I through $V^4{}_3$ or, sometimes, V or V_7 (iii–$V^4{}_3$–I). In such case iii functions more like the chord of the dominant group.

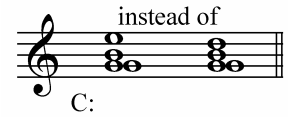


Brahms, Romance. Op. 118, No. 5



Dominant Chords with the Substituted 6th

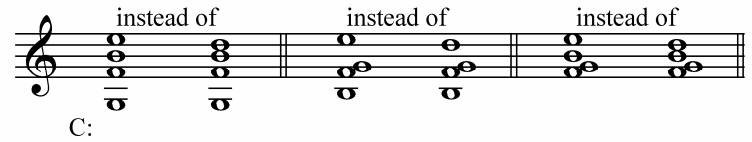
The 5th of V may be substituted with a 6th (when counting from bass) in both major and minor keys; the note (the root of V) in bass being doubled.



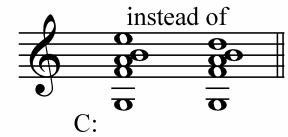
This chord may be understood as iii_6 with the doubled 3rd.

The 6th, which substitutes the 5th, is almost always in soprano.

It is also possible to substitute the 5th with the 6th in V_7 (sometimes in $V^6{}_5$ and V_2) as well. Here the 6th is usually also in the upper voice.

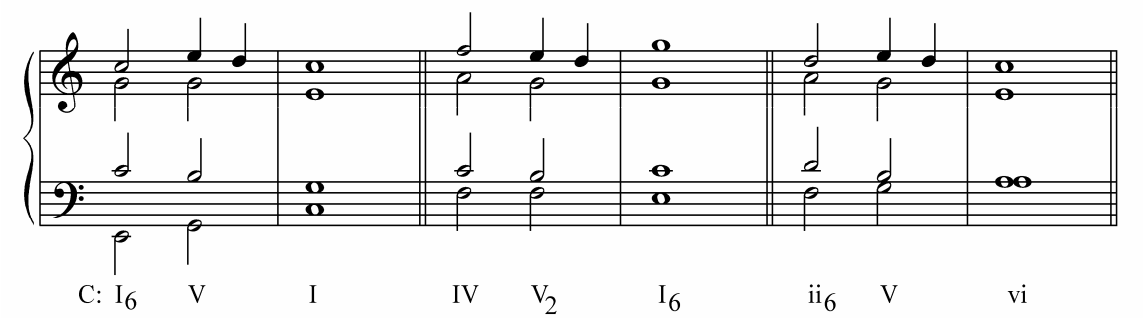


Rarely, it is even possible to find V_9 with the 6th substituting the 5th of the chord.



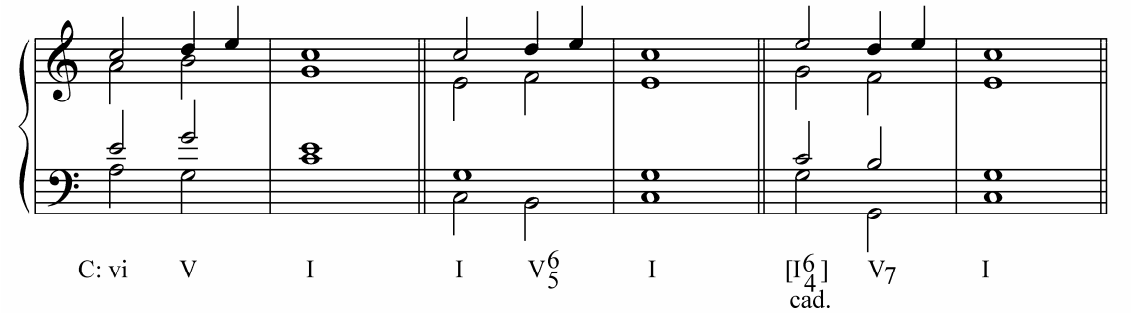
Use

V or V_7, in which the 5th is substituted with the 6th, can be often found in *cadences*. V or V_7 with the 6th may appear after I, IV, ii and cadential $I^6{}_4$. When the 6th moves to the 5th before the chord is resolved, it may be also understood as a *nonchord tone*.

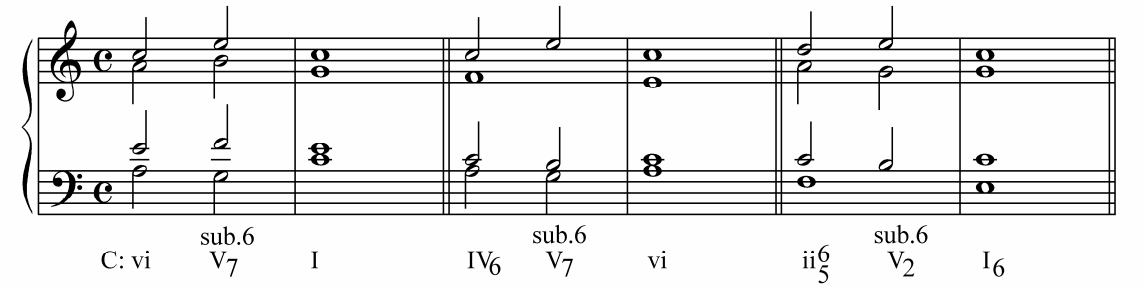


V or V_7 with the 6th may be used instead of the cadential $I^6{}_4$ or right after it. In the latter case, only the 4th of the cadential $I^6{}_4$ would resolve a step down while the 6th would remain stationary.

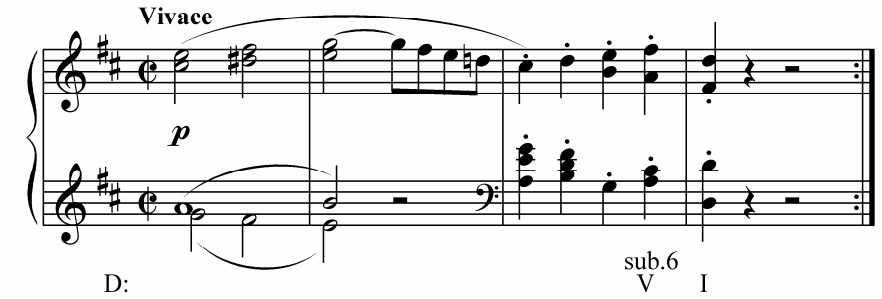
The 5th of V or V_7 may move by step up to the 6th (while the other chord tones still remaining stationary) and then resolve a 3rd down. In this case, this 6th may be understood as an *escape tone* proceeding to the note of the chord of the tonic group (I, vi).



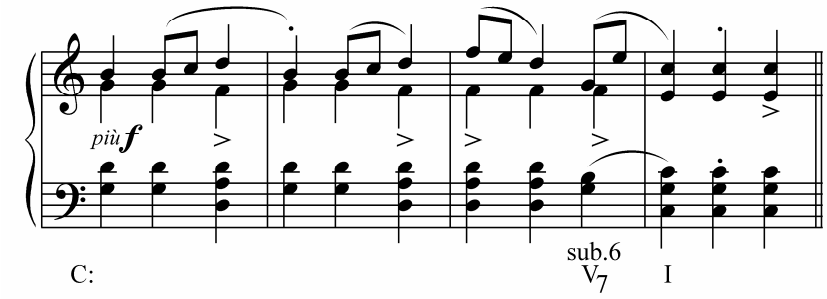
It is sometimes possible to find such cases in which V or V_7 with the substituted 6th would resolve directly to I or vi without prior motion of the 6th to the 5th (or vice versa). In such case, the substituted 6th (mediant) would directly move a 3rd down to the tonic or remain stationary. Rarely, it would move a 3rd up (to the 5th of I (dominant)).



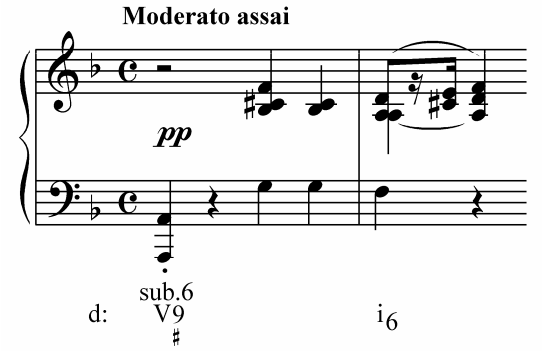
Haydn, Symphony No. 101 in D major, Hob. I: 101, IV



Chopin, Mazurka, Op. 24, No. 2



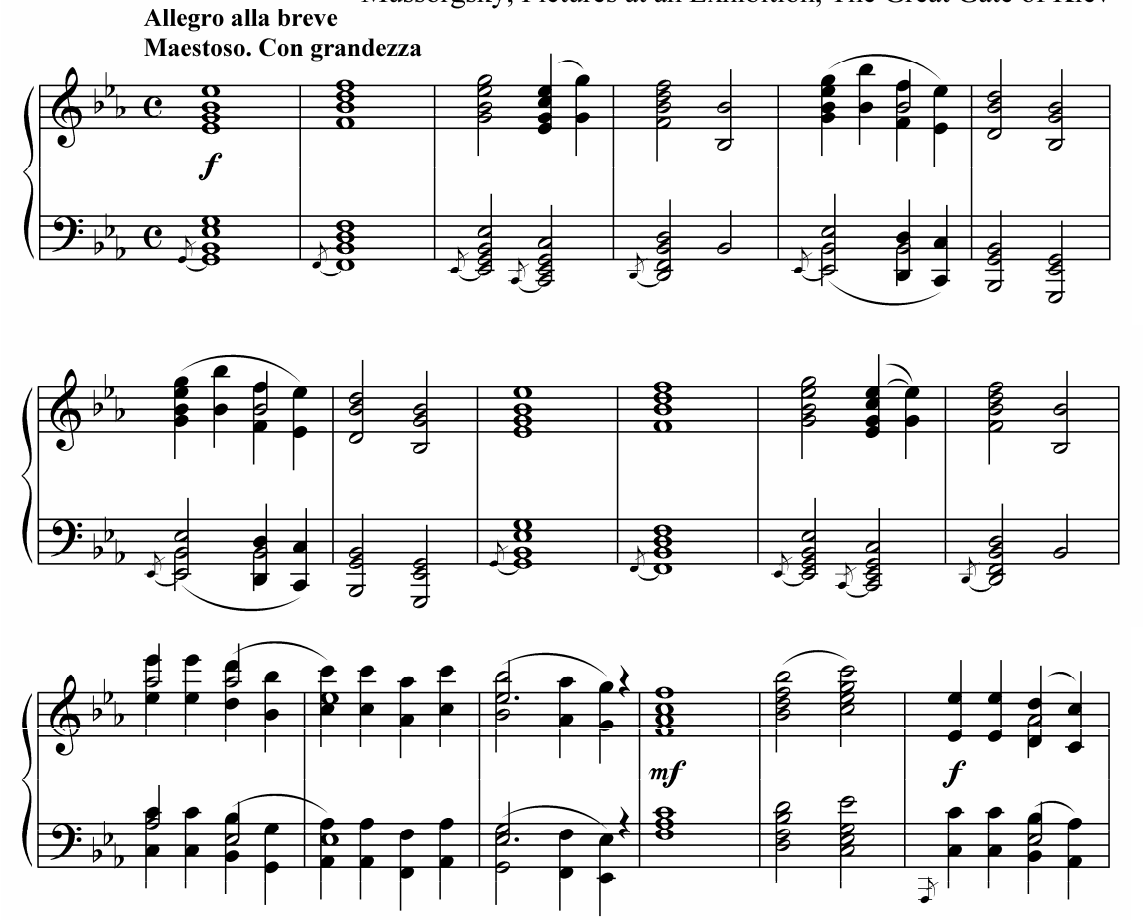
Tchaikovsky, Symphony No. 3, Op. 29, I

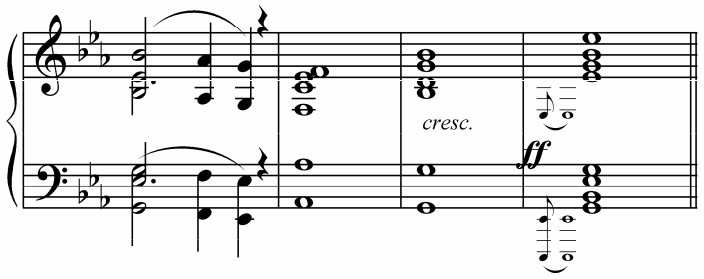


Exercises

3. Analyze the following excerpts.
   a)

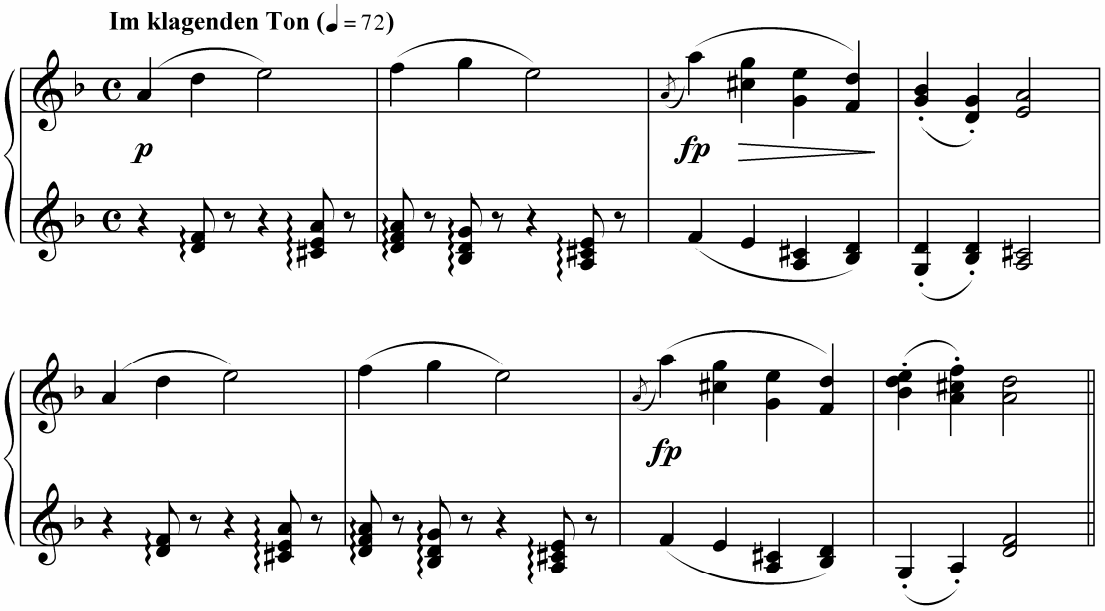
Mussorgsky, Pictures at an Exhibition, The Great Gate of Kiev



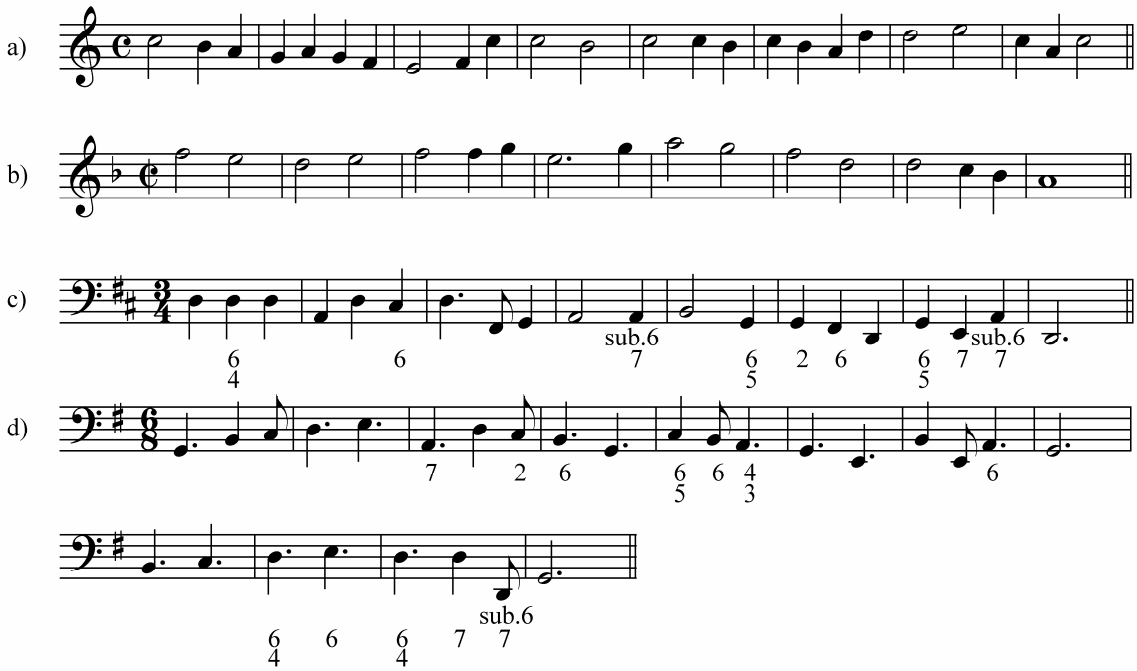


b)

Schumann, Album für die Jugend, Op. 68, No. 9, Volksliedchen



4. Harmonize the following sopranos and realize the figured basses.



Preliminary Information

Major and minor modes are not always used independently from one another, sometimes the chords of one mode may be used in another.

When chords from a minor key are used in a major key, or vice versa, it is called *modal borrowing* (M.B.) (modal mixture or modal interchange).

The major and minor keys which borrow chords from one another may be *parallel* (i.e., the keys with the same tonic note (C major–C minor, for example)) or *relative*[30] (i.e., the keys with the same key signature (C major–A minor)).

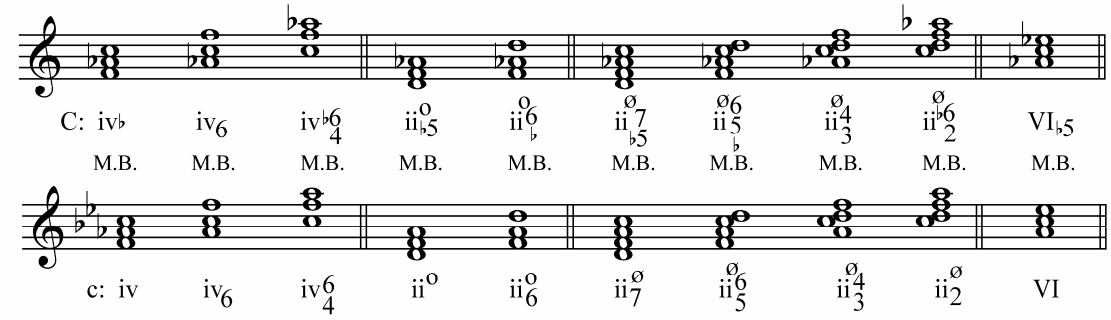
The modal borrowing between parallel keys can be found more often than the modal borrowing between relative keys. The borrowing of chords from a minor key to its parallel major key can be found more often than the borrowing from a major key to its parallel minor key.

Besides the Roman numeral showing the chord quality as well as the figured bass symbols, the letters M.B. should be added to show that the chords are modally borrowed.

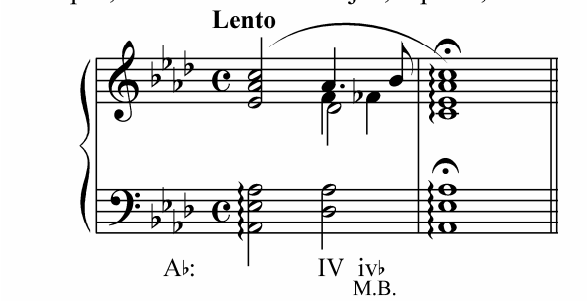
Borrowing Chords from Parallel Minor

a. Subdominant Group

The first chord to be modally borrowed from a minor key to its parallel major was the minor iv. Later, the other subdominant chords, two a 3rd below (ii° and ii°$_7$) and one a 3rd above (VI, also called "Flat Sixth Chord") their primary triad, started to be used as well. Thus, the *complete subdominant group of the parallel minor key* used in the major key is as follows.



Chopin, Nocturne in A♭ Major, Op. 32, No. 2

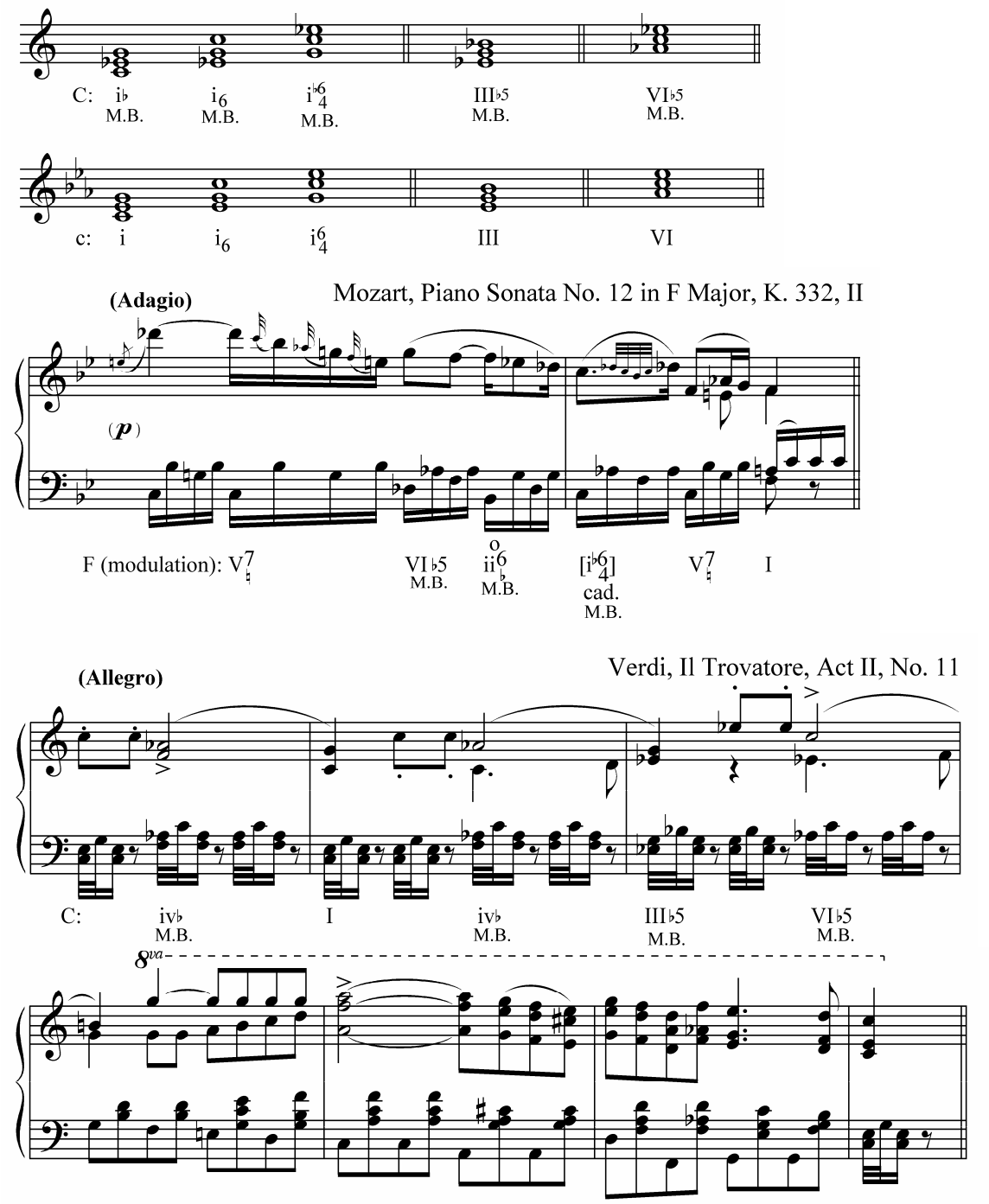


The modally borrowed chords of subdominant group are used quite often. As in a minor mode, ii° is almost only used in 1st inversion (ii°$_6$). Besides its subdominant function, VI may have tonic function as well.

[30] The modal borrowing from a relative key will be discussed later.

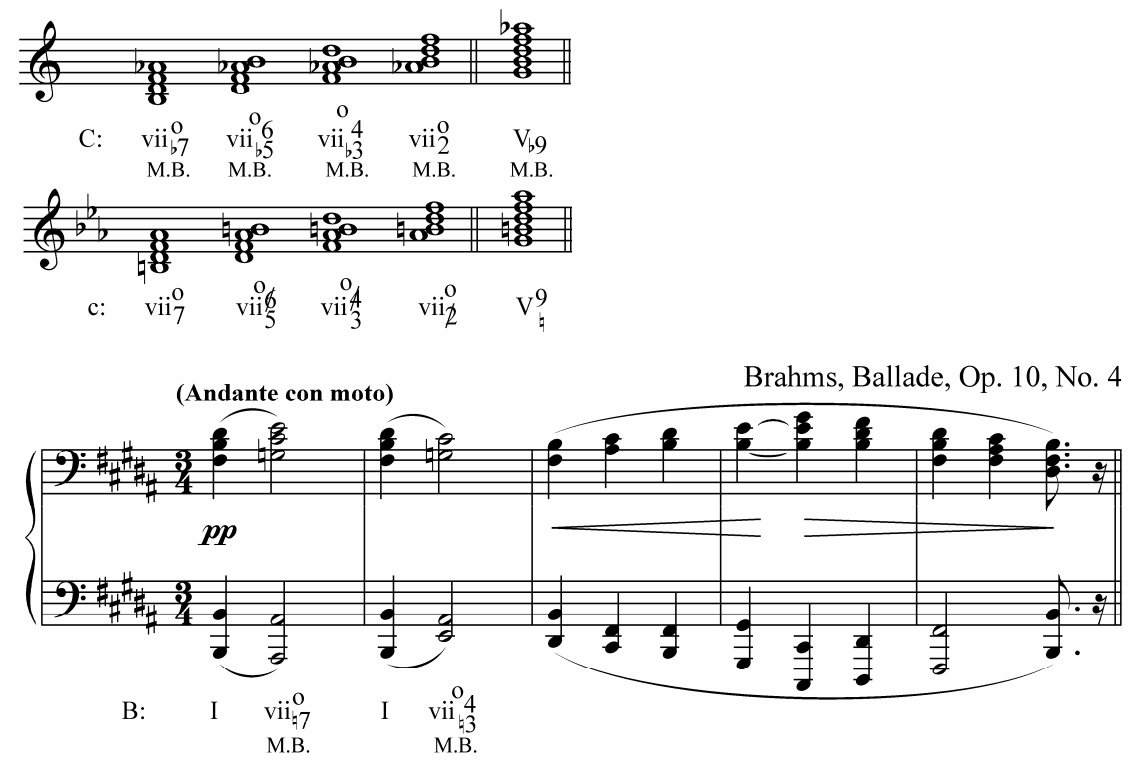
b. Tonic Group

The chords of the tonic group of a minor key are also sometimes borrowed to a parallel major. The group consists of the primary minor tonic triad (i), major mediant triad (III), and major submediant triad (VI) (half tonic and half subdominant). The *complete tonic group of the parallel minor key* used in the major key is as follows.



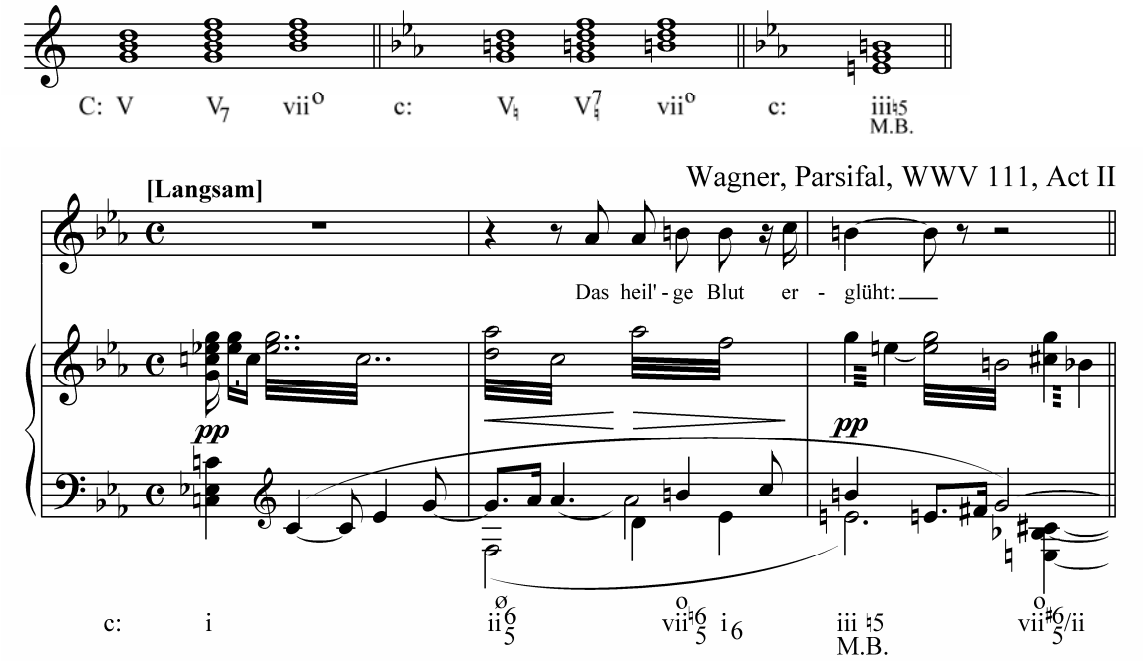
c. Dominant Group

Since during the common practice period the usually used minor key was harmonic, the major V and diminished vii^{o} are structurally the same as those in a major key and, thus, *can't* be borrowed for the use in a major key. The only dominant chords, which are not the same and, thus, can be borrowed from a minor key, are the *fully diminished leading tone seventh chord* (vii$^{o}{}_{7}$) and the *dominant ninth chord* (V_9) with a minor ninth.

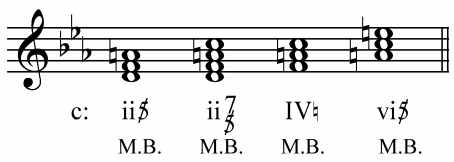


Borrowing Chords from Parallel Major

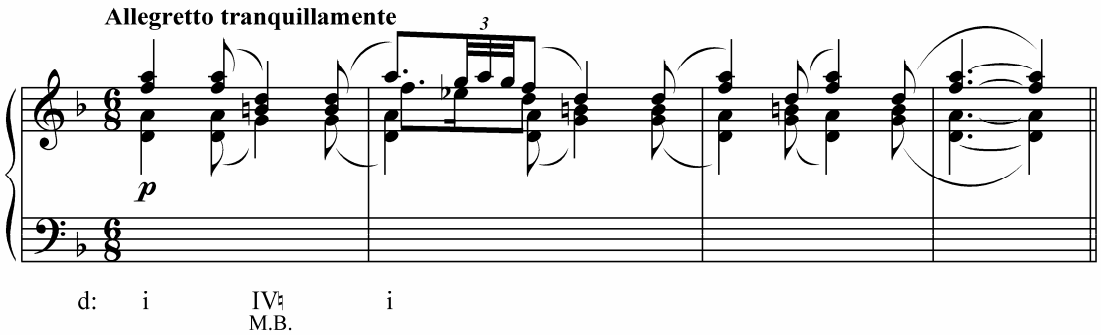
The chords V, V_7, vii^o, which are structurally identical to those chords in a major, were normally used in a harmonic minor since long time ago. These chords are *not* considered to be modally borrowed from a parallel major. The chord iii, which started to be used much later, can be understood as a modally borrowed one. Besides the leading tone (B natural), it also contains the mediant (E natural) from the major key, which can't be found in the minor key.



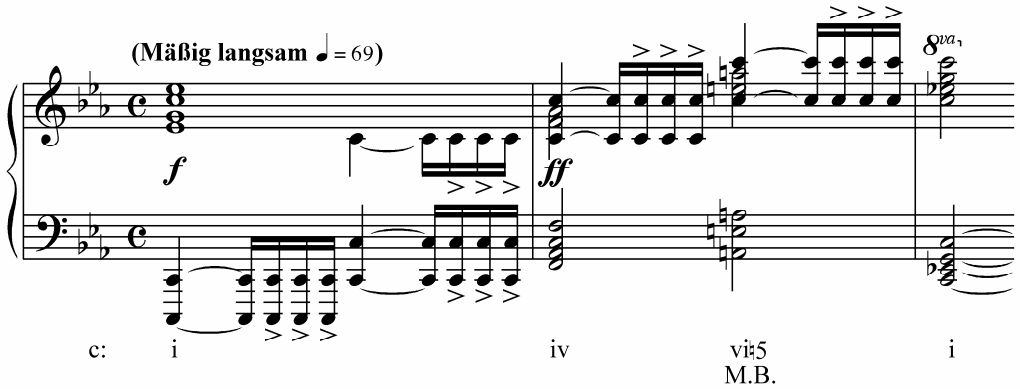
The major IV, which is another characteristic major chord from a parallel major, comes into use in a minor key. Later, this major IV was surrounded by the chords of its function (ii, ii_7 and vi) which differ from the chords in the original key in quality.



Grieg, Six Elegiac Songs, Op. 59, No. 2 "På Norges nögne fjelde"



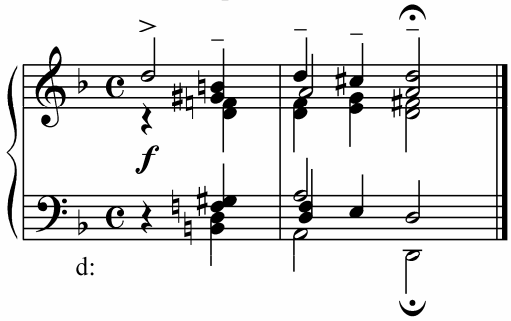
Strauss, Elektra, Op. 58



It can be often found that a music composition (or its section), which started in a minor key, would end with the *major tonic triad* of the parallel major. In such case there would be *no so much* use of modal borrowing and, without any preparation, there would be a simple *change* of the expected minor tonic triad with the major one.

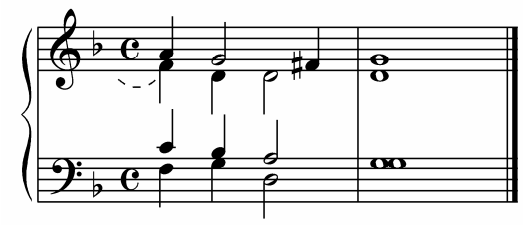
Such custom to end a minor key composition with the major tonic triad is an old one, of which J. S. Bach was just a follower.

Bach, Well-Tempered Clavier, Vol. 1, BWV 851, Prelude in D Minor



Such ending can be explained by the fact that at that time the minor 3rd of the minor tonic triad was considered to be *not consonant enough* to end a music composition. That is why there was the tradition to substitute the minor tonic triad with its parallel major variant or sometimes just cut out its 3rd.

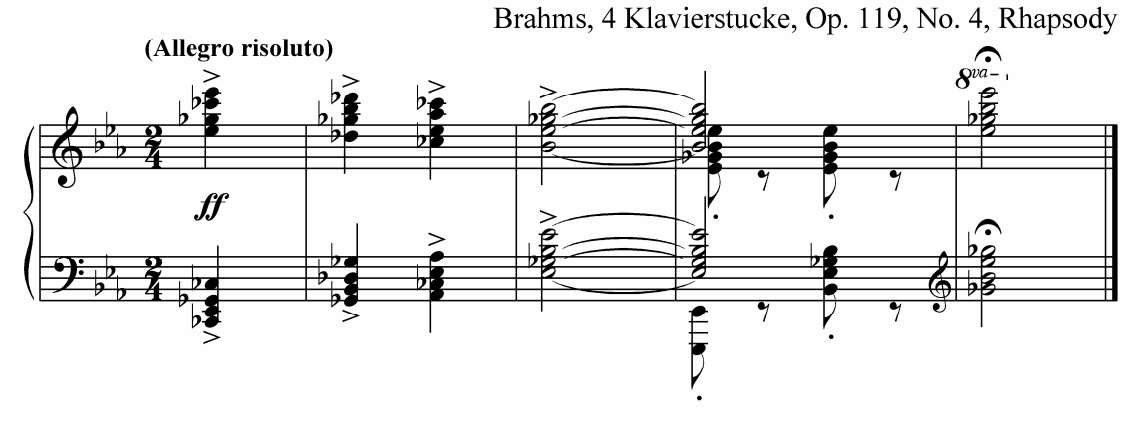
Palestrina, Missa secunda



g:

To end a *major key* composition with a *minor tonic triad from the parallel minor key* is a very rare exception. Such examples exist and can be explained by the originality of those composers.

Brahms, 4 Klavierstucke, Op. 119, No. 4, Rhapsody

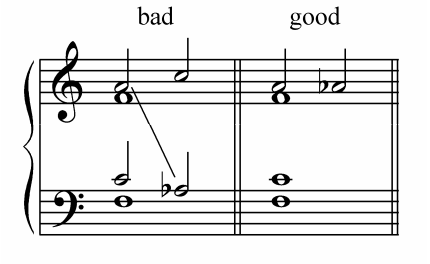


Use

All modally borrowed chords function as those from their original mode. They may be used without any preparation or right after their equivalent in that key. The connections iii–III and vi–VI (and vice versa) are usually not used because of the *parallel 5th's* produced.

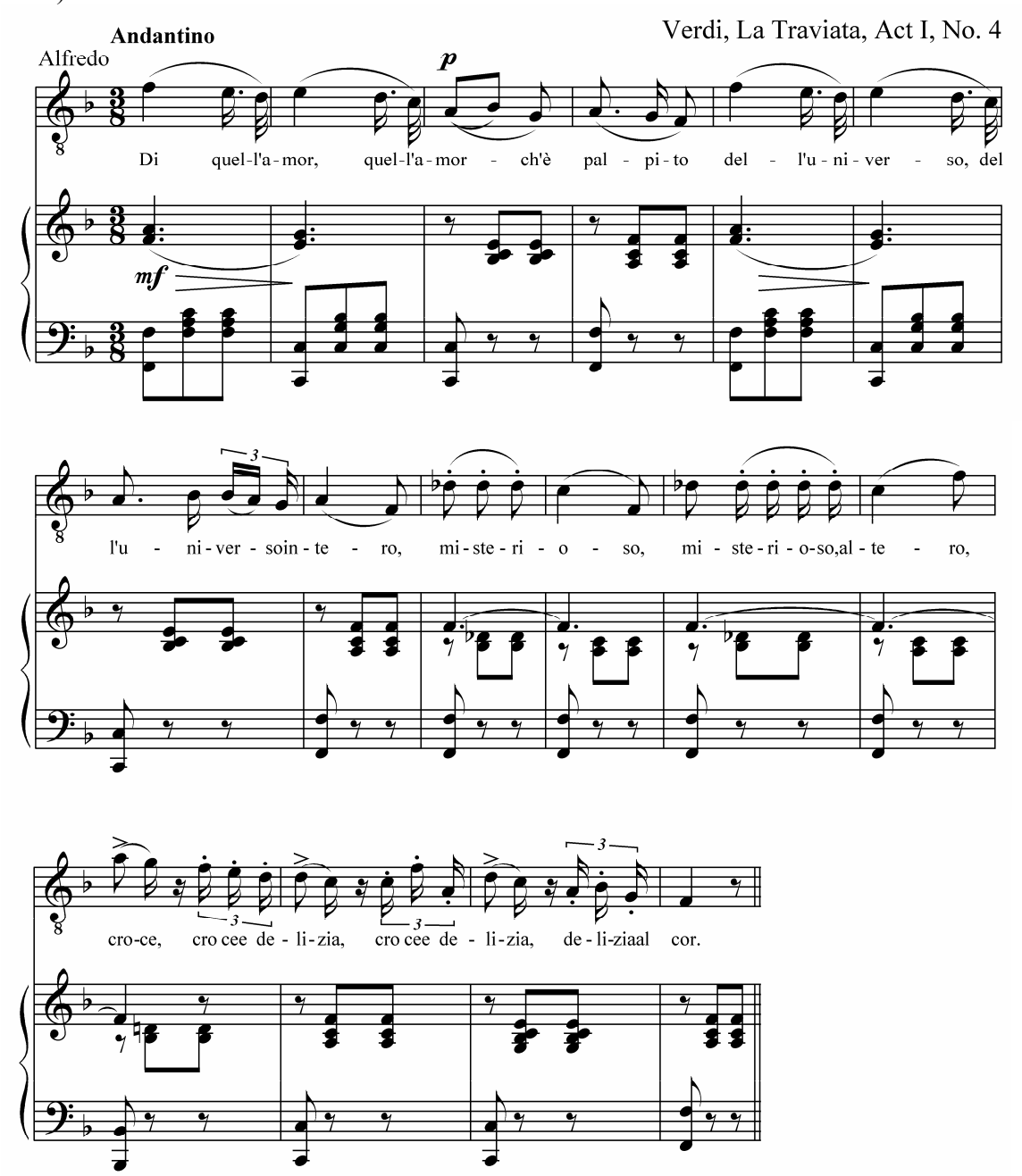
False Relation

A chromatic half step in the same or, more often, in a different octave in two voices is called *false relation* (cross-relation, non-harmonic relation). False relation creates dissonance and, thus, is *not allowed* in four-part writing.



Exercises

1. Analyze the following excerpts.
   a)



b)

Schubert, Schwanengesang, D. 957, No. 5, Aufenthalt

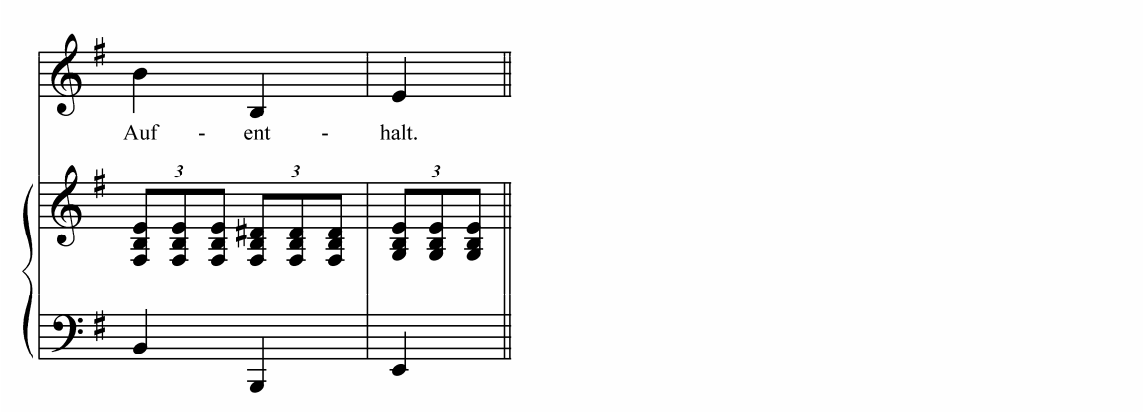
Nicht zu geschwind; doch kräftig

p

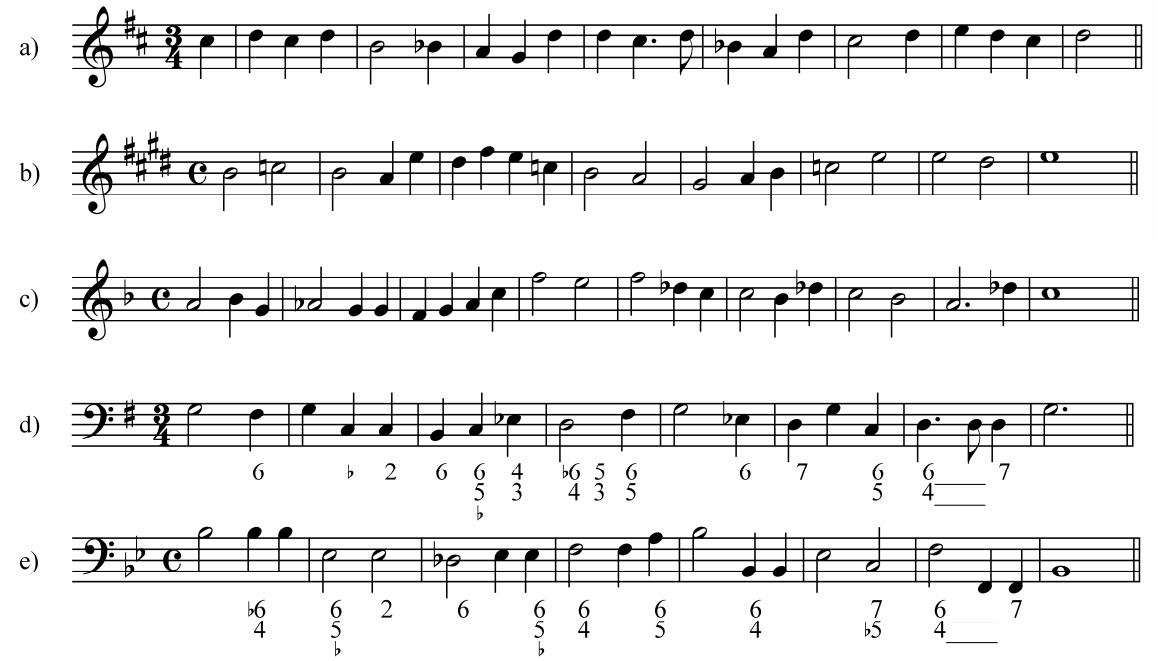
Rau - schen-der Strom, brau - sen - der Wald,

star - ren-der Fels, mein Auf - ent - halt; rau - schen - der

Strom, brau - sen - der Wald, star - ren-der Fels, mein



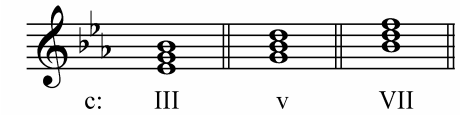
2. Harmonize the following sopranos and realize the figured basses.



Dominant Chords in Descending Melodic Minor

The descending variant of a melodic minor is *different* from a harmonic minor in that *all of its dominant chords* have different intervallic structure (v, III, VII).

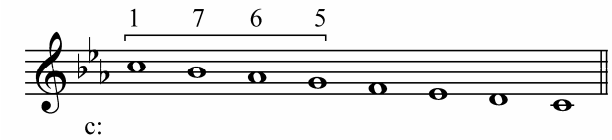
The primary triad is *minor* (v) while the secondary ones are both *major* (III, VII).



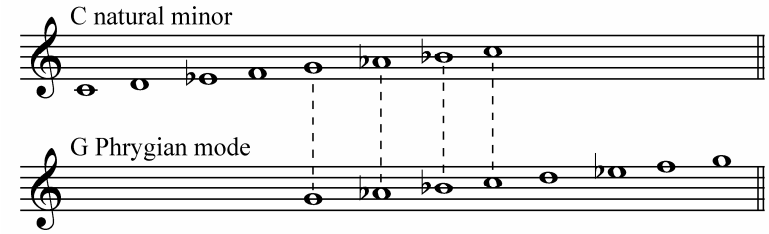
There is no leading tone in these chords (the *subtonic note*) and this weakens the tendency of the chords to move to the tonic triad and, thus, making them to be used in a special way.

Phrygian Progression and its Logic

In general, melodic minor is used occasionally, during a short period of time in a music composition. It would be usually used when there is a descending stepwise motion in one of the voices from the tonic note to the dominant (from the 1st to 5th scale-degrees).

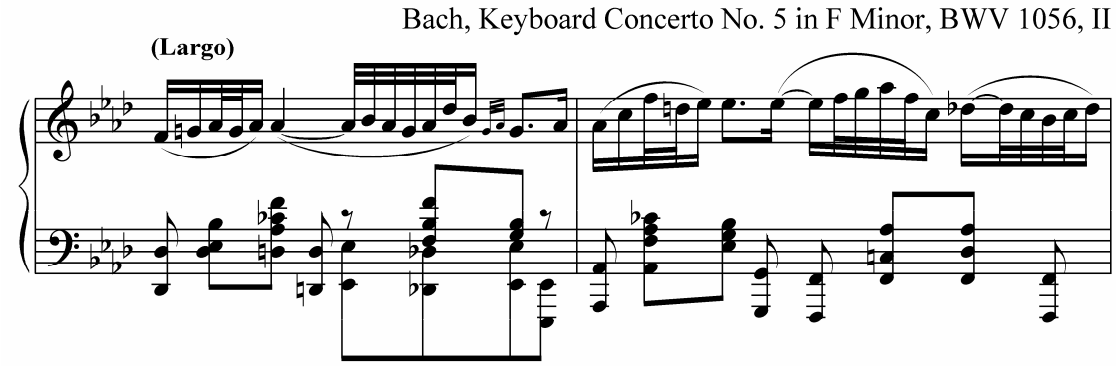


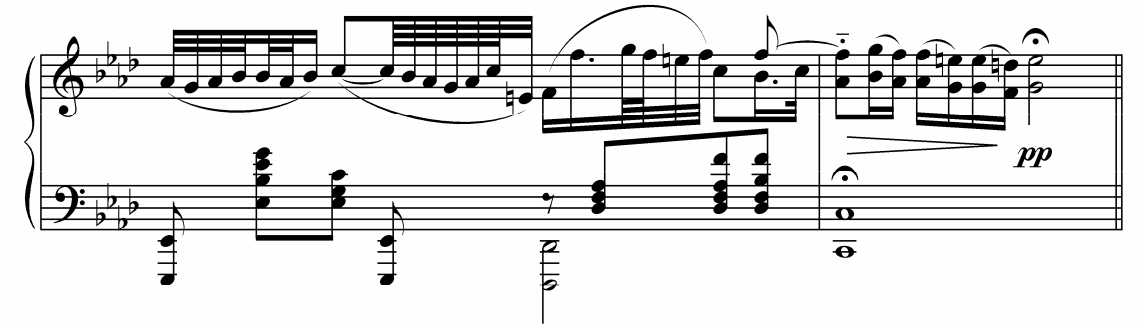
The intervallic structure of this descending upper tetrachord of the descending melodic minor is similar to that of a Phrygian mode (*whole step–whole step–half step* when moving from top to bottom). This is why the progression based on the descending *melodic* line of the upper tetrachord of the descending melodic minor is often called *Phrygian progression*.



If it is used at the end of a unit with the last chord being the major dominant triad in root position, it is termed *Phrygian cadence* (a type of Half Authentic Cadence).

Bach, Keyboard Concerto No. 5 in F Minor, BWV 1056, II





Since the 7th scale-degree is characteristic of a dominant chord while the 6th scale-degree is characteristic of a subdominant chord, in the Phrygian progression, a subdominant chord would thus follow a dominant chord (1–7–6–5), which makes it different from the normal chord progression formula of a major or harmonic minor.

Major and harmonic minor	I→IV→V→I→IV… etc.	Descending melodic minor	i→v→iv→i→IV…

The Phrygian progression normally ends with the major dominant triad (V) which is from the *harmonic variant* of minor. This explains an episodic use of the melodic minor: after such V the normal chord progression of a harmonic minor is *used again*.

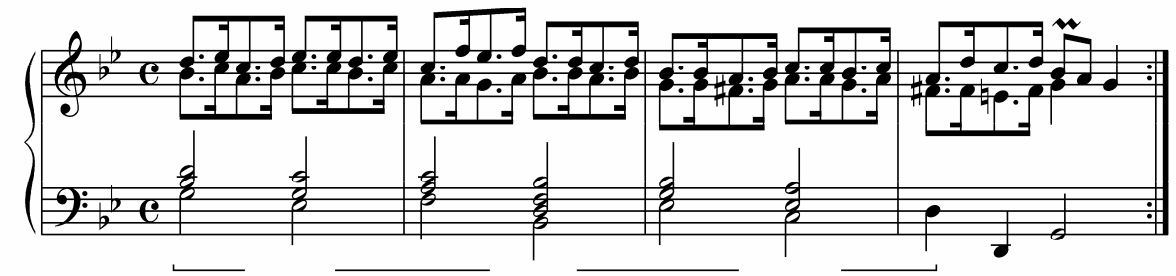
Harmonic minor	Phrygian progression in descending melodic minor	Harmonic minor
Chord progressions →	–i–v–iv–	→ –V–… etc.

The chord progressions *before* and *after* the Phrygian progression are all in *harmonic minor*.

NB. The tension is increased when moving from IV to V in the chord progression I–IV–V–I in a major key or i–iv–V–i in a harmonic minor key. The chord progression i–v–iv–i in a natural minor often produces a similar impression of the increase of tension when v moves to iv. The instability of minor v of the natural minor is not so strong (due to the lack of the upward semitone tendency) and iv, which follows v, sounds as a chord with more tension due to the 3rd of iv (submediant) which obviously tends to move (semitone) to the 5th scale degree (dominant).

Such progressions, in which the first note of the Phrygian progression is missing or some notes are postponed, are also possible.

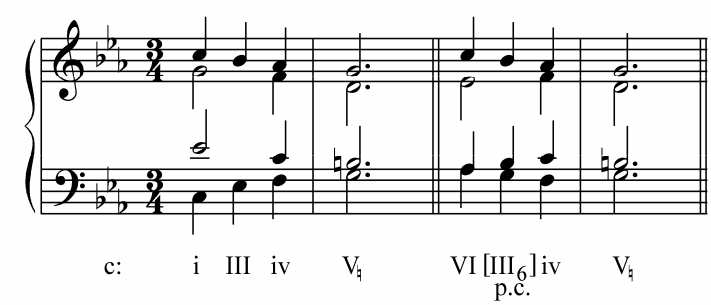
Händel, Suite No. 7 in G Minor, Passacaille



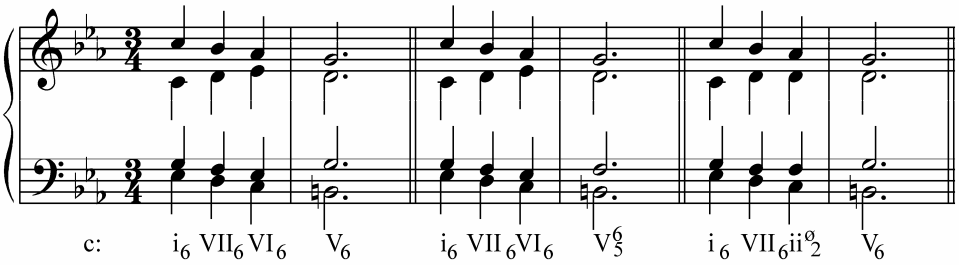
Phrygian Tetrachord in Upper Voice

When the Phrygian tetrachord is used in any of the upper voices, it is often harmonized in the following ways:

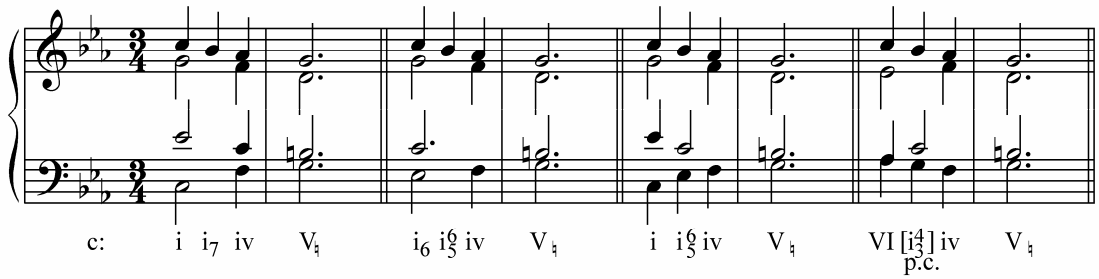
1) I–III–iv–V or VI–III$_6$–iv–V



2) i$_6$–VII$_6$–VI$_6$–V$_6$ (parallel sixth chords) or i$_6$–VII$_6$–VI$_6$–V$^6{}_5$ or i$_6$–VII$_6$–ii$^{ø}{}_2$–V$_6$

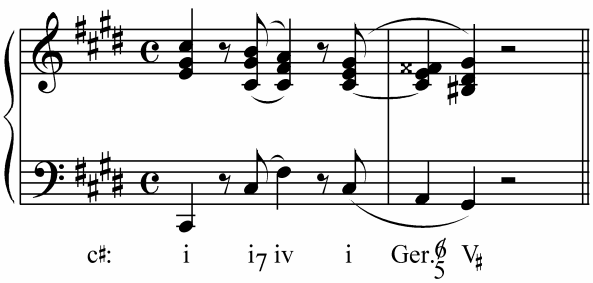


3) The 7th degree of the scale can be treated as the 7th (passing) of i$_7$

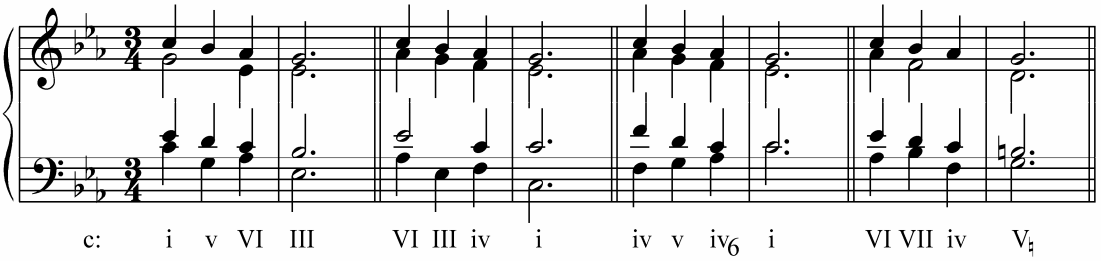


Chopin, Nocturne in C-sharp Minor

Lento con gran espressione



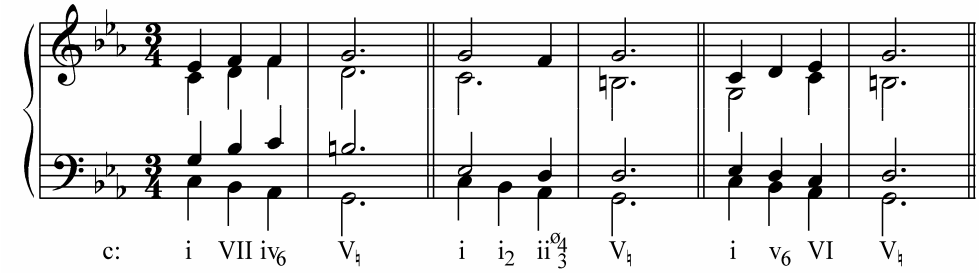
4) i–v–VI–III, VI–III–iv–i, VI–VII–iv–V or iv–v–iv$_6$–i



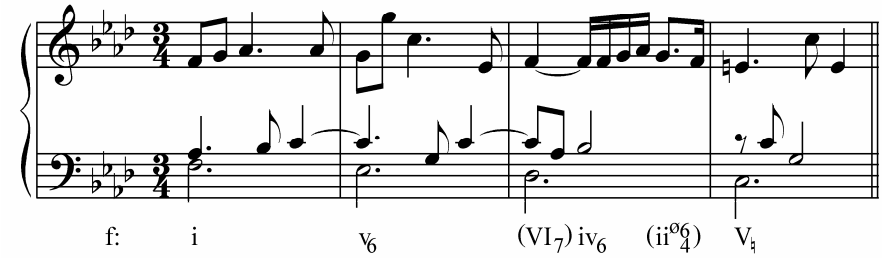
The given above examples do not show all possible harmonizations of the Phrygian tetrachord.

Phrygian Tetrachord in Bass

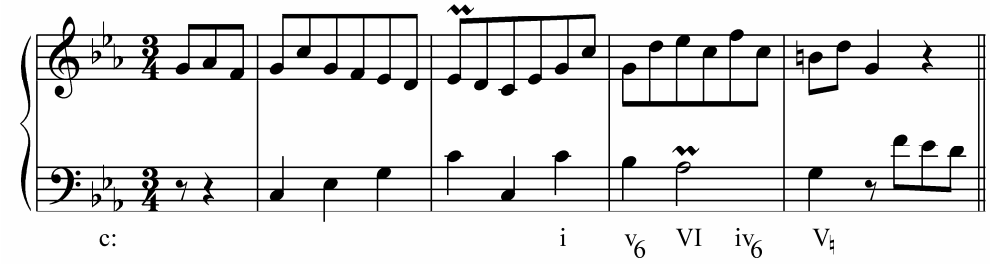
If the Phrygian tetrachord is in the bass line, it is often harmonized in the following ways: i–VII (or v_6 or i_2)–iv_6 (or $ii^{ø4}{}_3$ or, rarely, VI)–V



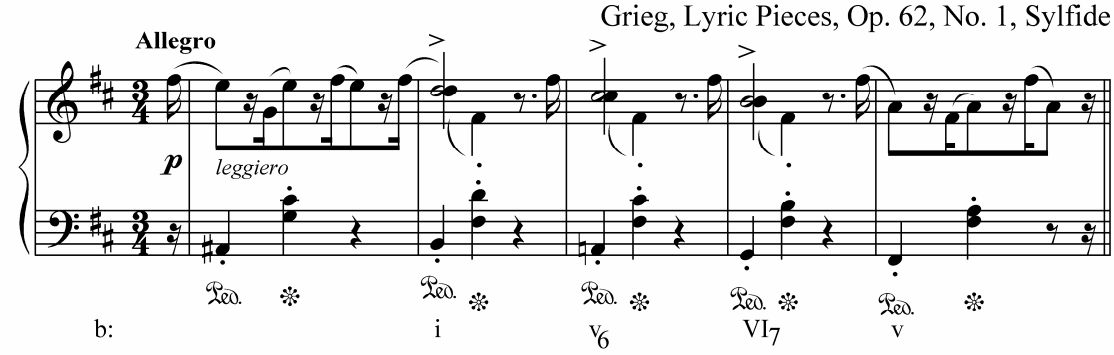
Pachelbel, Chaconne



Bach, French Suite in C Minor, BWV 813, Courante

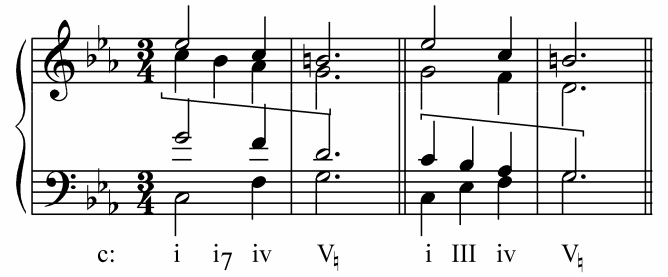


Grieg, Lyric Pieces, Op. 62, No. 1, Sylfide



Phrygian Tetrachord in Middle Voices

Even though the Phrygian progression was first used in the bass line and later in the upper voice, it is sometimes possible to find it even in alto and tenor voices as well.

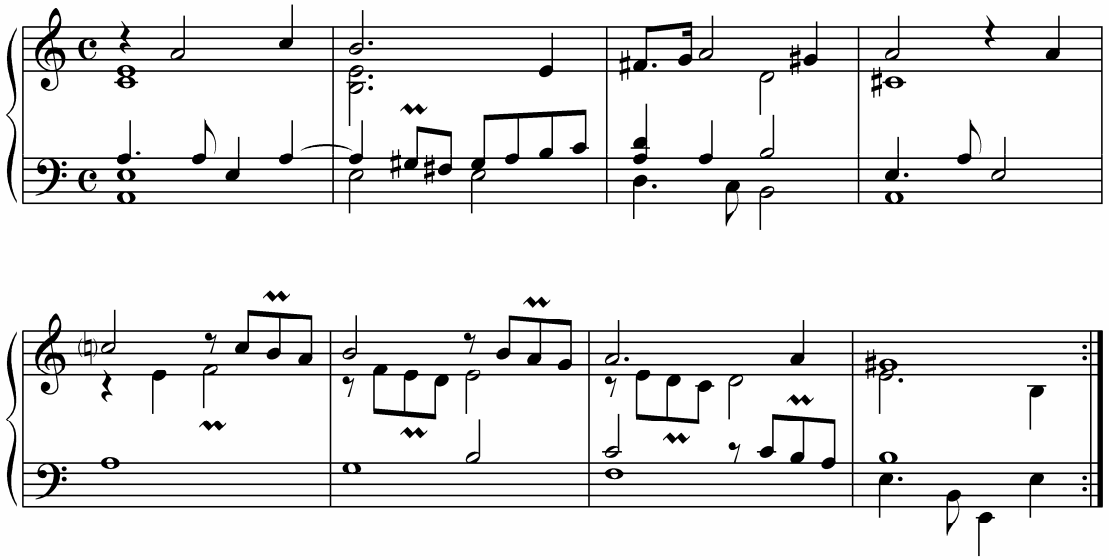


Exercises

1. Analyze the following excerpts.

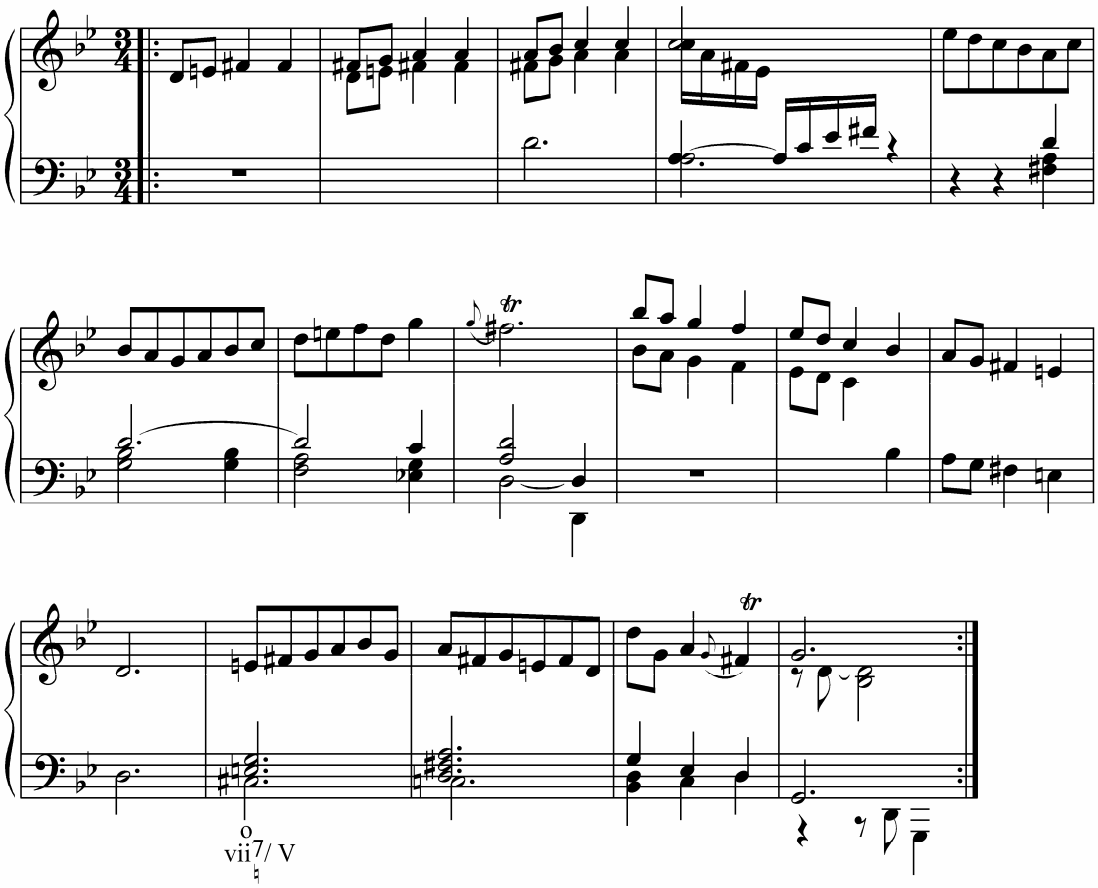
a)

Byrd, Pavan "The Earle of Salisbury"

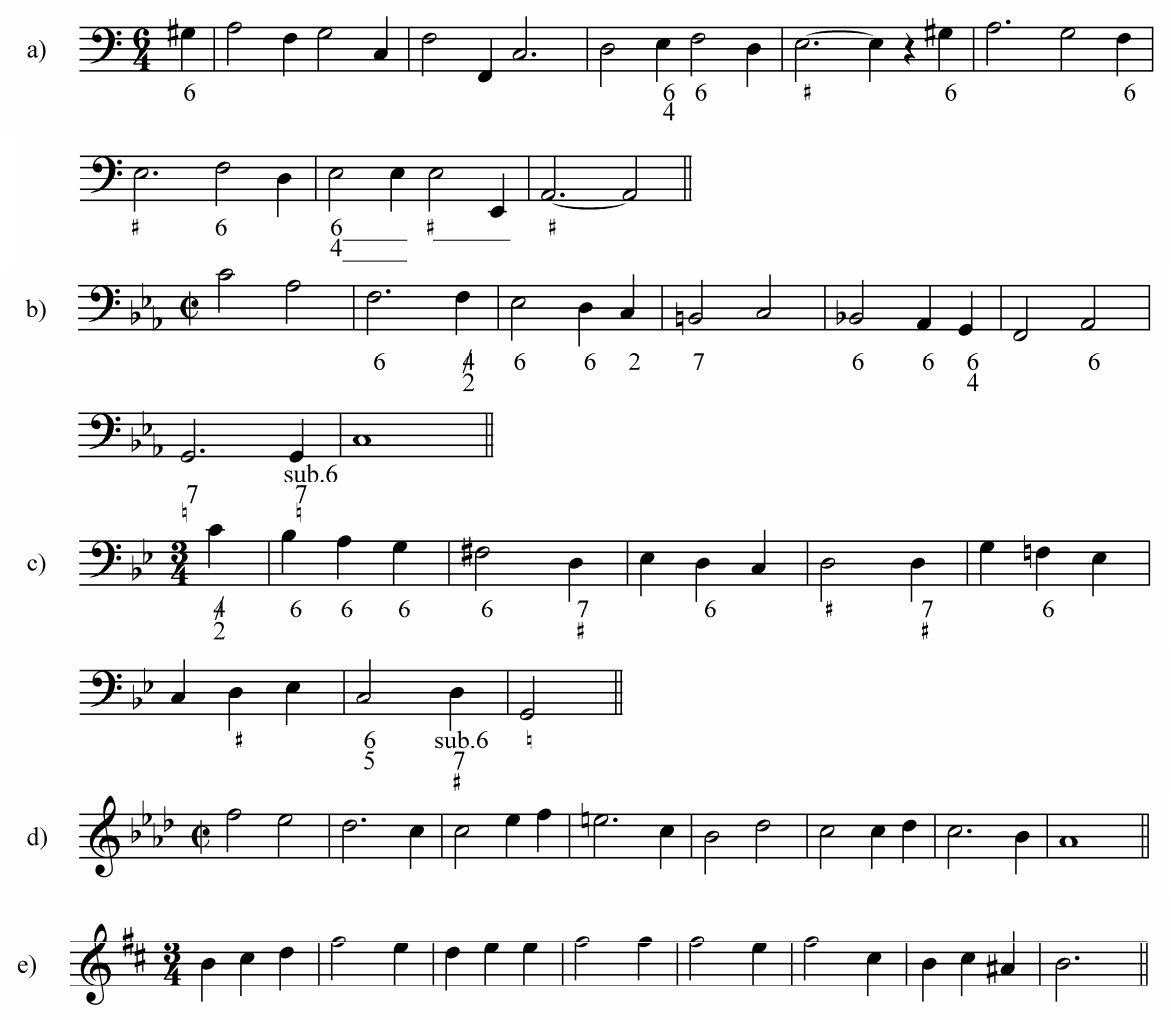


b)

Rameau, Pièces de clavecin, Minuet



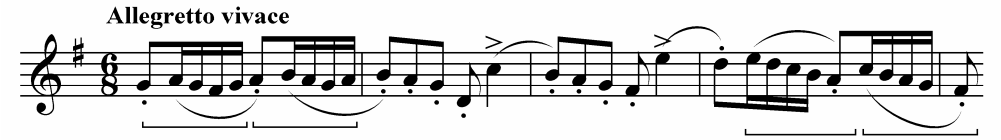
2. Realize the following figured basses and harmonize sopranos.



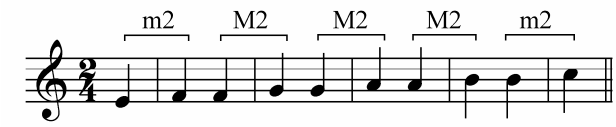
Melodic Sequence

Melodic sequence is (an) ascending or descending transposition(s) of a given melodic pattern. The pattern, which is used for such transposition(s), is called the *unit* of the sequence. Sequence is one of the simplest techniques used for the presentation or development of a melody.

Bach, Well Tempered Clavier, Volume 1, Fugue in G major

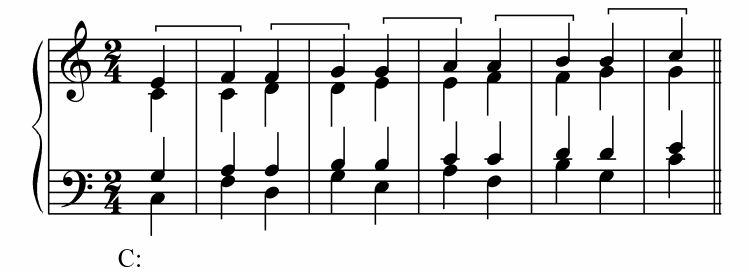


If the sequence is within one key, it is called *diatonic* (or *tonal*). Each unit repeats the first (basic) unit without any change though the quality of the intervals between the notes of each unit may change.



Harmonic Sequence

Melodic sequence often coincides with the sequence in the other parts. The sequence, in which the other voices are also treated sequentially, is called *harmonic sequence*. In such case there is an ascending or descending transposition of a whole "chordal" unit.



The sequence is one of the most important melodic and harmonic devices used by composers in their music during a long period of time.

Functional Relationships in Sequence

The initial unit usually consists of a functionally simple chord progression. The melodic pattern, number of chords, their spacing and relationship (a 4th (5th), 3rd or 2nd apart) are not changed inside the units to follow.

The functional relationships presented in the initial unit are the same in each unit that follows. For example, if the initial unit I–IV was transposed a 2nd up, the relationship of ii with V in that transposed unit would be similar to that in the initial unit.

Because the unit of a sequence usually consists of a chord progression which is connected functionally, the functional relationship of those chords works only *within a unit*. There can be no functional relationship *between* the units themselves.

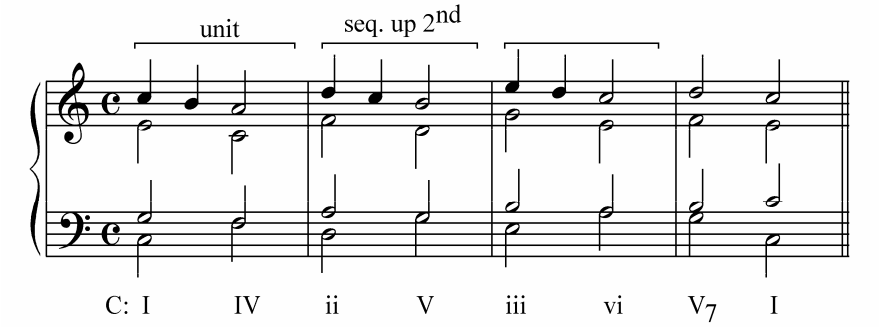
Sequences Using Triads

Simple sequences are made of triads which may be used in root position or inversions.

The number of chords, their relationship, inversions and spacing are chosen in the initial unit. Nothing is changed in the units to follow except for the transposition to other scale degrees.

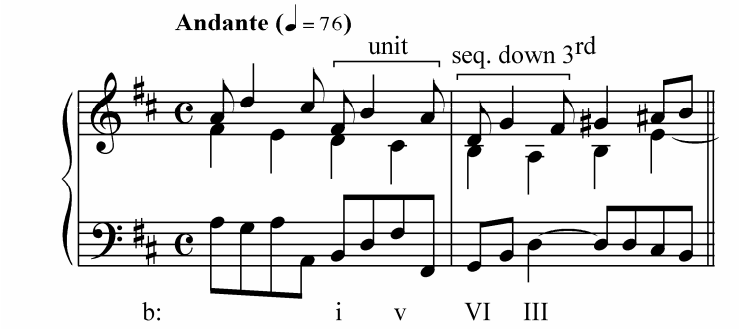
Transposition Types

Sequences utilizing triads may be either ascending or descending.
The simplest transposition is by step, either up or down, for example.

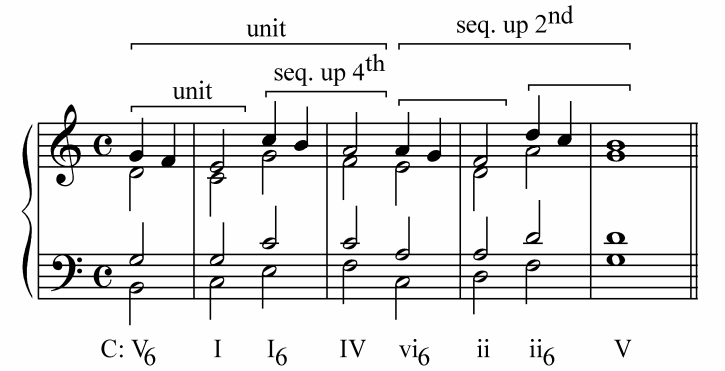


Sequential transposition by 3rd's is also possible.

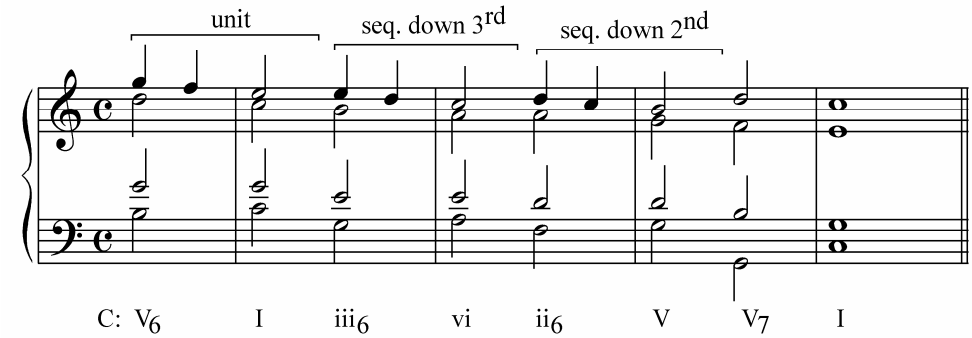
Bach, Well-Tempered Clavier, Vol. 1, Prelude in B Minor



Or by 4th's (or 5th's).

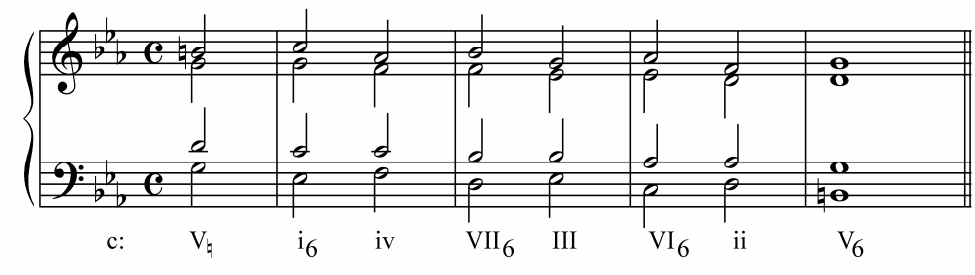


As seen in the example above, such transposition often uses a double unit.
Sometimes, the interval of transposition may *vary*.



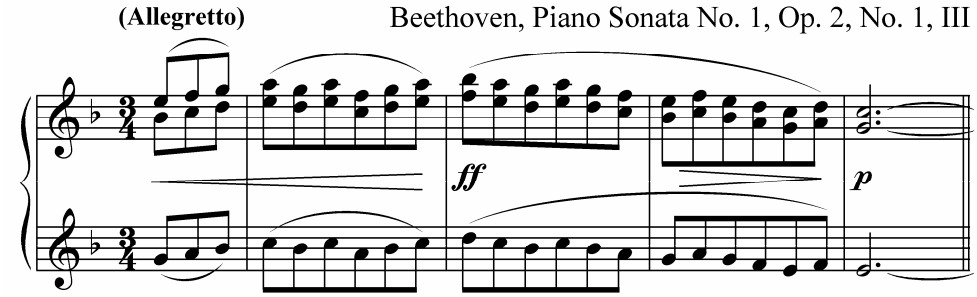
The number of units in a sequence is rarely more than 3 or 4. Very often there are only 2 units. The first and last units are often incomplete or somewhat changed.

The sequence in a minor key normally uses the chords of the natural variant (the descending sequence uses *only* natural minor) except for the first and last units where the harmonic minor is usually used.

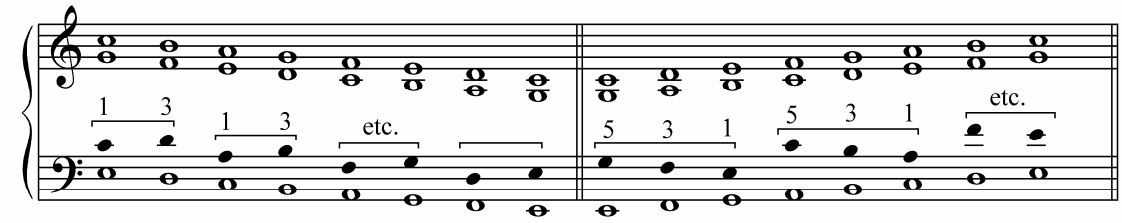


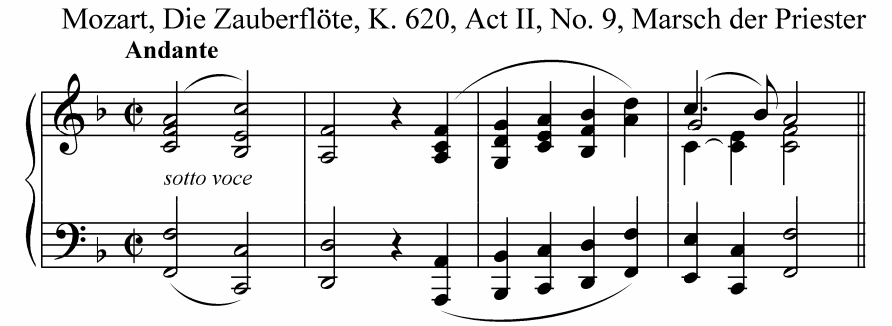
Parallel Sixth Chords

Similar to sequences, the use of parallel sixth chords sometimes occurs. Such parallel sixth chords are almost always with their *roots in soprano*. These sixth chords often move by parallel motion in *three voices*.



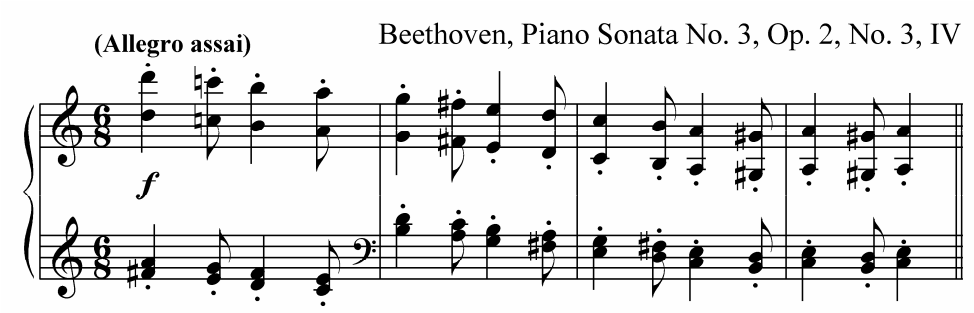
The fourth inner voice, which doubles some tone of each chord, is sometimes added to the three voices. The doubling in the two adjacent chords is usually different; they may alternate systematically, as if in sequence, with a pattern of two or three chords.





Very often parallel sixth chords move by step in the one direction, up or down. But sometimes it is possible to find parallel sixth chords with the changing direction (*see* examples above).

(NB: In the music of the common practice period, the parallel sixth chords are mostly used in a three-voice texture with the octave doubling of one of the voices, which is often bass and, sometimes, soprano.)

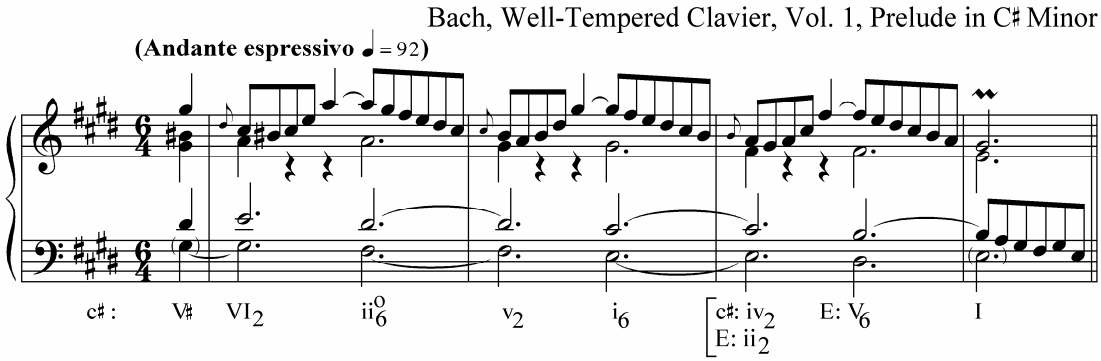


Sequences Using Seventh Chords

Sequences may use *seventh chords* as well. In such case the initial unit of the sequence is often made of *two chords*. The sequences with the unit consisting of a seventh chord and a triad or two seventh chords are found most often.

Seventh Chord–Triad Unit

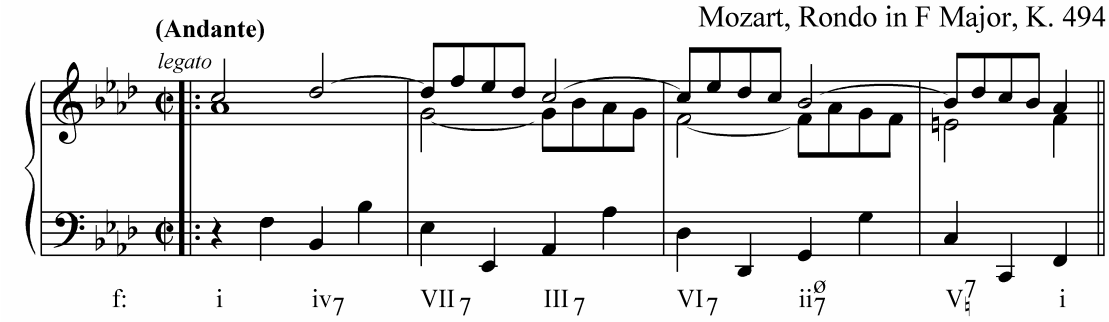
A seventh chord normally resolves to a triad a 4th above it (similar to V_7–I). The seventh chord may be in any spacing and inversion.

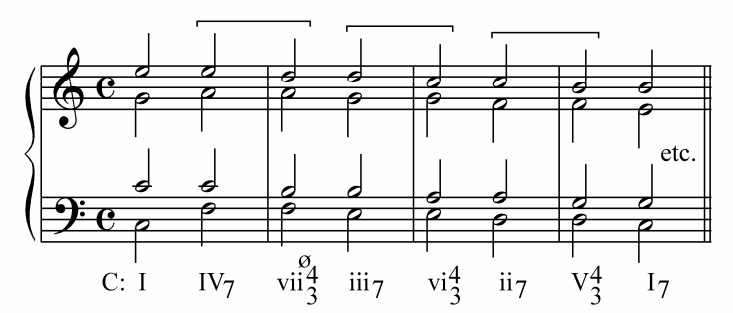


The sequence may start from any seventh chord but usually ends with V_7 resolving to I.

Unit of Two Seventh Chords

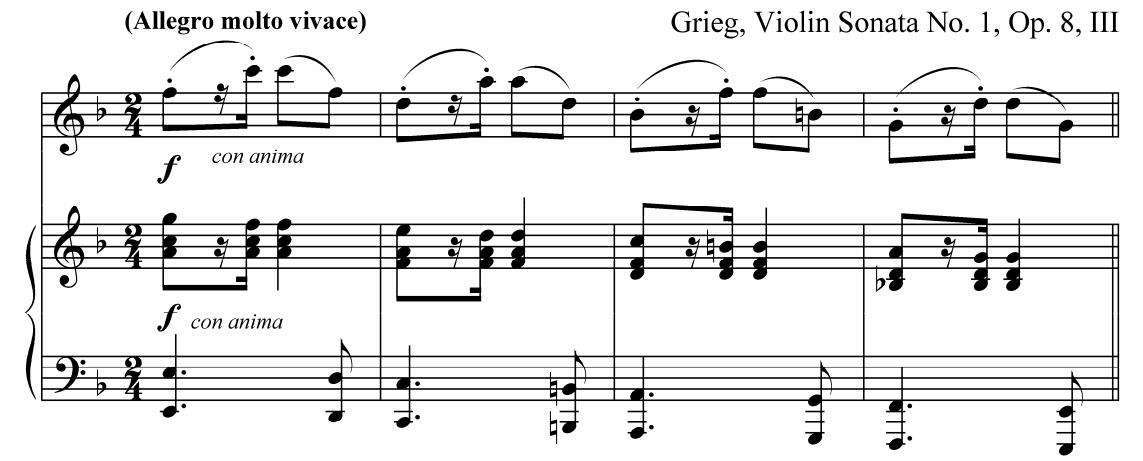
In the sequences with the unit of two seventh chords, the second seventh chord is usually a 5th below the first one (similar to ii_7–V_7). The 7th and 5th move by step down. The other two voices remain stationary becoming the 7th and 5th of the next chord. The root of a seventh chord placed in bass may leap to the root of the next chord. Since when one unit moves to another and the 7th and 5th of the chord at the end of one unit would also move down like the 5th and the 7th of the first chord to the second one within the unit, such sequence would always move *down stepwise*. In such sequences, root position seventh chords alternate with seventh chords in 2nd inversion; seventh chords in 1st inversion, with seventh chords in 3rd inversion; complete seventh chords, with incomplete ones.





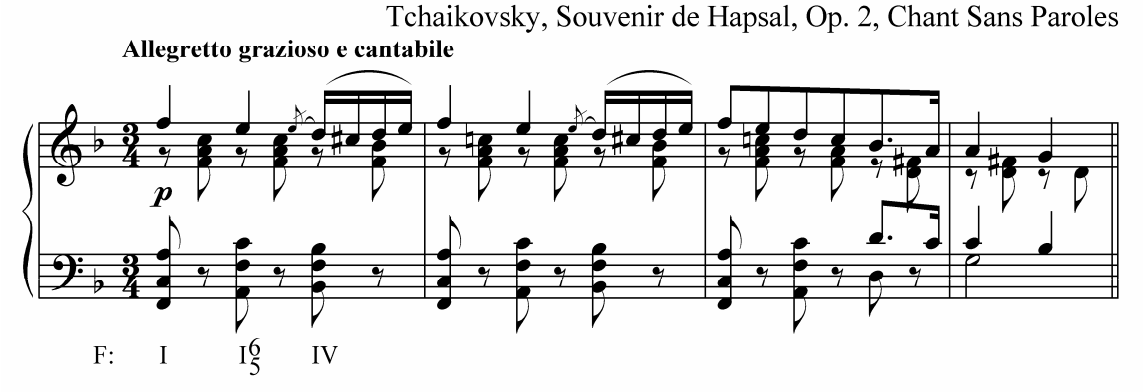
Such sequences are diatonic variants of so-called "circle-of-fifth" progressions in which seventh chords are used. Each next seventh chord is a *5th below* the previous one.

If a sequence of seventh chords is not stepwise down, the chords in such sequence are usually left unresolved.

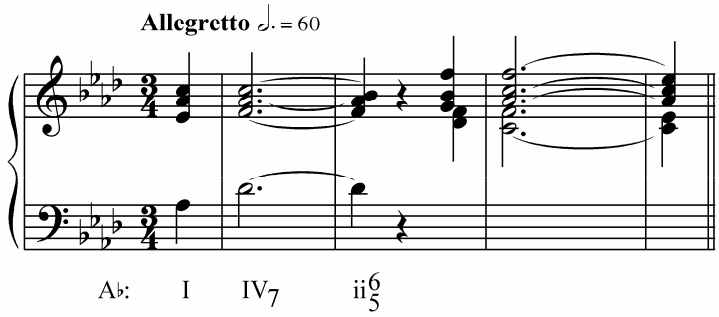


Other (Secondary) Seventh Chords

The seventh chords I_7, iii_7, IV_7 and vi_7 are called *secondary* or *sequential* since are used mostly in sequences. Such chords are rarely used on their own, outside a sequence. This is partially due to their *not so clear* functionality if compared to the primary V_7, ii_7 or vii^o_7; another reason being that the 7th of some of them (I_7 and IV_7 in a major key, III_7 and VI_7 in a minor key) is major and sounds *too dissonant*. The 7th of those chords is usually used as a *passing tone* moving from one more consonant tone to another or *prepared* by a more consonant tone.

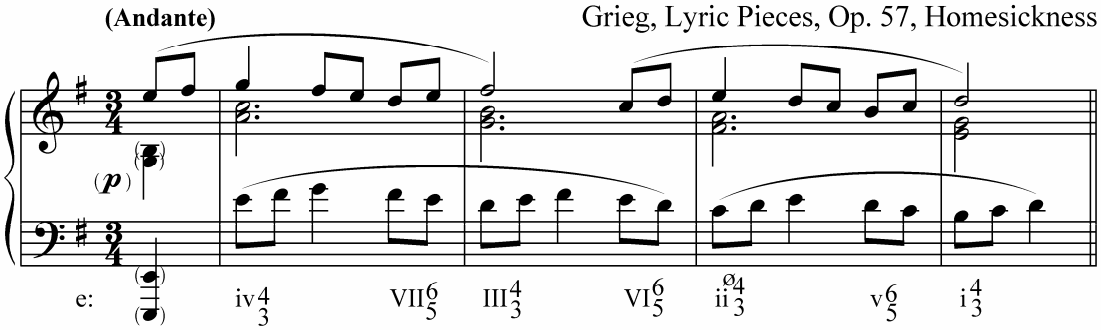


Schubert, Moments Musicaux, D. 780, No. 6



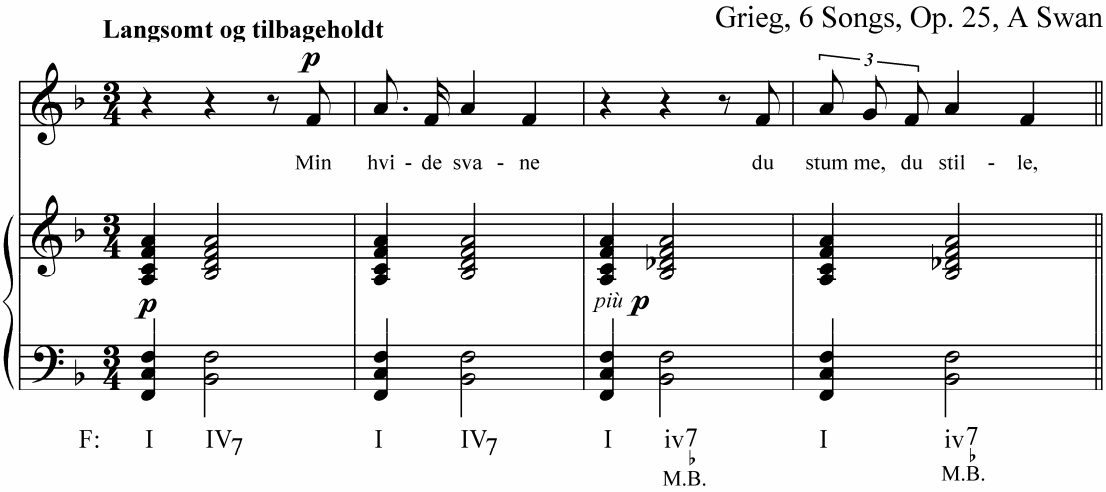
Each of these seventh chords almost always resolves to a triad or seventh chord a 5th below it (similar to V_7–I or ii_7–V_7). In other words, the relationship between the secondary seventh chords and the chords to follow is like the relationship between a dominant chord and the chord to which it resolves, like it is in sequences.

Grieg, Lyric Pieces, Op. 57, Homesickness

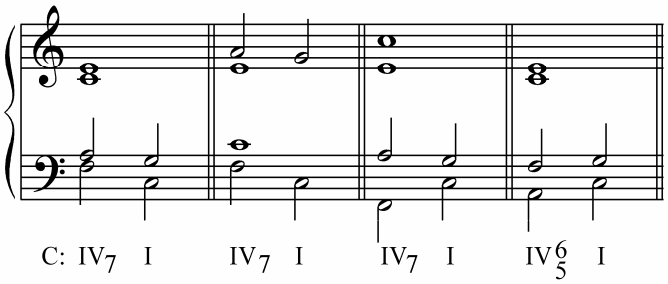


The secondary seventh chord, which can be found more often than any other, is IV_7.

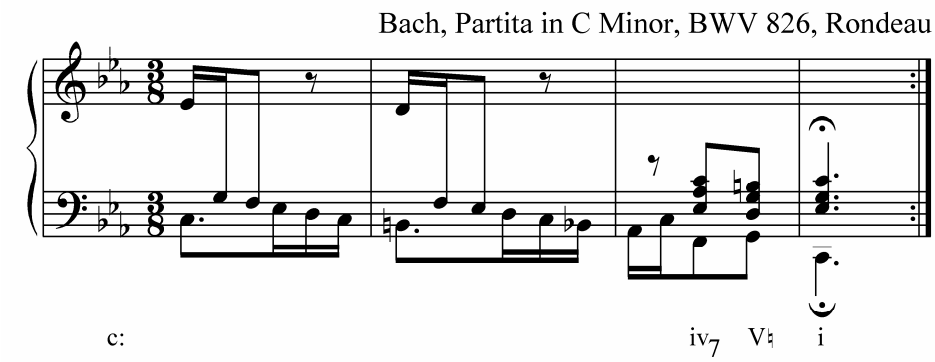
Grieg, 6 Songs, Op. 25, A Swan



It is sometimes used in plagal progressions and cadences resolving directly to I; the 7th usually remaining stationary (the common tone).



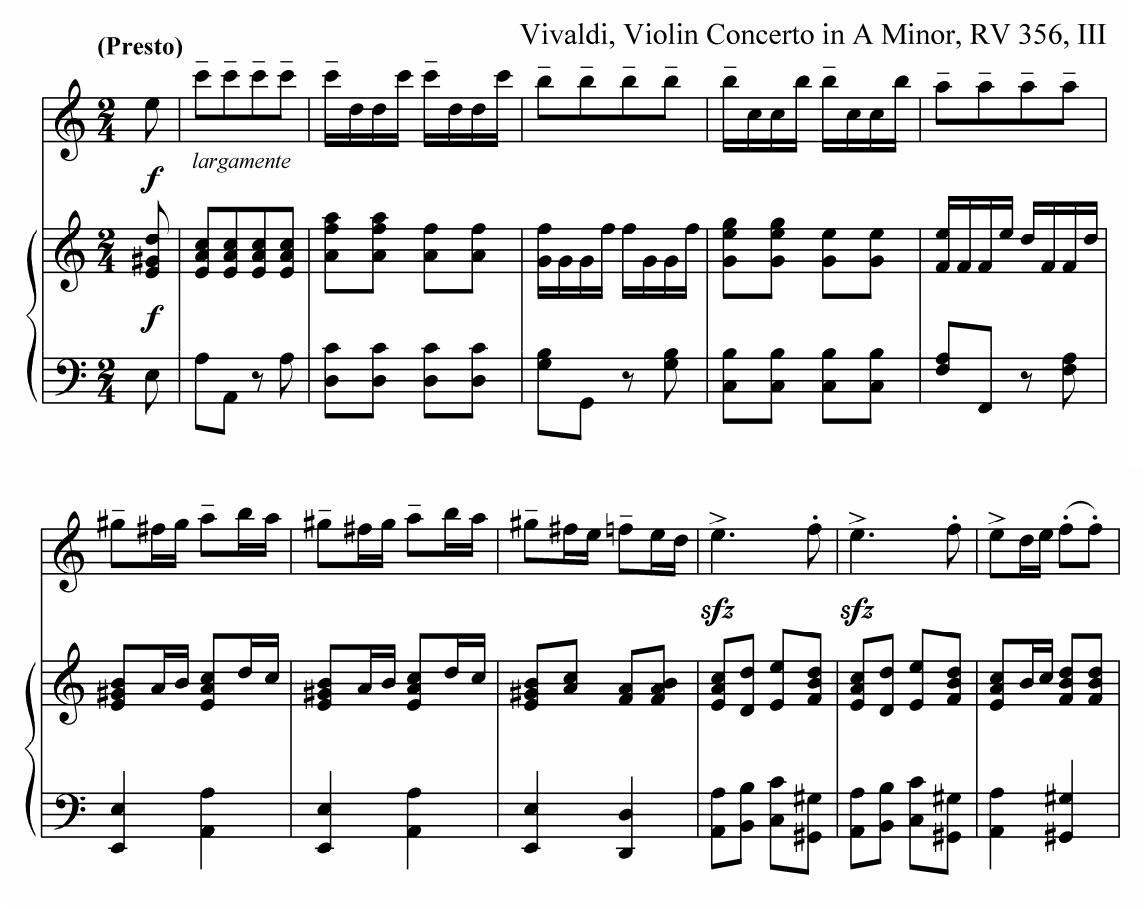
It can be sometimes found before V (often in cadences).

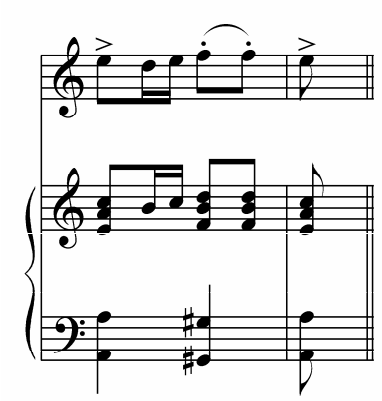


As mentioned before, IV_7 may move to $vii^o{}_7$ which is a 5th below it. The voice leading is usually similar to ii_7–V_7 (*see* examples above).

Exercises

1. Analyze the following excerpts.
   a)





b)

Schumann, Dichterliebe, Op. 48, No. 7, Ich grolle nicht

Nicht zu schnell

mf

Ich grol - le nicht, und wenn das Herz auch bricht,

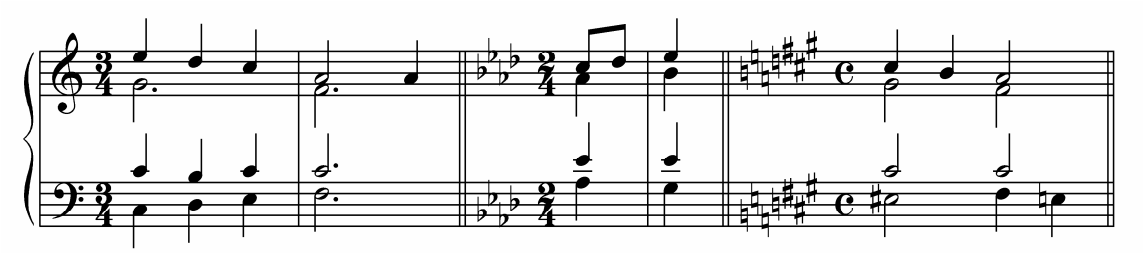
e - wig ver-lor' - nes Lieb, e - wig ver-lor' - nes Lieb! ich

grol - - - le nicht, ich grol - - - le nicht.

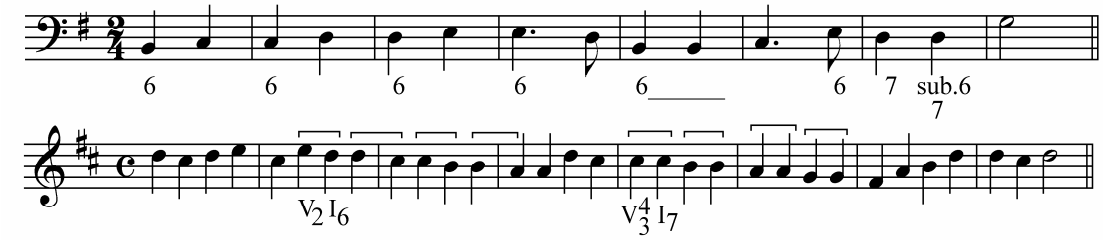
$V^{7}_{\sharp}/V$

[dd7]
p.c.

2. Continue the given units. Conclude the sequence with an appropriate cadence, and analyze completely.



3. Realize the following figured bass and harmonize the soprano line.



Preliminary Information

The seven scale-degrees of a major or (harmonic or melodic[31]) minor scale together with the (primary and secondary) chords they form are *diatonic* scale-degrees and chords. All these chords depend on and are directly related to the *tonic triad*.

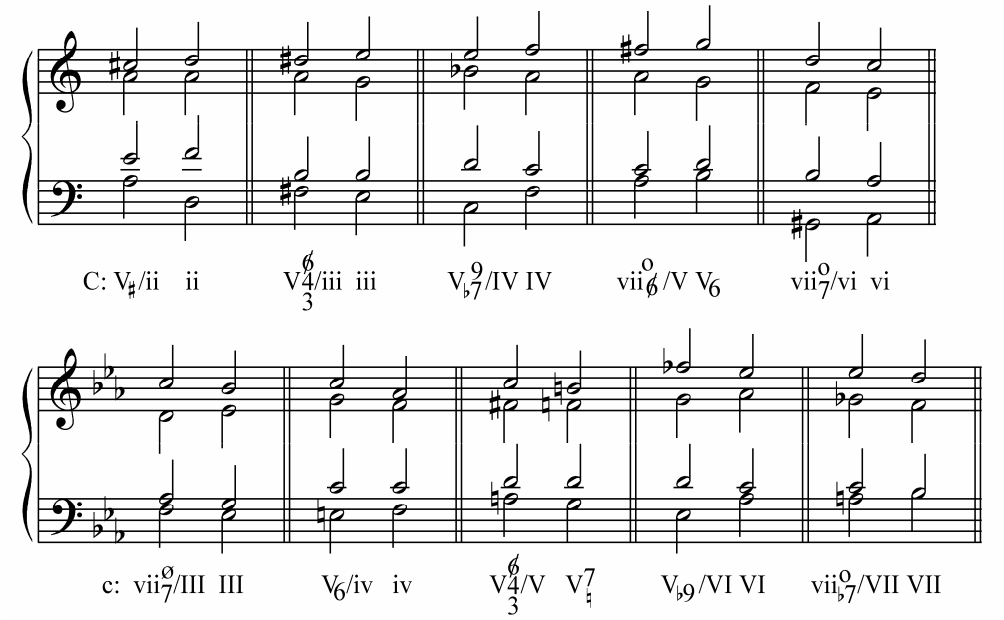
If a diatonic scale-degree is altered by an accidental, it becomes a *chromatic* scale-degree. Chromaticism can be both functional and nonfunctional. If the chromatic note is a part of a chord, such chromaticism is *functional*. If the chromatic note is used as a nonchord tone, such chromaticism is *nonfunctional*. The chords which contain (a) chromatic scale-degree(s) are called *chromatic* (or *altered*) chords.

When used within a diatonic system, the chromatic (altered) chords add new tensions, more variety to the choice of chords and new possibilities for expression in music. Like diatonic chords, chromatic chords also depend on the center of a key, the tonic triad, but not *directly* like the diatonic ones.

The chords, which function like *dominants* to diatonic triads, are the most common among all chromatic chords in tonal music. These are called *secondary (applied or borrowed) dominants*.

Secondary Dominants

Just as the tonic triad is often preceded by its dominant function chords, any major or minor diatonic triad (ii, iii, IV, V and vi) can be preceded by its own dominant chord[32].



[31] Though the presence of accidentals (naturals or sharps (double sharps)) in harmonic and melodic minor scales makes them look like scales with chromaticism, the raised forms of the 6th and 7th scale-degrees and the scales themselves are considered *diatonic*.

[32] Since diminished triads are unstable chords and, thus, can't function as *temporary tonic triads*, the *leading tone triad* of both *major* and *minor* keys and the *supertonic triad* of a minor key can't have their own secondary dominants (or/and subdominants).

Beethoven, Piano Sonata No. 4, Op. 7, II

Largo, con gran espressione

C: I V_6/V V_2

Chopin, Nocturne, Op. 9, No. 2

Andante (♪ = 132)

espress. dolce

E♭: $V^7_{\natural}$/ii ii

cresc.

V_7 V^6_5/vi vi $vii^o_{\flat 7}$/V

The chords with the dominant function are:

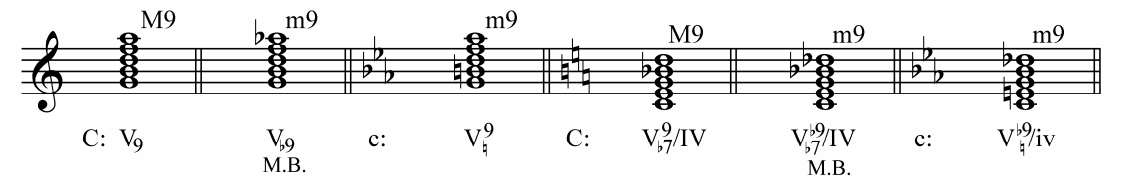
a) the dominant triad (V);
b) the dominant seventh chord (V_7);
c) the dominant ninth chord (V_9) with both major and minor 9th;
d) the leading tone triad (vii^o); and
e) the leading tone seventh chord both fully diminished (vii^o7) and half diminished ($vii^ø7$).

All these chords can function as secondary dominants. For example, if one takes the dominant triad (V) and thinks of it as a temporary tonic triad, it can have the following secondary dominant chords.

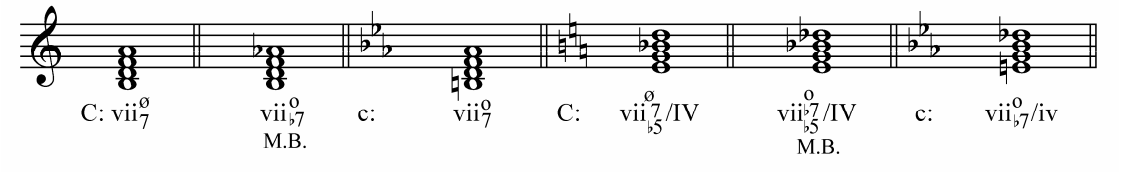
C: I V $V_\sharp$/V $V^7_\sharp$/V $V^9_\sharp$/V $V^{\flat 9}_\sharp$/V vii^o/V $vii^ø_7$/V $vii^o_{\flat 7}$/V

Secondary dominants of V are analyzed V/V (read "V of V"), V_7/V, V_9/V, vii^o/V, $vii^o{}_7$/V or $vii^ø{}_7$/V.

Most secondary dominants used in minor keys are structurally identical to those in major keys. The V_9 can be with a major 9th or minor 9th (modal borrowing) in a major key but it can be only with a minor 9th in a minor key. Thus, the *secondary* V_9 with a major 9th or minor 9th can be used with major triads while the secondary V_9 with a minor 9th can be used with minor triads only.

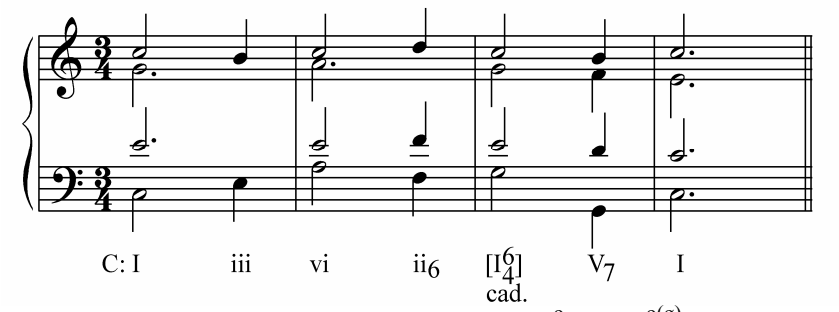


Similarly, the leading tone seventh chord can be both half diminished (vii$^{ø}{}_{7}$) or fully diminished (vii$^{o}{}_{7}$, modal borrowing) in a major key but it can be only fully diminished (vii$^{o}{}_{7}$) in a minor key. Both *secondary* vii$^{ø}{}_{7}$ and vii$^{o}{}_{7}$ can be used with major triads while the *secondary* vii$^{o}{}_{7}$ can be used with minor triads only.

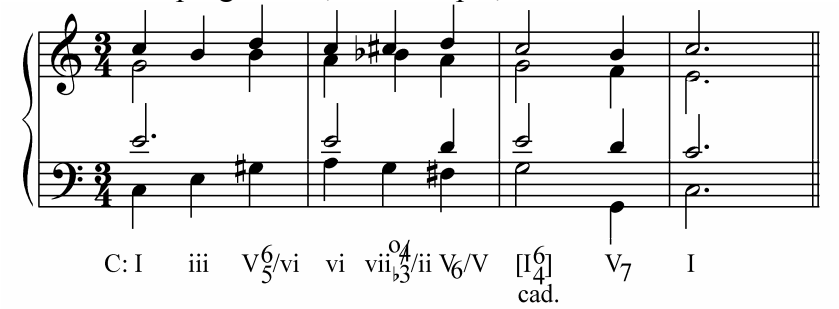


Placement and use

A secondary dominant chord is usually used before and resolves to its expected chord of resolution, i.e., its temporary tonic (which can be a triad, seventh chord or, rarely, ninth chord). A secondary dominant chord can be placed after practically any chord. For example, if there is the following diatonic chord progression I–iii–vi–ii$_{6}$–[I$^{6}{}_{4}$]–V$_{7}$–I,



any secondary dominant (V, V$_{7}$, V$_{9}$, vii^{o} or vii $^{o(ø)}{}_{7}$) may be placed before any of the diatonic chords of the progression, for example, I–iii–V$^{6}{}_{5}$/vi–vi–vii$^{o4}{}_{3}$/ii–V$_{6}$/V–[I$^{6}{}_{4}$]–V$_{7}$–I.

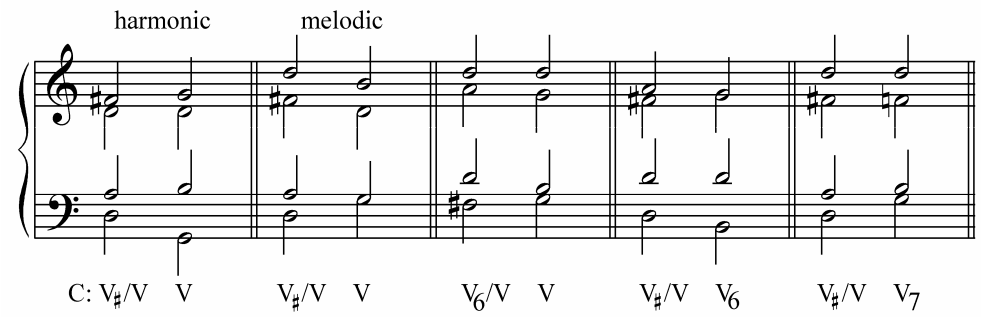


A secondary dominant of V, which was one of the first secondary dominants to be used in classical music, can be also followed by the cadential I$^{6}{}_{4}$.

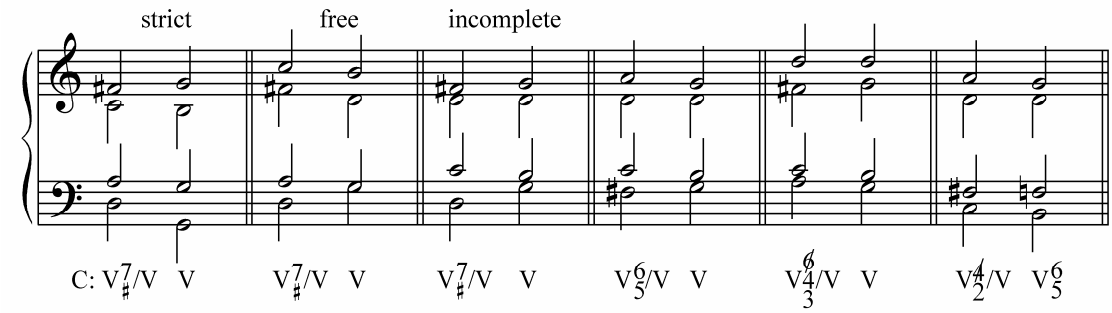
Voice Leading

Secondary dominant chords use the same doubling as diatonic dominants. When connecting secondary dominants with their temporary (secondary) tonic triads, one should follow the voice-leading procedures normal to those diatonic dominants.

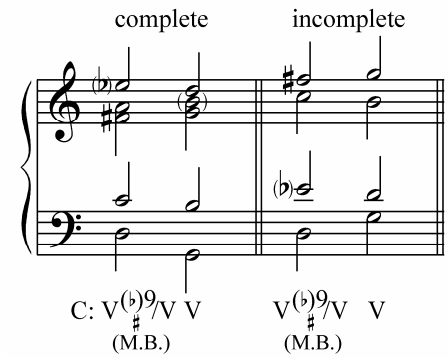
Secondary dominant triad (V) resolution



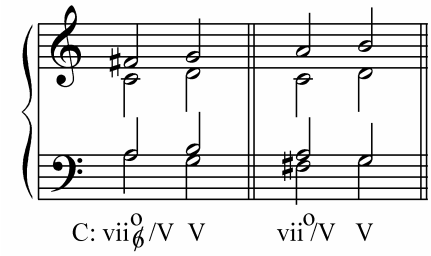
Secondary dominant seventh chord (V_7) resolution



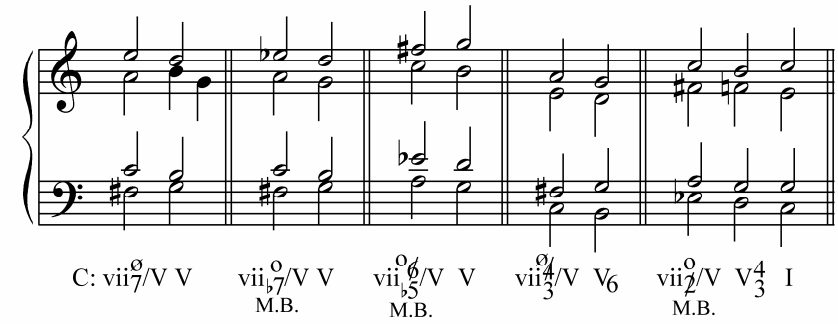
Secondary dominant ninth chord (V_9) resolution



Secondary leading tone triad (vii^o) resolution

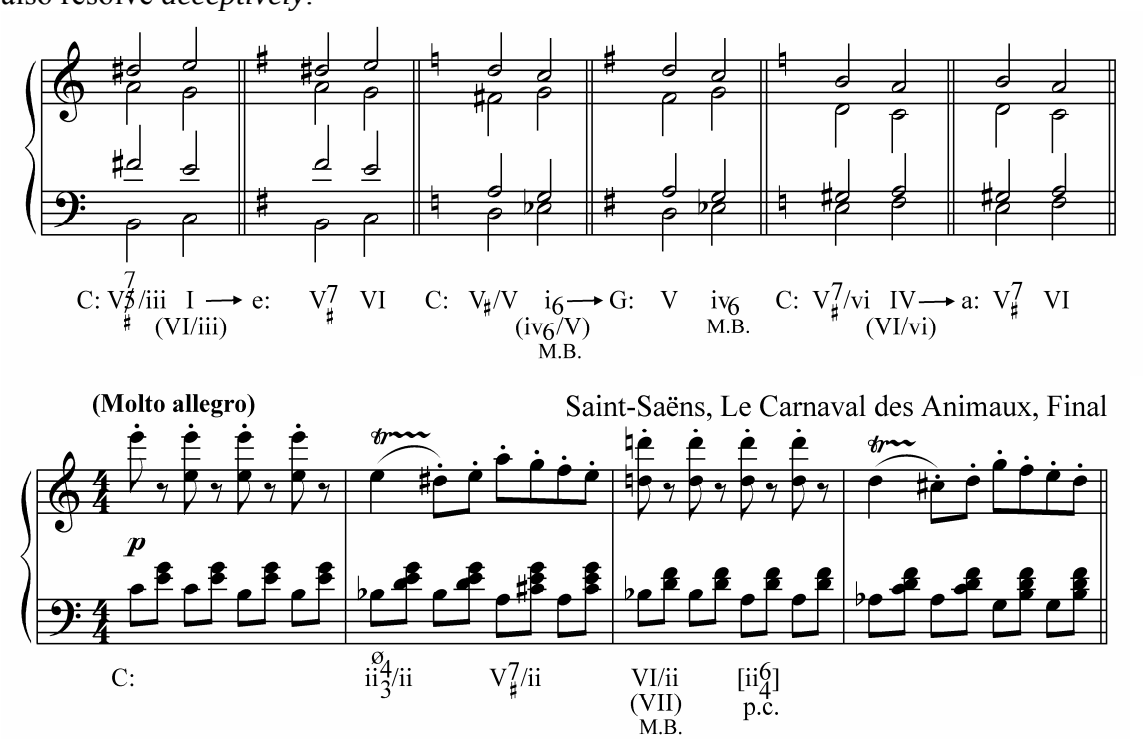


Secondary leading tone seventh chord ($vii^{o(ø)}{}_7$) resolution

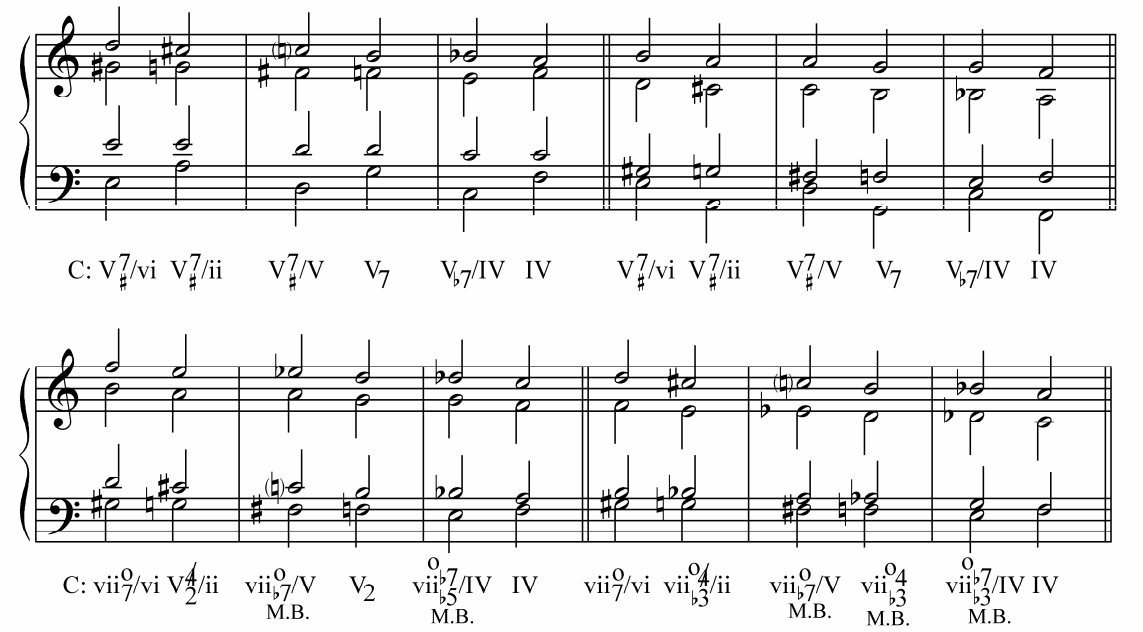


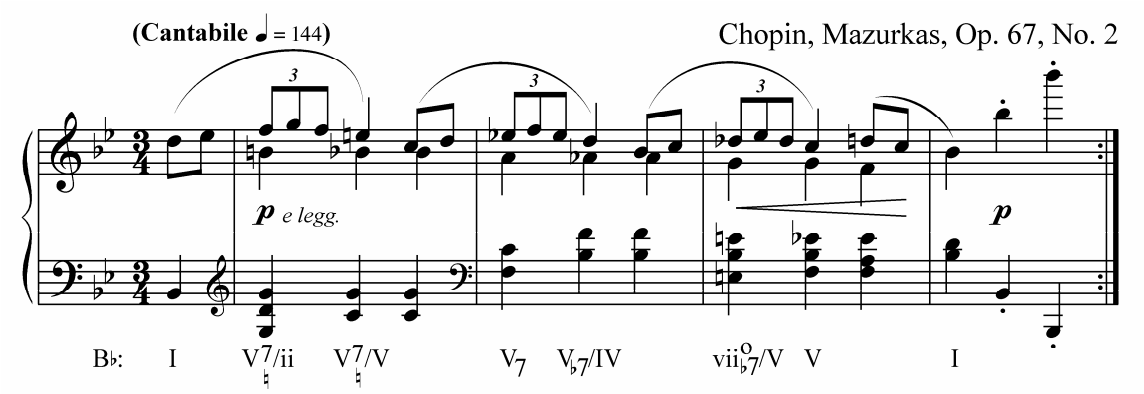
Special Use

Similar to a deceptive resolution of dominant chords (V–vi, V_7–IV_6), a secondary dominant may also resolve *deceptively*.



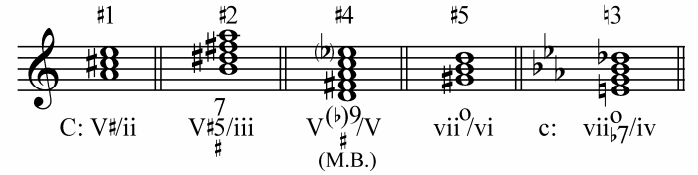
A secondary dominant may proceed to another secondary dominant, often as part of the circle of fifths. For example, V/ii may be followed by V/V since the root of the expected ii is the same as the root of V/V. If a secondary dominant seventh chord in root position resolves to another secondary dominant seventh chord in root position, one of the chords must be incomplete; otherwise parallel 5th's occur. No parallel 5th's occur when one secondary dominant in one inversion proceeds to another in a different inversion.



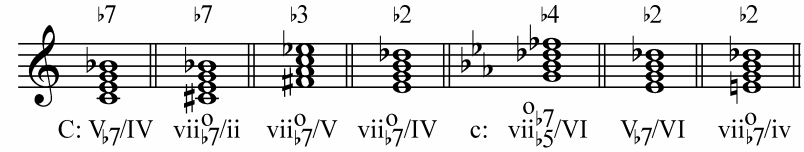


When harmonizing a soprano or bass line, accidentals may hint on where a secondary dominant can be used. Depending on how the accidental alters the diatonic note (by step up or down), a certain secondary dominant chord can be used.

1) If the diatonic note is chromatically *raised*, it becomes the leading tone to the note a step above it and it is usually the *3rd* of the secondary V, V_7 or V_9 or the *root* of vii° or vii°(ø)$_7$[33].



2) If the diatonic note is chromatically *lowered*, this can be the *7th* of either V_7 or vii°$_7$.



Since all dominant chords always have the following intervallic structure, it can be helpful in finding and spelling a secondary dominant chord if one remembers the structure of each dominant chord.

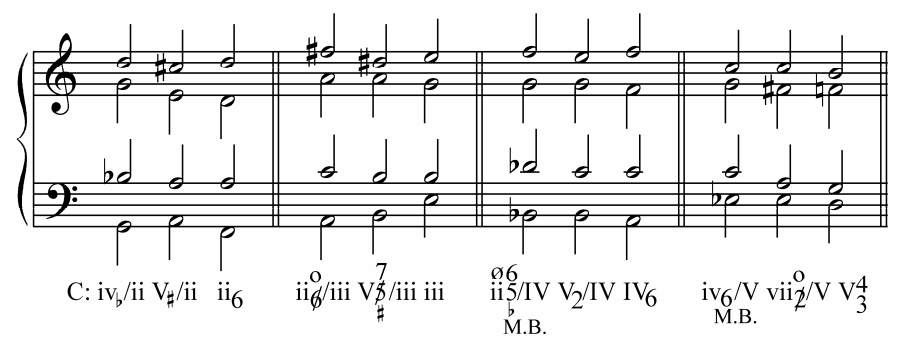
V	V_7	V_9	vii°	vii°$_7$ (vii°$_7$)
		M3 (m3)		M3 (m3)
	m3	m3	m3	m3
m3	m3	m3	m3	m3
M3	M3	M3		

For example, when finding V/ii in C major, one first should find the root of V/ii, which is a P4 below (or a P5 above) the root of its secondary tonic (ii), which would be the note A. Knowing that a dominant triad contains M3 and m3, the 3rd and the 5th of the chord can be now easily found (C-sharp and E respectively).

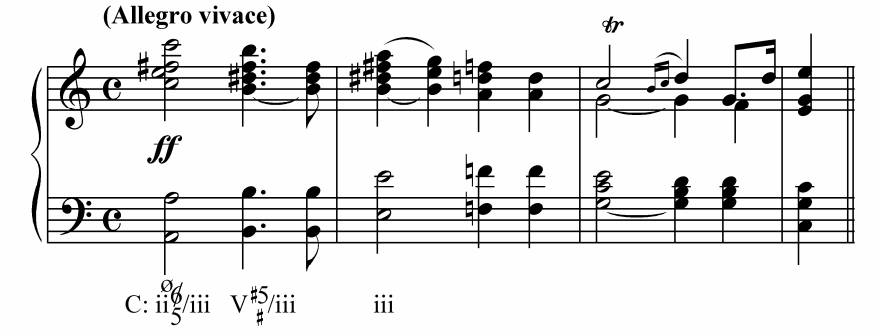
Secondary Subdominants

Like a secondary dominant may be used before its secondary tonic, a *secondary subdominant* may be sometimes used too. Similar to secondary dominants, the chords IV, ii, ii_7, their inversions and, sometimes, vi can function as secondary subdominants. They can be directly connected with their secondary tonics but are often used right before a secondary dominant producing a longer *secondary* chord progression.

[33] Note that in a major key the raised 6th scale-degree can't be used as a chord tone of a secondary dominant since it tends to move to the leading tone on which no diatonic major or minor triad can be built.



Mendelssohn, A Midsummer Night's Dream, Op. 61, Wedding March

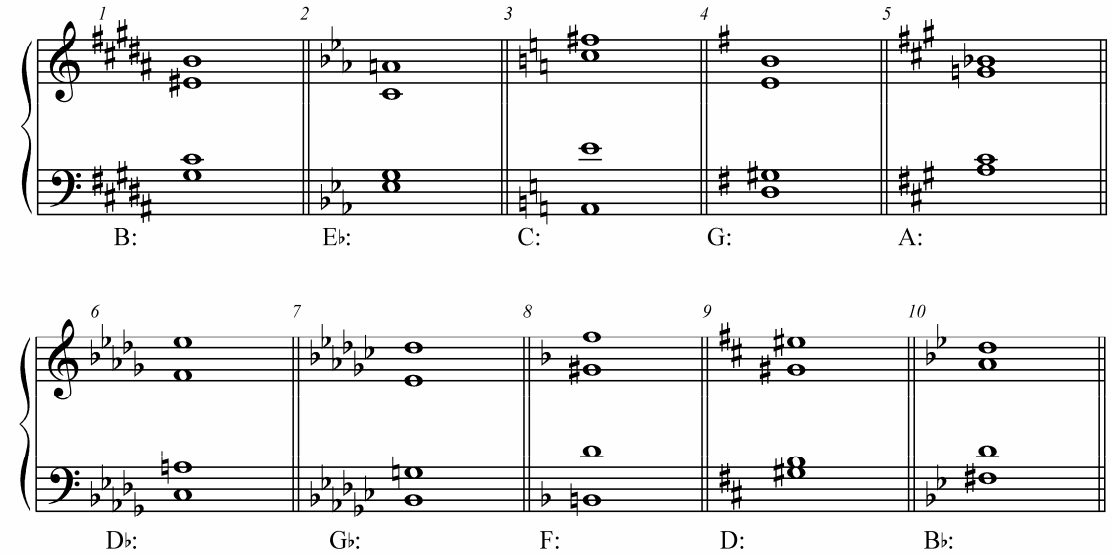


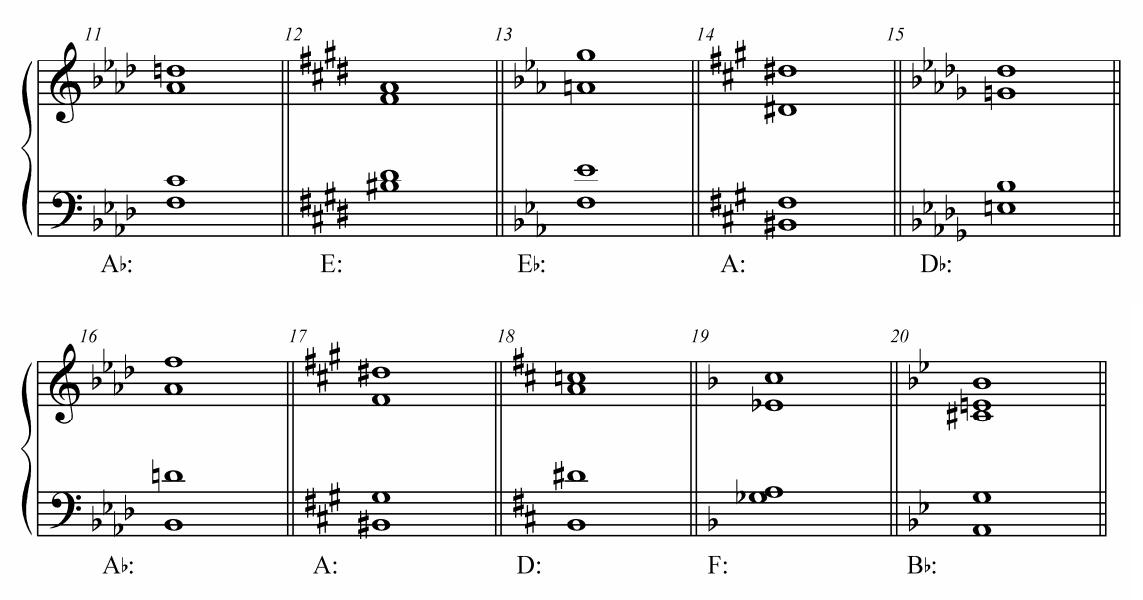
Exercises

1. Spell the following chords in A major and E-flat major in root position; use treble clef and key signatures: V/ii, V_7/iii, V_9/IV, vii°/V, vii°$_7$/vi, iv/ii and ii$^{ø}{}_7$/iii.

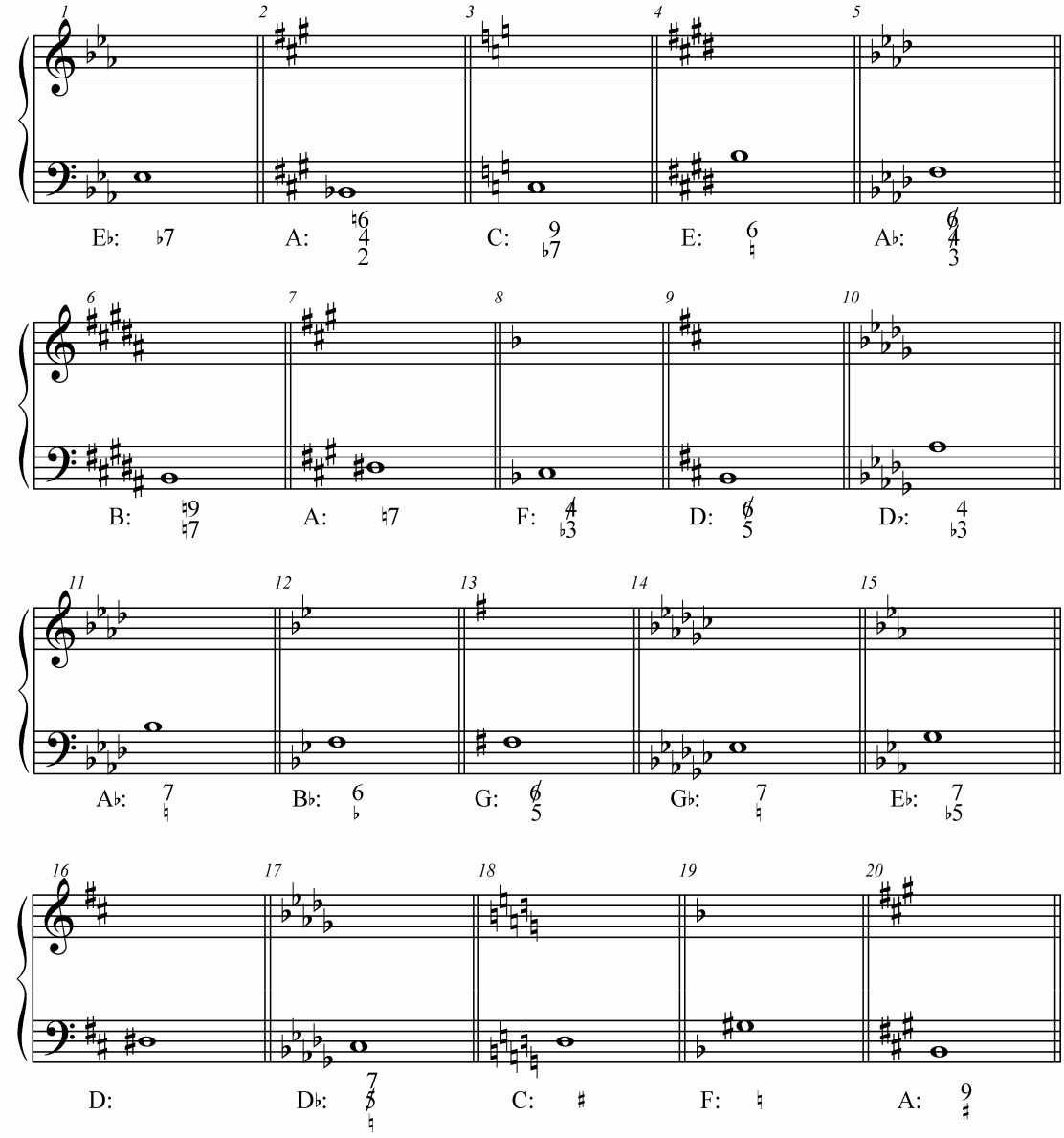
2. Spell the following chords in B minor and C minor in root position; use treble clef and key signatures: V/III, V_7/iv, V_9/V, vii^{ø}/VI, vii$^{ø}{}_7$/VII, iv/iv and ii$_7$/VI.

3. Identify the following secondary dominants using Roman numerals and figured-bass symbols and resolve them correctly.





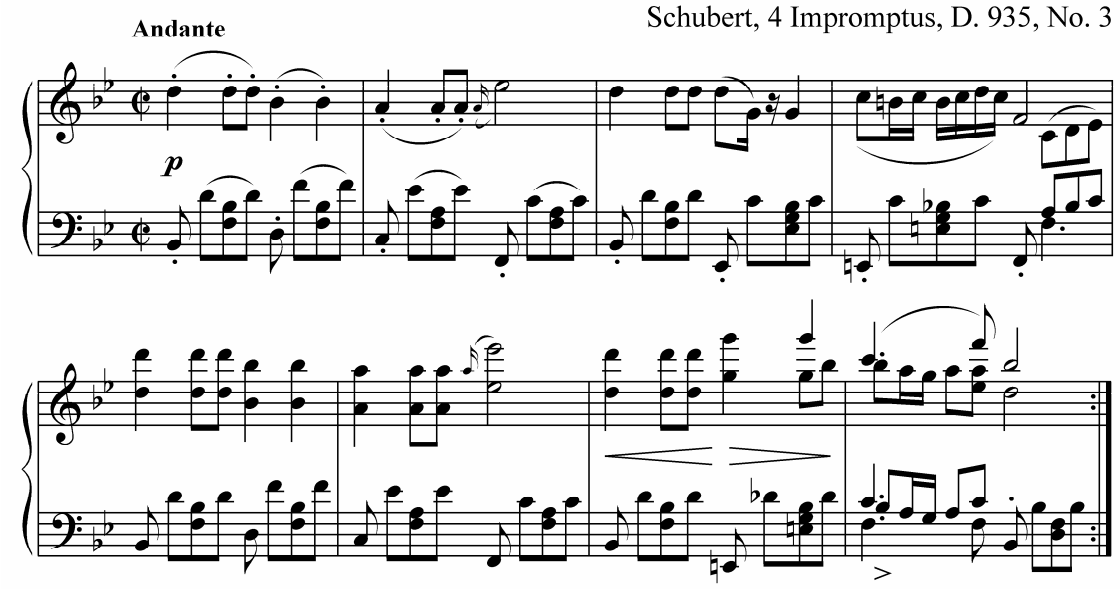
4. Realize the following figured-bass symbols of secondary dominants and resolve them correctly.



5. Analyze the following excerpts.

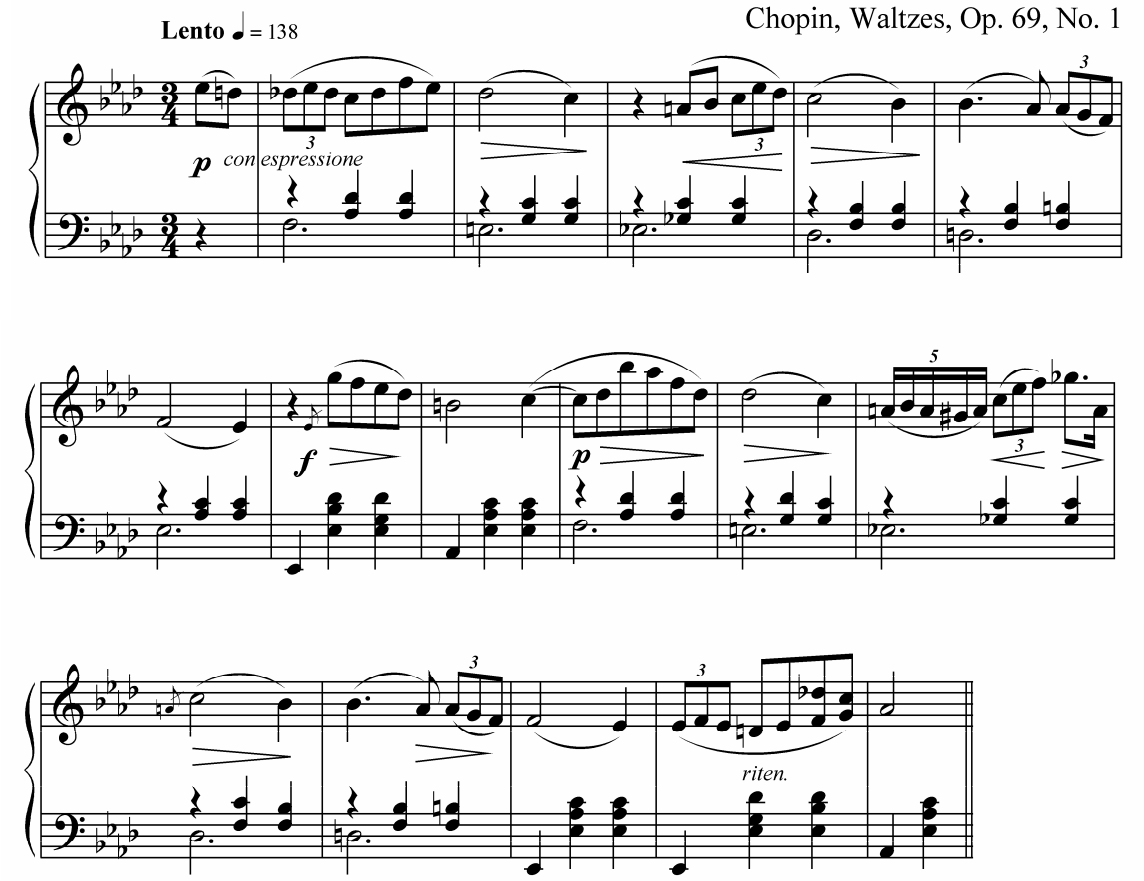
a)

Schubert, 4 Impromptus, D. 935, No. 3



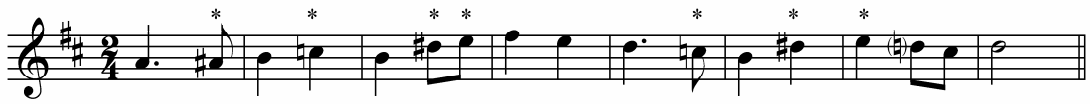
b)

Chopin, Waltzes, Op. 69, No. 1



6. Harmonize the following sopranos and realize the figured basses. Use a secondary dominant where indicated by an asterisk.

a)



b)

c)

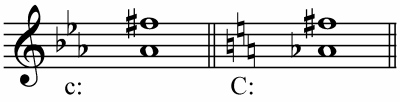
d)

A*ugmented sixth chords* are chords which contain the interval of the *augmented sixth* (A6). Augmented sixth chords are *altered* (chromatic) chords.

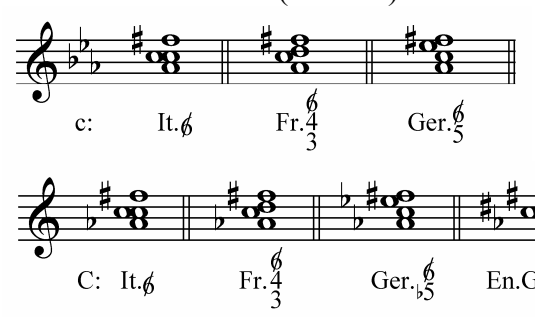
There are various types of augmented sixth chords but those that can be found more often are called *altered secondary dominants of V*.

Altered Secondary Dominants of Dominant

In the altered secondary dominants of V, the interval of the A6 is formed between the 6th scale-degree and the raised 4th scale-degree in a minor key or the lowered 6th scale-degree (modal borrowing) and the raised 4th scale-degree in a major key.

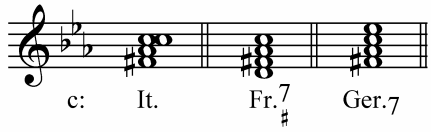


Various altered secondary dominants of V can be built by adding one or two notes to this A6. The most used of them have the following names: Italian (It.), French (Fr.), German (Ger.) and Enharmonic German (En.Ger.)[34].

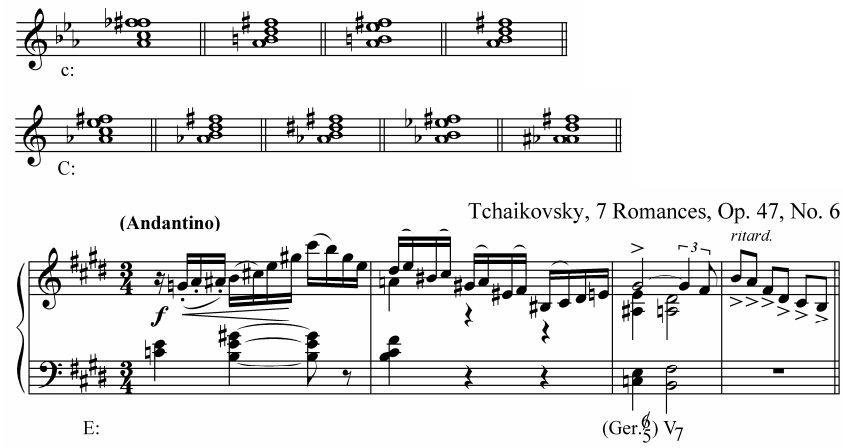


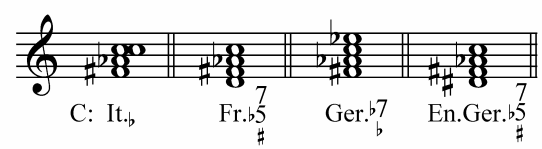
The chords are mostly found in the given above inversions, that is, with the lowest note of the A6 (the 6th scale-degree) being in bass (It.$_6$, Fr.$^4_3$, Ger.$^6_5$, and En.Ger.$^4_3$).

In the following example the altered secondary dominants of V are shown in their root position.



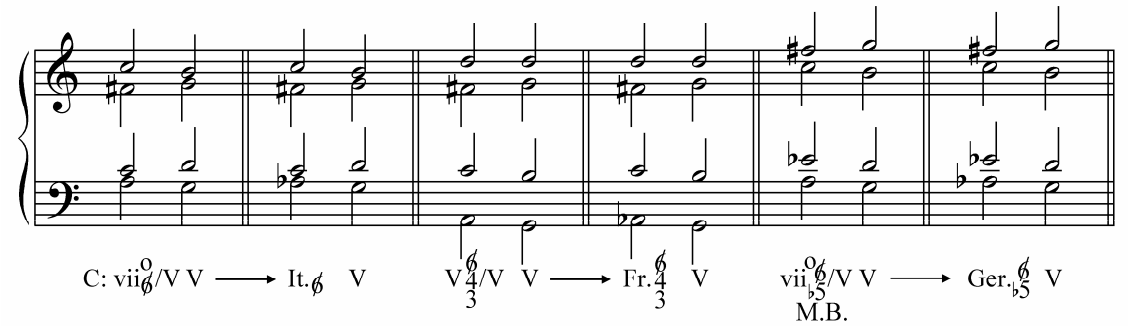
[34] There is a number of other augmented sixth chords which can be built using this A6 (A-flat, F-sharp) but those have no names and can be found rather rarely.





As seen from the example, the chords are structurally identical in both major and minor keys. The enharmonic German chord (sometimes called "the chord of the doubly augmented fourth" [35]) can be found only in a major key. The Italian chord is a triad in which the 5th is normally doubled (the tonic scale-degree).

These augmented sixth chords are similar to secondary dominants of V and, thus, function in the same way. Due to such similarity they are called *altered* secondary dominants of V in which one note is *altered*.

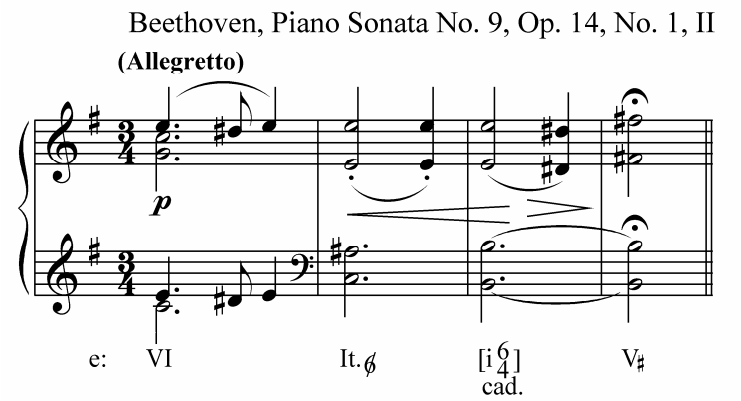


The Italian and German chords are like vii°/V and vii°$_7$/V respectively, both with a lowered (altered) *third*; the French chord is like V$_7$/V with the lowered *fifth*.

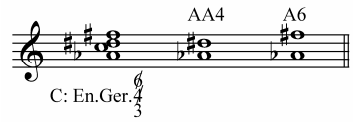
Preparation

The altered secondary dominants of V can follow I, its inversions and subdominant chords (vi, IV, ii, ii$_7$, etc.).

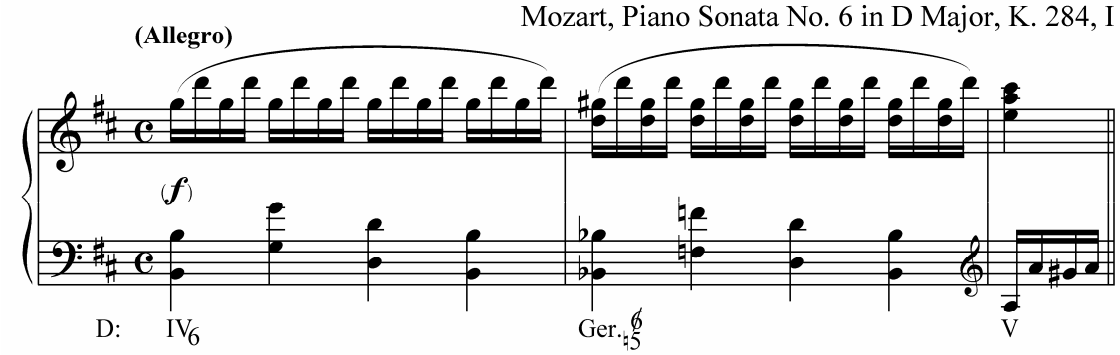
The subdominant chords are normally used in such inversion in which the *6th* or *lowered 6th scale-degree* would be in bass. In such case the altered secondary dominants of V would be in their normal inversion.



[35] In its usual inversion (En.Ger.$^4_3$) the enharmonic German chord contains two augmented intervals, that is, the doubly augmented 4th (A-flat and D-sharp in the example below) and the augmented 6th (A-flat, F-sharp).

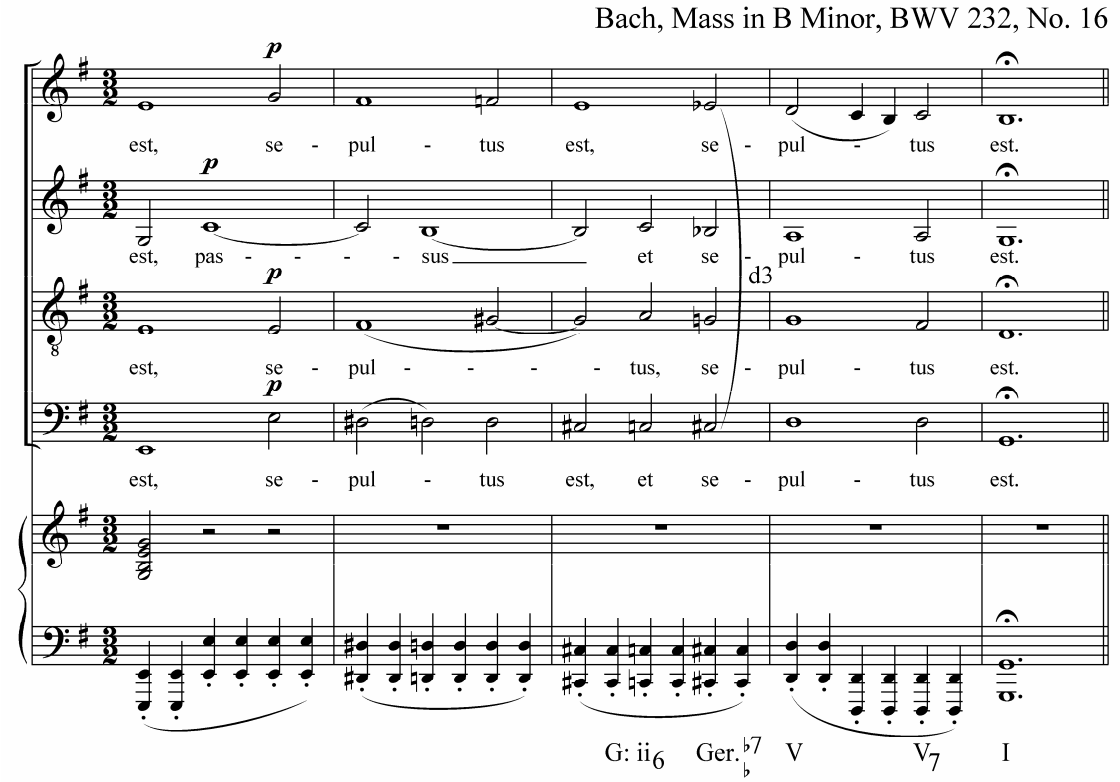


Mozart, Piano Sonata No. 6 in D Major, K. 284, I



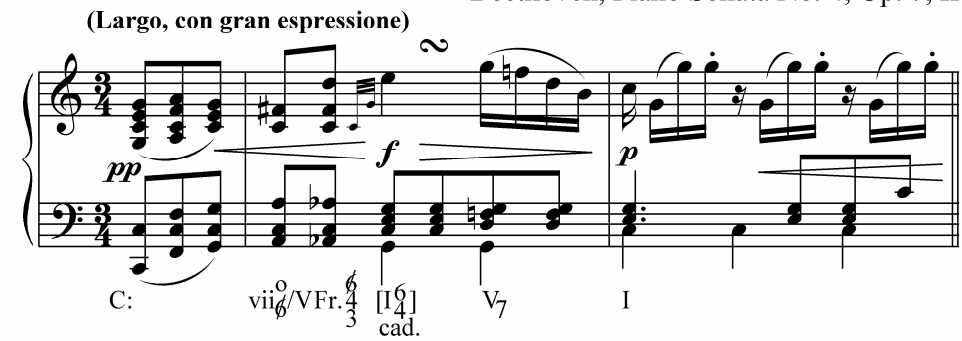
The subdominant chords can be sometimes used with the 4th scale-degree in bass. In such case the note would be raised in the same voice (bass) making the altered secondary dominant of V to be in its less often inversion (d3 instead of A6).

Bach, Mass in B Minor, BWV 232, No. 16



The altered secondary dominants of V have stronger tendencies to move to V than the normal secondary dominants of V, that is why they can be used right after them with the chromatic alteration often in bass like in the following example.

Beethoven, Piano Sonata No. 4, Op. 7, II

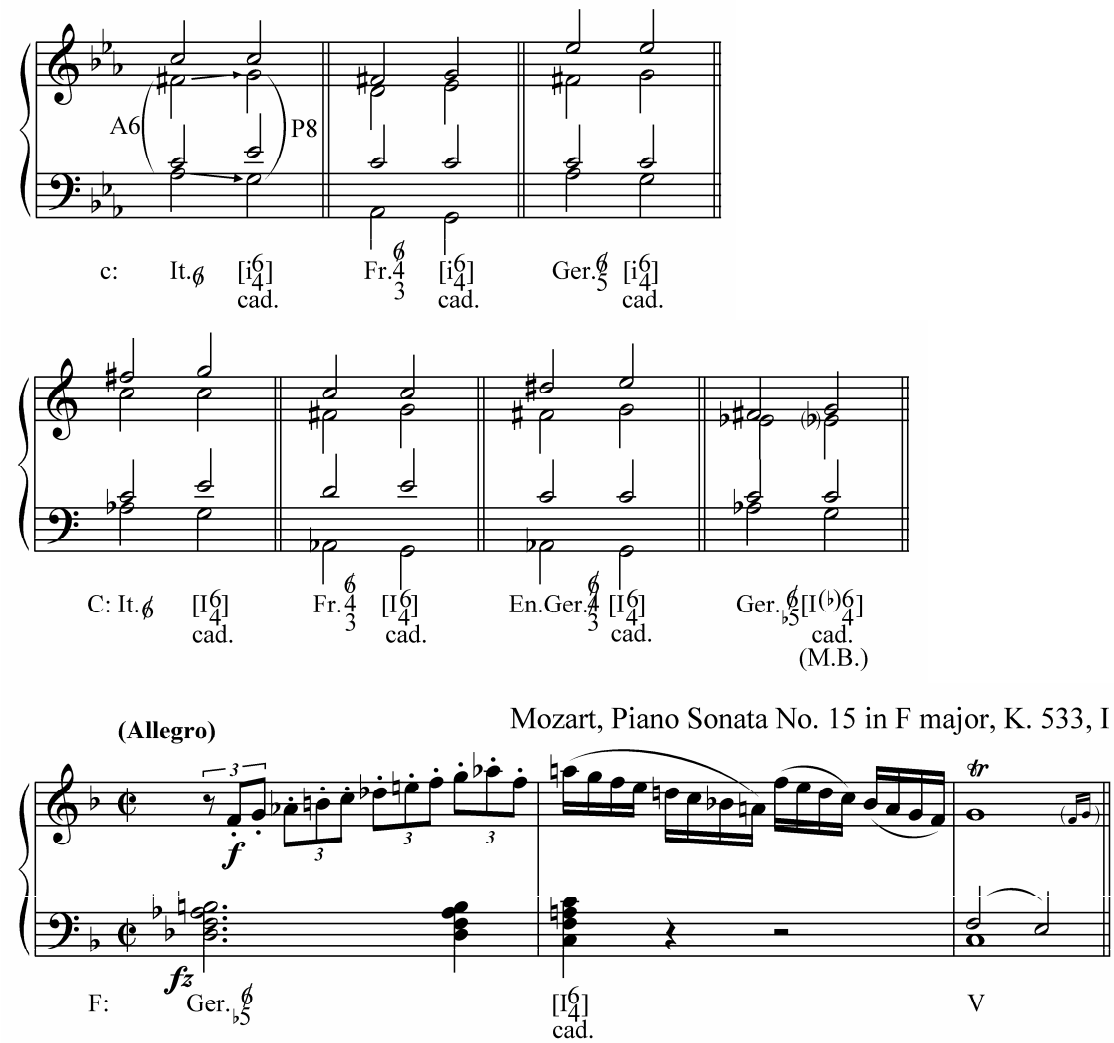


Resolution

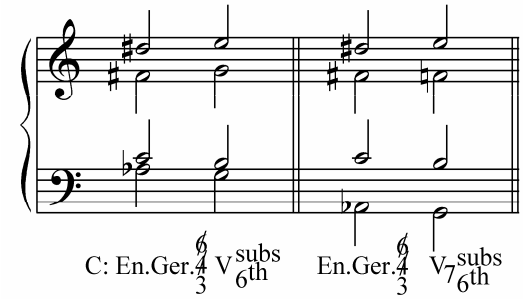
The altered secondary dominants of V are more often found in cadences resolving to dominant chords (the cadential $I^6{}_4$, V, or V_7).

The resolution of the chords is based on the *resolution of the A6*. When resolving to the cadential $I^6{}_4$ or V, the A6 resolves outward by step to a P8 (or its inversion (d3) to a P1). The other voices move smoothly, the common tone(s) remaining stationary.

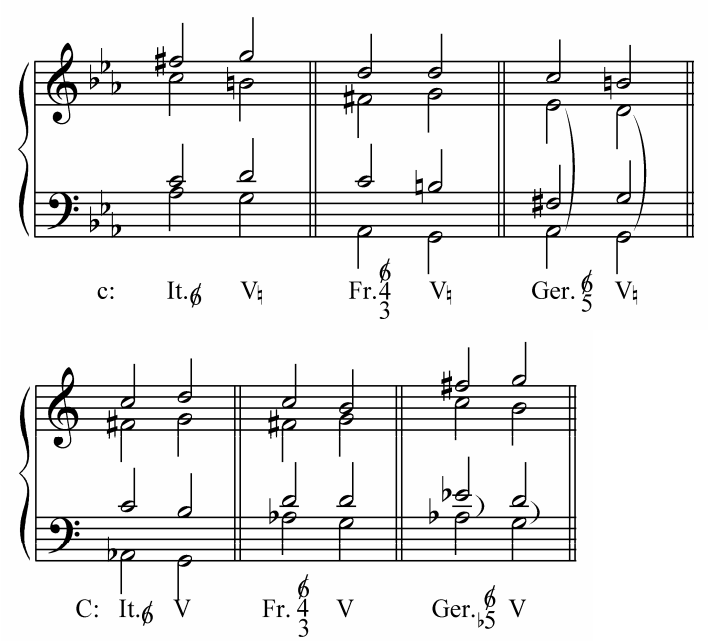
Resolution to Cadential $I^6{}_4$



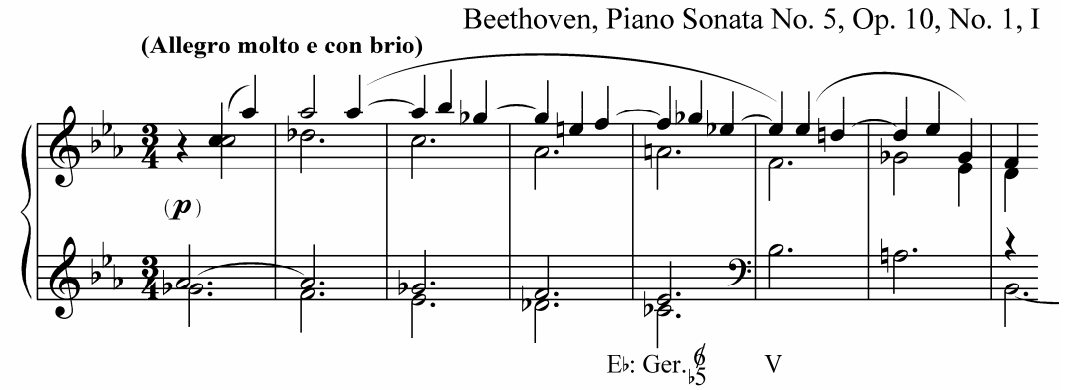
The enharmonic German chord normally resolves almost only to the cadential $I^6{}_4$. V subs. 6th or V_7 subs. 6th may be sometimes used instead of the cadential $I^6{}_4$.



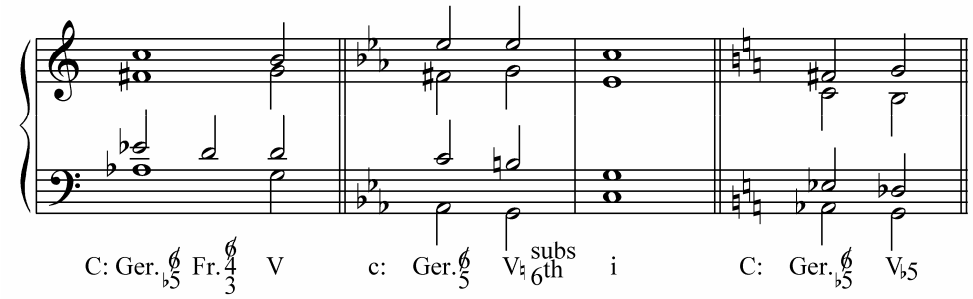
Resolution to V



Beethoven, Piano Sonata No. 5, Op. 10, No. 1, I

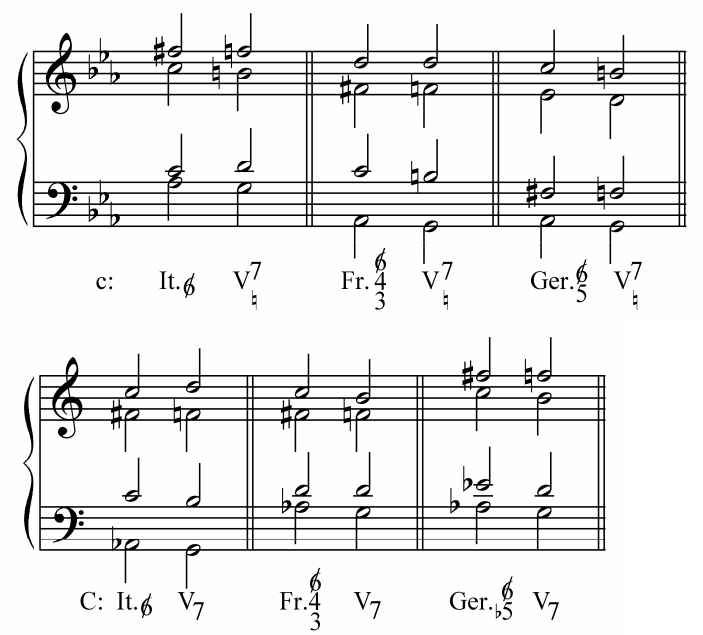


As seen from the examples above, *parallel 5th's* occur when resolving the German chord to V. Such parallel 5th's (sometimes called "Mozart fifths") are *allowed* if used between bass and an inner voice. Anyway, these parallel 5th's can be avoided if the German chord moves to the French chord before its resolution or if it is resolved to V subs. 6th (or rarely to the altered V).



When the altered secondary dominants of V resolve to V_7, the raised 4th scale-degree often moves by a half step *down* to the seventh of V_7 (i.e., the altered scale-degree moves back to its diatonic variant).

Resolution to V_7



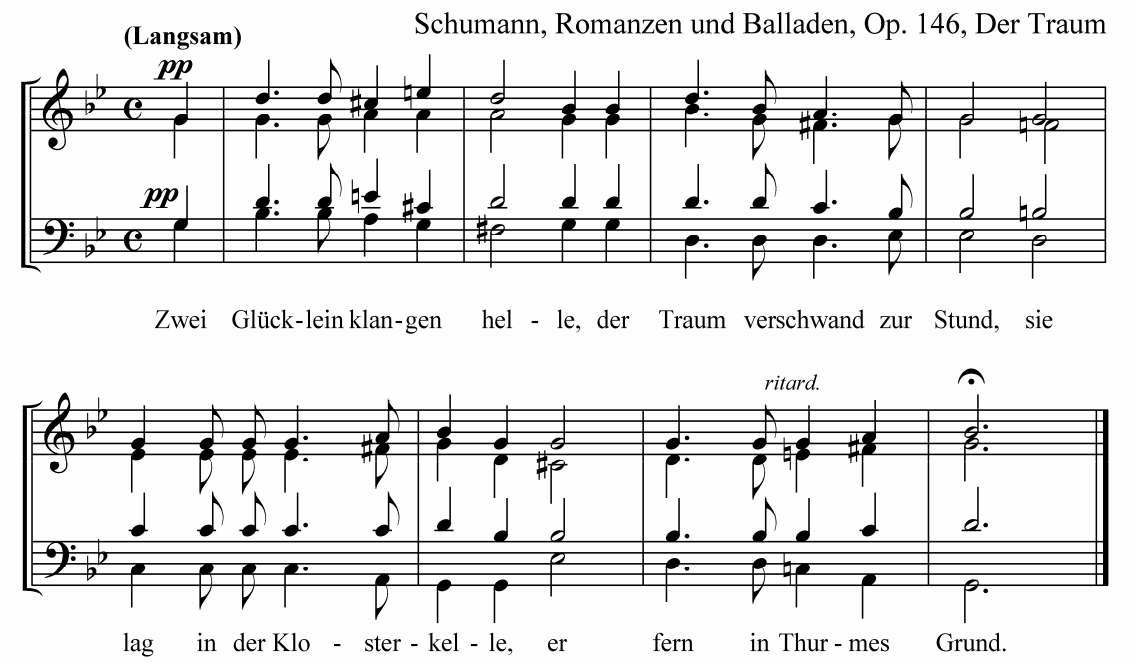
Here again, one can find parallel 5th's in the resolution of the German chord.

As mentioned before, the chords can be sometimes found in the inversions different from the one usually used. No matter what inversion the chords are in, they resolve using the same voice leading as in their normal inversion.

Exercises

1. Spell the Italian, French and German chords in various keys. For major keys, add the enharmonic German chord.

2. Analyze the following excerpts.
   a)



b)

Beethoven, Piano Sonata No. 8, Op. 13, III

(Allegro)

p

cresc. sf

p

3. Identify and resolve the following augmented sixth chords.

[i$^{6}_{4}$] cad.

[I$^{6}_{4}$] cad.

V$_{\sharp}$

V$^{7}_{\sharp}$

[I$^{6}_{4}$] cad.

V$^{7}_{\sharp}$

V$_{\sharp}$

[I$^{6}_{4}$] cad.

4. Harmonize the following sopranos and realize the figured basses. Use an augmented sixth chord where indicated by an asterisk.

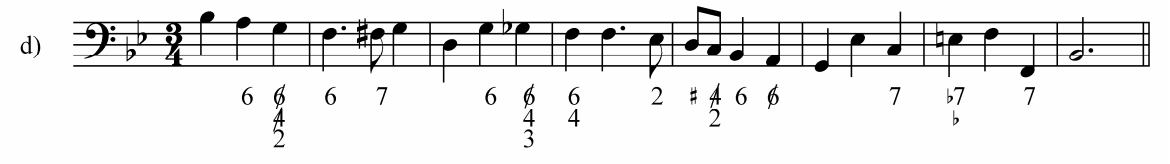
a)

b)

c)

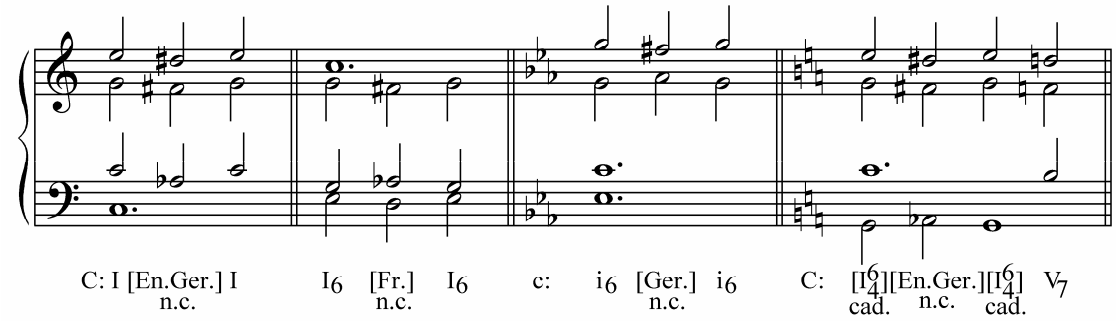
6 5 4 ♭3 6 ∅ 6 4 7 2 6 6 5 ∅ 5 ♮ 6 4 7

d)

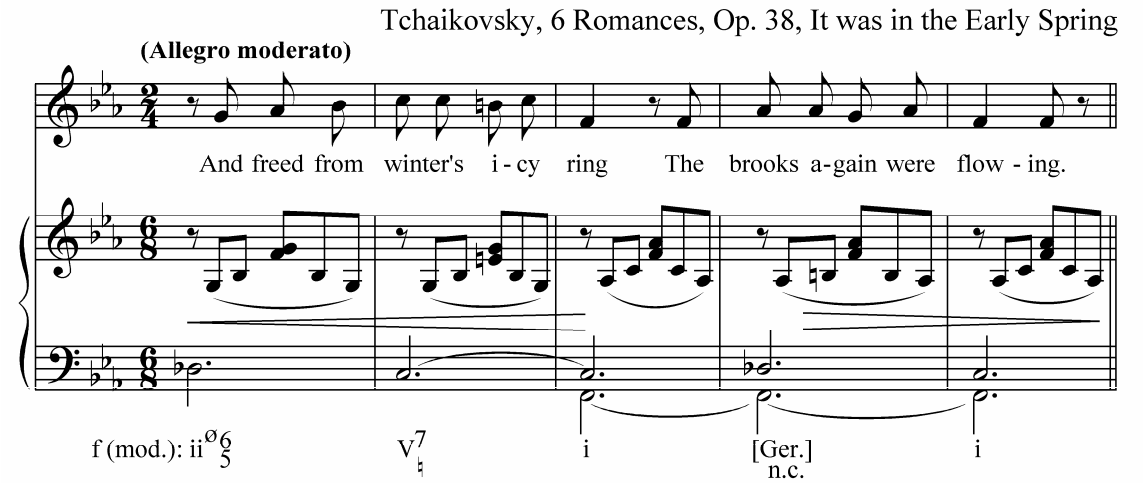


Special Use

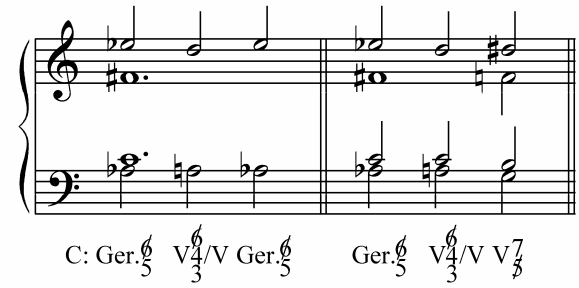
The altered secondary dominants of V may be used as *linear* (neighboring or, rarely, passing) chords. They can be placed between the two tonic triads in root position, 1st or even 2nd inversions. The voice leading is usually smooth.



The progressions from the examples shown above sound *plagal* and can be used either within a phrase or at the end of it, right after an authentic cadence, like in the following example.



The altered secondary dominants of V may move to normal (not altered) secondary dominants of V and, then, back, i.e., they can be embellished with normal secondary dominants. Sometimes they would move to a normal secondary dominant of V which would later resolve to a dominant (usually the altered one).



Borodin, Le Prince Igor, Cavatine de Kountchakôvna

(Largo ♩ = 48)

(p)

G♭: I Ger.$_{\flat\flat5}^{\phi}$ V$^{\phi}_{4}$/V$_{3}$ V$^{7}_{\flat}$ I

Since altered secondary dominants of V would normally move to dominant chords, they can be sometimes used as preparations for secondary dominants as well.

C: It.$_{\phi}$/V V$_{\sharp}$/V V ⟶ G: It.$_{\phi}$ V I c: Ger.$^{\phi}_{5}$/iv V$^{7}_{\natural}$/iv iv C: Fr.$^{\phi}_{4}$/ii$_{3}$ V$_{\sharp}$/ii ii$_{6}$

Mozart, Piano Sonata No. 14 in C Minor, K. 457, I

(Allegro)

f p

E♭: I It.$_{\phi}$/ii V$_{\natural}$/ii vii$^{o}_{4}$$_{\flat3}$/ii ii$_{6}$ [I$^{6}_{4}$] cad. V$_{7}$ vii$^{o}_{7}$/vi vi

Altered Dominants

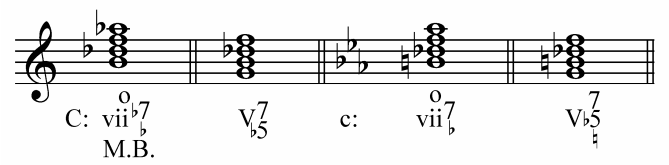
Another group of augmented sixth chords can be built using the A6 between the lowered 2nd scale-degree and the 7th scale-degree (the leading tone).

C: c:

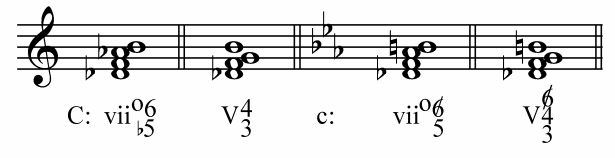
These are called *altered dominants*. There is a number of various altered dominant chords but those, which contain the A6, are usually only *two*. They are: a) the fully diminished leading tone seventh chord with a *lowered (altered) third* (vii$^{o7}_{\flat3}$) and b) the dominant seventh chord with the *lowered fifth* (V$^{7}_{\flat5}$)[36].

[36] There are other augmented sixth chords which can be built using this A6 but, again, these are quite rare.

C: c:

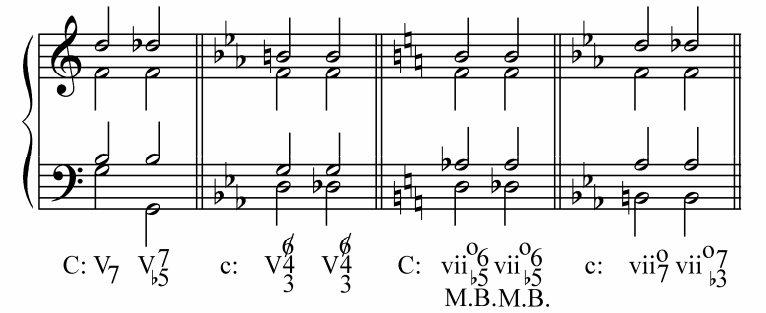


These chords are often found in the inversions shown in the example below (i.e., with the lowered 2nd scale-degree being in bass). Note the structural resemblance of these chords with the German and French chords.

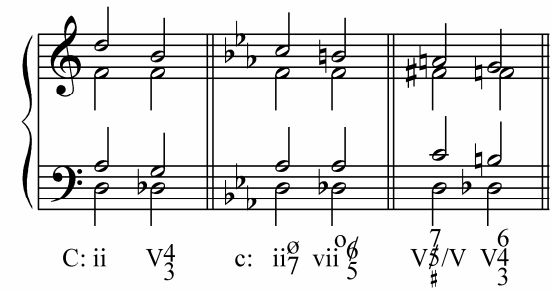


Preparation

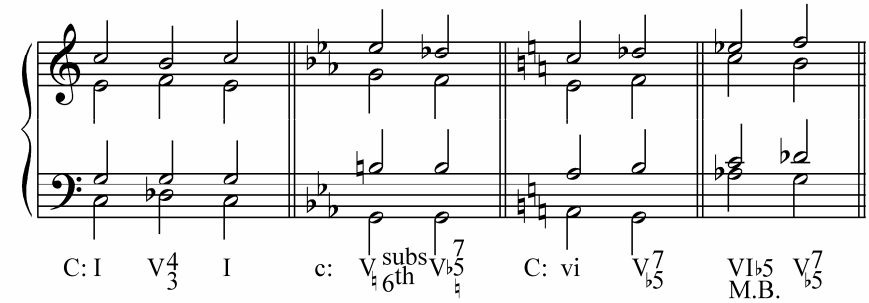
The altered dominants are best prepared with their diatonic equivalents.



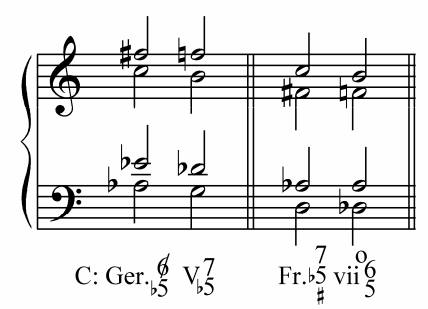
However it is also possible to use ii, ii$_7$ or V/V before them.



Like normal dominants, the altered dominants may be prepared or surrounded by I, follow V subs. 6th and, rarely, vi or modally borrowed VI.

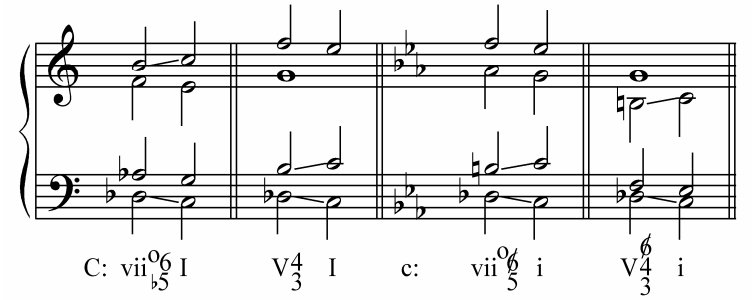


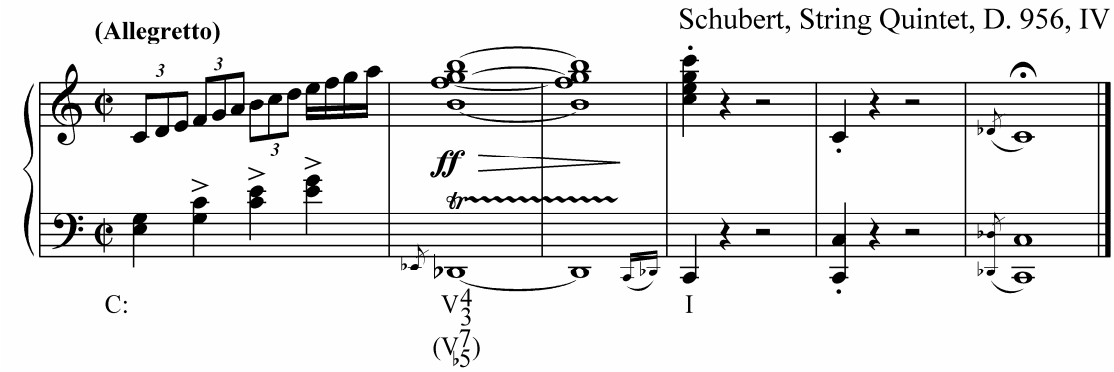
An altered secondary dominant of V (It., Fr. or Ger.) can be also used before an altered dominant.

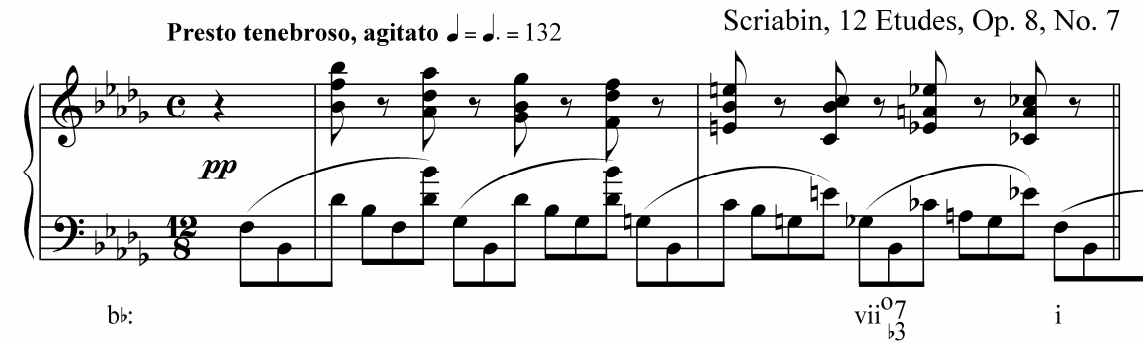


Resolution

These augmented sixth chords normally resolve to the tonic triad with the A6 resolving outward by step to P8. Such resolution is similar to the resolution of the altered secondary dominants of V.





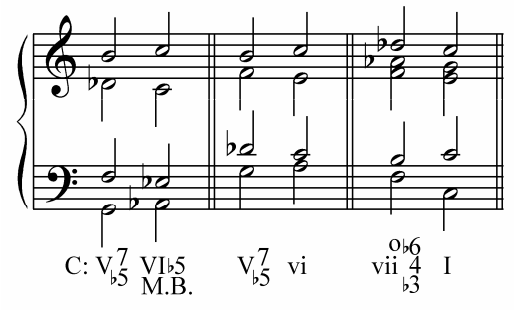


Usually used in the shown above inversions, the chords can be sometimes used in other inversions as well.

Cadences

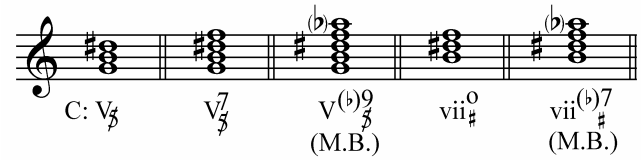
Besides being used in authentic cadences, the altered dominants can be also used in *deceptive* cadences. In major keys, the root position $V^7{}_{b5}$ often resolves to the modally borrowed VI, though the resolution to the normal vi is also possible. The connection of $vii^{o4}{}_3$ with I (i), in which bass

leaps a perfect 4th down (or, rarely, a perfect 5th up), sounds *plagal* and can be used in such cadences.



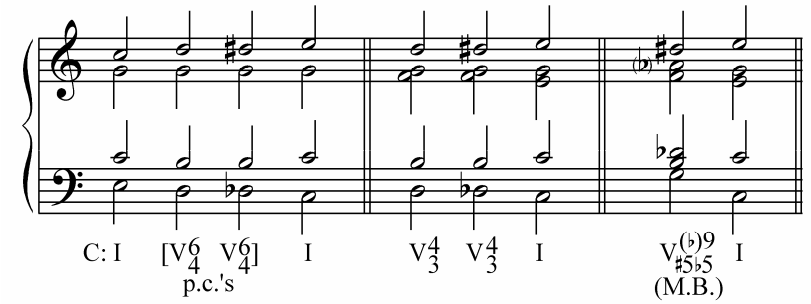
Other Altered Dominants

The two altered dominants with the A6 mentioned above are associated with the 2nd scale-degree being lowered. The other altered dominants, which *do not* contain the A6, can be built using the *raised 2nd scale-degree* in a major key[37]. They are V, V_7 and V_9 with the *raised 5th* and vii° and vii$^{ø}{}_7$ with the *raised 3rd*. Modally borrowed variants of vii°$_7$ and V_9 can be also used.

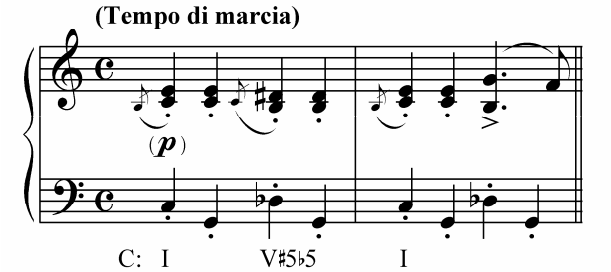


V_7 with the raised 5th is more often used in root position and 1st inversion; altered vii$^{(ø)o}{}_7$'s are more often used in root position and 2nd inversion.

It is also possible to find such altered dominants in which the 5th would be both *raised* and *lowered* at the same time. Due to such double alteration, dominant *triads* become *4-note chords*; *seventh chords*, *5-note chords*; *ninth chords*, *6-note chords*. Such complex chords (sometimes called "doubly altered dominants") are usually used as $V^6{}_4$ (often passing), $V^4{}_3$ and V_9. The raised 5th is usually placed in soprano while the lowered 5th, in bass. Double alteration is almost not used with vii°$_7$.

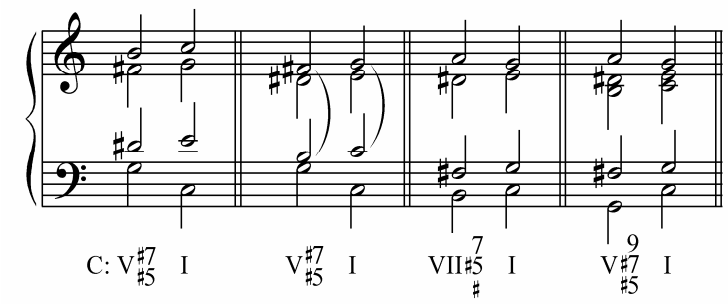


Prokofiev, Music for Children, Op. 65, No. 10

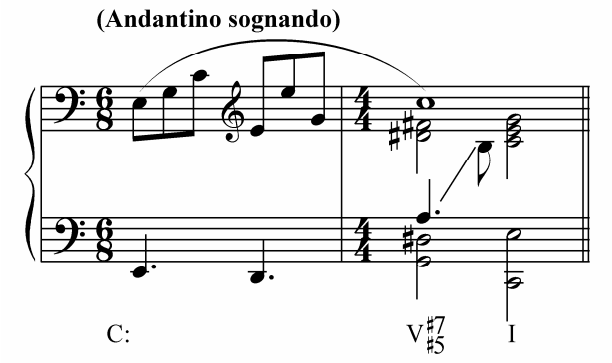


[37] The 2nd scale-degree *can't* be raised in a minor key.

In the music of the early 20th century and especially in the music of Prokofiev, it is possible to find such altered dominants in which both the 2nd and 4th scale-degrees would be raised ("Prokofiev dominant"). When the 7th of V_7 is raised, its usual tendency to move by step down is changed to move by step in the opposite direction, i.e., to the 5th of I (i). Parallel 5th's, which could occur in such resolution, are often difficult to avoid and, thus, are accepted.

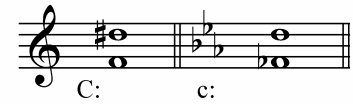


Prokofiev, Cinderella, Op. 107, Summer Fairy

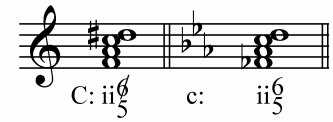


Altered Subdominants

The last group of augmented sixth chords is made up of a few *rarely used chords* and can be built using the A6 between the 4th scale-degree and the *raised* 2nd scale-degree in a major key or the *lowered* 4th scale-degree and the 2nd scale-degree in a minor key.

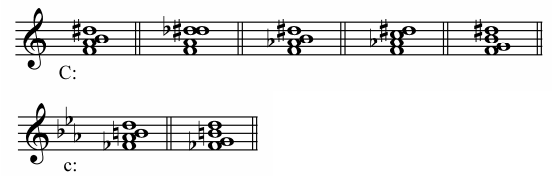


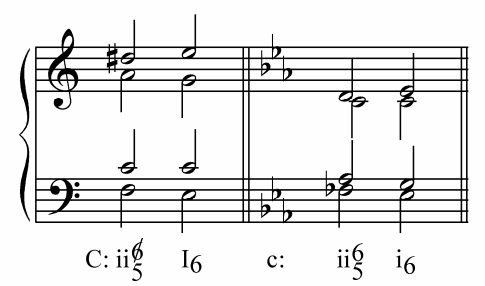
The chord, which can be found more often in major and minor keys, contains the pitches of the supertonic seventh chord (ii_7) in which one of the notes is *altered*[38].



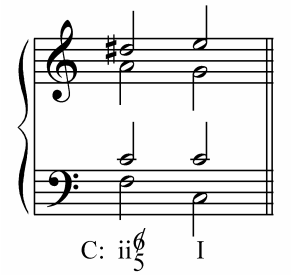
Since the A6 normally resolves to the P8, those chords usually resolve to I_6 (i_6) (note the doubled 3rd).

[38] The other chords, which can be built using this A6, are quite rare.

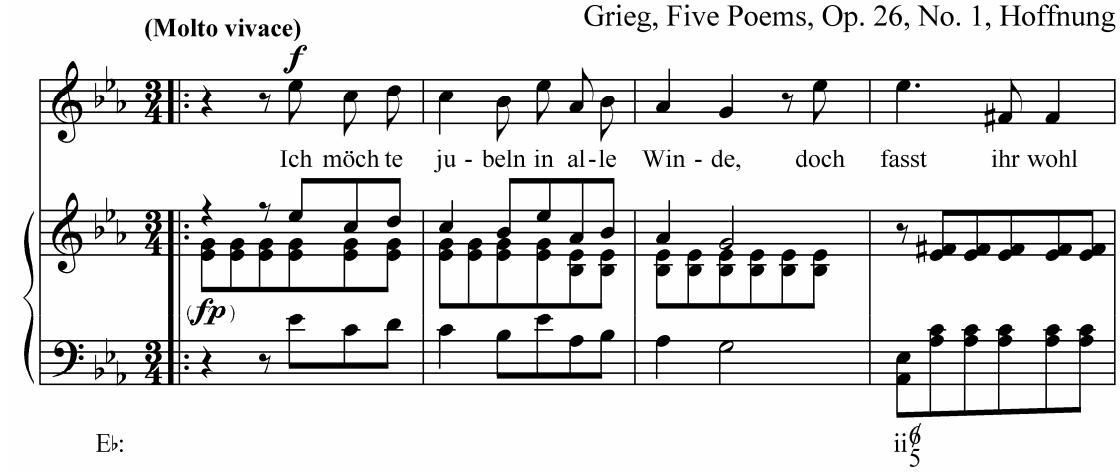


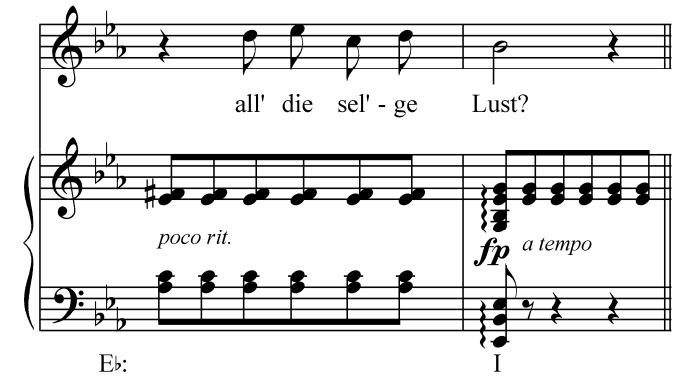


The chord from a major key can be also used in *plagal* progressions. Here it would resolve to I with a *leap of a perfect 4th down* in bass. The raised root of the chord moves a half step up in accordance with its tendency while the other tones move smoothly like in any plagal progression.



Grieg, Five Poems, Op. 26, No. 1, Hoffnung





The altered subdominant (ii$^{6}_{5}$) with the lowered 4th scale-degree in a *minor key* started to be used only at the end of the 19th century and is usually used in plagal progressions.

Rimsky-Korsakov, Christmas Eve, Act III, Tableau 5

(Adagio)

b: iv♭6 [i6/4] n.c. iv♭6

As seen from the example above, the lowered (altered) 4th scale-degree moves down to the 3rd scale-degree in accordance with its tendency. The note may sometimes leap down in bass to the tonic scale-degree (*diminished* 4th) producing a *special plagal cadence*.

Exercises

1. Analyze the following excerpts.

a)

Verdi, Rigoletto, Act I, Prelude

Andante sostenuto ♩ = 66

pp

b)

Chopin, Preludes, Op. 28, No. 22

Molto agitato (♩. = 132)

f

c)

Liszt, Liebesträume, S. 541/1, No. 3

Poco allegro, con affetto

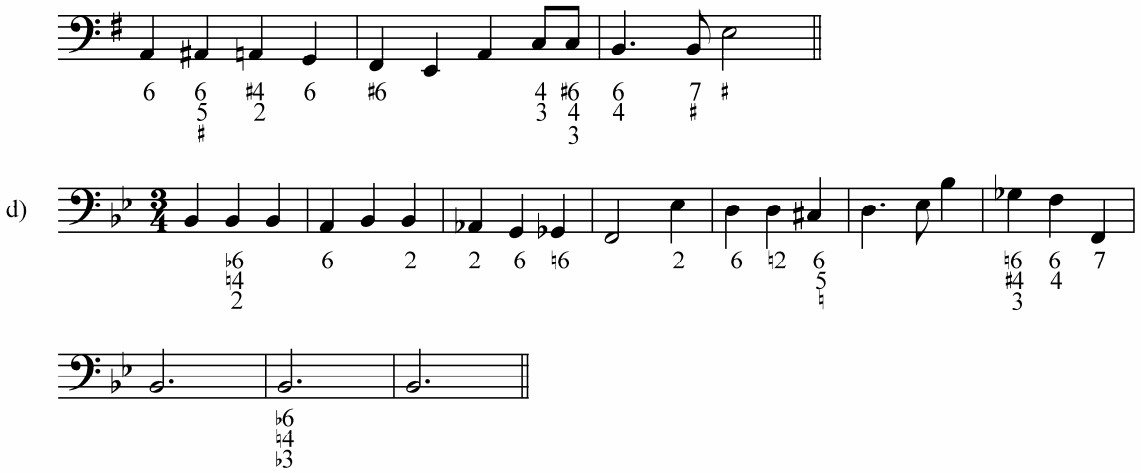
dolce cantando

2. Realize the following figured basses.

a)

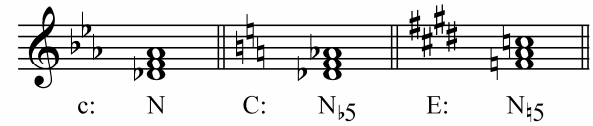
b)

c)


d)

Preliminary Information

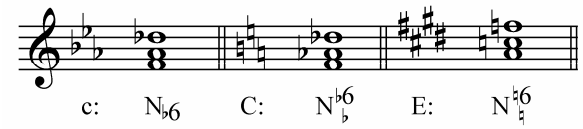
The *Neapolitan triad* is a chord built on the 2nd scale-degree and in which, in a minor key, the *root* is lowered and, in a major key, both the *root* and *5th* are lowered.



The quality of the triad is always *major* in both major and minor keys. The chord is identified with the letter N and is more often used in its *1st inversion* (Neapolitan sixth chord, N_6).

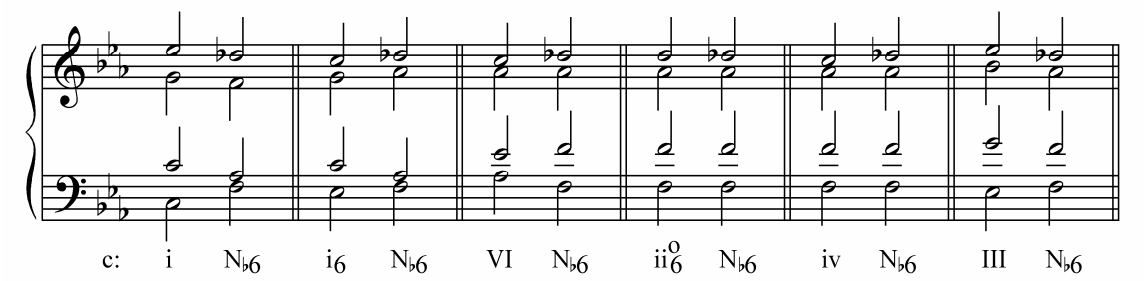
The Neapolitan Sixth Chord. Doubling, Preparation and Resolution

The *Neapolitan sixth chord*[39] is the most widely used *altered* subdominant chord.

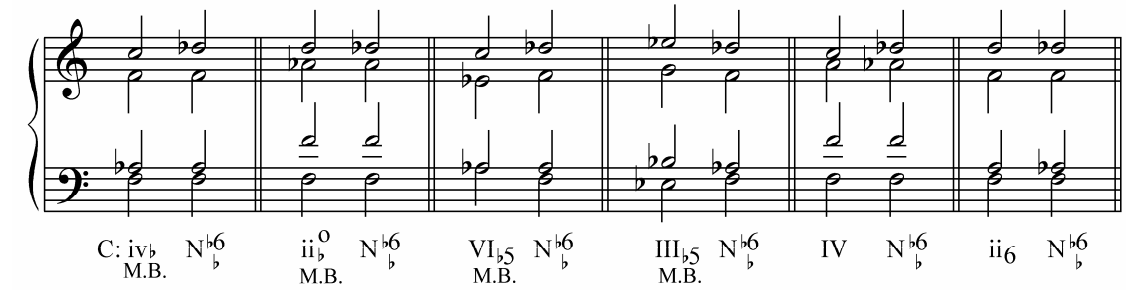


Similar to the diatonic ii_6, the *3rd* (the note in bass) is usually *doubled* in N_6, which is also the *root of IV*. Though, in order to have a smoother voice leading, the tone other than the 3rd may be doubled sometimes.

N_6 has the same function as ii. The chords, which can be used before and after ii, can be also used before and after N_6. In minor keys the tonic and subdominant chords (i, i_6, VI, ii^o_6, iv and rarely III) can be used before it.



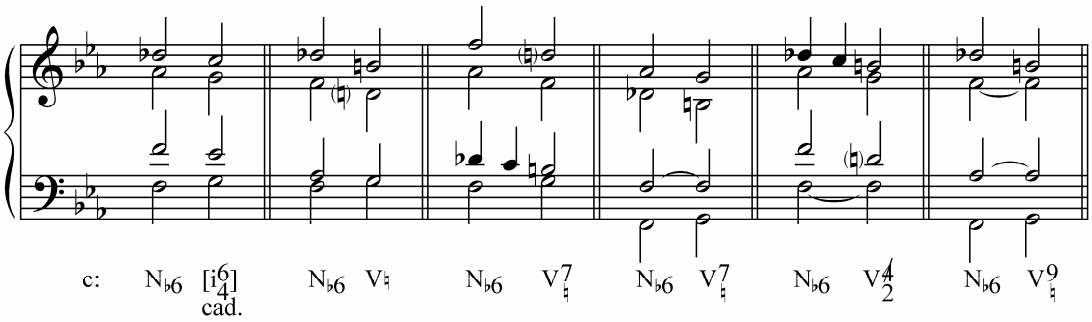
In major keys (where N_6 started to be used much later), the choice of chords is not as big as in minor keys. The normal IV, ii, vi and sometimes iii are not used as often as their equivalents borrowed from the parallel minor (iv, ii^o, VI and III).

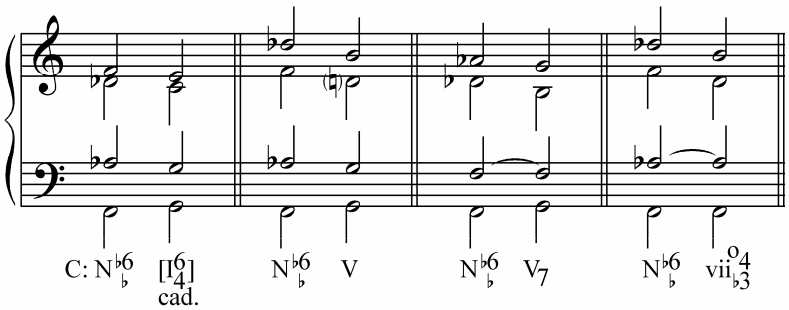


N_6 is usually followed by the cadential $i(I)^6_4$ or V (V_7, V_9). The altered tones move in the direction of their *tendency*, i.e., downward. When resolving to the cadential $i(I)^6_4$, the lowered (altered) root moves a *minor 2nd* down while when resolving to V or V_7, it moves a *diminished 3rd*

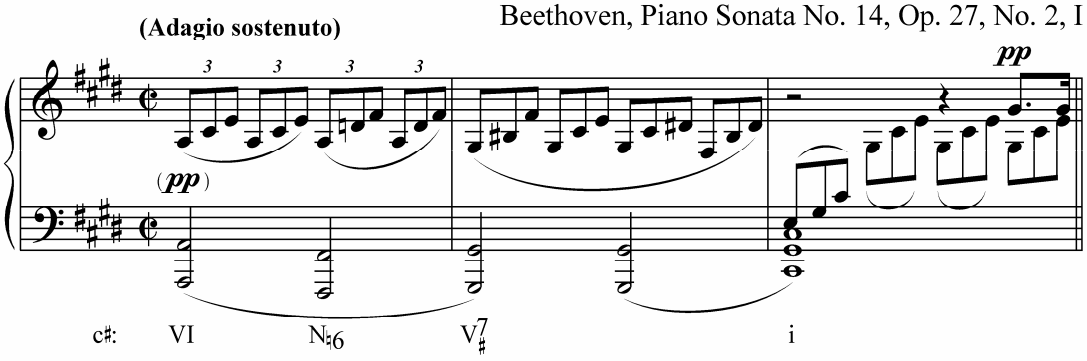
[39] The chord is considered to be first introduced in the 18th century in the music of the Neapolitan operatic composers (Scarlatti, Pergolesi, Paisiello, Cimarosa, Stradella, and others), but seems to be found by the end of the 17th century in the music of such composers as Carissimi, Corelli, and Purcell.

down to the 3rd (leading tone) of V (V_7). This diminished 3rd is often filled with a *passing tone*, which can be also understood as the *7th* of N_7.

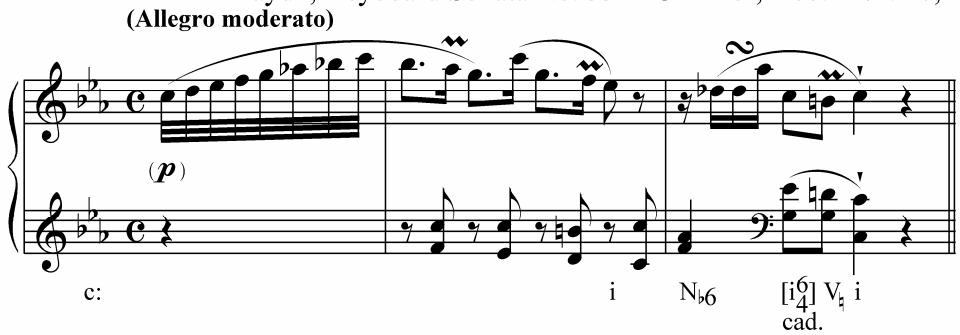




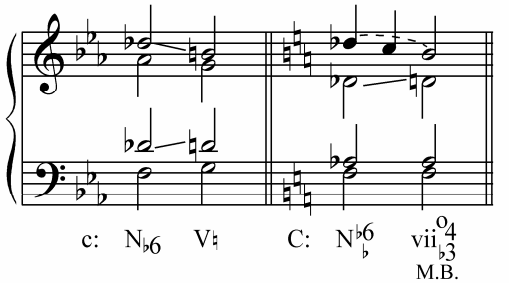
Beethoven, Piano Sonata No. 14, Op. 27, No. 2, I

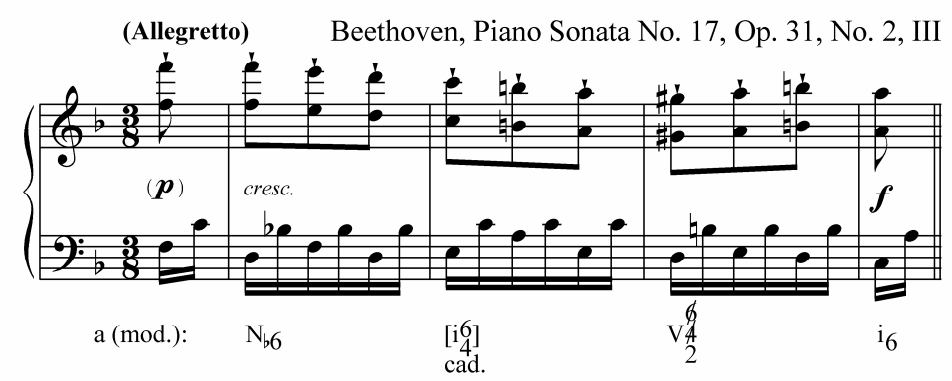


Haydn, Keyboard Sonata No. 33 in C Minor, Hob. XVI: 20, I

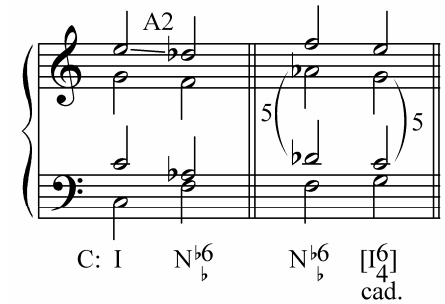


In case the *lowered* root is doubled in N_6, it usually moves down (mostly in soprano) in accordance with its tendency while its doubling (usually in an inner voice and less audible) may move upward. The cross relation, which may happen between N_6 and V, is acceptable.

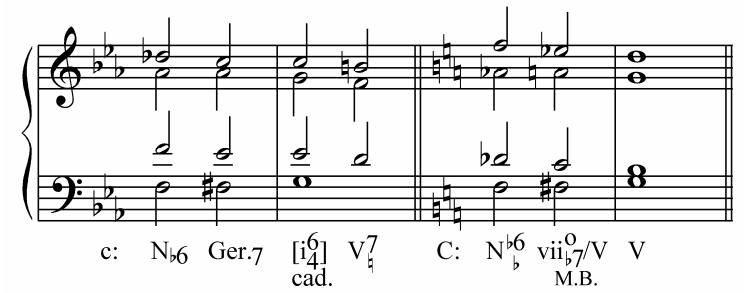


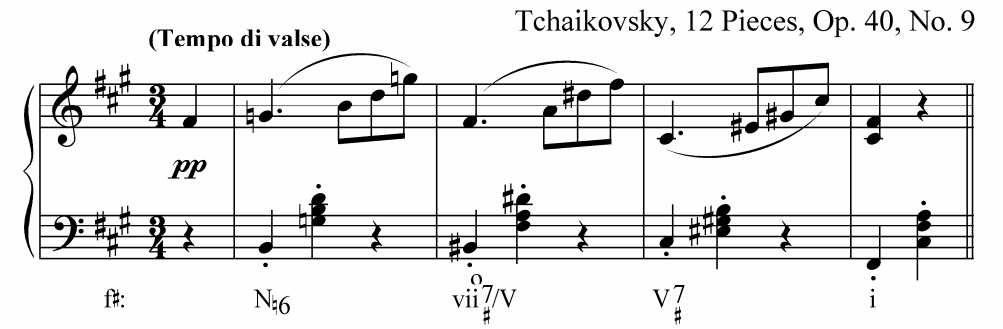


The connection of I with N_6 in major keys should be done carefully with regards to the voice leading because, when moving from the 3rd of I to the lowered root of N_6, an *augmented 2nd* (A2) occurs, which is not allowed. The connection of N_6 with the cadential $i(I)^6_4$ should be also done carefully because, if the root of N_6 is placed below the 5th, *parallel 5th's* occur.



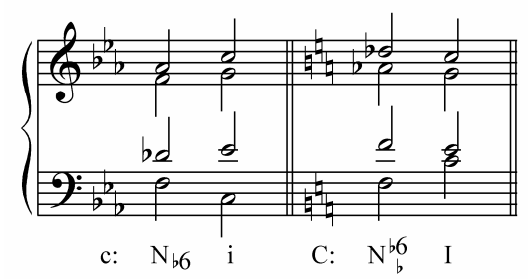
N_6 may move to the cadential $i(I)^6_4$ or V through a *normal or altered secondary dominant of V*.



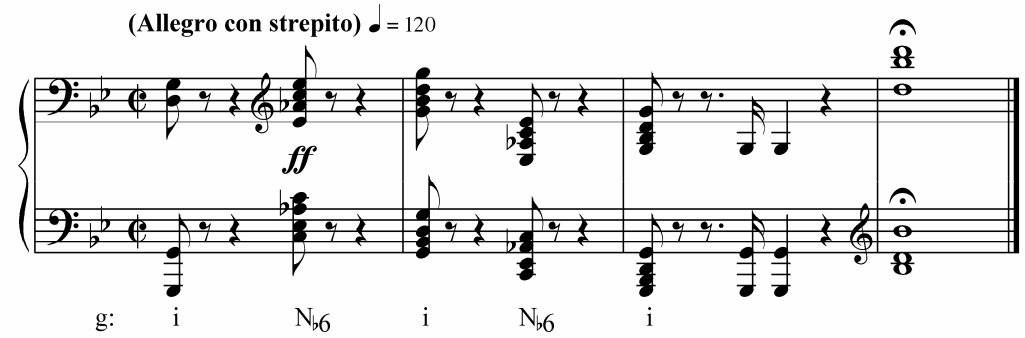


N_6 in Plagal Cadences

N_6 is sometimes used in plagal cadences and progressions in which N_6 may move to I with a leap of the perfect 4th in bass.

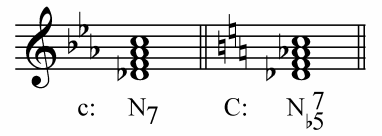


Liszt, 3 Lieder aus Schillers "Wilhelm Tell", S. 292, Der Alpenjäger

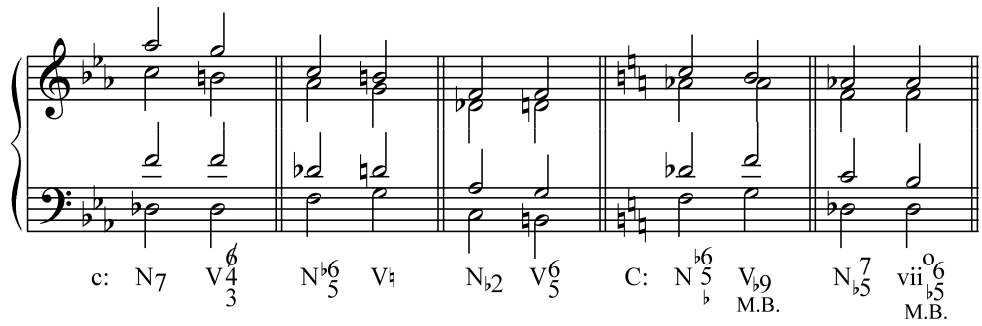


The Neapolitan Seventh Chord

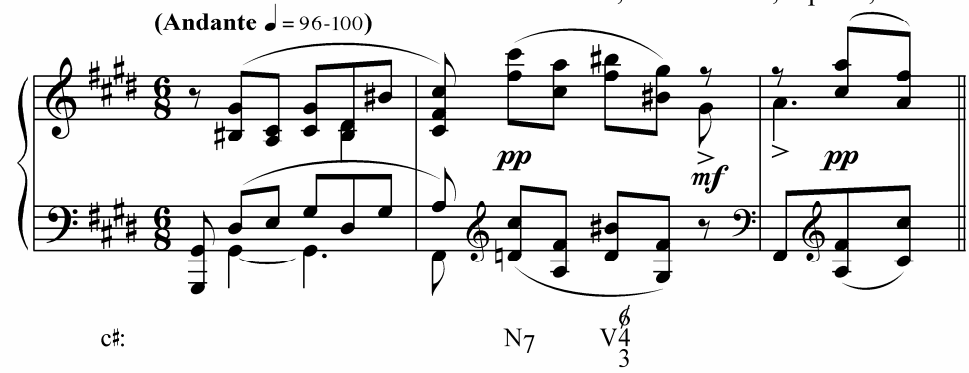
The passing tone used between the lowered root (2nd scale-degree) of N_6 and the 3rd of V (V_7) gave birth to *Neapolitan seventh chord* (N_7).



The chord usually resolves to V, V_7 (and its inversions), vii^{o}_{7}, sometimes V_9 and often to an altered dominant (altered common tone).

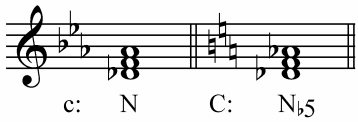


Scriabin, 24 Preludes, Op. 11, No. 10



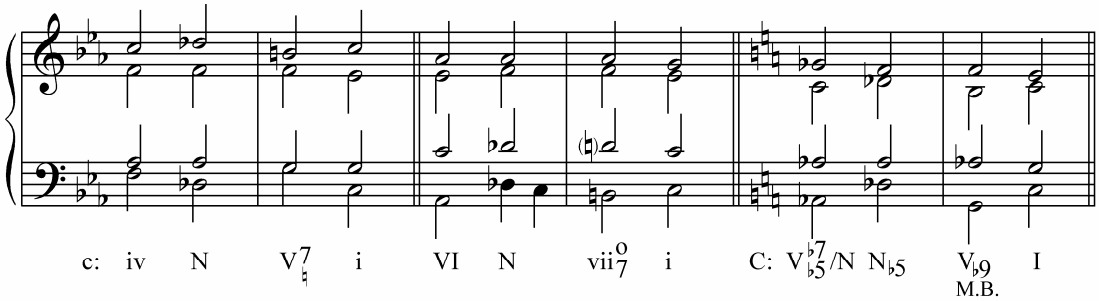
The Neapolitan Triad in Root Position

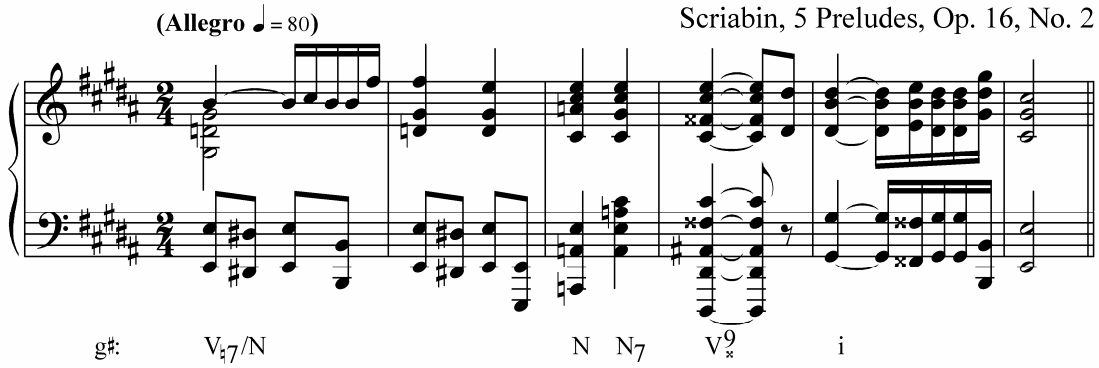
Root position Neapolitan triad (N) started to be used later than N_6.

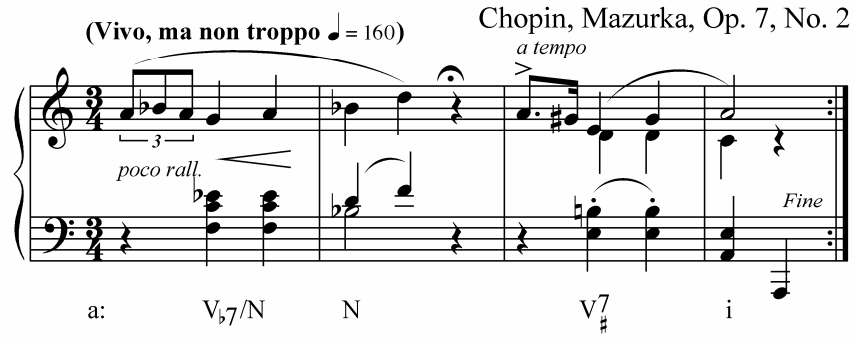


This chord is almost always prepared by the modally borrowed iv and VI (which can be also understood as V/N). It can also follow its secondary V_7.

N can be followed by V_7, V_9 (upward or downward leap of a tritone in bass), $V^6{}_5$, $vii^o{}_7$ (a diminished 3rd (d3) in bass which is often filled with a passing tone).

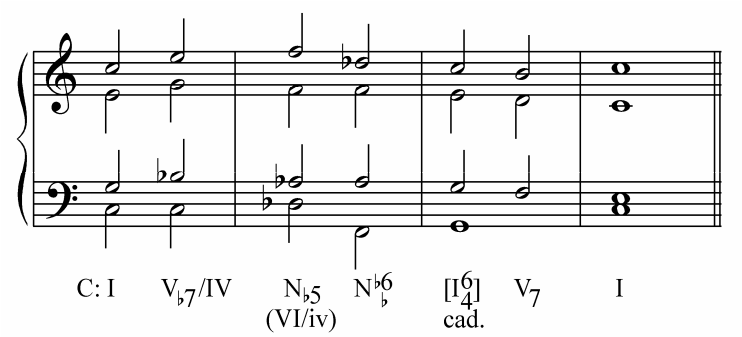


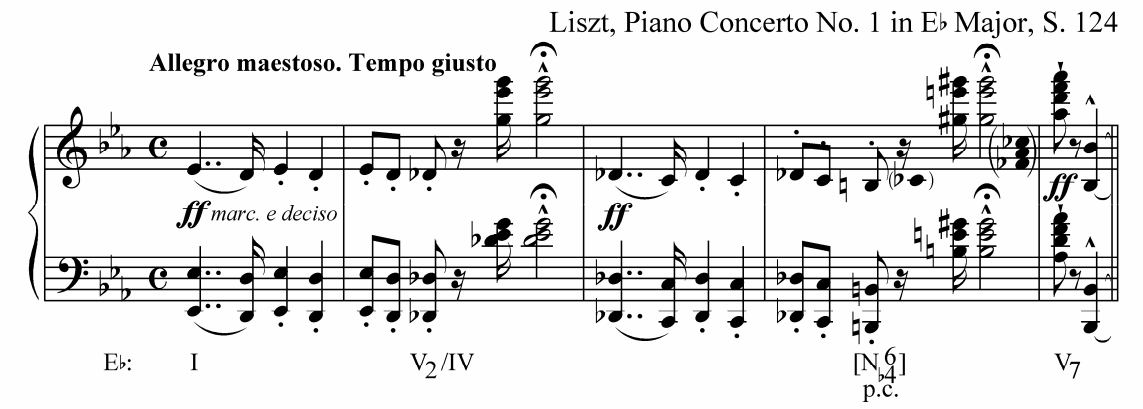




The Neapolitan Triad as VI/iv

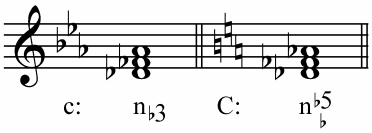
Sometimes N can be understood as VI/iv and follow a *secondary dominant of IV (iv)* like in a deceptive progression. Such use of N can be found in both major and minor keys.

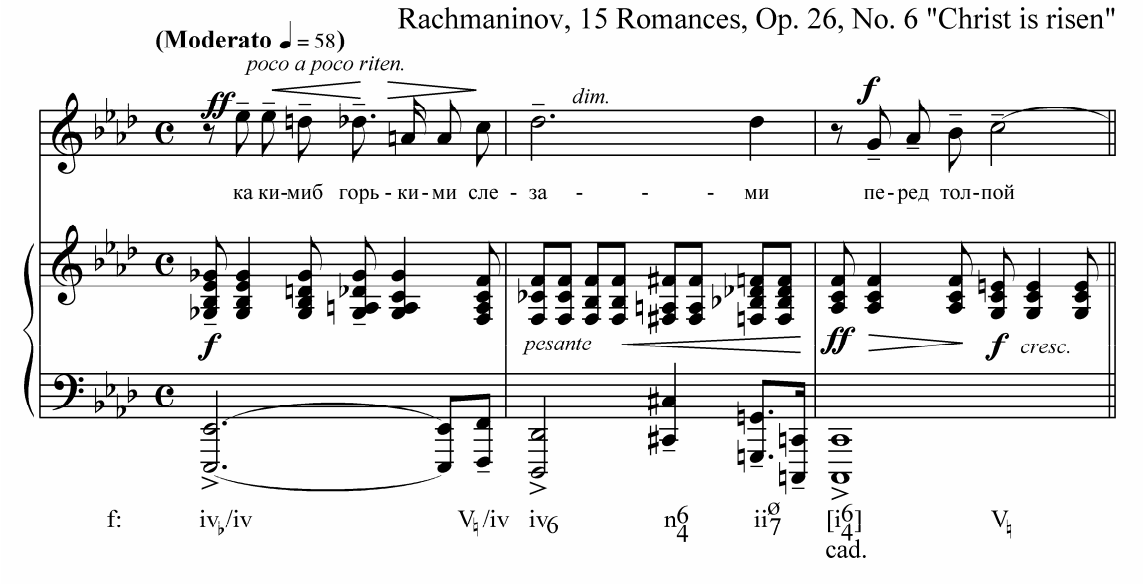




Minor Neapolitan Triad

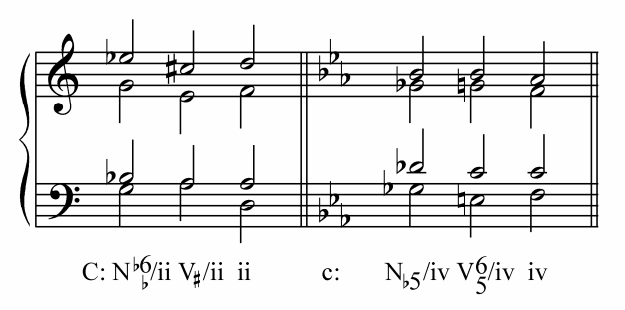
Since the end of the 19th century the *minor* Neapolitan triad started to be used in a *minor key* which is based on the lowering (alteration) of the 4th scale-degree. Such minor Neapolitan triad can be rarely found in major keys.





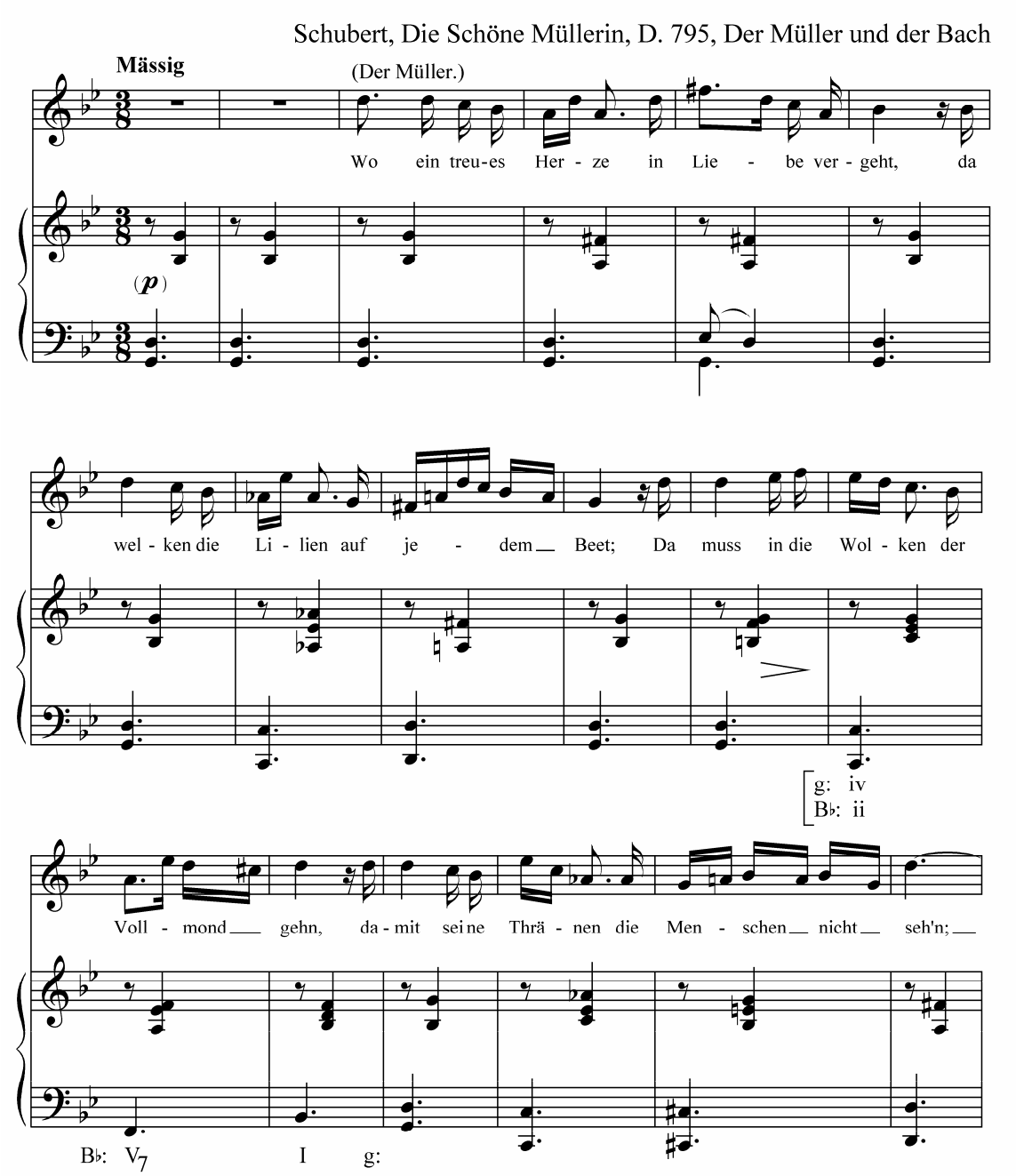
Secondary Neapolitan Triad

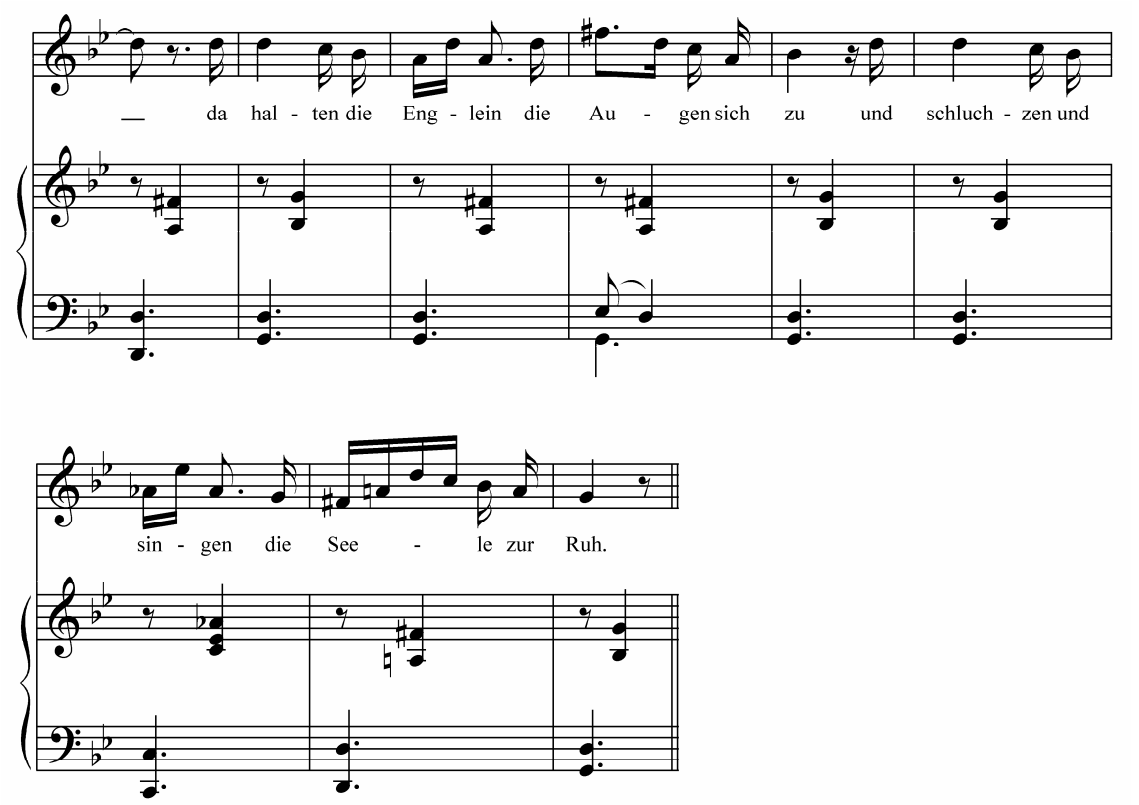
The Neapolitan triad in 1st inversion and root position can be sometimes used as a preparation for a secondary dominant.



Exercises

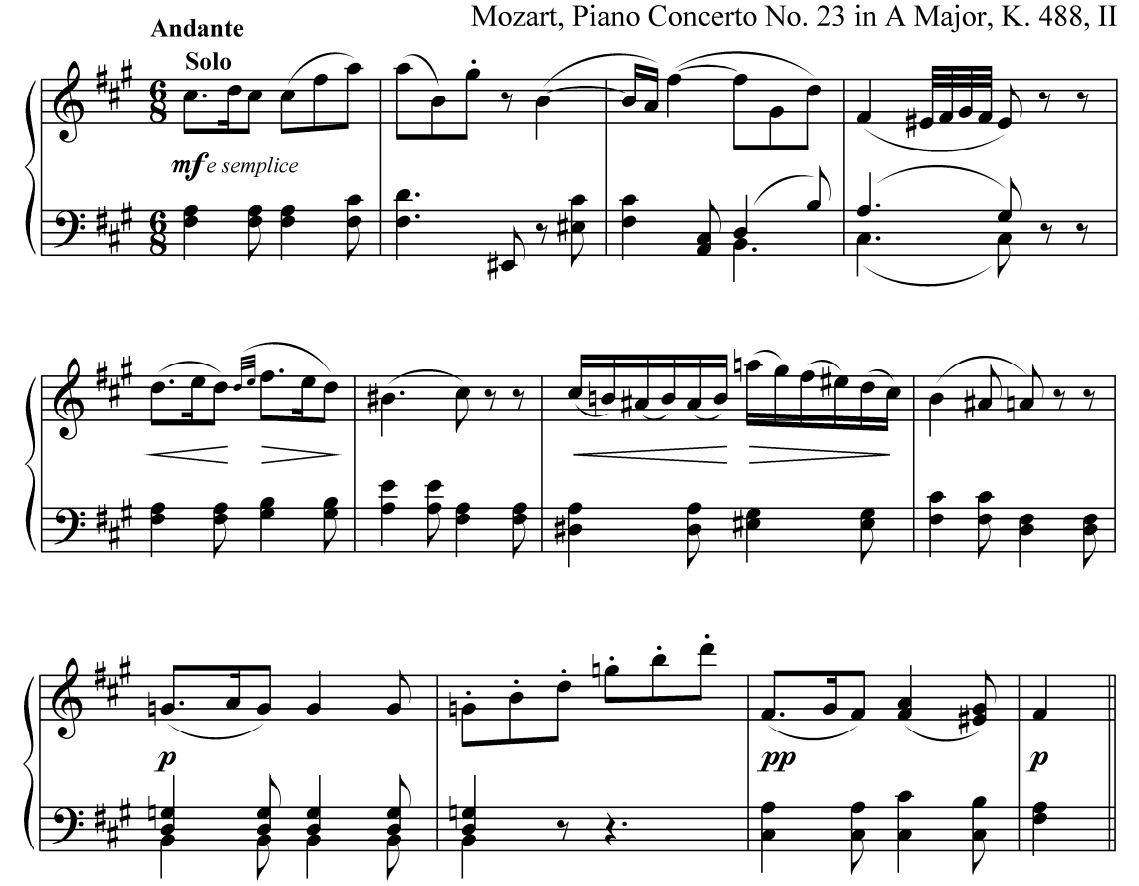
1. Analyze the following excerpts.
   a)





b)

Mozart, Piano Concerto No. 23 in A Major, K. 488, II



c)

Chopin, Preludes, Op. 28, No. 20

Largo (♩ = 66)

ff

p

ritenuto

pp

cresc.

d)

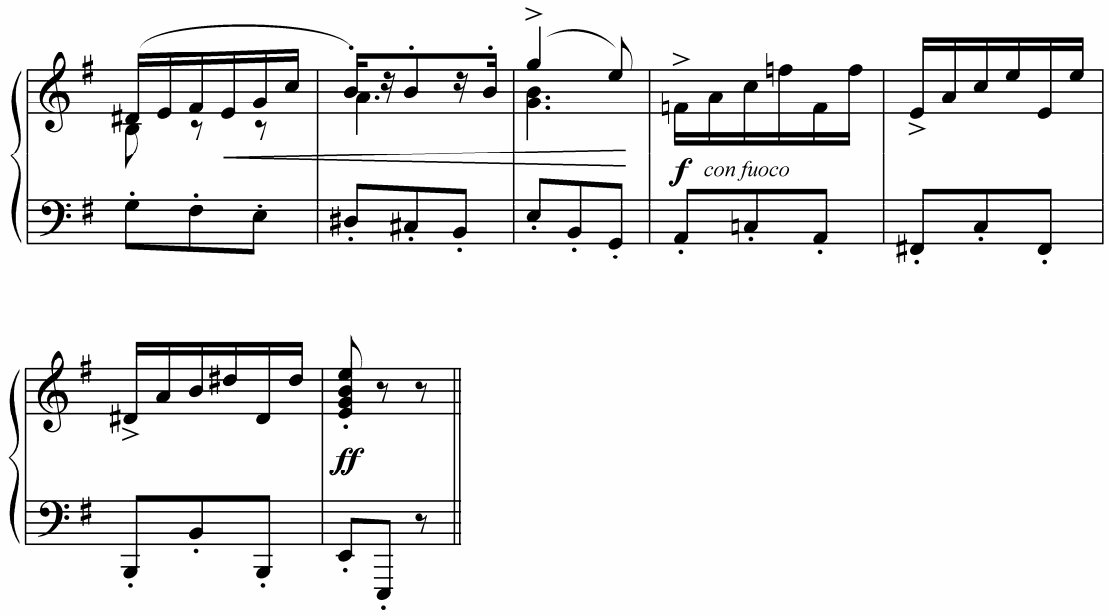
Grieg, Poetic Tone-Pictures, Op. 3, I

Allegro ma non troppo

pp

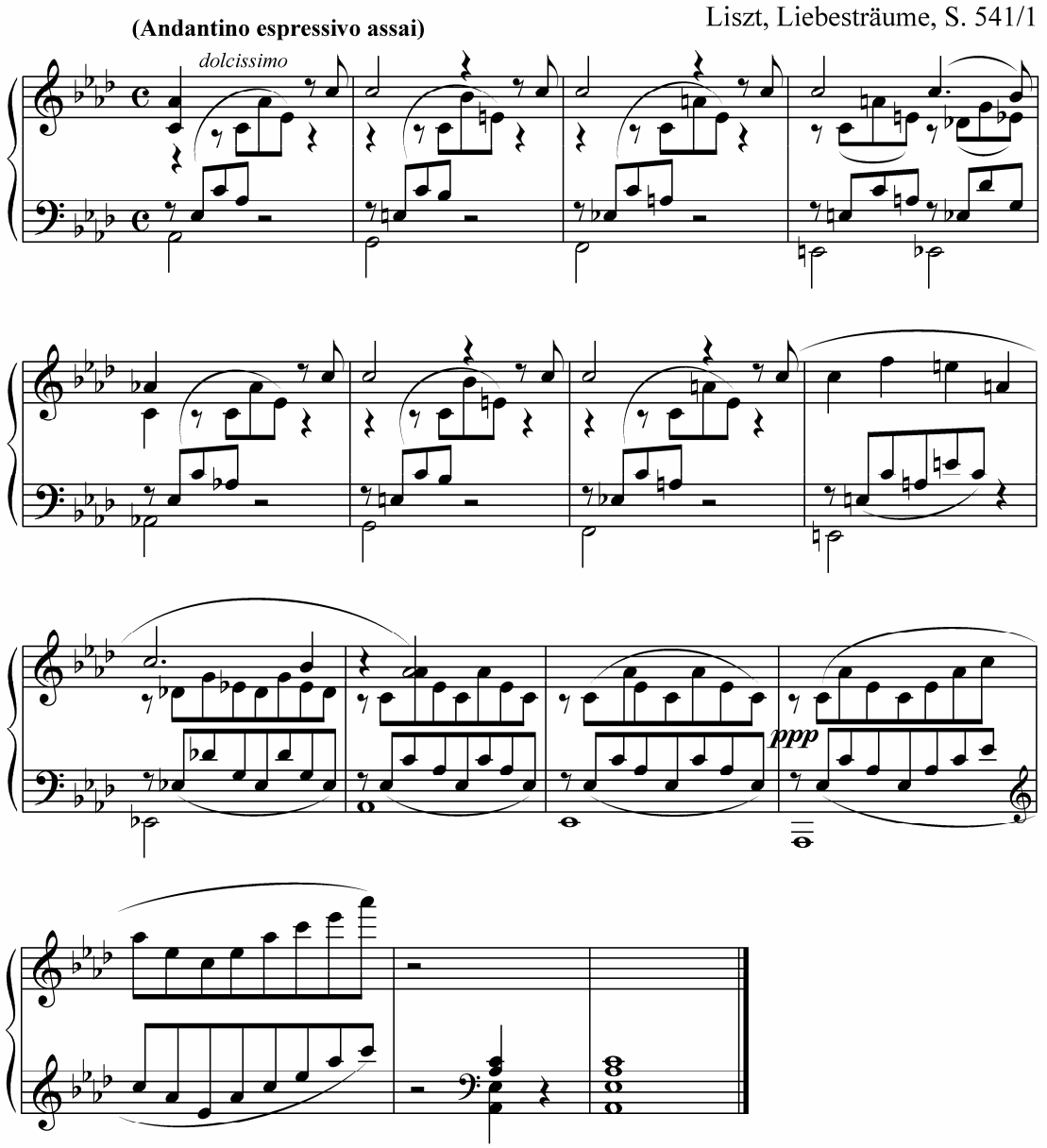
p

p

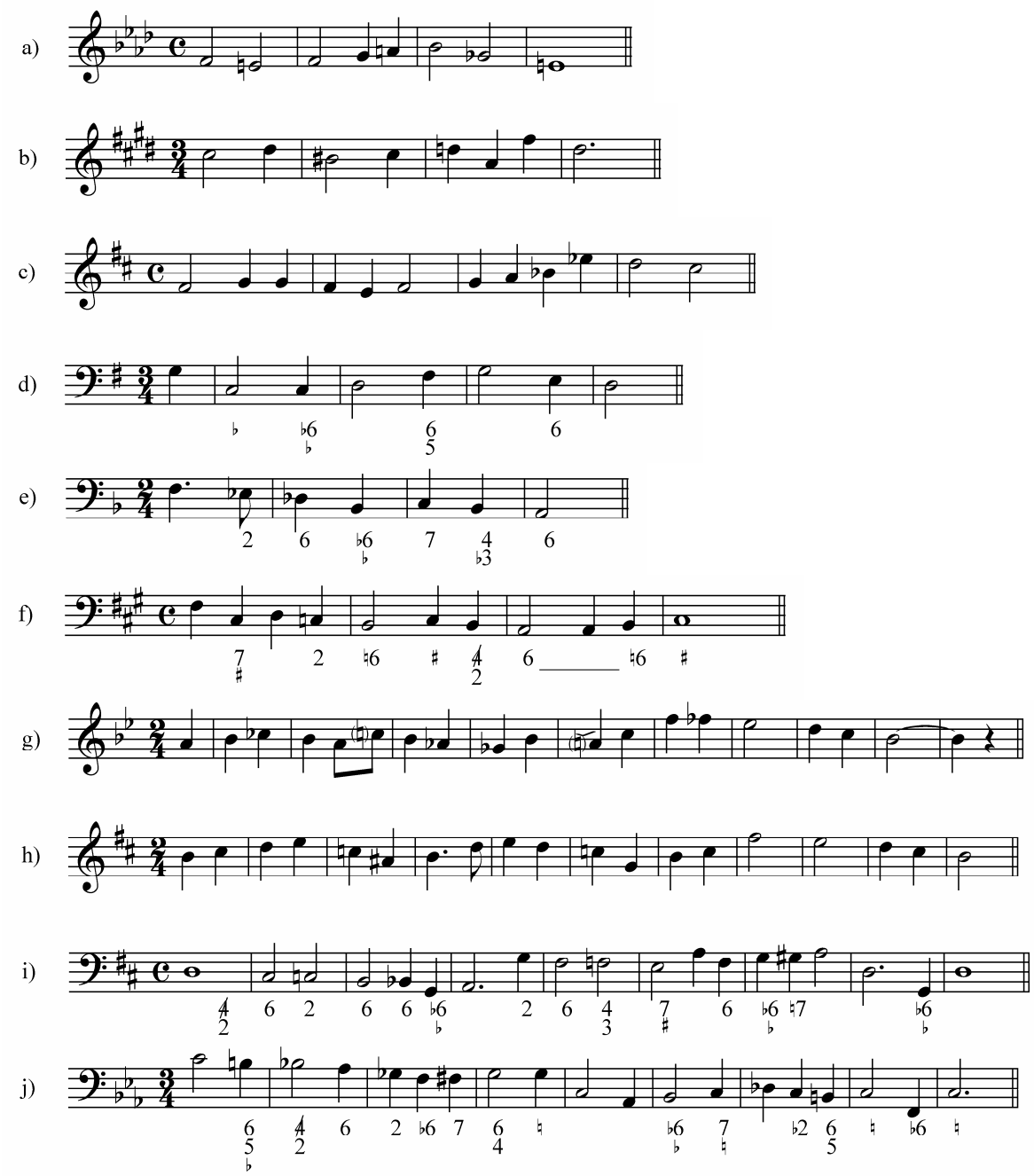


e)

Liszt, Liebesträume, S. 541/1



2. Harmonize the following sopranos and realize the figured basses. Use Neapolitan triad where appropriate.



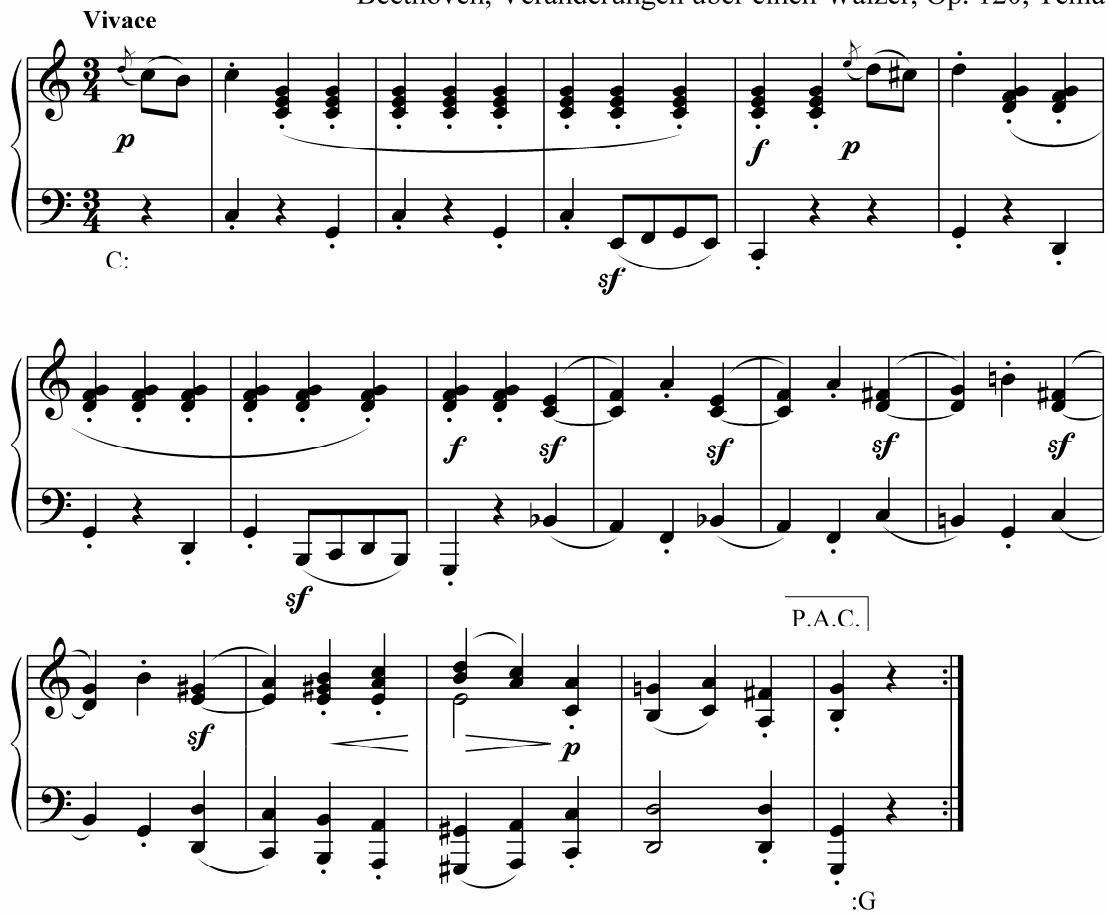
Preliminary Information

A music composition can be written in *one* or *several keys*. A music composition written in one key is comprised of the chords from that key. In music composition written in several keys, besides the *main* (home) key, there are *subordinate* (*subsidiary*) keys. The chords of the subordinate key are also called subordinate chords, for example, the subordinate tonic triad, the subordinate dominant chord, etc. The *order* in which the keys are changed in a composition is called the *tonal planning*.

Modulation

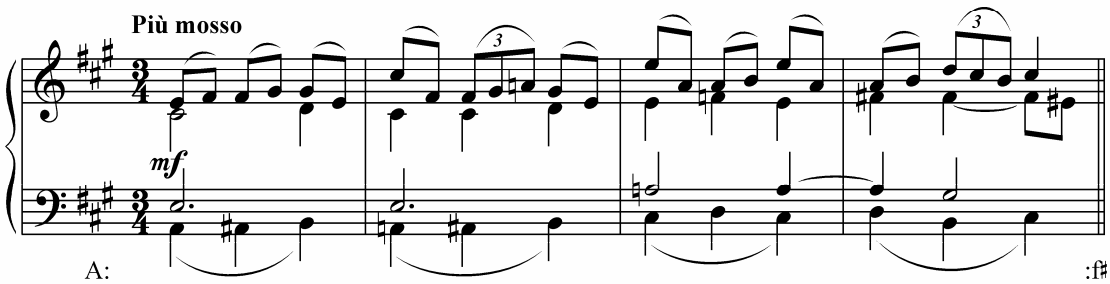
Modulation is the process of moving from one key to another with the clear establishment of the new key. Modulation usually ends up a musical unit (period, phrase) with a perfect authentic cadence (P.A.C.). Change of key often happens at the end of a period.

Beethoven, Veränderungen über einen Walzer, Op. 120, Tema



Modulation at the end of the *first* phrase is also possible sometimes (often in compound meter).

Tchaikovsky, 6 Pieces, Op. 19, Nocturne



Modulation as Means of Development

Modulation is one of the most important musical devices used to develop a musical composition. Usually only a separate section of a bigger composition or a composition, which is short in length, is composed in one key.

Key Relationships

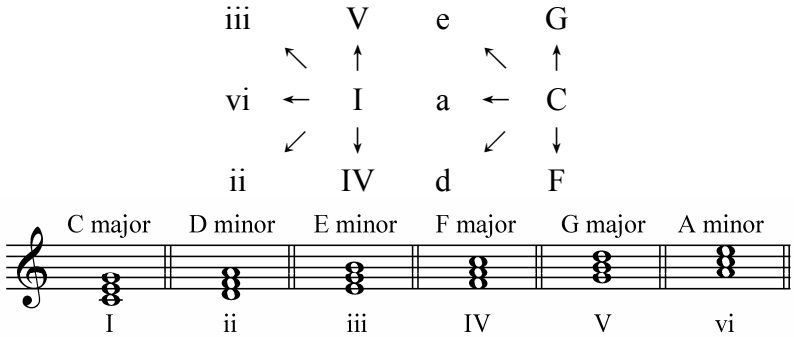
The relationship between keys changing in the process of unfolding a musical composition is, to a certain degree, similar to the functional relationships between chords used in one diatonic tonality. Thus, the keys changing in a musical composition also have their own *functions though of a higher level*. Like the tonic triad of a certain diatonic tonality, the main key, around which all other keys function in relation to one another, is the *only stable key*. Other keys are analogous to other unstable chords of a key. Dominant, subdominant, secondary dominant keys and their parallel keys are used around the main key and depend on it.

Closely Related Keys

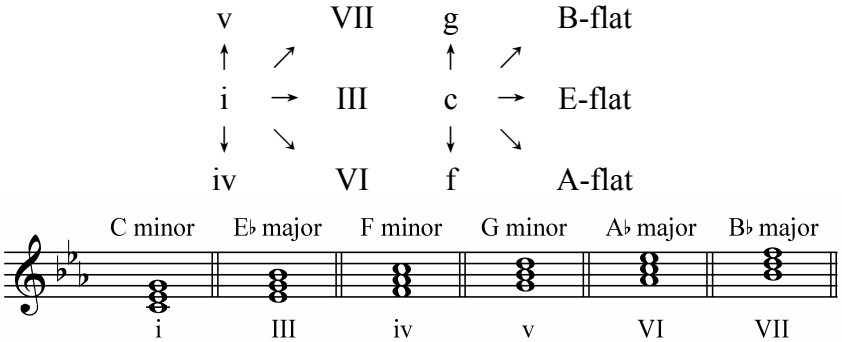
The relationship between two keys is based on the *functional* relationship between their tonic triads. The closer the two tonic triads relate to one another, the closer is the relationship between the two keys. The bigger the number of common tones and common chords between two keys is, the closer their relationship is.

The *closely related keys* are those in which tonic triads are the diatonic triads (supertonic, mediant, etc.) of the main (major or minor) key. Closely related keys are those which differ by *no more than one accidental* in their key signatures.

The closely related keys of a major key are the keys of its dominant, subdominant and their relatives.



The closely related keys of a minor key are the keys of its dominant, subdominant and their relatives.



Modulation from a given major or minor key to any closely related major or minor key usually involves *three* stages: establishment of the first key, the modulatory device, and establishment of the second key.

Modulation to the dominant key or the key of other dominant chords is the most common in the first period of a musical composition.

Modulation to any subdominant key in the first period can be found rarely but can be found often in middle sections (links, developments).

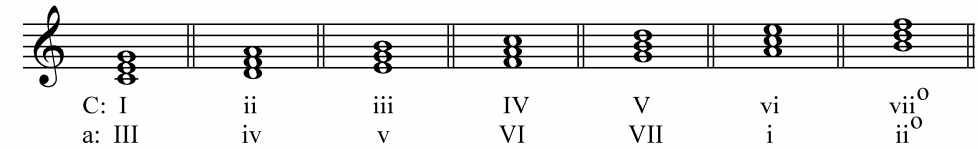
Common Chord Modulation

Modulation to a closely related key is often carried out by means of a *common (pivot) chord* between the two keys. Functioning in one way in the first key, such chord attains a *different* function in the new key. A modulation, in which a common chord is used to modulate from one key to another, is called *common chord modulation*.

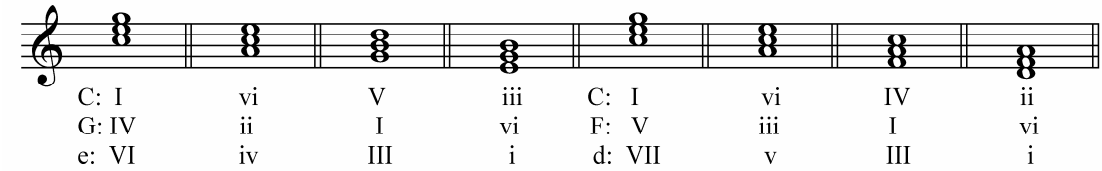
Number of Common Chords

The number of common chords between closely related keys is not always the same and can be found out by comparing the key signatures of both keys.

A major key and its relative (natural) minor (keys with the same key signature, for example, C major and A minor) have identical pitch content and, thus, all *seven* triads can be used as common chords.

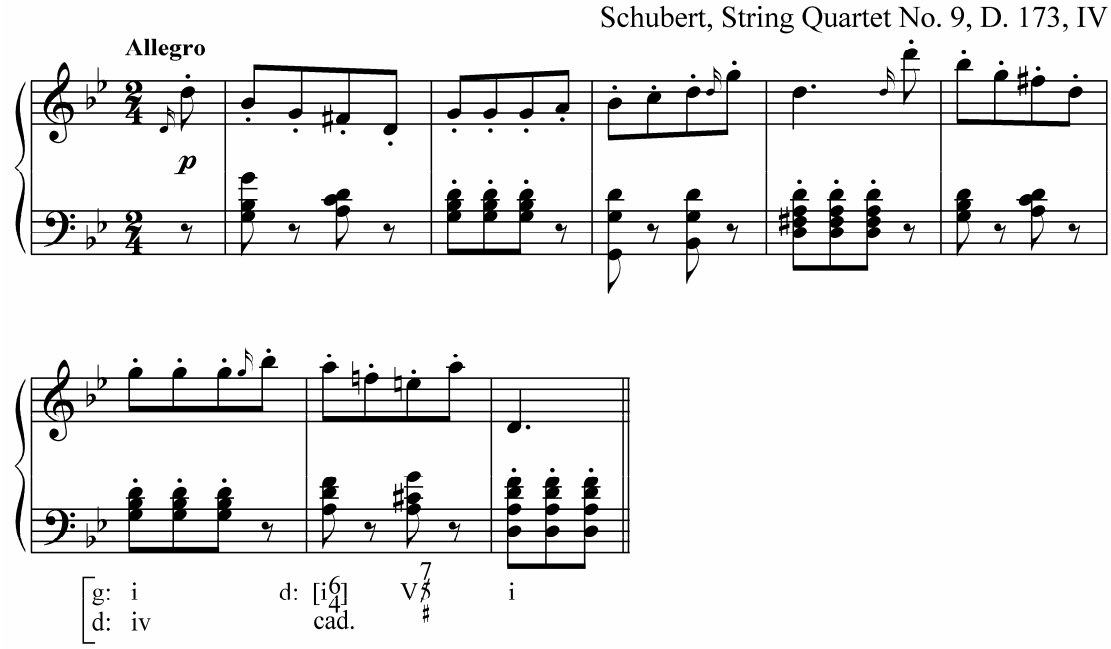


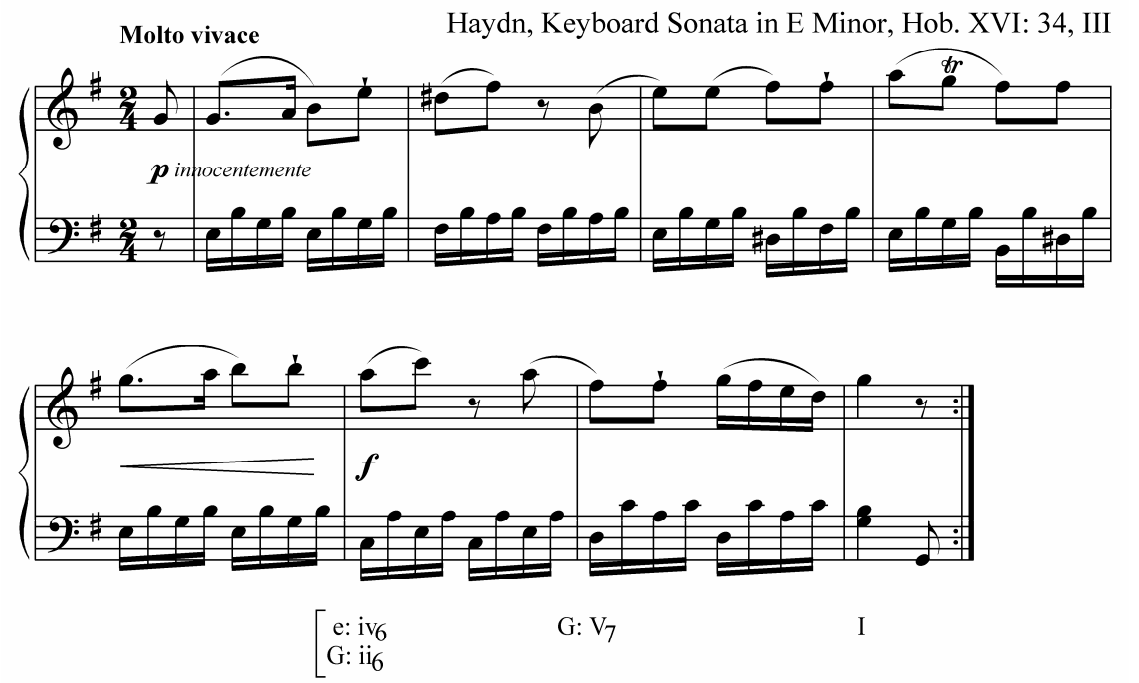
The keys, in which key signatures differ by *one* accidental, have *four* common triads. The common chords in such keys are both tonic triads and their relatives.

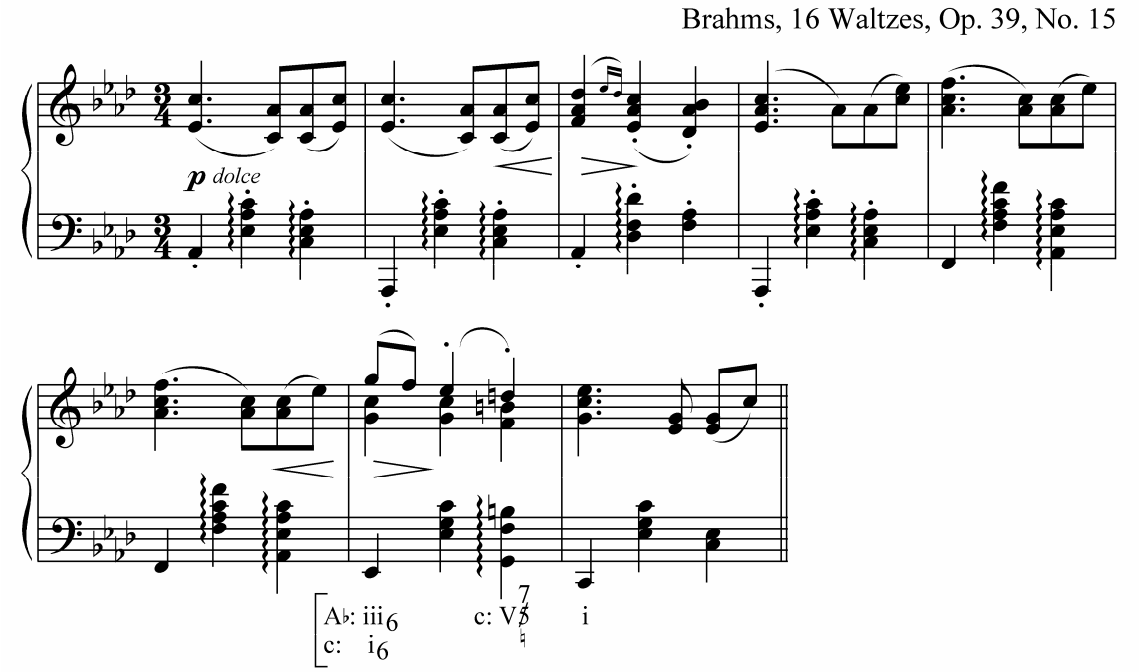


Various types of common chords can be used for modulation. Those can be triads, sixth chords, rarely (passing) six-four chords and seventh chords; the seventh chords being used rather rarely, which is due to the tendency of seventh chords for resolution.

Schubert, String Quartet No. 9, D. 173, IV



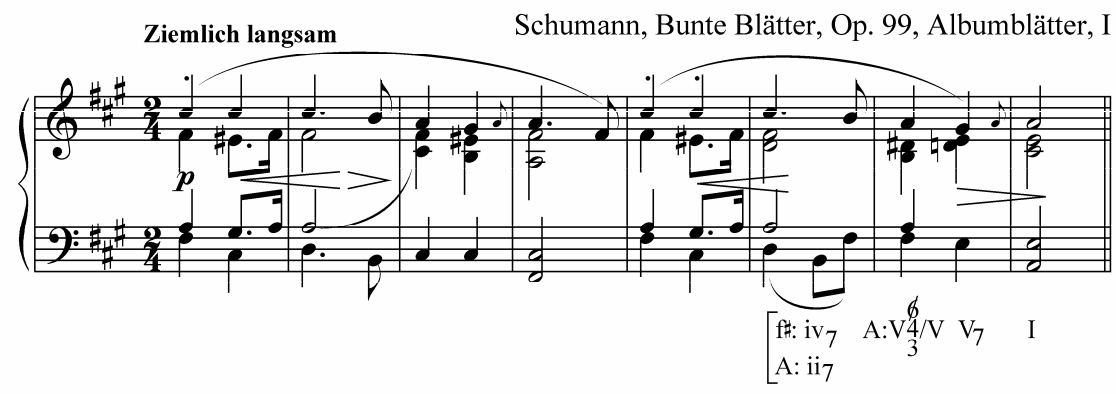




Modulatory Chord

The chord, which follows the common chord and helps establishing the new key, is called *modulatory chord*.

As soon as the common chord is renamed in accordance with the new key, the usual chord progression order takes place. For example, if the common chord becomes the tonic triad in the new key, such chords as IV, V/V, V, etc. can be used after it. The chords, which have the ability to show the key much clearer and are functionally brighter, are preferred. Thus, such *unstable* chords as IV, ii_7, V/V, V_7 and cadential $I^6{}_4$ are usually used as modulatory chords.



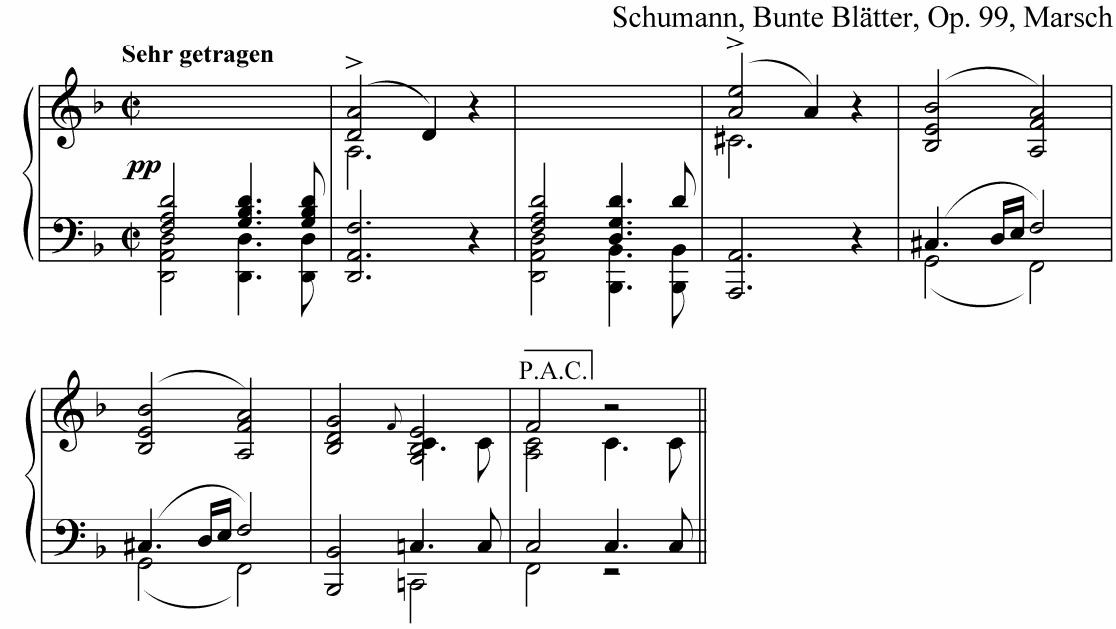
Cadence in Modulation

The very first chord of a final (often perfect authentic) cadence is often the modulatory chord (cadential I^6_4, V_7, ii_7, ii^6_5, vii^o_7, V/V).

If the type of the modulatory chord is not characteristic for the final cadence (inversions of V_7, inversions of vii^o_7, ii_2), it moves to the tonic triad of the new key following the rules of normal chord progressions, after which a normal final cadence would be used to end that phrase.

In case the tonic triad of the new key appears when the modulation is not finished yet (for example, the tonic triad is the common chord and the modulatory chord hasn't produced a final cadence), such tonic triad is better used in 1st inversion or with the 3rd or 5th in soprano, so that when it will be used in the final cadence, it will sound stronger and more final.

The most convincing establishment of a new key can be achieved by the use of a perfect authentic cadence (P.A.C.).



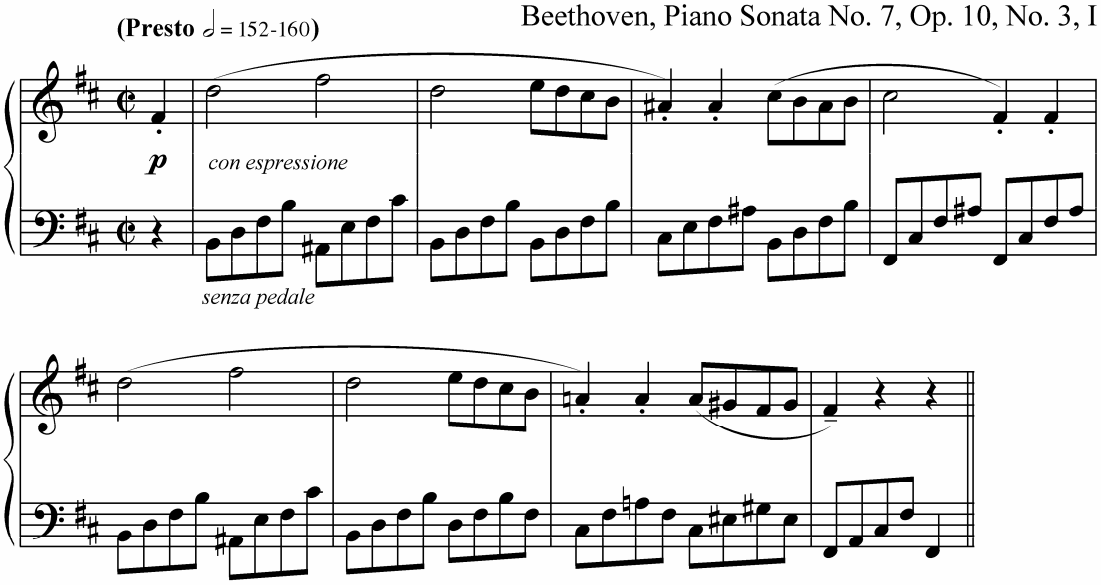
Exercises

1. Find closely related keys for B-flat major, A major, G-flat major, D minor, F minor and B minor.

2. Analyze the following excerpts.

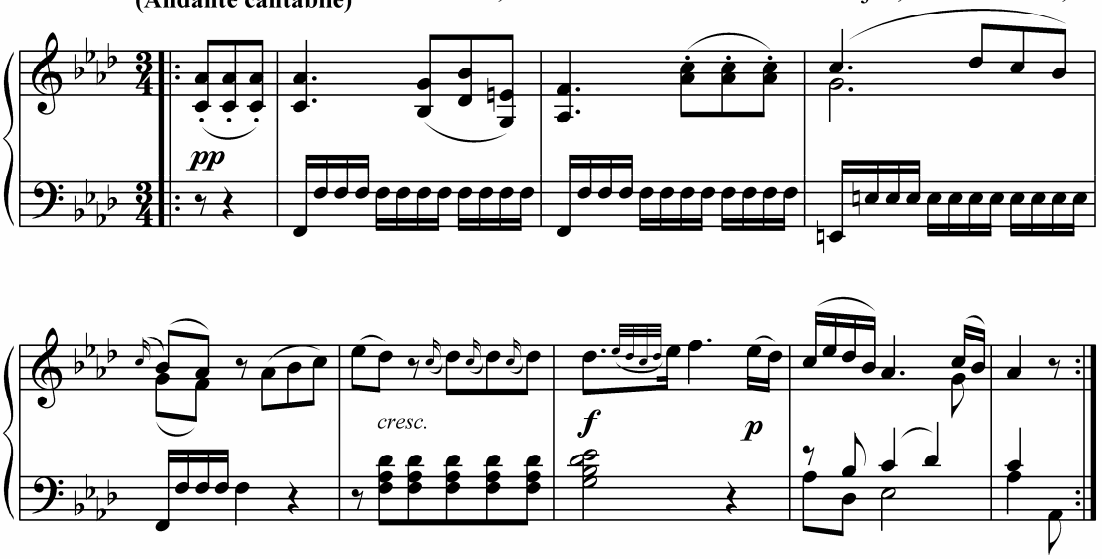
a)

Beethoven, Piano Sonata No. 7, Op. 10, No. 3, I



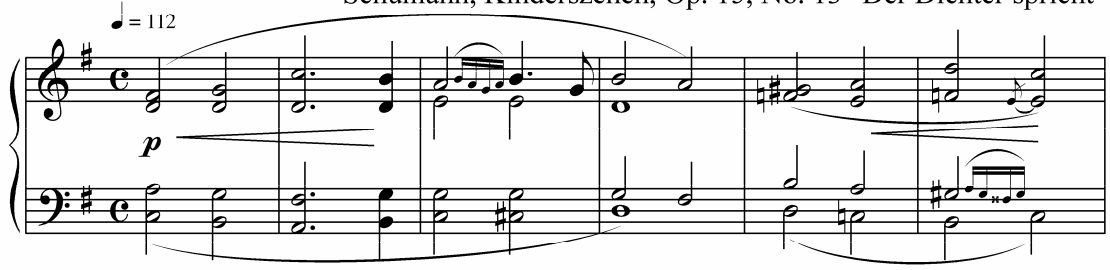
b)

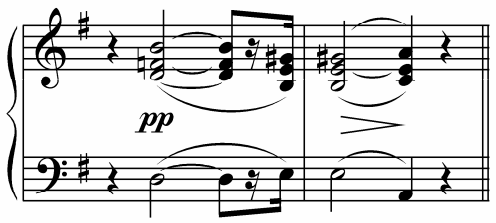
Mozart, Piano Sonata No. 10 in C Major, K. 330/300h, II



c)

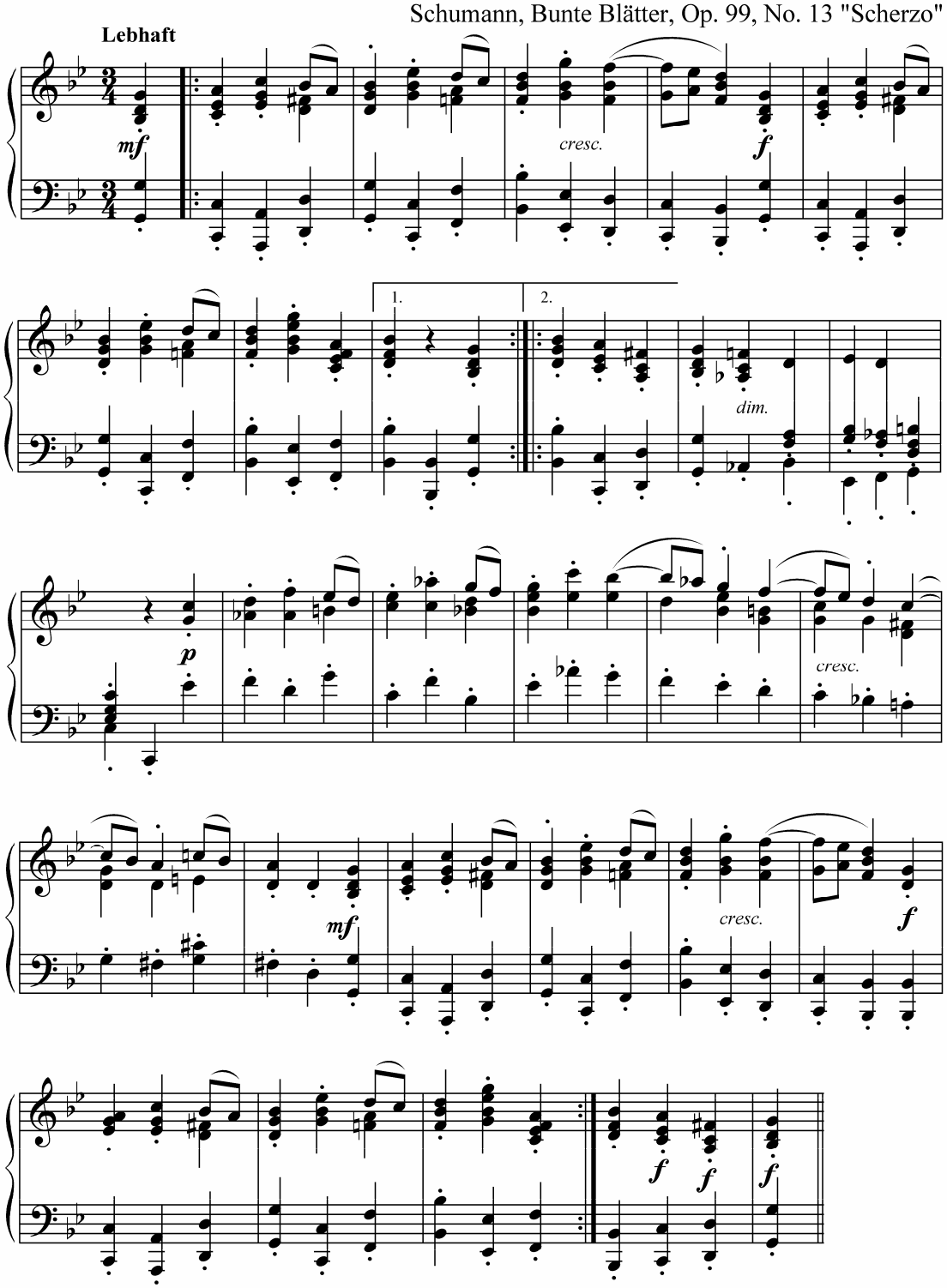
Schumann, Kinderszenen, Op. 15, No. 13 "Der Dichter spricht"



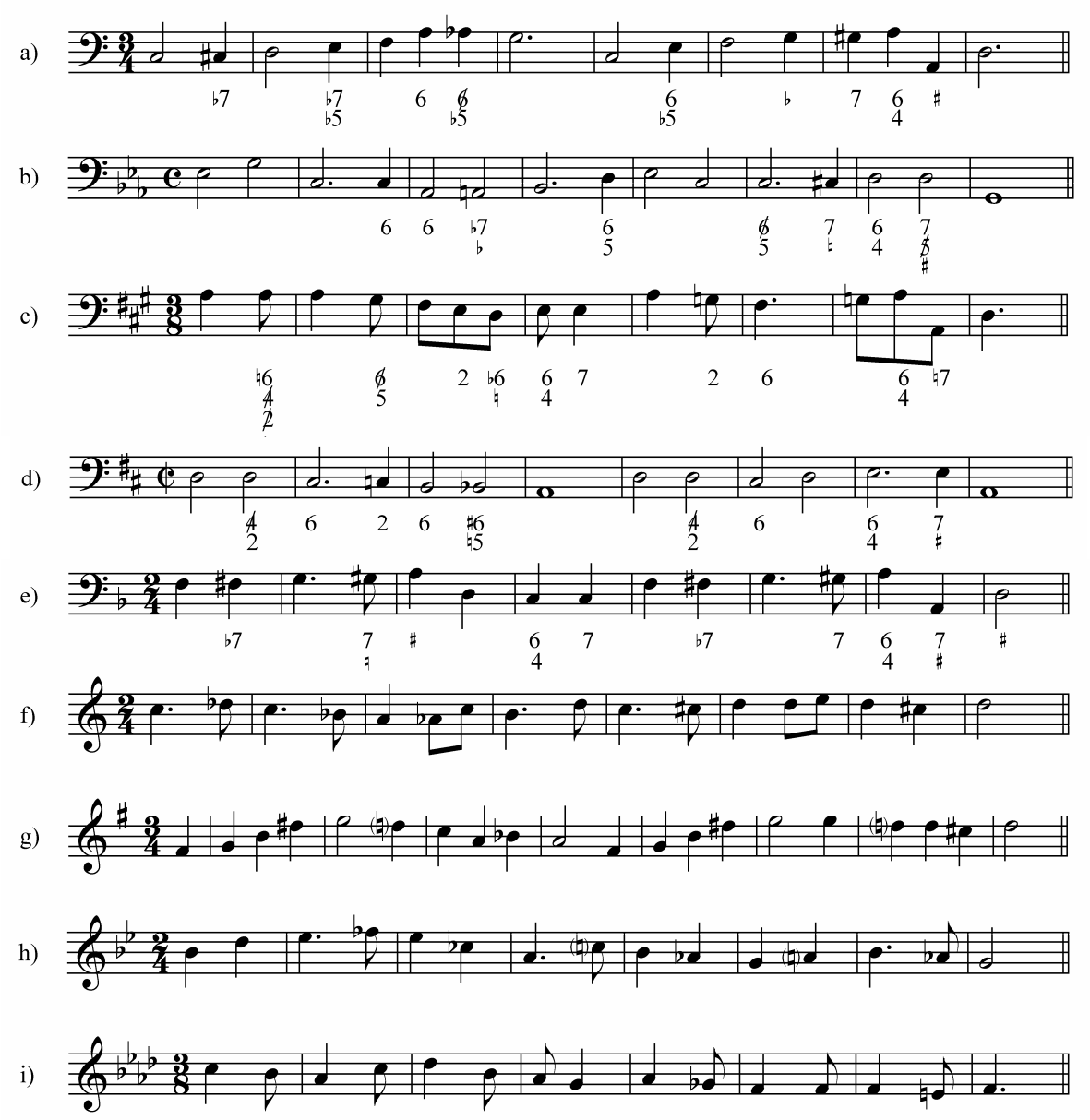


d)

Schumann, Bunte Blätter, Op. 99, No. 13 "Scherzo"



3. Realize the following figured basses and harmonize the sopranos.



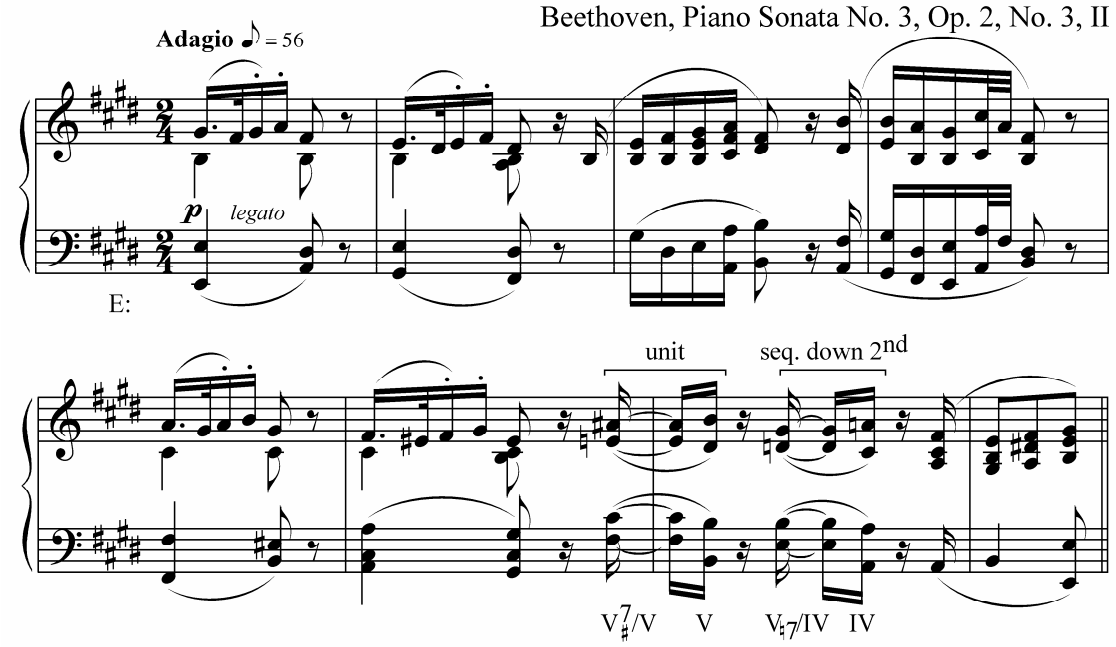
Preliminary Information

Besides diatonic sequences, there are *chromatic sequences* which are also often used. Such sequences are made of secondary dominants and secondary subdominants, secondary dominants being used more often.

The triad, to which a secondary dominant (and subdominant) resolves, becomes a *temporary (secondary) tonic triad* for such secondary dominant and subdominant (anyway such temporary tonic triad isn't a stable chord in that key). The chord progression with a secondary dominant (and subdominant) may become the *unit of a chromatic sequence*.

If taken separately, each unit of such sequence is a *simple* and usually a *temporary non-cadential establishment of the* (secondary) *key*. The chord progressions usually used in such units are V–I, sometimes IV–V–I, or rarely IV–I. All such units with their secondary dominants and temporary tonics *functionally depend* on the primary key and, thus, *do not go outside it*. This makes chromatic sequence different from sequential modulation in which the *key is changed* at the end of it. This also makes chromatic sequence be similar to *diatonic sequences* in which the key is not changed.

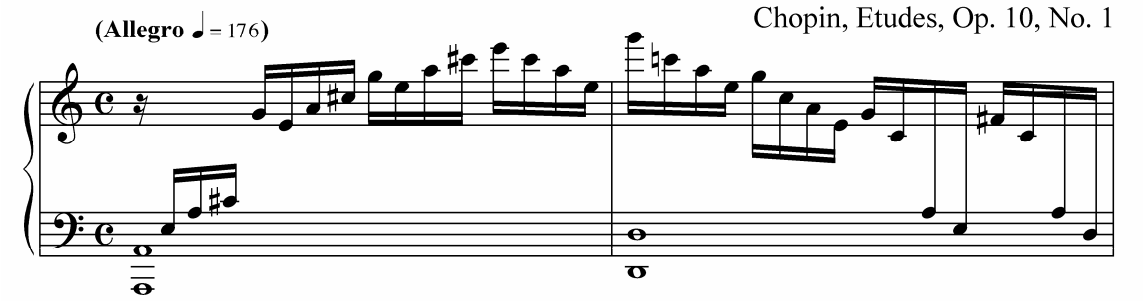
Beethoven, Piano Sonata No. 3, Op. 2, No. 3, II



Number of Units in Sequences

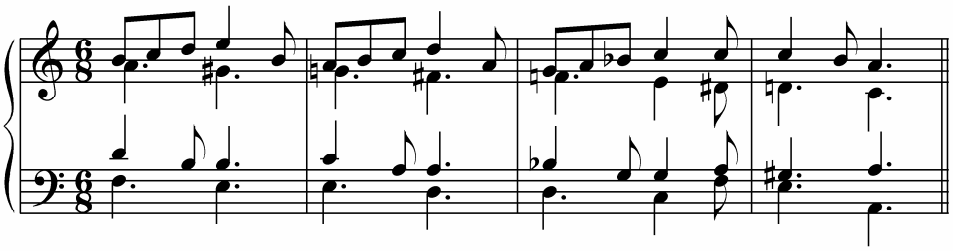
Similar to a diatonic sequence, there are usually no more than *two* or *three units* in a chromatic sequence. If there are more than three units in such sequence, those units are usually *varied* in order to make the music less boring.

Chopin, Etudes, Op. 10, No. 1



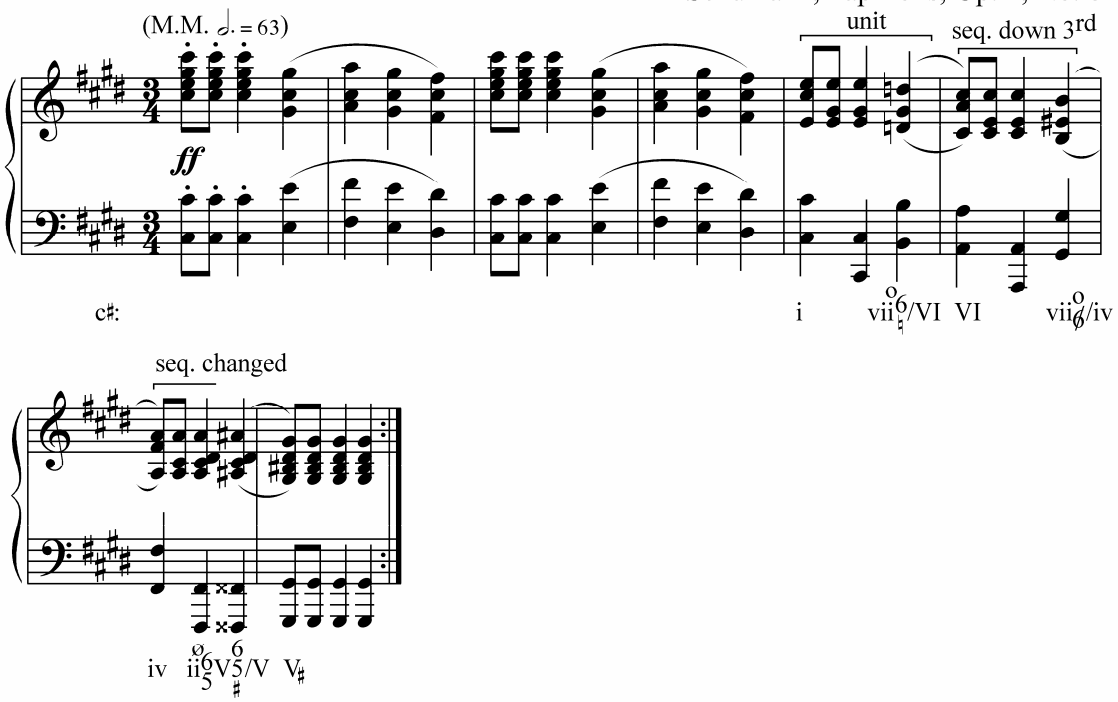
Unit Structure

As mentioned above, the structure of a unit is simple (often two or three chords) and mostly based on the following chord progressions: V–I, sometimes IV–V–I and rarely IV–I or V/V–V–I. The unit usually starts on a *weak* or relatively strong beat of a measure (rarely on a strong beat) and almost always with a *functionally unstable* chord. This is because the motion towards a functionally *stable* chord usually creates *more tension* than the motion from it. Rarely, there are such units with no stable chord at all (IV–V).



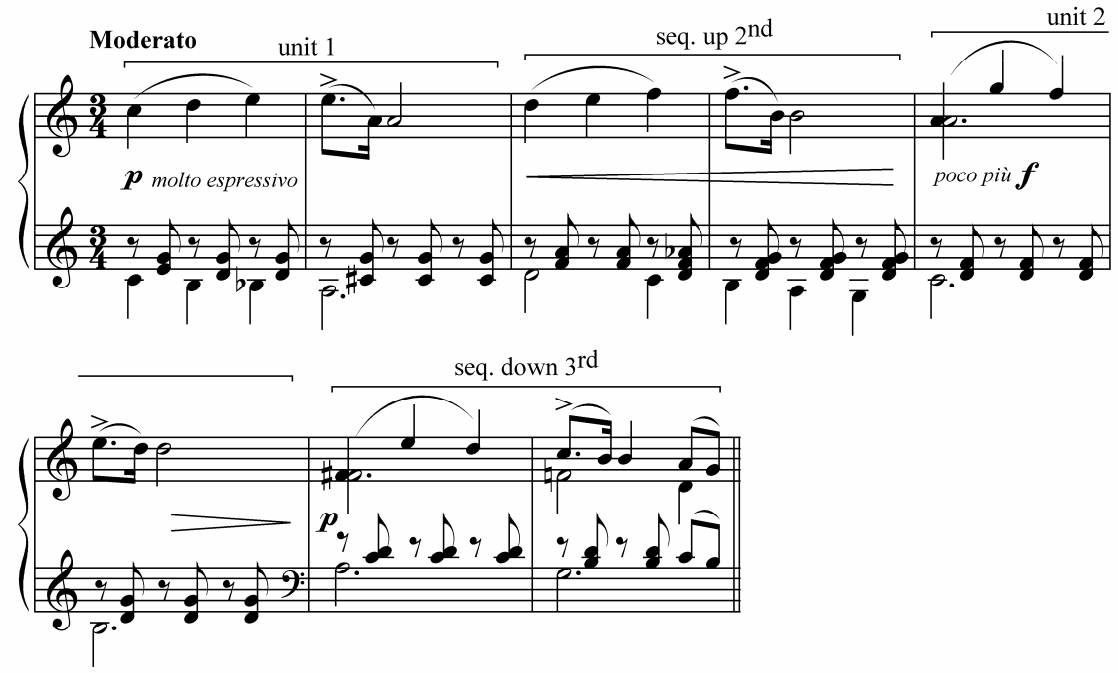
Sometimes there are such units where there is a motion from a stable chord to an unstable one.

Schumann, Papillons, Op. 2, No. 8



Units may be exact or may be not.

Tchaikovsky, Children's Album, Op. 39, Sweet Dreams



Sequential Extension of Period

The use of secondary dominants and subdominants in sequences gives new possibilities for *extending* phrases and periods. Usually such extensions are placed at the *end* of phrases or periods.

Beethoven, Piano Sonata No. 2, Op. 2, No. 2, II

(Largo appassionato)
tenuto sempre
staccato sempre

Sequential Modulation

Sequences can be also used to modulate. *Sequential modulation* is a modulation which uses a chromatic sequence to change a key(s).

Durante, Danza, danza, fanciulla gentile

(Allegro con spirito)

Dan - za, dan - za, fan - ciul la, Al - mi - o can - tar! Dan - za, dan za, fan - ciul la gen - ti - le, Al - mi - o can - tar!

P.A.C.

b♭: i V$^6_5$/VII [b♭:VII f: VI$^6_5$ f: III]

f: ii^o V$^6_5$ i

Sequential Unit Structure

Similar to chromatic sequences, each unit of a modulating sequence contains the same chords and chord progressions but in different keys.

A unit usually starts with unstable chords resolving (or, sometimes, not resolving) to the tonic triad.

V–I
IV–V–I
V/V–V–I
IV–V/V–V–I

Unit Transposition

The unit is transposed by an *interval* which can be either *constant* or *changing*.

The qualities of chords used in the initial unit can be *preserved* or *changed* in the units to follow.

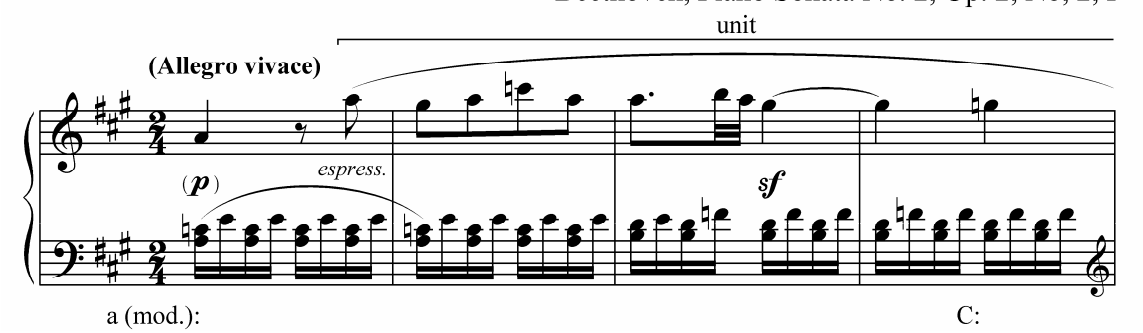
The most often transpositions are as follow:

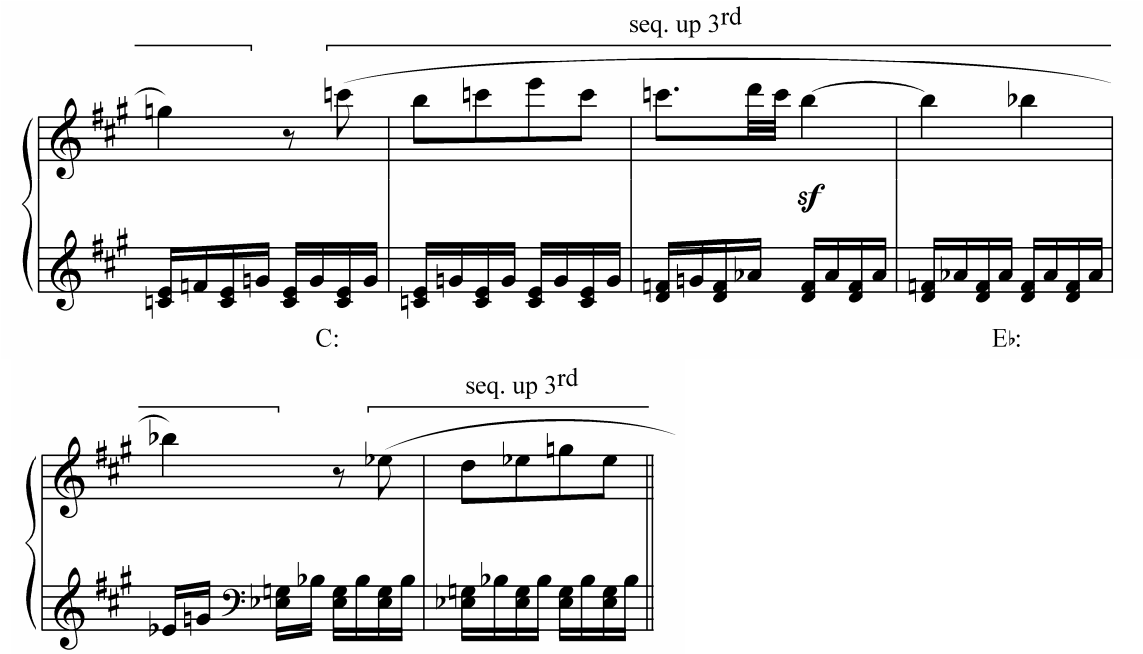
1) using the closely related keys, for example, C major – D minor – E minor – F major, etc.
2) moving a whole step (often down), for example, C major – B-flat major – A-flat major – G-flat major, etc.
3) moving a half step (often down), for example, C major – B major – B-flat-major – A major, etc.
4) using 3rd's in such a way so that the following unit is the closely related key to the key of the previous unit, for example, C major – E minor – G major – B minor, etc.
5) using 3rd's of the same quality, for example, C major – E-flat major – G-flat major or C major – A-flat major – E major – C major (the intervals *enharmonically equal* to such 3rd's can also be used). Such sequences are usually short.
6) using perfect 4th's or 5th's, for example, C major – F major – B-flat major, etc., or C minor – G minor – D minor, etc. Such sequences can be often found in the beginning of the development of a sonata allegro.

Those units, which start with an unstable chord (often a dominant chord) or with a number of unstable chords, have bigger choice which interval it can be transposed by.

Sometimes there is a modulation within the unit itself. In such sequences the key of the end of the previous unit may be the same key of the beginning of the unit to follow.

Beethoven, Piano Sonata No. 2, Op. 2, No, 2, I





Ending a unit on an unstable chord (usually V) often requires such transposition at which this chord is resolved.

General Features of Sequential Modulation

1. The number of units in the sequential modulation is usually not more than two or three. However, a bigger number of units can be found in a faster tempo or with a short initial unit.
2. The first unit and more often the last unit are often incomplete in order to add variety or to make a much smoother connection with the music before and after such sequence.
3. Sometimes the units closer to the end of the sequence are somewhat changed, i.e., they may become shorter or, rarer, longer, the spacings and inversions of chords are varied, the melody or rhythm may be changed as well, chords may be substituted with their functional relatives or new chords may be added though they usually do not change the functional structure of the initial unit.

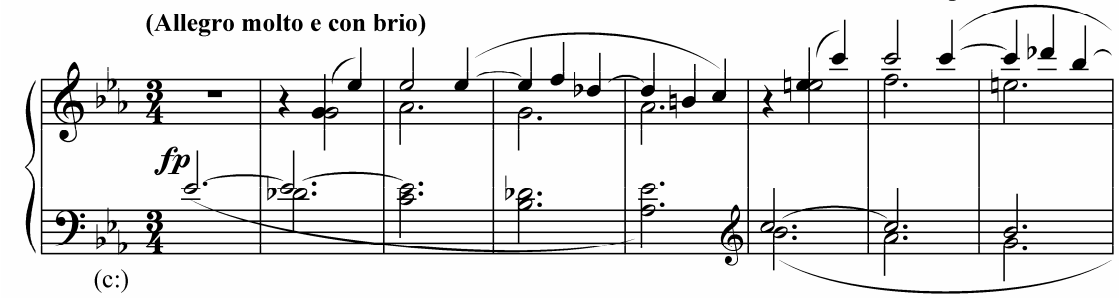
The sequence with the changed structure of the unit is called *free sequence*. Such sequences are the most important devices used for the development of a music composition.

Sequential Modulation Application Areas

Sequential modulations are mostly used in the inner sections which are usually more tonally unstable:

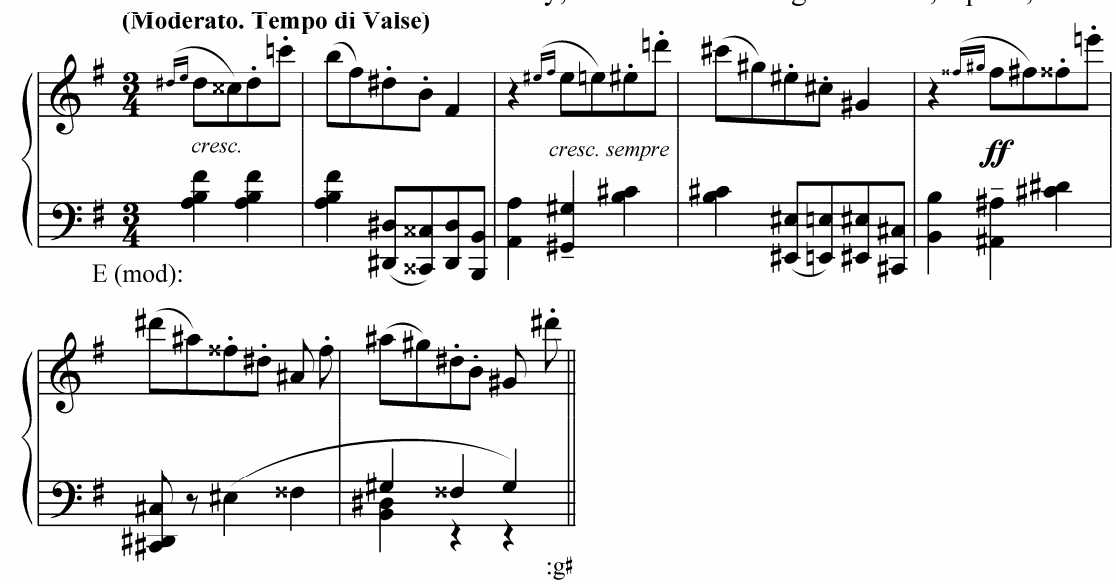
1) in the links (transitions, re-transitions, transitional episodes) which connect two sections, for example, the first and second themes of a sonata allegro.

Beethoven, Piano Sonata No. 5, Op. 10, No. 1, I



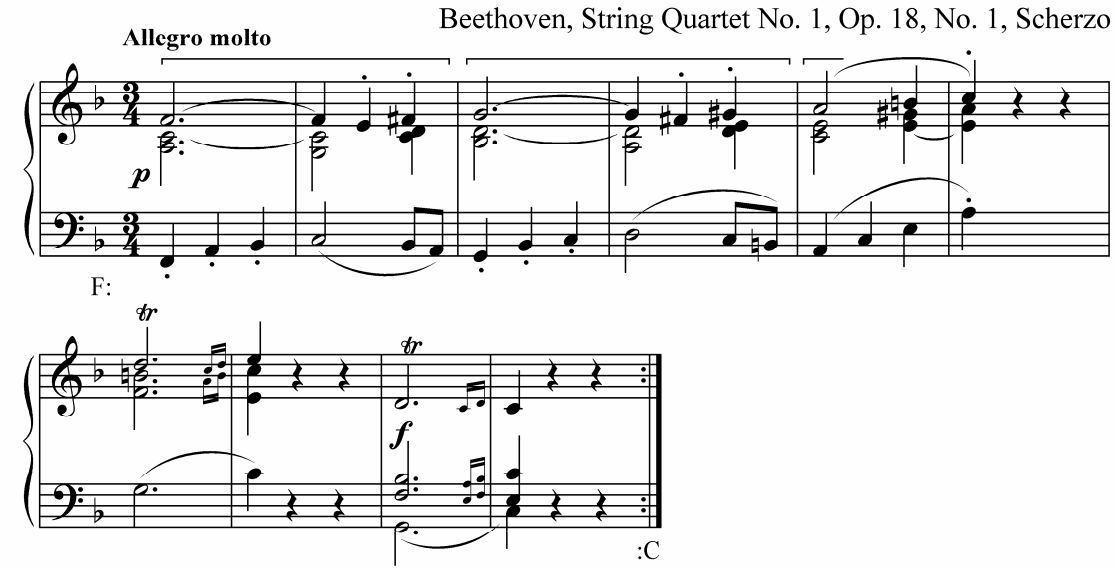
2) in the middle sections where the development of the material presented previously takes place.

Tchaikovsky, Serenade for String Orchestra, Op. 48, Waltz



Sequences can be sometimes used in themes.

Beethoven, String Quartet No. 1, Op. 18, No. 1, Scherzo

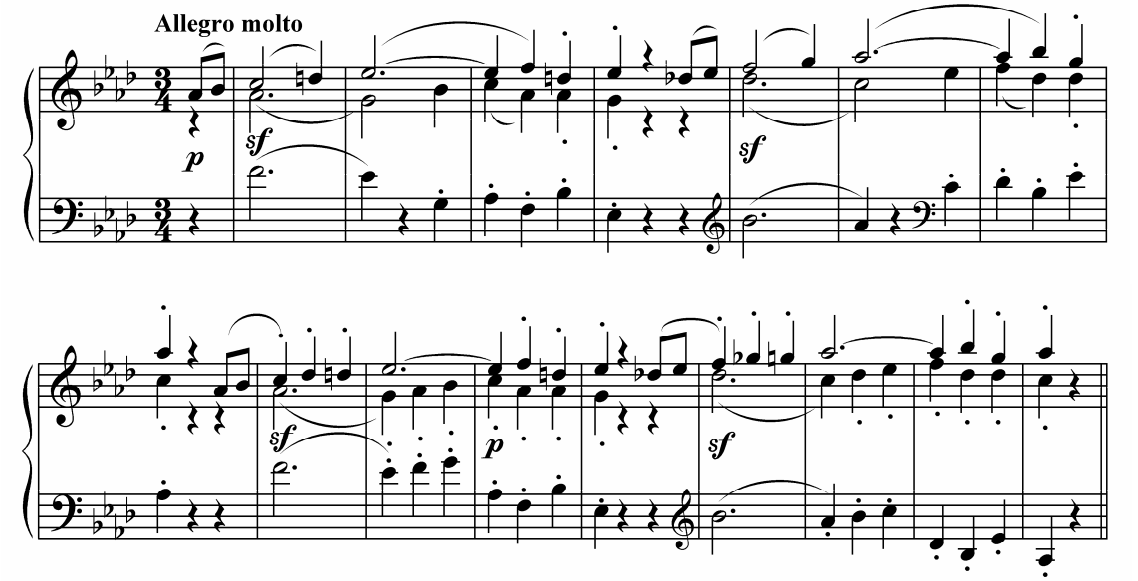


Exercises

1. Analyze the following excerpt.

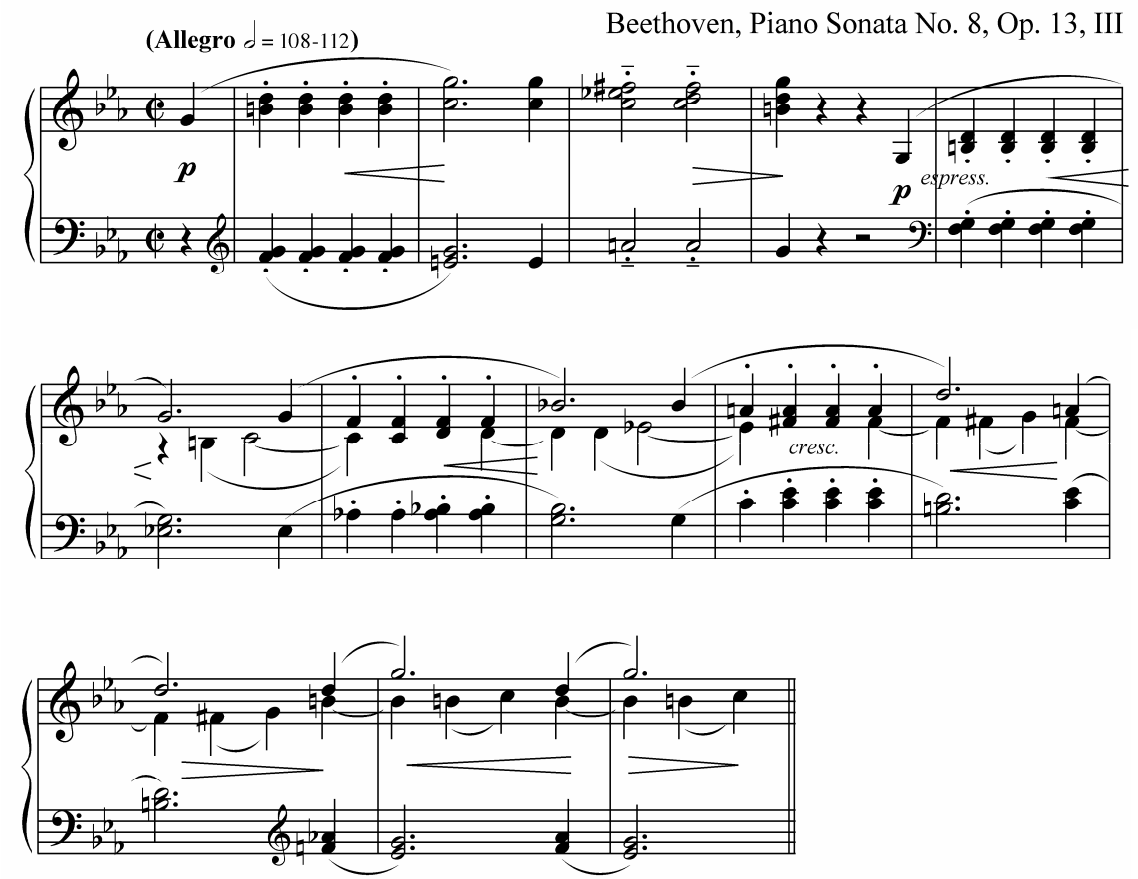
a)

Beethoven, Piano Sonata No. 12, Op. 26, Scherzo



b)

Beethoven, Piano Sonata No. 8, Op. 13, III



c)

Beethoven, Piano Sonata No. 18, Op. 31, No. 3, I

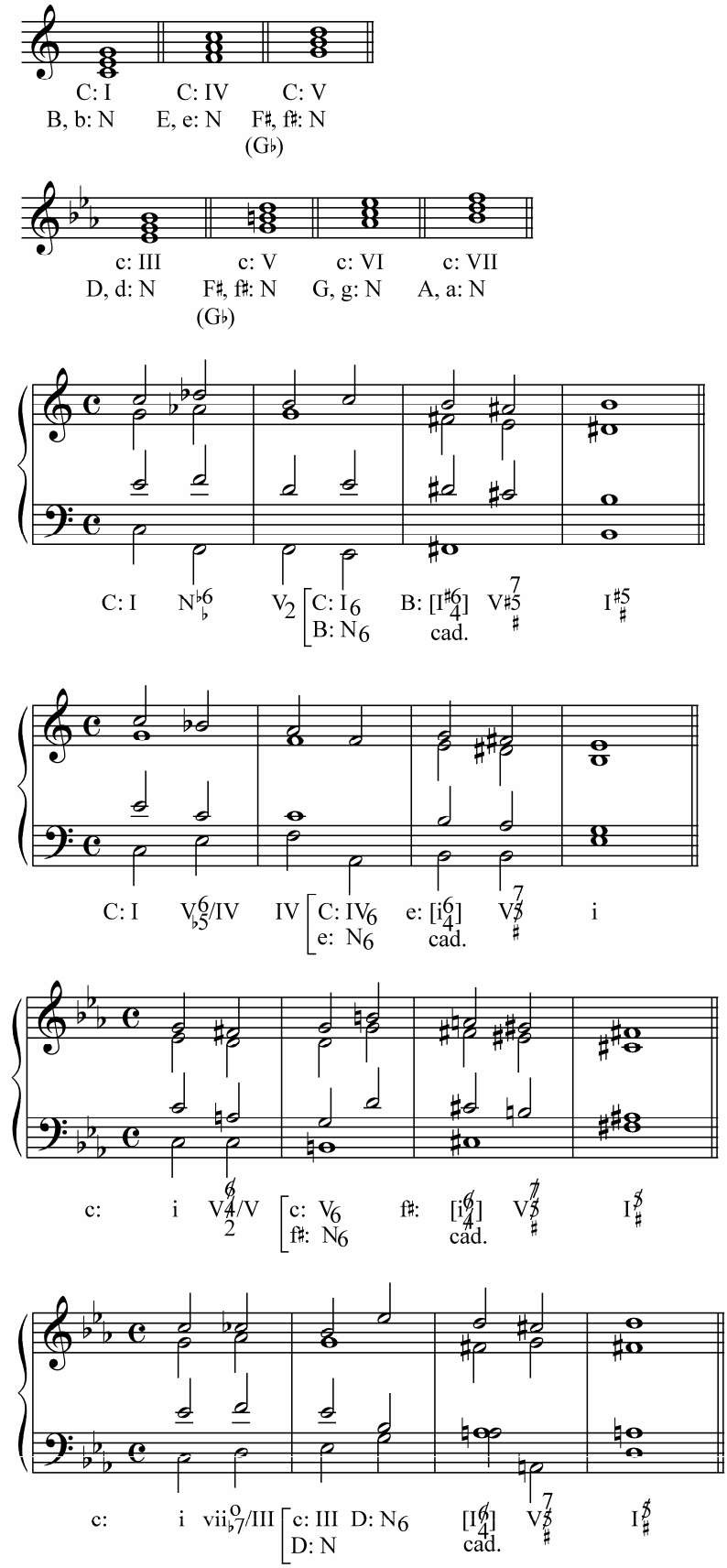
(Allegro)

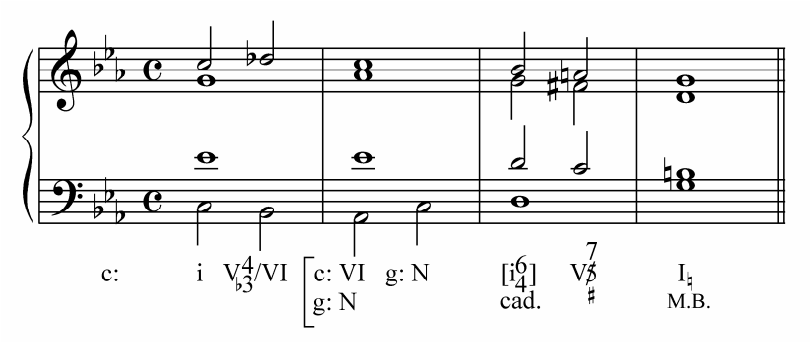
d)

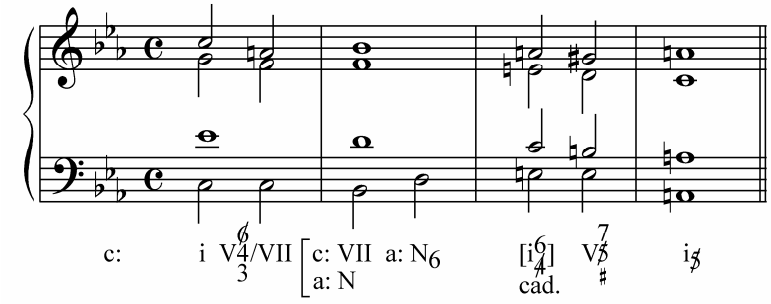
Tchaikovsky, Eugene Onegin, Op. 24, Einleitung

Andante con moto (♩ = 72)

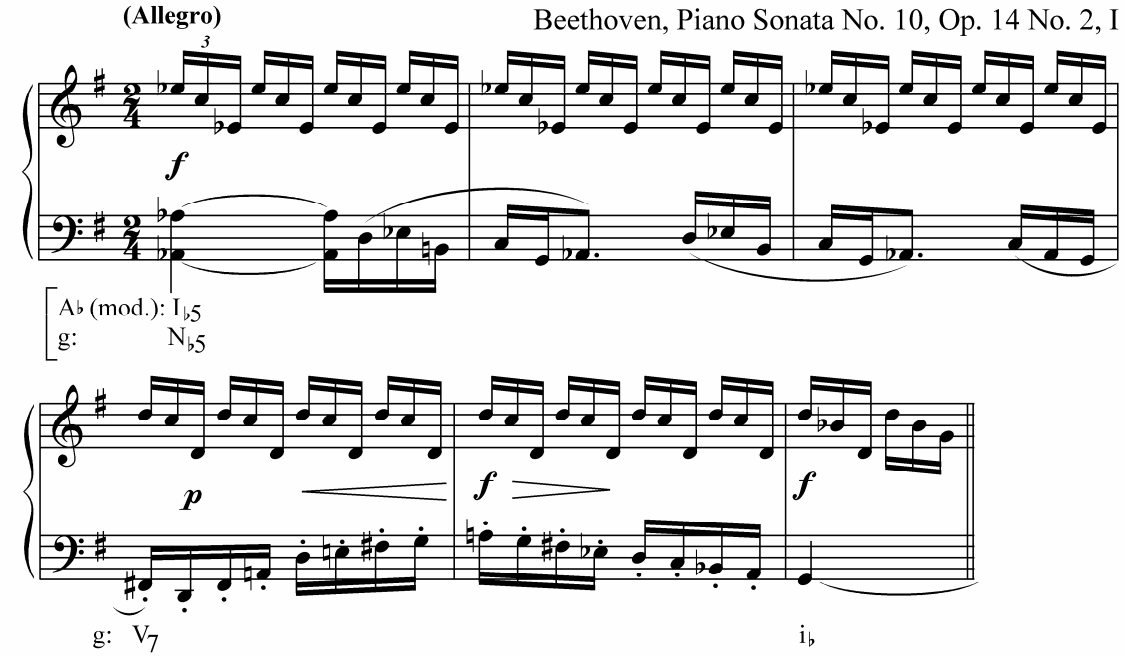
1. Any diatonic *major* triad (I, IV or V of a major key or III, V, VI or VII of a minor key) in the first key may become the Neapolitan triad (N) in the second (major or minor) key.

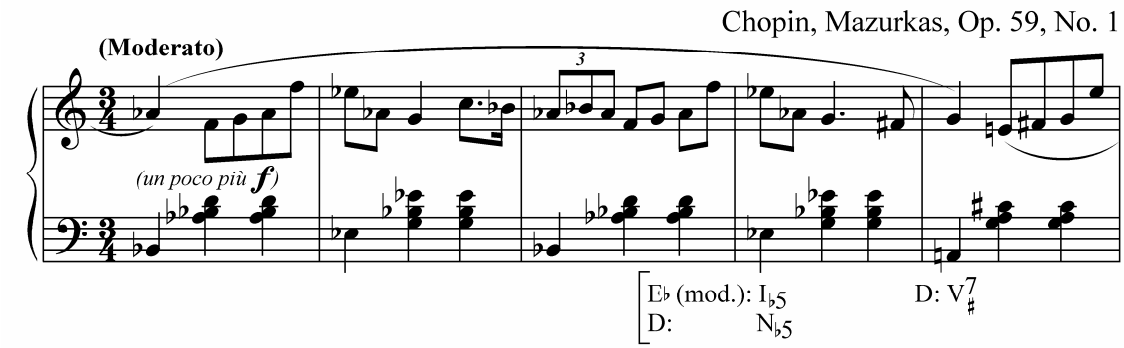


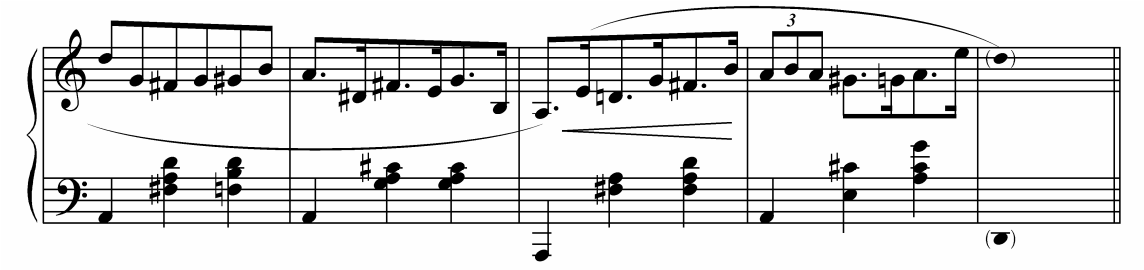




When the major triad is understood as the Neapolitan triad in the new key, it is followed by the chords normally used after the Neapolitan triad in that key.







Using the Neapolitan triad, it is possible to modulate from a major or minor key to such *minor* keys which are different by *one*, *two* or *three* symbols in the key signature or to such *major* keys which are different by *four*, *five* or *six* symbols in the key signature in the direction of sharps. For example:

C major I = N B minor (2 symbols, i.e., C major has no key signature while B minor has 2 sharps in its key signature)
C major IV = N E minor (1 symbol)
C major V = N F-sharp minor (3 symbols)

C major I = N B major (5 symbols)
C major IV = N E major (4 symbols)
C major V = N F-sharp major (6 symbols)

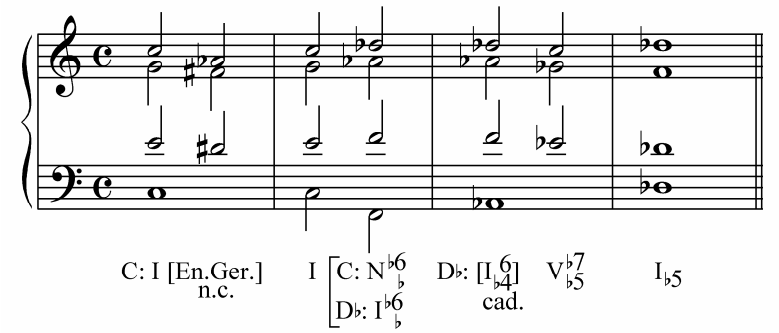
C minor III = N D minor (2 symbols)
C minor VI = N G minor (1 symbol)
C minor VII = N A minor (3 symbols)

C minor III = N D major (5 symbols)
C minor VI = N G major (4 symbols)
C minor VII = N A major (6 symbols)

C minor V = N F-sharp major (9 symbols!) or G-flat major (3 symbols)
C minor V = N F-sharp minor (6 symbols) or its enharmonic G-flat minor! (6 symbols)

N.B. Note that it is better to enharmonically change the key in such cases when it could have too many sharps or flats in its key signature (such as G-flat minor (9 flats) which is better to change to F-sharp minor (3 sharps)).

2. The Neapolitan triad in the first (major or minor) key may become any diatonic *major* triad in the second key. In such case the key signature of the second key would increase in the number of flats in keys with "flat" key signatures or decrease in the number of sharps in keys with "sharp" key signatures. N becomes I, IV or V in a major key or III, VI, V or VII in a minor key. Such modulation, in which N in the first key becomes I in the second key, is the most often one (i.e., the second key is a minor 2nd above the first key).



Mozart, Piano Sonata No. 16 in C Major, K. 545, I

(Allegro)

a: N♭6
F: IV♭6

F: V♭7

I

Exercises

1. Analyze the following excerpts.
   a)

Schubert, Mass No. 6, D. 950, Credo

(Moderato)

(p)

fa - - - cto - - - - rem coe - li et terr - - - - - ae

pp

b)

Beethoven, Symphony No. 9, Op. 125, I

(Allegro, ma non troppo, un poco maestoso)

ff *ff* *p dolce* *ff*

ff *p* *pp*

c)

Haydn, String Quartet, Op. 76, No. 6, II

(Adagio)

p *pp*

p *pp*

p *pp*

p *pp*

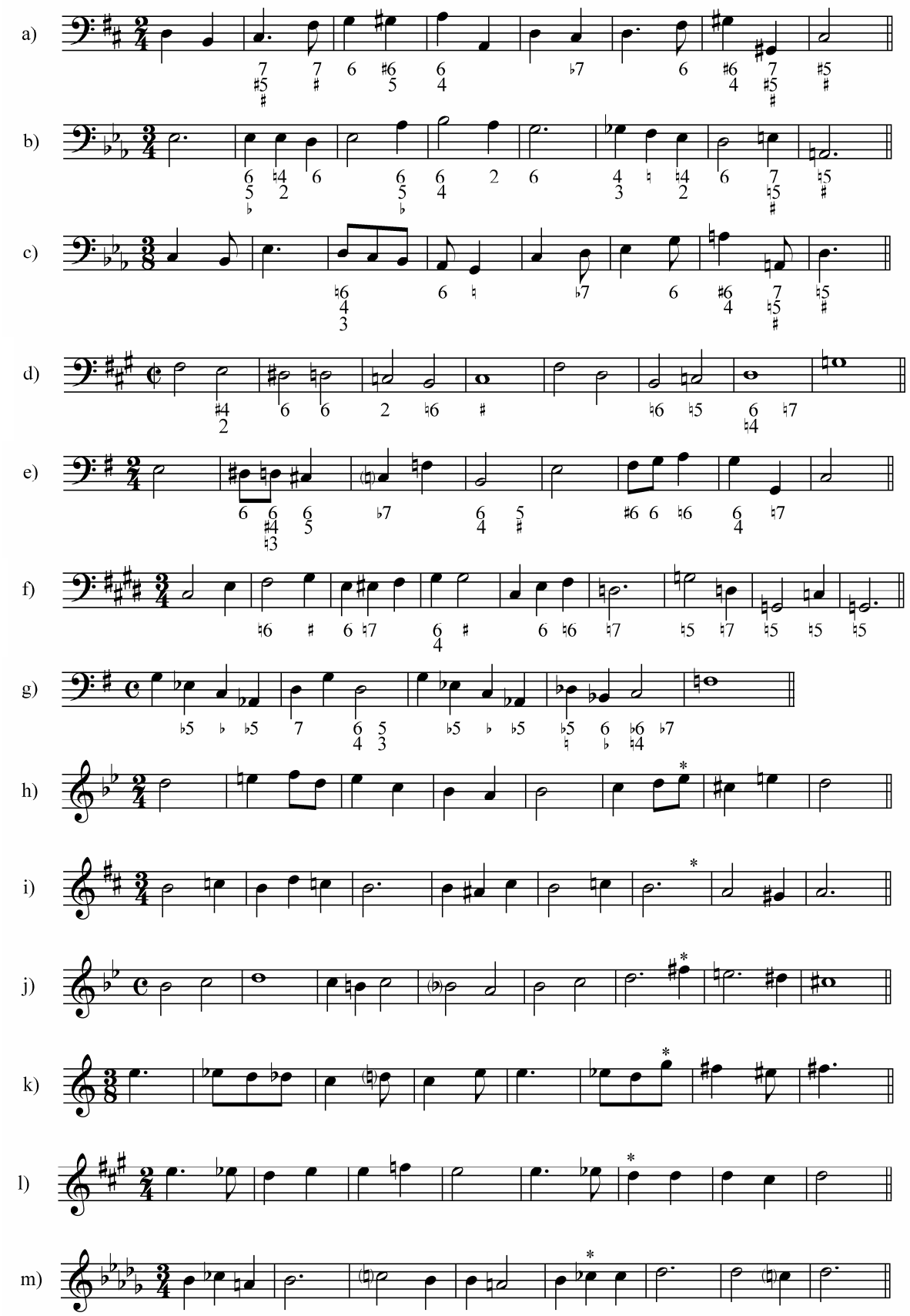
poco f

poco f

poco f

poco f

2. Realize the following figured basses and harmonize the sopranos. Use the Neapolitan triad where indicated by an asterisk.



Enharmonic Modulation

The notes, intervals, chords or keys, which sound the same but are notated and function differently, are called *enharmonic* notes, intervals, chords or keys.

The system of equal temperament, in which an octave is divided into 12 equal half-steps, established the 24 major and minor keys and gave basis for enharmonic substitution and modulations.

If all the notes of a given key are enharmonically changed (for example, B major instead of C-flat major or E-flat minor instead of D-sharp minor or G-flat major instead of F-sharp major), the intervallic structure of each chord would not be changed. No enharmonic modulation occurs in such case. Enharmonic equivalency is often not written out in scores. Composers usually notate music whether in the first key or the second key. Enharmonic respellings are often used to make a certain key to be notated in a more convenient way (for example, in order to reduce the number of sharps or flats in key signatures).

Enharmonic modulations use a different type of enharmonic respelling in which the common chord between the two keys changes its structure and attain the new function.

The modulation, in which there is an enharmonic change of one or more notes of the common chord between two keys leading to the intervallic change of the structure of such chord, is called *enharmonic modulation*. In such enharmonic changes the upward tendency tones would usually change to be the downward tendency tones and vice versa. There is also sometimes the emergence of new tendencies as well. All these would create new, fresh and usually brief transitions to new keys.

Types of Enharmonically Respelled Chords

Normally, any chord (diatonic, chromatic or altered) can be enharmonically changed, but in enharmonic modulations it is more often that the *diatonic and chromatic* chords in the first key would be usually changed into *altered and chromatic* chords in the second key.

Characteristics of Enharmonic Modulation

Enharmonic modulation is often used on the borderline of two sections. It often *coincides* with the presentation of a *new theme*, new section of a music composition which necessitates for a fresh new key.

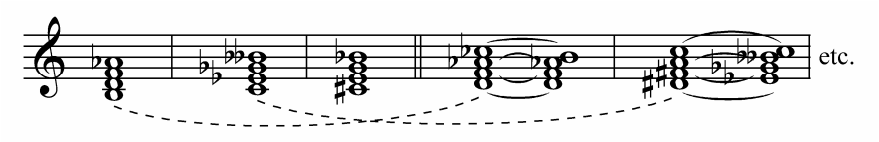
Such modulation often coincides with the change of tempo (often slower) and dynamics (often softer). Another characteristic feature of an enharmonic modulation is that the melody often becomes more *passive* as if moved from the foreground to the background.

All these features create proper conditions at which the listener's attention is *concentrated* on the *enharmonic change* itself and is not distracted by other elements which would make the apprehension more complex.

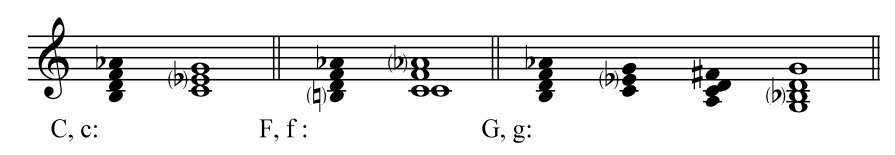
Fully Diminished Seventh Chord Modulation – General Information

The enharmonic modulation with the use of a *fully diminished seventh chord* (in root position or inversions) is one of the most often techniques used by composers during the common practice period. Using it, it is possible to modulate to practically *any key*.

This modulation is based on the fact that, in the system of equal temperament, in which an octave is divided into 12 equal half-steps, there are only *three* fully diminished seventh chords which sound different. The rest of the fully diminished seventh chords are enharmonically equal to those three chords (or their inversions).

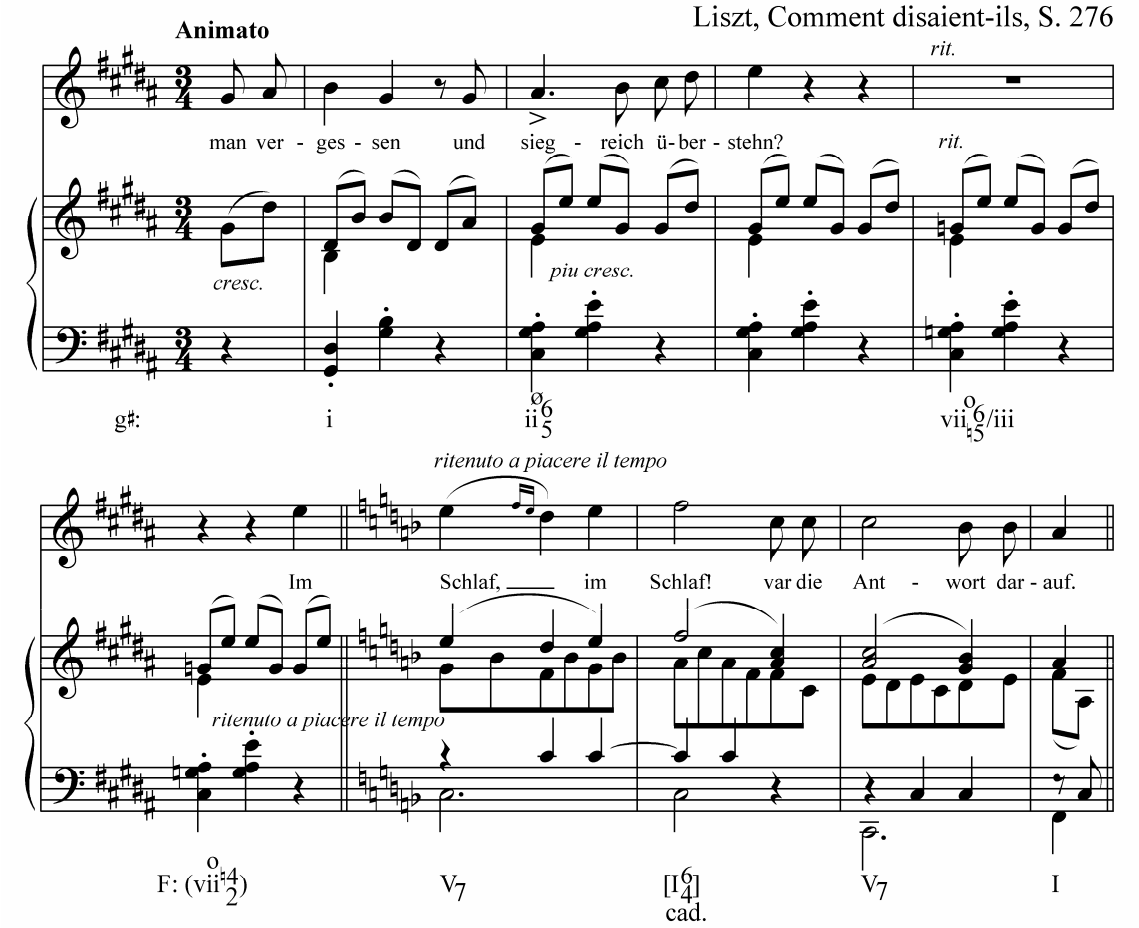


All these three fully diminished seventh chords may be used in any key as the leading tone seventh chords (vii^{o}_{7}) to I, IV or V.



Introduction of Fully Diminished Seventh Chord

A fully diminished seventh chord can be used in the first key as vii^{o}_{7} or any secondary vii^{o}_{7} and introduced almost after any chord.



Enharmonic Change

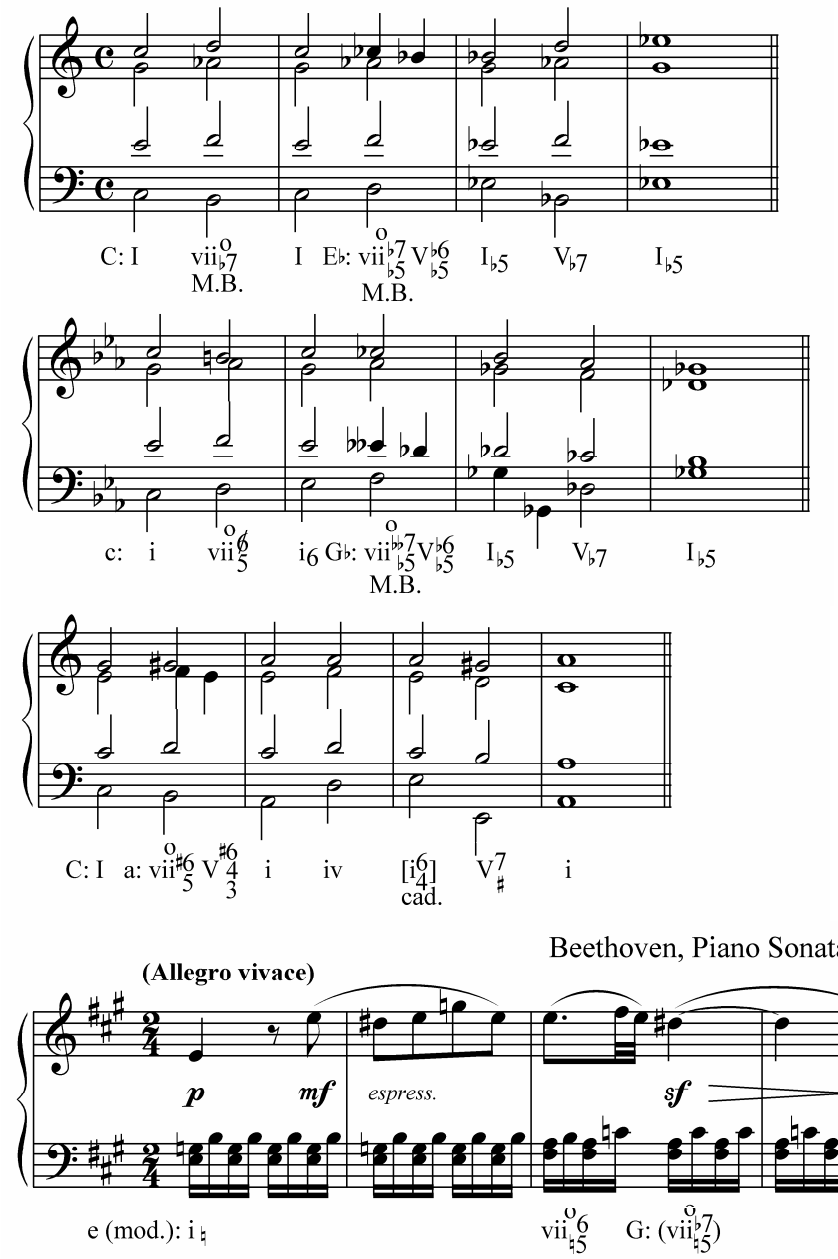
When a fully diminished seventh chord, which is planned to be used as the *common chord*, is introduced in the first key, it should be respelled in a certain way in the *second* key.

Often such chord needs to be enharmonically *respelled*. In real music sometimes the chord is written in the *original key* or sometimes it is notated in the *new key*. Rarely, the composer would notate the chord in *both keys*, if the chord remains stationary, is repeated or connected using ties.

Resolution in the New Key

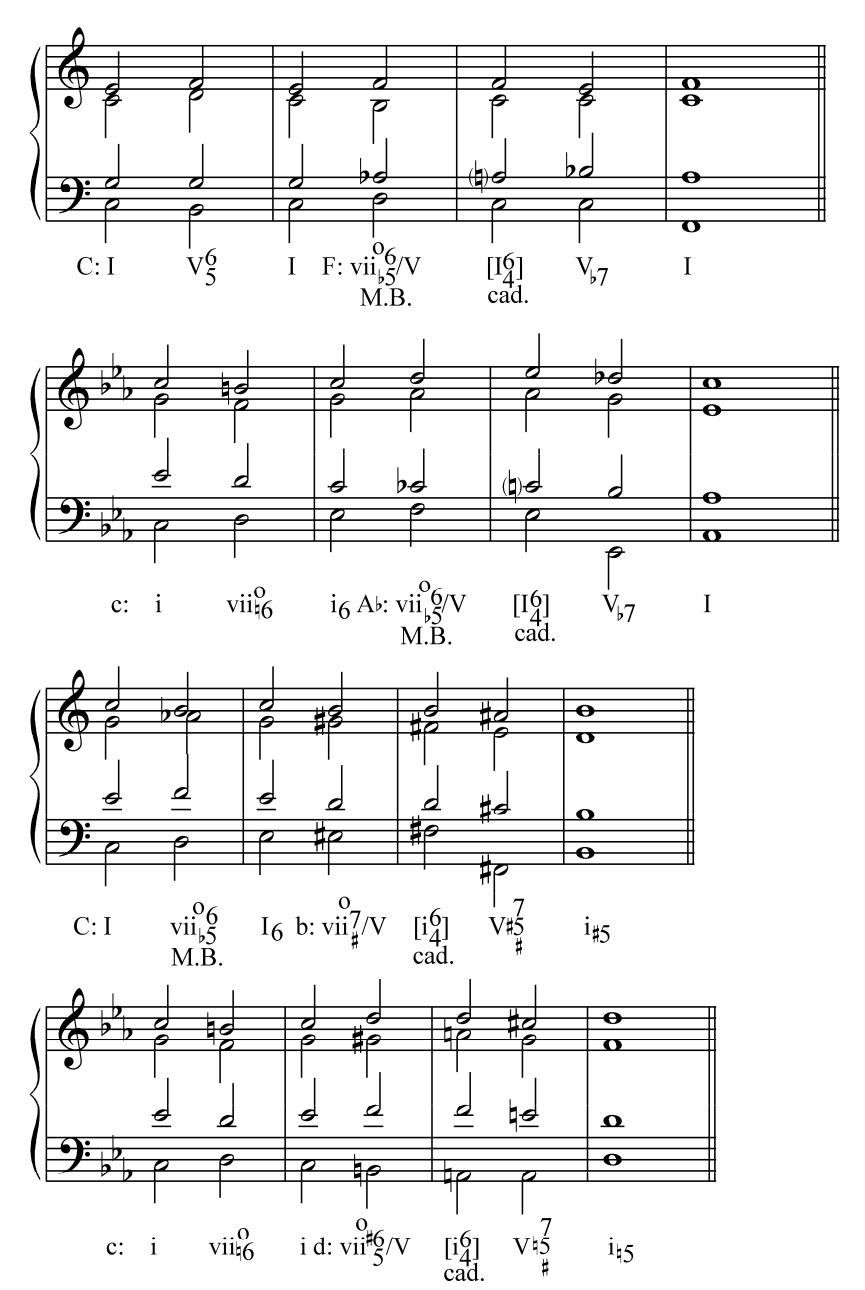
There are *three* ways to resolve the fully diminished seventh chord in the new key:

1. If the fully diminished seventh chord functions as vii^{o}_{7} in the new key, the 7th of the chord would first move a 2nd down turning the chord into V_7 which then resolves to I(i).

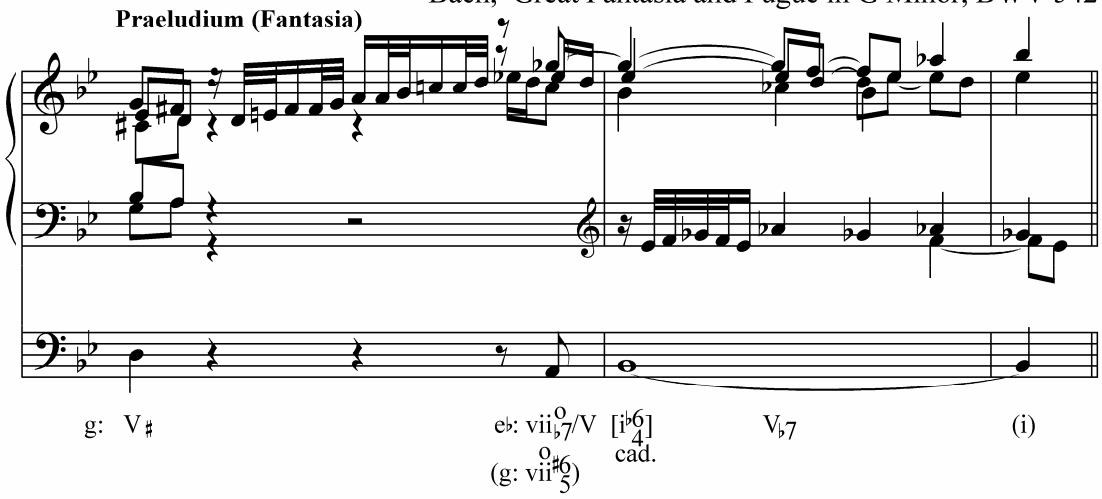


The fully diminished seventh chord (vii^{o}_{7}) *rarely* moves directly to I.

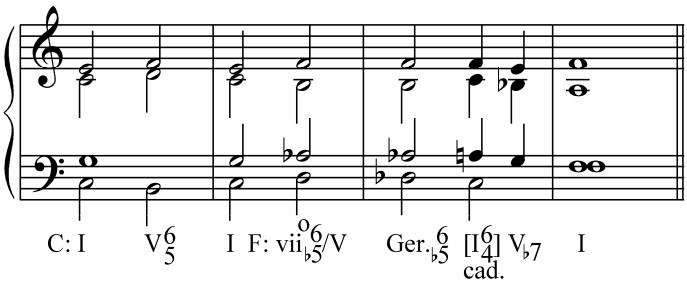
2. If the fully diminished seventh chord functions as vii^{o}_{7}/V in the new key (the most often case), it would usually move to the cadential $I(i)^{6}_{4}$. In such case the fully diminished seventh chord would be used in such inversion in which the *note in bass* would be a *major 2nd above* (vii^{o6}_{5}/V) or a *minor 2nd below* (vii^{o}_{7}/V) the note in bass (dominant note) of the following cadential $I(i)^{6}_{4}$ in the new key.



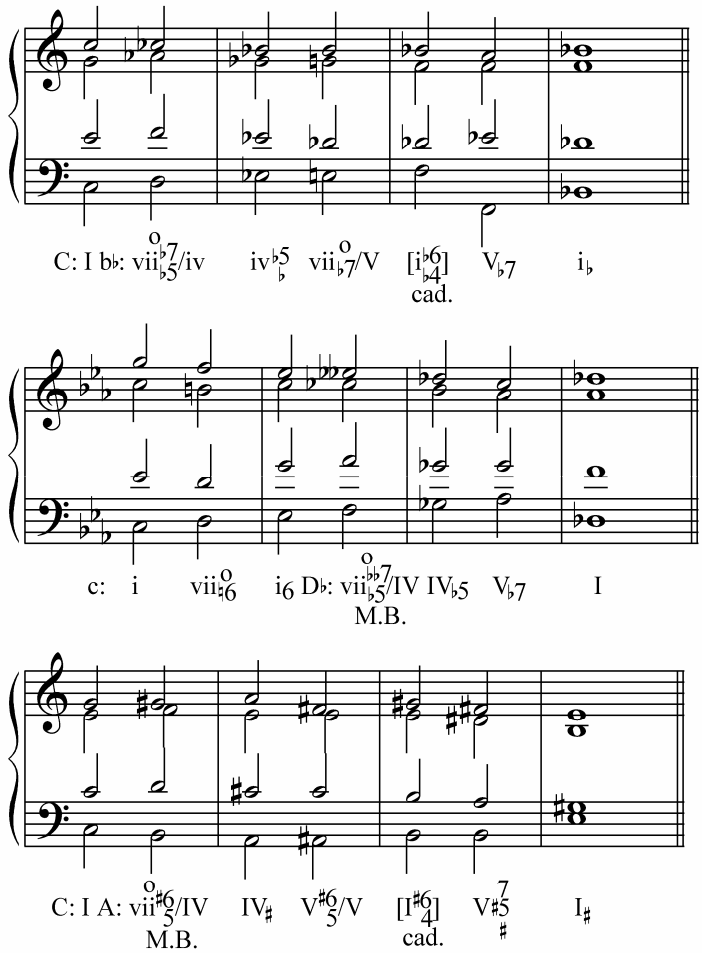
Bach, Great Fantasia and Fugue in G Minor, BWV 542



Sometimes, in order to make the tendency of the chord even stronger, the 3rd of vii$^{o}{}_{7}$/V is chromatically *altered* down turning it into an augmented sixth chord (Ger.$^{6}{}_{5}$), which then resolves to the cadential I$^{6}{}_{4}$.



3. The fully diminished seventh chord functioning as vii$^{o}{}_{7}$/IV (or vii$^{o}{}_{7}$/iv) in the new key would move first to IV, iv or ii. Sometimes it is first changed into V$_{7}$/IV (V$_{7}$/iv) by moving its 7th a second down, after which it would proceed in the normal functional way ending with I(i).

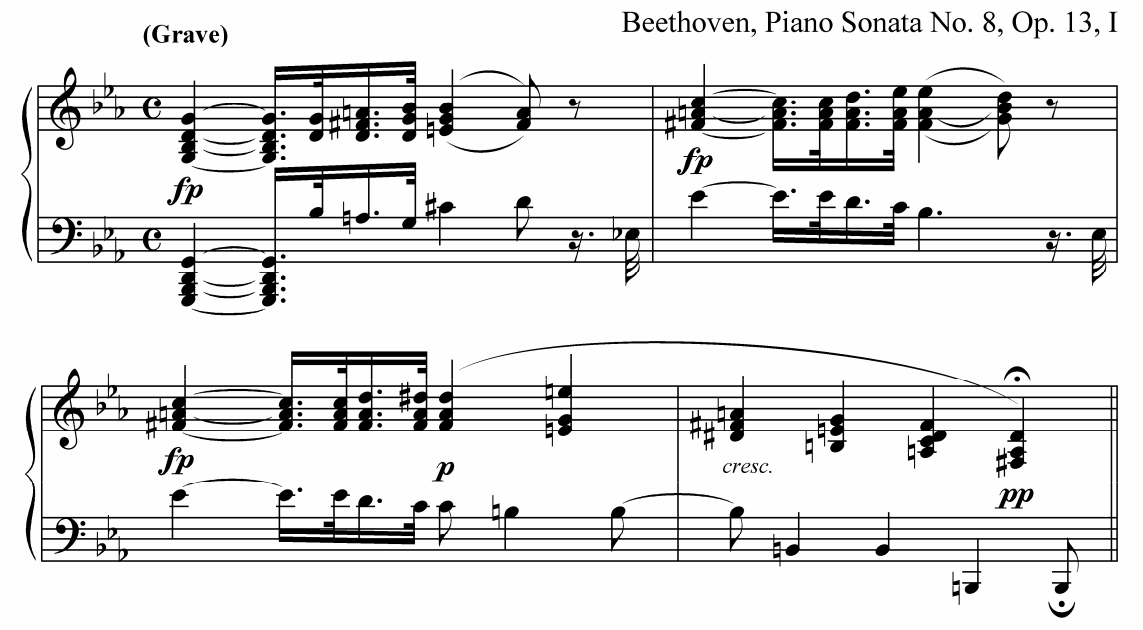


Exercises

1. Analyze the following excerpts.

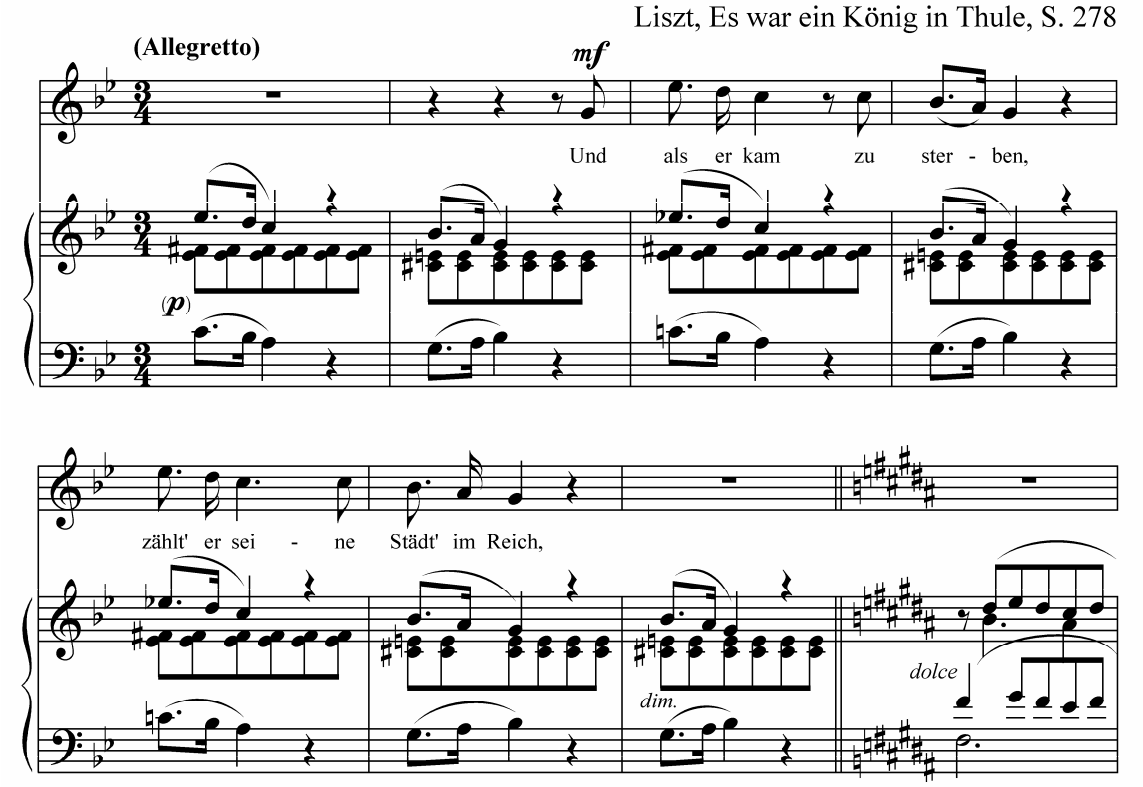
a)

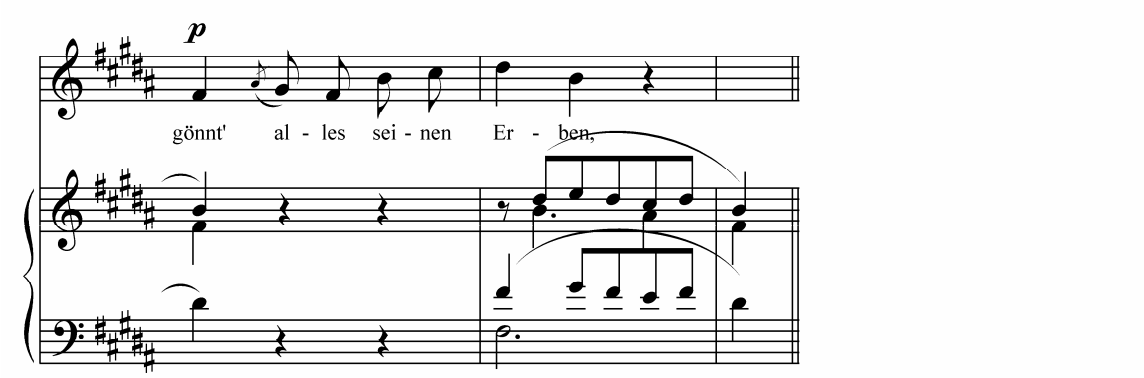
Beethoven, Piano Sonata No. 8, Op. 13, I



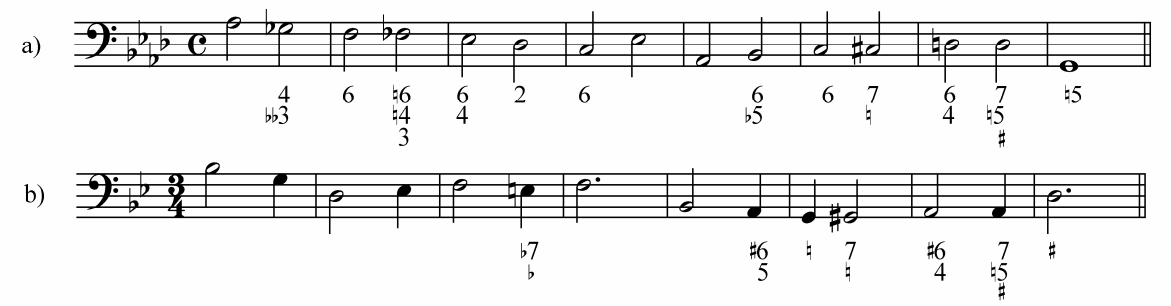
b)

Liszt, Es war ein König in Thule, S. 278

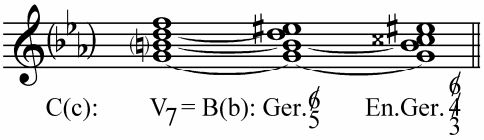




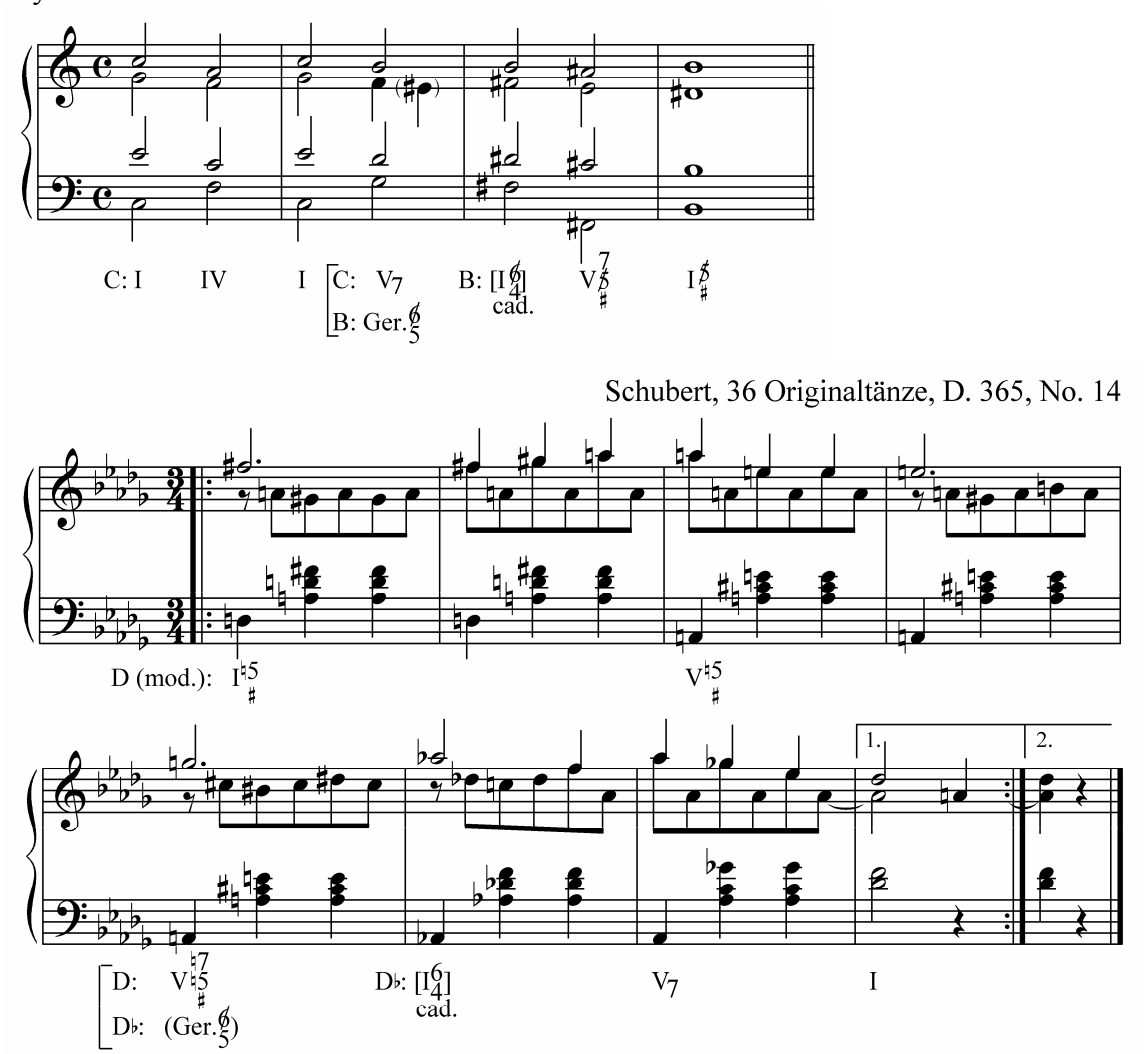
2. Realize the following figured basses.



A *minor 7th* is enharmonically equal to an *augmented 6th*. Thus, V_7 can be respelled as *Ger.*$^{6}_{5}$ (sometimes En.Ger.$^{4}_{3}$) and be used to modulate to major or minor keys a *half step below* the first key[40].

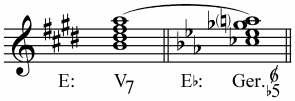


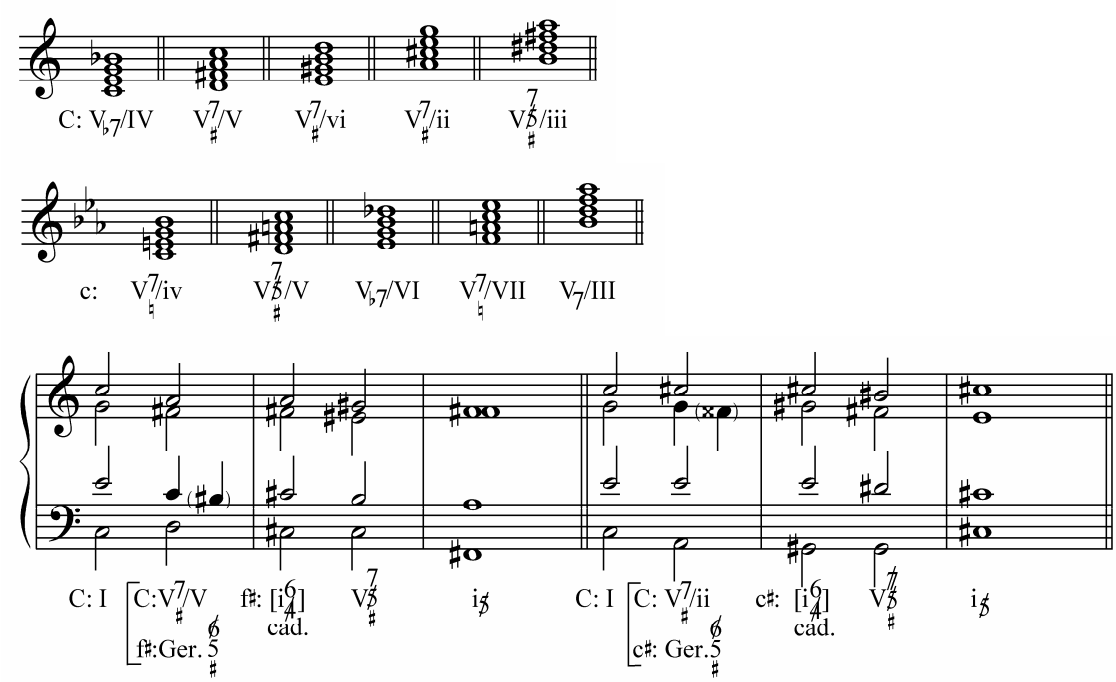
In order to modulate, the *7th* of V_7 is enharmonically respelled[41] becoming the *root* of the German chord. If V_7 was used in *root position*, the German chord would be in its usual inversion, i.e., Ger.$^{6}_{5}$. V_7 of the first key may be placed after any diatonic chord which can functionally precede it. The German chord would usually move to the cadential (or passing) I(i)$^{6}_{4}$ in the new key.



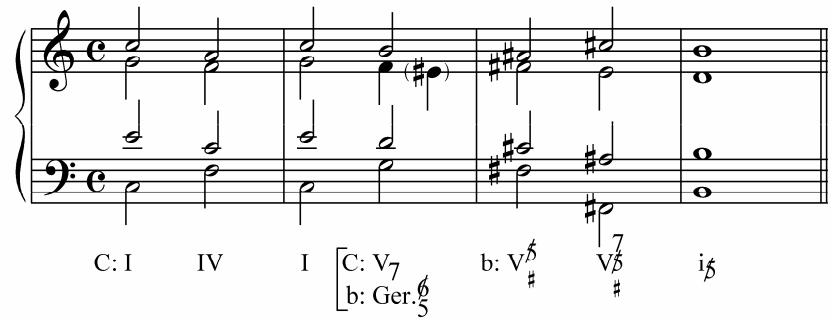
Secondary V_7's can be also used in such enharmonic modulation.

[40] Composers would rarely notate both chords. They would choose one of them to notate in the first or second key.
[41] In some cases the root, 3rd and 5th of the chord are respelled while the 7th is unchanged.

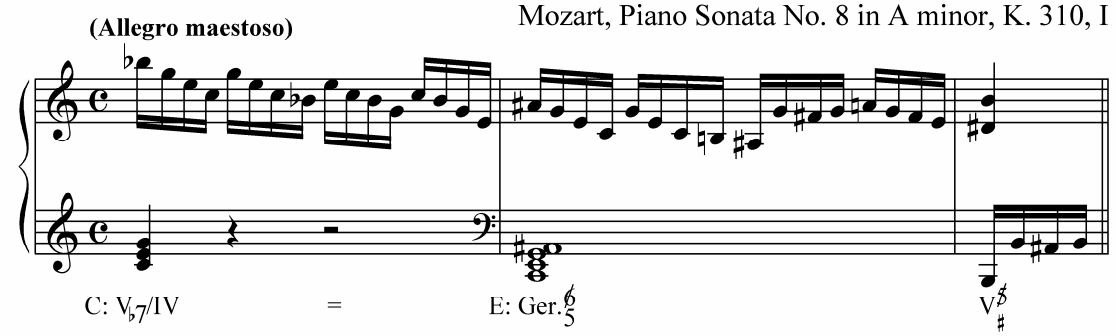




The enharmonically respelled V_7 may sometimes move directly to the dominant chord of the new key. "Mozart fifths" may also occur.

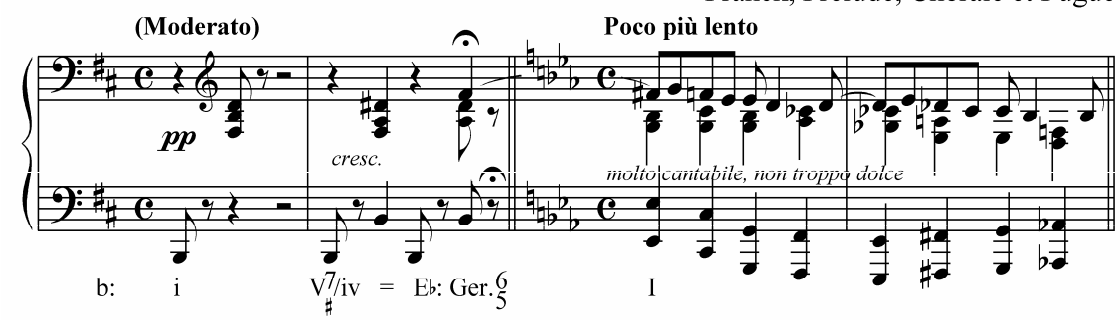


Mozart, Piano Sonata No. 8 in A minor, K. 310, I

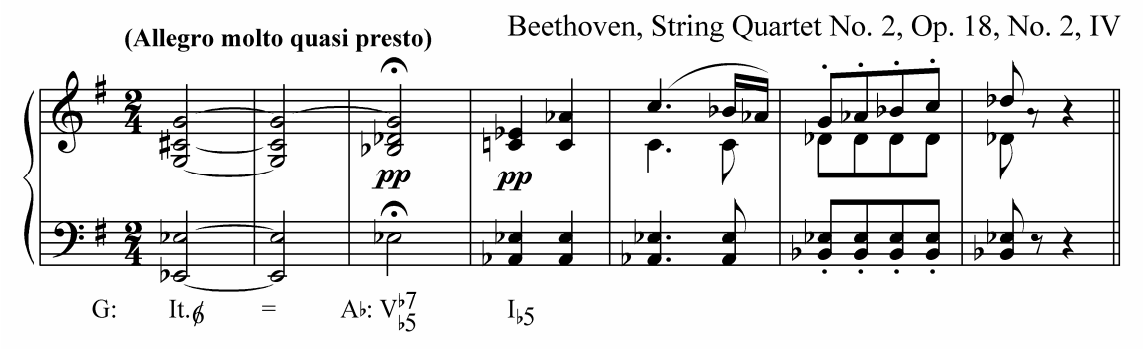


Rarely, the chord may move directly to the tonic triad in the new key using the plagal connection.

Franck, Prélude, Chorale et Fugue

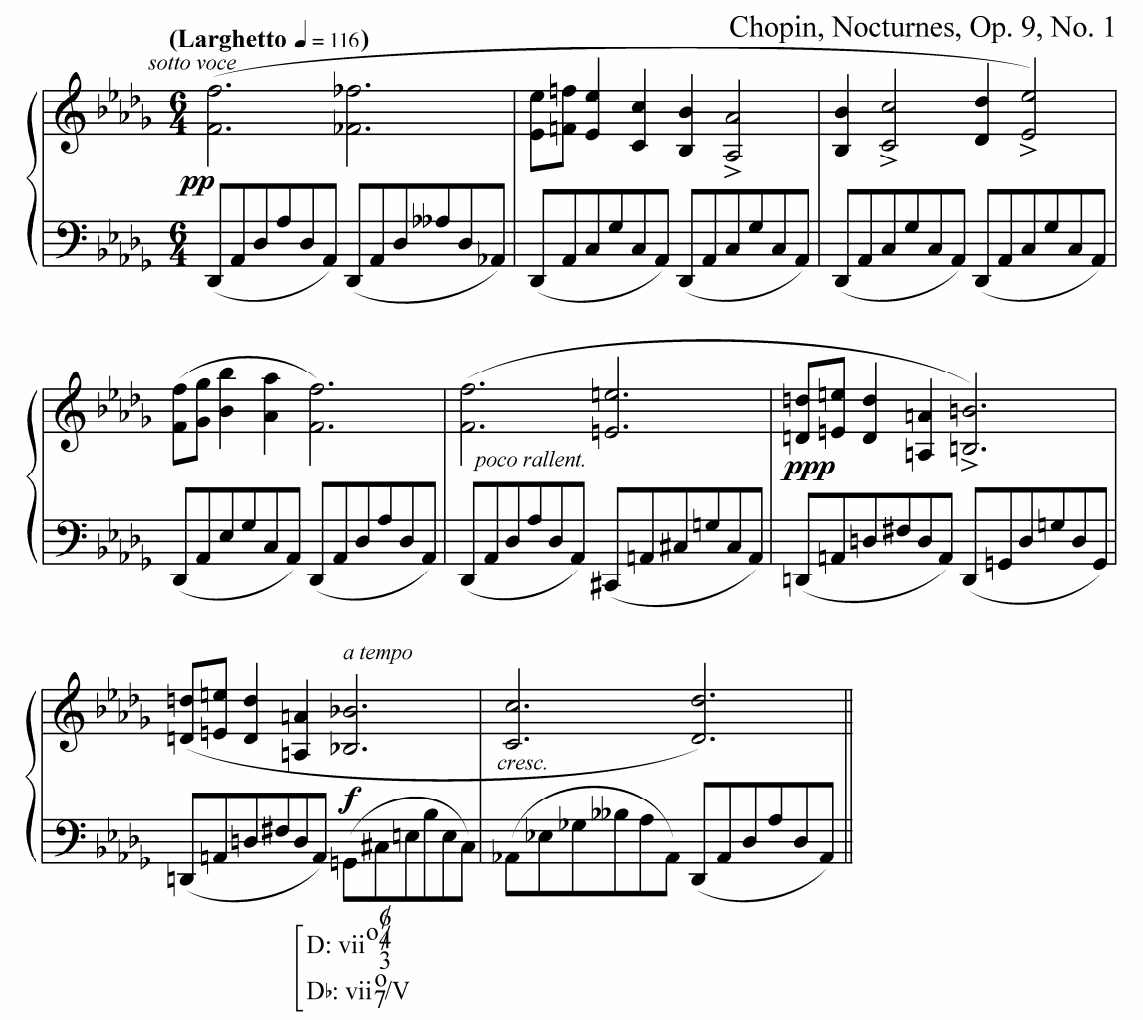


Though, as it was mentioned before, it is usual to respell V_7 into Ger.$^6{}_5$, it is sometimes possible to find such examples where the *augmented sixth chord* would become the *diatonic* or *chromatic* V_7. Ger.$^6{}_5$ or En.Ger.$^4{}_3$ are more often found in such cases, though It.$_6$ can be sometimes used as well. The lowest note of the augmented 6th would become the root of V_7 in the new key. In such enharmonic modulations there would be a change to such major or minor keys which are a *half step higher* the previous one.



Exercises

1. Analyze the following excerpts.
   a)



   b)

Tchaikovsky, Grand Sonata, Op. 37, I

(Moderato e risoluto)

sempre ff

p

p

2. Realize the following figured basses.

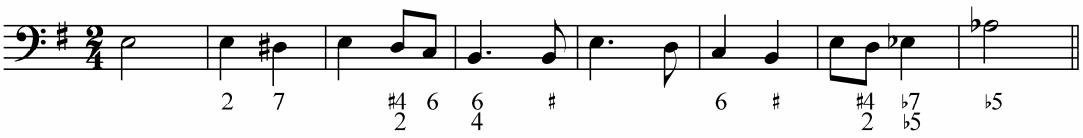
a)

b)

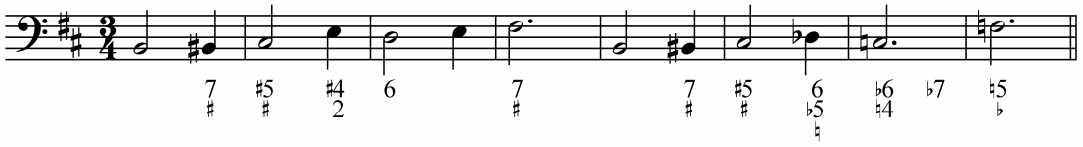
c)

d)

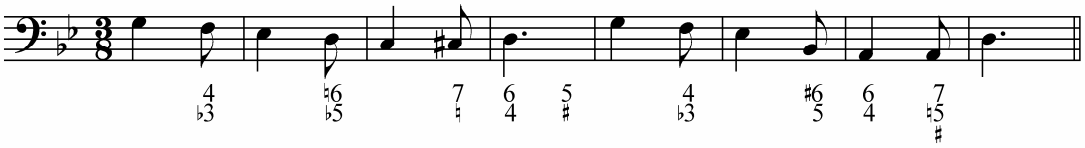
e)



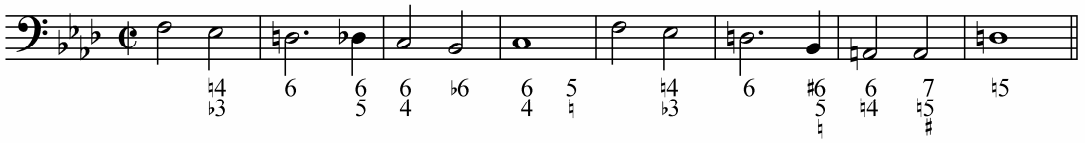
f)



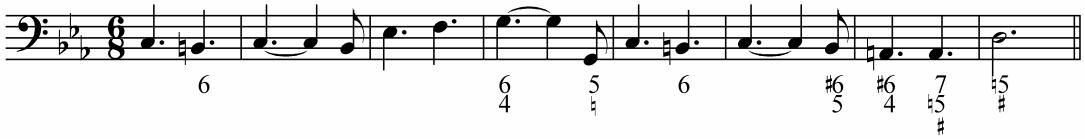
g)



h)



i)



How close the two keys are is defined by the relationship of their tonics and by the presence of common chords between the two keys. Thus, two keys may be *closely related* or *remote*.

The first thing, which shows whether the two keys are closely related or remote, is the *difference in their key signatures*. As mentioned before, the closely related keys (except for the relative key) are those which differ by no more than *one symbol* in the key signature (for example, C major–G major; C major–D minor). Keys, which differ by more than one symbol in their key signature, are *remote keys*.

Gradual (Chain) Modulation

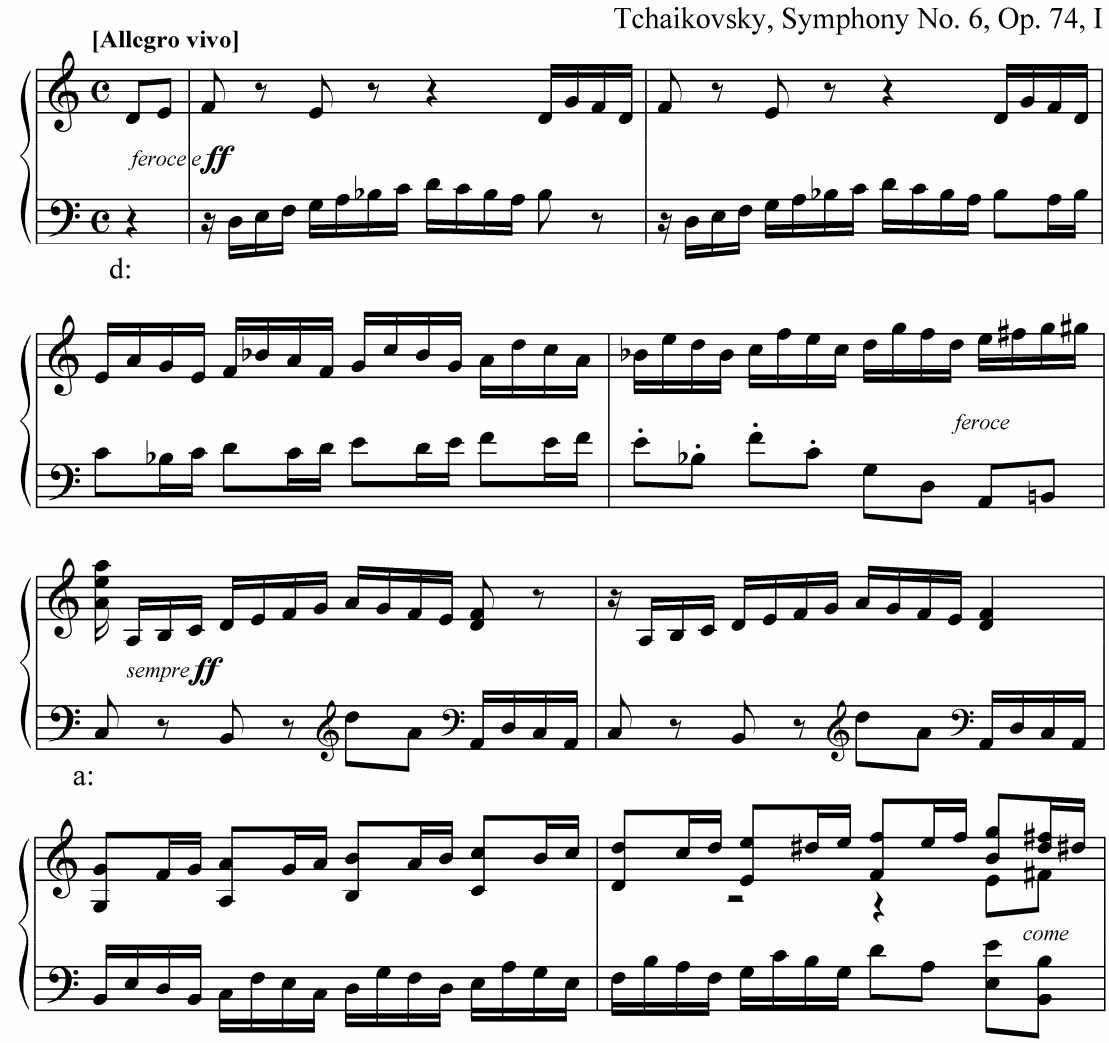
Two remote keys can be connected by means of *gradual (or chain) modulation*. A modulation, which is carried out through a number of closely related keys to some remote key, is called gradual (or chain).

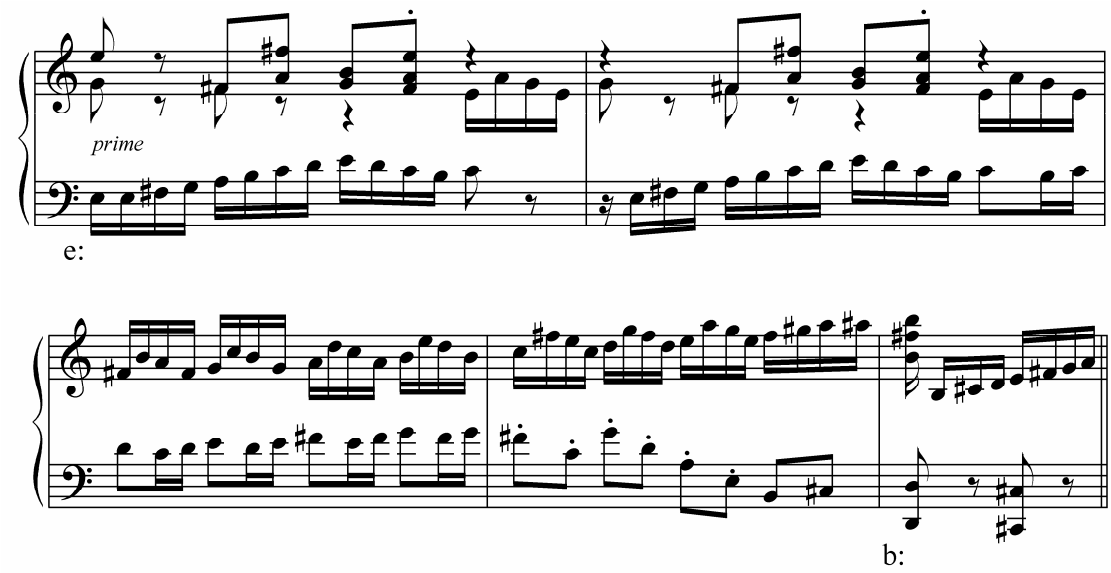
For example, the modulation from C major to B major (the keys are five sharps apart) can be done in five consecutive steps.

C–G–D–A–E–B
or C–G–b–f-sharp–E–B
or C–e–D–A–c-sharp–B

Gradual modulation can be often found in transitions and developments, that is, in those sections where those passing keys would *not* be established very strongly.

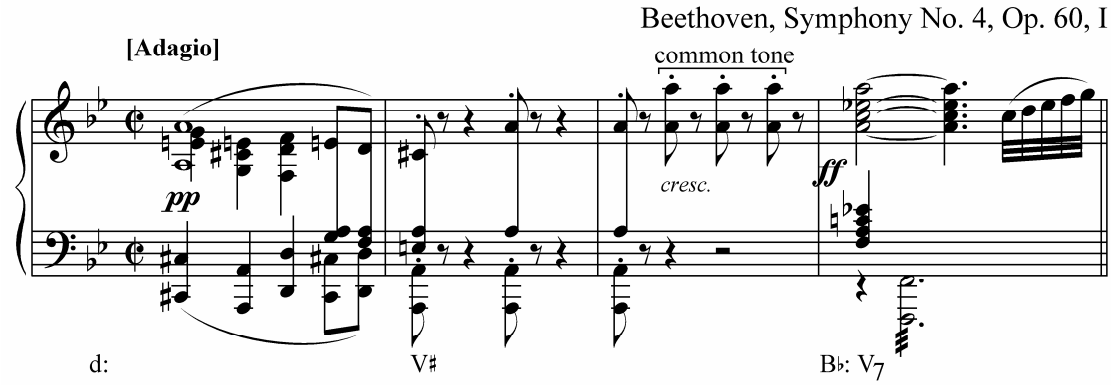
Tchaikovsky, Symphony No. 6, Op. 74, I



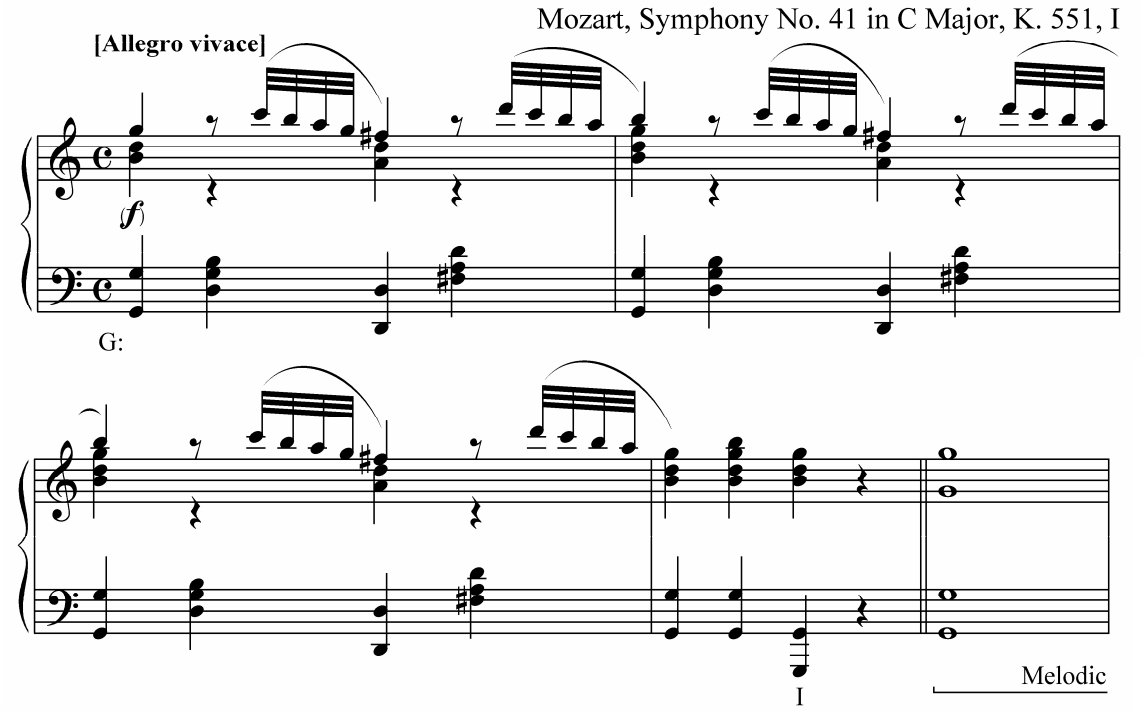


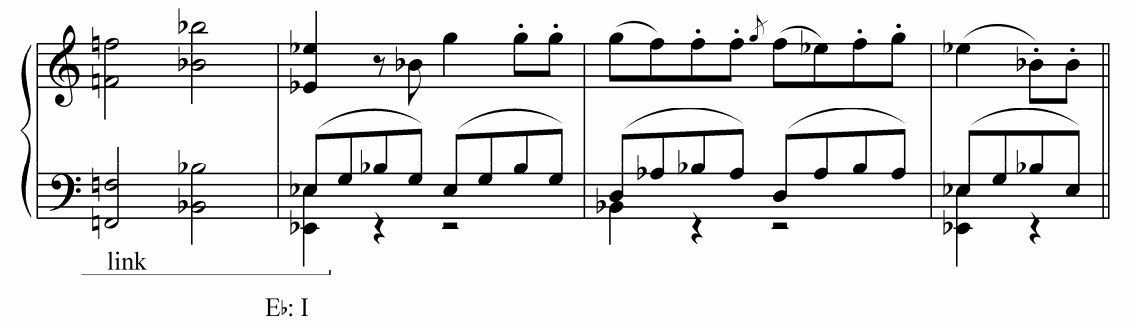
Common-Tone, Melodic (or Monophonic) Modulation

Common-tone modulation is such modulation where two keys are connected not with a common chord but with a common tone.



Similar to common-tone modulation is *melodic (or monophonic) modulation* where two keys are connected with a short melodic link.

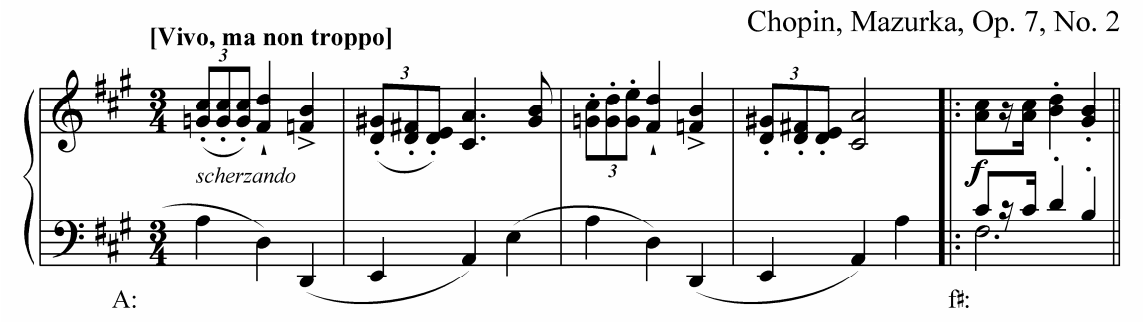




These modulations can be used not only between closely related keys but also between remote keys. The length of such modulation can be also different. This type of modulation is not very much different from the other types, the only difference being the fact that the link between two keys is not harmonized.

Phrase Modulation

Another similar type is *phrase modulation*. Phrase modulation is based on the immediate introduction of the new key in the beginning of a new unit (period, rarely phrase) without any preparation in the previous unit. Though the two keys may have common chords, there is no use of those in such modulation. The first unit would often end with the perfect authentic cadence (P.A.C.) before the unit to follow would start in a new key.

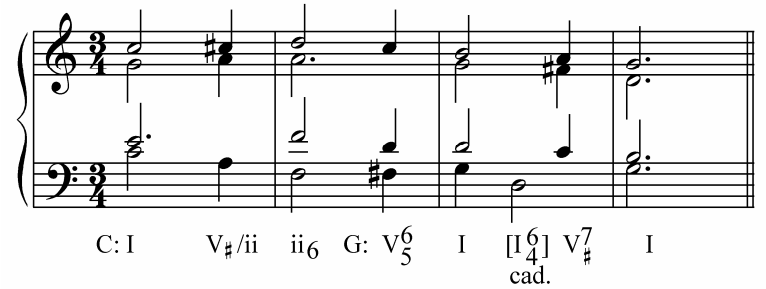


The thematic material of units may be similar in phrase modulation. In some cases the phrase modulation can be used between the two bigger units of a composition in which material may differ.

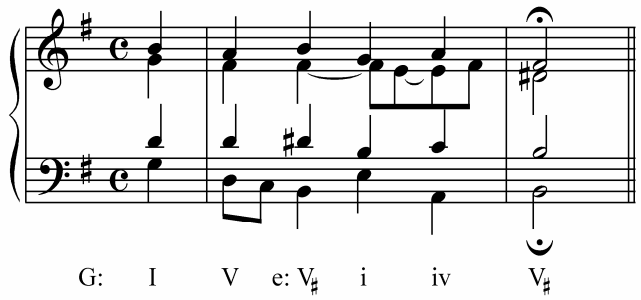
Parallel keys are often involved in phrase modulation, for example, C major–c minor, or vice versa. Thanks to the identical quality of the dominant chord, a period (or phrase) may end using a half authentic cadence or modulate to the dominant key while the next period (or phrase) would immediately start in the parallel key. But a more colorful phrase modulation would be to a key a third (either major or minor) above or below the initial key (for example, C major–A-flat major).

Direct (Chromatic) Modulation

Though it is possible to use a common chord between closely related keys, sometimes composers don't use those and move from one key to another directly. Such modulation is called *direct (or chromatic) modulation*. Dominant chords are often used in this modulation.



Bach, Du grosser Schmerzensmann, BWV 300

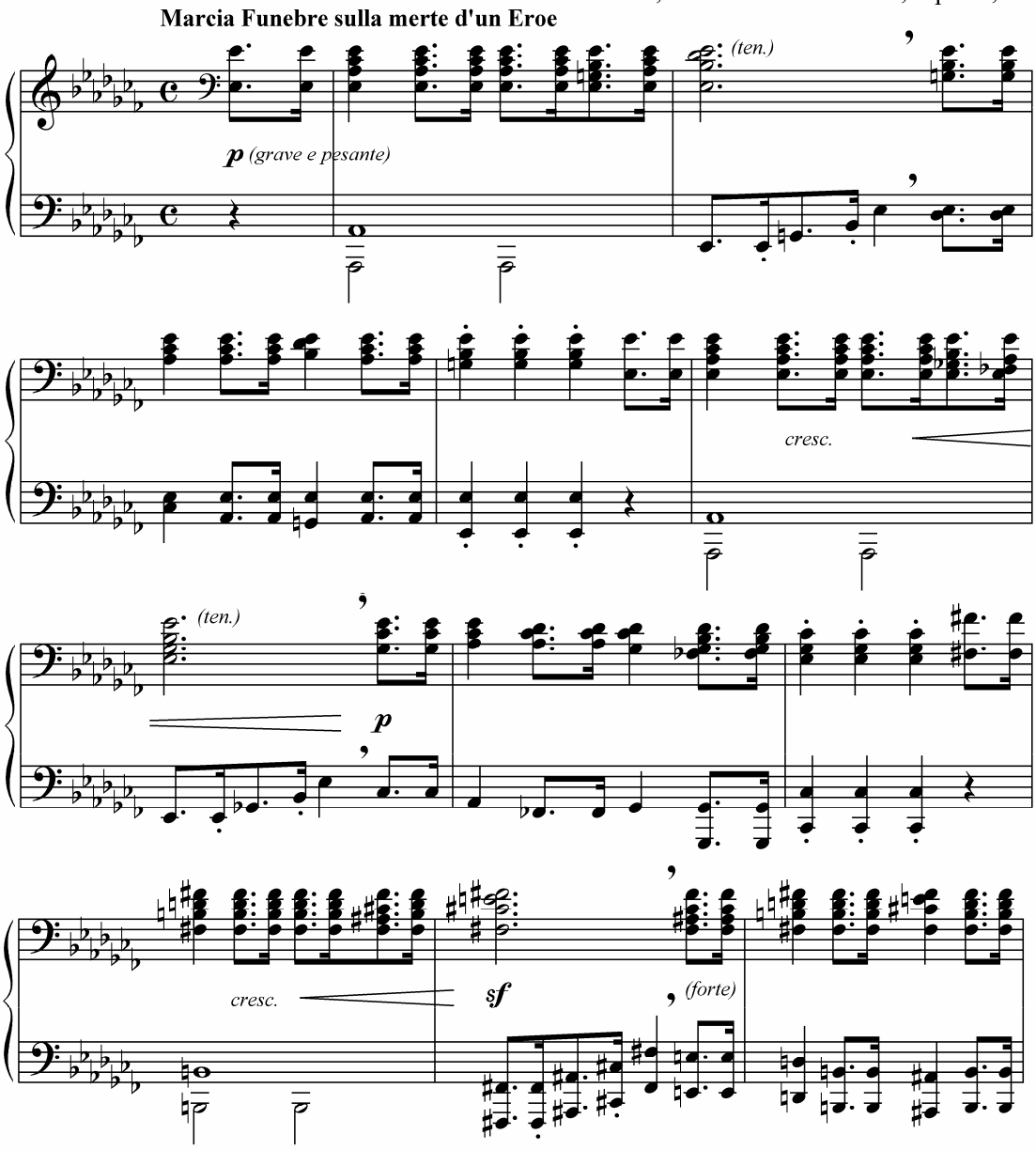


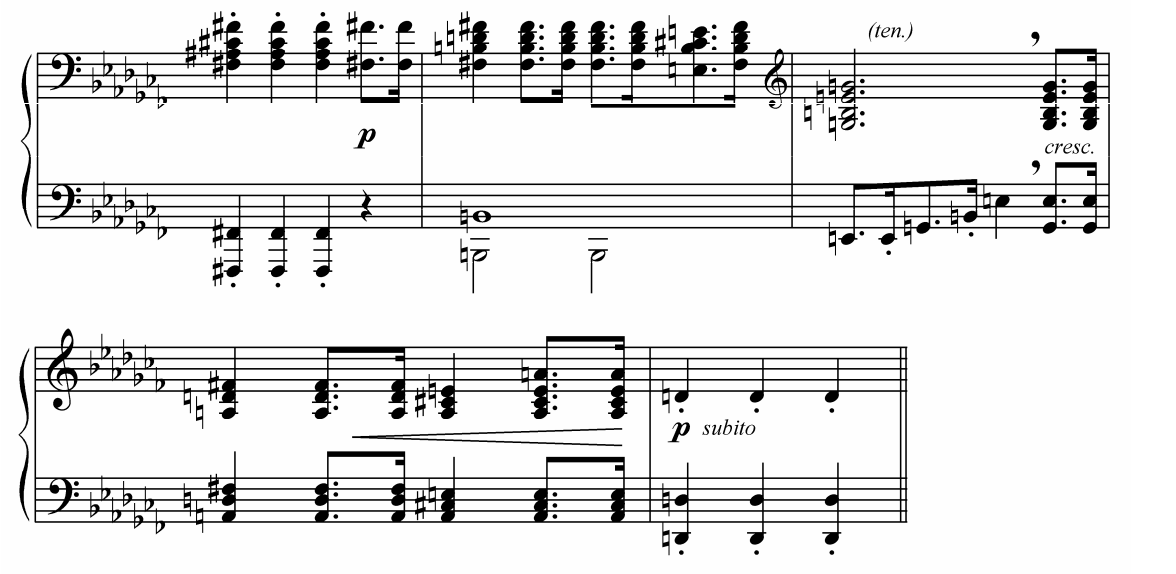
Exercises

1. Analyze the following excerpt.

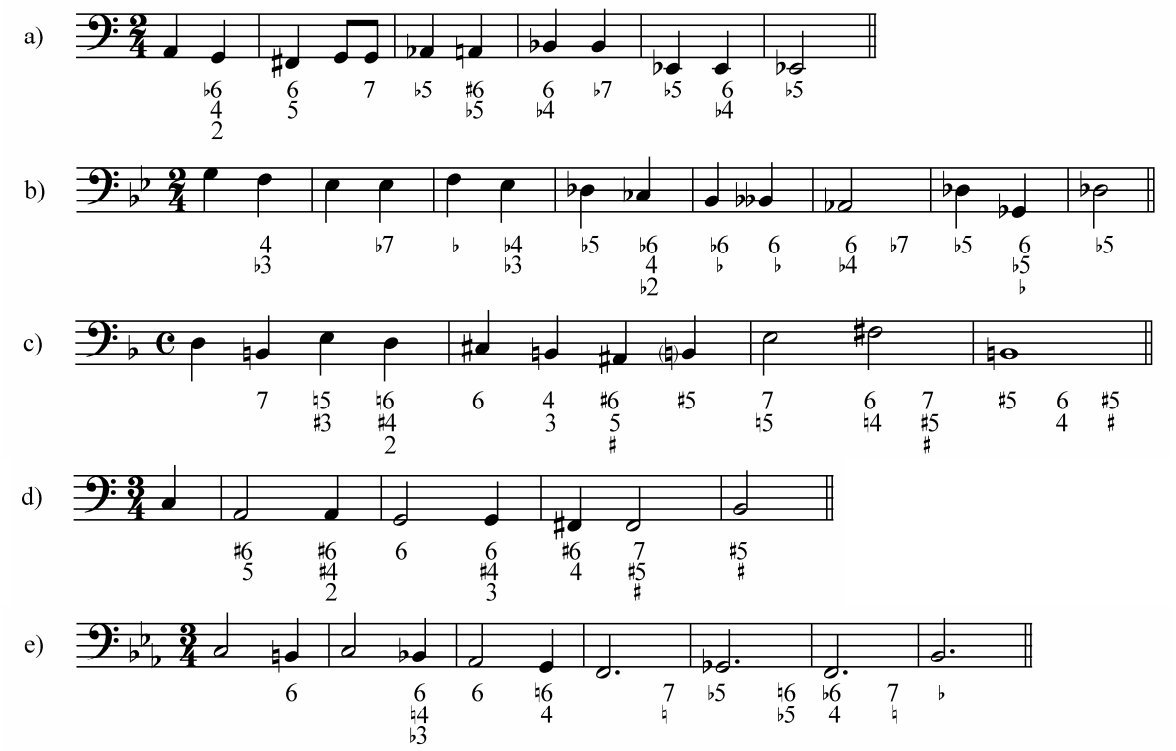
Beethoven, Piano Sonata No. 12, Op. 26, III

Marcia Funebre sulla merte d'un Eroe





2. Realize the following figured basses.



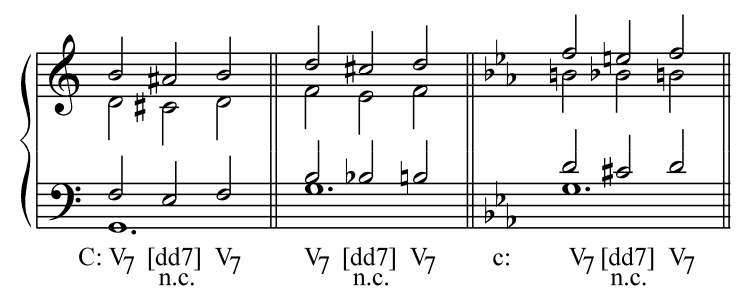
When neighboring or passing tones are used simultaneously in several voices, *neighboring or passing chords* can be formed. These chords have no function of their own and serve only as embellishments to other chords.

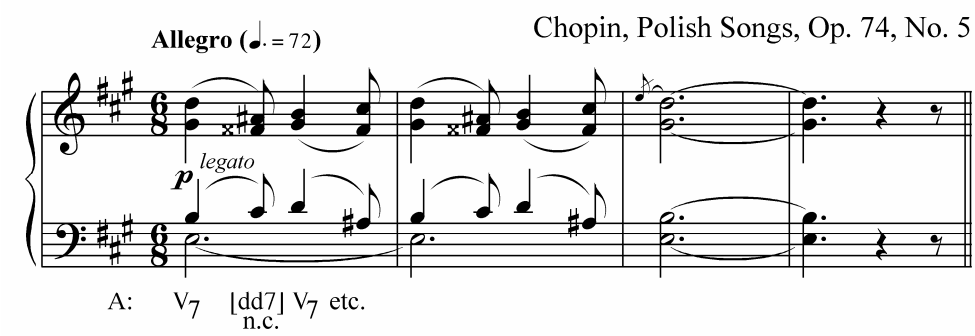
Fully diminished seventh chords normally function as leading-tone seventh chords to tonic triads or other chords (secondary dominants). It can also be used in enharmonic modulations. However, some fully diminished seventh chords are used as embellishing neighboring and, sometimes, passing chords. These chords would be usually notated as secondary dominants of some chords but embellish chords of different function.

The chords are best analyzed dd7 with square brackets on both sides and their nonharmonic use (neighboring (n.c.) or passing (p.c.)). The first letter d stands for a diminished triad; d7 stands for the interval between the root and the seventh of the chord.

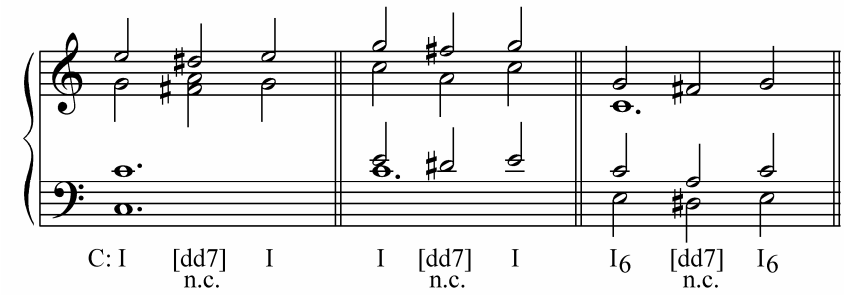
The following are *neighboring* dd7's which are used most often:

a) a fully diminished seventh chord embellishing V_7 (or V). The chord is usually notated with its root being the raised 6th (sometimes 1st) scale-degree.
When connecting with dd7, the root of V_7 remains stationary while other tones (the 3rd, 5th and 7th) usually move a m2 down and then back.

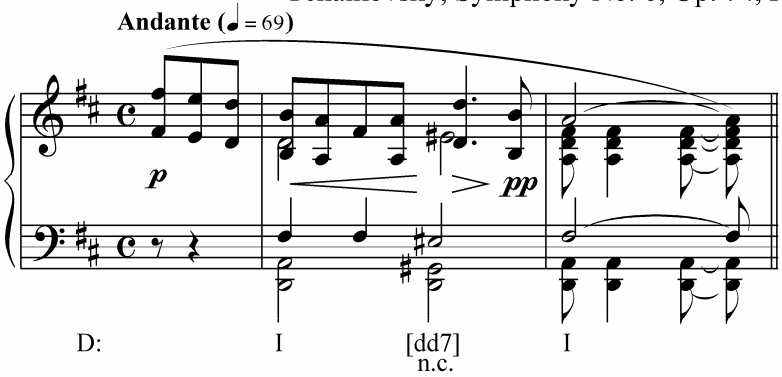




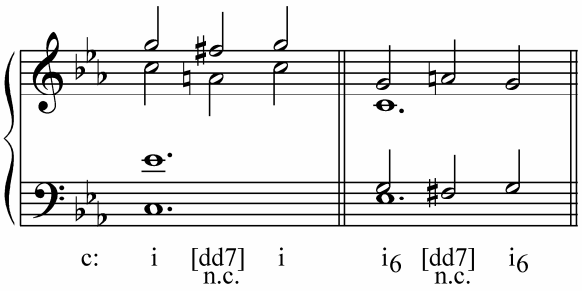
b) a fully diminished seventh chord embellishing I (i).
In a major key, the chord is usually notated with its root being the raised 2nd scale-degree (like vii^{o}_{7}/iii).
Both roots of I remain stationary or one of them moves a m3 down, the 3rd moves a m2 down, the fifth moves a m2 down and a M2 up or a m2 down or a M2 up.



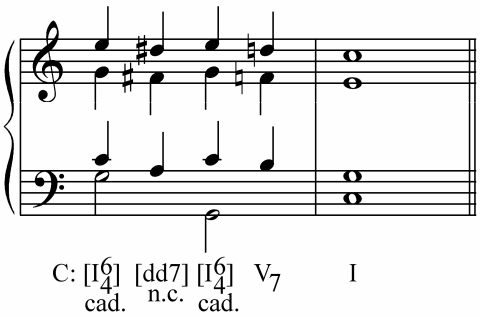
Tchaikovsky, Symphony No. 6, Op. 74, I



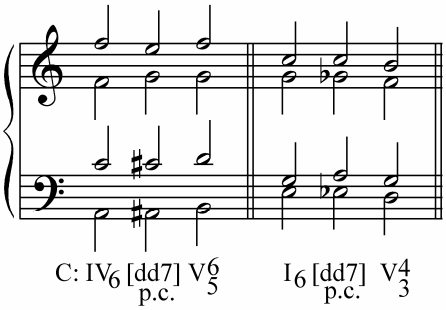
In a minor key, the chord is usually notated with its root being the raised 4th scale-degree (like vii^{o}_{7}/V).
Both roots and the 3rd of i remain stationary or one of the roots and the 3rd remain stationary, the second root moves a m3 down, the 5th moves a m2 down and a M2 up or a m2 down or M2 up.



c) a fully diminished seventh chord embellishing the cadential I^{6}_{4} (with the pedal tone on the dominant note). The chord is usually used in a major key only.
The root of the cadential I^{6}_{4} remains stationary or moves a m3 down, the 3rd and one of the 5th in an upper voice move a m2 down and the second 5th remaining stationary (pedal tone).



Passing tones simultaneously used in several voices may form *passing dd7's*.



Tchaikovsky, 6 Romances, Op. 57, No. 1

[Andante sostenuto]

Ска - жи, о чем вте - ни вет-вей,

p *simile*

E: I [dd7] p.c. V^4_3

Mozart, Waltz, K. 567

[Allegretto]

A: V_2 I_6 [dd7 dd7] p.c.'s vii^o_6/IV iv_6 M.B. vii^o_7/V [I^6_4 cad.] V_7 I

Chords progressions involving stepwise diminished seventh chords may be analyzed as secondary leading-tone seventh chords one resolving into another or a group of passing chords.

C: vii^o_7/vi vii^{o4}_3/ii vii^o_7/V vii^{o4}_3 vii^o_7/IV IV V_7 I

(or passing chords _____)

Exercises

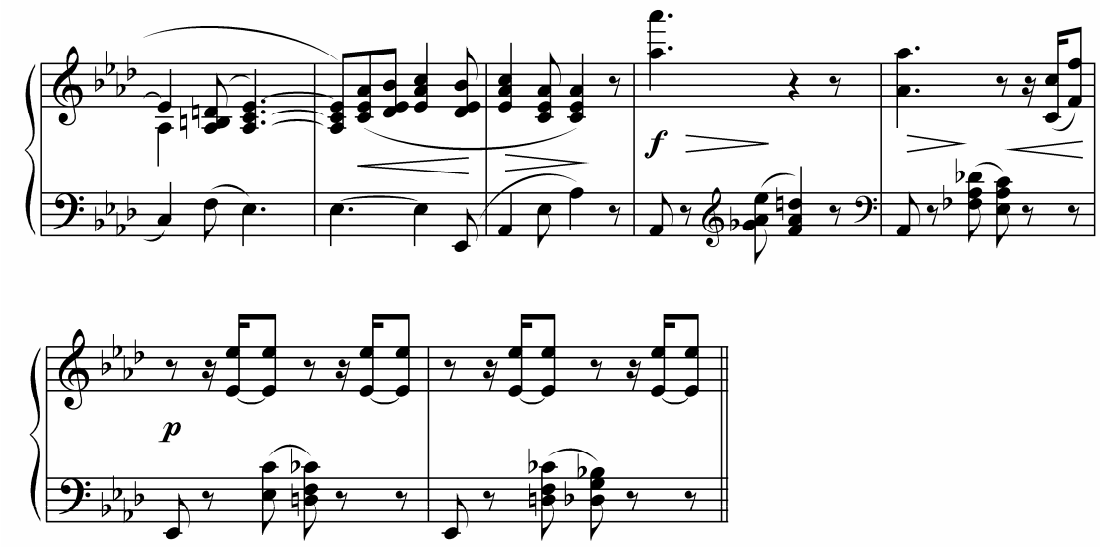
1. Analyze the following excerpts.

a)

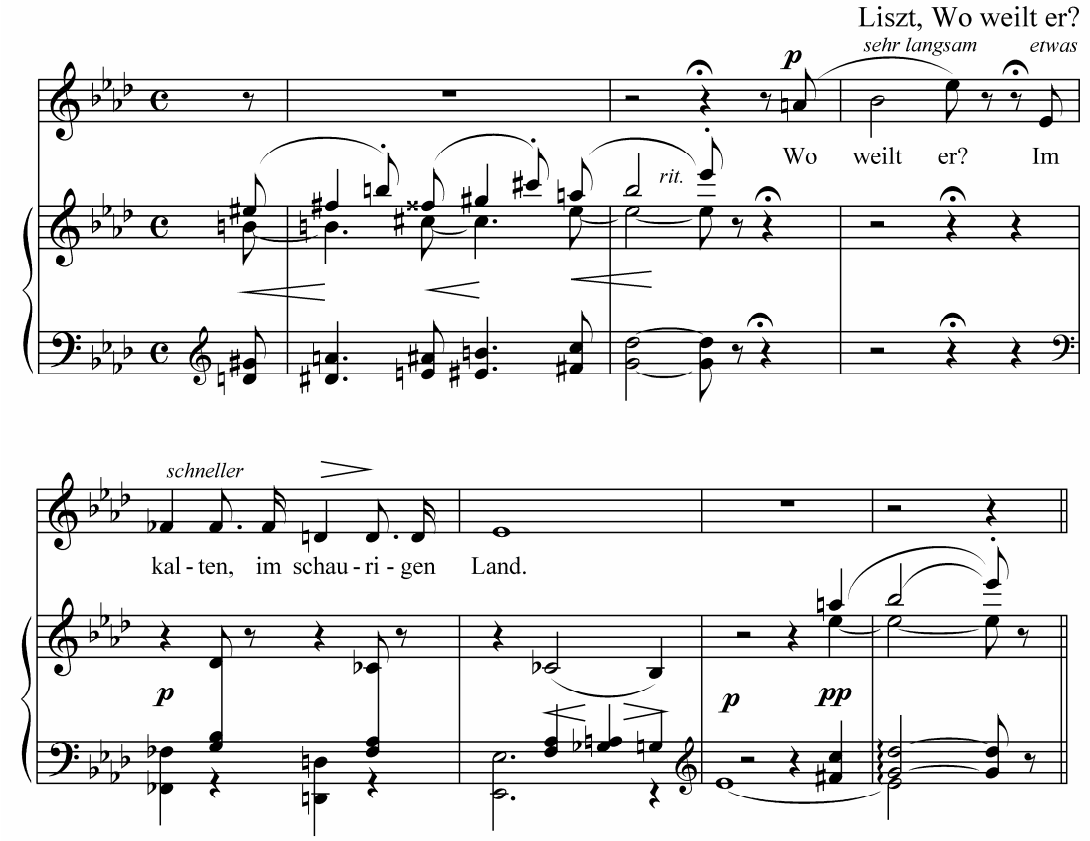
Allegretto

mezza voce

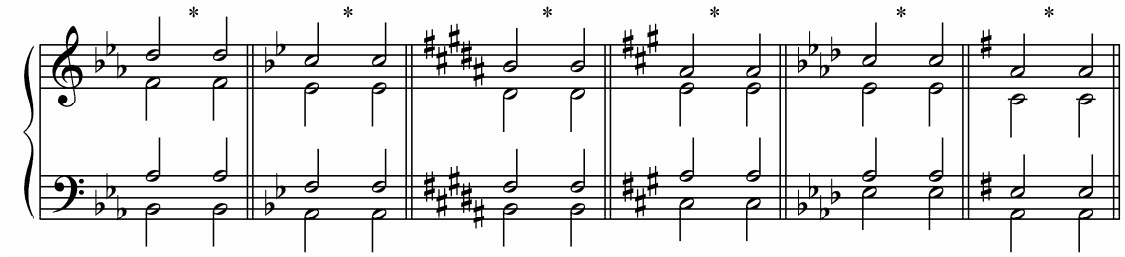
Chopin, Ballade No. 3, Op. 47



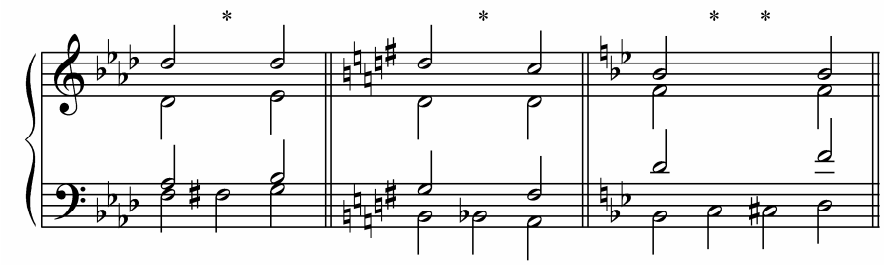
b)



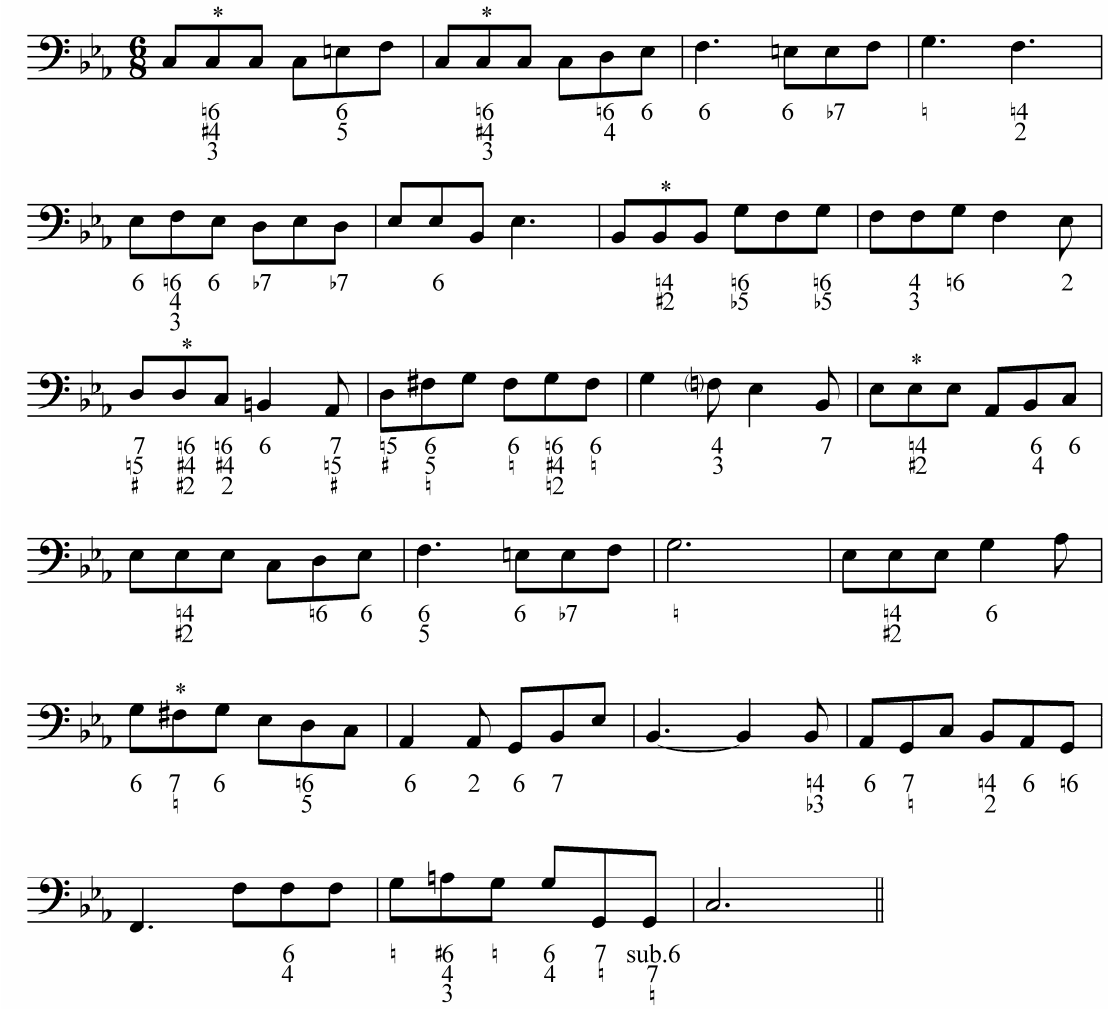
2. Embellish the given chords with neighboring diminished seventh chords where indicated by an asterisk. Analyze completely.



3. Add passing chords of any appropriate type where indicated by an asterisk.



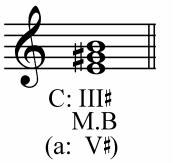
4. Realize the following figured bass using fully diminished seventh chords where indicated by an asterisk. Analyze completely.



It is also possible to find such modal borrowing where the chords from relative keys (for example, C major–A minor) can be interchanged.

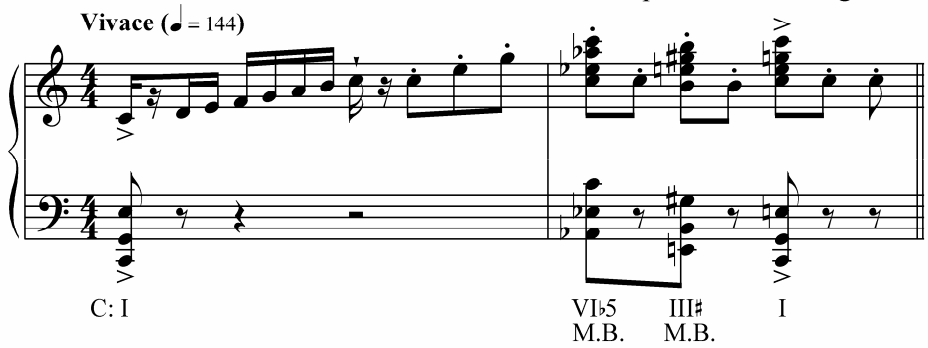
Harmonic minor differs from its relative major by its dominant chords while a major key differs from its relative minor by subdominant chords borrowed from its parallel minor.

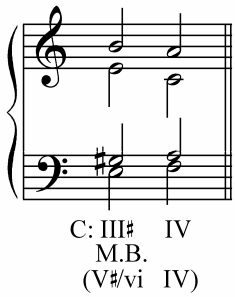
1) The chord which is more often used in a major key borrowed from its relative minor is the major III (sometimes III_7 or III_9) (V (V_7, V_9) in the relative minor key).



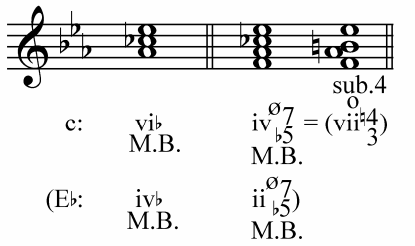
The chord has a dominant function (like in the relative minor) and often resolves to I and sometimes IV (in which case it can be also understood as V/vi resolving deceptively).

Prokofiev, 10 Pieces from Romeo and Juliet, Op. 75, The Young Juliet

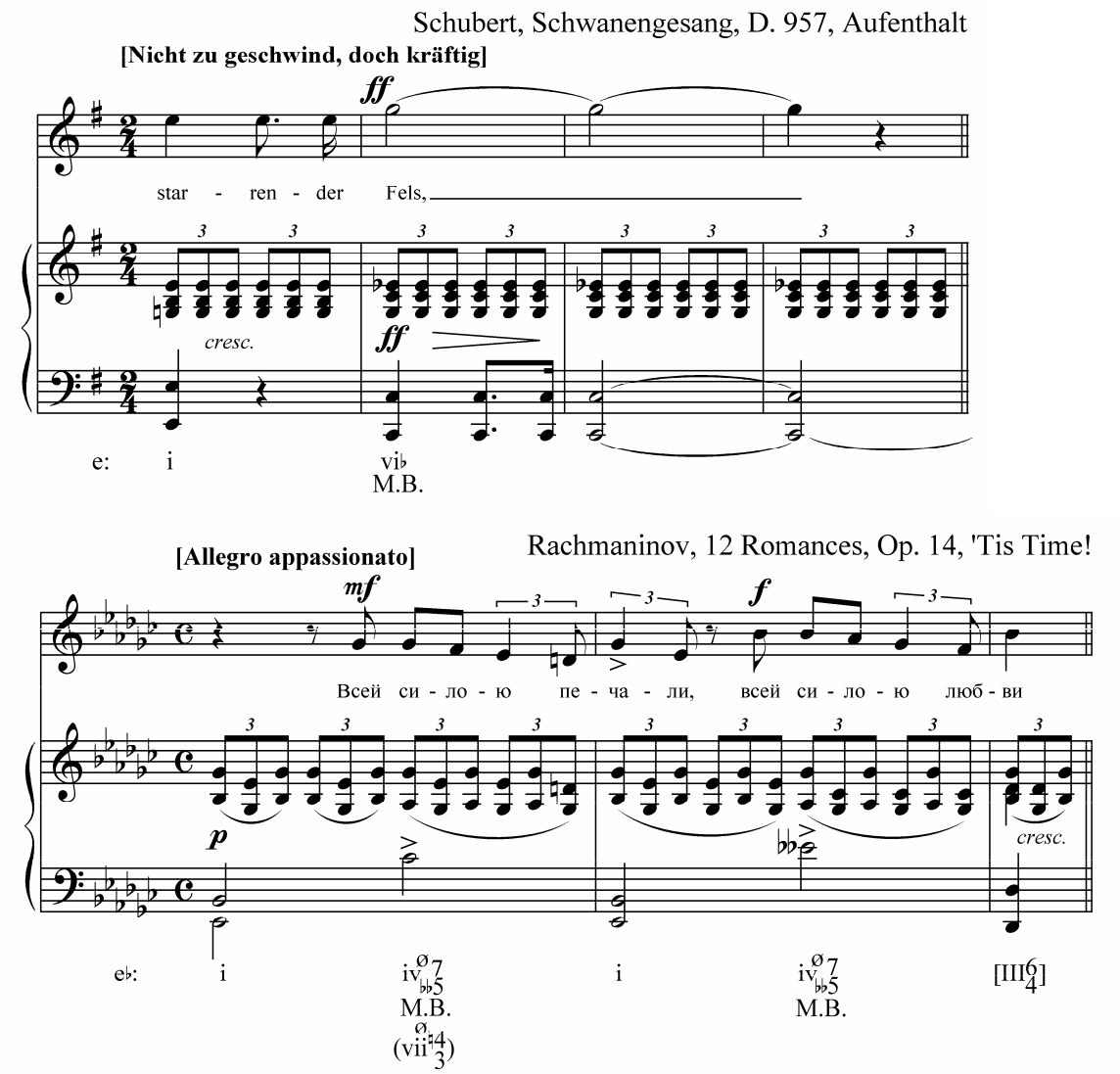




2) The chords, which are more often used in a minor key and borrowed from its relative major, are a minor vi (a modally borrowed iv in a relative major) and a half diminished $iv^{ø}{}_7$ (a modally borrowed $ii^{ø}{}_7$ in a relative major).



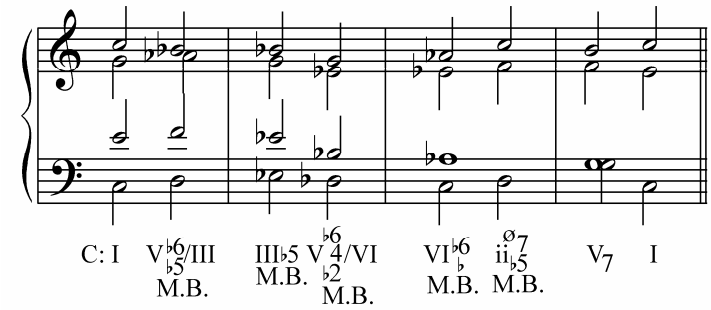
The minor vi is often associated with the music of Schubert while the half diminished $iv^{ø}{}_7$, with the music of Rachmaninov (often notated as $vii^{o4}{}_3$ in which the chord's 3rd is substituted with a 4th).



The minor vi is often used after i or V (in the latter case it is a type of a deceptive resolution) while the half diminished $iv^{ø}{}_{7}$ is usually found after i.

Modally Borrowed Secondary Dominants

Chords of the parallel minor used in a major key (modal borrowing) can be sometimes preceded by their secondary dominants.



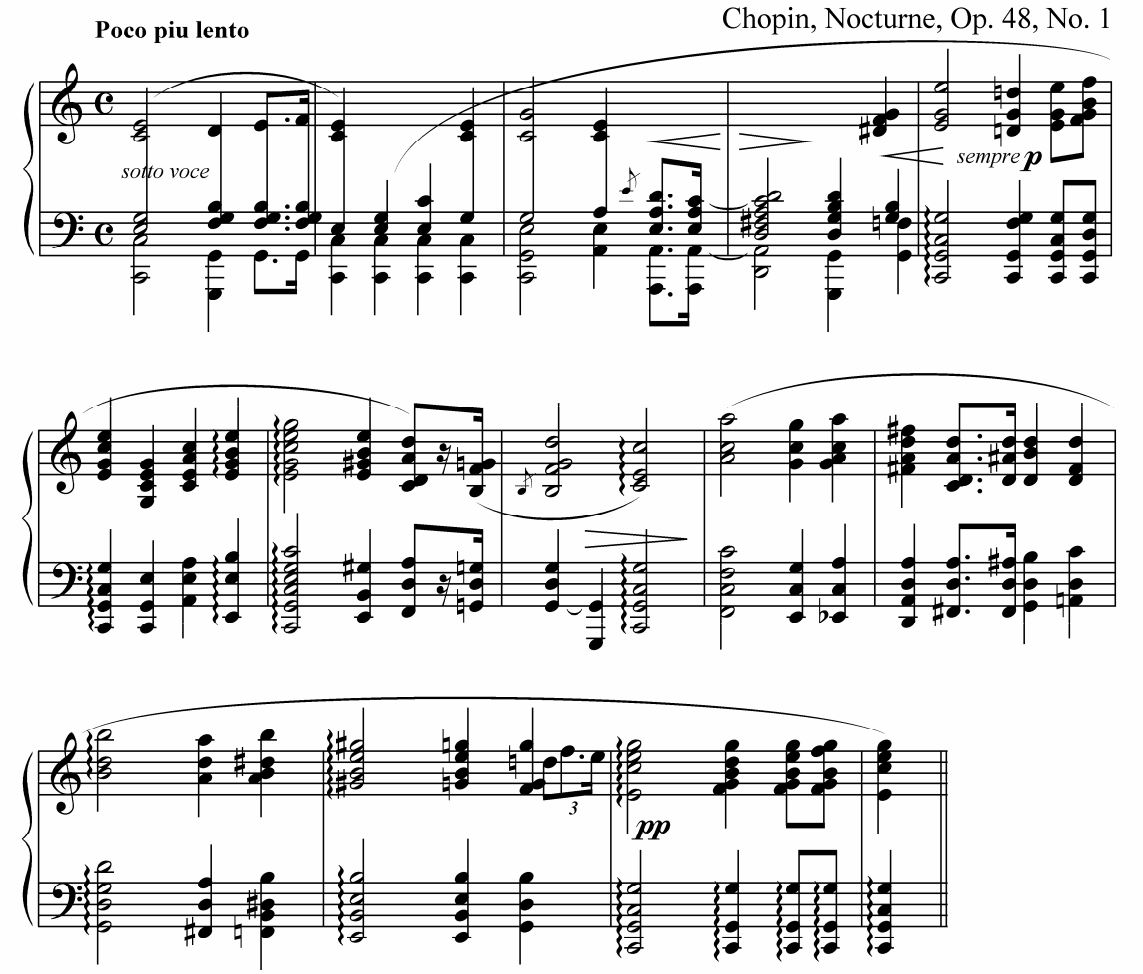
Such use of secondary dominants of modally borrowed chords is found less often in a minor key.

Exercises

1. Analyze the following excerpts.

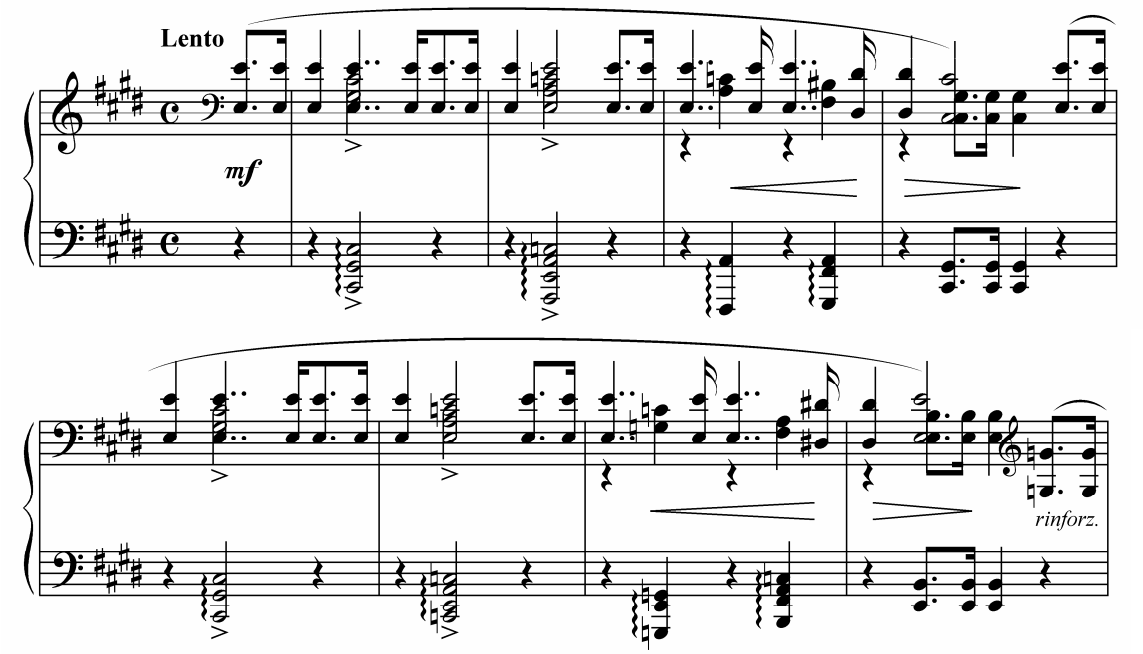
a)

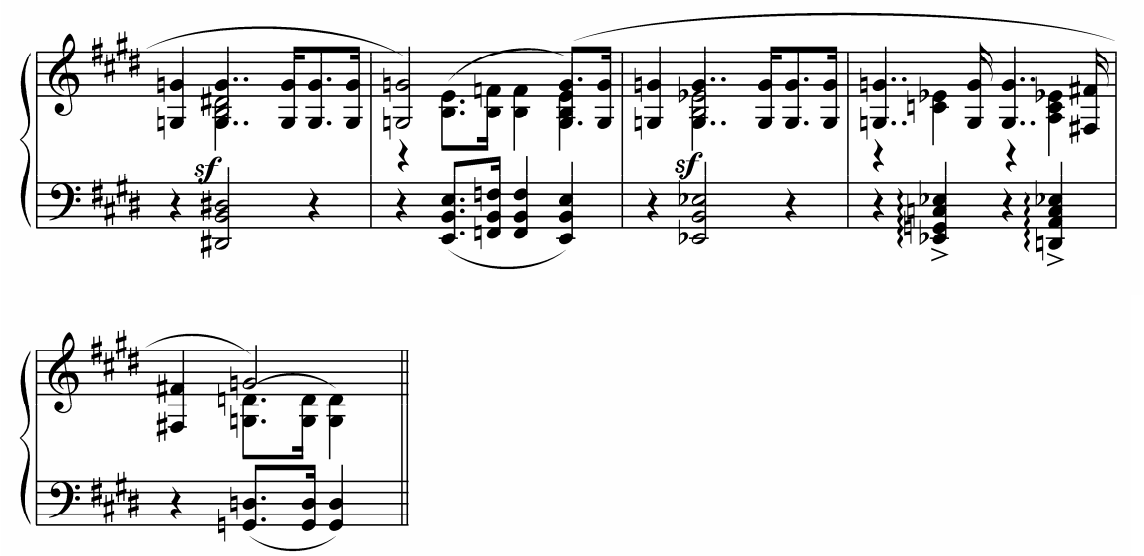
Chopin, Nocturne, Op. 48, No. 1



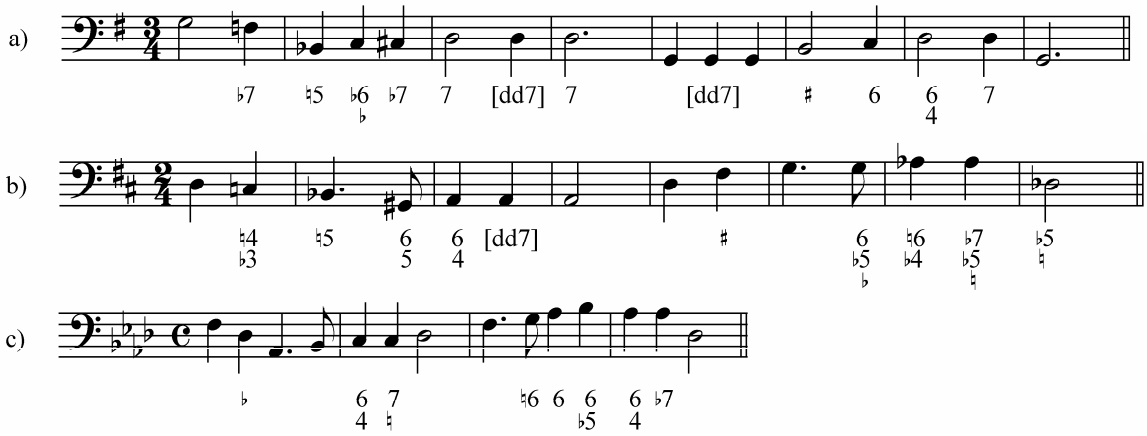
b)

Liszt, Années de Pélerinage, No. 2 'Il Penseroso'





2. Realize the following figured basses.



Bibliography

Rameau, Jean-Philippe. *Treatise on Harmony*. Dublin: Luke White, 1779.

Tchaikovsky, Pyotr. *Guide to the Practical Study of Harmony*. Moscow: P. Jurgenson, 1872.

Rimsky-Korsakov, Nikolay. *Practical Manual of Harmony*. St. Petersburg: A. Büttner, 1886.

Schönberg, Arnold. *Theory of Harmony*. Berkeley, Los Angeles: University of California Press, 1978 [1922].

Catoire, Georgy. *Theoretical Course of Harmony*. Moscow: Muzykal'niy Sektor, 1924.

Sposobin, Igor. *Elementary Music Theory*. Moscow: Kifara, 1951.

Schenker, Heinrich. *Harmony*. Chicago and London: The University of Chicago Press, 1954.

Dubovsky, Iosif, Sergei Yevseyev, Igor Sposobin, and Vladimir Sokolov. *A Textbook of Harmony*. Moscow: Muzyka, 1956.

Piston, Walter. *Harmony*. New York: W.W. Norton, 1962.

Hindemith, Paul. *A Concentrated Course in Traditional Harmony*: Book 2. New York: Schott, 1964.

Dolzhanskiy, Alexander. *A Brief Course of Harmony*. Leningrad: Muzyka, 1966.

Tyulin, Yuri. *Study of Harmony*. Moscow: Muzyka, 1966.

Hindemith, Paul. *A Concentrated Course in Traditional Harmony*: Book 1. New York: Schott Music, 1968.

Sposobin, Igor. *Lectures on Harmony*. Moscow: Muzyka, 1969.

Berkov, Viktor. *Harmony*. Moscow: Muzyka, 1970.

Müller, Theodore, *Harmony*. Moscow: Muzyka, 1976.

Myasoyedov, Andrei. *A Textbook of Harmony*. Moscow: Muzyka, 1980.

Grigoriyev, Stepan. *A Theoretical Course of Harmony*. Moscow: Muzyka, 1981.

Myasoyedov, Andrei. *Exercices in Harmony*. Moscow: Muzyka, 1981.

Bershadskaya, Tatiana. *Lectures in Harmony*. Leningrad: Muzyka, 1985.

Alekseyev, Boris, and Andrei Myasoyedov. *Elementary Theory of Music*. Moscow: Muzyka, 1986.

Tyulin, Yuri, and Nikolai Privano. *Textbook of Harmony*. Moscow: Muzyka, 1986.

Kholopov, Yuri. *Harmony: A Theoretical Course*. Moscow: Kompozitor, 1988.

Dahlhaus, Carl. *Studies on the Origins of Harmonic Tonality*. Princeton, New Jersey: Princeton University Press, 1990.

Benjamin, Thomas, Michael M. Horvit, and Robert Nelson. *Techniques and Materials of Tonal Music: With an Introduction to Twentieth-Century Techniques.* Belmont, CA: Wadsworth Pub. Co, 1998.

Kholopov, Yuri. *Harmony: A Practical Course*. Moscow: Kompozitor, 2003.

Kostka, Stefan, and Dorothy Payne. *Tonal Harmony, with an Introduction to Twentieth-Century Music*. Boston: McGraw-Hill, 2004.

Abyzova, Elena. *Harmony*. Moscow: Muzyka, 2008.